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Special Editors

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FOR THE SPECIAL ISSUE

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LETTER FROM THE SPECIAL EDITORS

Hafa adai from Guam, U.S.A.!

It is with great pleasure that we welcome you to this Special Issue of the *Academy of Accounting and Financial Studies Journal (AAFSJ)*, an official journal of the Academy of Accounting and Financial Studies, an affiliate of Allied Academies. *AAFSJ*'s mission is to expand the boundaries of the literature by supporting the exchange of ideas and insights which further the understanding of the accounting and finance fields.

This issue features theoretical and empirical studies in accounting and finance on a wide range of themes and in the context of several countries (China, Japan, Jordan, South Korea, the U.S., along with 8 other developed countries and 45 developing countries).

Accounting papers featured in this journal issue investigate the following topics:

- Translation methods used by multinational firms and how these are affected by the concept of a functional currency (Cantoria);
- The link between corporate social performance and financial performance in Japanese automotive and electronic industries (Cortez-Cudia);
- The relationship between the decisions of 46 developing countries to adopt IFRS and those countries' institutional contexts (Lasmin);
- The current situation of the introduction of the monitoring model for corporate governance in Japan based on the economic substance (Noguchi); and,
- The differences in students' attitudes towards financial and corporate social responsibility reporting among three East Asian countries, Japan, China and South Korea (Tsuji & Tsuji);

While Finance papers look at:

- The dynamic interactions among money, interest rates, and output (GDP) in Jordan using the Generalized Impulse Response Functions and the Generalized Forecast Error Variance Decomposition (Al-Sharkas & Shubita);
- The returns of the small-cap funds from 10 developed countries using the Huberman-Kandel mean-variance spanning tests (Lee, Lee & Yoon); and,
- Trade flows between Jordan and the rest of the world using Herfindahl and Gini indices and an augmented gravity model (Saqfalhait-Spetan-Muhtaseb).

We express sincerest gratitude and appreciation to our Dean at the School of Business and Public Administration at the University of Guam, Dr. Anita Borja Enriquez, for her support and encouragement of this collaborative work between our faculty and scholars in other countries.

We are also grateful to the Academy for providing us with the outlet through which we can share original work in accounting and finance with scholars around the world. Special thanks are due to the members of my Editorial Review Board for their collegiality and service to our profession.

Consistent with the editorial practice of the Academy on all 17 journals it publishes, each paper in this issue has undergone a double-blind, peer-review process.

Information about the Allied Academies, the *AAFSJ*, and the other journals published by the Academy, as well as calls for conferences, are published at http://www.alliedacademies.org.

Si Yu'os Ma'åse!

From the Editors,

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AN EMPIRICAL ANALYSIS OF OUTPUT, INTEREST AND MONEY: THE CASE OF JORDAN

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New York Institute of Technology
Moade Fawzi Shubita, New York Institute of Technology

ABSTRACT

This paper investigates the dynamic interactions among money, interest rates, and output (GDP). The Generalized Impulse Response Functions and the Generalized Forecast Error Variance Decomposition are computed in order to investigate interrelationships within the system. The results reveal that a shock to the interest rate has a negative impact on money (M2).

The negative impact on M2 is inconsistent with the view that a rise in the interest rate leads to an increase in deposits or in bank loans, which in turn results in an increase in money supply. The impact of the interest rate on GDP is positive. The positive effect of the interest rate on GDP is in contradiction with a theoretical relationship where interest rates have a negative impact on output.

INTRODUCTION

In general, there are two empirical facts about the relationship between money and economic activity upon which most macroeconomists agree. The first is the co-movement of money and output in economic time series. The second is that money changes precede changes in output. However, these facts tell nothing about the origin of changes or the direction of influence. "The monetary changes might be produced by independently originating changes in output (endogenous money); the changes in output might be produced by independently originated changes in money (exogenous money); the two might be mutually interacting (two-way influence), each having some elements of independence; or both might be reacting to a common change in a third set of influences" [Friedman and Schwartz (1963a), p. 686].

This issue of the direction of influence between money and economic activity has attracted a great deal of attention among macroeconomists and has been one of the most controversial issues in the macroeconomic literature. Theoretical disagreement among different schools of thought has led economists of these schools to use different approaches and statistical techniques to examine this issue empirically. The empirical findings have been dependent, to a large extent, on techniques used, data form, and models' specifications. Hence, no widely held consensus has been reached.

Despite the importance of previous studies, until now the majority of research considers developed countries economies without going further in testing this relation in less developed countries. Considering this mater, the relationship between money and economic activity in developing countries still needs lengthy analysis and more researcher attention. So, the importance of this study stems from its being an empirical try in this direction. The purpose of this paper is to investigate empirically the relationship between money and output in Jordan. A Generalized Vector Auto Regression (GVAR) technique is used here as the main method of analysing the short-term relationships between the variables. This paper also departs from most previous work specifically by dealing with the problem of cointegration in the data series. The presence of nonstationarity and cointegration found in the data requires the use of the Error Correction (EC) model to estimate the dynamic short-run relationships between the variables. In the EC model, the short-run dynamics of the variables are influenced by the deviation from an equilibrium relationship between the groups of variables.

The paper proceeds along the following lines. Section 2 presents the literature review. Section 3 discusses the data and the methodology. Section 4 reports the empirical results, and Section 5 provides conclusions

LITERATURE REVIEW

Sims (1972) applies Granger causality analysis to test the direction of causality between money and output. Using time series regressions including income and money variables, his main empirical finding is that causality is unidirectional from money to income. However, in a later article, Sims (1980) re-examines the monetarist proposition using a VAR model that includes an interest rate variable in addition to money and income variables. The evidence from this model contradicts his conclusion from his previous work. He shows that the shocks to the money supply are far from being the primary determinant of short-run movement of real output. Both output and money respond to shocks in interest rates. This common response to interest rates, he argues, explains the empirical correlation between fluctuations in money and output.

Litterman and Weiss (1985) present a dynamic IS-LM model with rational expectations to study the relationship between money, interest, and output. They argue that economic agents have some information about future real activity, which shows up first in the equilibrium price of financial assets, particularly nominal interest rates. The observed co-movement between money and output is consistent with a Fed reaction function, which attempts to offset the movements in expected inflation rates arising from anticipated output shocks. Applying a VAR method to test the data, they conclude that the real interest rate is an exogenous variable governed only by its own past history. They confirm the results reached by Sims regarding the dominant role of the interest rate. This conclusion is also confirmed by Tylor (1993), Sims (1992), and Bernake and Blinder (1992). However, Davis and Tanner (1997), reemphasize the role played by the quantity of money as the main factor influencing output fluctuations. The results of a VAR using yearly

data for the 119-year period 1874-1993 show that lagged innovations in money explain output variations at a low level of significance and those interest rates innovations are not significant determinants of output. These results also hold when they run the model using quarterly data.

According to the traditional monetary transmission mechanism with interest rate channels, an expansionary monetary policy leads to a fall in interest rates, which in turn lowers the cost of capital, causing a rise in investment and output [Mishkin (1996]. When assessing the final impact of money on economic activity, most of the recent studies use aggregate measures of output, such as GDP or the index of industrial production, to measure economic activity. A lag in the effect of money and interest rates on such aggregates has been found by many studies. For example, Gordon and Leeper (1994) find a delay of six months before output (measured by the industrial production) responds significantly to monetary policy shocks. Also, interest rates have a puzzling procyclical behavior with output [see Christiano (1991), Blanchard and Fisher (1989) and Fiorito and Kollintzas (1994)]. Such findings might be due to the absence of important variables in the analysis. The positive co-movement of interest rates and output during business cycles challenges the transmission mechanism by which interest rates has a negative effect on investment. Proponents of the Real Business Cycle model, therefore, explain investment fluctuations as being due to productivity shocks.

Other studies focus on the federal funds rate as a measure of the stance of monetary policy [see for example Bernanke and Mihov (1998) and (1995) and Bagliano and Favero (1998)]. In these studies the authors are trying to separate exogenous policy actions from endogenous money responses to developments in the economy. A number of these studies have found evidence consistent with the liquidity effect of money

METHODOLOGY

This study adopts an unrestricted vector autoregression (UVAR) framework to analyse the dynamic relationship between the variables. The UVAR does not impose arbitrary restrictions of the effects of the endogenous variables. It was common in earlier VAR-type analyses to rely on a Choleski factorization. Unfortunately, the Choleski factorization is known to be sensitive to the ordering of variables when the residual covariance matrix is non diagonal. This paper employs generalized forecast error variance decomposition (GFEVD) developed in Koop, Pesaran and Lee (1996) and Pesaran and Shin (1998) to deal with this problem. Unlike the orthogonalized forecast error variance decomposition, the generalized approach is invariant to the ordering of the variables in the UVAR model. The generalized forecast error variance decomposition (GFEVD) from the UVAR model is computed in order to investigate interrelationships within the system. The empirical work undertaken in this study is based on estimating the UVAR on eight definitions of money.

The UVAR approach, introduced by Sims (1980), suggests a standard tool to analyse time series relationships among macroeconomic variables. A VAR is a system in which every

equation has the same right hand variables, and those variables include lagged values of all of the endogenous variables. VARs are well suited to forecasting variables where each variable helps forecast other variables.

The mathematical form of a UVAR is

$$y_t = m + A_1 y_{t-1} + \ldots\ldots\ldots + A_N y_{t-N} + \varepsilon_t \quad (1)$$

Here is a vector of endogenous variables; m is a vector of constant, N is the vector autoregressive order, are matrices of lag coefficients of up to some lag length N, and is a vector of innovations. The components of vector are each white noise process with zero mean, constant variance, and are individually serially uncorrelated. However, the components of vector could be contemporaneously correlated.

In this paper, the vector includes Money supply (M2), 3 month certificate deposit rate (CDs) and Gross Domestic Product (GDP). All the variables are in the log of the level form except for CDs.

UVARs have proven successful for forecasting systems of interrelated time series variables. Vector autoregression is also frequently used, although with considerable controversy, for analysing the dynamic impact of different types of random disturbances on systems of variables. However, the estimated coefficients of a UVAR themselves are difficult to interpret. We will look at the generalized forecast error variance decomposition (GFEVD) of the system to draw conclusions about a UVAR.

Unit Root Tests

The first step in our statistical analysis is to analyse the stationarity properties of the macro time series considered in this study. Applying the unit root test will do this. Unit root tests are important in examining the stationarity of a time series, which is a matter of concern in three important areas. First, a crucial question in the ARIMA modeling of a single time series is the number of times the series needs to be first differenced before an ARMA model is fit. Each unit root requires a first differencing operation. Second, stationarity of regressors is assumed in the derivation of standard inference procedures for regression models. Nonstationary regressors invalidate many standard results and require special treatment. Third, in cointegration analysis, an important question is whether the disturbance term in the cointegrating vector has a unit root.

The Augmented Dickey-Fuller Test (ADF) is applied in this paper. The ADF test consists in running a regression of the first difference of the series against the series lagged once, lagged difference terms, and optionally, a constant and a time trend. With two lagged difference terms, the regression is

$$\Delta y_t = \beta_1 y_{t-1} + \beta_2 \Delta y_{t-1} + \beta_3 \Delta y_{t-2} + \beta_4 + \beta_5 t \quad (2)$$

There are three choices in running the ADF test regression. One is whether to include a constant term in the regression. Another is whether to include a linear time trend. The third is how many lagged differences are to be included in the regression. In each case the test for a unit root is a test on the coefficient of in the regression. If the coefficient is significantly different from zero then the hypothesis that y contains a unit root is rejected and the hypothesis is accepted that y is stationary rather than integrated.

The output of the ADF test consists of the t-statistic on the coefficient of the lagged test variable and critical values for the test of a zero coefficient. A large negative t-statistic rejects the hypothesis of a unit root and suggests that the series is stationary. Under the null hypothesis of a unit root, the reported t-statistic does not have the standard t distribution. We must refer to the critical values presented in the test output. The reported critical values are chosen on the basis of the number of observations and the estimation option.

After running the ADF test, If the Dickey-Fuller t-statistic is smaller (in absolute value) than the reported critical values, we cannot reject the hypothesis of nonstationarity and the existence of a unit root. We would conclude that our series might not be stationary. We may then wish to test whether the series is I(1) (integrated of order one) or integrated of a higher order. A series is I(1) if its first difference does not contain a unit root. The empirical evidence from a VAR model is very sensitive to the choice of lag length in the equations of the model. Alternative choices will give different innovations series and thus will likely make a difference in the variance decomposition results. The appropriate lag length could be tested using the likelihood ratio test, the Akaike Information Criterion or the Schwarz Criterion. In this study, the lag length will be specified based on these criteria and the results obtained in each case will be compared. Changing the lag length will also test the robustness of the empirical results.

Variables in the System and the Data

The VAR data came from the monthly and yearly statistical bulletins of the Central Bank of Jordan. This study use quarterly data for the period 1964.9-2008.4. The use of this temporal aggregation of three-month interval is justified by the fact that monthly data may be too frequent to reflect the natural interval in the relationship between money and output and may contain significant measurement error resulting in a high proportion of noise that may destroy the original picture of the relationship, Spencer, 1989.

Jordan's monetary policy regime is characterized as a fixed exchange rate regime with a system of publicly targeting M2 growth that is consistent with maintaining the exchange rate. Moreover, the use of certificate of deposits interest rate (CD) as well as interest rates on government debt as instruments. Therefore, the following are the potential variables of interest for the study. All of them are in log linear form. Variables are the GDP, M2 and CDs. GDP is Gross Domestic Product, M2 is Money Supply, CDs is 3 Month CD rate.

EMPIRICAL RESULTS

Before estimating final models, a few issues need to be addressed regarding the application of the VAR method. The first step is testing the stationarity of each series. If data series are nonstationary, cointegration tests will be applied to each system of variables to be used for estimation. If the data are not cointegrated, the growth rate form of the data will be used in the VAR estimation. If cointegration exists, the Error Correction model will be applied. Given the sensitivity of the VAR results to the lag length, for each model the lag length will be determined before final estimation according to three criteria. These are the Likelihood Ratio (LR), the Akaike Information Criterion (AIC), and the Schwarz Criterion (SC). Finally, the results should be robust to the ordering of the variables to be considered conclusive.

Unit Root Tests

The above mentioned hypotheses and the propositions of the different macroeconomic models will be tested using the results from the VAR models. The analysis includes the aggregate variables: real GDP, the money supply (M2), and the interest rate (CD). These three variables are the main focus of most theoretical and empirical work on the money-output relationship. The data in level form are expected to be nonstationary as has been found by many studies. To test the series, the unit root test [see Dickey and Fuller (1981)] is applied to the data in level form. The Augmented Dickey-Fuller Test (ADF) is applied here by regressing the difference of a variable on its level lagged once, and on a given number of lagged difference terms.

Table 1
Unit Root Tests

Variables Level	In ADF statistics
GDP	1.28
M2	1.8
CDs	-1.65
The critical values are –3.47, -2.88, and –2.57at 1%, 5% and 10% respectively.	

Table 1 shows the t-statistic on the coefficient of the lagged test variable and critical values for the test of a zero coefficient. As can be seen from the statistics presented in the table, the unit root test shows that the hypothesis of unit root cannot be rejected at any level of significance for any of the series in level form. All the series appear to be non-stationary.[1] As such, the data do not need to be transformed to render them stationary prior to estimation.

However, if the data series are cointegrated, the VAR estimation cannot be applied to the transformed data and the Error Correction model will be used. The Johansen Cointegration test [Johansen (1991)] is applied here to the group of the three variables, GDP, M2 and CDs.

Lag Length

To determine the best lag length, the three criteria mentioned earlier are applied to the results from running the EC model using different lags. The Log Likelihood Ratio (LR) is given by the following equation.

$$LR = (T-K)\,(\log |\Sigma (p_i)| - \log |\Sigma (p_j)|) \sim \chi^2 (n^2 (p_j - p_i)) \qquad (3)$$

Where Σ is the covariance matrix, T is the number of observations, K is the number of parameters in each equation, n is the number of equations, and p is the number of lags, given that $p_j > p_i$. The other two criteria, the AIC and the SC, try to minimize a function that depends on two elements: the determinant of the covariance matrix of residuals and a penalty for including a large number of parameters in the model. In other words, we have that Akaike (p)= T Log($|\Sigma (p)|$ + 2pn, where Σ is the covariance matrix, p is the number of lags , n is the number of equations and T is the number of observations. Similarly, Schwarz (p) = T Log ($|\Sigma (p)|$ + (pn^2) Log T. The best model is the one that minimizes these two functions.

The lags are examined up to 12 quarters. There is no significant increase in the explanatory power by adding more lags than 5 quarts. This is confirmed by the SC statistics: the minimum value is reached at the 5^{th} lag. So the final estimation of this model will be carried out using five lags for each variable.

In analysing the results from the EC model, the focus will be placed on the two tools mentioned earlier, the Forecast Error Variance Decomposition (FEVD) and the Impulse Response Function (IRF). Impulse Response Functions show how one variable responds over time to a single innovation in itself or in another variable. Innovations in the variables are represented by shocks to the error terms in the equations.

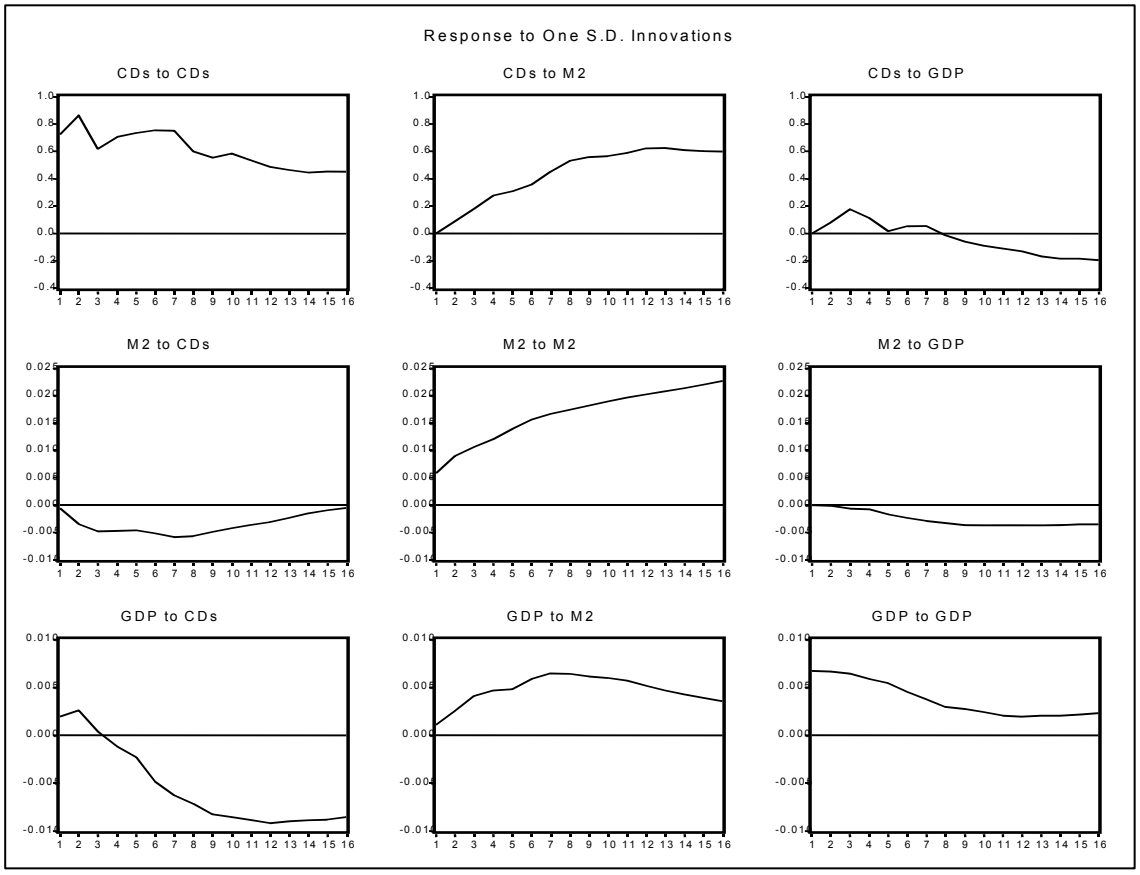
The Generalized Impulse Response Function (GIRF)

The GIRFs (shown in Figure 1) provide details on the dynamic relationships among the variables. The signs of the relationships and the time factor are provided here. A shock to the interest rate has a negative impact on money up to 17 quarts ahead; after that the impact becomes positive. The negative impact on M2 is inconsistent with the view that a rise in the interest rate leads to an increase in deposits or in bank loans, which in turn results in an increase in money supply. The impact of the interest rate on GDP is positive for the first 3 quarts and then negative

afterwards. The positive effect of the interest rate on GDP is in contradiction with a theoretical relationship where interest rates have a negative impact on output.

FIGURE 1: GENERALIZED IMPULSE RESPONSES FROM THE EC MODEL

The horizontal axes represent the quarters, the vertical axes measure the response of a particular variable to one standard deviation innovation in each one of the variables in the model. CDs is the three-month CD Rate, M2 is the Money Supply M2 and GDP is real Gross Domestic Product.



The Generalized Forecast Error Variance Decomposition (GFEVD)

The FEVDs for the three aggregate variables are presented in Tables 2, 3, and 4. What we are doing here is decomposing the forecast error of the endogenous variable Y over different time horizons into components attributable to unexpected innovations (or shocks) in variable X, where X can be any variable in the system. First, let us examine the variability of each variable explained by its own innovations. M2 accounts for most of its variation (above 92%). CDs account for about two-thirds of its variation in each ordering, while real GDP accounts for less

than one-fifth of its own variation. This indicates that M2 is strongly exogenous in this model, while GDP is strongly endogenous.

TABLE 2
GENERALIZED VARIANCE DECOMPOSITION FROM EC MODEL

Variance Decomposition of M2:	Explained By:		
Period	M2	CDs	GDP
1	100.0	0.00	0.00
5	92.84	6.52	0.64
10	93.23	4.37	2.40
16	95.18	2.17	2.64
Variance Decomposition of CDs :	Explained By:		
Period	M2	CDs	GDP
1	1.01	96.57	0.00
5	3.9	94.34	1.75
10	16.55	82.35	1.1
16	28.88	68.81	2.31
Variance Decomposition of GDP:	Explained By:		
Period	M2	CDs	GDP
1	1.51	0.00	90.37
5	24.91	5.89	69.20
10	38.85	29.17	19.61

CDs is the three-month CD Rate, M2 is the Money Supply M2 and GDP is real Gross Domestic Product

When we look at the effect of innovations in one variable on the others, CDs explains most of the GDP variation, ranging from 46% to 61%. M2 innovations explain a high proportion of the variation in CDs and GDP while CDs and GDP have small contributions in accounting for M2 variation. Further, the effect of M2 on GDP is more immediate than on CDs. While both M2 and CDs affect GDP, the results indicate that M2 affects GDP at a shorter horizon than CDs. Therefore, the above pattern of interaction between the variables suggests that the direction of influence runs from money to interest rates and from interest rates to real GDP. However, as we noticed in the impulse function analysis, the signs of the relationships are not consistent with prediction of macroeconomic theories.

In general, the previous analysis suggests that there are time lags in the dynamic relationships among the variables. These delays might be due to the fact that other important variables are absent in the analysis. Further, two of the widely accepted propositions in macroeconomics, the negative effect of money on interest rates and the negative effect of interest rates on output, are not supported by the analysis of the variables used here.

TABLE 3 **GENERALIZED VARIANCE DECOMPOSITION FROM EC MODEL**			
Variance Decomposition of CDs :	Explained By:		
Period	CDs	M2	GDP
1	100.0	0.00	0.00
5	91.06	7.18	1.75
10	76.05	22.85	1.10
16	61.34	36.35	2.31
Variance Decomposition of M2 :	Explained By:		
Period	CDs	M2	GDP
1	1.01	98.99	0.00
5	12.11	87.25	0.64
10	9.13	88.47	2.40
16	4.80	92.55	2.64
Variance Decomposition of GDP:	Explained By:		
Period	CDs	M2	GDP
1	7.35	2.27	90.37
5	6.15	24.65	69.20
10	34.87	33.15	31.98
16	53.01	27.38	19.61
CDs is the three-month CD Rate, M2 is the Money Supply M2 and GDP is real Gross Domestic Product			

TABLE 4 **GENERALIZED VARIANCE DECOMPOSITION FROM EC MODEL**			
Variance Decomposition of GDP :	Explained By:		
Period	GDP	CDs	M2
1	100.0	0.00	0.00
5	76.42	9.27	14.31
10	31.02	43.94	25.04
16	17.26	61.28	21.47
Variance Decomposition of CDs :	Explained By:		
Period	GDP	CDs	M2
1	7.35	92.65	0.00
5	15.64	78.11	6.25
10	12.15	65.67	22.18
16	8.01	54.75	37.24
Variance Decomposition of M2:	Explained By:		
Period	GDP	CDs	M2
1	1.51	1.93	96.56
5	0.21	12.64	87.15
10	0.78	8.61	90.60
16	0.47	4.47	95.06
CDs is the three-month CD Rate, M2 is the Money Supply M2 and GDP is real Gross Domestic Product			

CONCLUSION

As the evidence (using data from Jordan) presented in this paper show, aggregate money, as measured by M2, has a positive relationship with interest rates. But broad measures of money contain an endogenous component that hides the effect of the exogenous shocks of money. It is monetary change that results from an exogenous policy shock that is expected to have a negative effect on interest rates. In other worlds, the monetary changes induce variations in the interest rate, which in turn affects output, is an indication of the impact of exogenous monetary changes on economic activity.

ENDNOTES

1 If a variable follows a unit root process, such that the first difference is stationary, the variable is said to be integrated of order one, I(1).

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INTRODUCTION OF THE MONITORING MODEL FOR CORPORATE GOVERNANCE IN JAPAN

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ABSTRACT

As for the legal form, the monitoring model for corporate governance was introduced, but not mandated, in the Japanese Commercial Code by the amendment of the Act on Special Measures for the Commercial Code on Audit, etc. of Stock Company in 2002. It was named "Company with Committees", and there were Executive Officers besides Directors, but without Company Auditors. There were three committees organized by Directors, and they were Nominating Committee, Audit Committee, and Compensation Committee. The scheme is implemented, but still not mandated, in the Companies Act of 2005.

However, if the monitoring model means that the major role of the Board of Directors should be the supervision of the execution of business conducted by the Executive Officers, monitoring model in substance, has been introduced in Japanese business in 1997. Although there are only sixty three listed companies, less than two percent of the listed Japanese companies, are Companies with Committees, majority of Japanese companies seems to have adopted monitoring model in substance by introducing holding company scheme or executive officer scheme.

This paper reveals the current situation of the introduction of the monitoring model for corporate governance in Japan based on the economic substance.

INTRODUCTION

When monitoring model is adopted, the role of the board of directors will be to hire, compensate, and terminate the CEO and other senior officers, to check on the corporation's auditing process, to vote on conflict of interest transactions, and act on the most important corporate decisions. The board will not actually manage the corporation nor engage in strategic decision making (Mitchell, 2005, 5-6). It is now a dominant model of the board for large American corporations (Mitchell, 2005, 1).

In Japan, Act on Special Measures for the Commercial Code on Audit, etc. of Stock Company was amended in 2002, and the monitoring model as a legal form was introduced, but not mandated. And the monitoring model, based on Companies Act, was not selected by the vast majority of the Japanese companies. According to the list of Companies with Committees (legal form for the monitoring model in Japan) by the Japan Corporate Auditors Association, there were only 102 companies including 39 non listed companies that chose IINKAI SECCHI

GAISHA (Companies with Committees), on November 19, 2010. Among them, 11 were Hitachi group companies and 14 were Nomura group companies. Among those 102 Companies with Committees, 45 companies, including 11 Hitachi group companies, were listed in the First Section of the Tokyo Stock Exchange. But that number was less than 3% of total number of the listed companies (1,675) in the First Section of the Tokyo Stock Exchange at the end of October 2010.

But above mentioned data does not necessarily mean that the monitoring model is not adopted in Japan. Even if the legal form of the monitoring model is not adopted, as long as the execution of the business and the supervision of the business are separated by the introduction of SHIKKO-YAKUIN (executive officers), it can be considered as introduction of the monitoring model in substance.

In this paper, monitoring model in the companies act will be analyzed first, and then monitoring model in substance will be analyzed. Although some studies such as Gilson & Milhaupt (2004), Tatsuta (2005), Shishido (2008) describes the details of the changes in Japanese company law, prior studies of the Japanese corporate governance written in English are still limited. As for the major Japanese companies, NIKKEI 225, the ratio of companies that have introduced monitoring model in substance, was much higher than the data presented in the prior studies, which included wider range of companies.

MONITORING MODEL IN THE COMPANIES ACT

Act on Special Measures for the Commercial Code of 2002

By the amendment of the Commercial Code in 2002, Section 4 was added to the Chapter 2 of the Act on Special Measures for the Commercial Code on Audit, etc. of Stock Company, and "large company" and 'deemed large company" were allowed to select monitoring model as their corporate governance structure. "Large company" was defined as stock company with capital stock of 500 million yen or more, or with total amount of the liabilities section on the balance sheet 20 billion yen or more (Act on Special Measures for the Commercial Code on Audit, etc. of Stock Company of 2002, Article 1-2). "Deemed large company" was defined as stock company with an amount of capital stock exceeding 100 million yen and by the articles of incorporation selected to apply special provision of the Act (Act on Special Measures for the Commercial Code on Audit, etc. of Stock Company of 2002, Article 2).

A Company with Committees has a Nominating Committee, an Audit Committee, a Compensation Committee, and one or more Executive Officers (SHIKKO-YAKU), but do not have a Company Auditor (KANSA-YAKU, Act on Special Measures for the Commercial Code on Audit, etc. of Stock Company of 2002, Article 21-5). Each committee will be organized by three or more Directors, and majority must be Outside Directors who are not Executive Officers

of the company (Act on Special Measures for the Commercial Code on Audit, etc. of Stock Company of 2002, Article 21-8).

The Board of Directors of a Company with Committees may, by resolution of the same, delegate decisions on the execution of the operations of the Company with Committees to Executive Officers (Act on Special Measures for the Commercial Code on Audit, etc. of Stock Company of 2002, Article 21-7). As Directors of a Company with Committees cannot execute the operation unless otherwise provided in the Act (Act on Special Measures for the Commercial Code on Audit, etc. of Stock Company of 2002, Article 21-6), the function of the Board of Directors of the Company with Committees will be monitoring board.

Executive Officers are elected by resolution of the Board of Directors (Act on Special Measures for the Commercial Code on Audit, etc. of Stock Company of 2002, Article 21-13). Directors are elected by resolution of a Shareholders Meeting (Commercial Code of 1938, Article 254). Nominating Committee determines the contents of proposals regarding the election and dismissal of Directors to be submitted to a Shareholders Meeting (Act on Special Measures for the Commercial Code on Audit, etc. of Stock Company of 2002, Article 21-8). As there is no article preventing a Director from concurrently acts as an Executive Officer, Japanese corporate governance follows US style instead of German style (Egashira, 2004, 420).

Because of the Japanese business environment, unique features can be observed in the Company with Committees. First, each committee has strong authority (Egashira, 2004, 420). Second, Outside Directors are not limited to independent directors (Egashira, 2004, 421).

As mentioned above, a nominating committee will determine the contents of proposals regarding the election and dismissal of directors to be submitted to a shareholders meeting, and that contents cannot be overruled by the Board of Directors (Act on Special Measures for the Commercial Code on Audit, etc. of Stock Company of 2002, Article 21-7). A Compensation Committee will determine the contents of the remunerations for each Director and Executive Officer, and that decision cannot be overruled by the Board of Directors (Act on Special Measures for the Commercial Code on Audit, etc. of Stock Company of 2002, Article 21-8).

Because it was anticipated that there might be difficulties for Japanese companies to find enough number of suitable Outside Directors, Japanese corporate governance structure was designed to make full use of those limited number of outside directors. As the outside directors are the majority of committee members, even if they might be the minority among the Board of Directors, their decision made as a majority within the committee, will be brought directly to the shareholders meeting (Egashira, 2004, 420-421).

Outside Director means a director of any Stock Company who is neither an Executive Director nor an executive officer, nor an employee, including a manager, of such Stock Company or any of its Subsidiaries, and who has neither ever served in the past as an executive director nor executive officer, nor as an employee, including a manager, of such Stock Company or any of its Subsidiaries (Commercial Code of 2001, Article 188). That definition was different from “independent directors (directors with no material relationship with the company)” used in

the Rule (Section 303A) adopted by the New York Stock Exchange in 2002, because it does not exclude affiliated person from parent company and major trade partners (Egashira, 2004, 421). The shortcoming of the definition of Outside Directors was also pointed out by Yoshikawa & McGuire (2008) that it allows to appoint employees from affiliated firms. And actually some Companies with Committee appointed their Outside Directors from affiliated firms (Nakamura, 2006, 253).

For example, in case of Hitachi group companies, most of the outside directors were from the parent company, Hitachi. In 2003, there were 15 subsidiaries or affiliated Companies with Committees of Hitachi group with securities report available in NEXTYUHOKAKUMEI database of the Hitachi High-Technologies Corporation. Very few directors were from outside of Hitachi group, exceptions were from Nippon Mining to Hitachi Powdered Metals, from the Ministry of International Trade and Industry to Hitachi Construction Machinery, from Texas Instruments Japan to Hitachi Metals, from Tokuyama to Hitachi Kokusai Electric. In 2010, there were 14 subsidiaries or affiliated Companies with Committees of Hitachi group with securities report available, the number of directors from outside of Hitachi group increased, and it became 11 in total (and one of them was the director of two companies): 4 were from financial institutions (banks and security company), 3 from foreign companies, 2 were lawyers, 1 from public utilities and newspaper company.

On the contrary, Sony when it formally adopted Company with Committee system in 2003, there were 8 outside directors among 17 directors. In 2010, among 15 directors, 12 are outside directors.

So, it should be noted that even among companies adopted the legal form for monitoring model, variety in substance can be observed.

Companies Act of 2005

According to *Summary for the Modernizing Companies Legislation* issued on February from 9, 2005, from the Legislative Council of the Ministry of Justice (Retrieved December 20, 2010, from http://www.moj.go.jp/content/000004917.pdf), Part 2 of the Commercial Code, Limited Liability Companies Act, Act on Special Measures for the Commercial Code on Audit, etc. of Stock Company will be merged into single Code, namely Companies Act, and the language used in that Act will be modernized. Simultaneously, necessary amendment to correspond to the changes of social economy will be made.

As the monitoring model had been introduced by the Act on Special Measures for the Commercial Code on Audit, etc. of Stock Company of 2002, only minor modification was made by the Companies Act of 2005. Japanese expression for Companies with Committees was slightly changed from IINKAI TOU SECCHI GAISHA to IINKAI SECCHI GAISHA (Companies Act of 2005, Article 2 (xii)). Size of the company was one of the requirements for Company with Committees in the Act on Special Measures for the Commercial Code on Audit,

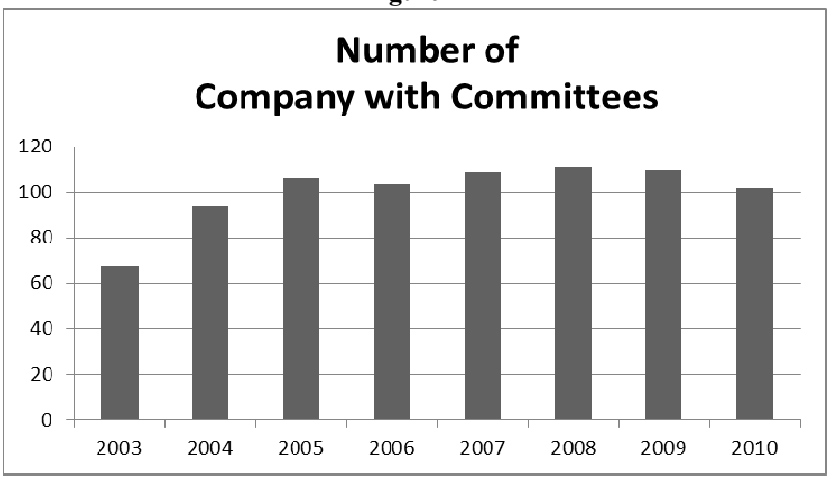
etc. of Stock Company of 2002 (Article 1-2, Article 2) . It has to be Large Company (capital stock 500 million yen or more, or total liabilities 20 billion yen or more), or Deemed Large Company (capital stock 100 million yen or more, and chose to be treated as Large Company by the articles of incorporation). Companies Act no longer imposes such requirement (Egashira, 2006, 495).

Trends of Company with Committees

Amendment of Commercial Code and Companies Act introduced monitoring model in Japanese legislation. But it was not mandated, intentionally, to let the companies choose their corporate governance structure from "Company with Board of Auditors" and "Company with Committees" (Egashira, 2009, 507).

The result of the competition can be found in the following figures from the data available in the website of the Japan Corporate Auditors Association. As for the data for 2010, it is on November 19.

Figure 1

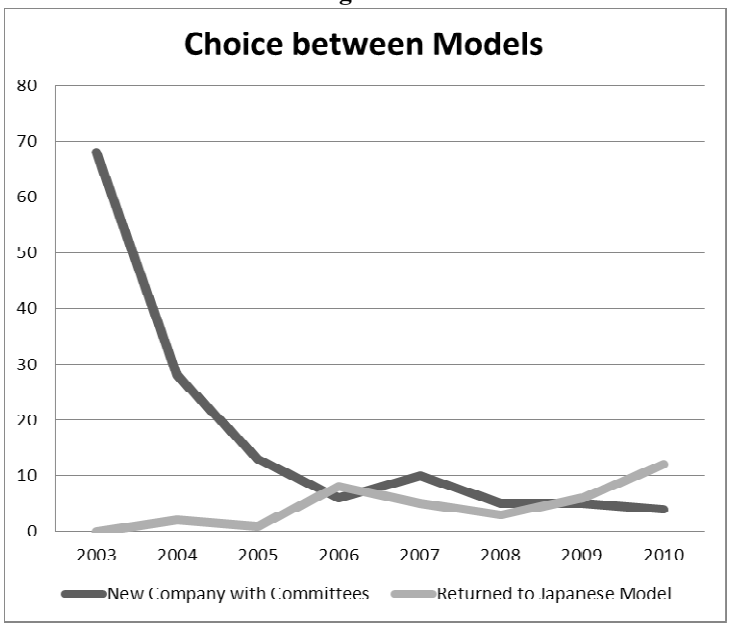


It seems that the number of Company with Committees is small and not increasing. Next figure highlights that situation.

There were certain number of companies chose monitoring model in 2003 and 2004, but only a small number of companies newly became Company with Committees after 2005. On the other hand, there are a few companies returning to Company with Board of Auditors. That number looks like increasing. By November 19, 2010, according to the survey conducted by the Japan Corporate Auditors Association, there were, in total, 37 companies once became Company with Committees change their corporate governance model and adopted Japanese model, Company with Board of Auditors, again. On April 21, 2011, there are only 92 Company with

Committees remaining, because 10 Nomura Group companies returned to Company with Corporate Auditor on April 1. They were not listed companies, and 4 of them (Nomura Principal Finance Co., Ltd, Nomura Pension Support & Service Co., Ltd., Nomura Babcock & Brown Co., Ltd. and Nomura Funds Research and Technologies Co., Ltd.) stated "for more efficient group business management" as the reason for change in their news releases on March 7, 2011 (www.nomuraholdings.com/jp/news/nr/etc/20110307/npf20110307.pdf, www.nomuraholdings.com/jp/news/nr/etc/20110307/nsas20110307.pdf, www.nomuraholdings.com/jp/news/nr/etc/20110307/nbb20110307.pdf, www.nomuraholdings.com/jp/news/nr/etc/20110307/nfrt 20110307.pdf).

Figure 2



It could be concluded that the monitoring model implemented in the Companies Act was not attractive for Japanese companies. As a result, amendment of the Companies Act is now discussed at the Subcommittee for Companies Legislative of the Legislative Council (For further details, see Minutes of the First Meeting, 4/28/2010, www.moj.go.jp/content/000048184.pdf).

MONITORING MODEL IN SUBSTANCE

Prior researches on Japanese corporate governance addressed issues of agency relationship in bank monitoring and KEIRETSU affiliation (Colpan et al., 2007, 90). Yoshikawa & McGuire (2008) has classified previous studies into three categories: (1) the central role of banks and bank monitoring, (2) ownership characterized by a network of stable and reciprocal shareholdings often among keiretsu members, (3) an insider dominated board (with a limited number of related outsiders) whose role differs significantly from that of the US board. They

have summarized the results of previous studies in Japanese corporate governance and presented in tables (Yoshikawa & McGuire, 2008, 7-9). Milhaupt & West (2004) analyzes Japanese corporate governance from wider view; including legal and social aspect.

Reflecting the corporate governance change in Japanese companies, there are researches focuses on the introduction of monitoring model in Japanese company law. Sakuma (2008) compared discretionary accruals between Company with Committees and Company with Board of Auditors, and could not find enough evidence to support Company with Committee improve the quality of financial information. Sadamatsu (2006) compared growth rate of market value, sales and ordinary income and found that the Company with Committees were not superior to the Company with Board of Auditors. Sakuma (2010) compared financial ratios between Company with Committees and Company with Board of Auditors, but could not find statistically significant difference. Shimada (2008) compared profitability and return of Company with Committees before and after of the transformation and observed increase in return. Improvement in profitability was also observed but not statistically significant. Shimizu (2007) found negative effect of transformation to Company with Committees using Tobin's Q using Nikkei 300 companies and Company with Committees in the Tokyo Stock Exchange First section listed companies as samples.

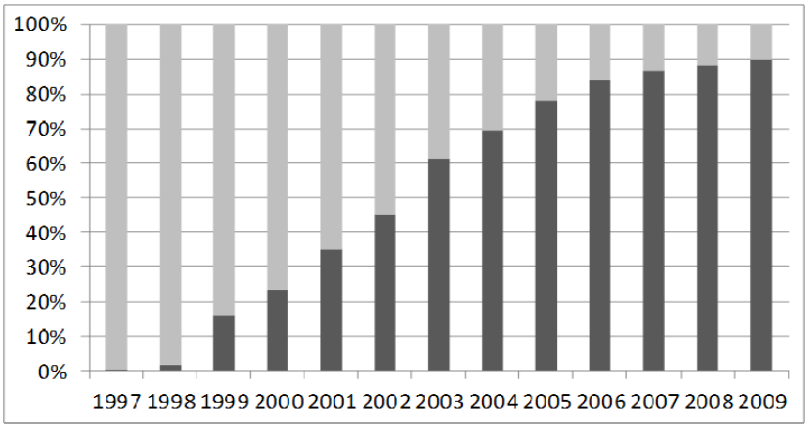
Change in corporate governance, introduction of monitoring model in substance, was taking place in late 1990s, a few years before the legal change. Sony announced the introduction of American style corporate governance structure on May 23, 1997, by reducing the number of directors from 38 to 10, and adding corporate executive officers (*NIKKEI Newspaper*). Many prior studies, for example, Aoki (2004), Gilson & Milhaupt (2004), Jacoby et al. (2005), Toda & McCarty (2005), Miyajima & Nitta (2006), Bebenroth & Denghao (2007), Colpan et al. (2007), Yoshikawa et al. (2007), mentioned and analyzed about Sony for its corporate governance reform. The adoption of new management structure was intended to provide a clear division between policy-making and oversight, and operational management (Sony, *Annual Report* 1997). Colpan et al. (2007) conducted empirical research on Japanese corporate governance using electronics companies listed on the First section of Japan's three largest stock exchanges, and they found that foreign and financial investors functioned positively for financial performance (ROA), but executive officer system and stock options had little or negative effect. Okamoto et al. (2009) also could not find statistically significant difference in performance (ordinary income on sales and average growth of sales for four years) between companies adopted executive officer system and companies without that system. Bedenroth & Donghao (2007) classified Japanese companies into three groups (traditional Japanese style companies without outside directors, new Japanese style companies which have appointed outside directors, and US-style company with committee.) and measured performance using Tobin's Q. Traditional Japanese companies had the weakest performance, US-style had the strongest, and new Japanese style in the middle, for the year 2004. Miyajima & Nitta (2006) also classified Japanese into three

categories; Company with Committees, company with executive officers, and traditional company without change in corporate governance, and conducted empirical study.

If separation of the execution of business and the supervision of business could be considered as introduction of monitoring model, the adoption of executive officer system or holding company system can be used as Merkmal. Among NIKKEI 225 companies, about 90% have adopted executive officer system and/or holding company system, according to the securities reports of each company submitted to the Financial Service Agency (NEXTYUHOKAKUMEI database of the Hitachi High-Technologies Corporation was used to collect those securities reports).

Following figure shows the trend toward monitoring model in substance. Contrast to the figure presented in the previous section about the adoption of Company with Committees (the legal form of the monitoring model), vast majority, almost 90%, of major Japanese companies seems to have introduced monitoring model in substance.

Figure 3
Introduction of Monitoring Model in Substance



According to the survey conducted by the Tokyo Stock Exchange in 2008 (TSE, 2009), among 2,378 TSE listed (First section, Second section and MOTHERS) companies, 46.2% have adopted executive officer system. So the trend toward the introduction of monitoring model in substance is not only for the major Japanese companies but also for most of the listed companies in Japan.

Although monitoring model has been widely introduced into Japanese companies, the model introduced is not exactly the same as US model. Even in the case of Company with Committees, the legal form for US model, because the definition of "outside" director was different, independence of the outside director was not strictly required by the law.

On the other hand, although the legal form remained same as before, some companies have actually adopted monitoring model in substance. For example, Nittobo is a company with Board of Corporate Auditors, but directors and executive officers do not hold concurrent

positions. Introduction of executive officer system was intended to enhance the decision-making and supervisory function of the Board of Directors, as well as the business execution functions of executive officers (Nittobo, *Annual Report 2009*, 8). Teijin is also a Company with Board of Corporate Auditors, but with Advisory Board and corporate officer system. Although the outside directors are 30% of the Board of Directors, outside auditors are 60% of the Board of Auditors, and outside advisors are 70% of the Advisory Board. The Advisory Board is tasked with advising on all aspects of management and evaluating the performance of top executives. The Advisory Board functions as a nomination committee and remuneration committee (Teijin, *Annual Report 2010*, 32-35). Teijin also requires independence for outside directors (Toda & McCarty, 2005, 219), and that policy has been disclosed in their securities report since 2004. Sapporo Holdings is a holding company with Board of Auditors. The Sapporo Group has clarified the supervisory functions of the holding company and business execution functions of the operating companies within the Group. Sapporo Holdings has established a nominating committee and a compensation committee.

As there is variety in monitoring model adopted by the Japanese companies, simple classification such as Company with Committees and Company with Board of Auditors will not be sufficient to analyze Japanese corporate governance reform.

SUCCESSFUL COMPANY WITH TRADITIONAL MODEL

Toray is Company with Board of Corporate Auditors, and preserves the traditional Japanese corporate governance model. The Company' Board of Directors consists of 28 members, all of whom are internal appointments. According to *Annual Report 2010* page 32, Toray Group carries out activities covering diverse domains on a global scale, and applies their core technologies to supply a wide range of industries. Therefore they believe that decision-making at the Board of Directors meetings and business execution must be carried out by members of the Board who are well-versed in Toray's businesses.

Toray has expanded its business from "Fibers & Textiles and Plastics & Chemicals" to "IT-related Products and Carbon Fiber Composite Materials" and "Life Science and Water Treatment"(*Annual Report 2010,*2). Number of employees was 37,936 at the end of March 2010(*Annual Report 2010*, 40). Based on Tokyo Stock Exchange Industry Classification, there were 62 companies in Textile Industry. As for the average for previous 10 fiscal years, Toray had been number one for net sales, operating income, net income, cash flow from operations, total assets among those 62 companies. Although, as for ROI, Toray is ranked around middle of those 62 companies, still it cannot be denied that Toray is the leading company in that industry.

Following Figures show the top 5 companies in Textile Industry for net sales, operating income, net income, cash flow from operations, and total assets in average (in million yen) for previous 10 fiscal years from NEEDS-FinancialQUEST database of the Nikkei Digital Media.

Figure 4

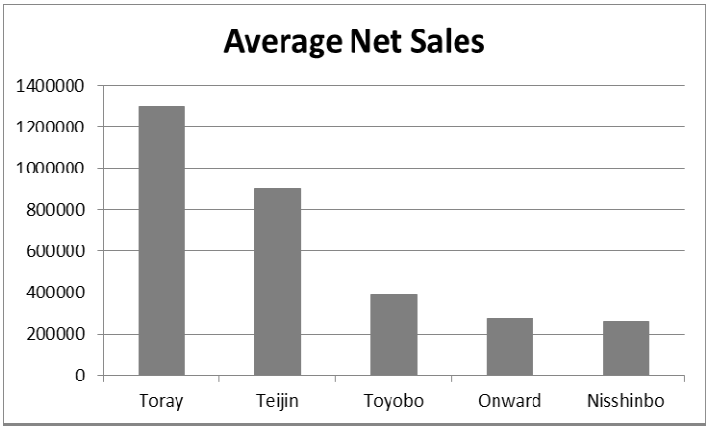


Figure 5

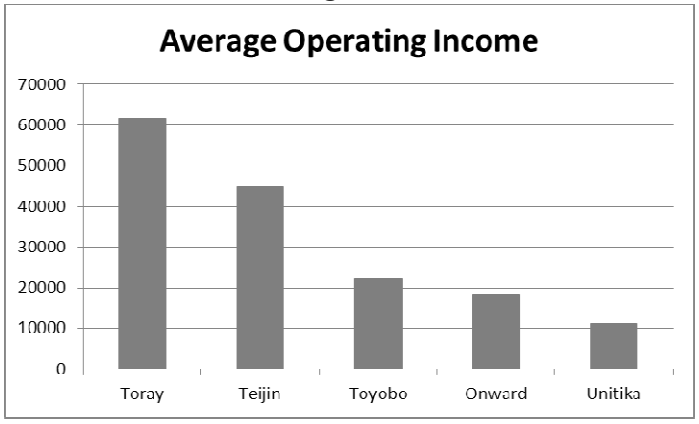


Figure 6

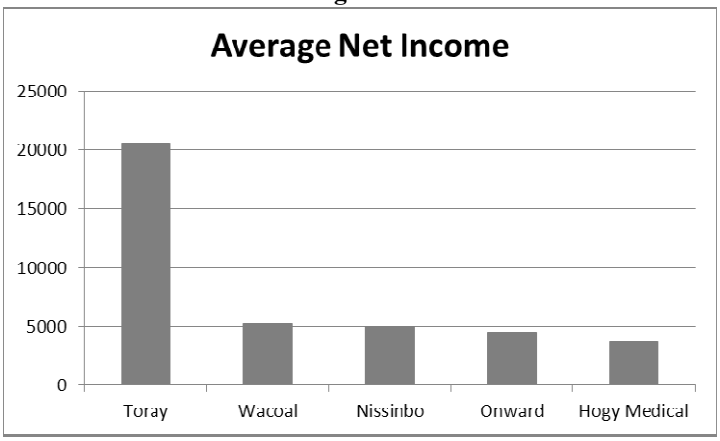


Figure 7

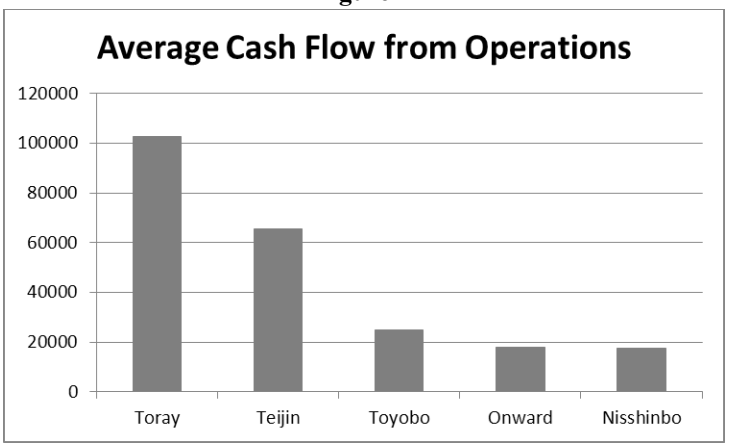
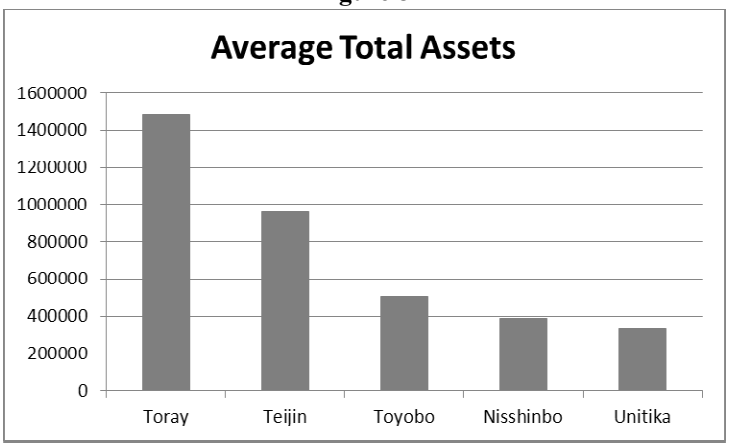


Figure 8



SUMMARY

The results of prior studies were mixed as for the relation between performance and Company with Committees or executive officer system. Although only 2 % of listed companies in Japan have adopted Company with Committee system (legal form for monitoring model), because about half of the TSE listed companies, and that ratio will be much higher for major listed companies in Japan (in case of NIKKEI 225 companies 90%) have already adopted executive officer system (monitoring model in substance), classifying companies by Company with Committees or not as an criterion will not work. It is necessary to look into the substance of the monitoring model and look for surrogates that reflect those characteristics of the monitoring model.

From the results of the prior studies, number of directors or size of the board, number of outside directors or outside directors and corporate auditors, number of independent directors, can be used as surrogates for the introduction of monitoring model.

It is also necessary to take into consideration that some companies might be introducing those systems because they are not making enough profit to satisfy shareholders (Aoki, 2002). Certain period of time after the introduction of the executive officer system might be necessary to evaluate the effect on business performance (Aoki, 2004).

Sony implemented US style monitoring model, but most of the Japanese companies stay somewhere between the US style monitoring model and the traditional Japanese corporate governance style. Toda & McCarty (2005, 223) analyzes that Japanese firms are not necessarily seeking to completely isolate supervisory functions from execution functions, but instead want both operational and supervisory representatives on the board by citing the case of two well-known global firms. Although half of the TSE listed companies, and vast majority of the major Japanese companies have adopted executive officer system or holding company system, which look like introduction of monitoring model, but the number of independent directors are really limited.

In December 2009, Tokyo Stock Exchange revised the Securities Listing Regulations and related rules and listed companies are required to secure at least one independent director/auditor pursuant to Rule 436-2, Paragraph 1. Independent director/auditor is defined as outside director/auditor who is unlikely to have conflicts of interest with general investors.

Miyajima (2009) points out that, Japanese companies are not simply choosing traditional Japanese corporate governance style or US corporate governance style, rather they are choosing hybrid style. Japanese companies might have introduced new type of monitoring model which is different from German style or US style.

As the choice of legal form does not necessarily represent the substance of the corporate governance of Japanese companies, further study is required to figure out the key elements for analysis.

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THE VIRTUOUS CYCLES BETWEEN ENVIRONMENTAL INNOVATIONS AND FINANCIAL PERFORMANCE: CASE STUDY OF JAPANESE AUTOMOTIVE AND ELECTRONICS COMPANIES

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ABSTRACT

The Japanese automotive and electronics industries are significant to the issue of environmental sustainability considering its impact on global production, trade and product use. Following literature on the links between corporate social performance and financial performance, we attempt to validate if the relationship between environmental innovations and financial performance is not just unidirectional but likewise bi-directional.

This comparative case study of Japanese automotive and electronics companies aims to: (1) determine if environmental innovations positively impact financial performance in prior years; (2) alternatively explore if financial performance in prior years positively impact environmental innovations; (3) establish if virtuous cycles exist in the relationships of variables; and (4) probe further if the directions, impacts or relationships hold consistently over a longitudinal period.

Panel data regression analysis was performed for ten automotive and ten electronic companies listed in the Tokyo Stock Exchange, to determine the impact of the variables on each other for both directions from 2001 to 2009. Granger causality tests were performed to establish virtuous cycles. Finally, the same statistical techniques were employed on disaggregated data sets for the periods, 2001 to 2006 and 2004 to 2009, to capture any longitudinal differences.

Our findings which point to the stark contrasts between the automotive and electronics companies, allow us to support earlier theorization and propose rival theories for results contrary to expectations. The automotive companies exemplify the resource-based view perspective as positive impacts of environmental innovations that are observed on revenues, profits, assets, long-term debt and equity, and vice-versa. However, these impacts seem to weaken over time. The electronics companies show only revenues and long-term debt as significantly controlled by environmental innovations and vice-versa. There are, likewise, longitudinal differences as a result of the recent global economic crisis in the industry. Virtuous cycles for all variables of financial performance have only been established for a number of automotive companies, and for one electronics company.

INTRODUCTION

Sustainability research has stirred a debate on its business rationale. Scholars have earlier determined that there is a positive relationship of sustainability practices through enhanced revenues, increased profits, reduced risks and significant cost reductions. However, recent literature reveals that there could be no effect or relationship amongst the constructs of corporate social performance (CSP) through environmental innovations and financial performance. In fact, some have even countered that the relationship is negative.

Therefore, we join the discussion by presenting more evidence from the Japanese automotive and electronics companies, through a comparative case study. Using eight automotive and ten electronics manufacturing companies listed on the Tokyo Stock Exchange, we perform a panel data regression analysis with firm specifics and fixed effects to establish the relationship. We aim to answer the question: Do environmental innovations positively impact financial performance? Or is it the other way around: Does financial performance in recent years positively impact environmental innovations? Sustainability scholars have also determined that there could be virtuous cycles amongst the constructs, leading us to hence explore this: Do these constructs mutually reinforce each other? Finally, we examine if the relationships hold true over the long run.

The first direction of the relationships is based on the resource-based view (RBV) which explains that investments in internal capabilities bring measurable benefits. Alternatively, the slack availability of resources perspective exhibit the other direction of relationships - if not for available resources, firms would not be able to perform environmental innovations. In relation to the virtuous cycles, Cortez (2010) argues that uniting the two theories could result to the accumulated slack theory. The first direction has a stronger impact than the second direction; hence there is a resulting accumulation of slack resources.

LITERATURE REVIEW

The positive relationship between corporate citizenship (CC) and financial performance with causal mechanisms, such as the improvement of managerial knowledge and skills and enhanced corporate reputation, was earlier established by Orlitzky (2008). Along the same line, Jones and Murrell (2001 in Orlitzky, 2008) examined how a firm's public recognition for exemplary social performance can serve as a positive signal of the firm's business performance to shareholders. In addition, Orlitzky (2008) cites the following causal mechanisms that link financial performance and CC: efficiency, increasing competitors' costs, attracting more productive workforces, boosting sales revenues, and reducing business risk.

Roberts & Dowling's (2002) study shows that superior-performing firms have greater chances of sustaining superior performance if they possess good reputations. In developed countries like Japan, stakeholder influence pressures companies to perform product

improvements beyond the required government standard. This translates to improved reputation and legitimacy of the company. Moreover, existing technologies are challenged by the finite availability of energy sources; hence innovation is needed in finding cleaner and more sustainable alternative sources. This clean technology strategy repositions a company in the competitive future. In addition, the creation of a sustainable vision provides a roadmap for addressing changing needs of society, such as climate change, resource depletion and poverty. Thus, this enables a company to have a sustainable growth trajectory (Senge, 2008).

Evidence from the U.S. on environmental disclosure suggests the link to financial performance. The largest number of firms that did not have an environmental policy were the low financial performers (Morhardt, 2009), while high financial performers did have higher incidences of environmental policies as compared to low financial performers. The highest incidence of environmental policies came from medium financial performers (Stanwick & Stanwick, 2000). In relation with this, in a study of the 50 biggest companies as to capitalization, Ho & Taylor (2007) reveal that the extent of triple bottom-line reporting is significantly higher for large-sized firms, lower profitability, lower liquidity, and for firms from the manufacturing industry. Morhardt (2009) adds that as corporate size reaches a certain threshold, sustainability reporting becomes independent of it.

One of the most cited literature on the CSP-financial performance link is by McGuire, Sundgren and Schneeweis (1988). They suggest that a firm's prior performance assessed as to stock market returns and accounting-based measures, is more closely related to corporate social responsibility (CSR) than is subsequent performance. Using COMPUSTAT database, they used the financial performance measures of Return on Assets (ROA), Average Assets, Operating Income Growth, Asset Growth, Total Return, Debt to Assets, and Operating Leverage as independent variables, and the Fortune magazine's ratings of corporate reputations as dependent variables to represent CSR in the comparative periods, 1977 to 1981 and 1982 to 1984. Three of the accounting-based measures of performance significantly correlated with CSR: ROA and operating income positively correlated with CSR; and the ratio of debt to assets negatively correlated with CSR. This means profitability impacts CSR and the reduced contingent liabilities encourage the companies to do more CSR work. In their regression analysis, accounting-based performance measures appear to have a higher explanatory value than stock market performance. The most important contribution to CSP literature by McGuire, Sundgren & Schneeweis (1988) adopts the direction of the relationship. They conclude that prior performance is generally a better predictor of CSR than subsequent performance. Arguably, they leave a point that concurrent CSR and corporate financial performance (CFP) may be artifacts of previous high performance. They admit, however, that there is indeed difficulty in measuring CSR then.

Russo & Fouts' (1997) examination of the relationship of corporate environmental performance and profitability, was strongly rooted on the RBV theory, as they proposed that high levels of environmental performance (independent) will be associated with enhanced profitability (dependent). Hence, they assume that the direction is one way and that industry growth

moderates the relationship. They performed correlation and regression analysis, using environmental ratings of 477 companies by the Franklin R&D Corporation (FRDC) in 1991 and 1992, and the corresponding financial statistics (firm growth rate, advertising intensity, capital intensity) from COMPUSTAT from each of the companies. Their overall results support the RBV theory that investments in environmental performance lead to improved CSR.

Another significant contribution to literature is by Waddock & Graves (1997) because they establish the concurrent bi-directionality of the relationship between CSP and financial performance where both are dependent and independent variables. Using financial performance data (ROA, ROE, ROS, Debt to Asset, Sales, Assets) of 469 companies from S&P 500 and its CSP attributes from the Kinder, Lydenberg, Domini (KLD) database, they conclude that CSP depends on financial performance and that the sign of relationship is positive, supporting the slack view of resources theory earlier established by McGuire et al. (1988). They add that firms with available resources may choose to spend those resources on ”doing good by doing well” and that those resource allocations may result in improved CSP (Waddock & Graves, 1997). As to speculations on where the virtuous cycle begins, they argue that it could possibly be simultaneous.

McWilliams & Siegel (2000), however, criticize the work of Waddock & Graves as having a ”flaw in econometric estimation of a mis-specified model.” They argue that there is a large body of evidence showing that investment in research and development (R&D) has a strong positive impact on profitability, and that R&D and CSR are likely to be correlated because both are associated with product and process innovation. As such, an equation that includes CSP (a measure of CSR) as a determinant of firm performance but not R&D, “will result in upwardly biased estimates of the CSP variable.” They strongly emphasize the need to control R&D intensity to isolate the impact of CSR on firm performance (McWilliam & Siegel, 2000). For Japanese sustainability reporting, R&D composes majority of the investment and costs of environmental innovations.

In reaction to McWilliams & Siegel’s (2000) point, Surroca, Tribo & Waddock (2010) reexamine the mediating impact of intangible resources on the relationship between CSP and financial performance, admitting that the earlier espoused positive relationship by Waddock & Graves (1997) may have been spurious. Their results show that there is no direct relationship between corporate responsibility and financial performance and that there could be an indirect relationship that relies on the mediating effect of intangible assets, such as innovation, human capital, reputation, culture and R&D (Surroca et al., 2010; McWilliams & Siegel, 2000).

Working on the same KLD statistics for CSP data and COMPUSTAT for financial data for 2004 and 2005, Callan & Thomas (2009) estimate a broad cross-section of models to test two approaches to measure socially responsible practices, and four measures of financial performance (ROS, ROA, ROE, Tobin’s q). They conclude that there is a positive CSP-CFP relationship. They suggest the proper control of variables to avoid bias and that these are quadratically related to financial performance (Callan & Thomas, 2009).

In related literature, Klassen & McLaughlin (1996) propose that environmental management, composed of product and operations technologies and management systems, be considered an important determinant of environmental performance, which in turn, affects firm financial performance. They conclude that significant positive abnormal stock returns following positive environmental events, highlighting the perceived value of strong environmental performance. Konar & Cohen (2001) have similar results, and conclude that poor environmental performance has a significant negative effect on the intangible-asset value of publicly traded firms that belong to the S&P 500.

Murray & Gray (2006) show a different conclusion as to whether financial markets care about social and environmental disclosures. In their study of U.K.'s largest companies, they found that there is no direct relationship between share returns and disclosures. They stress the importance of examining a range of hypotheses on longitudinal data when other research suggests that any relationship is unlikely to be unstable year by year.

Consequently, Lee, Faff & Langfield-Smith (2009) reveal that their market-based test suggests a negative association between CSP and CFP while accounting measures showed no association. Their rival explanation is that financial markets value CSP and are prepared to realize lower returns. This shows the ability of firms to tap lower cost of capital if they have good social performance (Lee et al., 2009).

Nelling & Webb (2009) revisit and break the virtuous cycle in their most recent contribution to literature. They find CSR and financial performance related using traditional statistical techniques. However, using the time series fixed effects (Granger causality) approach, they found the relationship much weaker than previously thought. Exploring further from correlation and regression, the more common statistical tools used in related studies, they examine causality and find little evidence. Supporting earlier literature, they suggest that strong stock market performance leads to greater firm investment in aspects of CSR. However, CSR activities do not affect financial performance. They conclude that CSR could be driven by more unobservable firm characteristics than by financial performance.

Finally, Dong-shang & Kuo (2008) performed a structural equation modeling of 311 firms' sustainability scores and profitability. They conclude that profitability is positively affected by high sustainability performance rating and that there is a reciprocal influence for higher sustainability performers. However, for medium to low sustainability performers, profitability is sometimes negatively affected with no reciprocal effect. This is related to the findings of Morhardt (2006) that sustainability is based on a certain size threshold.

HYPOTHESES AND METHODOLOGY

To test construct relationships of environmental innovations and financial performance over a longitudinal period, this section presents our hypotheses that show concurrent bi-directionality:

H1A. Environmental innovations positively impact sales.
H1B. Sales in prior periods positively impact investment in environmental innovations.

H2A. Environmental innovations positively impact income.
H2B. Profits in prior periods positively impact investment in environmental innovations.

H3A. Environmental innovations positively impact firm size / assets.
H3B. Firm size / assets in prior periods positively impact investment in environmental innovations.

H4A. Environmental innovations negatively impact accounting risks / long-term debt.
H4B. Accounting risks / long-term debt negatively impact investments in environmental innovations.

H5A. Environmental innovations positively impact shareholders wealth / equity.
H5B. Shareholder wealth / equity positively impacts investments in environmental innovations.

H6A. Environmental innovations positively impact financial performance consistently over time.
H6B. Financial performance positively impacts environmental innovations consistently over time.

Panel data regression was performed for the period 2001 to 2009 to capture the complete comparable information among automotive and electronics companies. Then the same method was employed for the period 2001 to 2006 to observe the first part of the decade which was before the global economic crisis. Consequently, another panel regression was performed for the period 2004 to 2009 to illustrate the relationship of the constructs for the latter part of the decade.

Bi-variate granger causality tests are then performed between environmental innovations and measures of financial performance (sales, income, assets, long-term debt and equity) for the periods, 2003 to 2009, 2003 to 2008, and 2004 to 2009.

RESULTS AND DISCUSSIONS

Environmental Innovations Impact Financial Performance and Vice Versa

Automotive

Environmental innovations positively impact all measures of financial performance (sales, income, assets, long-term debt and equity) for the comparative periods, 2001 to 2009, 2001 to 2006, and 2004 to 2009 with the exception of income. The relationship between environmental innovation and income became insignificant towards the latter part of the decade. This shows the effect of the global economic crisis on the profitability of automotive companies (See Appendix 1). Therefore, we accept H1A, H2A, H3A, and H5A while qualifying the impact on income. Long-term debt has a positive coefficient that is contrary to expectations. We

suppose that environmental innovations are financed through long-term debt with such a positive relationship. This is typical of Japan exhibiting a debt oriented economy.

Electronics

Environmental innovations translated to sales consistently over the comparative periods, 2001 to 2009, 2001 to 2006, and 2004 to 2009. Long-term debt is also significantly controlled by environmental innovations but only for the periods, 2001 to 2009, and 2001 to 2006. It is notable that the coefficient is negative, suggesting that as environmental innovations increase, accounting risks measured in long-term debt decrease. Cortez (2010) has observed this in the form of descriptive statistics for long-term debt ratio. During the latter part of the decade, the relationship between environmental innovations and long-term debt became insignificant. This shows the predominant concern to minimize risks while generating revenues. However, it is notable that environmental innovations impact firm size / assets over the latter part of the decade. All these lead us to conclude that long-term debt was used to finance environmental assets and capitalizing these lead to increases in firm size. Therefore, we accept H1A and H4A for electronics and reject the rest of the hypotheses.

Financial performance appears to have an impact on environmental innovations although with a weaker coefficient. The results for automotive and electronics seem to mirror the first direction of relationships. Discussions below on virtuous cycles would further substantiate the second direction of the relationship amongst the constructs of our study.

The Virtuous Cycles

Automotive

For the period 2003 to 2008 only two companies – small-sized Suzuki and large-sized Toyota - showed complete virtuous cycles between environmental innovations and all measures of financial performance (sales, income, assets, long-term debt and equity). These findings of mutually reinforcing variables suggest that environmental innovation is not exclusively size-dominated. These results, however, are not consistent for the periods, 2003 to 2009, and 2004 to 2009. Toyota's virtuous cycles practically disappeared if the year 2009 is included presumably because of the safety issues that affected their financial performance. Suzuki appears to be more consistent with its virtuous cycles except for equity in the most recent year. Again, this could be a result of the recent crisis. Amongst automotive companies, long-term debt and environmental innovations appear to have the most virtuous cycles across all periods in this analysis. This suggests that the common practice of debt financing is the usual source of capital for any investment to include environmental innovations.

Electronics

Panasonic is the only electronics manufacturing company with observed complete virtuous cycles between environmental innovations and all measures of financial performance (sales, income, assets, long-term debt and equity) for the periods, 2003 to 2008, and 2004 to 2009. However, for a longer period of 2003 to 2009, the links seem to be broken. Consistent with the significant inverse relationships established above, risk minimization appears to be the predominant motivation for electronics companies to invest in environmental innovations. Across the years 2003 to 2008, and 2003 to 2009, the most numbers of virtuous cycles are observable between environmental innovations and long-term debt. However, for the recent period 2004 to 2009, more virtuous cycles are seen between environmental innovations and equity.

Therefore, we reject H6A and H6B arguing that the relationships of mutually reinforcing constructs do not hold consistently over time with a qualification for long-term debt for all companies.

CONCLUSION AND RECOMMENDATIONS

In conclusion, environmental innovations positively impact financial performance of automotive companies and to some extent that of electronics companies, and vice versa.

Automotive companies, following the RBV, invest in environmental innovations because they see the tangible benefits that translate into improved sales, enhanced profitability, increased firm size, and maximized shareholder wealth. However, to afford these, they have to engage in debt financing; hence long-term debt runs contrary to expectation, with a positive relationship with environmental innovations.

Electronics companies have not yet recovered from the decade's accumulated losses. Therefore, environmental innovations impact their sales and minimize their risks. These constructs may appear to be mutually reinforcing. However, as the descriptive statistics suggest, the electronics companies are investing in more environmental assets in the recent years as they capitalize their environmental innovations costs.

Finally, virtuous cycles are present in the automotive and electronics companies (Suzuki, Toyota, and Panasonic), however, these do not hold consistently over time. The construct relationships seem to weaken with every economic shock in the business environment.

It is, therefore, recommended as all sustainability research do, to pursue this study over longer time periods to truly observe the constructs' relationships and the phenomenon of mutually reinforcing variables.

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Appendix A. Panel data regression analysis, 2001-2009, 2001-2006, 2004-2009						
Automotive						
	2001 to 2009		2001 to 2006		2004 to 2009	
	P values	Adj.R2	P values	Adj.R2	P values	Adj.R2
Env.Inv. Impacts Fin.Perf						
Sales	0.000	0.9772	0.000	0.9957	0.000	0.9729
Income	0.018	0.6444	0.000	0.9827	0.769	0.5879
Assets	0.000	0.9798	0.000	0.9919	0.000	0.9788
LTD	0.000	0.9795	0.000	0.9905	0.000	0.9825
Equity	0.000	0.9814	0.000	0.9909	0.000	0.9800
Fin.Perf. Impacts Env.Inv.						
Sales	0.000	0.9529	0.000	0.9859	0.000	0.9623
Income	0.018	0.8625	0.000	0.9857	0.769	0.9466
Assets	0.000	0.9563	0.000	0.9766	0.000	0.9647
LTD	0.000	0.9637	0.000	0.9834	0.000	0.9659
Equity	0.000	0.9525	0.000	0.9685	0.000	0.9644
Electronics						
	2001 to 2009		2001 to 2006		2004 to 2009	
	P values	Adj.R2	P values	Adj.R2	P values	Adj.R2
Env.Inv. Impacts Fin.Perf						
Sales	0.000	0.9762	0.003	0.9843	0.000	0.9846
Income	0.588	0.2747	0.899	0.3139	0.848	0.3146
Assets	0.897	0.9773	0.064	0.9844	0.008	0.9841
LTD	0.001	0.9197	0.000	0.9482	0.874	0.9305
Equity	0.797	0.9328	0.903	0.9484	0.241	0.9546
Fin.Perf. Impacts Env.Inv.						
Sales	0.000	0.9145	0.003	0.8571	0.000	0.9678
Income	0.588	0.8740	0.899	0.8293	0.848	0.9465
Assets	0.897	0.8736	0.064	0.8410	0.008	0.9537
LTD	0.001	0.8899	0.000	0.8712	0.874	0.9465
Equity	0.797	0.8737	0.903	0.8293	0.241	0.9480
* test of heteroskedasticity and autocorrelation performed; level of significance at 0.05						

Appendix B. Virtuous cycles for automotive companies								
2003 to 2008	Daihatsu	Fuji	Hino	Honda	Isuzu	Mazda	Suzuki	Toyota
envcost	0.0000	0.5570	0.4090	0.0000	0.0000	0.0070	0.0000	0.0000
sales	0.3950	0.0000	0.0000	0.1980	0.0000	0.0000	0.0000	0.0000
envcost	0.0000	0.9390	0.7500	0.0000	0.0000	0.0000	0.0000	0.0000
income	0.0000	0.0000	0.4230	0.9560	0.3150	0.0000	0.0000	0.0000
envcost	0.0010	0.0370	0.1760	0.6520	0.0000	0.6300	0.0000	0.0000
assets	0.1010	0.0000	0.1720	0.0000	0.0000	0.0000	0.0000	0.0000
envcost	0.6610	0.1540	0.0000	0.0140	0.0000	0.0000	0.0000	0.0000
ltd	0.2420	0.3080	0.0000	0.0570	0.0000	0.0270	0.0000	0.0000
envcost	0.0050	0.3150	0.4200	0.0320	0.0000	0.2350	0.0000	0.0260
equity	0.0700	0.0010	0.0170	0.0000	0.8400	0.0000	0.0000	0.0000
2003 to 2009	Daihatsu	Fuji	Hino	Honda	Isuzu	Mazda	Suzuki	Toyota
envcost	0.0300	0.0050	0.0000	0.5950	0.2540	0.6830	0.0000	0.9260
sales	0.3780	0.4130	0.0000	0.0000	0.0000	0.5010	0.0000	0.0000
envcost	0.0000	0.0030	0.0000	0.5090	0.0210	0.1200	0.0000	0.1200
income	0.0000	0.0000	0.4160	0.0000	0.0820	0.1310	0.0000	0.0010
envcost	0.0210	0.0130	0.6060	0.0400	0.0000	0.0000	0.0000	0.9950
assets	0.0520	0.0000	0.0200	0.0000	0.6910	0.0000	0.0000	0.0000
envcost	0.8200	0.0000	0.0210	0.0000	0.0000	0.0000	0.0000	0.9100
ltd	0.1760	0.1040	0.0330	0.0000	0.0000	0.0000	0.0000	0.0000
envcost	0.0090	0.0010	0.3860	0.6880	0.0000	0.0300	0.3630	0.5610
equity	0.1600	0.0010	0.0030	0.0030	0.5410	0.0010	0.0000	0.0000
2004 to 2009	Daihatsu	Fuji	Hino	Honda	Isuzu	Mazda	Suzuki	Toyota
envcost	0.0000	0.0210	0.0000	0.6850	0.4000	0.0000	0.0000	0.0530
sales	0.4910	0.3260	0.0070	0.0000	0.0000	0.0000	0.0000	0.1180
envcost	0.0000	0.0340	0.0000	0.0420	0.2050	0.0000	0.0000	0.0000
income	0.0000	0.0000	0.5080	0.0000	0.4140	0.0000	0.0000	0.0000
envcost	0.0000	0.0560	0.0000	0.0550	0.0000	0.0000	0.0000	0.0000
assets	0.0000	0.1990	0.2990	0.1130	0.0040	0.0000	0.0000	0.0000
envcost	0.6490	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.3890
ltd	0.0530	0.0000	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000
envcost	0.0000	0.0320	0.0010	0.8950	0.0040	0.1010	0.2520	0.0000
equity	0.0000	0.0000	0.1050	0.0000	0.0000	0.0000	0.0000	0.0470

Appendix C. Virtuous cycles for electronics companies									
	Canon	Casio	Fujitsu	Hitachi	JVC	Oki	Panasonic	Sanyo	Sharp	Toshiba
2003 to 2008										
envcost	0.0000	0.0000	0.0000	0.0000	0.6360	0.0270	0.0000	0.0000	0.0000	0.2350
sales	0.0660	0.0000	0.0000	0.0000	0.8750	0.1100	0.0000	0.0000	0.7210	0.0000
envcost	0.0000	0.0000	0.1720	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0860
income	0.0020	0.0000	0.0000	0.0000	0.0880	0.0580	0.0000	0.1580	0.0000	0.0000
envcost	0.0000	0.0000	0.0000	0.0000	0.0020	0.1130	0.0000	0.0000	0.0000	0.0000
assets	0.1120	0.0000	0.0650	0.0000	0.0280	0.3890	0.0000	0.0000	0.0850	0.0000
envcost	0.3400	0.0000	0.0000	0.0000	0.0000	0.7920	0.0190	0.0000	0.0000	0.0000
Ltd	0.0000	0.0000	0.0000	0.0000	0.0390	0.6660	0.0000	0.0000	0.0000	0.0000
envcost	0.0000	0.0000	0.0010	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.3380
equity	0.0010	0.6380	0.0000	0.4550	0.4590	0.5020	0.0000	0.9400	0.8260	0.2860
2003 to 2009										
envcost	0.0000	0.0000	0.0010	0.0420	0.2600	0.0730	0.0000	0.0000	0.0000	0.2960
sales	0.0370	0.0010	0.1320	0.7360	0.0000	0.0000	0.6140	0.3970	0.0210	0.0000
envcost	0.0000	0.0000	0.1640	0.0000	0.0300	0.0150	0.0000	0.0000	0.0000	0.0920
income	0.1250	0.0000	0.0460	0.0000	0.9600	0.0030	0.1950	0.1210	0.0010	0.7150
envcost	0.0000	0.0000	0.0490	0.7810	0.0000	0.6910	0.0000	0.6230	0.0000	0.0870
assets	0.0000	0.0000	0.0000	0.0260	0.0040	0.0040	0.0000	0.3230	0.3950	0.0000
envcost	0.0000	0.0000	0.0000	0.0000	0.0000	0.2720	0.0070	0.0380	0.0000	0.0000
Ltd	0.0000	0.0000	0.0000	0.0000	0.0360	0.1570	0.0000	0.0020	0.0000	0.0000
envcost	0.0000	0.0000	0.0340	0.0000	0.0000	0.4640	0.0000	0.1330	0.0000	0.3350
equity	0.0000	0.4050	0.0400	0.0120	0.3600	0.0000	0.0050	0.0900	0.0170	0.6730
2004 to 2009										
envcost	0.0000	0.0000	0.0290	0.0500	0.0060	0.0020	0.0000	0.0000	0.0000	0.9810
sales	0.0010	0.0010	0.1300	0.3310	0.0000	0.0000	0.0040	0.1460	0.0000	0.0000
envcost	0.0000	0.1510	0.0000	0.0000	0.3600	0.0000	0.0000	0.0000	0.0000	0.2690
income	0.0690	0.0000	0.0090	0.2630	0.0010	0.0050	0.0000	0.2340	0.0000	0.0000
envcost	0.0000	0.0010	0.1750	0.8630	0.6310	0.0100	0.0000	0.5350	0.0000	0.3620
assets	0.0000	0.0000	0.0000	0.8970	0.0900	0.0000	0.0000	0.0910	0.0640	0.0000
envcost	0.0000	0.0000	0.0000	0.0000	0.0000	0.3740	0.0000	0.6000	0.0000	0.0000
Ltd	0.2620	0.0000	0.0010	0.0000	0.4420	0.1330	0.0000	0.0090	0.0000	0.0000
envcost	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.2620
equity	0.0000	0.1530	0.0530	0.0000	0.0570	0.0000	0.0000	0.0540	0.0030	0.1210

CONSOLIDATION OF FOREIGN SUBSIDIARIES: REVISITING SFAS 52

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ABSTRACT

This study investigates the translation methods used by multinational firms that have subsidiaries in foreign countries. Companies (parent) that have control over other companies (subsidiaries) must consolidate their financial statements with those of their subsidiaries in order to give the readers a view of the firm's global operations. Under the U.S. GAAP, these parent companies in the U.S. are not allowed to prepare their own financial statements but are required to prepare consolidated financial statement with their subsidiaries. An added complication in preparing consolidated financial statements arises from the need to translate the financial statements of these subsidiaries that operate in foreign countries. If the statements are prepared in currencies other than the U.S. dollar, they must be translated the financial data into the U.S. dollar.

SFAS 52 was introduced to revise the translation rule under SFAS 8. It presented the concept of the functional currency. And the choice of the functional currency affects the translation method to be used and the presentation of foreign exchange adjustment (gains or losses) in the financial statements. A related issue is the criticism that giving the multinational companies the choice of the functional currency under SFAS 52 is also giving them "plenty of opportunity to fool around." Another criticism is that the arbitrary choice of translation method affects the comparability of company performance.

INTRODUCTION TO TRANSLATION METHODS

There are four translation methods generally used: namely, the Current rate method, Current/non-current method, Monetary/non-monetary method, and the Temporal method. Under the current rate method, all balance sheet items (except owners' equity) are translated using the current exchange rate on the balance date. The owners' equity (common stock and additional paid-in capital accounts) is translated at historical exchange rate on the date at which the stock was issued (Saudagaran, 2004, p.65).

The other methods use a combination of current and historical rates in the translations. The temporal method uses the measurement basis of the asset and liability accounts to select the translation exchange rate. Accordingly, monetary assets and liabilities are translated using the current exchange rate. Non-monetary assets such as inventories and fixed assets are translated at current rate if they are carried in the books at current values, otherwise at historical exchange

rate if these assets are carried in the books at historical cost. Because of the flexibility afforded by the temporal method, this was the only method permitted under Financial Accounting Standard Board (FASB) Pronouncement No. 8 or SFAS 8.

Translation accounting in the United States has evolved over time in response to increasing complexity of multinational operation. Prior to 1965, the translation used the current-non current method recognizing net translation losses in the income statement, while net translation gains as deferred account. A rather controversial standard was issued as SFAS 8 in 1975. It required the use of temporal method with the translation gains and losses recognized in income during the period of the rate change. The criticism was its yo-yo effect on the reported income. In 1981, SFAS 52 was issued. It recognized that the parent company and the foreign subsidiary perspectives are both legitimate reporting frameworks. When currency in which foreign entity's records are kept is the local currency, the financial statements are translated to U.S. dollars under the current rate method: assets and liabilities are translated using the current rate prevailing at the balance sheet date, and revenues and expenses at the weighted average rate, with resulting gains and losses shown as a separate component of the equity. When the parent's currency is the functional currency, the foreign subsidiary's financial statements are re-measured to the U.S. dollars using the temporal method, and translation gains and losses are included in the current-period income. Monetary assets and liabilities and non-monetary assets valued at current market prices are translated using the rate prevailing on the financial statement date while non-monetary items and capital accounts are translated at historical rates. Revenues and expenses are translated using average exchange rates except cost of goods sold and depreciation that are translated at historical rates.

Where there are more than one distinct and separable subsidiary, each may be considered a separate unit with its own functional currency. Once the functional currency has been determined, that currency designation must be used consistently unless changes in the economic circumstances clearly indicate that the functional currency had changed.

SFAS 52 introduced the use of functional currency. The choice of the functional currency affects the treatment of translation gains and losses. To be sure that the choice is not arbitrary, SFAS 52 set the factors to be considered in the choice of which functional currency to use. One would choose the foreign local currency as the functional currency if a foreign subsidiary's operation is basically self-contained and integrated within the foreign country with infrequent inter-company transactions with the parent company; and cash flows are primarily in the local currency and do not impact parent's cash flows, sales price are largely unresponsive to exchange rate changes, sales market is largely in the host country and denominated in the local currency, expenses incurred primarily in the local environment, and financing is primarily denominated in local currency and serviced by local operation. And one would choose the parent company's currency as functional currency when the situation reverses as when there is frequent and extensive inter- company transactions, cash flows are directly remitted to the parent, sales market is largely in the parent country, and denominated in parents currency and financing from the

parent company or reliance on the parent for servicing debt obligation (Choi & Meek, 2008, p.206).

Foreign currency translations are different elsewhere. To be noted is the participation of the Canadian Institute of Chartered Accountants (CICA), the UK's Accounting Standards Board, and the International Accounting Standards Board (IASB) in the deliberations that led to the adoption of SFAS No. 52 in 1981 (Saudagaran, 2004, p. 69). This superseded SFAS 8. By 1983 Canada and UK adopted "Foreign Currency Translation" standards, and IASB revised IAS 21 "The Effects of Foreign Exchange Rates" in 1993 as part of the IASC's Comparability Project, following the basic approach to foreign exchange translation as SFAS 52 (Saudagaran, 2004, p. 78). One important difference exists between IAS 21 and SFAS 52 in the matter of translating financial statements of subsidiaries in highly inflationary economies. The U.S. response will be seen in the findings of the survey.

TRANSLATION METHOD: CASE OF TOYOTA MOTOR CORPORATION

Toyota Motor Corporation is a multinational company headquartered in Japan and the largest automaker in the world as of 2008. It also provides financial services through its finance divisions. The Toyota Group is one of the largest conglomerates in the world (20-F20 1 d20f.htm, Annual report, 2008 retrieved from SEC).

Toyota Motor Corporation is a limited liability joint-stock company incorporated under the Japanese Commercial Code and continues to exist under the Corporation Act. Starting in 1933 as the automotive division of Toyota Industries Corporation, it became a separate company in 1937. As of March 31, 2008, Toyota operated 530 subsidiaries and 234 affiliated companies of which 55 companies were accounted for using the equity method. Toyota sells its vehicles in more than 170 countries and regions. Primary markets for its automobiles are Japan, North America, Europe, Asia and China.

Toyota's subsidiaries use the local currency of the foreign country where they operate. In the consolidation of financial statements, assets and liabilities of subsidiaries are translated into the Japanese Yen using the year-end current rate, while all incomes and expenses are translated using the average exchange rates for the period. Foreign currency translation gains and losses are included in the Comprehensive income/loss, a component of the stockholders' equity. In the translation of its foreign currency receivables and payables, any resulting gains and losses are recognized in the income statement. Three foreign exchange rates are used: Current rate or the exchange rate prevailing on the financial statement date; the Historical rate when the foreign exchange asset or liability is acquired; and the Average rate which is a simple or weighted rate that prevailed during the period.

Let us examine the following Income statements of this multinational public company, the Toyota Motor Corporation, shown in Table 1.

Table 1: Consolidated Statements of Income: Toyota Motor Corporation

	Yen in millions			U.S. dollars in millions
	For the years ended March 31,			For the year ended March 31,
	2006	2007	2008	2008
Net revenues				
Sales of products	¥20,059,493	¥22,670,097	¥24,820,510	$247,734
Financing operations	977,416	1,277,994	1,468,730	14,660
	21,036,909	23,948,091	26,289,240	262,394
Costs and expenses				
Cost of products sold	16,335,312	18,356,255	20,452,338	204,135
Cost of financing operations	609,632	872,138	1,068,015	10,660
Selling, general and administrative	2,213,623	2,481,015	2,498,512	24,938
	19,158,567	21,709,408	24,018,865	239,733
Operating income	1,878,342	2,238,683	2,270,375	22,661
Other income (expense)				
Interest and dividend income	93,970	131,939	165,676	1,654
Interest expense	(21,601)	(49,326)	(46,113)	(460)
Foreign exchange gain, net	10,789	33,005	9,172	91
Other income, net	125,860	28,215	38,112	380
	209,018	143,833	166,847	1,665
Income before income taxes, minority interest and equity in earnings of affiliated companies	2,087,360	2,382,516	2,437,222	24,326
Provision for income taxes	795,153	898,312	911,495	9,098
Income before minority interest and equity in earnings of affiliated companies	1,292,207	1,484,204	1,525,727	15,228
Minority interest in consolidated subsidiaries	(84,393)	(49,687)	(77,962)	(778)
Equity in earnings of affiliated companies	164,366	209,515	270,114	2,696
Net income	¥ 1,372,180	¥ 1,644,032	¥ 1,717,879	$ 17,146
		Yen		U.S. dollars
Net income per share				
- Basic	¥ 421.76	¥ 512.09	¥ 540.65	$ 5.40
- Diluted	¥ 421.62	¥ 511.80	¥ 540.44	$ 5.39
Cash dividends per share	¥ 90.00	¥ 120.00	¥ 140.00	$ 1.40

Included in its revenues are from its two areas of operation, namely its automotive operations and financial services. Foreign currency translation adjustments arising from the translation of foreign denominated financial statements of subsidiaries do not appear in the income statement as these would be shown in the stockholders' equity of the balance sheet as comprehensive incomes (losses) in accordance with SFAS 52. What appear in the Income statement are the transaction foreign exchange gains and losses including those resulting in the translation of its year-end receivables and payables. These are net gain of 10,789 million JPY in 2006, net gain of 33,005 million JPY in 2007, and net gain of 9,172 million JPY in 2008 (equivalent to USD91 millions).

In the statement of Shareholders' equity in Table 2, the column on Accumulated other comprehensive Income (loss) shows the Foreign currency translation adjustments of 268,410 million JPY of gains in 2006, 130,746 million JPY of gains in 2007, and a loss of 461,189 million JPY in 2008.

Table 2, Panel A: Consolidated Statements of Shareholders' Equity: Toyota Motor Corporation

	Yen in millions					
	Common stock	Additional paid-in capital	Retained earnings	Accumulated other comprehensive income (loss)	Treasury stock, at cost	Total shareholders' equity
Balances at March 31, 2005	¥397,050	¥495,707	¥ 9,332,176	¥ (80,660)	¥(1,099,323)	¥ 9,044,950
Issuance during the year		(457)				(457)
Comprehensive income						
Net income			1,372,180			1,372,180
Other comprehensive income						
Foreign currency translation adjustments				**268,410**		268,410
Unrealized gains on securities, net of reclassification adjustments				244,629		244,629
Minimum pension liability adjustments				4,937		4,937
Total comprehensive income						1,890,156
Dividends paid			(244,568)			(244,568)
Purchase and reissuance of common stock					(129,632)	(129,632)
Balances at March 31, 2006	397,050	495,250	10,459,788	437,316	(1,228,955)	10,560,449
Issuance during the year		2,343				2,343
Comprehensive income						
Net income			1,644,032			1,644,032
Other comprehensive income						
Foreign currency translation adjustments				**130,746**		130,746
Unrealized gains on securities, net of reclassification adjustments				38,800		38,800
Minimum pension liability adjustments				3,499		3,499
Total comprehensive income						1,817,077
Adjustment to initially apply FAS No. 158				91,029		91,029
Dividends paid			(339,107)			(339,107)
Purchase and reissuance of common stock					(295,699)	(295,699)
Balances at March 31, 2007	397,050	497,593	11,764,713	701,390	(1,524,654)	11,836,092

Table 2, Panel B: Consolidated Statements of Shareholders' Equity: Toyota Motor Corporation

Issuance during the year	3,475				3,475
Comprehensive income					
Net income		1,717,879			1,717,879
Other comprehensive income (loss)					
Foreign currency translation adjustments			**(461,189)**		(461,189)
Unrealized losses on securities, net of reclassification adjustments			(347,829)		(347,829)
Pension liability adjustments			(133,577)		(133,577)
Total comprehensive income					775,284
Dividends paid		(430,860)			(430,860)
Purchase and reissuance of common stock				(314,464)	(314,464)
Retirement of common stock	(3,499)	(643,182)		646,681	—
Balances at March 31, 2008	¥397,050	¥497,569	¥12,408,550	¥(241,205)	¥(1,192,437)	¥11,869,527

The accompanying notes are an integral part of these consolidated financial statements.

These foreign currency translation adjustments are shown in the Balance sheet as part of the Stockholders' equity. If these translation gains and losses were shown in the Income statement as was the practice under the earlier SFAS 8, the Net Income would be showing a different picture of performance for the same period. Net incomes would be as shown in Table 3.

Table 3: Net Incomes

	Under SFAS 8	Currently Shown under SFAS 52
2006	1,640,590 millions	1,372,180)
2007	1,774,778	1,644,032
2008	1,276,690	1,717,879.

The inclusion in the Income statements of translation gains and losses under SFAS 8 would have introduced the effect of foreign currency translation in the financial performance where the company had no control over foreign exchange rates. This was the very reason for the need for the revisions that SFAS 52 introduced.

MAJOR CRITICISMS OF SFAS 52

There were major criticisms on FAS 52. SFAS 52 was criticized that it is not consistent with the theory of consolidation, that is, to show the statements of parent and subsidiary as if they operate as a single company; on conceptual issues relating to the use or non-use of historical

costs; and on issues regarding the concept of income. Further, the danger of earnings management is ever present. The criteria earlier presented on the choice of functional currency are not straight forward. A foreign subsidiary's operations could satisfy opposing criteria, as when expenses and sales are primarily in local environment and local currency favoring the choice of the foreign currency as the functional currency, while financing may be entirely by the parent company thereby favoring the use of parent currency as the functional currency.

Is there earnings management under FAS 52? Exxon-Mobil Oil chose the local currency as the functional currency, while Chevron-Texaco and Unocal choose the U.S. dollar. When choices conflict and the choice can significantly affect reporting outcomes, there are opportunities for earnings management (Choi & Meek, 2008, p. 225). In Forbes Magazine article "Plenty of Opportunity to Fool Around " (cited in Saudagaran, 2004, p. 73), the discussion focused on the arbitrary choice of functional currencies by U.S. firms. It cited 6 largest oil companies evenly divided as to the functional currencies of their respective subsidiaries. Are their operations really different? Or do they use the functional currency criteria to choose a translation method that portrays them in the best light?

SURVEY OF MULTINATIONAL COMPANIES

As a project in an advanced Accounting course at the University of Guam in Spring and Fall semesters 2009, students researched the records of the U.S. Securities and Exchange Commission to determine what translation methods were used by multinational companies in the preparation of their consolidated financial statements. In addition to reviewing the Consolidated Financial statements of 44 large multinational companies, students also studied management discussion and analysis, and notes that accompanied these financial statements, as well as these companies' choice of functional currency of their subsidiaries, the method used in the translation of the financial statements of their foreign subsidiaries, and the presentation of translation gains and losses. Attempts were also made to observe any indications of how companies may have achieved earnings management under SFAS 52. The result of this course project is reported in Table 4.

Table 4: Translation Method Used by 44 Large Multinational Companies

Current Rate Method Used	35 companies
Temporal Method Used	4 companies
Combination of current & Temporal Methods Used	5 companies
Total	44 companies

A Note on Foreign currency translation shown below was taken from Apple,Inc:

> *"The Company translates the assets and liabilities of its international non-U.S. dollar subsidiaries into U.S. dollars using exchange rates in effect at the end of each period…Gains and losses from these translations are credited or charged to foreign currency translation included in accumulated other comprehensive income in shareholders' equity. The company's foreign manufacturing subsidiaries and certain other international subsidiaries that use the U.S. dollar as their functional currency remeasure monetary asset and liabilities at exchange rates in effect at the end of each period, and inventories , property, and nonmonetary assets and liabilities at historical rates. Gains and losses from these translations...have been included in the Company's results of operations."*

This company uses both the current rate and the temporal methods.

In contrast, Intel Corporation uses the U.S. dollar as its functional currency in its subsidiaries. Therefore, it does not have translation gains or losses. Monetary accounts denominated in non-U.S. currencies have been remeasured to the U.S. dollar. Intel uses the temporal method for translation. To reduce the instability of future cash flows caused by changes in exchange rate, it uses currency risk management programs.

> *"A majority of our revenues, expenses, and capital purchasing activities are transacted in U.S. dollars. However, certain operating expenditures and capital purchases are incurred in or exposed to other currencies, primarily the euro, the Japanese Yen, and the Israeli shekel…" (Intel Corp. 2009 Form 10-K)*

In 2008, Coca-Cola Company used 69 functional currencies in addition to the U.S. dollar deriving 75% of its operating revenues from operations outside the United States. It uses the current rate method of translation.

> *"Because our consolidated financial statements are presented in U.S. dollars, we must translate revenues, income and expenses, as well as assets and liabilities, into U.S. dollars at exchange rates in effect during the end of each reporting period…Because of the geographic diversity of our operations, weaknesses in some currencies might be offset by strengths in others over time. We also use derivative financial instruments to further reduce out net exposure to currency exchange rate fluctuations…"*

ExxonMobil is the largest publicly traded international oil and gas company (ExxonMobil, 2009, Who we are). It categorized it operations into Upstream (research, development and gas and power marketing), Downstream (refining and marketing of petroleum products), and Chemicals.

> *"Management selects the functional currency after evaluating the economic environment. Downstream and Chemical operations use foreign currency except in countries with history of high inflation (primarily in Latin America) and Singapore, which uses the U.S. dollars because it predominantly sells into the U.S. dollar export market. Upstream operations also use the local currency as the functional currency, except where crude and natural gas production is predominantly sold in the export market in U.S. dollars. Operations using the U.S. dollar as their functional currency are primarily in Asia, West Africa, Russia and the Middle East."*

ExxonMobil uses both the current and temporal methods based on the chosen functional currency for its subsidiaries.

CONCLUSIONS

Majority of the companies in our convenience sample used the local currency as the functional currency, hence the current rate method for their translation method. The translation gains and losses are reported in the stockholders' equity of the Balance Sheet, bypassing the Income statement. Those that used the temporal method or a combination of current and the temporal method had reasons for doing so in accordance with the provisions of SFAS 52, and shown in the notes to financial statements. Their choices did not seem whimsical. We did not see proof of companies "fooling around" (managing their earnings) as was earlier suspected. Did the auditors help in making this possible?

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INTERNATIONAL DIVERSIFICATION WITH SMALL-CAP STOCKS: MEAN-VARIANCE SPANNING TESTS

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ABSTRACT

We perform the Huberman-Kandel mean-variance spanning tests on the returns of the small-cap funds from 10 developed countries. The results show that small-cap funds can be spanned by MICI country indices, implying that additional benefits from international diversification with small-cap funds have eroded with market globalization. We also find that the integration of global stock markets has been accelerated after the global financial crisis.

INTRODUCTION

International portfolio investments are fairly attractive to investors from the perspective of risk diversification. Since Grubel (1968), there has been a body of literature, in the study of the ex-post performance of an efficient portfolio, focusing on benefits arising from an internationally diversified portfolio (Levy and Sarnat, 1970; Lessard, 1973, 1976; Solnik, 1974; Solnik and Noetzlin, 1982). A plausible explanation for the sources of benefits from international diversification is that each country's stock market is not perfectly integrated with other countries' markets. However, recent research results (Longin and Solnik, 1995; De Jong and De Roon, 2005; Goetzmann et al., 2005; Carrieri et al., 2007; Pukthuanthong and Roll, 2009) reveal that global stock markets are more correlated than ever as international capital markets become more integrated. In this vein, Eun et al. (2008) insist that benefits from diversified international investments have eroded because most of these investments go to large-cap funds which are usually more integrated than small-cap funds, and thus investors can benefit from investing in foreign small-cap funds.

This study reexamines Eun et al.'s argument with more recent data. From the perspective of the U.S. investors who invest in both small- and large-cap funds in major foreign economies, we study whether the U.S. investors can effectively utilize benefits from international diversification even in the more globalized markets. (Of course, risks from foreign exchange rate changes also play an important role in international fund investments. However, for the convenience of analysis, this article assumes that foreign exchange risks are completely hedged. Therefore, a caution is required to interpret the results of this analysis.) The rest of the article is

organized as follows. Section II presents the dataset and econometric methodology, Section III discusses the estimation results and Section IV summarizes the main findings.

DATA AND METHODOLOGY

Data for this study are from Datastream's MSCI monthly stock indices from 10 major countries for the period from June 1994 to April 2009. As in Eun et al., we also consider 10 developed countries that have relatively open markets: Australia, Canada, France, Germany, Hong Kong, Italy, Japan, the Netherlands, the U.K. and the U.S. Monthly returns for small-, mid- and large-cap funds are computed using each country's MSCI index which classifies each stock's market capitalization into small-cap, mid-cap and large-cap. According to each stock's market capitalization, the Investable Market Index divides stocks into large-, mid-, and small-cap, while the Standard Index classifies stocks into large- and mid-cap. The large-cap index accounts for 70% of the total market capitalization, followed by 15% of the mid-cap and 14% of the small-cap index. Cap-based MSCI indices for France are not available and thus returns for this country are calculated based on the market value of stocks included in each capitalization size. Therefore, a cautious approach is required to interpret the data for the country.

We first analyze correlations of the U.S. with 9 major developed economies among cap-based funds, using monthly data. We also examine, by restricting the sample only to recent period, the impact of the global financial crisis on the correlations. We then test whether the U.S. investors benefit more from portfolio diversification with small-cap international funds than with large-cap funds or index funds. If investments in small-cap funds do not provide additional benefits from diversified international investments compared to large-cap funds, investments in small-cap funds may be unnecessary. Following Huberman and Kandel (1987)'s spanning tests, we test, as in Eun et al., if small-cap funds can be spanned by MSCI country indices. We regress each country's small-cap fund returns on major countries' benchmark asset returns to check whether any small-cap fund returns exceed the benchmark. By using MSCI country indices as the benchmark assets, we have the following regression equation:

$$R_i = \alpha_i + \beta_i^j \sum MSCI^j + \varepsilon_i, \qquad (1)$$

where R_i represents the country i's returns of small-cap funds, $MSCI_j$ refers to the country j's MSCI index returns and ε_i denotes error terms. The null hypothesis of spanning tests is that no returns exceed global market returns and thus it is expressed as follows:

$$H_{0:} \qquad \alpha = 0 \qquad and \qquad \sum_i \beta_i = 1 \qquad (2)$$

When the number of observations is T, the test statistic of the null hypothesis follows a F-distribution with a (2, T-K-1) degree of freedom.

EMPIRICAL RESULTS

The correlation between the U.S. and other countries over the period is examined in more detail by dividing international funds into small, mid, and large cap. Table 1 shows the average correlations of the U.S. with 9 major countries among cap-based funds over the study period. The average correlation based on monthly returns stands at 0.72 among large-cap funds, which is higher than the 0.62 among small-cap funds. Small-cap funds have a slightly lower correlation than large-cap funds. However, unlike the result presented by Eun et al., the U.S.'s correlation with major economies among small-cap funds is not much lower than that among large-cap funds.

Table 1. Average Correlations among Cap-based Funds
(a) Overall Study Period: June 1994 – April 2009

		US		
		Large	Mid	Small
Foreign Countries	Large	0.72	0.72	0.67
	Mid	0.64	0.69	0.66
	Small	0.59	0.65	0.62

Table 1. Average Correlations among Cap-based Funds
(b) After the Global Financial Crisis: August 2007- April 2009

		US		
		Large	Mid	Small
Foreign Countries	Large	0.85	0.86	0.84
	mid	0.80	0.83	0.81
	Small	0.79	0.82	0.79

Note: The number in each cell indicates the average correlation of the U.S. and 9 major developed countries among cap-based funds, using monthly data.

We restricted the sample to the period after August 2007 to reflect the impact of the global financial crisis on the correlation. Still, small-cap funds have the lowest correlation among cap-based funds. However, the average correlation coefficients become overall higher. The result indicates that the integration of global stock markets has been accelerated after the financial crisis.

In Table 2, we further show the results of the mean-variance spanning tests for small-cap funds from 10 developed countries. For the all countries, the null hypothesis cannot be rejected at the 5% of significance level. Even at the 10% of significance level, it is rejected only for France, Germany and the U.S. The result that small-cap funds from most countries do not reject the null hypothesis means that investors cannot benefit additionally from adding small-cap funds to their portfolio of country indices. Our results are quite different from those of Eun et al. It should be noted that we reexamine Eun et al.'s argument of the mean-variance spanning tests with more recent data. That is, our results are based on the study period from 1994 to 2009 while their results were from 1980 to 1999. Therefore, our results may indicate that global stock markets are more integrated than ever, as many researches mentioned, and international capital markets co-move even in small-cap stocks.

It is worth pointing out here that from most countries, small-cap funds show a positive and significant market beta with respect to their own market index at the 1% level of significance, but not with respect to other countries' market indices. In addition, small-cap funds in Italy and the U.K. have a negative market beta against the U.S.'s index fund returns at the 5% of significance level. Other countries except these mentioned above show no statistically significant market beta against the U.S.'s index fund returns. In addition, the alpha of small-cap funds in Germany is statistically significant at the 10% of significance level.

Table 2. Results for Spanning Tests

Country	α_i	β_i	$\beta_{U.S.}$		F-Stat	P-Value	R^2
Australia	0.0006	0.882***	-0.081	1.058	0.71	0.494	0.732
Canada	0.0023	0.742***	-0.106	0.970	0.53	0.592	0.679
France	0.0029	0.184	-0.127	0.871	2.46	0.089	0.675
Germany	-0.0050*	0.779***	-0.067	0.899	2.52	0.083	0.676
Hong Kong	-0.0024	0.767***	0.034	1.071	0.36	0.697	0.682
Italy	0.0022	0.902***	-0.276**	0.867	1.80	0.169	0.732
Japan	0.0008	1.144***	-0.037	0.880	1.05	0.352	0.662
Netherlands	0.0004	0.598***	-0.105	0.926	0.58	0.559	0.730
U.K.	0.0009	0.486***	-0.375***	0.981	0.09	0.910	0.659
U.S.	0.0018	0.267**	0.267**	1.153	2.70	0.070	0.720

***, ** and * denote significance at the 1, 5 and 10% levels, respectively.

Notes: This table reports the results of the Huberman-Kandel mean-variance spanning tests on the returns of the small-cap fund from 10 developed countries for the period 1994-2009, using monthly data. That is, the OLS regression is $R_i = \alpha_i + \beta_i^j \sum MSCI^j + \varepsilon_i$, where R_i represents the country i's returns of small-cap funds, $MSCI_j$ refers to the country j's MSCI index returns. F-stat indicates the test statistics for the spanning tests with the null hypothesis, that is $H_{0:} : \alpha = 0$ *and* $\sum_i \beta_i = 1$.

CONCLUSION

This article studied whether the U.S. investors can utilize the benefits of international diversification with small-cap funds. The average correlations of the U.S. with 9 major developed countries are smallest among small-cap funds and highest among large-cap funds. However, the correlations among small-cap funds are not much lower than those among large-cap funds. Moreover, the correlation coefficients among cap-based funds become larger after the global financial crisis.

The results for mean-variance spanning tests do not reject the null hypothesis over small-cap funds in most countries. This clearly shows that the investments in international funds, especially in small-cap funds, are not likely to bring greater benefits than each country's index fund. In addition, in most countries, small-cap funds create a statistically significant beta only against the country's own market index. It seems that since the global market is more integrated, the benefits from international diversification have eroded. We need new direction for investment strategies capturing the role of international portfolio diversification.

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AN INSTITUTIONAL PERSPECTIVE ON INTERNATIONAL FINANCIAL REPORTING STANDARDS ADOPTION IN DEVELOPING COUNTRIES

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ABSTRACT

A set of accounting standards does not develop in a vacuum. Political, economic, and social aspects of the jurisdiction in which a set of standards operates reciprocally influence these standards. The fact that the International Financial Accounting Standards (IFRS) has become a globalized set of accounting standards, marked by the use of the standards in more than 120 countries, raises an important question. What factors could significantly influence countries` decisions to adopt IFRS? This paper investigates the relationship between the decisions of developing countries to adopt IFRS and those countries` institutional contexts. Using linear regression and logit model to analyze a sample of 46 developing countries` decisions to adopt or not to adopt IFRS and by drawing upon DiMaggio and Powell`s (1983) Institutional Isomorphism theory, this paper reveals that IFRS adoption is significantly related to social pressures of isomorphic changes which contradicts the current mainstream belief that adoption is highly associated with its corresponding economic benefits. It hints that the decision of developing countries to adopt IFRS is motivated more by social pressures of legitimacy, than it is by economic reasoning.

INTRODUCTION

The rise of the International Financial Reporting Standards (IFRS) as a global benchmark of accounting standards, marked by the use of the standards in 122 countries (IASPlus, 2010), suggests that the International Accounting Standards Board (IASB) has succeeded in achieving its objective of bringing "about convergence of national accounting standards and International Accounting Standards [or IFRS] to high-quality solutions" (IASB, 2007, p. 4).

This growing acceptance also indicates that IFRS constitutes "a single set of high-quality, understandable and enforceable accounting standards that require high quality, transparent and comparable information in financial statements and other financial reporting to help participants in the world's capital markets and other users make economic decisions" (IASB, 2007, p. 4). As non-capital markets participants become secondary users (Salvary, 2006), the IASB has focused the development of IFRS in such a way that it satisfies the demand of more efficient financial

reporting and global capital markets which plays a major role in the wealth distribution process in market economies (Jorissen, Lybaert, & van de Poel, 2006).

In order to get into this distribution of wealth, more and more countries are willing to exchange their national accounting standards for IFRS. In other words, more countries have started to acknowledge the importance of financial reporting for economic reasons where it is believed that countries adopting IFRS have higher reporting transparency and comparability, greater chances to attract more investment, increase financial surplus, and achieve higher economic growth rates. However, little supporting empirical evidence has been found for this belief. Botswana, Haiti, Nepal, Panama, Papua New Guinea, Tajikistan, and Venezuela are among countries that have substantially adopted IFRS yet have not been able to obtain desirable economic benefits from the adoption. The issue is then; if direct economic benefits from accommodating IFRS have never been certain, why do developing countries adopt IFRS?

Recent studies on adoption of IFRS focused on how it improves the competitiveness of countries or firms to compete for economic resources. For instance, it has been maintained by the European Union (EU) and other developed countries that adopting IFRS will help to produce high quality financial reporting. In results, the adoption would help governments and other regulators, such as stock exchange administrators, to reduce monitoring costs related to company financial reporting (Rodrigues & Craig, 2007). National governments could also benefit from adopting IFRS because it would encourage international flows of capital across national boundaries by providing significant positive signals to investors of the higher quality of the countries` financial reporting system (Roberts, Weetman, & Gordon, 2002).

A few studies revealed noneconomic factors such as literacy rate (Zeghal & Mhedhbi, 2006); culture (Zeghal & Mhedhbi, 2006), (Ding, Jeanjean, & Stolwy, 2005) and (Hope, 2003); and language (Doupnik & Taylor, 1985) among the antecedents of the decision to adopt IFRS. This suggests that justifying the adoption of IFRS by only using economic explanation is too simplistic because organizations [countries or firms] are not only the producers of goods or services, but are also symbolic social and cultural entities (Meyer & Rowan, 1977). Additionally, "organizations and organizational actors not only seek to compete for resources, but they ultimately seek legitimacy and social acceptance" (Judge, Li, & Pinsker, 2010, p. 162). The need to be socially accepted by the global community is sometime very paramount that the decision to adopt IFRS might not be triggered by the need to compete economically. For example it was found that Gross Domestic Product (GDP) growth and Foreign Direct Investment (FDI) are not significantly related to developing countries' decisions to adopt IFRS (Zeghal & Mhedhbi, 2006)

In the context of the diffusion of IFRS, most developing countries are pressured by international organizations to meet the necessity of having legitimate, modern, and high quality accounting standards. They have to accept IFRS partly because of their limited ability to produce a legitimate set of standards, and partly because of their dependence on these organizations. International organizations that promote globalization and multi-national cooperation are highly

likely to influence the process of adoption of IFRS in developing countries. These organizations include the World Trade Organization (WTO), the Organization for Economic Co-operation and Development (OECD), the International Monetary Fund (IMF), the World Bank (WB) and virtually all multinational companies (Rodrigues & Craig, 2007), and "the IASB, the European Union, the International Organization of Securities Commissions (IOSCO), and the United Nations (UN)" (Wyatt, 1997, p. 10.15).

Given the fact that some countries adopting IFRS have not enjoyed the expected economic benefits of their decision, and based on the belief that organizations are social entities that seek legitimacy and for reasons that will be explained in the next section, there is a strong possibility that these countries have been influenced to accept IFRS for non-economic reasons by external forces such as other organizations, beliefs and processes perceived as legitimate. Therefore, it is necessary to assess the process using an institutional perspective which is able to explain how adoption of IFRS has been taken place where economic pressures are not the only drivers and how accounting standard-setting bodies and accounting practitioners have searched for legitimacy and have been influenced by external forces.

FRAMEWORK AND METHODOLOGY

Accounting in Institutional Context

A set of accounting standards is the result of a complex system and no set is identical to another due to differing environments and history. The most notable factors include ecological or environmental, institutional, governmental or political, economic, legal, tax, educational and financial systems (Roberts, Weetman, & Gordon, 2002). Nobes & Parker, (2008) listed culture, legal systems, and providers of finance, taxation, external influences, and the accounting profession as the main reasons for accounting standards differences among countries. Another list of institutional influences on accounting standards diversity includes economic, political, legal, educational, and religious systems (Iqbal, Melcher, & Elmallah, 1997). Traditionally, the impacts of these institutional factors were nationally limited. They affected accounting standards enacted within certain jurisdictions and did not go beyond that.

However, given the unstoppable rise of IFRS as the legitimate international standard, the influences of these factors far exceed national borders. The decision of countries like Kazakhstan, Malawi, or Peru to adopt IFRS might be triggered by the fact that the quality of their national accounting standards was seen as insufficient. They need to upgrade their local accounting standards to a certain level where it is perceived that their standards stand on the same ground with those that have already adopted IFRS. Even countries with strong accounting traditions like Australia, Canada, and the USA, have either adopted or converged to IFRS.

Accounting in an institutional context thus indicates that "institutionalization can be viewed as a social process through which individuals [or actors of organization] accept that

national accounting standards are usurped in the interests of international accounting harmonization" (Rodrigues & Craig, 2007, p. 743). This acceptance explains why countries have a tendency to use the same accounting standards used by other countries. This tendency continues regardless it might not necessarily lead to economic benefits as promoted by the IASB and regardless it takes place in countries whose institutional environments are different because countries tend to ceremonially or actually conform to dominant norms and social influences for legitimacy (DiMaggio & Powell, 1983). In this perspective, institutional theory of isomorphism and legitimacy are appropriate to be used to study the adoption of IFRS.

Isomorphism and Legitimacy

DiMaggio & Powell's institutional isomorphism was derived from their observation that "despite the fact that organizations could develop new goals and practices, in the long run, organizational actors making rational decision construct around themselves an environment that constrains their ability to change further [improve performance]… [This is because] adoption provides legitimacy rather than improves performance (DiMaggio & Powell, 1983, p. 148). Legitimacy is best described as "a generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995, p. 574)

Isomorphism and legitimacy have been used to "globally examining transfer pricing, international alliances, distributive justice norms, strategic renewal of incumbent firms, penetration of e-commerce, foreign entry mode…" [Eden, Dacin & Wan (2001), Giacobbe-miller, Miller, Zhang & Victorov (2003), Flier, Van den Bosch & Volberda (2003), Gibbs & Kraemer (2004), Meyer & Nguyen (2001) in (Judge, Li, & Pinsker, 2010)].

Their works have focused on the "responds of organization to pressures from their institutional environments through adopting some practices…" (Hassan, 2010, p. 292), even if the benefits of these practices are uncertain (Meyer & Rowan, 1977). The frameworks used in the previous studies could be traced back to "Institutional Isomorphism" (DiMaggio & Powell, 1983). The same framework will be used in our study.

DiMaggio and Powell (1983) recognized that organizations look for legitimacy and social acceptance from other organizations because "organizations compete not just for resources and customers, but for political power and institutional legitimacy, for social as well as economic fitness" and "the major factors that organizations must take into account are other organizations" (DiMaggio & Powell, 1983, p. 150), and they therefore claimed that "the concept of institutional isomorphism is a useful tool for understanding the politics and ceremony that pervade much modern organizational life" (DiMaggio & Powell, 1983, p. 150).

The interaction among organizations that cause isomorphic changes is divided into three forms: "(1) coercive isomorphism that stems from political influence and the problem of legitimacy; (2) mimetic isomorphism resulting from standard responses to uncertainty; and (3)

normative isomorphism, associated with professionalization" (DiMaggio & Powell, 1983, p. 150). Although these three forms are not always exclusively distinct in empirical setting, they "tend to derive from different conditions and may lead to different outcomes" (DiMaggio & Powell, 1983, p. 150).

There are two recent studies on accounting harmonization using DiMaggio & Powell`s institutional isomorphism framework. Rodrigues & Craig (2007) theoretically explored the processes, effects and likely future progress of the convergence of national accounting standards with IFRS and built a conversation of pros and cons of the convergence by mainly drawing on the ideas of institutional isomorphism (Rodrigues & Craig, 2007). In addition, Judge, Li, & Pinsker (2010) empirically predicted the determinants of national adoption of IFRS using variables that were derived from institutional isomorphism. They used foreign aid, import penetration, and level of education as representatives of coercive, mimetic, and normative isomorphism. They found that all independent variables are significantly related to the adoption of IFRS. This implies that the process of adoption is highly motivated by social pressures.

Hypotheses

Institutional pressures can be divided into three isomorphic changes: coercive, mimetic, and normative isomorphism; each hatches its own hypothesis. Coercive isomorphism implies that there are external pressures that can induce a country to comply with IFRS. Mimetic isomorphism suggests that the more globalized the economy of a country, the more likely that that country becomes isomorphic to others that adopt IFRS. Normative isomorphism reveals that level of professionalization, education and training influence a country`s decision to adopt IFRS. Thus, our hypotheses comprise:

H1. The bigger the external pressure, the more likely a country will adopt IFRS. (coercive isomorphism)
H2. The more globalized the economy, the more likely a country will adopt IFRS. (mimetic isomorphism)
H3. The more advanced the level of education, the more likely a country will adopt IFRS. (normative isomorphism)

RESEARCH DESIGN

Research Model

We apply an ordinary least square (OLS) model, which is defined as:

$$Y_i=\beta_0+\beta_1 AID_i+\beta_2\ MCAP_i+\beta_3\ ENROL_i+\beta_4\ FDI_i+\beta_5 GDP_i+\varepsilon_i$$

Where: Y is the level of adoption of IFRS, β_0 is the intercept, β_1-β_5 are the slopes/regression weights that represent the relationships between dependent variable and

independent variables, and *AID* is countries` foreign aid, *MCAP* is countries` stock market capitalization, *ENROL* is countries` level of education, *FDI* is countries` foreign direct investment inflows, and *GDP* is the countries` gross domestic product growth rate.

To anticipate the possibility of non-linear relationships between dependent and independent variables, a logistic regression is employed. This regression is used to increase the robustness of the model and to accommodate the binomial-discrete dependent variables.
The logistic regression is defined as:

$$\log\left(\frac{Yi}{1-Yi}\right) = \beta_0+\beta_1 AID_i+\beta_2\, MCAP_i+\beta_3\, ENROL_i+\beta_4\, FDI_i+\beta_5 GDP_i+\varepsilon_i$$

Where: *Y* is the level of adoption of IFRS, β_0 is the intercept, β_1-β_5 are the slopes/regression weighs that represent the relationships between dependent variable and independent variables, and *AID* is countries` foreign aid, *MCAP* is countries` stock market capitalization, *ENROL* is countries` level of education, *FDI* is countries` foreign direct investment inflows, and *GDP* is the countries` gross domestic product growth rate.

Variables

The dependent variable, which represents the level of adoption of IFRS, is derived from the Deloitte - IASPlus (2010) report surveying current status of the adoption in a wide variety of jurisdictions as of June 21, 2010. Consistent with Hope, Jin, & Kang (2006) and Judge, Li, & Pinsker (2010), a country is codified "1" if it fully adopts IFRS, where all listed domestic and international firms are required to use the standards; otherwise it is codified "0". Consequently, a country that partially adopts IFRS, either by not requiring all listed firms to use IFRS or by adopting a modified IFRS, is codified "0".

We select volume of aid received by countries from international organizations as a proxy for external pressure which represents coercive isomorphism. This pressure could significantly control the availability of important resources, such as financial resources and hence could significantly influence the decision of developing countries to adopt IFRS. Specifically we use the average of total foreign aid as a percentage of GDP from 2005 to 2009, calculated using data from the World Bank`s World Development Indicators (World Bank, 2010).

For the openness of economy that represents mimetic isomorphism, we choose the average of market capitalization as a percentage of GDP from 2005 to 2009, calculated using data from the World Bank`s World Development Indicators (World Bank, 2010). Theoretically, a significant proportion of stock financing in an economy signifies that a country is becoming more integrated and open, thus there are more chances for it to bring its accounting practices into line with those of countries adopting IFRS. The IASB itself maintains that IFRS is created to

support the globalization of capital markets and thus the ultimate users of accounting information today are capital markets participants.

For the advancement of accounting professionalization, we select the level of education of a country. We use the average enrollment of secondary schools as a percentage of total population from 2005 to 2009, also calculated using data from the World Bank`s World Development Indicators (World Bank, 2010).

We admit that besides previously mentioned independent variables, non-institutional aspects could significantly influence a country to exercise their conformance to IFRS. Two particular economic pressures, namely the desire to increase FDI inflows and to experience higher economic growth were found to be related to IFRS adoption (Zeghal & Mhedhbi, 2006). We select the average of FDI inflows as a percentage of GDP from 2005 to 2009 and the average growth of GDP from 2005 to 2009 as proxies for these economic pressures. Both are calculated using data from the World Bank`s World Development Indicators (World Bank, 2010).

RESULTS

Sample Description

To separate developing from developed countries, we use UNDP's Classification of countries report (UNDP, 2010). Countries whose data are missing are excluded from the sample. We are able to retrieve complete data of 46 countries (see Table 1), in which we are confident that the sample gives us a fair representation of institutional settings in developing countries because it includes countries in all related continents.

Regression Results

We first examine the descriptive statistics of all variables. Table 2 shows the statistics of dependent, independent and control variables. We decided to transform the natural logarithm of all variables to reduce the skewness. To maintain the quality of our model, the White test, the Breusch-Pagan test, and the variable inflation test are used to assess the existence of heteroskedasticity and multicollinearity for OLS. In addition, the Ramsey reset test, using powers of the fitted values, is used to see whether the model has no omitted variables. For logistic regression, we perform the Hosmer-Lemeshow goodness of fit test, link test, and collinearity diagnostics. In general, the tests suggest that the models are able to generate reliable results.

Table 3 contains two statistical models for hypothesis testing. Model 1 is a linear regression using ordinary least squares estimation, in which we found that all hypotheses are strongly supported. Model 2 is a logistic regression model. Similar to model 1, this model strongly supports the hypotheses. In both models, foreign aid as a proxy for coercive

isomorphism is the strongest pressure for developing countries to adopt IFRS, followed by level of education (normative isomorphism) and market capitalization (mimetic isomorphism). Conversely, none of the economic benefits associated with IFRS adoption is found to be significantly related to developing countries` decision to adopt IFRS. Both FDI inflows and GDP growth are not important predictive factors to adopt IFRS. Thus, the results show that institutional isomorphism can better predict the probability of developing countries to adopt IFRS.

Table 1
COUNTRIES SAMPLED AND THEIR ADOPTION STATUS

Adopters	Non Adopters
Armenia	
Botswana	Argentina
Chile	Bangladesh
Croatia	Brazil
Ecuador	Colombia
Georgia	Indonesia
Ghana	Iran, Islamic Rep.
Jordan	Malaysia
Kazakhstan	Mexico
Kenya	Nigeria
Kyrgyz Republic	Pakistan
Lebanon	Philippines
Macedonia, FYR	Tunisia
Malawi	Uruguay
Mauritius	Uzbekistan
Mongolia	Venezuela, RB
Namibia	Bolivia
Oman	El Salvador
Peru	Paraguay
Serbia	Swaziland
South Africa	Turkey
St. Kitts and Nevis	Uganda
Trinidad and Tobago	Zambia
Ukraine	

DISCUSSION AND CONCLUSIONS

It is a long-standing belief that higher accounting standards are substantially related to the chance of obtaining economic benefits such as a higher inflow of Foreign Direct Investment (FDI) and higher Gross Domestic Product (GDP) growth rate. This belief stands on one premise: that all countries share a common institutional context where the relation of the adoption and its

associated economic benefits established in a country or a group of countries is also applicable in other regions. However, IFRS as crafted by developed countries, might not able to create the same relationship in developing countries because of different socio-economic and political-economic environments.

Table 2
DESCRIPTIVE STATISTICS

Variable	Mean	Std. Dev.	Min	Max	Corr. to Adoption
Adoption	0.5217	0.5050	0.0000	1.0000	1.0000
AID	0.2216	2.0069	-3.5669	3.5910	0.3136
MCAP	3.0243	1.3508	-0.4943	5.5031	0.2464
ENROL	4.1327	0.3826	2.9088	4.5162	0.3139
FDI	1.2502	0.8803	-0.9163	3.1213	0.4141
GDP	1.7323	0.3045	1.0107	2.4765	0.0560

Table 3
REGRESSION RESULTS

Variable	Model 1: OLS		Model 2: Logit	
	Coefficient	t-value	Coefficient	z-value
Intercept	-2.4377	-2.76	-21.7196	-2.53
AID	0.1326	3.44*	0.9311	2.81*
MCAP	0.1056	2.06**	0.9487	2.02**
ENROL	0.5723	2.89*	3.9436	2.36**
FDI	0.0504	0.59	0.2542	0.40
GDP	0.1052	0.48	1.2155	0.74

Note: *p<0.01**, p<0.05; OLS: R^2=0.41, Adjusted R^2=0.34, F-value=5.58, N=46;
Logit: Pseudo R^2=0.38, LR Chi^2=24.31, N=46

Drawing upon DiMaggio and Powell (1983) `s Institutional Isomorphism theory, we reveal that IFRS adoption by developing countries is significantly related to social pressures of isomorphic changes (i.e., coercive isomorphism, mimetic isomorphism, and normative isomorphism) which contradict traditional belief that the adoption is highly related to its corresponding economic benefits.

Specifically, we show that foreign aid (as a proxy for coercive isomorphism), capital markets (as a proxy of mimetic isomorphism), and level of education (as a proxy for normative isomorphism) are strong predictive factors for developing countries to adopt IFRS. More importantly, these institutional pressures are more influential than economic pressures such as FDI inflows and GDP growth on the decision to adopt IFRS. This finding touches on a new perspective on the adoption of IFRS by developing countries because not only research on the

antecedent of the adoption is relatively rare, but also the finding hints that the decision of developing countries to adopt IFRS is motivated more by social pressures of legitimacy, than it is by economic reasoning.

We concede that the results of our study should be interpreted carefully due to several limitations. First, we heavily rely on archival data. Capturing countries` motives is certainly needed to reveal specific reasons to adopt or not to adopt IFRS. Second, considering that the decision to adopt or not to adopt IFRS are changing over time, investigating the diffusion of IFRS in a longer observation period and bringing more variables into the model would improve the quality of our study.

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A COMPARATIVE ANALYSIS OF STUDENTS' ATTITUDES TOWARDS FINANCIAL AND CORPORATE SOCIAL REPORTING AMONG JAPAN, CHINA AND SOUTH KOREA

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ABSTRACT

The objective of this study is to characterize the differences in students' attitudes towards financial and corporate social responsibility reporting among three East Asian countries: Japan, China and South Korea. The questionnaire concerning stakeholders was carried out from 2006 to 2007. Descriptive statistics and Pearson's independent coefficient were used.

According to the obtained results, their attitudes differ among these three nations. Japan would like its traditional reporting to be maintained. China orients financial reporting in order that a shareholder can control an entity in the capital market or that an employee is given a chance of success, while South Korea is directed to social reporting to protect a customer or retain an employee.

On the other hand, it is common for respondents from these three countries to acknowledge the importance of female management and a superiors' age and that community services weigh the impact on the environment.

INTRODUCTION

While it is the International Financial Reporting Board (IASB) that is expected to develop a single set of high-quality, understandable, enforceable and globally accepted financial reporting standards at present (G20, 2009, p.6; IASB, 2011), other international organizations were also engaged in international harmonization of accounting several decades ago (Daley & Mueller, 1982, p.42; Choi & Mueller, 1984, pp.498-499; Kuroda, 1989, pp.7-23). Among these organizations, in particular, the Organization for Economic Co-operation and Development (OECD) and the United Nations (UN), which were members of the Consultative Group of the International Accounting Standards Committee (IASC, the predecessor of the IASB), had been concerned with non-financial information as well as financial information in usable form about the activities of multinational enterprises referred to by the OECD and transnational corporations named by the UN.

Internationalization of accounting standards has been a cause of conflicts. The UN General Assembly was eager to provide political power among its 153 member nations, especially with respect to controlling the activities of transnational corporations. The OECD with 24 member countries represented the industrialized Western nations in order to establish, if nothing else, a counterweight to the UN (Choi & Mueller, 1984, pp.470-476). The UN's reporting standards were embodied in the annexed lists of minimum-disclosure items for a transnational corporation and its member companies (UN, 1977, pp.45-79). The lists are divided into two parts, financial information and non-financial information, and each part has two sections, enterprise as a whole and individual member company. The list of minimum items of the first section of the second part required information on labor and employment, production, investment programs, organizational structure and environmental measures at the international level. The list of the second section of the second part required the same five items as the first section and the first item of labor and employment was even more detailed than in the first section: description of labor relations policy, number of employees at year end and annual average, number employed by function, number of women employees by function, number of national employees by function, average hours worked per week, annual rate of labor turnover, absenteeism, accident rate, description of health and safety standards and employee costs.

The OECD issued its Declaration on Investment in Multinational Enterprises in 1976. The annex to this Declaration contained reporting guidelines for multinational enterprises. The guidelines on Disclosure of Information in 1976 indicated that enterprises should publish financial statements and other pertinent information relating to the enterprises as a whole, comprising in particular: structure, geographical areas, operating results and sales by geographic area and sales in the major lines of business, significant new capital investment by geographic area, a statement of the sources and uses of funds, average number of employees in each geographic area, research and development expenditure, policy of intra-group pricing and accounting policies (OECD, 1986, pp.13-14).

Aside from this harmonization of accounting, the concept of corporate social responsibility (CSR) has been discussed and expanded since the 1980's because of issues relating to global business, environmental pollution, moral hazard and so forth. Many reports on CSR prepared and presented by Japanese entities appear to have been based on the guidelines of the Global Reporting Initiative (GRI), which can be understand as a pioneer in the importing of CSR information in financial report (cf. Kolk, 2005, p.158; Katsuyama, 2009, p.4).

The IASB's new objective of general purpose financial reporting is to provide financial information about an entity useful to present and potential capital providers (IASB, 2008, par.OB2; FASB, 1978, par.5), while the previous objective was to provide information about the financial position, performance and changes in financial position useful to users of financial statements in making economic decisions (IASB, 2001, par.12). IASB concludes that the objective should be broad enough to encompass information that might eventually be provided by financial reporting outside financial statements (IASB, 2008, par.BC1.4).

The IASB Framework, which was adopted in 2001, described the users of financial statements and their information needs: investor's risk, timing and dividends, employee's stability and remuneration, lender's payment when due, supplier's payment and continuation, customer's continuation, governmental allocation and tax, and local economy of the public (cf. Graafland et al., 2004, p.148). It noted that some information needs were common to all users, while not all the needs of these users could be met by financial statements. Investors are the first users that provide risk capital to the entity, and the provision of financial statements that meet their needs would also meet most of the needs of other users that financial statements can satisfy (IASB, 2001, par.10). According to the Framework, managers of an entity are also interested in the information contained in the financial statement though they have access to additional management and financial information and have the ability to determine the form and content of such additional information to meet its own needs (IASB, 2001, par.11).

Since the Financial Accounting Standards Board (FASB) focused on information for investment and credit decisions (FASB, 1978), the IASB's new Framework concluded that present and potential capital providers are the most prominent users of an entity's financial reports (IASB, 2008, par.BC1.19). While capital providers include equity investors, lenders and other creditors, and they have common information needs, each of their information needs is not changed from 2001 to 2008 in fact. Providing information useful in assessing management's stewardship is a broader objective than decision-usefulness (IASB, 2008, par.BC1.26). In addition, managers and the governing board of an entity do not have the same relationship with the entity as a capital provider since they are responsible for preparing financial reports of which they are not the intended recipient (IASB, 2008, par.OB8).

While information covered by the IASB is limited to that provided by general purpose financial reporting of an entity, the OECD and the UN deal with a wider range of corporate reporting. The latest edition of the OECD Guidelines mentions disclosure items as follows (OECD, 2008, pp.15-16): activities, structure, financial situation and performance as a whole and along business lines or among geographic areas, disclosure policy, accounting standards or policies under which both financial and non-financial information are complied and published, basic information of the parent enterprise and its main affiliates, and material information on the financial and operating results of the company, company objective, major share ownership and voting rights, members of the board and key executives and their remuneration, material foreseeable factors, material issues regarding employees and other stakeholders and governance structures and policies.

In the process of the international harmonization or convergence of information provided in financial and CSR reporting, it is significant of an entity to acknowledge the reasons for the differences in stakeholders' attitudes towards financial and CSR reports between nations (cf. Heslin & Ochoa, 2008). As with citizens in the usual sense, corporate citizens have been searching for ways to align self-interest with the larger good of society (Smith, 1994, p.159). The objective of this study is to characterize the differences in students' attitudes towards financial

and corporate social responsibility reporting among three East Asian countries: Japan, China and South Korea.

HYPOTHESES

Although there were a variety of competing global standards for non-financial or CSR reporting, the UN Global Compact and the GRI Guidelines were considered (Chen and Bouvain, 2009). The UN Global Compact consists of ten principles in the four areas as follows (UN, 2011): i) human rights, the protection of internationally proclaimed human rights and non-complicity in human rights abuse; ii) labor, the freedom of association and the recognition of collective bargaining, the elimination of forced labor, the abolition of child labor and the elimination of discrimination; iii) the environment, precautions against challenges, greater responsibility, and the development of friendly technologies; and iv) preventing corruption in all forms including extortion and bribery. In this connection, according to its guidelines, the GRI designated examples of stakeholder as follows (GRI, 2011, par.4.14): civil society, customers, employees, local communities, shareholders and suppliers.

Comparison between the recommendations of the OECD and the principles of the UN reveals that the OECD takes a less negative view of enterprises than does the UN. The OECD is often referred to as 'the rich man's club' because its members are industrialized nations which are home to most of the world's multinational enterprises. The UN represents a much broader spectrum of countries and is significantly influenced by concerns for developing nations (Arpan & Radebaugh, 1985, p.349). Here, in order to indicate whether and how there are differences in stakeholders' attitudes towards financial and CSR reporting between Japan, China and South Korea, we propose the following hypothesis:

H1: Primary Stakeholders differ among Japan, China and South Korea.

However, these characteristics of stakeholders in some countries may be temporary where national systems are determined by environmental factors. In the late of 1970's, for example, six countries - France, West Germany, Japan, the Netherlands, the United Kingdom and the United States - were referred to as the vital nations in terms of their influence of economic power on the world economy. And hence, each of them could have been a barrier against international harmonization of accounting (Mason, 1978, p.40). If the same kind of the test were carried out at present, what names of nations could be named as vital?

In introducing a market-based economy, the government of China has established closed relationships with the IASB (Suzuki, 2007, p.294). In China, IFRS was required for some domestic listed companies, while it was not permitted in Japan and Korea in those days (Deloitte et al., 2003). Here, we propose the following hypothesis:

H2: A people who has a positive attitude towards financial information is a growth oriented nation.

Many observers have noted that the emphasis on hard work, individual drive, and economic achievement, pridefully described as the Protestant ethic in the West, is more characteristic of the Japanese, who have no Christianity. These traits are strongly characteristic of all the peoples of East Asia - the Chinese and Koreans as well as the Japanese - who derive their underlying culture from ancient China and its Confucian attitudes (Reischauer & Jansen, 1995, p.170). Then, we propose the following hypothesis:

H3: The impact of Confucianism on students' attitudes is decreasing.

A framework for analyzing the impact of culture on the development of accounting systems internationally was once proposed (Gray, 1988; Nobes, 1998). Among Asian nations, Japan has been studied as an object of the objects of international classification of accounting or disclosure and of country studies in international accounting (Mueller, 1968; Da Costa et al., 1978; Frank, 1979; Nair & Frank, 1980; Nobes & Parker, 1981; Nair, 1982; Nobes, 1983; Mueller et al., 1987; Nobes, 1988; Gray, 1988; Eddie, 1990; Nobes, 1998). In particular, the studies of Nobes will interest us. Because the discussions about the reasons for international difference in financial reporting were clearly related to the topic of classification of financial reporting systems, he categorized some large Japanese entities into the U.S. GAAP group (Nobes, 1998) though he had included Japan into the same group as Germany (Nobes, 1983) before the study in question. Additionally, his earlier study had grouped Japan into the American one (Nobes, 1981).

The apparent result of the financial big bang in Japan has been an attempt to bring the financial system in Japan more in line with that of the Anglo-Saxon system. As the ratio of cross-held shares has been decreasing, so have been the informal Japanese networks of firms known as Keiretsu (Tricker, 1994, p.40; Ide & Takahashi, 2009, p.11). Since the Companies Act presently requires a listed company to select either with the board of company auditors or with the committees, the corporate governance in Japan has been changed (Tricker, 1994, p.19; Takei, 2006, p.125). How about the status of lenders in a main bank system (Kuroda, 2001, pp.1840-1842), the status of suppliers in Keiretsu (Nakane, 1970, p.95) and the status of employees in lifetime employment system (Reischauer and Jansen, 1995, p.320; Yoshimori,1996, p.31)?

The Japanese financial big bang has led to the development of new accounting standards and the revision of present standards (Sakurai, 2001, p.1702), one of which is the Accounting Standards for Post-retirement Benefits. The Standards were published by the Business Accounting Deliberation Council (BADC) in 1998 and were judged adequate to be effective from the years beginning on or after 1 April, 2000 (BADC, 1998, par.5.1). An analysis of the textile industry in Japan demonstrated that some stakeholders of Japanese companies have gravitated more toward the style of their Anglo-Saxon counterparts during the decade following the financial big bang (Tsuji, 2010).

Considering the convergence or adoption of IFRS in G20 countries, the findings of the international classification studies of financial accounting may reveal that not only financial accounting standards but also CSR practices will result in the convergence into the Anglo-Saxon system in the long run (cf. Nobe, 1998; Newson & Deegan, 2002; Aguilera et al., 2006; Chen & Bouvain, 2008), while culture as the collective programming of the mind is plausible cause of accounting differences (Gray, 1988).

METHODOLOGY

The study started in Japan in December 2006, targeting both Japanese university students and Chinese university students and ended in Korea in October 2007, restricted to Korean university students. Of the sample, the total number of the subjects was 564: 355 Japanese (62.9%), 95 Chinese (16.9%), and 114 South Korean (20.2%). The female percentage of the subjects was 40.8%: the Japanese was 39.2%, the Chinese was 64.2%, and the South Korean was 26.3%. The age distribution was as follows: the maximum was 38, the minimum was 18 and the average was 20.9. The Japanese average age was 19.6, the Chinese was 24.3, and the South Korean was 22.1.

We asked only the Chinese students to indicate why they came to the Japanese universities as overseas students (CHIREA): bachelor degree, linguistic training, employment in Japanese companies or others reasons. Bachelor degree was selected by 37.9% of them, employment in Japanese companies was selected by 25.3%, linguistic training was selected by 16.8%, and an additional 20.0% of them either chose other reasons or had no answer. Because almost all of the South Korean students were researched in South Korea, we did not ask the Korean students to answer the same question as the Chinese students on reason for overseas studying.

The questionnaire items in the study were grouped into four parts: respondents' attributes, prominent stakeholders, attitudes towards stakeholders and East Asian society.

The first part was relevant to the attributes of the respondents: gender (ATTGEN) and age (ATTAGE). The second part related which stakeholder an entity should in principle serve primarily (STAPRI) and secondarily (STASEC), banks, customers, employees, government, local communities, managers, shareholders or suppliers. The respondents chose one of the alternatives that most likely expressed their personal fair values or philosophy.

The third part of the questionnaire consisted of five sections, each of which treated the attitudes of the respondents toward or consciousness of five stakeholders, that is, managers, shareholders, employees, customers and the local community. The first section asked five questions to a manager of a parent entity, namely, i) primary stakeholder (MANPRI): banks, customers, employees, government, local community, shareholders or suppliers, ii) corruption forced by circumstances because of profits (MANCOR): tax evasion, environmental pollution, exploitation of labor, defective product, bribery or refusal of compliance, iii) corruption to be

prevented in spite of profits (MANPRE): tax evasion, environmental pollution, exploitation of labor, defective product, bribery or refusal of compliance, iv) primary segmental information (MANSEG): sales and profits along business lines, sales and profits along geographic areas or employees' number along geographic areas and gender ratio, and v) independence in decision-making of a foreign subsidiary from a parent (MANIND): full independence, materials decided by a subsidiary, materials decided by a parent or dependent. The item ii) MANCOR relates to an implicitly minor stakeholder and the item iii) MANPRE has a relationship with an implicitly primary stakeholder from a manager's perspective. It is natural that every respondent acknowledge that any business should work against corruption in all its forms, including items listed above. At the same time, it is difficult to eradicate corruption in fact. We thank the respondents for any academic results which might contribute to a society.

The second section listed three items as to shareholders, namely, i) request to an entity, exception dividends or higher stock prices (SHAREQ): employment, customer satisfaction, environmental protection, compliance, tax payment or community service, ii) sacrifice by circumstances necessary for shareholders' benefits (SHASAC): employment, customer satisfaction, environmental protection, compliance, tax payment or community service, and iii) maximum acceptable percentage of sacrifice by circumstances necessary for a society (SHAMAX) : 0% - 20%, - 40%, - 60%, - 80% or – 100%. The item ii) SHASAC is relating to an implicitly minor stakeholder from a shareholder's perspective.

The third section formed three items as to a full-time employee of a parent, namely, i) primary information needs (EMPINF): remuneration, stability, safety, education, gender ratio or promotion, ii) same treatment as full-time employees of a parent (EMPSAM): a part-time employee of a parent, a full-time employee of a subcontractor, a full-time employee of a subsidiary or a foreign full-time employee and iii) participation in management (EMPPAR): yes or no.

The fourth section stated an item as to a customer and a consumer, namely, i) a source for a defective product's information (CUSSOU): the Internet, its manufacturer, mass media, government or friend. The fifth section listed an item as to local community, namely, i) request to an entity (COMREQ): employment, environmental preservation, tax payment, compliance or infrastructure.

The fourth part as to eastern Asian society (Nakane, 1970; Reischauer and Jansen, 1995) consisted of two sections, gender and time. The gender section contained four items, i) ratio of female colleagues from a manager's perspective (GENMAN), 0% - 20%, - 40%, - 60%, 80%, - 100%, ii) ration of females in management from a shareholder's perspective (GENSHA), 0% - 20%, - 40%, - 60%, 80%, - 100%, iii) request to the CEO in addition to performance from an employee's perspective (GENCEO), gender, nationality, age or pedigree, and iv) request to the immediate boss in addition to performance from an employee's perspective (GENBOS), gender, nationality, age or pedigree. The time section contained just one item, i) period of time of employment (TIMEMP): - 3 years, - 5 years, - 10 years, - 20 years or lifetime employment.

In order to make it clear that there are differences in attitude towards financial and CSR information among these East Asian nations, descriptive statistics and Pearson's independent coefficient were used.

RESULTS AND DISCUSSION

Stakeholders

To understand which stakeholder the respondents in principle recognized as primary and secondary, we had them select each one of eight kinds of stakeholders. Table 1 presents a detailed profile of the primary stakeholder and secondary one of each country.

According to the descriptive analysis of variables, perception of the primary stakeholders turned out to be entirely different among these three nations. The Japanese students considered managers (50.1%) and shareholders (34.6%) as primary, whereas Chinese students regarded shareholders (45.3%) and South Koreans considered customers (57.9%) as such. The answers of these three groups also vary on the secondary stakeholder. Japanese respondents considered secondary stakeholder as shareholders (32.4%), managers (31.3%) and employees (25.6%), while Chinese respondents regarded secondary stakeholder as managers (37.9%) and South Koreans selected employees (36.0%) and customers (21.9%).

In total, in the case of the Japanese students, managers (40.8%) and shareholders (33.5%) were much more prominent than the other designations of stakeholder. Employees (16.6%) and customers (5.6%) were clustered into the middle, while government (0.4%), suppliers (0.3%) and local communities (0.1%) were the lowest. On the other hand, the stakeholders were grouped into three groups by the Chinese students. The most significant group consisted of shareholders (28.4%) and managers (27.4%). The next was composed of customers (10.5%), employees (10.0%) and government (8.9%); while the lowest was made up of local communities (2.1%), suppliers (0.5%) and banks (0.0%). As for the South Korean, the most prominent stakeholders were customers (39.9%) and employees (26.8%). The next were government (9.2%) and shareholders (8.3%) and the remaining were all less than five per cent for each.

Pearson's independent coefficient regarding stakeholders resulted in Table 2.

Managers

Management has the primary responsibility for preparation and presentation of financial and CSR reports of an entity. The Japanese students considered customers (28.5%), employees (22.5%), suppliers (21.1%) and shareholders (20.3%) as prominent; while the Chinese students regarded customers (29.5%) and the Korean students selected customers (39.5%) and employees (24.6%) as such.

Table 1 **PROFILE OF PROMINENT STAKEHOLDERS**			
	Japan: Number (%)	China: Number (%)	Korea: Number (%)
Primary stakeholder:			
Banks	0 (0)	0 (0)	0 (0)
Customers	16 (4.5)	14 (14.7)	66 (57.9)
Employees	27 (7.6)	3 (3.2)	20 (17.5)
Government	2 (0.6)	9 (9.5)	8 (7.0)
Local communities	0 (0)	0 (0)	3 (2.6)
Managers	178 (50.1)	16 (16.8)	7 (6.1)
Shareholders	123 (34.6)	43 (45.3)	7 (6.1)
Suppliers	0 (0)	0 (0)	0 (0)
Secondary stakeholder:			
Banks	2 (0.6)	0 (0)	0 (0)
Customers	24 (6.8)	6 (6.3)	25 (21.9)
Employees	91 (25.6)	16 (16.8)	41 (36.0)
Government	1 (0.3)	8 (8.4)	13 (11.4)
Local communities	1 (0.3)	4 (4.2)	7 (6.1)
Managers	111 (31.3)	36 (37.9)	5 (4.4)
Shareholders	115 (32.4)	11 (11.6)	12 (10.5)
Supplier	2 (0.6)	1 (1.1)	3 (2.6)
Total:			
Banks	2 (0.3)	0 (0)	0 (0)
Customers	40 (5.6)	20 (10.5)	91 (39.6)
Employees	118 (16.6)	19 (10.0)	61 (26.8)
Government	3 (0.4)	17 (8.9)	21 (9.2)
Local communities	1 (0.1)	4 (2.1)	10 (4.4)
Managers	289 (40.8)	52 (27.4)	11 (4.8)
Shareholders	238 (33.5)	54 (28.4)	19 (8.3)
Suppliers	2 (0.3)	1 (0.5)	3 (1.3)

TABLE 2 **PEASON'S INDEPENDENT COEFFICIENT OF PROMINENT STAKEHOLDERS**			
	Japan	China	Korea
STAPRI	GENCEO -.114* GENBOS -.187**	CHIREA .408** STASEC .489**	STASEC .297** GENCEO -.230*
STASEC	MANIND -.105* COMREQ .106*	CHIREA .249* STAPRI .489** CUSSOU .291** GENMAN .291**	STAPRI .297**
** = significant at 0.01, * = significant at 0.05.			

The Japanese students selected exploitation of labor (52.7%) as corruption forced by circumstances because of profits; the Chinese students chose exploitation of labor (32.6%) and environmental pollution (23.2%), while the Korean students chose bribery (21.1%) or gave no answer (9.2%). The Japanese students selected, as corruption to be prevented in spite of profits, refusal of compliance (34.6%) and defective product (30.1%), the Chinese students chose refusal of compliance (36.8%) and defective product (25.3%), and the Korean students specified defective product (26.3%) and exploitation of labor (21.1%).

Table 3: PEASON'S INDEPENDENT COEFFICIENT OF MANAGERS

	Japan	China	Korea
MANPRI	MANCOR -.179** GENCEO .125*	CHIREA .235* SHAREQ .225* COMREQ .321**	MANCOR .189* MANPRE .286** MANSEG .276** MANIND .295** SHAREQ .214* EMPPAR .245** GENMAN .259**
MANCOR	MANPRI .115* MANPRE -.179** EMPSAM .122* GENSHA .106* TIMEMP -.142**	GENSHA .261* GENCEO .229*	ATTAGE .209* MANPRI .189* EMPSEG .271** COMREQ .215* GENCEO .275**
MANPRE	MANCOR -.179** GENBOS .115* TIMEMP .128*	SHASAC 214*	MANPRI .286** MANIND .278** EMPPRA .255** COMREQ .234* GENMAN .278** GENCEO .253** GENBOS .341**
MANSEG	ATTGEN -.116* SHASAC .154** TIMEMP -.143**	ATTAGE -.220*	MANPRI .276** MANIND .295** SHASAC -.249** EMPPAR .404** CUSSOU .330** GENMAN .197* GENCEO .194*
MANIND	STASEC -.105* SHAREQ -.111* EMPSAM .111*	GENCEO .255* GENBOS .365** TIMEMP .218*	ATTAGE .219* MANPRI .284** MANPRE .278** MANSEG .295** EMPPAR .308** COMREQ .200* GENCEO .360** GENBOS .368**

** = significant at 0.01, * = significant at 0.05.

As segmental information, the Japanese students required sales and profits along business lines (68.2%), the Chinese students required sales and profits along geographic areas (45.3%) and along business lines (41.1%), and the Korean students required sales and profits along business lines (73.3%).

In relation to the independence in decision-making of a foreign subsidiary from a parent, the Japanese students selected materials decided by a parent (49.9%), the Chinese students specified materials decided by a subsidiary (40.0%), and the Korean students chose materials decided by a parent (36.8%).

Pearson's independent coefficient concerning managers resulted in Table 3.

Shareholders

Apart from dividends or higher stock prices, as a shareholder, the Japanese students selected customer satisfaction (49.6%) and compliance (24.5%) from an entity, while the Chinese students selected customer satisfaction (46.3%) and compliance (17.9%) and the South Korean students selected customer satisfaction (73.7%).

On the other hand, the Japanese students selected community service (44.8%) and employment (39.2%) as sacrifice by circumstances necessary for shareholders' benefits, the Chinese students chose community service (41.1%) and employment (27.4%), and the Korean students indicated community service (46.5%) and employment (27.2%). In addition, as the maximum acceptable percentage of sacrifice by circumstances necessary for a society, the Japanese students selected 0% - 20% (42.8%) and – 40% (43.4%), the Chinese students chose 0% - 20% (48.4%) and – 40% (31.6%) and the Korean students chose 0% - 20% (61.4%) and – 40% (27.2%).

Pearson's independent coefficient concerning shareholders resulted in Table 4.

Table 4
PEASON'S INDEPENDENT COEFFICIENT OF SHAREHOLDERS

	Japan	China	Korea
SHAREQ	MANIND -.111*	ATTAGE .207* MANPRI .225*	GENSHA .189*
SHASAC	EMPSEG -.110*	ATTGEN -.267** MANPRE .214* SHAMAX -.261** EMPPAR -.210*	MANSEG -.249**
SHAMAX	MANSEG .154** EMPSAM .122* CUSSOU .113* GENBOS -.120*	SHASAC -.261* CUSSOU .223* GENMAN .292* GENSHA .267**	GENSHA .201*

** = significant at 0.01, * = significant at 0.05.

Employees

As a full-time employee of a parent, the Japanese students primarily required information on remuneration (44.8%), while the Chinese students required information on promotion (40.0%) and the Korean students required information on promotion (32.5%) and remuneration (23.7%). The Japanese students considered that a foreign full-time employee (51.3%) should be treated the same as a full-time employee of a parent; the Chinese students thought that a foreign full-time employee (34.7%), a full-time employee of a subsidiary (29.5%) and a full-time employee of a subcontractor (23.2%) should be so treated; and the Korean students indicated that a full-time employee of a subsidiary (69.3%) should be treated the same.

In addition, 61.7% of the Japanese students wanted to participate in management as an employee, while 81.1% of the Chinese, and 89.5% of the Korean students hoped to take part in management.

Pearson's independent coefficient about employees resulted in Table 5.

Table 5
PEASON'S INDEPENDENT COEFFICIENT OF EMPLOYEES

	Japan	China	Korea
EMPINF	ATTAGE .137** SHASAC -.110* TIMEMP -.135*	CHIREA .232* EMPSAM .387**	MANCOR .271** CUSSOU .335**
EMPSAM	MANCOR .122* MANIND .111* SHAMAX .122*	EMPINF .387** GENCEO .330**	-
EMPPAR	ATTGEN -.292** ATTAGE -.136* GENBOS -.110*	SHASAC -.210* COMREQ .232*	MANPRI .245** MANPRE .255** MANSEG .404** MANIND .308** MANGEN .206* GENCEO .276** GENBOS .287**

** = significant at 0.01, * = significant at 0.05.

Customers and Local Communities

In order to compile or to confirm detailed or reliable information as to a defective product, the Japanese students elected to contact its manufacturer (44.8%) as a customer or a consumer, while the Chinese students chose to use the Internet (35.8%) and to contact its manufacturer (24.2%), and the Korean students selected to use the Internet (54.4%).

As a member of a local community, the Japanese students required an entity to preserve the environment (49.9%) and employ local people (31.3%), the Chinese students required it to

preserve the environment (45.3%), whereas the Korean students required it to employ local people (50.9%).

Pearson's independent coefficient concerning customers and local communities resulted in Table 6.

Table 6
PEASON'S INDEPENDENT COEFFICIENT OF CUSTOMERS AND LOCAL COMMUNITIES

	Japan	China	Korea
CUSSOU	SHAMAX .113* GENMAN .137**	STASEC .291* SHAMAX .223* COMREQ .305** GENMAN .354* GENSHA .235*	MANSEG .330** EMPINF .335** GENMAN .251** GENSHA .194*
COMREQ	STASEC .106*	CHIREA .291** MANPRI .321* EMPPAR .232* CUSSOU .305**	MANCOR .215* MANPRE .234* MANIND .200*

** = significant at 0.01, * = significant at 0.05.

East Asian Society

As potential managers, the Japanese students regarded - 40% (53.0%) and - 60% (36.9%) as the most desirable ratio of female colleagues in management, the Chinese students considered - 40% (55.8%) and - 60% (26.3%), and the Korean students thought - 40% (50.0%) and - 60% (27.2%).

As potential shareholders, the Japanese students regarded - 40% (56.9%) and - 60% (32.4%) as the most desirable ratio of females in management, the Chinese students considered - 40% (53.7%) and - 60% (31.6%), and the Korean students thought - 40% (60.5%), - 60% (19.3%) and - 20% (12.3%) as most desirable.

As potential employees, the Japanese students considered age (63.9%) and nationality (18.6%) as significant factors for a CEO in addition to performance; the Chinese students judged age (49.5%) and nationality (23.2%) as significant; and the Korean students considered age (50.9%) and nationality (19.3%) as significant factors. For an immediate boss of their division, the Japanese students considered age (62.3%) and nationality (19.2%), as well as performance, as significant factors; the Chinese students judged age (40.0%) and gender (25.3%) as significant factors; and the Korean students judged age (64.0%) and gender (14.0%) as significant factors.
If they were employees, then the Japanese students wanted to work for the same entity during a lifetime, while the Chinese students wished for - 5 years (35.8%) and - 10 years (26.3%), and the Korean students desired lifetime employment (34.2%) and - 10 years (27.2%).

Pearson's independent coefficient concerning East Asian societies resulted in Table 7.

Table 7
PEASON'S INDEPENDENT COEFFICIENT OF EAST ASIAN SOCIETY

	Japan	China	Korea
GENMAN	CUSSOU .137** GENSHA .637** TIMEMP .105*	STASEC .258* SHAMAX .292** CUSSOU .354** GENSHA .569** GENBOS .227*	ATTGEN -.203* MANPRI .259** MANPRE .300** MANSEG .197* EMPPAR .206* CUSSOU .251** GENSHA .668**
GENSHA	MANCOR .106* GENMAN .637**	ATTGEN -.211* MANCOR .261* SHAMAX .267** CUSSOU .235* GENMAN .569*	SHAREQ .189* SHASAC .201* GENMAN .668**
GENCEO	STAPRI -.114* MANPRI .125* GENBOS .319**	MANCOR .229* MANIND .255* EMPSAM .330** GENBOS .326**	ATTAGE .192* STAPRI -.230* MANCOR .275** MANPRE .253** MANSEG .194* MANIND .360** EMPPAR .276** CUSSOU .194* GENBOS .488**
GENBOS	STAPRI -.187** MANPRE .115* SHAMAX -.120* EMPPAR -.110* GENCEO .319**	MANIND .365** GENMAN .227* GENCEO .326**	MANPRI .205* MANPRE .341** MANIND .368** EMPPAR .287** GENCEO .488**
TIMEMP	ATTAGE .118* MANCOR -.142** MANPRE .128* MANSEG -.143* EMPINF -.135* GENMAN .128*	MANIND .218*	ATTAGE .268**

** = significant at 0.01, * = significant at 0.05.

Discussion

The Japanese university students consider that an entity shall in fact be owned or controlled by a manager. Managers try to bear an equal and fair relationship to other stakeholders, and in particular the entity they manage ought to have good, long-term relations with customers. It is believed that these relations will lead to the benefit of shareholders. According to their desirable corporate governance, employees do not always participate in management. On the other hand, lifetime employment and seniority system shall be maintained

and, in certain cases, employees might have to be sacrificed due to circumstances beyond their control. A parent entity shall decide material matters and disclose financial information along business lines and on remuneration. The Japanese will focus attention on their treatment of others, especially foreigners. Despite their larger acceptable sacrifice, they tend to make light of local communities as opposed to the shareholders' benefits. In Japanese society, non-financial information on environmental preservation shall be disclosed as a community service in their CSR reports.

The Chinese university students think that an entity shall be owned or controlled by shareholders in substance as well as in form. Here, it seems possible for them to control the entity through financial reporting (cf. Busse von Colbe, 1994; Kolk & Pinkse, 2006), in other words, in a voice and from an exit in the capital market (Hirschman, 1974). In detail, of course, as there is a difference in concern of institutional investors about CSR between the United Kingdom and the United States, so Chinese voice and exit may operate in the Marxist framework in their own way, Chinese micro-capitalistically (cf. Aguilera et al., 2006; Suzuki, 2007). According to their desirable corporate governance, employees shall participate in management and a local subsidiary shall decide material matters. The Chinese students wish to work for a rational entity during a rational term because they know that employees might be sacrificed by management due to circumstances beyond their control (cf. Jiang et al., 2009). Necessary financial information is regarded as relative to geographic areas. After advancing their interest, entity shall restrict the lawless (Lu, 2008). These students require information on their promotion and treatment comparable with that affected others who work for any type of the group, such as a parent, a subsidiary, a subcontractor, a foreigner and so on.

As far as the interests of customers correspond to these of shareholders, the Chinese students maintain good relations with each other. However, customers use the Internet to search for information on products (cf. Tang & Li, 2009), which may indicate the customers do not necessarily depend upon entities. They tend to make light of local communities as opposed to the shareholders' benefits and they try to minimize their sacrifice in performance of their social responsibilities (cf. Suzuki, 2007, pp.294-295). Their CSR reports shall contain non-financial information on their products and on environmental preservation as community services.

The South Korean university students reflect the philosophy that an entity shall serve or be controlled by a customer, who has own brand equity (Tsuji, 2004, p.16). Here, it appears possible to control the entity through CSR reporting, namely, in a voice and from an exit in the consumer or product market (cf. Lee et al., 2009). They give priority to employees as well as customers, regardless of financial figures. According to their desired corporate governance, employees shall participate in management, and a parent entity shall decide material matters. The entity shall disclose financial information along business lines, and non-financial information on promotion. They require information on employees, whose attitudes might be not toward an organization but toward society (cf. Rodrigo & Arenas, 2008), comparable to that between a parent and a subsidiary as they want to work for the entity for the middle or long-term. Insofar as

the interests of customers correspond to that of shareholders, they maintain good relations with each other. However, customers use the Internet in search for information on products (cf. Unerman & Bennett, 2004), which may indicate that customers do not necessarily rely upon entities. If the shareholders' interests oppose that of local communities, community services may be cut off since they try to minimize their sacrifice in performance of their social responsibilities. Korean CSR reports shall disclose information on gift employment as a community service as well as information on products.

Common among the respondents from these three nations, female management is acceptable at present, though it seems desirable that the number of females in management should be a little smaller than that of males. That their superiors are desirable to be relatively older is common among the three groups of respondents, though the Chinese and the Koreans pay less heed to the age of CEO than the Japanese students (cf. Nyaw & Ng, 1994; Giacobbe & Segal, 2000). The class divisions surviving from feudalism was said to be a determining factor behind their ethic (Reischauer & Jansen, 1995). The impact of Confucianism has been decreasing, so this information shall be disclosed in their CSR reports.

CONCLUSION AND RECOMMENDATION

Today's businesses are increasingly recognizing that unless they nurture other stakeholders they may never earn sufficient profits for the shareholders. An entity must be careful not to violate any stakeholder group's sense of fairness about the treatment they are receiving relative to others (Kotler & Keller, 2009, p.95). The new corporate philanthropy, CSR, shall be interpreted not as obligation but as strategy. Kotler and Lee (2005, p.7) described as a shift to long-term commitments to specific social issues and initiatives, providing more than cash contributions, sourcing funds from business units as well as philanthropic budgets, forming strategic alliances, and doing all of this in a way that also advances business goals.

In Figure 1, we propose a model of reasons for the differences in stakeholder's attitudes towards financial and CSR reporting among Japan, China and South Korea.

The Japanese students are still in the tradition of Japanese Confucianism and would like not to change. In Japan, an entity shall be recommended to have the people know that they remain what they are in a developed and island nation, in terms of disclosing financial and corporate social information.

Especially, as financial reporting leads to rationalization for decision-making like an invisible hand controlling a growing nation, so the Chinese students could pursue an American dream in a matured market. They tend to orient economic growth and then make society more sustainable. In China, first, an entity shall be recommended to report financial information, and then, shall be recommended to disclose corporate social information.

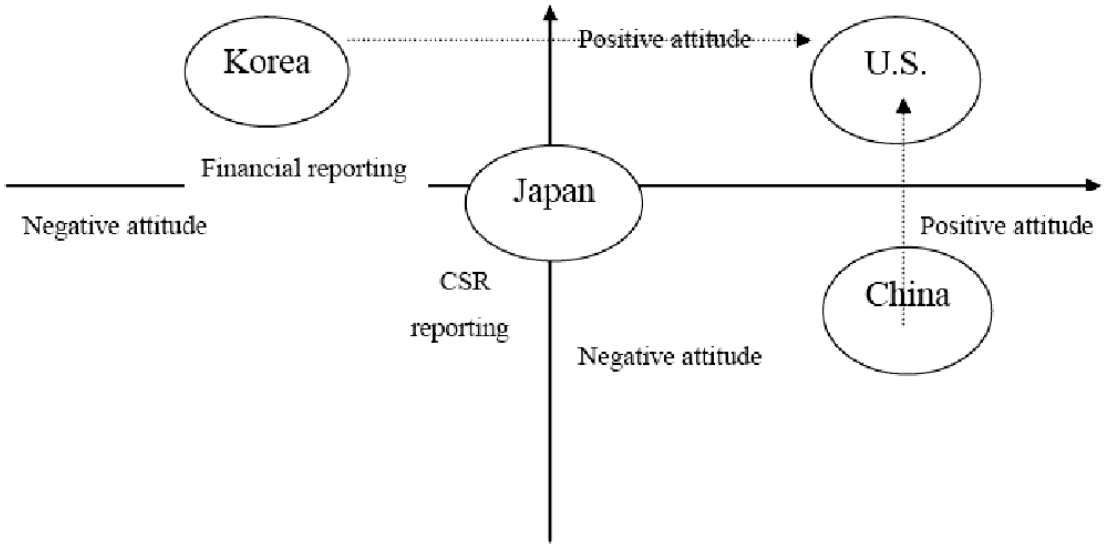
By contrast, the Korean students have high qualitative ethics and give priority to social information relating to customer and employment. Therefore, next to social information, an entity shall be recommended to report financial information.

This study has certain limitations. It ought to be noted that the subjects in this study might be biased. The Chinese respondents were overseas students at specific Japanese universities. Most Korean students were investigated at a Christian university in South Korea. Further studies shall range over data which is not biased.

In addition, when the study was carried out, the Korean unemployment rates of their category were not relatively lower (e.g. OECD, 2010). Future studies have to reveal a relationship between economic statistics and their attitudes for some terms.

At present, IFRS is required from 2011 in Korea in contrast with permission from 2010 in Japan and substantial convergence in China (IASB, 2011). Further studies must investigate the impact of the requirement in Korea on Koreans social attitudes.

Figure 1
A PROPOSED MODEL OF REASONS FOR DIFFERENCES IN STUDENTS' ATTITUDES TOWARDS FINANCIAL AND CSR REPORTING AMONG EAST ASIAN NATIONS



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ANALYZING TRADE PERFORMANCE IN JORDAN

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ABSTRACT

Jordan is a small open country. In light of the contemporary globalization wave, it is crucial to examine world trade flows with Jordan and evaluate its trade performance.

In this paper, sectoral and geographical compositions of Jordan exports by Standard International Trade Classification (SITC) categories were briefly analyzed. A remarkable structural change in Jordan's exports has been witnessed during the last ten years. Specifically, there has been a considerable change in the value and relative importance of clothes exports, whereas a deterioration in the phosphates relative position. Geographically, a significant increase of the United States in total domestic exports has been perceived, while a decline in the European Union countries' share. Different measures were used to assess export diversification. Herfindahl and Gini indices for exports were less than that for imports. A decrease in the value of the Concentration Ratio Index was registered for exports and the opposite was for imports.

Furthermore, we have used an augmented gravity model to analyze the world trade flows with Jordan. The gravity model has been estimated using the Ordinary Least Squares and Tobit estimation techniques with cross-section data for the year 2007. Our estimation results show that the gravity equation fits the data and delivers precise and plausible income and distance elasticities. Estimates for economic size of a country pair, geographical proximity and language similarities were intuitively reasonable.

It is hoped that this paper will facilitate further discussions regarding Jordan's foreign trade position and assist decision makers in their policy attitudes and trade agreements.

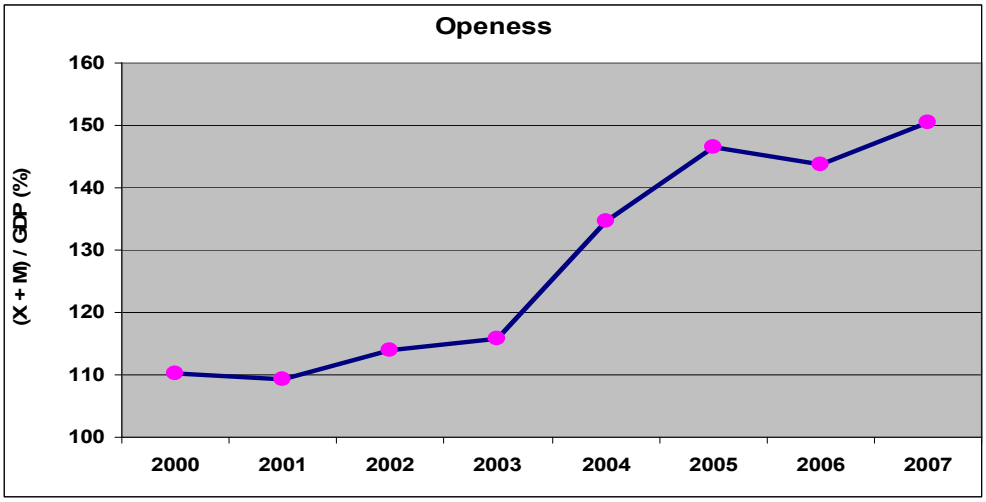
INTRODUCTION

Jordan is a small country located in the Middle East region. It has adopted a relatively open economic strategy since its modern establishment before more than half a century. Hence, its interest in trade policy has started since then. In view of that, Jordan has adopted several economic adjustments programs, joined the World Trade Organization (WTO) and signed up several regional and free trade areas agreements. Globalization in this century has a huge impact on most countries in the world. Jordan has recognized this, so greater emphasis has been put on its foreign trade sector.

Accordingly, Jordan turned into very open country. As depicted in Figure 1 below, Trade Intensity (TI) measure for trade openness [(X+M)/GDP] for Jordan has an increasing trend ranging between 110% and 150% during the period 2000-2007. Note that X=exports; M=imports; and GDP=Gross Domestic Product.

In light of this, our task in this paper is to investigate and analyze Jordan's trade performance. Different aspects of Jordan's trade will be covered using the most relevant measures. Focus, however, will be put on exports as the government is adopting the-export-led-growth strategy. The current status and developments concerning sectoral and geographical compositions of Jordan exports by Standard International Trade Classification (SITC) categories are briefly discussed in the next two sections. This is followed by an analysis of exports diversification in comparison with imports. Afterward, bilateral trade is examined using the gravity equation. The final section provides overall conclusions concerning trade flows for Jordan.

Figure 1



Source: The Central Bank of Jordan, Monthly Statistical Bulletin, various issues.

SECTORAL COMPOSITION OF EXPORTS BY (SITC) CATEGORIES

The Central Bank of Jordan (CBJ) presents values in (Jordanian Dinars, JD) of merchandize domestic exports. Hence, re-exports and general exports [(domestic exports) + (re-exports)] are not presented. Also, services are excluded. Domestic exports by major SITC categories are presented in Table 1 in the appendix.

We will choose two years; 1998 and 2007 to show exports developments in Jordan. The reason behind choosing 2007 is obvious, as it is the last year that complete export data are available before the world financial crisis. But 1998 is considered because it represents Jordan's

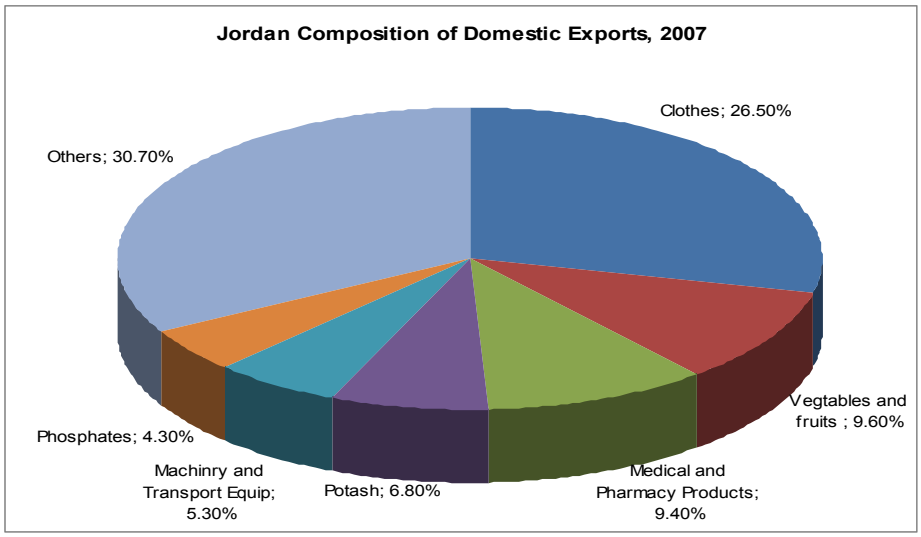
situation before the start of the dramatic change in export structure and export markets, which resulted from the huge increase in exports of clothes, particularly to the USA market.

ANALYSIS OF EXPORTS STRUCTURE IN 2007

The pie chart below for the year 2007 shows that Jordan's main exported commodities are (arranged in descending order): Clothes (with 26% of the total value of domestic exports), Vegetables and Fruits (9.6%), Medical and Pharmacy Products (9.4%), Potash (6.8%), Machinery and Transport Equipment (5.3%) and Phosphates (4.3%).

Out of these seven categories three are natural resource - based commodities, namely; potash, phosphates and to some extent fertilizers. They made up about 18% of the total domestic exports. If the group of vegetables and fruits is added, the above ratio becomes 28%. Clothes medicaments & machinery and transport equipments constituted the major exports of manufacturing industry. Their share in the total is 41%. It should be noted, however, that about two thirds of these exports are clothes. If clothes were excluded, the relative participation of the other two groups would decline to just 15%. Exports of clothes in Jordan can be considered a special case as we will see later.

Figure 2

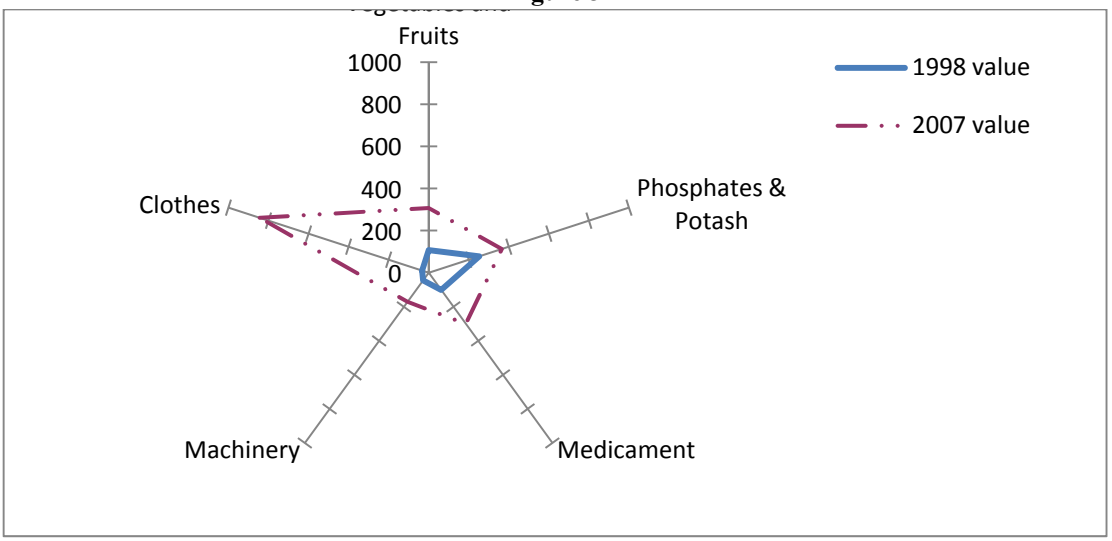


Source: Based on Table 1 in the appendix.

DEVELOPMENTS OF EXPORTS STRUCTURE

Comparison of Jordan's major export commodities between 1998 and 2007 can be conducted using the radar chart below.

Figure 3



Source: CBJ, Various Issues.
Note 1: Values are in Million Jordanian Dinars.
Note 2: For Values see Table 1 in the appendix.

The following points can be raised:

1- A remarkable structural change in Jordan's exports has been witnessed during the last ten years. Specifically, there has been a considerable change in the value and relative importance of clothes exports.

In 1998 the value of exported clothes didn't exceed JD 33 Million, constituting only 3.2% of the total domestic exports. Major exports were mining products such as phosphates which amounted to JD 140 Million (13.4%) and potash with JD 112 Million (10.7%) in addition to fertilizers JD 103 Million with (9.8%). The value of vegetables and fruits exports reached JD 107 Million (10.2%). The high value and ratio of exported manufacturing products were confined to medicaments, which reached JD 101 million constituting about 10% of the total.

During 1999 exports of clothes started to increase, and ranked the first since 2001. This significant change reflects the role of trade agreements in enhancing exports.

2- Jordan and the U.S. have concluded two trade agreements ; Qualifying Industrial Zones (QIZs) agreement , which was signed in 1996 and exports from these zones to the U.S. market started in 1999; and Free Trade Area (FTA) agreement which was in force in 2001. QIZ agreement has special arrangements that allow Jordanian exports to benefit from the direct full exemption of tariffs when entering the U.S. market. Therefore, it has a greater impact on the increase in exports than the FTA, particularly with respect to clothes.

3- These agreements have led to continuous increases in exports of clothes, as more than 90% of them are directed to the U.S. market. The contribution of the clothes exports in the total reached its peak in 2006 with a ratio of 31% and a value of JD 882.2 million ($ 1.244 billion).

But in 2007 exported clothes dropped slightly by 4%. During 2008, preliminary statistics show that there was a greater decline in these exports (by 15%) which pushed down their share in the total to just 16.3%. This retreat is basically attributed to the decline in the U.S. domestic and foreign demand as a result of the latest international financial crises.

4- Another dramatic change in the sectoral composition of Jordan's exports has been witnessed in phosphates exports. These exports ranked the first among export commodities in 1998, and became the last in 2007. Its value started to decline after 1998 due to decreases in both quantity and price as can be seen from export unit price and export unit quantity indices.

Of course, the considerable deterioration in the phosphates relative position was not attributed only to the decline in its absolute value, but also to the huge increase in the value of other items, particularly clothes. In fact Jordan's production of phosphates faced several internal difficulties, in addition to severe competition in world markets during the last few years, especially from Egypt.

Egypt's exports of phosphates is less expensive in comparison with Jordan, because energy used in producing phosphates is cheaper in Egypt, as it produces domestically fuel oil and gas, while Jordan is not an oil producing country and it couldn't adapt comfortably to the last high increases in world oil prices.

GEOGRAPHICAL COMPOSITION OF EXPORTS

Analysis of the Geographical Composition of Exports in 2007

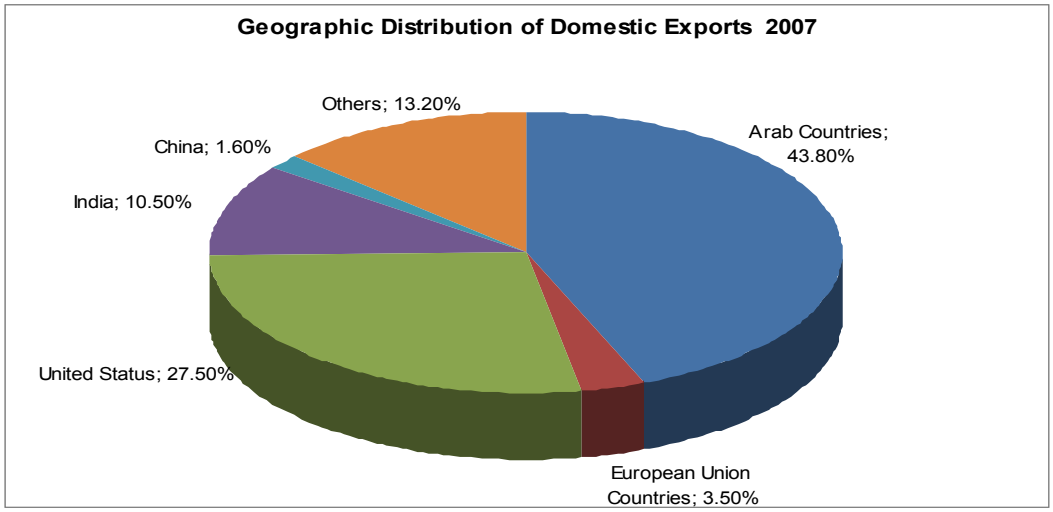
The pie chart in Figure 4 shows that Arab Countries as a group have the largest share and are placed at the top of the list of countries importing from Jordan, with a share of 44% of total domestic exports during 2007. Within the Arab Countries, exports bound for Iraq and Saudi Arabia have the highest shares in the total. Proximity and trade agreements are, among others, the main causes for these high ratios.

With regard to the North America Free Trade Agreement (NAFTA), particularly the United States (U.S.), trade agreements of QIZ and FTA may explain U.S. position as the second rank (with 28% of the total). As far as the country level is concerned, the U.S. will occupy the first rank.

Although the European Union Countries (E.U.) have also a trade agreement with Jordan since a long time, its impact on Jordan's exports to these countries is still weak and the proportion of Jordan's exports directed to the E.U. Countries is very small (3.5%).

India and China are important trade partners for Jordan. India is considered the main export market for phosphates, potash and fertilizers as it absorbs around one half of the value of these exports. Although China has a share of only 1.6%, it is an important trade partner as Jordan's imports from China reached about 10% of total imports in 2007.

Figure 4



Source: Based on Table 2 in the appendix.

Developments in Geographical Composition of Exports

Investigation of the radar chart below, which compares the relative importance of Jordan's export markets between 1998 and 2007, shows that:

1- The salient change in Jordan's export markets is the significant increase of the U.S. share in total domestic exports, which reached around 28% in 2007 compared with less than 1% in 1998. The reason for this change is, as we have mentioned before, the conclusion of the QIZ and FTA agreements.

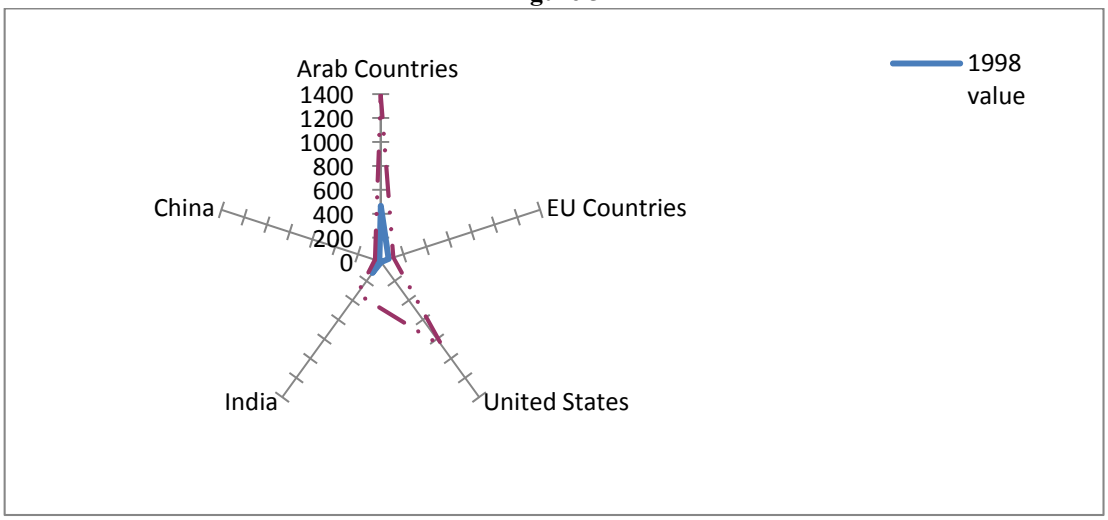
2- Another change was the decline in the E.U. countries share. They absorbed 6.6% of Jordan's exports during 1998 and have maintained there level around 3.5% since 2000 till now. The value of exports directed to this region decreased from JD 69 million in 1998 to JD 35 million, JD 49 million, and JD 44 million during 2000, 2001 and 2002 respectively. Their share in the total declined to 3.3%, 3.7%, and 2.9% in the same order. The reason for this drop in values is due to the appreciation of the Jordanian Dinar against the EURO during this period, as its value increased by 21% between 1999 and 2000.

Although exports rose in 2005, their value remained nearly the same since then. As exports to most countries and regions reported continuous increases, the share of exports to the E.U. countries in the total was declining.

3- As for regional integration, the Greater Arab Free Trade Area (GAFTA) agreement has been in force since 1998. But member countries in the region such as Syria and Jordan were not exactly committed to reduce tariffs as was scheduled. During the Amman Arab Summit of 2001, parties agreed to accelerate liberalization until they reach full exemption of customs duties. This

in fact, has its impact on Jordan's exports to Syria as they increased from JD 15 million in 1998 to JD 150 million in 2007 with a share in total rising from 1.4% to 4.7%.

Figure 5



Source: CBJ, Various Issues.
Note: values are in Million Jordanian Dinars

EXPORTS DIVERSIFICATION

The need for a reduction in the degree of external dependencies, along with ensuring stable markets has long been a preoccupation for different countries. This has led to a focus on diversification of sources and outlets for a country's goods, and on widening the export base and diversifying export commodities.

Different measures can be used to assess export diversification. The following measures are mostly used, although one can obtain similar results from them.

Herfindahl Index

This is often used as a measure of industry concentration, which is the sum of the squares of shares. : $H = \sum_{k=1}^{n} (S_k)^2$

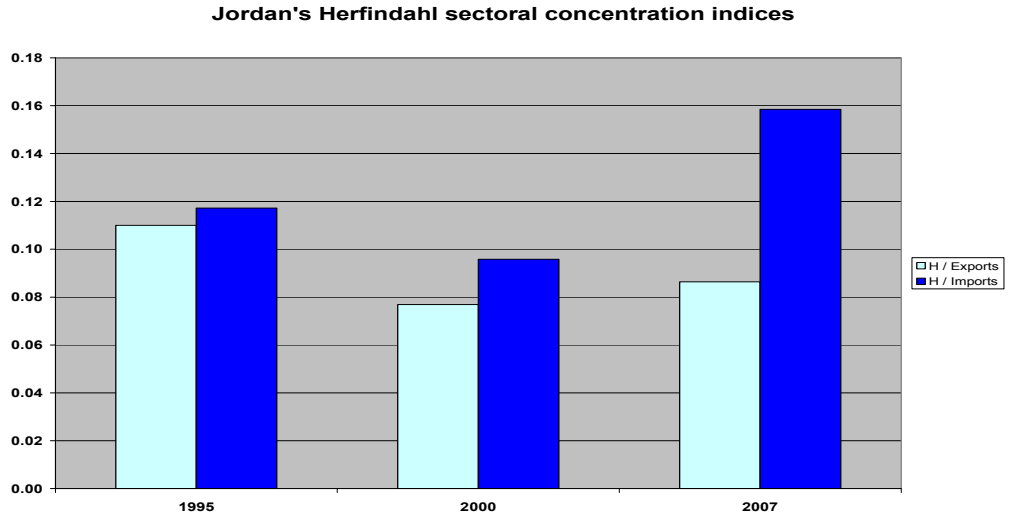
Where H is Herfindahl index, ($S_k = X_k / X$), the share of export line k in total exports, (X_k) is the value of export line k , (X) is the value of total exports, and n is the number of export lines. Data are based on the HS2 level.

Herfindahl Index was calculated for Jordan for both exports and imports. Three years Herfindahl Index were chosen; 1995, 2000, & 2007. The results are presented in Table 1 and Figure 6 below.

Table 1
Herfindahl Index

	H / Exports	H / Imports
1995	0.11	0.12
2000	0.08	0.10
2007	0.09	0.16

Figure 6



It is clear that there is improvement in Jordan's position with respect to exports, as the index decreased in 2007 in comparison with 1995.

The case for imports is, nevertheless, different. The index has risen in 2007. A possible explanation, among others, might be the considerable increase in the price of oil during the last few years including 2007. Jordan imports 96% of its primary energy, of which more than 90% is oil. The share of the value of crude oil imports in total imports was 9.6% in 1995 but increased to 15.1% in 2007.

Gini Index

An alternative measure of concentration/diversification, widely used in the measure of income inequality between individuals, is the Gini index, with product lines taken here as the unit of observation (instead of individuals). For each country and year, product lines -indexed by k- were sorted by increasing order of trade value x so that $x_k < x_{k+1}$. Cumulative export shares (omitting country and time subscripts) are:

$$X_k = \sum_{\ell=1}^{k} x_\ell \Big/ \sum_{\ell=1}^{n} x_\ell$$

and cumulative shares in the number of product lines are simply k/n.

The index's formula is: $g = \left|1 - \sum_{k=1}^{n} \left(X_k - X_{k-1}\right)\left(2k-1\right)/n\right|$. Gini index for years 1995, 2000, & 2007 is presented in Table 2 and Figure 7 below.

Table 2
Gini index

	G / Exports	G / Imports
1995	0.83	0.83
2000	0.80	0.81
2007	0.82	0.87

Based on the above results we can infer the same conclusions as in the case of Herfindahl index in 2007, Gini index for exports was less than for imports although it is very high for both. The indication is that a few enormous lines dominate the value of trade, while a large number of small lines count for almost nothing (this is true even for industrial countries).

Concentration Ratio (CR_n)

Concentration Ratio is defined as the share of the top n lines of exports (imports). For Jordan, this measure was consistent with the other previous measures, for the three years. A decrease in the value of the index was registered for exports and the opposite was for imports.

Table 3 below indicates that this ratio for the main four goods was 0.604 in 1995 against 0.505 in 2007. In fact, the structure of exports has changed during this period. Fertilizers, for example, took the first place in 1995, but became the second in 2007 as clothes came to the top of exported items (driven basically by trade agreements with the U.S.).

Figure 7

Jordan's Gini Coefficient

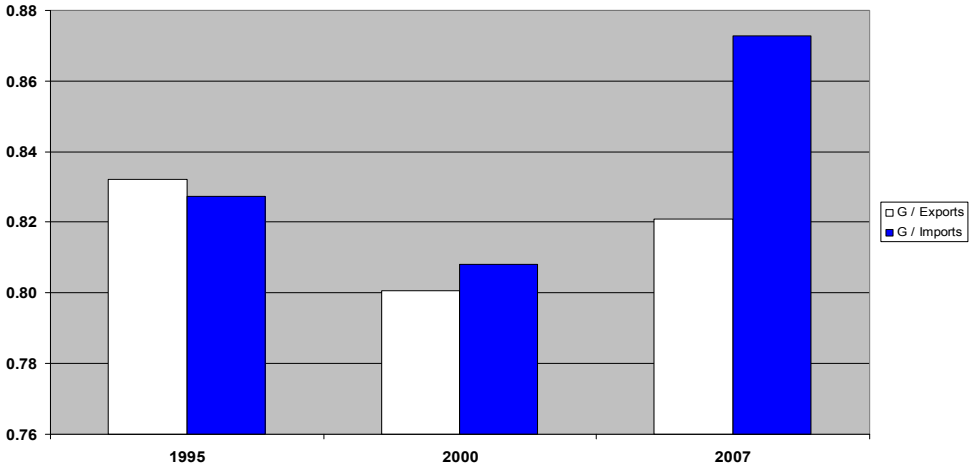


Table 3
Concentration Ratios for Exports and Imports

	Exports		Imports	
	CR_4	CR8	CR_4	CR8
1995	0.604	0.735	0.606	0.831
2000	0.479	0.665	0.524	0.785
2007	0.505	0.706	0.694	0.843

As for imports, the concentration ratio increased slightly between 1995 and 2007 in both cases (top 4 goods, and top 8 goods). Jordan's main imported goods are machinery and transport equipment. High quality of such goods are basically produced in and imported from the developed countries (E.U., U.S. and Japan). They are not produced domestically. Therefore, no major structural change could be observed

.

Concentration Curve

A Concentration Curve describes the extent to which output is concentrated in just few lines of export (import) lines. The two figures below display the concentration curves for exports and imports in Jordan in 2007. The export (import) lines' ranked sizes are measured along the

horizontal axis, with the first being the largest. The cumulative export (import) share is measured on the vertical axis. For example, the first largest 10 lines of exports made up 76.9 percent of total exports. The remaining 71 lines all amounted to 23.1 percent of total exports. In the imports side, the first largest 10 lines of imports made up 86.9 percent of total imports. The remaining 65 lines all formed 13.1 percent only of total imports.

Figure 8

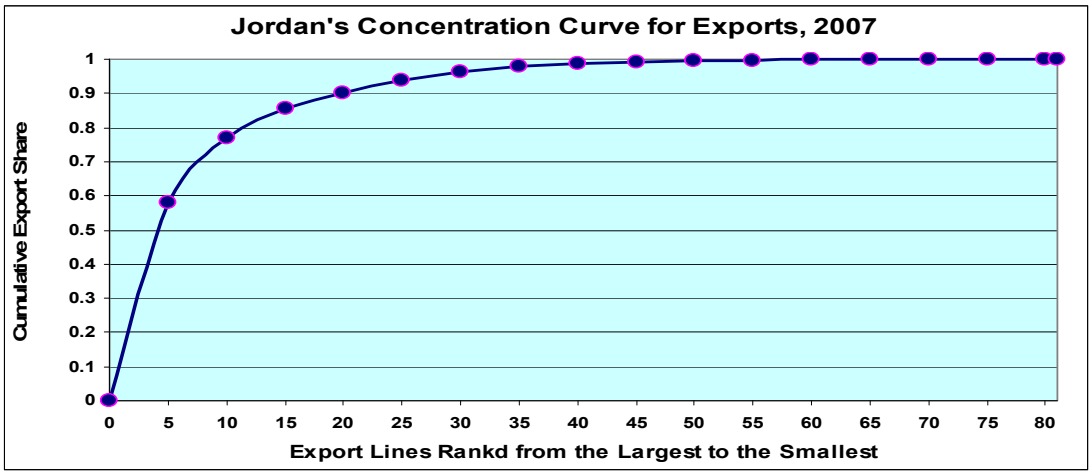
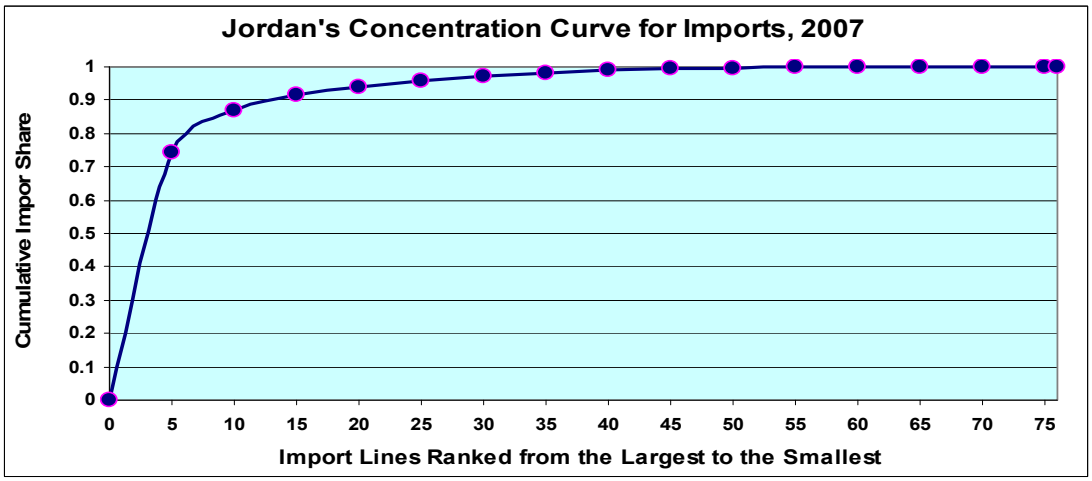


Figure 9



ANALYZING BILATERAL TRADE USING THE GRAVITY EQUATION

Among the many studies applying the gravity framework[1], two studies have analyzed the trade in Jordan. (Arnon, Spivak, & Weinblatt, 1996) paper focused mainly on the Jordanian economy and its potential for trade with Palestine and Israel. It predicted a quite modest short-

term bilateral trade between Israel and Jordan, alongside a more optimistic forecast for trade between Israel and Palestine.

(Bany Ahmad, 1997) study aimed at measuring the most important factors that affect the foreign trade of Jordan by applying the gravity model using data drawn from 40 countries that have trading relations with Jordan. The study found that the relationships between Jordan exports and the GDP of countries which Jordan exports to is negative, that is, if GDP increases in these countries, Jordan exports will be unable to meet their needs because of the small export ground in Jordan and its small size relative to the rest of world countries. On the other hand, the relation was positive between Jordan imports and the GDP of countries which Jordan imports from, which is consistent with the theory. Furthermore, the study didn't find any impact for exchange rate on exports and imports. In addition, the study found that being Arab country positively affects Jordan exports, while there was no relationship with regard to imports. Finally, there was a negative relationship between the distance and Jordan exports and imports, which is compatible with the theory.

Obviously, both studies were limited to a small number of countries, and the data sets were relatively old.

In this paper, besides the basic gravity model equation, we estimated an augmented gravity model equation to analyze international trade flows for Jordan with its trading partners. The "augmented" model includes several variables that account for other factors that may affect trade over and above income and distance. The models -basic and augmented as formulated for estimation are as follows:

$$\text{Log}\,(TT_{ji}) = \alpha + \beta_1 \log\,(GDP_j.GDP_i) + \beta_2 \log\,(D_{ji}) + u_{ji}\ldots \qquad (1)$$

As stated above, the gravity model in its most *basic* form explains bilateral trade (TT_{ji}) as being proportional to the product of GDP_j and GDP_i and inversely related to the distance between them. To account for other factors that may influence trade levels, dummy variables have been added to the basic model. Thus, our *augmented* gravity equation is expressed as follows:

$$\text{Log}\,(TT_{ji}) = \alpha + \beta_1 \log\,(GDP_j.GDP_i) + \beta_2 \log\,(GDPc_j.GDPc_i) + \beta_3 \log\,(D_{ji}) + \beta_4\,(Lang_{ji}) + \beta_5(Border_{ji}) + u_{ji}\ldots \qquad .(2)$$

Where j is Jordan and i denotes any other country. TT_{ji} denotes the value of bilateral trade between j and i. The explanatory variables in the gravity model are defined as follows:

GDP: measures the size and self- sufficiency of countries in the gravity model. The model is estimated using nominal GDP in U.S. dollars.

Per Capita Income (GDPc): allows us to explore the link between a country's trade and its stage of development.

Distance(D): is the distance between country j and country i measured by the air routes using the straight – line or great -circle measure of distance. This measure seems to be a reasonable measure of averaging across different modes of transportation and works well in practice.

Border: A dummy variable to identify if a country share a border with Jordan to account for the possibility that neighboring countries may often engage in large volumes of border trade. The dummy variable is unity if countries i and j share a common border and 0 when they do not.
Common language ($Lang_{ji}$): is equal to one when the country's language is Arabic and 0 otherwise. Common language is expected to reduce transaction costs as speaking the same language helps facilitate trade negotiations.

Uij: is a log-normally distributed error term and represents the myriad other influences on bilateral trade.

METHODOLOGY

Gravity model Equation (2) has been estimated using the OLS and Tobit techniques with cross-sectional data for the year 2007. The dependent variable in the *first approach* is total merchandise trade (exports plus imports in U.S. dollar thousands), in log form, between Jordan and each country in the sample. In the *second approach* the dependent variable is total imports (in U.S. dollar thousands), in log form, between Jordan and world countries.

While panel data has advantages in terms of being able to capture the relevant relationships over time and monitor unobservable trading-partner-pairs' individual effects, classical gravity models have used cross-sectional data to estimate trade effects and trade relationship for a particular time period.

(Batra, 2004) has estimated a multi-years gravity model and it has been observed that aggregation over time does not really add any value to the estimations[2]. We have therefore followed the classical tradition of estimation with cross-sectional data.

Country Pairs with Zero data[3]

For some country pairs the data entry is zero, normally due to levels of trade that are too small to be recorded. These are generally countries that, by virtue of their small size and remoteness, would be expected to have little trade with each other. It is not always possible, though, to ascertain whether their trade is actually zero or is very small and has in the process of being rounded off appeared as zero value. In any case, these pairs with zero trade values present a problem for estimation of the gravity model in the log linear form. We have tried to resolve this problem by estimating the model using two different techniques:

- Omission of the zero pairs from the data set.

- Replacing zeros with very small qualities and then estimating the gravity model for all countries.

Data Sample

The dependent variable in our analysis is the natural log of total bilateral trade (exports plus imports) or (total imports) measured in current international prices (dollar value). Our trade data source is derived from the database of Jordan Department of Statistics and covers 142 countries (see Table 3 in the appendix). Observations for all variables are for the year 2007.

GDP is measured in current international prices (dollars). Population of all countries is measured in millions. The data source for population and GDP is the World Economic Outlook published by the IMF. Bilateral distance is measured, in kilometers, as the great circle distance between two capital cities of the trading partners. Bilateral distance is from the data set developed by Geobytes web-site.

Estimation Results

Tables (4-11) in the appendix present the OLS estimates of the gravity model. The model fits the data well and explains between 50-74 per cent of the variation in bilateral trade across our sample of countries. The standard features of the gravity model work well.

Distance and income provide most of the explanatory power in all the regressions. The baseline variables (both GDP and distance) are very highly significant, have the expected signs and are of reasonable magnitude.

The first approach

The dependent variable is taken to be the total amount of trade (sum of exports and imports) between Jordan and 142 countries. We estimated this model (basic and augmented) in the natural logarithmic form by applying:

OLS after replacing the zero trade values with a very tiny amount.
OLS after omitting the zero observations (only 8 observations in terms of total trade were missing).

TOBIT ESTIMATING TECHNIQUE.

The second approach

The dependent variable is taken to be the pairs of imports: Jordan from country i, and country i from Jordan. This result is in 284 observations. We estimated this model by applying the same techniques as in the first approach.

The OLS Estimation Results in the First Approach

Basic Model

The GDP estimated coefficient in our specification is positive, statistically significant (with zero probability of t-value) and economically reasonable indicating that higher GDP (for the country pairing) increases trade. It ranged between 1.20 and 1.6. That is, an increase in the size of the country (output) increases trade more than proportionately.

The distance estimated coefficient has the anticipated negative indicating that trade between a pair of countries falls as the distance between them increases. It was statistically significant with zero probability of t-value. It ranged between -1.17 and -0.90 indicating that trade between a pair of countries falls by about 1 per cent for every 1 percent increase in the distance between them.

The overall model was statistically significant with zero probability of F-value. R^2 ranged between 0.52 and 0.65.

Augmented Model

The GDP estimated coefficient was positive and ranged between 1.38 and 1.67. It was statistically significant with zero probability of t-value. The GDP per capita estimated coefficient was negative.

On controlling for adjacency, i.e. inclusion of the variable for common border, the magnitude of the coefficient on distance is somewhat reduced. The coefficient on the dummy variable for a common border itself is estimated to be between 0.41 and 0.81. As trade is specified in logarithmic form, we interpret the coefficient on the dummy by taking the exponent. Country that shares a common border with Jordan is estimated to engage in 51 to 125 per cent more trade than other countries.

Sharing a language increases trade by economically and statistically significant amounts. The estimated coefficient of the Arabic language dummy is between 2.575 and 3.321. The implication is that Arab countries tend to trade with Jordan roughly (1213 to 2669) per cent more than other countries. The strong effect of sharing a common language is explained by the fact that all neighboring countries that share a border with Jordan are Arab countries, except Israel. And other Arab countries are relatively close to Jordan in distance. All these factors combined together justify the strong effect of this variable on the amount of trade.

The distance estimated coefficient was negative and ranged between -0.51 and -0.69. Moreover it was statistically significant with zero probability of t-value. The overall model was statistically significant with zero probability of F-value. R^2 ranged between 0.57 and 0.74.

The OLS Estimation Results in the Second Approach

Basic Model

The GDP estimated coefficients were positive for both the importing country and the exporting country and statistically significant. They ranged between 0.73 and 1.45 for the importing country, and between 1.35 and 2.23 for the exporting country.

The distance estimated coefficient was negative and statistically significant. It ranged between -1.42 and -0.93.

The whole model was statistically significant with zero probability of F-value. R^2 ranged between 0.48 and 0.52.

Augmented Model

Qualitatively, the results show that the estimated parameters were individually statistically significant, but the GDP per capita for the exporting country estimated coefficient and the common border estimated coefficient were not. Collectively, the model was statistically significant with zero probability of F-value. R^2 ranged between 0.54 and 0.65.

The GDP estimated coefficients were positive for both the importing and the exporting countries. They ranged between 1.13 and 1.77, and between 1.51 and 2.28 respectively. The GDP per capita estimated coefficients were negative. For the importing country, it was statistically significant at 10% level.

The language and sharing common border coefficients were positive, while the distance coefficient was negative and ranged between -0.60 and -0.86.

The abovementioned results are supported by applying the Tobit technique with overall significance of the models (zero probability of Chi-square statistics). Moreover, this technique results in the same signs and statistical significance for the estimated parameters.

CONCLUSION

In this paper, sectoral and geographical compositions of Jordan exports by (SITC) categories were briefly analyzed. A notable structural alteration in Jordan's exports has been perceived throughout the last ten years. Particularly, there has been a substantial change in the value and relative weight of clothes exports, while a weakening in the phosphates relative importance. Geographically, a major escalation of the U.S. share in total domestic exports, while a drop in the E.U. countries portion.

Several measures were utilized to gauge export diversification. Herfindahl and Gini indices for exports were less than that for imports. A decline in the value of the Concentration Ratio Index was observed for exports and the contrary was for imports.

Moreover, we have estimated the trade flows for Jordan using the gravity model. Cross sectional data for the year 2007 has been analyzed using OLS and Tobit estimation techniques. Our analysis is based on maximum possible coverage of Jordan trade flows with the world. The gravity equation fits the data and delivers precise and plausible income and distance elasticities and estimates for border and language characteristics. The traditional "gravity" effects are intuitively reasonable, with statistically significant Z-statistic. As expected perception and intuition, higher economic size of a country pair, geographical proximity and language similarities positively influence bilateral trade flows. Other policy implications - increase trade with neighbors and strengthen regional integration initiatives, etc - constitute a rich area for future study.

ENDNOTES

[1] Some major references for the Gravity approach are listed among the references.

[2] Some of other papers that have applied cross sectional analysis are: (Anderson &Van Wincoop, 2003; Evenett & Keller, 2002; Helpman, & Rubinstein, 2008; Santos Silva & Tenreyro, 2006).

[3] Among papers treating zeros are: (Santos Silva & Tenreyro, 2006; Wang &Winters, 1992; Helpman, Melitz & Rubinstein, 2008; Soderling, 2005; Batra, 2004).

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Table 1
Jordan Main Domestic Exports by Commodity for Selected Years

JD Million								
Code	1998		2000	2003	2005	2006	2007	
	value	share in total %	value	value	value	value	value	share in total %
Total	1046		1081	1675	2570	2929	3184	
0. Food and Live	165	15.8	116	157	275	323	404	12.7
Animals								
Vegetables and	107	10.2	72	111	183	187	307	9.6
Fruits								
2. Crude Materials,	269	25.7	249	259	350	354	435	13.7
Inedible, Except Fuels								
Phosphates	140	13.4	91	91	119	113	138	4.3
Potash	112	10.7	138	145	196	181	227	7.1
5. Chemicals	523	30.9	347	390	576	625	767	24
Medical and	101	9.7	111	131	199	211	300	9.4
Pharmacy Products								
Fertilizes	103	9.8	60	74	122	151	218	6.8
7. Machinery and	45	4.3	69	77	127	157	171	5.4
Transport Equip.								
8. Miscellaneous	78	8.3	132	568	926	1089	1025	32.2
Manufactured Articles								
Clothes	33	3.2	76	479	745	882	844	26.5
Others	405	38.7					979	30.7

Source: Central Bank of Jordan, Monthly Statistical Bulletin, Various Issues.

Table 2
Jordan Geographic Distribution of Domestic Exports

JD Million								
Country	1998		2000	2003	2005	2006	2007	
	value	share in total %	value	value	value	value	value	share in total %
Total	1046	100	1081	1675	2570	2929	3184	100
Arab Countries of which:	466	44.5	431	692	1096	1249	1393	43.8
Saudi Arabia	104	9.9	92	109	172	272	261	8.2
Iraq	106	10.1	100	224	380	327	378	11.9
Syria	15	1.4	16	64	113	111	150	4.7
European Union Countries	69	6.6	35	75	100	108	111	3.5
Other European Countries	10	1	5	5	11	12	13	0.4
NAFTA Countries of which:	6	0.6	45	471	796	916	885	27.8
United Status	5.5	0.5	44.8	469	790	908	875	27.5
South American Countries	1.2	0.1	3.3	1.5	4	6	10	0.3
Non Arab Asian Countries of which:	259	24.8	375	355	490	572	678	21.3
India	117	11.2	172	141	246	280	333	10.5
Japan	10	1	9	10	19	30	47	1.5
China	12	1.1	32	26	28	25	51	1.6
Israel	24	2.3	55	68	75	85	84	2.6
Other Countries	235	22.5	184	75	73	67	93	2.9

Source: Central Bank of Jordan, Monthly Statistical Bulletin, Various Issues.

Table 3 **List of Countries used in the Gravity model**			
Afghanistan	Ecuador	Liberia	Russian Federation
Albania	Egypt	Libya	Rwanda
Algeria	El Salvador	Lithuania	Saudi Arabia
Angola	Eritrea	Luxembourg	Senegal
Argentina	Estonia	Macedonia	Seychelles
Armenia	Ethiopia	Madagascar	Sierra Leone
Australia	Fiji	Malawi	Singapore
Austria	Finland	Malaysia	Slovakia
Azerbaijan	France	Maldives	Slovenia
Bahrain	Gabon	mali	Somalia
Bangladesh	Georgia	Malta	South Africa
Belarus	Germany	Mauritania	Spain
Belgium	Ghana	Mauritius	Sri Lanka
Benin	Greece	Mexico	Sudan
Bolivia	Guatemala	Moldova	Sweden
Bosnia-Herzegovina	Guinea	Morocco	Switzerland
Brazil	Haiti	Mozambique	Syria
Brunei	Honduras	Namibia	Taiwan
Bulgaria	Hong Kong	Nepal	Tajikistan
Burkina Faso	Hungary	Netherlands	Tanzania
Cambodia	Iceland	New Zealand	Thailand
Cameroon	India	Nicaragua	Tunisia
Canada	Indonesia	Niger	Turkey
Chad	Iran	Nigeria	Turkmenistan
Chile	Iraq	Norway	U.A. Emirates
China	Irland	Oman	U.K.
Colombia	Israel	Pakistan	U.S.A.
Comoros	Italy	Palestinian N.A.	Uruguay
Congo	Jamaica	Panama	Uzbekistan
Costa Rica	Japan	Paraguay	Venezuela
Croatia	Kazakhstan	Peru	Vietnam
Cyprus	Kenya	Philippines	Yemen
Czech Republic	Korea South	Poland	Zambia
Denmark	Kuwait	Portugal	Zimbabwe
Djibouti	Latvia	Qatar	
Dominican Republic	Lebanon	Romania	

Table 4 First Approach - Model I Basic				
lnTT	Coef.	Std. Err.	t	P>t
lnGDPji	1.560256	0.1365766	11.42	0
lnD	-1.170592	0.2864847	-4.09	0
Cons	7.344848	2.577629	2.85	0.005
Number of obs	142			
F(2, 139)	74.98			
Prob > F	0			
R-squared	0.519			
Adj R-squared	0.512			

Table 5 First Approach - Model I Augmented				
lnTT	Coef.	Std. Err.	t	P>t
lnGDPji	1.663087	0.1737077	9.57	0.000
lnGDPCAPji	-0.1505317	0.2190252	-0.69	0.493
lnD	-0.6867754	0.3493425	-1.97	0.051
lang	3.32124	0.8982634	3.7	0.000
border	0.4078256	1.715201	0.24	0.812
cons	4.641003	4.588462	1.01	0.314
Number of obs	142			
F(5, 136)	35.99			
Prob > F	0.000			
R-squared	0.5696			
Adj R-squared	0.5537			

Table 6 First Approach - Model II Basic				
lnTT	Coef.	Std. Err.	t	P>t
lnGDPji	1.198779	0.0816454	14.68	0.000
lnD	-0.9036768	0.1661791	-5.44	0.000
cons	8.211389	1.484036	5.53	0.000
Number of obs	134			
F(2, 131)	122.01			
Prob > F	0.000			
R-squared	0.6507			
Adj R-squared	0.6454			

Table 7: First Approach - Model II Augmented				
lnTT	Coef.	Std. Err.	t	P>t
lnGDPji	1.376578	0.0960874	14.33	0.000
lnGDPCAPji	-0.2888505	0.120142	-2.4	0.018
lnD	-0.5137825	0.1871523	-2.75	0.007
lang	2.575034	0.4712183	5.46	0.000
border	0.8137091	0.9041541	0.9	0.37
cons	8.108123	2.510654	3.23	0.002
Number of obs	134			
F(5, 128)	72.82			
Prob > F	0.000			
R-squared	0.7399			
Adj R-squared	0.7297			

Table 8: Second Approach - Model I Basic				
lnM	Coef.	Std. Err.	t	P>t
lnGDPm	1.445164	0.1705438	8.47	0.000
lnGDPx	2.234614	0.1705438	13.1	0
lnD	-1.420891	0.2668588	-5.32	0
cons	5.45464	2.401047	2.27	0.024
Number of obs	284			
F(3, 280)	84.71			
Prob > F	0.000			
R-squared	0.4758			
Adj R-squared	0.4702			

Table 9: Second Approach - Model I Augmented				
lnM	Coef.	Std. Err.	t	P>t
lnGDPm	1.765604	0.2155291	8.19	0.000
lnGDPx	2.275492	0.2155291	10.56	0
lnGDPmc	-0.5124527	0.2808093	-1.82	0.069
lnGDPxc	0.0592831	0.2808093	0.21	0.833
lnD	-0.8566747	0.3200221	-2.68	0.008
lang	4.448075	0.8030495	5.54	0
border	0.1048292	1.582195	0.07	0.947
cons	2.637497	4.215228	0.63	0.532
Number of obs	284			
F(7, 276)	45.84			
Prob > F	0.000			
R-squared	0.5376			
Adj R-squared	0.5259			

Table 10 **Second Approach - Model II Basic**				
lnM	Coef.	Std. Err.	t	P>t
lnGDPm	0.734188	0.0904424	8.12	0.000
lnGDPx	1.347477	0.0959331	14.05	0
lnD	-0.9347243	0.1395371	-6.7	0
cons	8.445238	1.237343	6.83	0.000
Number of obs	242			
F(3, 238)	87.2			
Prob > F	0.000			
R-squared	0.5236			
Adj R-squared	0.5176			

Table 11 **Second Approach - Model II Augmented**				
lnM	Coef.	Std. Err.	t	P>t
lnGDPm	1.130402	0.1058945	10.67	0.000
lnGDPx	1.510302	0.1096828	13.77	0
lnGDPmc	-0.6572935	0.1362474	-4.82	0
lnGDPxc	-0.1782758	0.1422894	-1.25	0.211
lnD	-0.5972243	0.1572796	-3.8	0
lang	2.613464	0.3809095	6.86	0
border	0.619027	0.7419637	0.83	0.405
cons	10.14534	2.118398	4.79	0
Number of obs	242			
F(7, 234)	61.56			
Prob > F	0.000			
R-squared	0.6481			
Adj R-squared	0.6376			