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JOURNAL OF INTERNATIONAL BUSINESS RESEARCH

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JOURNAL OF INTERNATIONAL BUSINESS RESEARCH

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The Academy is particularly grateful for the financial support provided by Sam Houston State University which was instrumental in making this new journal possible. The Sam Houston faculty is active in international business research and the institution is making a name for itself as a leader in this discipline, as well as in other areas of business research. The Academy welcomes Sam Houston as a sponsor and offers this volume of outstanding work as evidence of its interest in providing additional outlets for the research efforts of scientists in the international arena from around the world.

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ARTICLES FOR VOLUME 2, NUMBER 1

THE TRADE EFFECTS OF FINANCIAL FLOW LIBERALIZATION: A FOCUS ON AFRICA

Joshua Lewer, West Texas A&M University
Neil Terry, West Texas A&M University

ABSTRACT

The purpose of this paper is to empirically test the impact of financial flow regulation on international trade. An extended gravity model for 74 countries is employed to test the impact of capital restrictions and investment barriers on trade for the years 1995-1999. The results indicate that a 10 percent reduction in capital flow regulation will enhance international trade by roughly 1.7 percent for the entire sample, and roughly 1.2 percent for the nine African country subsample. The empirical results indicate that national income, geographic location, and freedom of exchange in financial markets are the primary determinants of bilateral trade in Africa.

INTRODUCTION

During the last three decades, international investment has been growing at over twice the rate of international trade. Yet, as with trade, the general public does not perceive intertemporal investment and other forms of asset transactions with foreigners as being welfare enhancing. For example, a recent Associated Press poll revealed that three out of five Americans were in favor of restricting foreign capital flows, and over half of all respondents agreed that foreign investment in the U.S. was "dangerous." (Scheve & Slaughter, 2001). This negative sentiment toward international investment is pervasive worldwide as indicated by the many financial barriers that remain on foreign direct investment, foreign asset flows, and multinational bank lending.

Research on the relationship between international investment and macroeconomic factors like economic growth and international trade are still in the early stages. The main problem is that researchers are faced with a lack of historical data and evidence. It was not until the 1980's that many countries started to dismantle the barriers to international investment that were erected after World War II. Moreover, the deepening of international investment to include many more types of assets like foreign direct investment (FDI) and international equity (stocks) is a recent phenomenon; it was only twenty years ago when nearly all of the international financing was in the form of bonds or bank lending.

With the return of greater international investment, the risks of default and sudden reversal of investment flows have also grown. For example, in the early 1990's capital flows to developing countries rose to new heights, but defaults and sharp reversals in capital flows to Mexico in 1994,

a number of East Asian countries in 1997, Brazil in 1998, and Russia in 1999, have caused concern about the volatility of unregulated international investment markets. It is not surprising that despite the potential welfare gains from international capital flows, there are frequent calls to manage the international investment sector.

Despite these challenges, economists have discovered several benefits from international investment. Several studies have documented the positive effects of international investment on technological progress (Romer, 1993; Moran, 1998; Aitken & Harrison, 1999), savings and investment allocation (Feldstein & Horioka, 1980), economic growth (De Long & Summers, 1991; King & Levine, 1993; Borensztein, De Gregorio & Lee, 1998; Temple, 1998), and asset diversification (French &Poterba, 1991; Obstfeld, 1994). But there is little empirical evidence on how international capital flows impact international trade. The purpose of this paper is to estimate the size and significance of this association. In order to test the relationship between financial freedom and international trade, the paper is organized as follows: First, gravitational underpinnings are used to develop hypotheses about the effects of asset regulation on bilateral trade flows. The next section presents the cross-sectional results for the 74 country global sample. Third, a subsample of African countries is analyzed. The final section concludes with a review of the findings and the resulting implications.

THE GRAVITY MODEL SPECIFICATION OF BILATERAL TRADE

To examine the extent in which financial policy influences trading patterns, one must hold constant all other natural economic determinants. The gravity model has been extensively applied (see, for example, Frankel, Stein & Wei, 1995; McCallum, 1995; Eichengreen & Irwin, 1995; Frankel & Romer, 1999; Freund, 2000; Frankel & Rose, 2002) and widely accepted as the preferred systematic framework for measuring "natural" trade patterns based on economic size (i.e. mass) and geographic distance between economies. In addition to explaining roughly 70 percent of the cross section variation in world trade, the basic gravity equation is theoretically interesting because it can be derived from a number of traditional trade models (Linnemann, 1966; Leamer & Stern, 1970; Anderson, 1972). The purpose of this study is to determine how much of world trade is determined by gravity factors, and how much is left over to be attributed to financial policy, if any at all.

The standard gravity equation, borrowed from physics, specifies trade between a pair of countries to be a negative function of the distance between the countries and a positive function of their combined national products. The underlying "gravitational" relationship is:

$$(1) \qquad TRADE_{ij} = f(GDP_i GDP_j / DIST_{ij}),$$

where TRADE is the total value of bilateral trade between countries i and j, GDP is the respective Gross Domestic Product in millions of U.S. dollars, and DIST is straight-line distance (in

kilometers) between the economic centers of country i and j. Taking the logs of both sides yields (lower case in logs):

$$(2) \qquad trade_{ij} = a_0 + a_1(gdp_i gdp_j) + a_2 dist_{ij} + u_{ij}.$$

Most studies augment equation (2) with variables to account for geographic, ethnolinguistic, and economic conditions. We follow numerous other authors and specify the following gravity equation to control for the basic determinants of international trade:

$$(3) \qquad trade_{ij} = a_0 + a_1(gdp_i gdp_j) + a_2(pop_i\ pop_j) + a_3 dist_{ij} + a_4 CONT_{ij} + a_5 LANG_{ij} + a_6 LINK_{ij} + a_7 FTA_{ij} + u_{ij},$$

where $pop_i\ pop_j$ is the log of the product of the populations in country i and j, CONT, LANG, LINK, and FTA are dummy variables which take the value 1 for pairs of countries which have a contiguous border, common language, common colonial linkage, and common free trade area agreement, respectively.

To estimate the impact of financial freedom on trade, an additional variable which captures freedom of exchange in financial markets (FINFREE) is added. FINFREE comes from Gwartney, Lawson, and Samida (2001), and has a value range from 1 to 10, where the value 1 is given to countries with severe restrictions on the freedom of its citizens, banks, and other financial institutions to engage in capital transactions with foreigners. An index value of 10 is reserved for those countries with no capital controls. The variable captures the degree in which markets are used to allocate foreign investment. When the FINFREE variable is used in the gravity equation, it is the average of country i and j's index. The model now becomes:

$$(4) \qquad trade_{ij} = a_0 + a_1(gdp_i gdp_j) + a_2(pop_i\ pop_j) + a_3 dist_{ij} + a_4 CONT_{ij} + a_5 LANG_{ij} + a_6 LINK_{ij} + a_7 FTA_{ij} + a_8 FINFREE_{ij} + u_{ij}.$$

It is anticipated that the coefficient on FINFREE will be positive and statistically significant.

ESTIMATION AND FINDINGS

Most studies estimate equations (3) and (4) by using double logarithmic form. Ordinary least squares estimation permits the coefficients to be interpreted as elasticities. However, one problem with this technique is that country pairs whose bilateral trade is zero are omitted. Roughly thirty percent of the observations on $TRADE_{ij}$ are zero for that data employed in this study. These omitted observations contain information about why some countries do not trade at all.

One solution is to specify the dependent variable in levels and use Tobit estimation. Interpretation of Tobit output is complicated by the fact that coefficients and standard errors are normalized during estimation, and the constant elasticity relationship is lost. The approach employed in this study is the scaled OLS (SOLS) technique of Eichengreen and Irwin (1995), which yields results similar to Tobit estimation while maintaining the double log form. Here the dependent variable is expressed as $\log(1 + TRADE_{ij})$. For small values of $TRADE_{ij}$ the logarithm is close to zero, and for large values of $TRADE_{ij}$ the logarithm of the transformed variable is close to the logarithm of $TRADE_{ij}$; therefore approximating a "semi-log Tobit relationship." When an equation is estimated with SOLS, the least squares estimates are multiplied by the reciprocal of the proportion of the observations in which $TRADE_{ij}$ does not equal zero. William Green (2000) states, "A striking empirical regularity is that the maximum likelihood estimates can often be approximated by dividing the OLS estimates by the proportion of nonlimit observations in the sample" (Greene, 2000; pp. 912). The empirical results from both SOLS and Tobit estimation techniques are reassuringly similar. We therefore focus on SOLS estimates, which have a much easier interpretation.

Table 1: Augmented Gravity Model of Trade

	1995	1996	1997	1998	1999
Constant	-6.637 (-22.68)*	-6.908 (-23.58)*	-6.984 (-23.48)*	-6.899 (-23.31)*	-6.099 (-22.66)*
gdp_i gdp_j	0.732 (76.77)*	0.750 (77.70)*	0.761 (76.24)*	0.731 (75.78)*	0.705 (81.88)*
pop_i pop_j	-0.104 (-8.22)*	-0.122 (-9.68)*	-0.118 (-9.18)*	-0.085 (-6.93)*	-0.068 (-6.03)*
$dist_{ij}$	-0.703 (-27.25)*	-0.711 (-27.90)*	-0.727 (-28.33)*	-0.672 (-26.51)*	-0.697 (-29.45)*
CONT	0.730 (6.17)*	0.678 (5.79)*	0.656 (5.58)*	0.718 (6.19)*	0.676 (6.24)*
LANG	0.277 (3.09)*	0.395 (4.48)*	0.326 (3.67)*	0.298 (3.40)*	0.375 (4.58)*
LINK	0.357 (4.12)*	0.331 (3.87)*	0.219 (2.55)*	0.209 (2.46)*	0.208 (2.62)*
FTA	0.192 (3.39)*	0.195 (3.48)*	0.216 (3.83)*	0.289 (5.23)*	0.199 (3.86)*
Adjusted R^2	0.816	0.820	0.818	0.817	0.836

Notes: Figures in parentheses are heteroskedasticity-consistent t-statistics. * indicates significant at the 95% level. There are 74 countries in the study, 2701 data points (=74*(73/2)).

Scaled OLS estimates for equation (3) are summarized in Table 1. All of the arguments of the augmented gravity model have the correct sign and almost all are significantly different than zero. Geographic distance and economic size matter for bilateral trade across the 74 country sample. For example, the coefficient on distance is -0.697 in 1999, suggesting that for every 10 percent increase in distance; bilateral trade is reduced by 6.97 percent. It is important to note that common membership in a regional free trade area (FTA) enhances trade among member countries. The statistically significant coefficient on FTA is 0.199 for the year 1999, suggesting that, ceteris paribus, countries with common membership trade roughly 22 percent ($e^{0.199}$-1 = 0.220) more than they do when there is no common regional trading agreement. This result reinforces Frankel, Stein, and Wei (1995) who argue that free trade areas have contributed to the growth of regionalism, and that the regionalization of world trade may reduce world economic welfare relative to a most favored nation norm.

Table 2: Financial Freedom and Trade

	1995	1996	1997	1998	1999
Constant	-5.824 (-19.13)*	-6.172 (-20.50)*	-6.382 (-21.13)*	-6.337 (-21.43)*	-5.902 (-22.06)*
gdp_i gdp_j	0.651 (48.27)*	0.667 (49.53)*	0.679 (49.44)*	0.642 (49.70)*	0.648 (57.37)*
pop_i pop_j	-0.002 (-0.09)	-0.014 (-0.79)	-0.008 (-0.44)	0.038 (1.23)	0.016 (1.05)
$dist_{ij}$	-0.767 (-28.87)*	-0.773 (-29.59)*	-0.781 (-29.92)*	-0.735 (-28.65)*	-0.733 (-30.70)*
CONT	0.705 (6.03)*	0.652 (5.65)*	0.635 (5.47)*	0.687 (6.03)*	0.656 (6.11)*
LANG	0.166 (1.86)	0.277 (3.14)*	0.212 (2.39)*	0.168 (1.93)	0.279 (2.26)*
LINK	0.277 (3.22)*	0.258 (3.04)*	0.160 (1.88)	0.149 (1.79)	0.177 (2.26)*
FTA	0.159 (2.85)*	0.164 (2.97)*	0.190 (3.42)*	0.258 (4.75)*	0.189 (3.69)*
FINFREE	0.149 (8.45)*	0.158 (8.71)*	0.159 (8.52)*	0.185 (10.15)*	0.169 (9.73)*
Adjusted R^2	0.821	0.825	0.823	0.839	0.839

Notes: Figures in parentheses are heteroskedasticity-consistent t-statistics. * indicates significant at the 95% level. There are 74 countries in the study, 2701 data points (=74*(73/2)).

Table 2 reports the results of equation (4) for the entire sample of 74 countries. The augmented gravity model results in Table 1 do not change significantly with the addition of FINFREE, indicating the importance of geographic and institutional variables on trade. The FINFREE coefficient is significantly positive for all years in which data are available. Notice that the size of the coefficient increases over time, going from 0.149 in 1995 to 0.169 in 1999. This indicates that a country's financial environment became increasingly important to international trade flows on average during the late 1990's. A 10 percent increase in financial freedom increased trade by 1.69 percent in 1999.

RESULTS FOR THE SUBSAMPLE OF AFRICAN COUNTRIES

In this section the extended gravity model is used to distinguish the impact of foreign capital and investment freedoms on nine African countries. The African cohort provides an opportunity to test the model and methodology for consistency across a subsample that is generally acknowledged as the greatest growth and development challenge in the world. The sample is representative of the diversity of the continent with three North Africa countries (Algeria, Egypt, and Tunisia), five Sub-Saharan Africa countries (Malawi, Nigeria, Tanzania, Zambia, and Zimbabwe), and South Africa. Country selection was tempered by the observation that complete economic data is not available for several African countries.

The North African countries in the research cohort have purchasing power parity income per capita in the year 2000 ranging from $3,600 in Egypt to $6,500 in Tunisia. The economies of North African tend to be large exporters of hydrocarbon and the majority of the population follows the Muslim religion. Regional policy reforms instituted during the mid-1990s include monetary polices aimed at reducing inflation, broader privatization of markets, liberalization of the investment code to increase foreign investment, and trade barrier reductions. A continuation of these broad reforms is the primary economic challenge for the future.

Sub-Saharan Africa's economic growth has been the weakest among developing regions. Between 1965 and 1985, Sub-Sahara Africa's GDP per capita increased by less than one percent a year on average. In fact, economic performance actually began to deteriorate in the mid-1970s. Real incomes were lower in 1985 than in the mid-1970s throughout much of the region. To reverse the economic decline, many Sub-Saharan African countries participated in structural adjustment programs with the assistance of the World Bank. The cornerstone of the reform programs instituted during the last fifteen years are similar to North Africa and include inflation control, balance-of-payment management, domestic deregulation, trade reform, and privatization of public enterprises. Reform has been particularly difficult because of the powerful vested interests that have been created through government intervention. To date, there has been little progress in reforming public enterprises and the financial sector. The Sub-Saharan African countries in the research cohort have purchasing power parity income per capita in the year 2000 ranging from $710 in Tanzania to

$2,500 in Zimbabwe. Political instability, fully developing a market economy, and the rapidly growing problem of HIV/AIDS are only a few of the challenges facing many of the nations of Sub-Sahara Africa.

South Africa is a middle-income country with an abundant supply of resources, well-developed financial, legal, communications, energy, and transport sectors. The purchasing power parity income per capita for South Africa in the year 2000 was $8,500. The country has a modern infrastructure supporting an efficient distribution of goods to major urban centers throughout the country. However, economic growth has not been strong enough to significantly reduce an excessive rate of unemployment, and many people suffer from the lack of economic empowerment as a vestige of the apartheid era. High crime rate, corruption, and HIV/AIDS are a few other significant social and economic problems. Recent reform efforts include a relaxing of restrictive labor laws, increased privatization, reduction in governmental spending, and an increase in foreign investment.

Table 3: Financial Freedom and Trade for African Countries

	1995	1996	1997	1998	1999
Constant	-3.315 (-4.48)*	-3.611 (-4.76)*	-3.757 (-4.79)*	-4.189 (-5.42)*	-3.807 (-5.28)*
gdp_i gdp_j	0.496 (19.56)*	0.522 (19.93)*	0.553 (20.06)*	0.539 (20.92)*	0.541 (22.81)*
pop_i pop_j	-0.031 (-0.91)	-0.042 (-1.20)	-0.055 (-0.26)	-0.026 (-0.74)	-0.010 (-0.03)
$dist_{ij}$	-0.658 (-9.91)*	-0.689 (-10.21)*	-0.725 (-10.43)*	-0.653 (-9.45)*	-0.659 (-9.99)*
CONT	1.288 (3.38)*	1.433 (3.67)*	0.987 (2.44)*	1.324 (3.28)*	1.359 (3.48)*
LANG	0.182 (1.09)	0.208 (1.23)	0.179 (1.01)	0.195 (1.11)	0.158 (0.93)
LINK	0.242 (1.70)	0.208 (1.41)	0.164 (1.08)	0.166 (1.11)	0.157 (1.08)
FTA	-0.372 (-1.81)	-0.439 (-2.09)*	-0.324 (-1.48)	-0.268 (-1.24)	-0.051 (-0.24)
FINFREE	0.104 (3.77)*	0.113 (4.04)*	0.098 (3.39)*	0.119 (3.08)*	0.124 (2.55)*
Adjusted R^2	0.726	0.728	0.719	0.719	0.737

Notes: Figures in parentheses are heteroskedasticity-consistent t-statistics. * indicates significant at the 95% level. There are 621 data points. Countries include: Algeria, Egypt, Malawi, Nigeria, South Africa, Tanzania, Tunisia, Zambia, Zimbabwe.

Table 3 reports the empirical results for the nine African country subsample. Although the empirical results are not as strong as the 74 country global sample, four of the eight independent variables are statistically significant with the anticipated sign. As expected, national income and the geographic location variables DIST and CONT are revealed as significant determinants of bilateral trade in Africa. The result highlights a problem facing many African nations. The most viable trading partners are neighbor countries that do not have high per capita incomes or large import demand. Hence, a policy focusing on the improvement of transport and infrastructure throughout Africa in order to increase the flow of goods and services beyond the region could facilitate trade and economic growth, especially for landlocked nations surrounded by poor neighbors throughout Sub-Sahara Africa. It is somewhat surprising that variable FTA has a negative coefficient for the African subsample, although the variable is not significant in four of the five research years. Political instability throughout many countries in the research cohort during the sample years is a potential reason for the unanticipated result. The FINFREE coefficient is consistently positive and significant for every year of the study, accentuating the important impact financial freedom has on trade. It is encouraging to note that many African leaders have implicitly committed to the principles of financial freedom in recent years. Following this commitment will undoubtedly play an integral part in the level future of trade flows and economic growth throughout the continent. Finally, country population, common language, and colonial linkages do not appear to have a significant impact on trade patterns for the African subsample. The sign on the corresponding coefficients all have the anticipated sign but none are statistically significant.

CONCLUSION

Despite the well-known uncertainties of the global financial market, there are many reasons why economists support international investment liberalization. Recent research on international investment points to several channels through which international asset flows can lead to an improvement in economic welfare. They include facilitating international transfers of technology, improvements in the allocation of savings to investments, enhancing economic growth, and diversifying asset portfolios.

The purpose of this article is to test for an additional association, namely if there is a significant relationship between international investment liberalization and bilateral trade volume. Using an extended gravity model that controls for geographical factors, support for a significantly positive relationship between asset flow openness and international trade is found. The findings suggest that a ten percent decrease in barriers toward foreign assets transactions will increase international trade by almost two percent for the entire sample of 74 countries. The empirical results for the Africa subsample reveals that bilateral trade is strongly influenced by national income, distance between economic centers of the trading nations, border nations, and financial freedom. Improving infrastructure and expanding financial freedom are important components to trade

expansion and economic growth in Africa. The results of this study are of a preliminary nature and should be applied with caution, especially for the African subsample. Further research is needed on the possible differences in how asset flow liberalization impacts developed and developing countries.

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Country Appendix			
Algeria	Estonia	Malaysia	South Africa
Argentina	Finland	Mexico	Spain
Australia	France	Nepal	Sri Lanka
Austria	Germany	Netherlands	Sweden
Bangladesh	Greece	New Zealand	Switzerland
Belgium	Guatemala	Nicaragua	Tanzania
Bolivia	Honduras	Nigeria	Thailand
Brazil	Hong Kong	Norway	Trinidad & Tobago
Canada	Hungary	Panama	Tunisia
Chile	India	Papua New Guinea	Turkey
China	Indonesia	Paraguay	Ukraine
Colombia	Ireland	Peru	United Kingdom
Costa Rica	Italy	Philippines	United States
Czech Republic	Jamaica	Poland	Uruguay
Denmark	Japan	Portugal	Venezuela
Dominican Rep.	Korea	Romania	Zambia
Ecuador	Latvia	Russian Federation	Zimbabwe
Egypt	Lithuania	Singapore	
El Salvador	Malawi	Slovak Republic	

Data Appendix

- International trade data are taken from the International Monetary Fund's *Direction of Trade Statistics Yearbook, 2000.*
- Data for Gross Domestic Product in millions of U.S. dollars, population, common members of regional trade blocks [Andean Group, Asia Pacific Economic Cooperation (APEC), Association of Southeast Asian Nations (ASEAN), European Union (EU), Latin American Integration Association (LAIA), Southern Cone Common Market (MERCOSUR), North American Free Trade Area (NAFTA), and Southern Africa Development Community (SADC)] come from the World Bank's *2001 World Development Indicators*.
- The distance is the number of kilometers between capital cities, and comes from the *U.S. Geological Survey* at ftp://kai.er.usgs.gov/pub/.
- Data on common border, common language, and common colonial link come from the *CIA World Factbook 2000.*

COVERED INTEREST ARBITRAGE: A COMPARATIVE STUDY OF INDUSTRIALIZED COUNTRIES AND SELECTED DEVELOPING COUNTRIES

Mohammed Ashraful Haque, Texas A&M University - Texarkana

ABSTRACT

It is often said that interest rate parity determines exchange rates between currencies of different countries. If interest rate parity holds then there is no opportunity for covered interest arbitrage. This paper shows that interest rate parity holds for most part between U.S.A. and other industrialized countries, and therefore there is no opportunity for covered interest arbitrage for U.S. investors investing in the industrialized countries. The regression results show that interest rates in industrial countries depend on U.S. interest rates and (forward/Spot) rates. The same relationship is not true for interest rates of emerging markets in Asia. The regression results shows that there is absolutely no relationship between U.S. interest rate, (forward/Spot) rates and interest rates in emerging markets in Asia. Therefore it is concluded that Interest rate parity does not hold between U.S.A and the emerging markets in Asia, this offers an opportunity for covered interest arbitrage for U.S. investors and investors of other industrialized countries investing in the emerging markets in Asia. This covered interest arbitrage is possible because of significant differentials in interest rates between the industrialized countries and the emerging markets in Asia. The study shows that although the currency of most of the emerging Asian market depreciated over the eight year period against the U.S. dollar, however the interest rate differentials between U.S.A. and emerging Asian Markets was large enough to earn a positive excess return in most cases. It can be concluded that a U.S. investor can earn an excess return by investing in the emerging markets of Asia instead of investing in other industrialized countries.

INTRODUCTION

The theory of Interest Rate Parity (IRP) holds that one cannot make arbitrage profits due to different interest rates in different countries. Let us assume that 3 month interest rate is 9 percent in the United States and 6 percent in U.K. This would indicate that investors in Britain will transfer their funds to the United States to earn the higher return. However, the theory of interest rate parity holds that such arbitrage opportunity is not possible, because after 3 months the U.S. Dollar is expected to depreciate by about 3 percent. Therefore, the British investor is not any better off by investing in U.S.A., because of an expected 3 percent decline in the value of the U.S. dollar against the British pound. In this example interest arbitrage takes place when the British investors

exchanges the British pound for U.S. dollar to invest in U.S.A to take advantage of the higher interest rates in the U.S. However, at the end of the 3 month investment period, the dollar is converted back to British pound, but because the value of the dollar declined by about 3 percent, this wipes out the gain, this is an exchange rate risk. Exchange rate risk can be covered by selling the expected dollar value to be received after the 3 month investment period in the forward market. Therefore to gain in a covered interest arbitrage a British investor must simultaneously buy dollar in the spot market and sell dollar in the forward market. This opportunity for guaranteed profit will induce all investors in Britain to buy dollar in the spot market and sell dollars in the forward market. This will increase the value of the dollar in the spot market and depreciate the value of the dollar in the forward market, until equilibrium is reached and wipes out any arbitrage profit. Therefore, whether the investor invests in U.K or U.S.A. should get the same return. Interest Rate Parity holds only at equilibrium. Arbitrage holds only when there is no investment and no risk but guaranteed profit.

Let us use an example; a U.K. investor takes the following steps:

1	Borrow pound 100,000 @ 6% for 1 year. The investor incurs a liability of 106,000 pound at the end of 1 year. The investor simultaneously sells the expected dollar proceeds in the forward market at a rate of $1.51/pound.
2	Converts to U.S. dollar at spot rate of $1.5/pound and receives $150,000 and invests for 1 year at 9 percent and expects to receive $150,000(1.09)= $163,500
3	From forward contract receives $163,000/$1.51= pound 108278
4	Pays back pound 106,000 and keeps guaranteed profit of pound 2,278.

However, at equilibrium the following relationship must hold:

$$(1+ I_{\$}) = (F/S)\ (1+ I_{£}) \qquad (1\text{-}1)$$

$I_{\$}$= U.S. interest $I_{£}$= U.K. interest F= forward rate S=Spot rate

This will cause the forward rate to be:

$$(1.09)= (F/1.50)\ (1.06) \text{ or Forward rate of } \$1.5425/£$$

If the market is at equilibrium and efficient, arbitrage profit will be eliminated when the forward rate reaches $1.5425 /£. However, the market is not always at equilibrium and as the

market makes adjustments arbitrage profit is possible. In the above equation the expectation about the expected exchange rate was based on interest rate parity. Other studies employed purchasing power parity(Berk & Knot, 2001). It may be argued here that although exchange rate is not determined by any of the above specific factor but rather a combination of Interest rate parity , purchasing power parity and other factors. However, for the purpose of this study it is assumed that exchange rate is determined by Interest rate parity.

PURPOSE AND METHODOLOGY

There is an abundance of research on interest rate parity, uncovered interest parity and covered interest parity. However, almost all of the studies involve industrialized countries, specifically Europe and U.S.A. The purpose of this paper is to explore the possibilities of covered interest arbitrage between U.S.A. and some of the industrialized countries and compare that to the possibility of covered interest arbitrage between U.S.A. and some of the emerging markets in Asia. Data were taken for 8 years on all of those countries. For the purpose of this study transactions cost were ignored and it is assumed that forward rates are the best predictors of future spot rates. To eliminate covered interest arbitrage the following equation must hold.

$$(1+ i_{u.s.}) = (F/S)\ (1+I_f)$$

Where, $i_{u.s.}$ = U.S. interest rates I_f = foreign interest rates, F = forward rates S = spot rates

If the above equation does not hold than we would conclude that one can gain from covered interest arbitrage. The left side of the equation represents the U.S.A. and the right side represents a foreign country. Whichever side of the equation is greater, one should invest in that country. Regression was used to determine whether there is a relationship between interest rates in U.S.A. and industrialized countries. Interest rates in Europe were the dependent variable and the independent variables included U.S. interest rates, spot exchange rates and forward rates. The same regression was used to determine whether there is a relationship between U.S. interest rates and interest rates in emerging markets in Asia. Interest rates in the developing countries were used as the dependent variable and independent variables included U.S. interest rates, spot exchange rates and forward rates. The results of the two regressions are compared. Secondly, it is compared whether excess return is possible with covered interest arbitrage between U.S.A. and industrialized countries and also between U.S.A. and emerging markets in Asia. The hypothesis being tested is that:

$$H_o: \mu_1 = \mu_2$$
$$H_a: \mu_1 \pm \mu_2$$

The alternative hypothesis being tested is that the excess return possible from investing in industrialized countries is not equal to the excess return possible from investing in emerging Asian markets. A one tail test is also done for the following hypothesis:

$$H_o: \mu_1 < \mu_2$$
$$H_a: \mu_1 > \mu_2$$

Where μ_1 is the average excess return in emerging Asian market and μ_2 is the average excess return in industrialized countries. The industrialized countries included U.S.A., Britain, Canada, France, Germany, Japan, and Switzerland . The Asian emerging markets included Bangladesh, Indonesia, India, Korea, Malaysia, Myanmar, Pakistan, Philippines, Singapore, Sri Lanka and Thailand. In all cases deposit rates were used. The emphasis was on excess return rather than total return. For example if an investor invests in U.S.A. the return is 6 percent, if invested in Canada the return is 8 percent, therefore the excess return by investing in Canada is 2 percent.

RELEVANT LITERATURE REVIEW

According to uncovered interest rate parity it is argued that the presence of different interest rates in different countries can be explained by expected changes in exchange rates. Although, empirically this theory does not hold (Christensen, 2000; Frankel & Froot, 1990; Mark &Wu, 1998). Therefore one could reasonably argue that there are other factors besides interest rates that influence the exchange rates. For the purpose of this study however we concentrate only on those variables involved in interest rate parity theory, such as forward rates, spot rates, domestic and foreign interest rates. However, sometimes spot exchange rates are influenced by policy behavior such as increasing or decreasing interest rates to stabilize exchange rates (Christensen, 2000). The forward rate has often been referred to as a biased predictor of the future spot rate (Balllie & Bollerslev, 2000). Kevin Clinton (1988) emphasized transaction cost as being relevant in his study. However, in most studies involving covered interest arbitrage the transaction cost is usually ignored.

In an efficient market forward exchange rate is the sum of the expected future spot rates plus the risk premium (Byers & Peel, 1991). McCullum (1994) argues that forward market for foreign exchange is inefficient, therefore the notion that forward rate is an unbiased estimator of forward spot rate is not valid. However in my study it is assumed that the market is efficient and forward rates are an unbiased estimate of the future spot rates.

Normally it is expected that currencies with high interest rates tend to appreciate against those with lower interest rates (Flood & Rose, 1996). However, this is not true for the emerging markets in Asia. These Asian markets have significantly higher interest rates and yet for most of the eight years period those currencies depreciated against the U.S. dollar.

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

RESULTS OF THE STUDY

First, the mean excess return was determined for all the industrialized countries and the developing countries. The table below shows the results:

Table 1-1: Mean Excess Return for Industrialized Countries and Emerging Markets in Asia

Country	N	Minimum	Maximum	Mean	Std. Deviation
Britain	7	-.028400	.020000	-.01268571	.016752157
Canada	9	-.016400	.014300	.00172222	.009264148
France	9	-.031800	.000500	-.01252222	.011020864
Germany	9	-.023900	.019200	-.00601111	.016247496
Japan	9	-.035700	-.002500	-.01908889	.011937802
Switzerland	9	-.029800	.006900	-.0149555	.014103378
Bangladesh	8	-.043900	.049120	.0007175	.038869790
Indonesia	8	-.125900	.514000	.0974800	.189197
India	6	-.092500	.119700	-.001100	.093836
Korea	8	-.082300	.507000	.074881	.188246
Malaysia	8	-.012100	.097700	.0308363	.035891
Myanmar	8	.017320	.118400	.0665875	.031600
Pakistan	8	-.119600	.054000	-.0505125	.061043
Philippines	8	-.181300	.211600	.04225000	.1260457
Singapore	8	-.075100	.094400	-.00083625	.047844
Sri lanka	8	-.076600	.142690	.02716125	.064990344
Thailand	8	-.124900	.386000	.11057000	.1760672

The above table 1-1 shows the possible excess return . For example if a U.S. investor invested in Britain the excess return over a eight year period up to the year 2000 would have been -.01268 or -1.268% (Mean). This means a U.S. investor would be better off investing in U.S.A. Moreover the result shows negative mean return for a U.S. investor in all of the industrialized countries with the exception of Canada over an eight year period ending in year 2000. Whereas,

excess return from Asian emerging markets are positive except India, Pakistan and Singapore. Thailand offers the highest mean excess return from covered interest arbitrage followed by Indonesia, Korea, Myanmar, Philippines, Malaysia, Sri Lanka and Bangladesh.

The regression shows that there is a linear relationship between the interest rates in industrialized countries and U.S.A. The dependent variable is the interest rate in industrialized countries and the independent variables are Forward rate, spot rate and U.S. interest rates.

Table 1-2: Regression

Model	R	R square	Adj. R square	Std.Error of Est.
1	.818[a]	.670	.663	.011303981
2	.835[b]	.698	.685	.010921010

[a]. Predictors : (Constant) Forward rates/Spot rates
[b]. Predictors : (constant) Forward rates/Spot rates, U.S. interest rates.

The R square (R^2)is .698 which means that almost 70 percent of the variations are explained by this model. Standard errors are fairly low. So it can be said that interest rates in industrialized countries are greatly influenced by forward rate, spot rate and U.S. interest rates.

Table 1-3: Anova

Model	Sum of square	df	Mean square	F	Sig
1 Regression Residual	.013	1	.013	101.322	.000[a]
Residual	.006	50	.000		
Total	.019	51			
2 Regression	.013	2	.007	56.561	.000[b]
Residual	.006	49	.000		

[a]. Predictors: (Constant): Forward and spot rates of industrialized countries
[b]. Predictors: (Constant): forward and spot rates of industrialized countries and U.S. Interest
[c]. Dependent variable: Interest rates of Industrialized countries.

The analysis of variance table shows that (forward/spot rate) is highly significant as a predictor variable with an F value of 101.322 which is much larger than the critical F value. Also the variable interest rate has an F value of 56.561 which is also much larger than the critical F value. Therefore this variable is also a good predictor. The significance of the F value is excellent. It can

be concluded that interest rates of industrialized countries is a function of (forward/spot rate) and U.S. interest rates.

The same regression was run for interest rates of the emerging markets in Asia as the dependent variable and (forward/spot rates), U.S. interest rates as independent variable. The result shows that there is absolutely no linear relationships. The R square is only .034 which means this model explains only 3.4 percent of the total variations. The F values are below the critical F value. Therefore we can conclude that interest rates in emerging Asian markets are determined by other factors rather than (forward/spot rates) and U.S. interest rates.

There are two conclusions that can be derived from the regression results. First, that interest rate parity holds mostly between U.S.A. and other industrialized countries. Therefore there would not be an opportunity for Covered interest arbitrage between U.S.A and other industrialized countries. Second, interest rate parity does not hold between U.S.A. and emerging markets in Asia and thus Covered interest arbitrage is possible between U.S.A. and the emerging markets in Asia.

Based on the above results we can assume that interest rates would be significantly different between industrialized countries and emerging markets in Asia. As table 1-4 shows that interest rates in emerging markets have an average of 10.41 percent compared to only 3.44 percent for the industrialized countries.

Table 1-4: Interest Rates and T-test

	Mean	Std. deviation	t	df	Sig. (2 tail)	Mean Diff.
Asian Interest	.104065	.054004	19.93	106	.000	.104065
Ind. Interest	.034448	.019471	12.758	51	.000	.034448

The t-tests shows that interest rates are significantly different at 95 percent confidence level over the eight year period ending in year 2000. The t-values are much higher than the critical t-value of 1.96. Therefore we reject the null hypothesis that interest rates of the industrialized countries are equal to the interest rates of the emerging markets in Asia. We accept the alternative that the interest rates are different. A one tail test shows that we accept the alternative hypothesis that interest rates in emerging Asian markets are higher than interest rates in industrialized countries. The calculated t-value 2.3, whereas the critical t-value was 1.653.

Table 1-5: Excess Return from Covered Interest Arbitrage

	Mean	Std. Deviation	t	df	Sig (2 tail)	Mean diff.
Excess Asia	.028107	.118449	2.188	84	.031	.028107
Excess Indust.	-.01038	.014489		51	.000	-.010388

Based upon the above conclusion now it is possible to explore whether covered interest arbitrage is possible between U.S.A and the emerging markets in Asia over the eight year period ending in year 2000. In this situation we are considering excess return.

As can be seen in table 1-5 that if an U.S. investor invested in emerging markets in Asia the average excess return per year would have been 2.81 percent Whereas if an U.S. investor invested in industrialized countries the average excess return would have been - 1.04 percent. The critical t value is 1.98 and the computed t-value is 2.188, therefore we reject the null hypothesis of equal excess return at .05 level.

There are certain conclusions that can be drawn from this study. First, we can say that interest rate parity theory holds for most part between U.S.A and other selected industrialized countries such as, Canada, Japan, Britain, Germany, France and Switzerland. Because of this there is not much of an opportunity for covered interest arbitrage. Second, the regression result shows that Interest Rate Parity theory does not hold between U.S.A. and emerging markets in Asia, therefore covered interest arbitrage is possible. It shows that over a eight year period covered interest arbitrage would provide an average excess return of 2.81 percent if a U.S. investor invested in the emerging markets in Asia.

EXCHANGE RATE CONTROLS

One of the main reason why interest rate parity holds between U.S.A and the selected industrialized countries is because their currency have a free floating exchange rates. For most of the emerging markets in Asia this is not true. One of the reason why U.S. investors or investors from other industrialized countries are reluctant to invest in emerging markets is because of restrictions on repatriation of foreign currency. However, this problem is more perceptual rather than real.

For example Bangladesh allows repatriation of foreign investment if the equity investment is sold to a resident investor. This is true for unlisted companies and private limited companies. Foreign currency accounts are allowed. Foreigners are allowed to bring in up to $5000 without any custom declaration, however amount in excess of $5000 must be declared with customs.

Foreigners are allowed to repatriate the equivalent amount that they bring in to Bangladesh. Non residents are allowed to open foreign currency accounts. In Indonesia investors are allowed to repatriate their capital and profits after satisfying local obligations such as taxes. There is no control on personal capital movements. Non-residents are allowed to open foreign currency accounts. India also allows foreign exchange account for non-residents of Indian origin only. There are controls on personal capital movements. Non-residents can invest in time deposit up to a maximum of $5000. This amount can be repatriated. Korean exchange rate is independently floating and depends on supply and demand. Korea allows foreign exchange accounts for non-residents. Transactions including remittances and withdrawal can be made freely. The

exchange rate of the Malaysian ringgit is pegged against the dollar at Ringgit 3.8/$. Malaysia also allows

Foreign currency accounts for non-residents. Proceeds from any investment may be repatriated freely. The Myanmar kyat is officially pegged to the SDR at K8.508/SDR. Foreign currency accounts are permitted for diplomats only. Other non-residents must secure approval prior to opening a foreign exchange account. Liquidation of direct investment may be repatriated after taxes. Pakistan allows foreign exchange accounts for non-residents. Interest on these accounts are exempt from income taxes. There are no restrictions on repatriation of foreign direct investment. Philippines peso is independently floating and the exchange rate is determined by demand and supply. Non-residents are allowed to open foreign currency accounts and all principal and interest may be repatriated freely. Singapore also allows foreign currency accounts for non-residents. Repatriation is allowed freely. Although Sri Lanka allows foreign currency accounts by non-residents, there are some restrictions. Principal and interest are not freely repatriated. The Thai baht is independently floating and the exchange rate is determined on the basis of supply and demand. Foreign currency accounts are permitted and no approval is required if funds originate from abroad. Liquidation of direct investment may be repatriated freely upon proper evidence.

One of the reason for excess return in the above emerging markets in Asia is because most U.S. investors do not like the foreign exchange currency control. Although some of the countries have free floating exchange rates, most U.S. investors and investors from other industrialized countries are not aware of this. One possible way these emerging markets can attract more capital from U.S. investors and from investors of other industrialized countries is to clearly allow repatriation of capital and interest and use independently floating exchange rates. Although some of these countries allow repatriation of capital and interest; however, most western investors are not aware of this.

CONCLUSION

The study and the tests clearly shows that interest rate parity between U.S.A. and some of the selected industrialized countries holds to a large extent. It clearly shows that interest rates of industrialized countries are dependent upon U.S. interest rates, forward rates and spot exchange rates. Therefore covered interest arbitrage between U.S.A. and the selected industrialized countries is not possible.

The interest rate parity between U.S.A. and selected emerging markets in Asia does not hold. Interest rates in those countries are significantly higher than interest rates in industrialized countries. Therefore, by investing in those countries excess return is possible even after adjusting for exchange rates differentials. Therefore we can conclude that covered interest arbitrage between U.S.A and emerging markets in Asia is possible by investing in the money market.

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FREE TRADE AREA OR CUSTOMS UNION? THE CASE OF THE SOUTH AMERICAN TRADE BLOC MERCOSUR

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ABSTRACT

The South American trade bloc, Mercosur, is made up of the four countries of Brazil, Argentina, Uruguay, and Paraguay, with associate members, Chile and Bolivia. Mercosur has recently experienced a number of setbacks that have called into question their stability and effectiveness as a preferential trade bloc. Brazil's dominant self-motivated leadership role and unilateral actions have weakened the unstable union. Argentina's severe recession and the devaluation of the Brazilian real have also contributed the downward spiral. The recent decision of Chile to forgo full membership in Mercosur due to the high common external tariffs for non-member countries, should serve as blatant warning that Mercosur needs to change its ways. Although the early 1990's proved to a successful period, the recent downward trends require immediate action if Mercosur is to continue to be the dominant trade area of South America.

This paper discusses the need for Mercosur to define itself multilaterally, as well as its future ambitions as a full customs union. Examination of an alternative trade bloc, a free trade area, as a feasible option for increasing growth and stability in the member countries is also discussed. Three critical steps are outlined that Mercosur must take to overcome its current unrest and instability, so that it can continue as the dominant trading power in South America.

LITERATURE REVIEW

The four South American countries of Brazil, Argentina, Uruguay, and Paraguay formed the trade bloc Mercado Comun del Sur or Southern Common Market - commonly known as Mercosur-in March of 1991. The primary objective of Mercosur was to create an integrated regional market whose members were committed to liberalizing trade with one another while imposing a common external tariff (CET) on goods and services imported from non-members (Connelly, 1999). In 1996,

Mercosur extended its boundaries to include Chile and Bolivia as associate members. This type of regional trade bloc is known as a customs union (CU).

The other type of regional trade bloc is known as a free trade area (FTA). In an FTA arrangement, there is free trade among country members, but each member sets its own tariffs with the rest of the world (Bandyopadhyay & Wall, 1999). Typically, FTAs are wide in scope and set up parameters for activity in fields as diverse as the free flow of capital goods, monetary policy, treatment of intellectual property, dispute resolution, anti-dumping, and rules of competition (Stinson, 1999). The North American Free Trade Agreement (NAFTA) between Mexico, the United States, and Canada is one of the largest and most sweeping economic agreements of this type.

Customs Union (CU)

The two most important characteristics of a customs union are the total or partial elimination of monetary and non-monetary trade barriers within the borders of the union, and the adoption of common tariffs and trade policies on products originating outside of the union (Nakos, 2001). The membership of a nation within the customs union could influence the trade of that nation in a variety of ways. Depending on the state of the international economy, the country could increase their trade with member countries because of the lower tariffs and yet receive higher costing lower quality products. A country could also be forced to reduce trade with a non-member partner due to the high tariffs mandated by the union while creating shortages of essential products that member countries do not have available for trade. On the other hand, the customs union could be a favorable move by neighboring countries to increase trade between them without jeopardizing trade with non-members.

Under either scenario, the customs union theory differentiates between two sources of increased trade: trade creation and trade diversion. Trade creation can occur when there is a restructuring of the production facilities with the member countries of the customs union such that a more efficient mode of operation is achieved (Nakos, 2001). This may allow member countries to focus more narrowly on a specific area of specialization. Trade diversion can occur when lower cost products from non-member countries are forgone for higher priced products from member countries. Although trade diversion may cause a temporary surge in a country's economy due to meeting the demands of its partners, it ultimately leads to a reduction in the country's economic welfare (Nakos, 2001). These types of trade disruptions to a country's economy may be or may not be easy to overcome.

Free Trade Areas (FTAs)

A free trade area consists of member countries that practice free trade among themselves but set their own foreign tariffs with other non-member trading partners. However, in a free trade area, there are economic issues beyond trade and tariffs that must be addressed. Typically, if a free trade

area exists between economically asymmetrical countries, the country with the less developed economy will feel the benefits of free trade much more so than the more developed countries. These benefits can include job creation and economic growth. Trade agreements also serve as political instruments to effect the partnering country's domestic policies (i.e. lock in free market reforms) and to serve as a framework to mutually address other issues (Stinson, 1999).

The Mercosur Customs Union

Mercosur is composed of four member countries, Brazil, Argentina, Paraguay, and Uruguay, with Chile and Bolivia as associate members. By far, the largest member of the group is Brazil with more than 70% market representation.

Figure 2

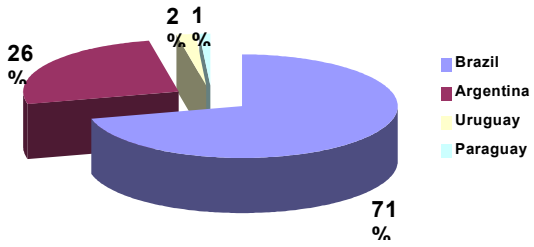


Figure 1. Percentage of market representation of Mercosur countries
Source: CEI, Centro de Econcimia Internacional

Mercosur is currently the fourth largest trade bloc in the world, after the North American Free Trade Area (NAFTA), the European Union (EU) and Japan (Connelly, 1999). During its short existence, Mercosur has become the most important and successful economic association in Latin America. Mercosur has a market of over 200 million inhabitants, ranking it third after NAFTA and the EU and is the fourth largest geo-economic region in the world, following NAFTA, the EU, and Japan (ECI, 1999).

During the early 1990's, Mercosur experienced strong growth primarily from direct investment flows and a higher share of trade flows. The level of foreign direct investment (FDI) is rapidly growing with the area being the largest recipient of FDI in developing countries behind China. However, Mercosur's importance in the world market has been limited with total trade participation of only 2.8% in 1999.

Figure 2

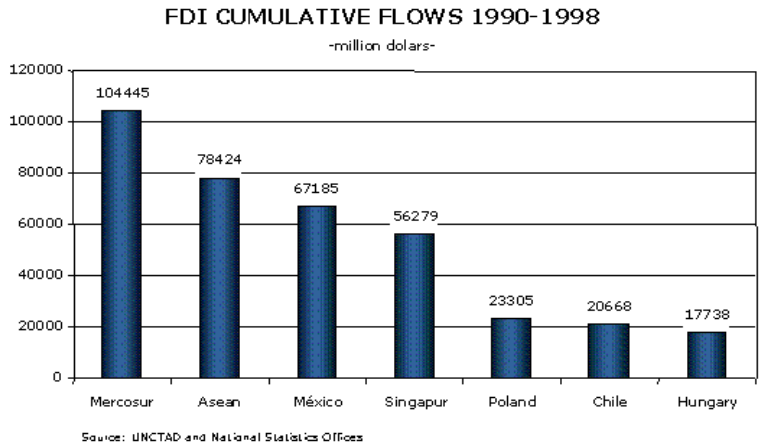


Figure 3

Differing Currency Regimes

One problem that Mercosur faces is the two largest members have different currency regimes. Brazil's floating (or sinking) real has lost over 40% of its value since its forced devaluation in 1999. Argentina's peso is pegged to the U.S. dollar. Clearly, Brazil stands to gain an unfair economic advantage over Argentina by letting their currency continue to fall. Consideration has been given to developing a single currency for the four countries of Mercosur but there has been objection to this, primarily by Brazil. Argentina's former economy minister, Roberto Alemann

commented that you cannot create a single currency out of four countries that do not have their own money. It would be like turning four sick people into one healthy person (Mandell-Campbell, 1998). Even so, the thought of creating a common currency, much like the European Union has done with the euro, is intriguing from an economic standpoint, but the reality is a distant dream.

Closely tied with currency issues and monetary policy is the exchange rate. The exchange rate is the most important price in any developing economy because it defines the purchasing power of the domestic economy, it effects the international competitiveness of local producers, and governs the relative attractiveness of domestic and international financial assets (Salazar-Xirinachs & de Araujo, 1999). In economies where the currency is overvalued, the country may have an artificial increase in the standard of living but the rise is not sustainable over time. If the currency is undervalued, a trade surplus may be generated overtime with an undue transfer of resources to the rest of the world. In the case of Brazil, exchange rate instability has been a major factor in rising costs (Murphy, 1998) contributing to the forced devaluation of the real in 1999.

Effect on Tariff Rates and Trade Volume

The removal of trade barriers, specifically tariffs, between Mercosur member countries has drastically reduced the average tariff rates. The most dramatic decline was seen in Brazil, whose tariffs fell from a high of 69% (pre-Mercosur) to 13% by 1995 (Connelly, 1999). However, in some cases, countries actually experienced an increase in their average tariff rate due to the Mercosur mandated non-member country tariffs. In spite of the positive effect of Mercosur on overall tariff rates among member countries, Argentina and Uruguay are soliciting for a lowering of these rates so that they can competitively negotiate with non-member countries.

As anticipated, the lowering of the trade barriers between the Mercosur member countries has led to an increase in trade in the region. Intra-Mercosur trade rose from 12% in 1991 to a high of 19% in 1994 (Connelly, 1999). The increase in trade among Mercosur members came at the expense of non-members, although absolute trade in the Mercosur countries has increased with non-members also.

Brazil the dominant Mercosur player

Brazil accounts for 71% of the Mercosur membership and is the leading voice for the trade bloc. Immediately following the devaluation of the Brazilian real in January 1999, there was speculation that Mercosur would collapse (Roett, 1999). Fortunately, this did not occur primarily because of the reform of the central bank's fiscal and monetary policies put into place by the Brazilian central bank president, Arminio Fraga. However successful Fraga's policies had been for reform in Brazil, there was significant short-term damage to the Mercosur trading partners. The failure of the administration of President Fernando Cardoso to consult with its Mercosur partners

prior to the devaluation created a temporary crisis of confidence. These actions proved that Brazil would move forward unilaterally if its core interests were at stake without consideration of the other Mercosur economies.

The devaluation of the Brazilian real substantially affected its Mercosur trading partners. Argentina has been running a surplus in its $15 billion trade account with Brazil, however, with the devaluation of the real, the surplus is likely to reverse, putting great pressure on Argentina's weak export sector. The same type of trade inversion is likely with Uruguay. The Paraguay economy could eventually have its exports dry up if Brazil continues to turn inward for domestic goods (Roett, 1999).

Brazil has reaped the greatest benefits from being part of Mercosur. Trade surged from $4 billion in 1999 to over $18.5 billion in 2000 between the four countries, with Brazil accounting for more than three-quarters of all intra-regional trade (Wheatly, 2001). Brazil has also lured in a large amount of foreign direct investment, primarily under the premise of a unified South American market. However, Brazil's gains have often come at the expense of the other Mercosur members.

Extension of Membership to Chile

Chile has the most competitive and open economy in South America, with a single import-tariff rate of 9%, which is scheduled to fall by 1% per year until 2003 (Ogier, 2000). Mercosur has a common external tariff that typically ranges from 10% on capital goods to 15% for intermediate goods to 20% for finished goods. In order for Chile to accept full membership into Mercosur, the country would be expected to retreat from its more liberal trade regime on non-member countries, while participating in free trade with its neighbors. Faced with this dilemma, Chile has continued to opt for associate membership such that it does not have to change its import tariffs with the rest of the world

Figure 4

MERCOSUR COMMON EXTERNAL TARIFF

-Average Tariff, Main Sectors-

Sector	Tariff (%)
Mineral Products	2,4%
Products of the Chemical Industry	7,2%
Agricultural Products	7,5%
Plastic Manufactures	11,9%
Electric Machinery	12,6%
Industrializad Foods and Beverages	14,7%
Transport Material	14,9%
Textiles	17,1%

Source:CB

Chile maintained its position on liberal trade with non-member countries by announcing to Brazil in early 2001 that they are in trade negotiations with the U.S. and that Mercosur membership is currently not a topic of discussion. This announcement was met with outrage by Brazil, as they hoped to add Chile as a full member of Mercosur this year so that South America's largest economies would have a unified voice in talks for a Free Trade Area of the Americas (FTAA), a Western hemisphere trading bloc comprised of 34 countries, slated to come into force by 2005 (Wheatley, 2001). It is clear that Mercosur will have to make sacrifices in order to entice Chile to full membership.

Is Mercosur a customs union?

Although trade has quadrupled among Mercosur's members since the trade bloc was created ten years ago, it has fallen since 1998 and only represents a fifth of the total trade in the member countries (*Economist*, 2001). It is apparent that members of Mercosur are not reaping the benefits of this arrangement and are actually striking out on their own. Although trade between the Mercosur countries is tariff-free for most items, there are a number of non-tariff barriers that still exist. Furthermore, Mercosur has claimed to be a customs union with a common external tariff. This has been challenged recently by the crisis-ridden Argentina who would like to suspend the Mercosur tariffs so it can abolish import duties on capital equipment and raise those on consumer goods to pull its economy out of recession (*Economist*, 2001). Brazil has reluctantly agreed to temporarily suspend the tariffs in the case of Argentina.

Talks with Argentina and Uruguay have hinted that these countries would support a suspension of the customs union of Mercosur for a free trade area. However, Brazil has maintained a hard core view on the relatively high tariffs in an effort to protect its domestic producers and manufacturers. This pattern of non-coordinance in trade talks has become commonplace among Mercosur members. Furthermore, Argentina and Brazil have recently talked separately with the Andean countries and with Mexico.

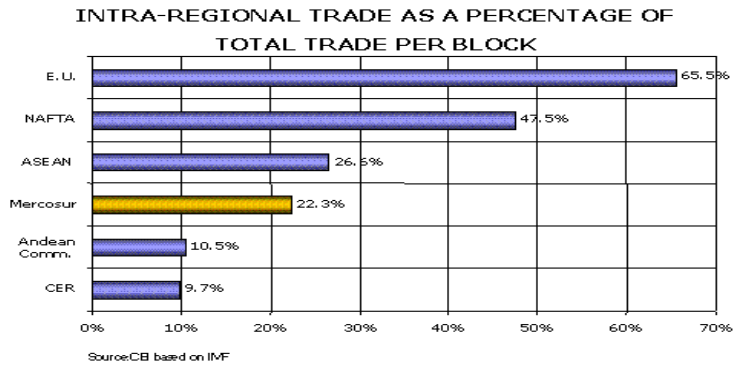
With the proposed Free Trade Area of the Americas, it is imperative that a unified Mercosur participate in these negotiations. Mercosur was able to maintain a commonality in talks with the European Union but since that time, Chile has broken from the trade bloc. It remains to be seen if Mercosur will unite as one voice in the talks with the FTAA. However, it is clear that Mercosur needs to internally examine its policies and re-evaluate the benefits of continuing as a customs union.

European Union and Mercosur

In spite of Mercosur's ongoing internal problems, they are continuing to forge an inter-regional agreement with the European Union that will be completely unfolded into a free trade

area by the year 2003. Since the early 1990's, Europe has been the main destination for Mercosur product exports, more than 27% in 1994. This is compared with 17% exported to the U.S. (Bajo, 1999). Furthermore, Mercosur represented 53% of all Latin American exports to the EU during this time, although trade has decreased in the last few years. Figure 5 shows that Mercosur's percentage of trade with the EU is nearly three times greater than with other trade blocs

Figure 5



The advantages of the trade relationship between the EU and Mercosur are mutually beneficial. In 1994, EU exports to Mercosur were 94% industrial goods, while Mercosur exports to the EU were more than 50% agricultural products (Bajo, 1999). Thus, the relationship is primarily need based. Apart from trade and investment, the EU provides a common market model for Mercosur, as they are both customs unions. Mercosur can follow the "road map" that the EU has developed in becoming an economic union. Additionally, the relationship can serve as a stronger bargaining unit for advancement of the competition for world market share. This is probably a greater advantage for the EU, as they are competing with NAFTA and others, but Mercosur stands to gain also by the increasing power and recognition that it can gain by being a member of the free trade area.

DISCUSSION AND ANALYSIS

The Need for Mercosur to Define Itself

Although Mercosur provides a political framework that has helped to advance the regionalization of trade in the Southern Cone area, an assessment of Mercosur's effectiveness shows that the customs union has considerable drawbacks. Several questions remain as to the future of the trade bloc, primarily how Mercosur will define itself.

The four countries that make up the trade bloc continue to act unilaterally in economic and trade decisions. Mercosur lacks agreements that would allow the eventual freedom of trade in services and has not dealt with issues such as intellectual property and government procurement (Reid, 1996). Voting issues among members have also not been addressed. The style has been one of informality and consensus with no central secretariat to enforce decisions, as well as no true conflict solving mechanism (Roett 1999). Additionally, there are no agreed upon customs codes or competition and investment policies (*Economist*, 2001). Currently, most disputes are settled by presidential invention, as opposed to a governing body that has set forth rules that the countries agreed upon. Any deepening of cooperation among Mercosur will require a loss of sovereignty, a price that Brazil may not be willing to pay.

In order to begin to solve Mercosur's problems, Brazil must change its inward focus to a regional outlook. Brazil continually puts its own interest ahead of those of Mercosur and this has badly constrained relationships with other member countries. Brazil has continued to stifle efforts by the other members to lower the average tariffs on imports (Wheatley, 2001). This has resulted in member countries striking out on their own to negotiate trade talks with non-member countries. In the case of Chile, an associate member of Mercosur, the message should have been clear to Brazil that the average tariffs on imports would have to be relaxed if the customs union is to expand. However, instead of working to overcome the internal division between its members, Brazil has not taken action and continues to stall on negotiations. The primary reason for this may be that Brazil is waiting to see how the FTAA will advance over the next few years. This is a very dangerous position for Brazil to take because Mercosur will certainly have more bargaining power in these talks if the members stand together as a united trade area. Each of the individual member countries will have less bargaining power if they continue to follow their own unilateral interests.

Customs Union or Free Trade Area?

The other issue that has continued to plague Mercosur is its inability to settle the dispute over whether it is a customs union or a free trade area. For all practical purposes, Mercosur has defined itself as a customs union but its actions are very different. Argentina and Uruguay have continued to be opposed to the customs union and instead opt for a free trade area. The fact that Mercosur is a customs union has created obstacles for the expansion of trade with other areas including NAFTA. Brazil's stance over devaluation, import quotas, and allegations of dumping have continued to bog down negotiations among the group and may be providing the fuel for other countries to continue to act unilaterally (Becker, 2001). Furthermore, Argentina has been granted a temporary waiver from Mercosur's common tariffs due to a severe recession in the country. This action may prove to be a final blow in Mercosur's efforts to become a full customs union.

Steps Needed to Rescue the Customs Union

In order for Mercosur to continue as a customs union, it must unify and solve its internal problems before continuing to negotiate with outsiders. Some efforts have been made, such as an agreement to harmonize economic statistics and set common targets for inflation and public debt, but only with modest progress. However, many issues remain.

The first step needed to get Mercosur back on track is the establishment of a unified body that will settle disputes among countries. This body should be granted the authority to make decisions multilaterally that will benefit all the countries of Mercosur. Each country should have weighted representation within the unified body. This is not to say that Brazil should continue to dominate Mercosur, as this strategy has not worked in the past. Perhaps a non-biased consultant from the EU should assist Mercosur in fairly establishing its ruling body.

The second step will require that Brazil relax its hard stance on the common external tariff. This is absolutely critical if the customs union is to survive. Brazil needs to weigh its options of keeping Mercosur together as a unified voice in negotiations with the FTAA or break away from the customs union to maintain and protect its internal production. Ultimately, if the FTAA comes into being, the internal production of Brazil will be affected. It is likely that Brazil will come out ahead in the long run by making some concessions now to unify Mercosur than to risk losing its strong voice in the negotiations with the FTAA.

Finally, the third step in rescuing the customs union will require an increased feeling of regionalism among members. This will foster a sense of political understanding and initiate economic reform. This step may also involve examining whether Mercosur should remain a customs union or modify its agreement to become a free trade area. All of the members, except perhaps Brazil, would benefit from allowing each country to set their own external tariffs with non-members. Although Brazil's fears of losing internal production and jobs due free trade may be warranted, this has not happened on a grand scale as predicted with NAFTA. If Mercosur does not take the initiative to define itself and work out its internal problems, the customs union is likely to drift into irrelevance as the new FTAA is unfolding.

CONCLUSION

This paper examines the underlying problems of the South American trade bloc, Mercosur. The primary problem is that Mercosur has not defined itself and its members continue to act unilaterally. This may not be altogether surprising since Brazil, the dominant player in the trade bloc, has continued to foster its own interests without regard for regionalism among the Mercosur members. Furthermore, Brazil has taken a hard stance against lowering the common external tariffs and creating a governing body to settle disputes among members of the union. The lack of regionalism and the ability to settle disputes has prompted members to continue to negotiate in their

own interests and act unilaterally. It would appear that Brazil holds all the power in this relationship and is not willing to relinquish it, even if it is in the best interest of its trading partners. This type of behavior must change in order for Mercosur to solve its internal problems and forge ahead with negotiations and trade expansion with the rest of the world.

First, the members of the union must consent that they are a free trade area, rather than a customs union. As the largest country, it is imperative that Brazil coordinate its interests with the region's interests. Brazil must agree to lower the common external tariffs and create a governing body to settle disputes. The other three countries must remain united to push Brazil into compliance for the overall good of the South American free trade bloc. A combined approach is inherently necessary for Mercosur to succeed.

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ACCOUNTING STANDARDS FOR DERIVATIVES IN KOREA: A COMPARISON WITH U. S. GAAP AND INTERNATIONAL ACCOUNTING STANDARDS

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ABSTRACT

The rapid changes during last several years in size and diversity of the Korean derivative market may warrant the introduction of new accounting standards for derivatives in Korea. One feasible and effective way to obtain ideas for new standards fitting into Korea derivative market is to compare Korean, US, and international accounting standards for derivatives. Thus, the objectives of this paper are two-fold. The first is to make a comparison between Korean, US, and international accounting standards for derivatives. The second is to make a recommendation for new accounting standards for derivatives in Korea. To achieve these objectives, the following steps were taken. First, compare current Korean, US, and international accounting standards for derivatives. Secondly, a literature survey on this issue of derivative accounting and examination on current trading practice of derivatives in Korea were conducted to draw an insightful inference for derivative accounting standards setting process. Finally, make a recommendation for new accounting standards for derivatives in Korea. Potential contributions of this study would be to setting new accounting standards for derivatives in Korea and to developing a general body of knowledge that provides meaning insights to accounting standards for derivatives.

INTRODUCTION

Derivative instruments (derivatives in short, hereafter) are instruments whose value depends on the values of other more basic underlying variables. In spite of relatively short trading history, derivatives become increasingly important in the Korean capital market[1]. The derivative market in Korea has grown dramatically in terms of trading volume, trading value, the number of products, and their diversity. 17 derivatives, eight different types, are currently traded in two security exchanges: i.e., 8 derivatives in Korean Futures Exchange (KOFEX) and 9 derivatives in Korean Security Exchange (KSE).

Ever since its opening in 1999, KOFEX has been growing so much that the trading volume for the year 2001 surpassed 10 million contracts and the trading value exceeded 1,000 trillion

Korean won (i.e., equivalent to approximately US$ 860 billion). The trading value of derivatives in KSE also increased dramatically that it reached about 1,176 trillion Korea won (i.e., equivalent to US$ 1,022,billion) in 2001. The growth of Korean derivative market has been significantly pronounced during the last two-year period starting late 2000. Korean derivative market increased more than 400% and ten new derivatives were listed in KOFEX or KSE during the period[2].

Accounting and reporting of derivatives are standardized in Korean Financial Accounting Standards (KFAS), Accounting Standards (AS) for security industry, & Accounting Standards for banking industry. KFAS were originally issued in April 1998 and revised in August 2000 by Korean Financial Accounting Standards Board, which is a Korean counterpart of FASB in US, while AS were originally issued in December 1998 and revised in December 1999 by Financial Supervisory Service of Korea, which is a Korean counterpart of SEC in US. Therefore, the above- mentioned significant changes in Korean derivative market during 2001 and 2002 were not incorporated in these standards. These standards require an entity to recognize derivatives as assets or liabilities at their fair value. Any gains or losses on derivatives due to fair value changes should be recognized as current income items unless the purpose of holding derivatives is hedging. There are brief disclosure requirements for derivatives in the standards, too. But, in general, the current standards are not articulate and specific enough to capture the diverse nature of derivatives traded in Korea. The rapid changes in size and product diversity of the Korean derivative market may warrant the introduction of more advanced accounting and reporting standards for derivatives in Korea. One feasible and effective way to obtain ideas for new standards fitting into Korea derivative market is to compare Korean, US, and international accounting standards for derivatives.

Thus, the objectives of this paper are two-fold. The first is to make a comparison between Korean, US, and international accounting standards for derivatives. The second is to make a recommendation for new accounting standards for derivatives in Korea. In order to achieve these objectives, the following three steps were taken. First, compare current Korean, US, and international accounting standards for derivatives. Secondly, a literature survey on this issue of derivative accounting and examination on current trading practice of derivatives in Korea were conducted to draw an insightful inference for derivative accounting standards setting process. Finally, make a recommendation for new accounting standards for derivatives in Korea based on the result from the previous steps. Potential contributions of this study would be to setting new accounting standards for derivatives in Korea and to developing a general body of knowledge about derivative accounting in general as well.

ACCOUNTING STANDARDS FOR DERIVATIVES IN KOREA

The accounting standards for derivatives in Korea are stated in KFAS Article 70, AS for banking industry, and AS for security industry KFAS are primary accounting standards that apply

to all enterprises, while AS are supplementary standards for a specific industry or a special type transactions. These statements require the followings.

All entities shall report the fair value of rights or obligations associated with derivatives contracts as assets and liabilities (contra accounts). The fair value should be the closing market price as of the balance sheet date. If no closing price available at balance sheet date, the most recent closing price before the balance sheet date should be used. The newly acquired derivatives should be recorded at the acquisition cost, which are all costs incurred to acquire and make them ready for the intended use.

The gain realized or loss incurred from derivatives transactions shall be recognized in operations, currently. Thus, gains or losses on dispositions of derivatives as well as valuation gains or losses on derivatives shall be recognized in the year of occurrence. When the purpose of the derivatives transaction is to hedge risk, however, a company may account for such gain or loss differently, to reflect the risk hedging activities. But there are no specific standards for hedging activities, hedged items, hedging items, or gains/losses on hedging items due to fair value changes. In case that the fair value of derivatives decline and the decline is not restorable, the difference between the previous book value and the fair value should be reported as investment impairment loss in the income statement. The recoveries of previously recognized impairment losses shall be recognized as gains in subsequent periods till the net realizable value equals the book value of the asset before the loss was recognized[3].

As to derivative transactions, the purpose and details of transactions shall be disclosed in the accompanying footnotes. Obligations concerning derivatives should be reported, too. In addition, when the objective of transactions is to hedge a risk, the details of hedged items and their scope, accounting method applied to reflect risk hedging activities and the deferred gain or loss should be disclosed in the accompanying footnotes.

ACCOUNTING STANDARDS FOR DERIVATIVES IN U. S. A.

Statements of Financial Accounting Standards (SFAS) 133, 138 & 140 present accounting and reporting standards for derivatives, including certain derivatives embedded in other contracts, (collectively referred to as derivatives) and for hedging activities[4]. SFAS 133, 138, and 140 were issued in 1998, 1999, & 2000, respectively. They require that an entity recognize all derivatives as either assets or liabilities in the statement of financial position and measure those instruments at fair value. If certain conditions are met, a derivative may be specifically designated as (a) a hedge of the exposure to changes in the fair value of a recognized asset or liability or an unrecognized firm commitment (referred to as a fair value hedge), (b) a hedge of the exposure to variable cash flows of a forecasted transaction (referred to as a cash flow hedge), or (c) a hedge of the foreign currency exposure of a net investment in a foreign operation, an unrecognized firm commitment, an

available-for-sale security, or a foreign-currency-denominated forecasted transaction (referred to as a foreign currency hedge).

The accounting for changes in the fair value of a derivative (that is, gains and losses) depends on the intended use of the derivative and the resulting designation. For a derivative designated as a fair value hedge, the gain or loss is recognized in earnings in the period of change together with the offsetting loss or gain on the hedged item attributable to the risk being hedged. The effect of that accounting is to reflect in earnings the extent to which the hedge is not effective in achieving offsetting changes in fair value.

For a derivative designated as a cash flow hedge, the effective portion of the derivative's gain or loss is initially reported as a component of other comprehensive income (outside earnings) and subsequently reclassified into earnings when the forecasted transaction affects earnings. The ineffective portion of the gain or loss is reported in earnings immediately.

As to foreign currency hedge, for a derivative designated as hedging the foreign currency exposure of a net investment in a foreign operation, the gain or loss is reported in other comprehensive income (outside earnings) as part of the cumulative translation adjustment. The accounting for a fair value hedge described above applies to a derivative designated as a hedge of the foreign currency exposure of an unrecognized firm commitment or an available-for-sale security. Similarly, the accounting for a cash flow hedge described above applies to a derivative designated as a hedge of the foreign currency exposure of a foreign-currency-denominated forecasted transaction.

For a derivative not designated as a hedging instrument, the gain or loss is recognized in earnings in the period of change. With regard to embedded derivatives embedding in contracts that do not in their entirety meet the definition of a derivative instrument, embedded derivatives shall be separated from the host contract and accounted for as a derivative instrument, if certain conditions are met.

Financial assets should be derecognized if the transferee has the right to sell or pledge the asset; the transferor does not have the right to reacquire the transferred assets; and the transferred assets be legally isolated from the transferor even in the event of the transferor's bankruptcy. A financial liability is derecognized if the debtor is legally released from primary responsibility for the liability (or part thereof) either judicially or by the creditor. As to impairment loss, an entity should recognize write-down against net profit or loss for impairment or uncollectibility if the recoverable amount of the derivative is less than the carrying amount but reversal of value shoud not be recognized because write-down results in new cost basis under SFAS.

Regarding disclosures of derivatives, an entity that holds or issue derivatives shall disclose its objectives for holding or issuing those instruments, the context needed to understand those objectives, and its strategies for achieving those objectives. The description shall distinguish between derivatives designated as fair value instruments, derivatives designated as cash flow hedging instrument, derivatives designated as hedging instruments for hedges of the foreign

currency exposure of a net investment in a foreign operation, and all other derivatives. The description also shall indicate the entity's risk management policy for each of those types of hedges, including a description of the items or transactions for which risks are hedged. For derivatives not designated as hedging instruments, the description shall indicate the purpose of the derivative activity. Qualitative disclosures about an entity's objectives and strategies for using derivatives are not required but encouraged. Additional disclosure requirements for each type of hedges are stated in the statements.

Under these statements, an entity that elects to apply hedge accounting is required to establish at the inception of the hedge the method it will use for assessing the effectiveness of the hedging derivative and the measurement approach for determining the ineffective aspect of the hedge. Those methods must be consistent with the entity's approach to managing risk.

These statements apply to all entities. A not-for-profit organization should recognize the change in fair value of all derivatives as a change in net assets in the period of change. In a fair value hedge, the changes in the fair value of the hedged item attributable to the risk being hedged also are recognized. However, because of the format of their statements of financial performance, not-for-profit organizations are not permitted special hedge accounting for cash flow hedge. These statements do not address how a not-for-profit organization should determine the components of an operating measure if one is presented.

These statements preclude designating a nonderivative financial instrument as a hedge of an asset, liability, unrecognized firm commitment, or forecasted transaction except that a nonderivative instrument denominated in a foreign currency may be designated as a hedge of the foreign currency exposure of an unrecognized firm commitment denominated in a foreign currency or a net investment in a foreign operation. Key terms such as derivatives, underlyings, notional amounts, initial net investment are clearly defined and qualification criteria for those key terms are also addressed in the statements.

INTERNATIONAL ACCOUNTING STANDARDS FOR DERIVATIVES

Accounting and reporting standards for financial instruments including derivatives are standardized in International Accounting Standards (IAS) 32 and 39. Disclosure and presentation of financial instruments are prescribed in IAS 32, while recognition and measurement of financial instruments are addressed in IAS 39. The most recent amendment on IAS 32 was made in October 2000 to eliminate disclosure requirements that become redundant as a result of IAS 39[5].

These standards require that financial instruments including derivatives should be classified into assets, liabilities or equity and recognized on the balance sheet, where classification reflects substance, not form. Split accounting is required for compound financial instruments such as convertible securities and embedded derivatives. Offsetting on the balance sheet is permitted only

if the holder of the financial instrument can legally settle on a net basis. Terms and conditions, interest rate risk (repricing and maturity dates, fixed and floating interest rates, maturities), credit risk (maximum exposure and significant concentrations), fair values of financial instruments, financial assets carried at a value in excess of fair value should be disclosed.

Financial instruments including derivatives are initially measured at acquisition cost, which are all costs incurred to acquire and make those ready for their intended uses. Subsequent to initial recognition, all financial assets are remeasured to fair value. An enterprise should recognize normal purchases and sales of financial assets in the market place either at trade date or settlement date. Certain value changes between trade and settlement dates are recognized for purchases if settlement date accounting is used.

For those financial assets and liabilities that are remeasured to fair value, an enterprise will have a single, enterprise-wide option either to (a) recognize the entire adjustment in net profit or loss for the period; or (b) recognize in net profit or loss for the period only those changes in fair value relating to financial assets and liabilities held for trading, with the non-trading value changes reported in equity until the financial asset is sold, at which time the realized gain or loss is reported in net profit or loss. For this purpose, derivatives are always deemed held for trading unless they are designated as hedging instruments. Impairment losses should be recognized for a financial asset whose recoverable amount is less than carrying amount.

IAS 39 establishes conditions for determining when control over a financial asset or liability has been transferred to another party. For financial assets a transfer normally would be recognized if (a) the transferee has the right to sell or pledge the asset and (b) the transferor does not have the right to reacquire the transferred assets. With respect to derecognition of liabilities, the debtor must be legally released from primary responsibility for the liability (or part thereof) either judicially or by the creditor. If part of a financial asset or liability is sold or extinguished, the carrying amount is split based on relative fair values.

Hedge accounting is permitted only if an enterprise designates a specific hedging instrument as a hedge of a change in value or cash flow of a specific hedged item, rather than as a hedge of an overall net balance sheet position. Three types of hedges are defined: *fair value hedge, cash flow hedge, hedge of a net investment in a foreign entity*. *Fair value hedge* is a hedge of the exposure to changes in the fair value of a recognized asset or liability. However, a hedge of an unrecognized firm commitment to buy or sell an asset at a fixed price in the enterprise's reporting currency is accounted for as a cash flow hedge under IAS. *Cash flow hedge* is a hedge of the exposure to variable cash flows of a forecasted transaction. The portion of the gain or loss on the effective hedging instrument is recognized initially directly in equity. Subsequently, that amount is included in net profit or loss in the same period or periods during which the hedged item affects net profit or loss. (e.g., period or periods when depreciation expense, interest income or expense, or cost of sales is recognized) The ineffective portion of the gain or loss is reported in earnings, immediately. For cash flow hedges that result in the recognition of an asset or liability, the gain or loss on the hedging instrument will adjust

the basis (carrying amount) of the acquired asset or liability. A derivative designated as a hedge of a net investment in a foreign entity should be accounted for same as a cash flow hedge under IAS. On initial adoption of IAS 39, adjustments to bring derivatives and other financial assets and liabilities onto the balance sheet and adjustments to remeasure certain financial assets and liabilities from cost to fair value will be made by adjusting retained earnings directly.

SUMMARY OF COMPARISONS

Scope

Relevant codes in IAS, SFAS, & KFAS apply to all enterprises. All of them cover recognition, measurement, and hedge accounting.

Definitions

IAS and SFAS share common ideas about the definition of derivatives. According to these international and US standards, a derivative is a financial instrument or other contract whose value changes in response to the change in underlyings such as a specified interest rate, security price, commodity price, foreign exchange rate, index of prices or rates, a credit rating or credit index, or similar variable; that requires no initial net investment or little initial net investment relative to other types of contracts that have a similar response to changes in market conditions. SFAS have an additional requirement for derivatives that the terms of the derivative contract require or permit net settlement. Contrary to IAS and SFAS, KFAS do not have a definition of derivatives

Initial Measurement & Recognition

All three standards require that derivatives should be recognized at the acquisition cost, which is the sum of purchase cost and transaction costs. Under IAS, an enterprise will recognize normal purchases and sales of securities in the market place either at trade date or settlement date. If settlement date accounting is used for purchases, IAS require recognition of certain value changes between trade and settlement dates so that the income statement effects are the same for all enterprises. On the other hand, SFAS and KFAS do not address trade date vs. settlement date. Value change between trade and settlements dates may be included in or excluded from measurement of net income.

Subsequent Measurement

IAS, SFAS, and KFAS require that all derivative assets and derivative liabilities should be measured at the fair value, but they do have different exceptions for this principle. Under IAS, if derivatives are linked to and must be settled by an unquoted equity whose fair value cannot be measured reliably, they should be measured at cost. However, SFAS require fair value measurement for all derivatives, including those linked to unquoted equity instruments if they are to be settled in cash. KFAS do not have exceptions for this principle for subsequent measurement. IAS & SFAS require that certain derivatives that are embedded in non-derivative instruments should be measured and reported separately from the host instruments at the fair value, while KFAS do not have standards for embedded derivatives.

Impairment Loss

According to IAS, SFAS, and KFAS, an entity should recognize write-down against net profit or loss for impairment or uncollectibility if the recoverable amount of the derivative is less than the carrying amount. But those standards take different positions regarding reversal of impairment loss. Under IAS, reversal of write-down should be taken into net profit or loss if fair value recovers, while reversal of value is not recognized because write-down results in new cost basis, under SFAS. According to KFAS, the recoveries of previously recognized impairment losses shall be recognized as gains in subsequent periods till the net realizable value equals the book value of the asset before the loss was recognized.

Reporting Fair Value Change

Under IAS, an enterprise has a single, enterprise-wide option for derivatives to either (a) recognize the entire adjustment in net profit or loss for the period; or (b) recognize in net profit or loss for the period only those changes in fair value relating to financial assets and liabilities held for trading, while value changes in non-trading items should be reported in equity until the financial asset is sold or liabilities are terminated, at which time the realized gain or loss is reported in net profit or loss. SFAS & KFAS allow option (b), only[6].

Derecognition

IAS require that financial assets should be derecognized if the transferee has the right to sell or pledge the asset; and the transferor does not have the right to reacquire the transferred assets. (However, such a right does not prevent derecognition if either the asset is readily obtainable in the market or the reacquisition price is fair value at the time of reacquisition.) In addition to those

criteria, SFAS require that the transferred assets be legally isolated from the transferor even in the event of the transferor's bankruptcy. According to IAS & FASB, a financial liability is derecognized if the debtor is legally released from primary responsibility for the liability (or part thereof) either judicially or by the creditor. There are no standards for derecognition in KFAS.

Hedge Accounting

In IAS, SFAS, & KFAS, hedge accounting is permitted in certain circumstances, provided that the hedging relationship is clearly defined, measurable, and actually effective. Contrary to IAS & SFAS, there are no standards for hedging accounting in KFAS. Under IAS & FASB, Three types of hedges are defined: fair value hedge, cash flow hedge, hedge of a net investment in a foreign entity.

Fair Value Hedge

According to IAS & SFAS, this is a hedge of the exposure to changes in the fair value of a recognized asset or liability. However, a hedge of an unrecognized firm commitment to buy or sell an asset at a fixed price in the enterprise's reporting currency is accounted for as a cash flow hedge under IAS, while it is accounted for as a fair value hedge under SFAS. Under both standards, the gain or loss from remeasuring the hedging instrument is recognized in earnings in the period of change together with the offsetting loss or gain on the hedged item attributable to the risk being hedged. The effect of that accounting is to reflect in earnings the extent to which the hedge is not effective in achieving offsetting changes in fair value. At the same time, the gain or loss on the hedged item attributable to the risk being hedged adjusts the carrying amount of the hedged item.

Cash Flow Hedge

According to IAS and SFAS, this is a hedge of the exposure to variable cash flows of a forecasted transaction. The portion of the gain or loss on the effective hedging instrument is recognized initially directly in equity. Subsequently, that amount is included in net profit or loss in the same period or periods during which the hedged item affects net profit or loss. (E.g., period or periods when depreciation expense, interest income or expense, or cost of sales is recognized) The ineffective portion of the gain or loss is reported in earnings, immediately. For an acquisition of a derivative designated as a cash flow hedge, the gain or loss on the hedging instrument will adjust the carrying amount of the acquired hedging instrument under IAS. However, the same gain or loss will not change the carrying amount of the acquired hedging instrument but remain in equity and will subsequently be included in net profit or loss in the same period as the instrument affects net

profit or loss under SFAS. Thus, net profit or loss will be the same under IAS and SFAS, but the balance sheet presentation will be net under IAS and gross under SFAS.

Foreign Currency Hedge

A derivative designated as a hedge of a net investment in a foreign entity should be accounted for same as a cash flow hedge under IAS. According to SFAS, for a derivative designated as a hedge of a net investment in a foreign entity, the gain or loss is reported in other comprehensive income (outside earnings) as part of the cumulative translation adjustment. SFAS require that the accounting for a fair value hedge described in the preceding section for accounting standards for derivatives in US applies to a derivative designated as a hedge of the foreign currency exposure of an unrecognized firm commitment or an available-for-sale security. SFAS also require that the accounting for a cash flow hedge described in the preceding section for accounting standards for derivatives in US applies to a derivative designated as a hedge of the foreign currency exposure of a foreign-currency-denominated forecasted transaction.

Specific Designation

Under IAS and SFAS, an enterprise must designate a specific hedging instrument as a hedge of a change in value or cash flow of a specific hedged item, rather than as a hedge of an overall net balance sheet position. However, the approximate income statement effect of hedge accounting for an overall net position can be achieved, in some cases, by designating part of one of the underlying items as the hedged position.

TRADING PRACTICE OF DERIVATIVES IN KOREA

There are 8 derivatives traded in KOFEX, which are Korea Stock Dealers Association Quote (KOSDAQ) 50 index futures, KOSDAQ50 index options, US dollar futures, US dollar options, Korean Treasury Bond (KTB) futures, KTB future options, gold futures, Certificate of Deposit (CD) interest rate future. In addition, Korean Stock Price Index (KOSPI) 200 futures, KOSPI 200 options, stock options for 7 major Korea companies' common stocks are traded in Korean Security Exchange. Trading orders of these derivatives are executed electronically where priority is given based on price and then time.

Two derivatives whose underlying index is KOSPI 200 are KOSPI 200 future and KOSPI 200 option. KOSPI 200 is a capitalization-weighted index composed of 200 stocks from wide range of industries whose base index was 100 as of January 3, 1990. The component stocks are weighted according to the total market value of their outstanding shares. The value of a KOSPI 200 future

contract value is a product of KOSPI 200 and 100,000 Korean won. There are 4 contract months, which are March, June, September, and December. On any given day, any remaining KOSPI 200 future contracts will be settled in cash on the following trading day at the closing price of the most recent trading day. The final settlement shall be made on the last trading day against open positions. The value of a KOSPI 200 option contract is a product of KOSPI 200 and 100,000 Korean won. There are four contract months, which are three consecutive near term months plus one nearest month from quarterly cycle (March, June, September, and December). The options may be exercised on their expiration date because KOSPI 200 option is a European option. The settlement amount from exercise shall be equal to the difference between the exercise price and the exercise settlement price of the option. The exercise settlement price shall be the day's final KOSPI 200 index multiplied by 100,000 Korean won. The settlement method for both KOSPI 200 based derivatives is cash settlement.

US Dollar future and US Dollar option are derivatives based on US Dollar. Trading unit of US Dollar future is US$50,000. There are 6 contract months, which are three consecutive months including spot month plus three months out of March, June, September, and December. Settlement is made on final settlement day that is the third Wednesday of the contract month. Trading unit of US Dollar option is US $10,000. The options may be exercised on the last trading day of the contract month because it is a European style option. Settlement method for both US Dollar based derivatives is delivery settlement.

Two derivatives based on Korea Treasury Bond with 8% coupon are KTB future and KTB future option. Trading unit of KTB future is 100 million Korean won. Settlement method is cash settlement. Final settlement day is the third Wednesday of the contract month, which is March, June, September, or December. Trading unit of KTB future option is one KTB contract. Options are exercisable at anytime before expiration, which is the last trading day of the contract month (i.e., American style option). Contract months are 3 consecutive months including spot day plus one month from March quarterly cycle. Upon exercise of the option, the option will be converted to the KTB future.

KOSDAQ 50 index future and KOSDAQ 50 index option are based on KOSDAQ 50 index that is a capitalization-weighted index composed of 50 stocks from wide range of industries listed in KOSDAQ stock market. The component stocks are weighted according to the total market value of their outstanding shares. The value of a KOSDAQ 50 future contract is a product of KOSDAQ 50 index and 200,000 Korean won. There are 4 contract months, which are March, June, September, and December. The final settlement price shall be KOSDAQ 50 closing value of the last trading day. The value of a KOSDAQ 50 index option contract is a product of KOSDAQ 50 index and 100,000 Korean won. There are four contract months, which are three consecutive months including spot month plus one month out of March, June, September, and December. The options may be exercised on their expiration date because the options are European style. The exercise settlement price of the option shall be KOSDAQ 50 closing value of the last trading day. Exercise settlement amount is

the difference between the exercise settlement price and the strike price of the option multiplied by 100,000 Korean won. Settlement method for both KOSDAQ 50 index based derivatives is cash settlement.

Gold future is based on 99% pure gold bars and its trading unit is 1 kg. Settlement method is delivery settlement. There are 6 contract months, which are all even months. Final settlement day is the last business day of the contract month.

CD interest rate future is a derivative based on 3-month CD interest rate and has a trading unit of 500 million Korean won. There are four contract months of March, June, September, and December. Settlement method is cash settlement.

Common features among those derivatives traded in Korea are, first, cash settlement is a dominating settlement method for all derivative instruments trade in Korean derivative markets, except Gold futures and two US Dollar based derivatives. Since US Dollar based derivatives are settled in US Dollars, their settlement methods are, in substance, cash settlements, too. Gold futures are settled in gold that is frequently deemed as means of trade and easily convertible to cash, settlement method for gold future may be de facto cash settlement; second, market prices of all derivatives traded in Korean market are readily available at all time.

SUGGESTIONS FOR NEW ACCOUNTING STANDARDS IN KOREA

As discussed in previous sections, current KFAS may be neither comprehensive nor specific enough to capture current practices of derivatives in Korea, possibly due to rapid growth of Korean derivative market since the year 2000. Following suggestions are made for development of new accounting standards for derivatives in Korea.

Definition

Derivatives should be clearly defined so that there will not be confusions in choosing relevant accounting standards for financial instruments under consideration. Selection among standards for asset, marketable securities, investment in securities, and derivatives is difficult under current KFAS without definition of derivatives. Other key terms like type of hedge, underlying, and initial net investment need to be defined.

Initial measurement & Recognition

Derivatives should be recognized at the acquisition cost, which is all costs incurred to acquire and make them ready for the intended use, because the acquisition cost is objective and reflects the fair value.

Subsequent Measurement

Considering that almost all derivatives traded in Korean market are settled in cash or near cash and their fair values are readily available at all time, fair value may be the best measure of derivatives. With objective, reliable, and readily available fair value, cost is not a good value measure of derivatives, because cost may not reflect market value when the balance sheet date is different from the settlement date of derivatives. Theoretic value may not be a good value measure of derivatives, either, because theoretic value usually has valuation model problems, which hurt its reliability.

Impairment Loss and Fair Value Change

Accounting standards for impairment loss and fair value change are stated in AS or other parts of SFAS than the article for derivatives in SFAS. It caused some speculations as to which ones are relevant standards for derivatives regarding these issues. Thus it is necessary to include accounting standards for impairment loss and fair value change in the article for derivatives in SFAS.

Derecognition

Standards for derecognition are needed to be established to minimized accounting manipulations, which are currently hot issues ignited by such cases as Enron, Global Crossing, and WorldCom. Lack of standards for derecognition may create off-balance sheet items. Economic substance and/or legality should be taken into consideration in this standards setting process. If economic privileges & obligations of the ownership and/or legal title were transferred, related assets or liabilities should be derecognized.

Hedging

In spite of the fact that hedging is the main cause of buying and/or holding derivatives and there are various types of hedgings practiced in Korean derivative market, there is no standards for hedging. Accounting for hedging should vary with hedged asset, intension, type, and effectiveness of hedging instruments, because there will be different hedging activities or different results of hedging activities depending on those factors. Therefore, it is necessary to establish accounting standards for hedging in which separate standards for each type of hedging are stated. Derivatives for hedging can be classified into fair value hedge, cash flow hedge, and foreign currency hedge as IAS & SFAS do, because all these types of hedges are available and currently used in Korean market and distinctive features of each hedge warrant different accounting treatments for each type.

Disclosure

In addition to current disclosure requirements for derivatives in KFAS, type of hedge, entity's risk management policy for each type of hedges including the hedged items, entity's general risk management policy, method to assess the effectiveness of the hedging should be disclosed.

CONCLUSIONS

In this study, we try to make suggestions for new accounting standards for derivatives in Korea and additions to a general body of knowledge that provides meaning insights to accounting standards for derivatives. In order to achieve these goals, a comparative analysis on Korean, US, and international accounting standards for derivatives were conducted. Then a literature survey on derivative accounting and examination on current trading practices of derivatives in Korea were conducted to draw a meaningful inference for establishing derivative accounting standards.

We found that there was significant growth in Korean derivative market over two year period starting from late 2000. Korean derivative market increased more than quintuple over that time period to become the 11th largest market in the world. The number of derivative products traded in Korean market increased from 7 to 17 over the same time period. Current accounting standards for derivatives issued in March, 2001 are neither comprehensive nor specific enough to capture the diverse nature of derivatives traded in Korea, now. This rapid changes during last several years in Korean derivative market in terms of size and diversity coupled with outdated current standards may warrant the introduction of new accounting standards for derivatives in Korea.

We recommended that derivatives be measured at acquisition cost upon acquisition and fair value, subsequently. Hedge accounting providing separate standards for each type of hedges (i.e., fair value hedge, cash flow hedge, foreign currency hedge) and full disclosure about derivatives and related hedging activities were recommended, too.

ENDNOTES

[1] Korean Stock Exchange began trading derivatives in 1996. The first derivative instrument traded was Korea Stock Price Index (KOSPI) 200 future.

[2] The growth trend continues in the year 2002. For example, the trading value of derivatives in KSE reached about 942 trillion Korean won (i.e., US$ 820 billion) during the first 6 months of 2002, which is a 60% increase relative to the same period in 2001.

[3] KFAS do not address this, explicitly in article 70: accounting for derivatives but implicitly in articles (55), (59), and (60).

[4] Exposure draft: amendment on SFAS 133 is under will be effective as of the first day of the first fiscal quarter beginning after November 14, 2002, except for certain provisions.

[5] IAS 32 was originally issued in March 1995 and IAS 39 became effective for the fiscal year beginning on or after January 1, 2001.

[6] KFAS do not address this, explicitly in article 70: accounting for derivatives but rather implicitly through out the whole standards.

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THE DILEMMA OF GOVERNANCE IN LATIN AMERICA

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ABSTRACT

The last decades of the 20th century have seen the institutions of governance in Latin American countries affected by small macroeconomic achievements and reduced economic growth, and the development of an extremely fragile democracy. The implanting of the new model of neoliberal state consolidation has come at high cost, and has not produced either the expected strengthening in the political, economic and social spheres, or the expected gains in efficiency, equity and freedom. This so-called economic liberalization has generated institutional instability in the structure and functions of the state, limiting the reaches of democracy and legality, and ensuring that the effects of the associated managerial orientation which has transformed public administration are largely negative. Looking forward into the 21st century, a pessimistic prediction is that these tendencies will continue, producing similar unstable mixes of democratic populism and oligarchic pragmatism. More optimistically, the Latin American states may come to see that genuine social development is necessary for sustained economic growth, and introduce policies to achieve that outcome.

SOME MEASURES OF ECONOMIC, SOCIAL AND POLITICAL MALFUNCTIONING

The globalization processes surprised Latin American countries because they didn't have the political-economic mechanisms and the necessary institutions to assimilate its effects in such a way as to achieve social justice in the distribution of the wealth that was created. The challenges posed for Latin America by globalization require a further revision of the romantic utopias that came first with the Bolivarian independence of the early 1800s and subsequently with several popular revolutions in various parts of the region.

Whatever its benefits, globalization clearly has perverse effects. The 100 biggest transnational companies now control 70% of world trade, although a significant relationship does not exist between the growth of world trade and world gross product. The volume of the financial economy is 50 times more than that of the real economy. Most significantly for present purposes, the market value of the 1000 biggest companies ($US23,942,986 million) is equivalent to 11.8 times

the gross internal product of all the Latin American countries, and the market value of General Electric alone ($US520,250 million) is equivalent to the gross internal product of Mexico. Any one of the 23 most powerful multinationals has superior sales to what Mexico exports. Again, the value of 9,240 commercial coalitions and acquisitions throughout the world in 1999 reached $US2,963,000 million, compared with the annual gross internal product of all the countries of Latin America and the Caribbean calculated by the World Bank to be $US1,769,000 million.

A brief survey by Lazcano (2000) of the impact of globalization on the pattern of development in Latin American countries identifies several other outcomes:

♦	Economic dependence on the exterior, particularly the United States and the European Union, has deepened.
♦	Financial crises, devaluations and bank rescues have concentrated the wealth in less than 10% of the population.
♦	Economic growth has slowed, productive plant has been destroyed, and underemployment and unemployment have increased.
♦	The northwards flow of Mexican (and other Latin American) workers (ie to the United States) has increased;
♦	Privileges have been granted to foreign capital in relation to the financial system and the servicing of the external and internal debt;
♦	Economic integration has been towards the outside, with economic disintegration internally;
♦	The possibility of a sustainable development pattern and the range of options in economic policy-making has been reduced.

In all these ways the social fabric of Latin American countries has been disrupted, the income of the general population reduced, local wealth transferred to the exterior, poverty levels expanded, and indigenous inhabitants excluded from the social pact.

KEY CHALLENGES FOR THE FUTURE?

The role of the state, and of the public sector which most directly supports and serves that role, is central to each of the three big challenges Latin America faces as it enters the new millennium. These challenges affect the economic, the social and the political spheres respectively, although of course there are many connections between them. The first is to achieve sustainable economic growth within the market economy; the second, to achieve fair and equal distribution of

available income; and the third, to remove the obstacles that block development of state institutions that will allow a higher degree of democratic participation in governance.

ECONOMIC POLICY AND SOCIAL DEVELOPMENT

Sadly, it seems that the implementation of policies that reduce social inequalities enters into conflict with the logic of capital accumulation. Thus the privatization of public enterprises and the associated destruction of productive chains have together resulted in a growth of unemployment and an increase in numbers below the poverty line. The lack of appropriate employment opportunities is one of the main concerns of Latin Americans at the turn of the century (Duryea & Székely, 1998). Not enough employment is generated, and only a few individuals have access to well remunerated work.

The economic cycles of Latin America in the 1990s have allowed an average growth rate of 3.2% that has achieved little for the poorest sections of the population. The growth rate has slowed in the last few years, and this is likely to continue into the new century due to the pressures of globalization as described above. Financial crises continue, making it difficult to maintain macroeconomic stability. These negative results widen social dissatisfaction and lead to social protest demonstrating wide dissent against the newly adopted economic policies

The inability of governments to overcome such problems points to the lack of appropriate governance arrangements. In some areas, the rule of government is virtually absent, and chaotic situations have arisen marked by mass illegality and barbarism. Governance, in terms of the capacity of the state to solve the problems of society, is reduced to arrangements among different political-elite groups.

Poverty and inequality are of course not new in Latin America, and their earlier manifestations have been explained as the result of a pattern of Iberian colonization (Pinto & Di Fillipo, 1979). While this doesn't explain why the former colonies of the British, French and others in the Caribbean and Latin America also have much poverty, Yañez (2000) discerns an Iberian institutional plot that favoured the formation of economies with high transaction costs, ill-defined property rights and incomplete markets where inequality and exclusion are the norm. As former Spanish President Felipe González put it, the first challenge for the prevailing Latin American economic pattern is to put an end to poverty, whose continuing existence explodes the neoliberal economic model (Sosa Flores, 2000).

It is broadly acknowledged by academics and intellectuals that the Latin American social structure is a "pigmentocracy" whose peak is represented by the direct descendants of the Spanish aristocrats, of tall stature and clear skin, well educated and owners of the production factors of earth and capital. At its base are placed the direct descendants of the indigenous population, lower in stature and with dark skin. Between these two strata is the big band of mestizos or mixed-bloods.

The Spanish settlers used military force and the powers of the state to assure their economic and political dominance over the lower-strata majorities (Chua, 1998: 17-18).

The persistence of this social stratification until the present time is one of the causes of social exclusion and it constitutes a serious problem for good governance: the dominant social stratum owns the major corporations and the main means of production. But the market is n:ot the source of its dominance, and so the new competitive atmosphere of globalization could be its tomb. Equally, marketization can open up opportunities for the disadvantaged groups that previously had no opportunity to participate actively in the economy.

Globalization certainly imposes pressures, but many of the sources of poverty are internal to Latin American society: lack of knowledge, education and science, lack of capital equipment of all types, lack of incentives for individual action (except for those in big government or big corporations), lack of institutions that protect people's lives and their property, generally absence of the "rule of law", and often predatory governments. Public policies are needed to address all these issues.

Latin American countries require with urgency and with anguish a new development paradigm, and it is most likely to come by means of alliances among public and private sectors. Positive government is essential, but the companies that have benefited from privatization must participate in full measure. This new paradigm should allow and measure increments in wealth that are not disassociated from measures of monetary growth, population growth and debt. The systems and practices that fail in the current hegemonic paradigm point the way to eventual change and the instituting of the new paradigm.

The low efficiency of public administration in the social arena in the last two decades must be overcome. While priority was given to macroeconomic reform, social expenditure did rise by almost 25%---but the return on that investment was very low, due to diverse factors such as corruption. Investment in human capital through attention to the education and health systems has provided only temporary relief because it has not been appropriately institutionalized: through Latin America the real expense per capita in education and health in 1995 hardly reached the levels of 1980, because there were no increments in the per capita income (Ocampo, 1998: p.34). The "welfare state" was never deeply entrenched in any Latin American country, and what little of it there was is being dismantled by the neoliberal economic model. Existing programs to combat poverty offer only a temporary palliative through the provision of social security nets: they are focused on the consequences of poverty and not its causes.

All this must be changed. The proposal of Attanasio and Székely (1999: p.361) for a dynamic attack on poverty involves abandoning the focus on the family income and its distribution. The focus must instead be on the access of the poor to property, on the better use of asset-generating revenues, and on the accumulation and use of those assets to generate income-earning production. These investigators argue convincingly that the process of human capital formation is decisive for the development of Latin America and for the elimination of its poverty.

PARTICIPATION AND DEMOCRATIC GOVERNANCE

The demand for democratic participation in Latin American countries is at the same time a demand for transparent public administration. In its attempt to move away from authoritarian government, it represents a search for a way of providing the new development model with a genuine social identity.

The monetarist and neoliberal economic policies which have driven the changes to the Latin American state over the last two decades hold the expectation that those changes will make it more efficient and more effective. They have certainly made it smaller and thinner; and the globalization processes they are associated with reduce its sovereignty. That is the external attack; it is also being attacked from within by the economic and political malfunctioning that results. The fact is that, despite the efforts to democratize, most of these states continue to be strongly centralized, their governments permeated by anti-democratic traditions and controlled by the political elites which perpetuate existing relationships and the socio-economic and regional inequalities (Schönwalder, 1997). In an atmosphere of neopatrimonial clienteles, these political elites benefit from the economic inefficiency. This situation is aided by the disconnection between the budgeting, planning and procurement systems which govern the application of financial resources---high levels of technocracy operate here---and evaluation of results; the latter already shows up many limitations and deficiencies, but the evaluation process is still in its infancy. All this must change too if there is to be genuine political and social reform.

There has been some reform of electoral processes. But more than that is needed in the new century: legitimacy of government requires that the reformers must enhance the democratic participation of citizens in the processes of government itself. They must be enabled to exercise their citizen rights, to inspect and criticize the public function, and to participate in the design of policies and programs affecting their communities. Norms of reciprocity between governments and citizens must be established, such as are envisaged in Putnam's (1993a, 1993b, 1995) nomination of institutions to develop social capital---nets of civic commitment---such as neighbourhood associations, cooperatives, sports clubs and mass political parties.

Even as their capacities to make these changes have been diminished by two decades of neoliberalism, Latin American governments are being required to alleviate the imbalances caused by the market, to deepen the processes of economic restructuring and to redefine property relationships (Adelman, 1998). The processes of transition to democracy have had some successes. Thus democratization of Latin American society recovered where it had been eliminated, as for example in Argentina, Brazil and Guatemala, and has been deepened where certain democratic manifestations already existed, as in Colombia, Costa Rica, Mexico, the Dominican Republic and Venezuela. However, the advance and consolidation of Latin American democracy will occur only when it is thoroughly thought through and implemented as a regional strategy of development.

One significant analysis (Cavarozzi, 1992) leads to the conclusion that the dominant theoretical perspective during this period saw the installation and consolidation of the institutions of political democracy as an isolated process separate from the main causes and effects of the transition that was taking place. This analysis suggests that what is now needed is to move consciousness of this political reform to central stage, so that the continuation of authoritarian management systems is reversed and a new womb of political-social and economic relationships constructed. The democratizing wave must not be allowed to be blunted by recurring economic crisis.

This will involve a recognition that the capacities of the state have been weakened to such a degree that the military are presently increasing their activities to provide emergency services, and that this tendency must be reversed before provision of the full range of assistance programs required for civil society can make headway (Franck, 1999). The military have been called in or they have themselves volunteered, importantly to control the explosive violence, but also to fill the vacuum left by the weakening of the traditional state. The economic elites must be brought to support instead the participatory democracy, which they too often perceive as a threat to their own interests.

The main challenge is to make the state responsible to the society, the social groups and the citizenry in general. The society will support a government that attends to its necessities, but it will oppose and even rebel if these necessities are not satisfied. The globalization processes that have weakened the Latin American state in their pursuit of modernization must be turned to support social development. They must understand that the political and civil conscience of those who suffer the effects of the application of regressive economic policies will seek to find refuge in the territorial base of democracy, and that these people need to be assisted to develop their own autonomy and promote actions of self-management (Almeyra, 1999).

INTO THE 21ST CENTURY: THE DILEMMA OF GOVERNANCE IN LATIN AMERICA

The low level of governance in Latin America has its antecedents in the weaknesses of the economic, social, cultural and educational policies which existed despite the past strong presence of the authoritarian state and its governing institutions. Sadly, as we have seen, the new economic policies associated with the neoliberal transition of the late 20th century, which weakened that state, did nothing to remove these governance deficits.

What is now required is to develop a critical appreciation that the prevailing international economic system, which mortgages the future of big sections of the population, needs to change. Latin America cannot effect this change alone, but it can exert much more pressure on the levers which have designed and presently perpetuate that system if it now begins consciously to reform its

governance along the lines indicated here. The centre of this debate on governance involves questioning the global economic pattern implemented in the last two decades that has given dominance to the market, and recognising the imperative need to correct the social imbalances it has generated.

Quality governance certainly favours economic growth, but it also demands sustained social development. Economic development needs to be seen as a step towards a higher level of life, to be taken in the smallest possible time and at the smallest possible cost. It is thus a means, not an end in itself. If it has any validity as a process, it must be accompanied by social development, which involves better distribution of income. More generally, it involves an increase in the good of mankind, facilitating constructive coexistence of each member of the population with every other member. Imperatives are participation in community activities and the mutual help that insists on the validity of law and the democratic way of life; to achieve these standards, the horizons of education and culture must be opened and enlarged (Servitje, 1999). In these terms, the results obtained in Latin America over the last 20 years must be seen as very disappointing, and they point clearly to what needs to be done to improve standards of governance in the future.

There are many governance weaknesses to be overcome. Why were public and private investments in Mexico in 1996 less than the annual levels of the 1970s and 1980s? A serious study of the Mexican case (Glen & Sumlinski, 1998; also Standard & Poor's, 1997) points to several main problems: official and private corruption, the traffic of influence, the corruption and inefficiency of judicial organs, the influence of drug cartels, deficiencies in internal security in the form of guerilla groups operating in rural areas, violence in the big cities. Another study (Brunetti et al ,1998a), based on a survey of private sector views of the governments of Central American states (including Mexico, Costa Rica and Jamaica), sought to evaluate the institutional quality of the various countries and located significant obstacles to business opportunity in the rate of crime and robbery, inadequate infrastructure, inflation, corruption and poor financing. All this points to a high degree of risk associated with a government's capacity to establish macroeconomic stability (cf Malvin, 1985; also Brunetti et al, 1998b). Removing sociopolitical uncertainty must be an important component of all efforts to reduce the burden of these existing problems, and central to that cause must be the strengthening of education and health programs and basic social services to support the reduction of poverty. Such policies are essential to modify the economic environment so that a diverse range of individuals will be able to take advantage of opportunities to behave entrepreneurially and contribute broadly to the combined objective of economic growth and social development.

Is the process of selling strategic public enterprises to the private sector likely to be reversed? In their privatization programs, Latin American governments have destroyed the assets of nations, gambling on an assumed prosperity expected to come from globalization processes. Now, it would seem, a better future rests in the possibility that the provision of social welfare and other essential collective goods for a stable democracy may come from state actors and institutions forging close

and mutually constructive links with private actors whose cooperation will be essential if political stability is to be achieved and economic growth restored.

A non-partisan strategy will be required. It must be recognized that all will benefit from such privileged connections between the actors of the state and those of the private sector, and this will not happen unless and until there is developed and entrenched a theory and a policy that stresses the importance of a sense of community identity and yet is tolerant of differences among the diverse members of that community.

The paradox is that, contrary to the principles of neoliberalism that postulate the free market, democracy and individual freedom, the recent reformations of the Latin American state have been implemented under practices of authoritarian government. Also, the interventions that have taken place (such as those under the authoritarians Salinas in Mexico and Menem in Argentina, dictator Pinochet in Chile or the delegate democracy of Fujimori in Peru) have accentuated the practices of a strong presidentialism, cronyism, corporatism and populism. The delegate democracy is a perverse form of democratic governance, maintaining existing iniquities. In the Latin American states at the turn of the century, tendencies sprout toward a system of public administration characterized by an oligarchic pragmatism that still personalizes presidential power. However, the resurgence of populism is another present possibility in Latin America, as in the recent case of Venezuela.

The processes of economic liberalization do not bring the benefits expected in economic growth, distribution of wealth or depression of poverty, and the advance of the processes of democratization is slow. The results appear in the tensions and social and political conflicts which have such serious implications for governance. Moreover, in the resolution of the various conflicts, the Latin American states are losing efficiency and effectiveness because they have fewer resources, insufficient and inadequate means, and reduced autonomy for the formulation and implementation of policies.

The hope for the future is that the causes of this decline will be clearly recognised, and that governments will turn towards the strengthening of social development and social cohesion, which will then surely promote also the cause of economic growth. To do this, they will need to be far more selective in choosing which components of the globalizing process they wish to support; they will need to be stronger in standing against components which restrict their own developmental opportunities. A future in which these things happen may restore for Latin Americans the dream of a democratic Bolivarian utopia.

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END OF VOLUME 2, NUMBER 1

ARTICLES FOR VOLUME 2, NUMBER 2

IS THE DOLLARIZATION OF MEXICO WARRANTED?

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ABSTRACT

The adoption of the dollar as the primary currency by a country is termed dollarization. This paper examines some of the general qualities that make a country a candidate for dollarization. Some of these qualities include being a part of an optimum currency area, having high inflation and devaluation, and having unstable prices. This paper then goes on to specifically evaluate Mexico as a candidate, and the related factors associated with dollarizing Mexico. It was found that theoretically Mexico is an excellent candidate for dollarization. However, due to complicated political and social factors and the lack of long-term evidence in other countries, dollarization is not yet warranted for Mexico.

INTRODUCTION

There has been a great debate regarding the implications of countries adopting the U.S. dollar as their currency. Under dollarization, a country would give up its control over its money supply and its ability to conduct an independent monetary policy. In exchange, the country would enjoy the stability and credibility of the dollar (Salvatore, 2001). Dollarization, like any economic and financial change, has its benefits and costs which are country-specific. The implications of dollarization are extremely complex. Each country that evaluates dollarization will be faced with a vast array of challenges.

Mexico has had a very volatile past in regards to its monetary position. Recurrent devaluation has plagued Mexico's peso for the past three decades (Garza, 1999). This in turn has been accompanied by severe price instability. Mexican leaders are currently seeking a solution to this problem. Dollarization is a possible solution, but it may lead to other social, political, and economic complications. This paper will address the criteria for dollarization, and its general implications. Then it will address Mexico fit for dollarization. Next, the position of the stakeholders will be addressed. Estimated benefits and costs associated with Mexico's dollarization

will be addressed. Next, opposing viewpoints of Mexico's dollarization will be discussed. Finally, a conclusion will be made as to whether dollarization is recommended for Mexico.

LITERATURE REVIEW

The term dollarization refers to using U.S. dollars instead of domestic currency as a unit of account, store of value, or medium of exchange (Melvin & Peiers, 1996). It can also be viewed as the most extreme form of a fixed exchange rate (Velde & Veracierto, 2000). In its most basic form, dollarization occurs when a country willingly replaces its own currency with that of the U.S. dollar. In the case of Argentina, which has proposed to implement a full dollarization regime, it eliminates of the Argentina peso and adopts the U.S. dollar in all day-to-day Argentine transactions (Spiegel, 1999). Not only is the currency replaced, the adopting country must also relinquish its control over its own monetary policy and eliminate primary functions of its central bank. Lastly, it can no longer print its own currency and cannot function as a lender of last resort.

The various forms of dollarization can be explained by the following three general categories obtained from the U.S. Senate Joint Economic Committee, 2000 (Hansen, 2000):

1.	Unofficial Dollarization which generally means that at least 30% of a country's money supply is in U.S. dollars. These countries include most of Latin American and the Caribbean, especially Argentina, Bolivia, Mexico, Peru and Central America; most of the former Soviet Union; and various other countries including Mongolia, Romania, Turkey, and Vietnam.
2.	Semiofficial Dollarization, countries identified by the International Monetary Fund (IMF) who are using U.S. dollars as another legal tender in addition to their own domestic currency. In these countries, the U.S. dollar is widely circulated but plays a secondary legal role to the home currency. Countries in this category include the Bahamas, Cambodia, Haiti, Laos, and Liberia.
3.	Official Dollarization which is full dollarization. This group of countries includes Guam, Marshall Islands, Virgin Islands, East Timor, Samoa, Turks, Puerto Rico, Panama, and Ecuador.

The adoption process of dollarization can either be accomplished unilaterally, whereby a foreign country adopts the U.S. dollar with no support and/or cooperation from the U.S., or bilaterally, which involves forming an official monetary agreement / association with the U.S. (Velde & Veracierto, 2000). An additional type of dollarization, referred to as a multilateral agreement would involve creating an accord between several countries and the U.S. In addition, the citizens of a given country can also bring about dollarization with or without the help of their government. This can be done through de facto dollarization, where citizens make an individual

choice to swap their home currency for the U.S. dollars, or by de jure dollarization, which requires the citizens in a country to utilize their political process to effect a smooth and coordinated currency substitution toward the dollar (Taylor, 2000). De jure dollarization may be a preferred method in adopting dollarization since this would allow the government of the foreign country to make changes to their monetary and fiscal policies in conjunction with the conversion process to facilitate a coordinated transformation. However, for a country that wants some of the benefits of dollarization without having to openly commit to it, de facto dollarization may actually be preferred by a government. Since this form of dollarization is subject to the will of the people and lacks government interaction, it can actual exacerbate a troubled economy if the populace perceives things are going to get worse before getting better.

For a country to consider dollarization, several criteria should be met. The country should be an optimum currency area. It should be unstable fiscally, and have a record of financial volatility. The country should also have the bulk of its trade with the U.S. The country should be socially and politically willing to change. The citizens of the country must also accept the replacement of the local currency with the dollar. These criteria must be intensively investigated before dollarization is implemented (Salvatore, 2001).

The theory of optimum currency areas (OCA) is a useful tool in determining the feasibility of dollarization. "An OCA is a region for which it is optimal to have a single monetary policy and a single currency" (Dellas, 2001). There are two main ways in which to assess the appropriateness of countries forming an OCA. One is on the conditions that warrant a country's adoption of another country's currency, and the other is by the costs and benefits of forming an OCA (Dellas, 2001).

DO THE U.S. AND MEXICO FIT THE OCA CRITERIA?

There are a number of conditions that must be compared to evaluate a successful OCA. There should be a high degree of fiscal integration. High levels of fiscal integration tend to smooth out the shocks of fiscal transfers between high unemployment regions to low unemployment regions. Integration is very highly related when evaluating the border of Mexico. However, when viewed as a whole, Mexico is significantly under-employed, and therefore will not correlate with the U.S. Also highly diversified economies are typically better candidates for OCA than less diversified economies. The diversification acts as a buffer to the myriad of shocks in a complex global economy. This buffer action helps to limit the need for excessive changes in the terms of trade. The U.S. is highly industrially diversified across the nation; Mexico is not.

Trade integration is an important part of being deemed an OCA. With the advent of NAFTA, Mexico and the U.S. increased their trade integration along the border. This should translate into lower costs to dollarize. With a very open economy, the two countries will limit their exchange rate risks.

With two countries with parallel production structures, symmetric trade shocks will also parallel. Exchange rates cannot then fluctuate to help ameliorate the effects of economic shocks. Therefore, the two countries would fit that OCA criterion. However, Mexico and the U.S. are dissimilar in their production structures---other than along the border. With dissimilar structures, dollarization would not provide Mexico with any flexibility during economic shocks.

The benefits of the OCA for Mexico and the U.S. can also be linked to the credibility hypothesis. This hypothesis focuses on the use of a common currency as an anchor to discipline policy makers and private enterprises. In effect, the exchange rate equals a fixed rate when using a common currency. Dollarization would permit policy makers in Mexico and the U.S. to focus on problems other than monetary policy in their economies. This should lead to a more stable and productive environment for Mexico.

For dollarization to succeed in Mexico it must facilitate fiscal and financial stability and economic reform. This reform would then lead to a more balanced budget and stability in the banking industry for Mexico. Mexico would consider dollarization because of past serious economic problems. Otherwise the costs associated with dollarization could outweigh the benefits.

Mexico has been faced with an ill banking system making it a candidate for dollarization. By dollarizing, Mexico's central bank may not be as likely to lend in last resort due to additional constraints. The financial safety net would tighten thereby precipitating more prudent banking decisions. This would help reduce the potential for moral hazard in the banking industry.

Dollarization should also enhance Mexico's financial stability by promoting the growth of domestic financial markets. Mexico's current weak financial standing forces it to have to borrow from foreign banks. Their assets, on the other hand, are in pesos. When faced with depreciating peso currency, the banks and firms are hurt. This contributes to an even weaker financial position, and the cycle continues. Dollarization would combat this problem because the bank's and the firm's assets would both be in dollars (Eichengreen, 2001).

According to Eichengreen (2001), dollarization is most effective for countries whose fiscal policy is controlled centrally. Dollarization would lead to a relative consolidation of public finances which should lead to fiscal reform for Mexico. Dollarization would eliminate excessive inflation and interest rates which have been so problematic for Mexico in recent years. The interest rates would stabilize at U.S. levels, thereby reducing costs of debt.

Salvatore (2001) delineates that a dollarizing country should have very close ties to the U.S. He claims that trade between the two countries should represent a significant proportion of the dollarizing country's Gross Domestic Product (GDP). Since the U.S. is the largest importer of Mexican products, the close ties are apparent. This should ensure that the maximum benefits can be attained through dollarization. Otherwise, Mexico would not want to give up its control over its monetary policy if it was not going to receive substantial benefits for doing so.

In addition, both countries must be politically and socially accepting to the idea of dollarization. In effect, de facto dollarization may occur if Mexico continues to use the dollar

domestically. It literally may only take one side, the government or society, to make dollarization occur. (Pruitt, 1998). For example, if firms in a country demand dollars for their goods and services they are essentially dollarizing the country, albeit, through a very slow process. Similarly, small businesses may also demand dollars from the citizens. It may not be long before the national pride of having the peso as a sovereign currency will be eroded away by necessity of the dollar.

PROPONENTS OF DOLLARIZATION

Mexico, with two main exceptions, fits the mold of what many economists consider as an appropriate candidate for dollarization. The exceptions to this fit are the size of Mexico and its deeply rooted economic past. Mexico and U.S. would be considered by many to be an OCA by definition. The two countries share a high degree of economic diversification. This diversification would help to buffer the transitional shocks of implementation. Mexico and the U.S. are also highly trade-integrated. The more integrated two countries are, the smaller the transition costs when a single currency is adopted.

Mexico and the U.S. have a very open trade agreement. This openness spawns frequent exchange rate adjustments. These exchange rate adjustments result in price instability which then calls for a common currency

Mexico experienced four maxi-devaluation periods from 1976 to 1998, which have been followed by massive price instability. In 1995, Mexico experienced a 637% increase in the price level. This was joined by a year-to-year inflation of 7% to 52% (*Prepared*..., 2000). Mexico has been historically unstable financially, fiscally, and politically, thereby making Mexico a textbook example of a candidate for dollarization.

Mexico is deemed ready for dollarization by many economists, business leaders, and financial experts. Leading Mexican business associations, like Business Coordinating Council, the National Chamber of the Manufacturing Industry, and the Mexican Employers Confederation are in support of a dollar-based economy (Crane, 1999). Many of these groups have lost their confidence in the central banks' ability to keep Mexico out of crisis. The American Chamber/Mexico conducted a survey in 1999 and a small majority 58 percent out of 48 U.S. and Mexican companies operation in Mexico) were in favor of dollarizing the Mexican economy (Crane, 1999).

Mexico's high inflation rate fueled a significant level of price instability. Inflation is the result of both a monetary and an exchange rate problem in Mexico. Dollarization would help end inflation and devaluation. It would also allow the price level to fall to the U.S. level. This could persuade more investors to look to Mexico for investment opportunities. The CCE states with regards to Mexico that "to adopt a strong foreign currency as legal tender stops the problem of recurrent instability, diminishes country risk, and lessens the cost of capital, and eliminates many of the transaction costs." (Crane, 1999).

The importance of the dollar to Mexican business interests has never been stronger. There are many companies that already adopted the dollar for payment of their invoices. The dollar is extensively used, especially in the border-states, for the sale of luxury items, computers, office equipment, trucks and furniture. Capital investments have also been demanded to be in dollars (Garza, 1999). Therefore, de facto dollarization is already occurring.

OPPONENTS OF DOLLARIZATION FOR MEXICO

The outcome for officially dollarizing Mexico would seem to have many positives, but those are primarily speculations. Mexico has a relatively large economy when compared to Panama or Ecuador, two of the other nations that have dollarized. Dollarization has not been a clear-cut success for them and it is still too early to conclude the end results.

Opponents to dollarization have made some strong points. One opponent claims that dollarization is a false solution that only addresses the symptoms and not the root cause of the problems (Puertas, 2000). It is also postulated that many Mexicans fear that converting to dollars will surrender Mexico's control over its monetary policy, thus, putting itself at the mercy of the U.S. and the Federal Reserve (Garza, 1999). Historically, Mexico's monetary policy has been very volatile; however, there is no evidence that the Mexican government would be willing to surrender monetary decision making policy to the U.S. A Mexico more optimistic about a more stable future could find its leaders preferring to rely on supply and demand to determine the currency exchange rate.

Floating exchange rates have two advantages over dollarization: (1) Exchange rates can depreciate (appreciate) and act as the classical "shock absorber" for an economy and (2) What is considered appropriate policy for the U.S. might not be good for other countries. When a country undertakes a pegged exchange rate, it is only promising a conditional action and not an unconditional guarantee of staying with the peg. Thus, governments are not prevented from backing out of the pegged rate nor does the pegged rate prevent the exchange rate from collapsing (Sachs, 1999). A unilateral monetary policy by Mexico would have no formal treaty relationship between the two countries and be predicated on the convenience of Mexico (von Furstberg, 2000). Except along the border, Mexico's economy is relatively inflexible and still commodity dependent. Any policy to preserve the pegged exchange rate by contracting the economy would probably result in costly high unemployment and falling domestic output. Any real devaluation would be achieved via a fall in nominal wages and prices, aggrevating any economic recession.

The Fed (U.S.) could not be expected to open its discount window to Mexico's banks to assist in difficult times. Additionally, U.S. politicians would be expected to be most concerned with domestic issues over international issues as these would be the issues at election time (Falcoff, 1999). Mexico also needs to consider that it is at a different economic and fiscal development point

than the U.S. This difference in the productivity growth rate can be best accommodated by changes in relative prices (Mann, 1999).

Berg and Borenzstein (2000) postulate the debate is no longer centered on inflation stabilization as this problem has abated over the 1990's. Today the problems are the degree of capital mobility and scale of capital flows as well as the apparent frequency and severity of currency crises.

Dollarization supporters rarely address the needed policies that must accompany dollarization to make it feasible and effective. Often, potential costs to both the dollarizing country, in this case Mexico, and to the U.S. are overlooked.

CONCLUSION

Most people would agree that Mexico needs economic reform. Mexico has had a history of inflation, unstable prices, and devaluation. One possible solution to these problems is dollarization. Mexico has many of the characteristics necessary for dollarization. Mexico and the U.S. can already be considered an OCA, a precursor to dollarization. Certainly Mexico's historically unstable financial status would theoretically benefit from the conversion to the stable dollar.

Dollarization would hypothetically benefit Mexico's current state. It should help halt inflation, devaluation, and help set stable prices. This should in turn, result in economic growth and prosperity.

However, there is no substantive proof that these outcomes will occur. Evidence from past dollarizers, such as Panama and Ecuador, do not support the claims made by proponents of dollarization. At this time, dollarization would not benefit either the U.S. or Mexico. The added knowledge from evaluating the results of other nations will allow both Mexican and U.S. stakeholders to re-visit this issue in the near future.

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THE FADING DAY-OF-THE-WEEK EFFECT IN DEVELOPED EQUITY MARKETS

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ABSTRACT

The day-of-the-week effect, one of the most widely documented anomalies, has revealed that security returns tend to be significantly higher on some days of the week relative to other days. If the efficiency of markets improves over time, then the day-of-the-week effect may have faded away in recent time periods. This paper investigates the existence of this anomaly in the world's 23 developed equity markets over the last 22 years. The findings show that the day-of-the-week effect clearly was evident in the vast majority of developed markets during the 1980s, but it appears to have faded away in the 1990s. These results imply that increases in market efficiency over long time periods may have dissipated the effects of certain anomalies in more recent years.

INTRODUCTION

A substantial volume of research on security price behavior has identified a number of persistent seasonal patterns commonly known as calendar anomalies. According to these seasonal anomalies, the tendency exists for securities to display systematic patterns at certain times like days, weeks or months. One of the most widely documented anomalies is the *day-of-the-week effect*, according to which the security returns are significantly higher on some days of the week relative to other days (see e.g., Aggarwal & Tandon, 1994; Barone, 1990; Cross, 1973; Lakonishok & Smidt, 1988). Some studies showed that the average return for Monday is significantly negative for countries like the United States, the United Kingdom, and Canada (see e.g., Aggarwal & Schatzberg, 1997; Balaban et al., 2001; Flannery & Protopapadakis, 1988; French, 1980; Gibbons & Hess, 1981; Keim & Stambauch, 1984; Kohers & Kohers, 1995; Pena, 1995; Pettengill, 1985; Rogalski, 1984; Schwert, 1983; Smirlock & Starks, 1986; Solnik & Bousquet,1990). In contrast, for several Pacific Rim countries, the lowest rate of return tends to occur on Tuesdays (see Brooks & Persand, 2001; Davidson & Faff, 1999; Dubois & Louvet, 1996; Jaffe & Westerfield, 1985).

The literature offers a number of possible explanations for the existence of the *day-of-the-week effect*, (see e.g., Keim & Stambauch, 1984; Miller, 1988; Wilson & Jones, 1993).

However, most of the evidence centers around negative news releases over the weekend (e.g., Berument & Kiymaz, 2001; Penman, 1988). While most research supports the existence of a *day-of-the-week effect*, some offer contradictory evidence. For example, Connolly (1989) and Chang et. al. (1992) submitted evidence to suggest that sample size and/or error term adjustments render U.S. *day-of-the-week effects* statistically insignificant.

These *day-of-the-week* findings appear to conflict with the Efficient Market Hypothesis since they imply that investors could develop a trading strategy that takes advantage of these seasonal regularities. However, once transaction costs and time-varying stock market risk premiums are taken into account, it is not clear that the predictability of stock returns translate into market inefficiencies.

Focusing on the returns in Korea and the United Kingdom, two recent studies have suggested that starting in the 1990s, the *day-of-the-week effect* has disappeared in these countries (e.g., see Kamath & Chusanachoti, 2002; Steeley, 2001). If markets have become more efficient over time, seasonal anomalies such as the *day-of-the-week effect* may have gradually faded away in more recent periods. Given the possible evolution of this seasonal over time, renewed attention to this topic seems warranted. Thus, the purpose of this paper is to test for the existence of this anomaly in the world's developed equity markets over the last two decades. Specifically, the daily returns for the indices of the 23 MSCI-designated developed markets for the period from January 1980 through June 2002 are examined for the continuous presence of this regularity. Furthermore, to generate information on the consistency of this anomaly over time, the overall period 1980 - 2002 is broken down into several sub-periods.

METHODOLOGY AND DATA

In this study, first the daily rates of return for the (Morgan Stanley Capital International) MSCI Developed Markets Indices from January 1980 through June 2002 are calculated and then examined for the persistent existence of the *day-of-the-week effect*. As of 2002, this index consisted of the following 23 developed market indices: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States. The MSCI data was retrieved from Datastream. Those country indices for which information was not available on a consistent basis in the 1980s were excluded from the first sub-period (1980-1990). The combined market capitalization of the companies that comprise the indices is equal to at least 60 percent of the aggregate market value of the respective national stock exchanges which each index represents. Each one of the country indices is composed of stocks that broadly represent the stock compositions in the different countries.

The model employed in this study tests the hypothesis of equal mean returns for each trading day of the week. The specific hypothesis tested is:

H_o: R_i (Monday) = R_i (Tuesday) = R_i (Wednesday) = R_i (Thursday) = R_i (Friday),

where:

R_i = the rate of return, by the day of the week (i.e., Monday, Tuesday, …, Friday) for country index i (i.e., the index for Australia, Austria, …, the MSCI World Index).

Rejection of the hypothesis implies that at least one of the five daily rates of return is not equal to the others. The vast majority of seasonal anomaly studies have relied on parametric tests such as ANOVA, which is known to be quite robust to mild violations of its assumptions of normal distributions and equal variances. No such assumptions are required by the Kruskal-Wallis test, a non-parametric procedure. Many anomaly studies concluded that the returns are either near-normal or that they can be considered normal due to the large number of observations used in their analyses. In this study, both ANOVA and Kruskal-Wallis tests are utilized to examine the existence of the *day-of-the-week effect* in the world's developed equity markets. (Where the assumptions of a normal distribution and equal variances could not be met, a non-parametric test was utilized.) In cases of rejection of the hypothesis, both ANOVA and Kruskal-Wallis do not reveal which specific daily returns differ from each other. In order to identify days with significantly different returns, Duncan's Test Statistics (a parametric multiple comparison test) and, when necessary, the Mann-Whitney U test (a non-parametric multiple comparison test) are utilized.

The methodology employed in this paper overcomes many of the shortcomings found in previous research dealing with seasonal anomalies. For example, the models used to test for the *day-of-the-week effect* incorporate both parametric as well as non-parametric approaches. Also, examining these indices over various sub-periods makes it possible to generate valuable information on the consistency of this anomaly over time.

RESULTS

To investigate the consistent presence of the *day-of-the-week effect* in the developed markets, the overall period under examination (i.e., 1980 through June 2002) was broken down into several smaller sub-periods from four through eleven years. A relatively clear picture emerged from the results. For example, for the 6-year periods 1980-1985, 1986-1991, 1992-1997, and 1998-6/2002, the findings are shown in Table 1: (NOTE: Due to space constraints, details of other sub-periods are not reported.)

Clearly, the hypothesis of equal rates of return by the *day of the week* is rejected in the majority of indices during the first two sub-periods (i.e., 1980-1985 and 1986-1991), while the opposite is true for the subsequent two sub-periods (i.e., 1992-1997 and 1998-6/2002).

More specifically, for the 22 country indices as well as the MSCI World Index, the results of the ANOVA test and the Kruskal-Wallis test to detect differences in the rates of return by the *day*

of the week and by the two 11-year periods (i.e., 1980-1990 and 1991-2002) are reported in Table 2. This table shows the mean rates of return by the *day of the week*, the corresponding standard deviations and the number of observation on which the values were based. Also, the ANOVA (or in cases where the statistical assumptions of ANOVA could not be met, the Kruskal-Wallis) F- and corresponding p-values to test the hypothesis Ho: Ri (Monday) = Ri (Tuesday) = Ri (Wednesday) = Ri (Thursday) = Ri (Friday) are shown.

For example, in the case of the Australian Index, for the first 11-year period from 1980-1990, the hypothesis of no differences in the rates of return by the *day of the week* is rejected at the .005 level. In contrast, for the second 11-year period from 1991-6/2002, relying on Kruskal-Wallis (due to non-compliance with the ANOVA assumptions), the same hypothesis cannot be rejected. Thus, over this latter period, no *day-of-the-week effect* was detected in the Australian Index.

An examination of the 18 indices for which daily returns were available for the entire first 11-year period (1980-1990) reveals that the hypothesis of equal returns can be rejected for 15. For only three indices (i.e., Austria, Denmark, and Hong Kong) could the hypothesis not be rejected. Testing the same hypothesis for the second 11-year period shows the opposite picture. Of the 23 indices for which returns were available for the period from 1991 -6/2002, the hypothesis could be rejected at the .05 level in only three cases (i.e., Japan, New Zealand, and Singapore), while for the remaining 20 indices it could not be rejected.

While the results reported in Table 2 are useful in that they reveal the possible existence of differences in daily rates of return by the two 11-year periods examined, additional information is needed. Specifically, Table 2 reveals that, for many of the indices during the two time periods, the rate of return for at least one day is different from the returns on the other days. For the cases in which rejection of the hypothesis occurs, it is of primary interest to identify the specific days that differ from other days. To conduct a more complete test for differences in returns by the *day of the week*, ten comparisons would be needed for each possible combination (i.e., M-Tu, M-W, M-Th, M-F, Tu-W, Tu-Th, Tu-F, W-Th, W-F, and Th-F). Duncan's test statistic and, where necessary, the Mann-Whitney U test identify the days of the week where the rates of return are significantly different from other days. We perform these tests over the same two time periods discussed in Table 2 to capture gradual changes in market efficiency that may have caused the *day-of-the-week effect* to dissipate over time. We also examined alternative shorter subperiods and the results were consistent with the large two period time frames reported. The results of these tests for the 23 indices examined over the two 11-year periods are reported in Table 3.

For the period from 1980-1990, a *day-of-the-week effect* was evident in 14 of the 18 indices for which daily returns were available for the entire period. For nine of the 14 markets with a *day-of-the-week effect*, (i.e., Canada, France, Italy, Norway, Singapore, Switzerland, the United Kingdom, the United States, and the MSCI World Index), Monday returns were significantly lower and negative compared to most other days of the week. For France, Italy, and Switzerland, Tuesday returns were also negative and significantly lower than Wednesday, Thursday, and Friday returns.

Singapore's index return also was lowest and negative on Tuesdays, but it was significantly lower only relative to Wednesday returns. For the U.S. Index, aside from Monday returns being significantly lower than Tuesday, Wednesday, and Friday returns, Wednesday returns were also significantly higher than Tuesday and Thursday returns. The MSCI World Index also showed negative Monday returns being significantly lower than Friday returns.

An examination of the second 11-year period (1991-2002) clearly reveals the fading away of the *day-of-the-week effect* in developed markets. Of the 23 indices for which daily rates of return could be generated on a consistent basis, only three still retained this anomaly. Japan, Norway, and Singapore continued to display the pattern of a traditional *day-of-the-week effect*, all with negative Monday returns which are statistically significantly smaller than the returns on most of the other days of the week.

SUMMARY AND CONCLUSION

The *day-of-the-week effect* remains one of the most heavily researched seasonal anomalies. The seasonality has shown that for many countries, Monday returns tended to be the lowest of any day of the week, while for some countries (e.g., Japan, Australia), it was Tuesday. A few recent studies (e.g., Kamath & Chusanachoti, 2002; Steeley, 2001) have suggested that the *day-of-the-week effect* has vanished in the two countries examined.

If markets have become more efficient over time, then the *day-of-the-week effect* may have disappeared in more recent years. Relying on both parametric and nonparametric statistical tests, this study examines the evolution of the *day-of-the-week* seasonality for all 23 developed equity markets over the last 22 years. The results indicate that while the *day-of-the-week effect* clearly was prevalent in the vast majority of developed markets during the 1980s, it appears to have faded away starting in the 1990s. These findings imply that increases in market efficiency over long time periods may act to erode the effects of certain anomalies such as the *day of the week effect.*

Table 1: Summary Statistics of Tests of Equality in the Rates of Returns by the Day-of-the-Week by Sub-Periods

H_o: R_i (Monday) = R_i (Tuesday) = R_i (Wednesday) = R_i (Thursday) = R_i (Friday)

Number of Country Indices where:	1980-1985	1986-1991	1992-1997	1998-6/2002
H_o of equal returns is rejected:	13[a]	14[c]	7[e]	2[g]
H_o of equal returns is not rejected:	6[b]	8[d]	16[f]	21[h]
Total Number of Indices:	19	22	23	23

(NOTE: Due to space constraints, details of other sub-periods are not reported.)

[a] The following indices are included in this group: Australia, Belgium, Canada, France, Italy, Japan, the Netherlands, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the World Index.

[b] The following indices are included in this group: Austria, Denmark, Germany, Hong Kong, Norway, and the U.S.

[c] The following indices are included in this group: Belgium, Canada, Finland, France, Hong Kong, Italy, the Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, the United Kingdom, and the World Index.

[d] The following indices are included in this group: Australia, Austria, Denmark, Germany, Ireland, Japan, Singapore, and the U.S.

[e] The following indices are included in this group: Germany, Hong Kong, Japan, the Netherlands, New Zealand, Singapore, and the U.S.

[f] The following indices are included in this group: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, and the World Index.

[g] The following indices are included in this group: Finland and New Zealand.

[h] The following indices are included in this group: Australia, Austria, Belgium, Canada, Denmark, France, Germany, Hong Kong, Ireland, Italy, Japan, the Netherlands, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, the U.S. and the World Index.

Table 2: Testing for Differences in Developed Market Indices' Rates of Return by the Day-of-the Week: ANOVA and Kruskal-Wallace Results for 1/1980 - 12/1990 and 1/1991 - 6/2002

H_o: R_i (Monday) = R_i (Tuesday) = R_i (Wednesday) = R_i (Thursday) = R_i (Friday)

Index:	Period:	Monday	Tuesday	Wednesday	Thursday	Friday	F-value	P-value
Australia	'80-'90	.0310	-.1187	.0845	.1115	.0999	3.71	.005
	Std. Dev.	1.2502	1.3912	1.0357	1.1121	1.0164		
	Observ.	532	566	566	567	555		
	'91-'02	.0147	.0495	.0487	.0438	.0135	*0.15	*.997
	Std. Dev.	.9958	.8586	.9201	.8003	.8801		
	Observ.	557	589	592	593	579		
Austria	'80-'90	.0953	.0498	.0203	.0256	.0466	*5.75	*.219
	Std. Dev.	1.1212	1.0040	0.7861	0.8377	0.7786		
	Observ.	530	553	552	533	532		
	'91-'02	-.0086	.0317	-.0054	-.0248	.0300	*2.22	*.695
	Std. Dev.	1.1742	1.0517	.9519	1.0107	1.0381		
	Observ.	559	582	582	559	565		
Belgium	'80-'90	.0395	-.0853	.0757	.1159	.0930	4.28	.002
	Std. Dev.	1.100	0.8415	0.8678	0.8252	0.8642		
	Observ.	519	556	560	547	530		
	'91-'02	.0223	.0517	.0203	.0400	.0426	0.12	.977
	Std. Dev.	1.0311	.9095	.8984	1.0163	.9411		
	Observ.	555	587	587	578	567		
Canada	'80-'90	-.1562	.0458	.1123	.0305	.0855	6.96	.000
	Std. Dev.	1.1002	.9463	.9221	.9521	.8376		
	Observ.	540	569	567	568	556		
	'91-'02	.0987	.0120	.0069	.0046	.0619	0.97	.421
	Std. Dev.	.9685	1.0433	1.0457	.9508	1.0263		
	Observ.	541	591	593	593	581		
Denmark	'80-'90	.0472	.0637	.0575	.0947	.0654	0.19	.942
	Std. Dev.	.9636	9975	.9307	.8719	.9468		
	Observ.	547	566	562	544	546		
	'91-'02	-.0112	.0494	.0399	.0542	.0730	0.48	.751
	Std. Dev.	1.2092	1.0884	1.0677	1.0893	.9692		
	Observ.	567	590	590	567	565		
Finland	'80-'90	(not available)						
	'91-'02	.0650	.0312	-.0500	.1827	.3094	2.09	.079
	Dev.	2.0997	2.3060	2.1978	2.7089	2.2345		
	Observ.	574	588	586	566	560		

Table 2: Testing for Differences in Developed Market Indices' Rates of Return by the Day-of-the Week: ANOVA and Kruskal-Wallace Results for 1/1980 - 12/1990 and 1/1991 - 6/2002

H_o: R_i (Monday) = R_i (Tuesday) = R_i (Wednesday) = R_i (Thursday) = R_i (Friday)

Index:	Period:	Monday	Tuesday	Wednesday	Thursday	Friday	F-value	P-value
France	'80-'90	-.1234	-.0149	.1299	.1571	.1217	6.20	.000
	Std. Dev.	1.2688	1.0553	1.1162	1.1096	1.0243		
	Observ.	528	560	562	553	549		
	'91-'02	.0228	.1061	.0140	.0434	.0445	0.51	.727
	Std. Dev.	1.2899	1.2172	1.1816	1.2456	1.1528		
	Observ.	555	591	585	583	569		
Germany	'80-'90	-.0394	-.0187	.1221	.0789	.0718	1.93	.010
	Std. Dev.	1.3775	1.1507	1.1154	1.0544	1.0693		
	Observ.	543	563	550	547	547		
	'91-'02	.1084	.0496	.0199	.0196	.0003	0.63	.640
	Std. Dev.	1.4060	1.2487	1.2013	1.2655	1.2396		
	Observ.	568	588	585	573	576		
Hong Kong	'80-'90	-.1902	.0654	.1996	.0964	.1532	*6.74	*.150
	Std. Dev.	2.8467	1.7051	1.4744	1.8098	1.5172		
	Observ.	571	559	558	561	543		
	'91-'02	-.0312	.0178	.1687	-.0906	.1823	*7.29	*.121
	Std. Dev.	2.0461	1.5070	1.9103	1.6830	1.7154		
	Observ.	545	579	575	577	564		
Ireland	'80-'90	(not available)						
	'91-'02	-.0034	.1072	.0215	.0216	.0454	0.78	.541
	Std. Dev.	1.2567	1.1637	1.1929	1.0900	1.0031		
	Observ.	526	586	590	593	576		
Italy	'80-'90	-.0546	-.0374	.1407	.1315	.1624	*25.02	.000
	Std. Dev.	1.5673	1.3346	1.2981	1.4006	1.2306		
	Observ.	554	556	559	558	547		
	'91-'02	-.0150	.0807	-.0155	.0854	.0838	*7.32	*.120
	Std. Dev.	1.6807	1.3895	1.3485	1.3323	1.2915		
	Observ.	567	584	585	587	579		
Japan	'80-'90	.0707	-.0609	.1522	.0492	.0709	*20.91	*.000
	Std. Dev.	1.2016	1.2049	1.0286	.9556	.9354		
	Observ.	539	548	551	552	544		
	'91-'02	-.1535	.0360	-.0251	.0889	.0123	*10.86	*.028
	Std. Dev.	1.4651	1.1574	1.3331	1.2508	1.2624		
	Observ.	548	573	571	570	570		

Table 2: Testing for Differences in Developed Market Indices' Rates of Return by the Day-of-the Week: ANOVA and Kruskal-Wallace Results for 1/1980 - 12/1990 and 1/1991 - 6/2002

H_o: R_i (Monday) = R_i (Tuesday) = R_i (Wednesday) = R_i (Thursday) = R_i (Friday)

Index:	Period:	Monday	Tuesday	Wednesday	Thursday	Friday	F-value	P-value
Netherlands	'80-'90	-.1307	.0482	.1657	.1146	.0454	5.22	.000
	Std. Dev.	1.3313	1.0777	1.1645	1.2007	1.0289		
	Observ.	542	567	563	555	551		
	'91-'02	.1407	.0969	.0144	-.0286	.0359	2.05	.084
	Std. Dev.	1.2193	1.1358	1.0072	1.1046	1.1611		
	Observ.	569	591	592	582	577		
New Zealand	'80-'90	(not available)						
	'91-'02	-.1307	.0379	.0466	.0881	.0665	2.64	.032
	Std. Dev.	1.2462	1.3741	1.3345	1.1950	1.1672		
	Observ.	547	582	591	589	577		
Norway	'80-'90	-.0033	-.0923	.1125	.1450	.0838	2.40	.048
	Std. Dev.	1.5004	1.6613	1.4650	1.4078	1.2673		
	Observ.	541	564	563	541	552		
	'91-'02	-.0600	.0830	-.0497	.0700	.0750	1.70	.148
	Std. Dev.	1.4874	1.2653	1.2641	1.4181	1.1951		
	Observ.	564	589	589	566	574		
Portugal	'80-'90	(not available)						
	'93-'02	.0340	.0755	.0011	.0509	.0691	0.38	.822
	Std. Dev.	1.0940	1.0499	1.0569	1.0691	1.0031		
	Observ.	465	467	480	469	467		
Singapore	'80-'90	-.0779	-.0613	.1407	.0705	.0917	*17.87	*.001
	Std. Dev.	1.5679	1.4791	1.1475	1.3012	1.1185		
	Observ.	556	556	561	559	547		
	'91-'02	-.1696	.0114	.0674	.0698	.1138	*20.66	*.000
	Std. Dev.	1.5963	1.1622	1.2415	1.2508	1.2401		
	Observ.	568	584	579	585	575		
Spain	'80-'90	(not available)						
	'91-'02	.0008	.1375	-.0222	.0426	.1064	1.54	.188
	Std. Dev.	1.3893	1.2671	1.3131	1.3775	1.2455		
	Observ.	574	585	581	575	570		
Sweden	'80-'90	.0401	.0061	.1167	.1526	.1442	*11.17	*.025
	Std. Dev.	1.3723	1.2485	1.0846	1.1527	1.0033		
	Observ.	539	563	560	549	539		
	'91-'02	.1487	.0358	-.0280	.0310	.1381	1.35	.248
	Std. Dev.	1.6728	1.4327	1.5639	1.6111	1.5303		
	Observ.	564	589	588	577	565		

Table 2: Testing for Differences in Developed Market Indices' Rates of Return by the Day-of-the Week: ANOVA and Kruskal-Wallace Results for 1/1980 - 12/1990 and 1/1991 - 6/2002

H_o: R_i (Monday) = R_i (Tuesday) = R_i (Wednesday) = R_i (Thursday) = R_i (Friday)

Index:	Period:	Monday	Tuesday	Wednesday	Thursday	Friday	F-value	P-value
Switzerland	'80-'90	-.1106	-.0441	.1089	.0654	.1056	6.27	.000
	Std. Dev.	1.2063	.8891	.8217	.8184	.7733		
	Observ.	533	562	561	551	546		
	'91-'02	.0691	.0584	.0651	.0374	.0606	0.08	.989
	Std. Dev.	1.2013	1.0576	.9710	1.1085	.9656		
	Observ.	555	589	592	576	572		
U. K.	'80-'90	-.1247	.0681	.1634	.0369	.1444	7.01	.000
	Std. Dev.	1.1374	1.0854	.9599	.9257	.9317		
	Observ.	535	566	567	568	556		
	'91-'02	.0347	.0493	.0048	.0440	.0265	0.19	.942
	Std. Dev.	.9961	.9796	.8993	.9522	1.0040		
	Observ.	541	591	595	595	582		
U. S.	'80-'90	-.0715	.0998	.1181	-.0034	.0761	3.05	.016
	Std. Dev.	1.4068	.9695	.9478	.9588	.9929		
	Observ.	534	569	569	562	553		
	'91-'02	.0947	.0525	.0396	.0322	-.0016	0.70	.592
	Std. Dev.	1.0393	1.0264	.9161	.9775	.9943		
	Observ.	551	594	593	584	577		
World Index°	'80-'90	-.0510	.0282	.1238	.0350	.0802	*17.02	*.002
	Std. Dev.	.8960	.6992	.6801	.6307	.6343		
	Observ.	570	569	569	570	560		
	'91-'02	.0177	.0470	.0106	.0387	.0221	0.24	.919
	Std. Dev.	.8193	.7338	.7098	.7799	.7674		
	Observ.	596	598	596	598	596		

The reported F-values and associated P-values correspond to the null hypothesis of equal mean daily percentage return by the day of the week. An asterisk (*) signifies that due to violations of the ANOVA assumptions, a nonparametric test (Kruskal-Wallis) was employed.

° The MSCI World Index, based on market capitalization, is designed to measure global developed market equity performance. As of 2002, this index consisted of the following 23 developed market country indices: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

NOTE: Those country indices for which daily information was not available on a consistent basis in the early 1980s were excluded from the first sub-period (1980-1990). They included Finland, Ireland, New Zealand, Portugal, and Spain.

Table 3: Summary Test Statistics for Comparisons in the Daily Returns of Developed Market Indices: Results of Duncan's or Mann-Whitney U Tests Comparison of Days With Significantly Different Returns at the .05 Level

Country Index:	Period Jan. 1980 - Dec. 1990:	Period Jan. 1991 - June/2002:
Australia	Tues < Mon, Wed, Thurs, Friday	
Austria		
Belgium	Tues < Mon, Wed, Thurs, Friday	
Canada	Mon < Tues, Wed, Thurs, Friday	
Denmark		
Finland	n/a	
France	Mon, Tues < Wed, Thurs, Friday	
Germany		
Hong Kong		
Ireland	n/a	
Italy	*Mon, Tues < Wed, Thurs, Friday	
Japan	*Tues < Wed	*Mon < Tues, Thurs, Friday
Netherlands	Mon < Tues, Wed, Thurs, Friday	
New Zealand	n/a	Mon < Tues, Wed, Thurs, Friday
Norway	Tues < Wed, Thurs	
Portugal	n/a	
Singapore	*Mon, Tues < Wed	*Mon < Tues, Wed, Thurs, Friday
Spain	n/a	
Sweden	*Tues < Wed, Thurs, Friday	
Switzerland	Mon, Tues < Wed, Thurs, Friday	
U. K.	Mon < Tues, Wed, Thurs, Friday	
U. S.	Mon < Tues, Wed, Friday	
	Wed > Mon, Tues, Thurs	
World Index	Mon < Friday	

An asterisk (*) signifies that due to violations of the ANOVA assumptions, a nonparametric test (Mann-Whitney U) was employed.

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BUSINESS INVENTORIES AND TRADE: THE CASE OF JAPANESE AND GERMAN TRADE INFLUENCE ON AMERICA

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ABSTRACT

The American economy has experienced many problems from the stock market `DOT.COM crash' of 2000-01, to high failure rates among financial institutions and a runaway national debt with growth reducing interest rates that are related, either directly or indirectly, to the negative imbalance in our national payments. The imbalance in the American payments situation has always been primarily the result of a nagging imbalance in trade, exports minus imports of goods. Since the other contributing factors, with the possible exception of tourism and direct business investment, will almost always be negative a positive trade balance is required in order to realize a positive payments balance.

The trend of net export data has become more negative since 1956. Changes in business inventories and final sales data, however, do not indicate any strong general trends over time. Average percent change in Japanese and German exchange rates lagged one year indicate substantial stability until 1973.

Information to help support the validity of these results was obtained using econometric testing. Simple linear regressions of the independent variables against each other were computed. The F, t, and R squared statistics fail to show any substantial relationships between each pair of independent variables, thereby supporting the likelihood that multicollinearity is not a problem in this model.

One critically important factor is the likely possibility that Japan and Germany will respond to the declining dollar with new trade and economic policies under pressure from American business partners and the U.S. Government. The Japanese will be reluctant to make major tariff concessions because of domestic political considerations. For example, the average Japanese family spends 50% of its annual budget on food, compared to 15% for the average American family, because of close political ties between the ruling party and domestic farmers. Outrageous tariffs on food commodities keep prices high by virtually destroying all foreign competition. The Japanese government will have to weigh the loss of domestic supporters against the growing trade problems with America and few governments favor foreign interests over domestic concerns. Only when

America puts pressure on Japanese businesses that sell in American Markets, in the form of tariffs or import quotas, to make concession will the picture change significantly.

Unfilled orders is a key variable that should most likely be incorporated into a model, which includes changes in business inventories as an endogeneous variable because of the impact of, unfilled orders upon inventories and foreign sales.

Net exports should remain an exogeneous variable in most models attempting to evaluate the impact of the trade deficit. Other factors such as high levels of personal savings, and greater reliance upon other nations in trade are examples of complicating factors that could influence U.S. net exports. Such complications could make net exports an exceedingly difficult variable to estimate. Foreign exchange rates remain the best possible independent variables for estimating net exports despite complications in U.S. data related to the demand for U.S. currency.

One variable, which could possibly enhance the trade deficit model, are the levels of U.S. and foreign interest rates. While decreasing U.S. interest rates stimulate the economy, high interest rates provide incentive to foreign investors. A U.S. response to rising foreign interest rates has been to permit the value of the dollar to decline. A gradual shrinkage of the trade deficit is likely to keep an upward pressure on interest rates.

INTRODUCTION

The American economy has experienced many recent problems from the stock market `crash' of October 1987, to high failure rates among financial institutions and a runaway national debt with growth reducing interest rates that are related, either directly or indirectly, to the negative imbalance in our national payments. The imbalance in the American payments situation has always been primarily the result of a nagging imbalance in trade, exports minus imports of goods. Since the other contributing factors, with the possible exception of tourism and direct business investment, will almost always be negative a positive trade balance is required in order to realize a positive payments balance.

After World War II America benefited from a booming economy and a favorable trade imbalance due to the devastation of the war and the rapidly increasing productivity, particularly in the American farm sector. That bonanza began to fade rapidly in the late 1960's and soon turned into a negative imbalance as European and Asian economies rebuilt and became more prosperous. Americans, with their massive domestic market, continued to ignore the growing problems of an unfavorable trade imbalance. The size of the imbalance in trade grew along with the negative effects on the American economy. The oil crisis and inflation of the late 1970's and early 1980's helped focus attention on the problems associated with our trade dilemma, but as inflation eased Americans slipped back into their complacent posture and the problems escalated. The impact of trade on the American economy continues to expand. Americans must stop ignoring the destructive potential as well as the positive benefits that can be derived from a well-planned trade policy. While the U.S.

has maintained a favorable balance of trade in agricultural goods the net export of manufactured products has remained negative. World trade has become more competitive as European, Asian and even South American nations have experienced an expansion of trade with traditional American customers like Japan and Western Europe.

The purpose of this study is to explore the relationships between changes in U.S. business inventories, changes in foreign exchange rates and U.S. net exports. The use of changes in foreign exchange rates of two important U.S. trade partners, Japan and Germany, was successful in demonstrating an inverse relationship between foreign exchange rates and changes in business inventories. Net exports of goods appear to have an inverse and lagged relationship with changes in final sales of goods. This quantitative analysis confirms the possibility that changes in business inventories and final sales of goods have a positive simultaneous relationship. Further research should make it possible to build upon this model for evaluating the impact of foreign exchange rates and the trade deficit upon the U.S. economy.

MAIN RESULTS AND CONCLUSIONS

After econometric testing for possible adverse effects of multicollinearity, heteroscedasticity and autocorrelation, the results of the simultaneous multiple linear regression analysis appear to have captured a quantification of the following hypothesized relationships.

$$CBI = b_0 + b_1CFS + b_2CER_1$$
$$(5.83) \quad (.34) \quad (1.20)$$

$$CFS = b_0 + b_1CBI + b_2NEM$$
$$(10.84) \quad (.85) \quad (.24)$$

CBI = Changes in U.S. business inventories of goods
CFS = Changes in U.S. final sales of goods
CER_1 = Average percent changes in Japanese Yen and West German Mark foreign exchange rates
NEM = U.S. net exports of goods

The first goal of this study was to measure the quantitative impact of net exports and foreign exchange rates as exogeneous variables upon the key economic variables of changes in business inventories and the final sales of goods.

It was discovered that a low value of the dollar in the world marketplace, as measured by changes in foreign exchange rates relative to the dollar, proved to reduce the trade imbalance even though other domestic economic forces were working against the fall of the dollar. Foreign buyers can more easily afford to purchase cheaper American goods when currency markets reduce the value of the dollar. At the same time, as the value of the Japanese Yen and West German Mark advanced, relative to the dollar, our products became more precious to our own consumers as the relative prices of German and Japanese goods rose sharply, reducing demand for the more costly foreign goods.

There was some concern that the potency of the exchange rate factor on trade imbalance would be reduced by the fact that foreigners are often willing to hold dollars, regardless of their relative weakness or strength as measured by exchange rates, because of their international acceptability as payment for debts. This factor did not prove to be particularly important, at least with respect to trade with Japan and Germany.

One explanation for this phenomena is that Germany has rapidly increased its trade with Japan and as these two traditionally strong economies experience further growth in trade they have come to depend less on the dollar as a medium of exchange, since their own currencies have grown in stature as internationally acceptable currency. This results would mean that the Germans and Japanese have begun to treat our currency as they would any other causing the exchange rate to reflect a stronger and more direct impact on the buying and selling of goods between their nations and America.

Further investigation needs to be made concerning this phenomena since it is quite possible that other trade partners such as Formosa, Korea and Canada with close trade ties to America, but less internationally acceptable currencies, may be holding on to dollars with greater tenacity despite the strength or weakness of our currency in international exchange markets.

It would prove valuable to know if the German Japanese experience is unique, as the investigator suspects, or is the rule in trade between the United States and other countries since that will have impact on the choice and effectiveness of foreign trade policy. If the German Japanese experience were unique then it would help explain why exchange rates have not adjusted themselves adequately to eliminate our trade imbalance completely. On the other hand if the German Japanese experience proves to be the rule then that demonstrates that the dollar is not fulfilling its role as the international monetary standard.

It is also important to remember that even with the existence of free floating exchange rates the system is not entirely self adjusting because of international economic conditions and political barriers that prevent the mechanism from working with absolute efficiency.

The influence of exchange rates demonstrates a lagged and inverse relationship with changes in U.S. business inventories. A declining dollar should eventually stimulate the exports of manufactured goods, productivity and the inventory levels of manufactured goods.

It is suggested that changes in the foreign currency rates of Japan and West Germany have a substantial lagged effect upon increases or decreases in U.S. business inventories. The most

obvious reason for this lag is that domestic considerations will have a much greater impact on American business inventories than trade considerations. Most businesses will be more immediately concerned with domestic inflation, consumer spending and consumer confidence indices than on international sales. Some trade dependent companies, which make up about 20% of all U.S. corporations, will of course be impacted immediately but most will not realize the effects of varied exchange rates until some time has passed and those changes begin to be reflected directly in the domestic economy.

Net exports of goods may have an inverse relationship with changes in final sales of goods. Due to increased competition, increases in final sales could possibly be stimulated when imports of goods increase. Goods such as foreign automobiles and microcomputer chips contribute to price wars in the United States.

The inverse relationship between exports and final sales of goods is most likely the reaction of domestic sellers to current domestic market trends. As domestic sales fall, and inventories rise, sellers, particularly those holding agricultural commodities, a crucial American export sector, look around for foreign buyers to take up the slack and exports increase, especially when favorable exchange rates make such deals attractive. The government often encourages this process to reduce its commodity purchase costs when faced with large surpluses of agriculture goods. On the other hand sellers faced with strong consumer demand in domestic markets are less concerned about finding foreign markets and exports fall, particularly if exchange rates make foreign sales less attractive.

Changes in business inventories have been found to serve as a key economic indicator, as shifts from investment to disinvestments in business inventories accounted for 60 percent of the shrinkage in aggregate demand for goods output during the four recessions (1948 1949, 1953 1954, 1957 1958 and 1960 1961). During the first year of four periods of expansion shifts from disinvestments to investment in stocks accounted for 58 percent of the increase in total demand for goods. Business firms with excessive inventories tend to provide greater incentives and reduce prices to increase sales, particularly when exchange rates prove favorable.

Final sales of goods are likewise a key determinant of inventory levels. Changes in demand for goods tend to cause alterations in production levels, which should influence inventory levels. As sales decline production schedules are adjusted downward reducing inventory levels. Changes in business inventories and final sales of goods are thus hypothesized to have a simultaneous relationship.

DETAILED FINDINGS

The trend of net export (NEM) data generally became more negative since 1956. Changes in business inventories (CBI) and final sales (CFS) data, however, do not indicate any strong general

trends over time. Average percent change in Japanese and German exchange rates lagged one year (CER_1) indicate substantial stability until 1973.

High intercorrelation values are indicated between CFS and CBI and CER_1. The correlations of CFS and CER_1, and CBI and NEM, however, are relatively low values. The initial quantitative indications appear to be favorable relative to any possible effects of multicollinearity.

Each equation of the simultaneous model excludes one exogeneous variable and is identified. Tables 1 and 2 show the results of the computerized two stage least squares computations. Each independent variable has the same sign as specified. The F test indicates apparent significance beyond the .05 level for each simultaneous equation. The one tailed t test of each coefficient in each equation indicates significance beyond the .01 level.

Information to help support the validity of these results was obtained using econometric testing. Simple linear regressions of the independent variables against each other were computed. The F, t, and R squared statistics fail to show any substantial relationships between each pair of independent variables, thereby supporting the likelihood that multicollinearity is not a problem in this model.

None of the Glejser and Modified Glejser tests indicate any signs of heteroscedasticity. The Durbin Watson statistics of 2.33 and 2.02 are both above their test upper limits and do not indicate any positive autocorrelation.

Table 1: Econometric Results (Equation 1)

One Tailed T Test Significance: < 0.005		
R Squared Statistic = 0.496		
F Statistic = 8.21, Significance Level < 0.05		
Multicollinearity:		
CFS = 29.04 0.62 CER_1, R Square = 0.018, VIF = 1.02		
Autocorrelation: Durbin Watson Statistic = 2.33		
Heteroscedasticity:	Significance Levels	
	CFS	CER_1
Glejser Test:	0. 577	0. 613
Modified Glejser Test:	0.297	0.267

Table 2 Econometric Results (Equation 2)		
One Tailed T Test Significance: < 0.005 < 0.01		
R Squared Statistic = 0.475		
F Statistic = 7.53, Significance Level < 0.05		
Multicollinearity:		
NEM = 32.65 0.59 CBI, R Square = 0.051, VIF = 1.05		
Autocorrelation: Durbin Watson Statistic = 2.02		
Heteroscedasticity:	Significance Levels	
	CBI	NEM
Glejser Test:	0.690	0.288
Modified Glejser Test:	0.601	0.413

METHODS

A sample of twenty nine years of average quarterly data at seasonally adjusted annual rates from 1958 to 1996 was evaluated using four economic variables: (a) change in U.S. final sales of goods (1982 dollars in billions), (b) change in U.S. business inventories of merchandise (1982 dollars in billions); (c) U.S. net exports of merchandise (1982 dollars in billions); and (d) average percent change of Japanese and German foreign exchange rates lagged by one year. The MicroTSP 5.0 software package (10) and an IBM PC microcomputer were utilized to perform the econometric and regression analyses.

Data for years 1956 through 1996 were utilized in this study. Change in final sales (CFS) data was generated by subtracting the previous years value from that of the current year. Change in business inventories (CBI) data was directly available in the data sources. Net export (NEM) data was computed by subtracting merchandise import totals from export totals. Changes in Japanese and German foreign exchange rates lagged one year (CER_1) were computed using the following procedure: (1) conversion of cent/yen and cent/mark data to yen/dollar and mark/dollar rates, (2) computation of annual percent changes of yen/dollar and mark/dollar rates, (3) computation of simple averages of the annual percent changes of yen/dollar and mark/dollar, and (4) lagging each computed average by one month. Sources of the data for CFS and CBI was table B 7 of the _Economic Report of the President_, which in turn, was based upon Department of Commerce data; and, NEM data was obtained from Table B 20 in this report. Data for CER_1 was obtained from the following three sources:

(a) 1956 60: Federal Reserve Bulletin, December 1961, p. 1495;
(b) 1961 66: Federal Reserve Bulletin, April 1967, p. 682;
(c) 1967 96: Federal report of the President, 1987, Table B 105.

Multiple linear simultaneous regression equations were computed using the two stage least squares technique:

$$CBI = b_0 + b_2CER_1$$
$$CFS = b_0 + b_1CBI + b_2NEM$$

The resulting t, F, and R squared statistics of these computations were initially examined. The model was first tested for multicollinearity by regressing the independent variables against each other (12,158).

The model was also evaluated for indications of possible heteroscedasticity using the Glejser and Modified Glejser tests (2,306 307), and for possible autocorrelation using the Durbin Watson test. After these econometric tests, the t, F, and R squared statistics were again examined.

EVALUATIVE DISCUSSION

It is possible that other variables are likely to be relevant for inclusion in the simultaneous model of this study, and would indicate directions of future studies. One critically important factor is the likely possibility that Japan and Germany will respond to the declining dollar with new trade and economic policies under pressure from American business partners and the U.S. Government. Japan has made some attempts to appease the American Congress, and thus stave off restrictive trade policies aimed primarily at Japan. The Japanese Government has had some modest "Buy American" campaigns and eased up on some tariffs but with little real impact on the trade problem. As the trade deficit with America grows Japan will be forced to reduce tariffs on imports or face a retaliatory tariff that will have widespread destabilizing impact upon their domestic economy. The Japanese will be reluctant to make major tariff concessions because of domestic political considerations. For example, the average Japanese family spends 50% of its annual budget on food, compared to 15% for the average American family, because of close political ties between the ruling party and domestic farmers. Outrageous tariffs on food commodities keep prices high by virtually destroying all foreign competition. The Japanese government will have to weigh the loss of domestic supporters against the growing trade problems with America and few governments favor foreign interests over domestic concerns. Only when America puts pressure on Japanese businesses, in the

form of tariffs or import quotas, who sell to American markets to make concessions will the picture change significantly.

Unfilled orders is a key variable that should most likely be incorporated into a model, which includes changes in business inventories as an endogeneous variable because of the impact of, unfilled orders upon inventories and foreign sales. (9,16) Net exports should remain an exogeneous variable in most models attempting to evaluate the impact of the trade deficit. Other factors such as high levels of personal savings, and greater reliance upon other nations in trade are examples of complicating factors that could influence U.S. net exports. Such complications could make net exports an exceedingly difficult variable to estimate. Foreign exchange rates remain the best possible independent variables for estimating net exports despite complications in U.S. data related to the demand for U.S. currency.

One variable, which could possibly enhance the trade deficit model, are the levels of U.S. and foreign interest rates. While decreasing U.S. interest rates stimulate the economy, high interest rates provide incentive to foreign investors. A U.S. response to rising foreign interest rates has been to permit the value of the dollar to decline. A gradual shrinkage of the trade deficit is likely to keep an upward pressure on interest rates.

All of the above propositions assume economic stability. Future study should be conducted to determine the validity of this assumption. Such further research would be enhanced by the development of a similar model indication trends between exchange rates, final sales of goods, business inventories, and exports between the U.S. and other major trade partners including England, Canada, Mexico, Korea, Formosa, and Hong Kong. The investigators expect that there would be some important differences that would possibly suggest new problems in dealing with the trade problem. The Germany and Japanese economics may prove to be exceptions to the rule with respect to trade between America and other nations since the importance of the dollar as an international exchange unit may be less with respect to the yen and mark that with other currencies.

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THE DOLLARIZATION OF ARGENTINA AND ECUADOR

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ABSTRACT

Many countries are repeatedly trying to find their way out of economic or currency problems. Several of these countries have turned to the United States' dollar as a means of doing so. The U.S. dollar is a medium of exchange used throughout the world that has proven to be a strong and stable currency. This paper focuses on the implementation of dollarization for the countries of Ecuador and Argentina. It starts with defining dollarization, and reviewing the main types of dollarization. It then gives an overview of each country prior to its implementing dollarization, and next analyzes each country as a result of dollarizing. Finally, it looks at the economic prospects for the countries.

INTRODUCTION

Over the last few centuries, many countries have experiences economic disasters. Economists and governments both have debated for years over the different exchange rate regimes and how they can help an emerging or ailing economy prosper. They have theorized about a variety of monetary policies to help control inflation and initiate growth in their economies. Two countries that have recently undergone changes to turn their ailing economies around are Ecuador and Argentina.

Argentina and Ecuador have had tremendous struggles over the last few years, and had no choice but to drastically change the way their economies were managed. Both countries have resorted to a type of dollarization to try to improve the economic conditions. Dollarization, briefly summarized, is a process by which a country abandons its own currency and adopts the currency of a more stable country, commonly the United States' dollar. There are two main types of dollarization to consider: full dollarization and unofficial dollarization (Caplen, 1999).

The term full dollarization means the total elimination of a country's currency, and its complete replacement with some form of a stronger currency. Full dollarization occurs when a

government makes the official decision to use a foreign currency for all transactions including government and private debt, and both public and private bank accounts are converted to dollars. The country's monetary base is converted into a dollar-denominated currency, or U.S. Federal Reserve notes. In the process of full dollarization there is a lengthy time span of conversion into the new currency. There is usually a deadline established where all holders of the domestic currency have to convert all of their domestic currency into the new currency at a predetermined rate of exchange. After the designated deadline, the previous domestic currency becomes worthless. The U.S. dollar would then be their sole legal tender (Caplen, 1999).

The more popular type of dollarization is unofficial dollarization. It is also referred to as "currency substitution." Unofficial dollarization may occur when the value of the local currency becomes too volatile. Holders of the domestic currency look for a more stable currency, and begin to use it for purchases, personal savings, and loans. When using unofficial dollarization, both currencies exist throughout the economy. People do their transactions in either currency, and most businesses throughout the economy will accept either currency (Maroney, 2002).

Countries have been using dollarization to stimulate their economy throughout the last century, but only recently has it become such a growing trend. Many citizens of countries that are plagued with high inflation or the devaluation of their currency start to look for a more stable currency to use. This process of finding and using a more stable currency is the beginning of unofficial dollarization. Once they start using this stronger, more stable currency they lose faith in their domestic currency which in turn devalues the domestic currency even more. This devaluation along with the new surplus of a strong stable currency are two strong factors which lead a country into the implementation of full dollarization (Maroney, 2002).

The purpose of this paper is to discuss the dollarization of Argentina and Ecuador. Each section begins with an overview of the country prior to its implementing dollarization. Next, the paper analyzes each country and the effects from dollarizing. The paper then concludes with prospects for, and comments about, each country's action.

LITERATURE REVIEW

Cooper and Kempf (2001) focused on a study of political institutions on inflation, and the dollarization of Argentina. Much of their study involved how dollarization can solve the inflation problem of an ailing economy. They believed that the delegation of the monetary control could reduce inflation.

Velde and Veracierto (2000) focused on the efforts of Argentina to peg its currency to the American dollar. They reviewed Argentina's history and many different types of dollarization. They analyzed the role of the lender of last resort. They ended with a cost-benefit analysis on whether Argentina should implement dollarization.

The Economist (No Good Options, 2002), published an article detailing the economic malaise in Argentina. It focused on different options that Argentina's government might use. It discussed how pegging Argentina's currency to the dollar affected its commerce, and also went over various plans to improve economic conditions, which included the devaluation of the peso.

Harper, et al (2002) wrote a study that focused on conversion currencies in the United States dollars for international trade. They thoroughly reviewed the cause of the conversions, and analyzed the results of the conversion of Ecuador due to dollarization. The study delved heavily into Ecuadorian trade in the United States.

Another study (Mixed Blessings, 2002), in Economist reported financial conditions in Ecuador after the adoption of the U.S. dollar. This study showed how inflation slowed after the implementation of a dollarization system. It also presented the concerns that Ecuador might suffer the same difficulties that Argentina experienced after they pegged their currency to the U.S. dollar.

ARGENTINA

Pre-dollarization

At the start of the twentieth century, Argentina was reportedly one of the 15 wealthiest countries in the world. They had a reported gross domestic product (GDP) per capita of only 40 percent lower than that of the United States, the world leader at that time (Velde and Veracierto, 2000). However, this early success of the country did not last.

Over the last four decades Argentina has been plagued with a very high average annual rate of inflation. Between the years of 1963-1970 the annual rate of inflation averaged 30.3 percent, then rose up to 200 percent between the years of 1973-1978. It increased to an average of 380 percent during the years of 1983-1987. By the year 1989, inflation in Argentina exceeded 3,000 percent while its markets practically ceased to function and productivity declined (Cooper and Kempf, 2001). This long history of disastrous monetary policies and repeated hyperinflations are major factors that practically forced Argentina to make the decision to change its exchange rate regime (Velde and Veracierto, 2000).

Carlos Menem was elected president of Argentina in May 1989, at a time of 78 percent monthly inflation. Over the past decade, when there has been a strong decline in an emerging market economy, the recent trend seemed to be for the ailing government to look toward some type of dollarization to solve their problems. Argentina in desperation followed this trend to help pull its country out of its turmoil (Argentina in a fix, 2001). The Argentine Congress passed the "Convertibility Law" in March 1991. This established the convertibility of the austral, the Argentine currency since 1985, into the U.S. dollar at a rate of 10,000 australes per dollar. In 1992 the peso

replaced the austral, at a rate of 1 peso for 10,000 australes. Thus began Argentina's unofficial dollarization implementation (Velde and Veracierto, 2000).

Post dollarization

The laws instituted by the Convertibility Act placed strict limits on the Argentine Central Bank's policy. Under the Convertibility Law, every peso in the economy had to be backed by a dollar in reserves, and the Central Bank had to sell dollars for pesos at a rate of one U.S. dollar for one Argentine peso. It was mandated that free reserves consisting of gold and foreign currency were to be maintained at a level of no less than 100 percent of the monetary base (Velde and Veracierto, 2000).

Throughout the 1990's Argentina was known as an emerging market success story. Its success was mainly attributed to the adoption of the Convertibility Law. For the first time in many years inflation was controlled and for most of the 1990's interest rates were lower than for other similar economies. In 1995 inflation finally fell to an annual rate of less than 5 percent. In 1999, Argentina experienced a new concept of deflation as prices fell by -2.2 percent (Cooper and Kempf, 2001). This deflation was attributed to the new currency board and the adoption of the Convertibility Law.

The prosperity Argentinia experienced decades before seemed to be returning in the early 1990's, but toward the end of the decade it quickly started to disappear again. Argentina's economy simply collapsed. Brazil's currency devaluation in January 1999 appeared to be dragging Argentina's economy down also. The unemployment rate skyrocketed to nearly 17 percent, which seemed to crush an already depressed labor force. The country that had enjoyed emerging-market status switched back to underachiever status (Pastor and Wise, 2001).

Argentina's use of unofficial dollarization was blamed for pushing the country back into recession by permitting the strong dollar to escalate the peso to damaging heights. This seemed to overvalue the currency considering similar economies have sunk as much as 40 percent compared to the U.S. dollar, throughout the same time span (Argentina in a fix, 2001). Argentina was then at a disadvantage in exchange rates making it difficult to compete in the global market, which also resulted in a widening trade deficit that was very expensive to finance (Argentina's bottomless pit, 2002) .

Another disadvantage of an unofficial dollarized economy like Argentina is that assets denominated in domestic currency begin to lose their reserve value. As uncertainty grows, so does the demand for foreign currency or for assets denominated in foreign currency. An increasing demand for foreign currency can lead to further pressure for the devaluation of the country's exchange rate. That tends to reinforce inflation, which the country is trying to avoid. When there is an increase in the number of dollar-indexed contracts, it creates levels of vulnerability of exchange rates and typically leads to a high inflation and economic instability (Studart, 2001).

Argentina's economy became highly vulnerable to the changes of expectations of future exchange rates. Changes of expectations motivated many people to withdraw huge amounts of money from the country. This reduced the international reserves, and in turn resulted in even greater financial instability of the currency (Studart, 2001).

Another disadvantage countries have when they have dollarized is the inability of their Central Bank to act as the lender of last resort if their banking industry experiences a crisis. In a non-dollarized economy, the central bank can freely print currency and lend cash to the banking sector. The banks can repay these loans back to the central bank after the crisis passes. In a dollarized economy, a central bank cannot freely print the dollarized currency, which limits the lending resources (Altig and Humpage, 1999).

Argentina foresaw these problems when implementing its new monetary reforms, and opted to have some control for discretionary policies. For example the Central Bank was allowed to hold up to one-third of its reserves in dollar-denominated Argentine government bonds, but it may not increase the bond holdings by more than 10 percent over the previous year's average. This allows the Argentine Central Bank to still utilize their government to alter the monetary base (Altig and Humpage, 1999).

In 1996, Argentina established the Contingent Repurchase Facility. This facility offered temporary funds to banks. The Facility gave Argentina the option to sell bonds to a group of international banks under a predetermined repurchase agreement. This established a type of lender of last resort for illiquid banks (Altig and Humpage, 1999).

There is no clear-cut pain-free solution for repairing Argentina's economy. Analysts cannot agree as to what exactly went wrong in the first place. Many analysts still advocate full dollarization as the answer to Argentina's myriad problems. This appears confusing to many others who believe that the unofficial dollarization is what brought the economy to ruins (Argentina's bottomless pit, 2002).

When Argentina's newest president, Eduardo Duhalde, arrived in office the economic options of the government seemed very limited. The past convertibility system had to come to an end. The only two logical exit options for Argentina were the freely floating peso and full dollarization (No good options, 2002).

Argentina's population did not believe that the freely floating peso would be feasible. The citizens were in favor of the devaluation of the peso, and then repegging the peso to a combination of currencies that included the euro, dollar, and Brazil's re a l (No good options, 2002). If the United States dollar grew in strength relative to Argentina's currency, it would create inflation and imbalance for the economy. Using three currencies would diminish the influence of the pegged currency.

A number of international observers agreed that a floating currency was the best turnaround option for the ailing economy. The general opinion was this would allow the peso price to fall while being controlled by the market. They argued that it would initiate a more competitive exchange rate,

which could propel Argentina out of recession while providing a buffer from other external economies. However, these positives were overridden by the potential risks and costs for Argentina. One risk was that the currency could depreciate too much causing uncontrollable hyperinflation. The costs of floating a currency could be bankruptcy for many investors, firms, and banks since most debts are still in dollars, while incomes are received in pesos. With Argentina's past cycles of inflation, and their lack of confidence in the economy, these factors could have exacerbated a bad situation (No good options, 2002).

Back to a float

On January 11, 2002 Argentina ended its eleven-year peg to the U.S. dollar. After four years of recession, President Eduardo Duhalde allowed the peso to freely float, thus letting the market control the value. On the first day of the free float, the peso lost 39 percent of its value. This was not regarded as disastrous; many economists had anticipated an even larger devaluation. They suggested that the devaluation was kept down to 39 percent by the simple fact that most Argentineans had such a limited amount of cash on hand. Many wanted to purchases dollars but could not due to their lack of ready cash (Value of Argentina peso, 2002).

One way the government tried to lighten the impact of the monetary change and forecasted devaluation was to automatically convert all bank loans of $100,000 and less, on a one-to-one conversion. Another governmental maneuver was accomplished one day prior to the official float. President Duhalde ordered that all checking accounts over $10,000 and all savings accounts over $3,000 be converted into fixed term deposits, which froze them for at least one year (Value of Argentina peso, 2002).

Throughout 2002, the peso continued to decline, losing 70 percent of its value. The real GDP rose .9 percent between the first and second quarter, which was the first rise between quarters in two years. However, even with the rise, the real GDP for the year was still down 13.6 percent from the year before. The plunging value of the peso and the stringent limits on bank withdrawals directly impacted consumer spending, almost destroyed consumer credit, and pushed consumer confidence to an all-time low (Cooper and Madigan, 2002).

The Argentinean Government released a confident budget proposal for 2003. The proposal assumes 3 percent economic growth, falling inflation, and a stable peso. Many economists hail this as an optimistic fantasy, especially since the Argentina government has lost funding from the International Monetary Fund (IMF) after failing to meet the IMF's budget goals. Their first step must be to regain the IMF aid (Cooper and Madigan, 2002).

Argentina is pinning its hopes on its new monetary policy. However, with continued financial crises, government turmoil, and social unrest, 2003 is projected by most economists to be another rough year for Argentina (Value of Argentina peso, 2002).

ECUADOR

Pre-dollarization

Before the dollarization, Ecuador's economic numbers were poor and its economy was very susceptible to external shocks. In 1999, there were high levels of capital flight and internal imbalances that could have led to the collapse of the economy. The economy was drastically hurt by bank failures, a large public sector deficit, and an expansionary monetary policy. The real GDP fell by 7.3 percent in 1999, inflation hit a high of 52 percent, while the sucre depreciated by 274 percent against the dollar. The country fell into a deep recession. Declining oil prices, El Nino, and the devaluation of Brazil's currency led the Ecuadorian government to search for a way to stabilize its economy (Gajewski, 2001).

Ecuador, throughout its history, has experimented with different exchange systems. In just the last fifteen years, Ecuador has tried crawling pegs, free and controlled exchange rates, and fixed exchange rate systems. (Emanuel, 2002). Nothing worked. Politically, Ecuador continued to face repeated hyperinflation and had four presidents in as many years. The financial system collapse forced the country to default on $6 billion dollars in bonds. Another major problem was their failure to reach an agreement with the IMF. Many Ecuadorian banks perished, and the country was overwhelmed with inflation of up to 30 percent per month. The government decided to implement full dollarization as the financial solution to restore the economy (Smith, 2002).

Post-dollarization

President Jamil Mahuad, on January 9th 2000, announced that the sucre would be replaced by the U.S. dollar. He was overthrown just two weeks later. Vice President Gustavo Noboa immediately stepped in as the president and, perhaps surprisingly, continued to advocate the full dollarization proposal.

Dollarization was chosen by Ecuador to introduce a strong, stable currency into its economy (Emanuel, 2002). Under the conversion the sucre, Ecuador's national currency, was replaced at the rate of one dollar for every 25,000 sucres. The economy seemed to have recovered almost instantly (Ecuador's Political Organization, 2002).

The process of Ecuador dollarizing was divided into three parts. The first part was the unofficial dollarization process. In this process people voluntarily replaced all of their currency holdings from sucres to dollars. This started in 1990 when 99.9 percent of deposits were in sucres. The next part was that the government announced to formally dollarize. Formal dollarization occurred in January, 2000, and, because of unofficial dollarization, the economy was already 60

percent dollarized. The last segment of the process was the actual exchange of all remaining sucres for dollars in December of 2000. By this time the economy was already 97.4 percent dollarized (Emanuel, 2002).

Since the implementation of full dollarization, Ecuador's economic indicators have been rising. The confidence of investors and the public grew while interest rates dropped. It appears that dollarization in Ecuador has been a positive turning point, but it will not solve all of its problems; it is only the first step. The government will have to implement many institutional reforms and strict fiscal policies to pull the economy out of its recession. Although there are still a lot of problems in Ecuador, dollarization appears to have tamed its hyperinflation (Gajewski, 2001).

Ecuadorian Foreign Minister Heinz Moeller has declared the policy of dollarization a success. He attributes this to the strict implementation guidelines which have in effect disciplined the government's expenditures. Since it can no longer just print more currency to overcome a crisis, they in fact have averted crises (Ecuadorian Minister says, 2002).

Through the year 2000, prices started to stabilize and the measure of confidence throughout the business sector returned. Businesses reported increasing sales and hiring, and local banks reported an increase in deposits. These were positive indicators that the dollarization plan was working (Harper, et al, 2002).

Dollarization in Ecuador also helped improve tax collections. Tax collection increased from $1,300 million in 1999 to $2,300 million in 2001 giving the government much needed strength. The increase in tax collection was credited to three things: (1) the new currency was not constantly losing its purchasing power like the old currency; (2) the strengthening economy was reflected in GDP growth and tax collection; (3) the government had improved its tax collection ability through a better control of tax evasions (Emanuel, 2002).

In 2001, the Ecuadorian economy grew by 5.4 percent; the construction sector grew nearly 20 percent, retail commerce and tourism 7.7 percent, and industry by 5.5 percent. These were the fastest growth rates in Latin America (Smith 2002). Inflation in Ecuador dropped from 91 percent in 2000 to 22 percent in 2001, and the government finally seemed to have balanced the nation's budget. With the economy having shrunk by nearly 8 percent just a few years before, the economy has plenty of room to grow (Mixed Blessings, 2002).

Dollarization also facilitates international exchanges. One prior drawback was that previously companies had to develop new accounting software with duplicate fields for the unofficially used U.S. dollar and their own currency. Accounting software had to take into account entries for two currencies with one field for the U.S. currency and one field for the local currency. Another example is the past retail value of many high priced products that were stated in U.S. dollars, while wages were paid in sucres. These differences made the products unaffordable for many of the Ecuadorians (Harper, et al, 2002).

Many companies throughout Ecuador were also having problems due to the volatile domestic currency. These companies began to advertise their products in U.S. dollars even before official

dollarization. The companies not selling their products in the U.S. dollar were forced to require a minimum 50 percent down payment when the order was placed. This was to prevent a potential loss in profits from the volatile exchange rate. If the product was not sold within hours, the volatility of the exchange rate gouged the retailer for a loss (Harper, et al, 2002).

Since Ecuador and the United States began sharing a common currency, the value of the Ecuadorian exports to the United States rose from $250 million to $647 million. This occurred in less than two years. Also the value of U.S. exports to Ecuador decreased from $1,684 million to $1,039 million. This was an added plus for the strengthening of the economy for Ecuador, but the Ecuadorian government is still asking for special tax reductions form the U.S. on its exports to improve the trade deficit even more (Harper, et al, 2002).

Perhaps the greatest achievement of dollarization is the reduction of inflation. The average rate of inflation fell from 60 percent in 2000 to 16 percent in 2002, and is expected to soon reach single digit numbers. There has also been a strong increase in the purchasing power of its currency, and a large increase in banking deposits, indicating the growing confidence of the population. Recently, the IMF, for the first time in eighteen years, recognized Ecuador's achievements and has approved a disbursement of funds to aid the country (Emanuel, 2002).

Even with all these improvements in Ecuador's economy, many of the citizens are still not reaping the benefits. The real wages are declining, and 56 percent of Ecuadorians earned less than $42 dollars per month, which is considered poor even by Ecuadorian standards. A recent opinion poll in Ecuador focused on the two cities of Quito and Guayaquil. It revealed that half the respondents wanted to return to their former currency, the sucre (Mixed Blessings, 2002).

Ecuadorians that want to return to the sucre have many concerns about the new exchange rate system. A primary worry is the government debt. Debt services on past loans take up half of the government's budget, and any fluctuation in the government revenues could cause a default on more government loans. Also, the government's revenues are very volatile as a result of being dependent on changing oil prices. The economy has very little diversification outside of the oil industry. The last concern deals with competitiveness. With a currency growing stronger compared to similar countries, exporters are having trouble competing in markets (Mixed Blessings, 2002).

While inflation decreased, and bank deposits were on a strong increase, Ecuadorians were finding money in their pockets. They were starting to snap up imports that they could never have afforded in the past. But along with their cheaper imports, their stronger currency made exports more costly and therefore, less competitive. Also tourism sharply declined due in part to cheaper vacation prices for countries with weaker currencies (Kraul, 2002).

The effect of dollarization on Ecuador's exports and imports created a major problem of a widening trade deficit. This trade deficit is similar to what the country of Argentina went through before their economy crashed. This has many economists fearing the same situation could happen in Ecuador. (Kraul, 2002).

The ten-year old Andean Trade Preference Act expired in May, 2001. It was enacted to motivate farmers in Peru, Ecuador, Bolivia, and Columbia to not process raw cocaine. The Act helped introduce export industries to Ecuador and created a $250 million flower market (Kraul, 2002).

Ecuador has been leaning on the United States to renew the expired Andean Trade Preference Act, which would once again extend preferential trade to Andean countries. The inflation and exchange rate changes have decreased the competitiveness of Ecuadorian exports. The proposed Andean Trade Preference Act would eliminate the U.S. duties on Ecuadorian goods giving Ecuador a much better chance to compete in the U.S. market and further reducing the trade deficit (Kraul, 2002).

DISCUSSION

Since Argentina had operated a Currency Board, full dollarization would not have been as drastic a change as for most economies. The benefits and the costs of full dollarization would have been limited relative to a nation under a floating exchange rate regime. Nevertheless, a move to full dollarization would have been a large commitment. Argentina would have had to give up complete control of their money supply, along with enforcing strict policies of spending throughout all parts of their budget in government. That said, the move might have been the best choice for Argentina, precisely because it would have left the government less opportunities to destroy their economy with bad decisions (Antinolfi and Keister, 2001).

Argentina, with its new exchange rate regime, has issues that it must overcome before its economy will escape from its recession. These include: restraining inflation, restoring macroeconomic stability, and putting the economy on a path of recovery. The IMF believes to do these there needs to be a credible monetary anchor that gives the authorities the clear capacity to limit the creation of peso liquidity to the demand to hold pesos. The IMF also emphasizes that there cannot be adequate monetary control without an early and permanent solution to the problem of the release of frozen deposits. (Köhler, 2002).

In Ecuador, the government lost the capacity to control its money supply and the sucre lost much of its purchasing power value. The government moved to a full dollarization system that seems to be working, but dollarization has made prices of everyday products unstable and high. Once a price level parity is reached and prices stabilize, the strong possibility of economic growth exists. Even so, the government must reduce the outstanding government debt (Smith, 2002). There also needs to be a significant strengthening of the business industry for its economy to grow; Ecuador must be able to cope with external financial shocks of other countries. There is still much work that remains to be done to achieve a strong banking system, create complementary monetary

and fiscal institutions, and reach political consensus. If all these pieces fit together, the forecast for long-term success in the monetary regime is favorable (Kraul, 2002)

CONCLUSION

Many economists agree that both Argentina and Ecuador had little choice but to make a change in their monetary policies. They both had seen their economies plagued with misfortunes and disastrous fiscal policies. Neither country was having any growth or stability with their economies. There was a lot of volatility in their currencies and inflation was uncontrollable. Both of these problems had to be controlled and a foundation for growth of their economies had to be initiated. These factors led both countries to different forms of dollarization.

Argentina has been weighed down with a history of disastrous economic monetary policies. The recent attempt to allow the peso to freely float seems to push hyperinflation, which could lead them in a circle back to where they started eleven years ago. The government has to keep strict policies not allowing hyperinflation or a massive devaluation of the peso.

Ecuador has had many problems in the past government and economic systems. Its move toward dollarization has seemed to be the pivotal point in their economic turnaround. The economic indicators have recently shown improvement; there has been growth in the economy, while inflation has plummeted, and the government has started to regain control of the national budget. With continued success of the government, growth in the economy, and confidence in its population about the economy, Ecuador could emerge into a prosperous country. The success or failure of Ecuador will be studied closely by a number of other countries contemplating dollarization as their saving grace (Kraul, 2002).

Both Argentina and Ecuador chose new exchange regimes expected to enhance their economies. Dollarization was never hailed as the panacea for all problems. In theory, both countries recognize these changes will lay the foundation for long-term economic stability and growth . For success, both countries must continue to support their decisions, build confidence throughout their populations, and implement policies that will shore up their new exchange rate regime. It will not be easy for either country, but both have the possibility to overcome the obstacles and thrive.

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FOREIGN DIRECT INVESTMENT IN THE UNITED STATES: AN EMPIRICAL ANALYSIS OF FOREIGN INVESTMENTS

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ABSTRACT

Foreign Direct Investment (FDI) is essentially the total purchases of domestic assets or claims by foreigners. The United States (U.S.) has been a favorite destination of FDI from Europe and Japan. The purpose of this paper is to determine the perspectives of foreign investments in the United States on a Historical-Cost Basis (FDIUS). The study will provide a comprehensive look at the players and the industries which receive the most foreign investment. In doing so, the study also provides some justification for such a trend.

INTRODUCTION

Foreign Direct Investment in the United States (FDIUS) is defined as the ownership or control, directly or indirectly, by one foreign person of 10 percent or more of the voting securities of an incorporated U.S. business enterprise or the equivalent interest in an unincorporated U.S. business. A U.S. affiliate is a U.S. business in which there is foreign direct investment (Bureau of Economic Analysis (BEA). Total foreign investment in a country is generally divided into portfolio investment, where the investor is a passive holder of stock or debt, and direct investment, where the investor maintains some degree of active control over the company in which the investment takes place. With the foreign markets approaching saturation and increasing competition from other foreign countries, (Canada, Europe, Latin America, Africa, The Middle East, and Asia/Pacific) the U.S. is an attractive target for foreign investment. Since the mid 1980's, foreign investment has become more and more important to the U.S. economy. Foreign investment helps to finance the large U.S. federal government deficit, as well as provide much needed capital for investment in new plant and equipment (Douglas Meade, 1997).

John H. Dunning's Eclectic Paradigm Theory can be associated with Foreign Direct Investment (FDI). The principal hypothesis on which the Eclectic Paradigm is based suggests that a firm will engage in FDI if and when three conditions are satisfied. First, a firm must possess ownership advantages. These include such considerations as technology, know-how and brand names, and must be of sufficient value to overcome the risks of locating in an unfamiliar business environment. Second, a firm's motivation to invest abroad depends not only on its ownership advantages, but also on its desire and ability to internalize these ownership advantages. Internalization is the procedure by which a multinational firm preserves its ownership advantages by establishing a foreign subsidiary rather than leasing or selling its ownership advantages. The final aspect of the Eclectic Paradigm is location advantages. Location advantages determine which countries or regions host production by Multinational Corporations (MNC's) (O'Hagan and Anderson, 2000).

Here are some reasons for why firms from one country would want to do foreign investment in another country.

1.	Closer access to the market of the host country, especially in the face of protective tariffs or other restraints.
2.	Low wages in the host country relative to the source country.
3.	High return on investment in the host country relative to the source country.
4.	High liquidity in the source country (Douglas Meade, 1997).

The timing of foreign investment can be affected by the following factors:

1.	Exchange rate movement - if the currency of the host country is perceived to be temporarily below its equilibrium level, then firms may perceive it is a good time to invest in that country.
2.	Tax policy changes - an imminent change in tax policy may make foreign investment more urgent.
3.	Business cycle effects - foreign investment tends to be correlated positively with the growth of GDP. One reason is that this signifies that the host market is strong, and the outlook for profits in that market is good. Another reason is that mergers and acquisitions tend to be more prevalent in periods of strong economic growth, and many of these mergers and acquisitions are financed by foreign capital (Douglas Meade, 1997).

Tim Pastoor, Director of Global Risk Assessment stated, "What we have to assess at all times in our company is what our products can do, whether conditions are adverse or good". "The key factor for our investors is the economic climate for business, not the economy of the country as a whole" (Corporate Location, 2001).

LITERATURE REVIEW

Bureau of Economic Analysis (1994-2000) compiles information on FDIUS (furnished by the U.S. Department of Commerce) into tables on FDIUS on a historical cost basis. These tables look at FDI from Canada, Europe, Latin America and Other Western Hemisphere Countries, Africa, the Middle East, and Asia/Pacific. Europe continues to be the U. S. major source of FDI, with countries like the United Kingdom, Netherlands, Germany, and France. The Asia/Pacific region has been increasing investment over the 1994-2000 periods, with countries such as Japan, Singapore, and China. Also, these tables show the major industries that receive the most FDI. Manufacturing continues to lead followed by wholesale trade, insurance, finance, and petroleum.

Borga and Mataloni Jr. (2001) focus on the growth of the historical-cost position of foreign direct investment in the United States in 2000. In 2000, the historical-cost position of foreign direct investment in the United States grew 28 percent, while that of U.S. direct investment abroad (USDIA) grew 10 percent. The continued global boom in mergers and acquisitions contributed to the growth in 2000. Most of the cross-border mergers and acquisitions involving U.S. companies were with companies in Europe. Healthy economic growth in the U.S. and in many European countries contributed to the surge in business combinations between companies in these two regions. Industry-specific factors also contributed to the wave of mergers and acquisitions. Rapid technological change spurred acquisitions of telecommunications companies, manufacturers of fiber optics and other communications equipment, computer equipment manufacturers, and financial services firms.

A study in Corporate Location (2001) focuses on economic indicators that suggest the U.S. dollar's resilience against foreign currencies may indicate that the rest of the world is unfazed and is keeping faith in the long term potential of U.S. investments. The bottom line is that many non-U.S. companies, especially in Europe, have filled their local markets. If they want to expand, they feel they must have a presence in the world's largest economy and that means coming to America. Many foreign companies come to America to be close to their immediate customers. For example, Lawson Mardon, a Canada-based food and tobacco packaging company, wanted to be located within just a few miles of its major client, Richmond-based Philip Morris, a primary user of Lawson Mardon packaging. "The tobacco industry may be off in the United States but exports to China and the eastern bloc are growing," says Ron Syrkos, Lawson Mardon vice president and general manager. Recent statistics released by the U.S. Department of Commerce (DOC) show that despite America's recent downturn, international companies continue to make impressive direct investments across the states.

Fahim-Nader (1999) suggests that the record outlays reflect the continuing strength and stability of the U.S. economy that provided foreign investors with strong incentives to invest in the U.S. In addition, a desire to gain access to the advanced and growing technological capability and large markets in the United States may have led a number of foreign companies to acquire

information-related business in manufacturing and services. The surge in outlays by foreign direct investors coincides with a sharp increase in overall merger and acquisitions activity in the United States. The petroleum industry illustrates a trend toward greater consolidation within the industry that was also reflected by a number of other substantial petroleum-related investments, particularly in oil refining, distribution, oilfield machinery manufacturing and oil and gas field services. After manufacturing, the biggest acquisition activity occurred in the information sector, which includes publishing, movies and broadcast companies.

Howenstine (2001) examines the different industries that receive the most FDI. He examines areas of technology, manufacturing, and communications. In 2000, investors made sizable outlays to acquire high-tech business in several industries identified with the "new economy" including telecommunications, information services, and communications and computer equipment manufacturing. Outlays were also substantial in a number of other industries-including petroleum, manufacturing, food manufacturing, mining, utilities, investment banking, consulting, insurance, financial management, and advertising services. By country of ultimate beneficial owner (UBO), investors from Europe accounted for 75 percent of total outlays; their share had averaged 64 percent in 1995-1997. Outside Europe, spending was divided among investors from Canada, Latin America and Other Western Hemisphere, Africa, Middle East, and Asia and Pacific.

Meade (1997) discusses FDIUS from Japan and United Kingdom. The United Kingdom is the largest investor of FDIUS and Japan is the second. The United Kingdom and the United States have a long history of close relations. Since the mid 1980's, foreign investment has become more and more important to the U.S. economy. Foreign investment helps to finance the large U.S. federal government deficit, as well as provide much needed capital for investment in new plant and equipment. Investment climbed quickly in the 1980's, to reach a peak in 1987, then fell during the slow growth years of 1989 to 1991. During this period, the Japanese were investing heavily in the U.S. banking and finance sectors. Even though production abroad suffers from additional costs and risks, firms may possess certain advantages in a host country, allowing them to obtain larger profits than domestic firms.

O'Hagan and Anderson (2000) study why Canadian firms choose to invest in particular parts of the U.S. Do Canadian firms invest in the United States to gain greater access to large regional markets? Is it for tax purposes? Is it for skilled labor? This study attempts to answer questions such as these by analyzing data on Canadian FDI in the United States from 1974 to 1994. FDI is an activity owned, organized, and controlled by a firm (or group of firms) outside its (or their) national boundaries. Specifically, Statistics Canada defines FDI as "an investment that is made to acquire a lasting interest and an effective voice in the management of an enterprise operating in an economy other than of the investor" (Statistics Canada, 1997). Why do firms seek to obtain control of operations in a foreign country? Previous studies have attempted to increase our understanding of FDI through push and pull factors. Pull factors are the aspects of a foreign country that attract

investment. On the other hand, push factors are elements of a home country that drive companies to seek investment opportunities elsewhere.

FDIUS ON A HISTORICAL-COST BASIS, 1994-2000

Foreign Direct Investment into the U.S. (FDIUS)has been steadily increasing in the last twenty years. Similarly some industries seem to be a natural candidate for such inflows, while others simply attract FDI because of locational advantage and others.

Total FDIUS on a Historical-Cost Basis, 1994-2000

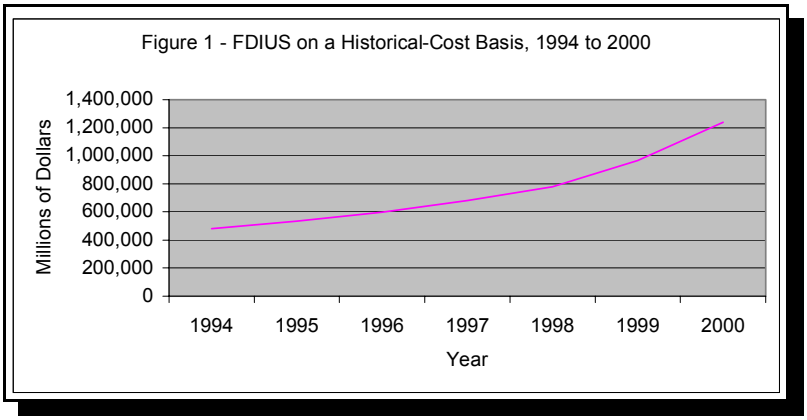
Table 1 shows the total FDIUS for 1994 through 2000. Investment increased 157.69% or $757,960 million. FDIUS increased an average of 13% between 1994 and 1998, $187,214 million (24%) between 1998 and 1999, and $272,995 million (28%) between 1999 and 2000. This can be attributed to the huge growth in technology, the growing financial markets, and the strong U.S. economy. Major advancements in the information technology industry fueled the U.S. economy between 1998 and 2000. Many U.S. corporation stocks were highly overvalued because of large expected future returns on investments.

Table 1: FDIUS on a Historical-Cost Basis, 1994-2000
(Millions of Dollars)

1994	480,667
1995	535,553
1996	598,021
1997	681,842
1998	778,418
1999	965,632
2000	1,238,627

Source: Bureau of Economic Analysis, 2001

Figure 1 is a chart on how FDIUS has increased from 1994 to 2000. FDIUS increased 24.4% between 1994 and 1996, 30.2% between 1996 and 1998, and 59.1% between 1998 and 2000. The chart shows a dramatic increase in FDIUS between 1998 and 2000.



Source: Bureau of Economic Analysis, 2001

FDIUS by Regions

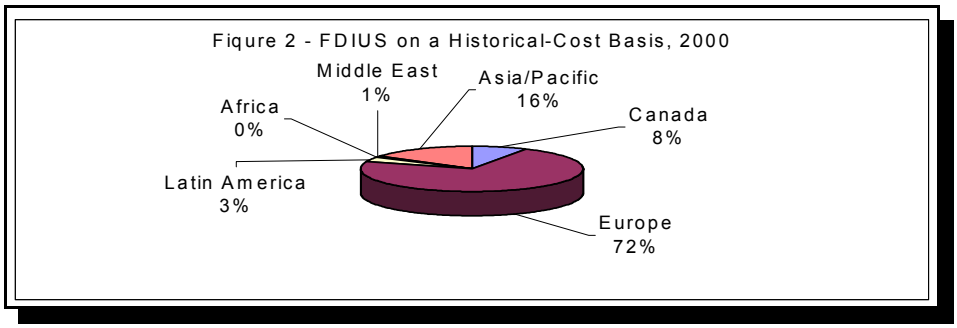
Table 2 shows the FDIUS from Canada, Europe, Latin America and Other Western Hemisphere, Africa, The Middle East, and Asia/Pacific. The major investors for FDIUS are Europe with $890,611 million (72%), followed by Asia/Pacific with $194,002 million (16%), and Canada with $100,822 (8%). FDIUS from Europe has increased $596,576 million (203%), followed by Canada with $59,603 (145%), and Asia/Pacific with $80,954 (72%). Europe's major countries are the United Kingdom, Netherlands, Germany, France, and Luxembourg. Canada signed NAFTA with Mexico and the United States in 1993. The United States is very important to Canada because of its market size and geographic proximity. The Asia/Pacific region includes Australia, Japan, Republic of Korea, Singapore, and Taiwan. Latin America and Other Western Hemisphere countries had increases from Bermuda, United Kingdom Islands, Panama, and Mexico. There is little investment from Africa and the Middle East. This could be associated with governments that control these countries and the lack of an industrialized economy. Table 10 (at the end of paper) gives a complete list of the countries and the FDIUS on a Historical-Cost Basis for 1994-2000.

Table 2 - FDIUS on a Historical-Cost Basis, 1994-2000 (Millions of Dollars)

	1994	2000	% Increase
Canada	41,219	100,822	145%
Europe	294,035	890,611	203%
Latin America	24,526	42,700	74%
Africa	1,230	2,119	72%
Middle East	6,608	8,373	27%
Asia/Pacific	113,048	194,002	72%

Source: Bureau of Economic Analysis, 2001

Figure 2 is a chart of FDIUS from the six regions by percent. Europe has the highest percentage with 72%, followed by Asia/Pacific with 16%, and Canada with 8%. Canada and Europe has long been a favorite for FDIUS. Latin America and the Asia/Pacific areas are new and improving. Africa and the Middle East offer little FDIUS. Harsh dictators control many African countries. The Middle East is in turmoil between Israel and it's Arab neighbors.



Source: Bureau of Economic Analysis, 2001

FDI from Canada

Table 3 shows FDIUS from Canada for 1994 and 2000. FDIUS from Canada was $41,219 million in 1994 and $100,822 million in 2000, for an increase of 145%. The $100,822 million represents 8% of the total FDIUS. Major investments were in transportation equipment and manufacturing. The close proximity to Canadian home offices decreases costs associated with communication and the transportation of parts and components (O'Hagan and Anderson, 2000). For example, Lawson Mardon, a Canada-based food and tobacco packaging company, wanted to be located within just a few miles of its major client, Richmond-based Phillip Morris, a primary user of Lawson Mardon packaging (Corporate Location, 2001). A large proportion of the investment is destined for the Eastern United States, especially Northeastern United States. Canada signed the NAFTA with Mexico and the U.S. in 1993, which should continue investment in the U.S.
The United States and Canada also share one of the world's largest bilateral direct investment relationships. In 1998 the stock of U.S. foreign direct investment in Canada was $103.99 billion, an increase of 8.2 percent from 1997. In 1998, the stock of Canadian direct foreign investment in the United States was $74.8 billion. U.S. investment in Canada, which is a major contributor to the U.S. non-merchandise trade surplus with Canada, is concentrated in the manufacturing, natural resources and financial services sectors.

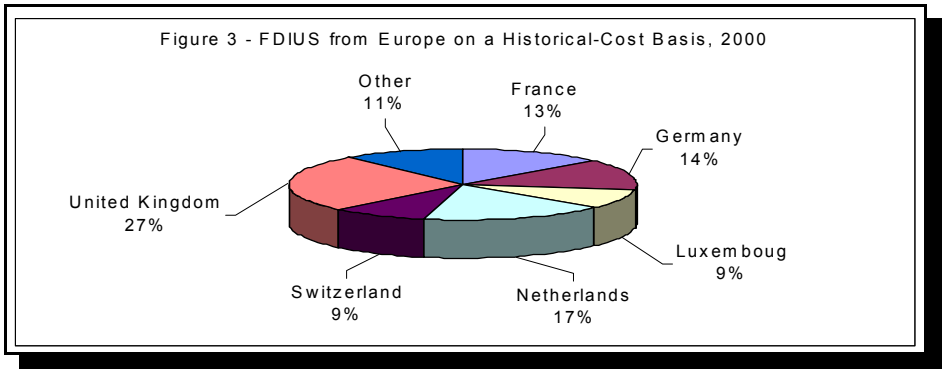
Table 3 - FDIUS from Canada on Historical-Cost Basis, 1994 and 2000 (Millions of Dollars)			
	1994	2000	% Increase
Canada	41,219	100,822	145%
Source: Bureau of Economic Analysis, 2001			

FDIUS from Europe

Table 4 shows Europe's FDIUS for 1994-2000. Europe accounts for 72% of the total FDIUS. The United Kingdom, Netherlands, France, and Germany were the most important sources of FDIUS among the European Union counties in 2000. Increases of FDI from Luxembourg was $81,003 (3520%), followed by France with $86,119 million (261%), Switzerland with $56,762 (228%), Germany with $83,216 (210%), and United Kingdom with $131,030 (137%). Western Europe has a history of close ties with America and its relatively low business risk. This is consistent with foreign relations between the United Kingdom and the U.S. A large share of the total FDIUS occurs though mergers and acquisitions. Many non-US companies, especially in Europe, have filled their local markets (Corporate Location, 2001).

Table 4 - FDIUS from Europe on a Historical-Cost Basis, 1994 and 2000			
	1994	2000	% Increase
France	32,950	119,069	261%
Germany	39,630	122,846	210%
Luxembourg	2,301	83,304	3520%
Netherlands	66,600	152,432	129%
Switzerland	24,936	81,698	228%
United Kingdom	98,732	229,762	133%
Other	28,886	101,500	251%
Source: Bureau of Economic Analysis, 2001			

Figure 3 shows a chart with the European country and percent of investment. The United Kingdom has 27% of the total European FDIUS, followed by the Netherlands 17%, Germany with 14%, and France with 11%. Manufacturing and petroleum are the major industries for investment.



Source: Bureau of Economic Analysis, 2001

FDIUS from Latin America and Other Western Hemisphere

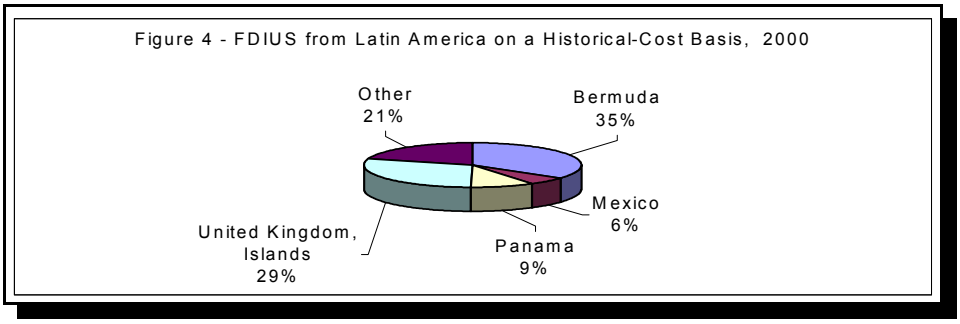
Table 5 shows FDIUS from Latin America and Other Western Hemisphere countries. Latin America has 3% of the total FDIUS. Increases in FDIUS from Bermuda were $13,197 million (765%), United Kingdom Islands $7,240 million (137%), and Mexico $402 million (19%). Bermuda's lacked financial reporting controls, is a haven for foreign investor's, this causes Bermuda to reinvest in the U.S. Mexico signed NAFTA with Canada and the United States in 1993. Foreign investment from Mexico has been increasing because Mexico needs the large U.S. market and the technology. For decades, wealthy Latin Americans have picked up second homes or vacation properties in the United States. Most buyers these days are Colombians eschewing investments in their violence-torn nation, or Venezuelans diversifying away from a fickle stock market. Argentines, too, have turned to U. S. real estate to protect assets as their country founders. Brazilians once played a big role in the real estate scramble, but the devaluing real has diluted that (Dempsey, 2001).

Table 5 - FDIUS from Latin America on a Historical-Cost Basis, 1994 and 2000
(Millions of Dollars)

	1994	2000	% Increase
Bermuda	1,745	14,942	756%
Mexico	2,069	2,471	19%
Panama	4,253	4,004	-6%
United Kingdom, Islands	5,273	12,513	137%
Other	11,186	8,770	-22%

Source: Bureau of Economic Analysis, 2001

Figure 4 shows a chart for country and percent of Latin American and Other Western Hemisphere investment. The largest investors were Bermuda with 35%, followed by United Kingdom Islands 29%, Panama 9%, and Mexico with 6%.



Source: Bureau of Economic Analysis, 2001

FDIUS from Africa

Table 6 shows the total FDIUS from Africa. Africa accounts for less than 1% of the total FDIUS. South Africa is the major investor from Africa. There is little investment from the other African counties. Most African countries are small, both in terms of population and per capita incomes. As a consequence of limited markets, they do not offer attractive returns to potential investors, while progress is diversifying production and exports is retarded. This limits investment in essential infrastructure that depends on economies of scale for viability. The five regional economic groupings of the continent must be strengthened: West Africa, North Africa, Central Africa, East Africa, and Southern Africa (Yahoo, 2001). There are bright-spot countries such a South Africa, Ghana, Uganda, Botswana, and Mozambique to a degree. There are also countries in a state that approaches hopeless, such as Libya, Somalia, Zimbabwe and the Democratic Republic of the Congo. The creation of the African Union and the new economic program should be hailed as evidence of recognition of the African's part that something is seriously wrong - particularly in the field of governance- and that reorganization and reform are urgently required (www.toledoblade.com, 2001).

Table 6 - FDIUS From Africa on a Historical-Cost Basis, 1994 and 2000
(Millions of Dollars)

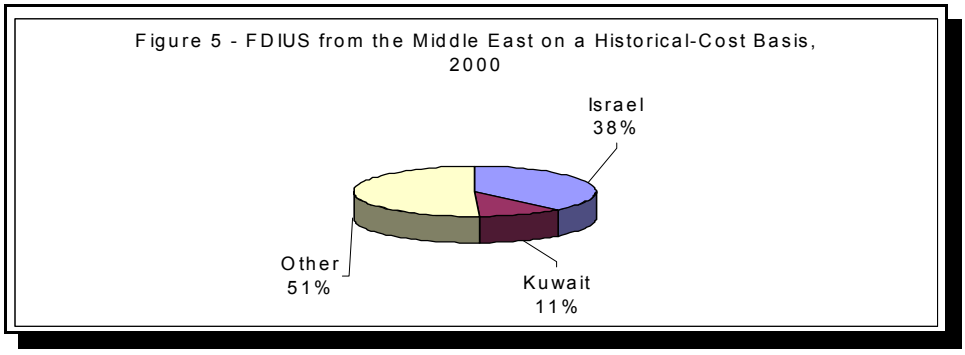
	1994	2000	% Increase
Africa	1,230	2,119	72%
Source: Bureau of Economic Analysis, 2001			

FDIUS from Middle East

Table 7 shows FDIUS from the Middle East. The Middle East accounts for 1% of the total FDIUS. Major countries include Israel, Lebanon, Kuwait, Saudi Arabia, and United Arab Emirates. Israel is the major investor with $3,183 million. This is an increase of 62% from 1999. Kuwait, Saudi Arabia, and the United Arab Emirates have invested large amounts of money earned from oil exports into U.S. stocks and real estate. Some Middle East countries keep FDIUS a secret.

Table 7 - FDIUS from the Middle East on a Historical-Cost Basis, 1994 and 2000			
(Millions of Dollars)			
	1994	2000	% Increase
Israel	1,965	3,183	62%
Kuwait	2,821	957	-66%
Other	1,822	4,233	132%
Source: Bureau of Economic Analysis, 2001			

Figure 5 is a chart that shows FDIUS from the Middle East. Israel has 38% of the total Middle East investment, followed by Kuwait with 11%. Many of the Middle Eastern countries do not report data on certain industries. This is to protect the country and keep the companies financial data secrete.



Source: Bureau of Economic Analysis, 2001

FDIUS from Asia/Pacific

Table 8 shows FDIUS from Asia/Pacific. The Asia/Pacific region accounts for 16% of the total FDIUS. Japan was the biggest contributor to FDIUS with $163,215 million, followed by

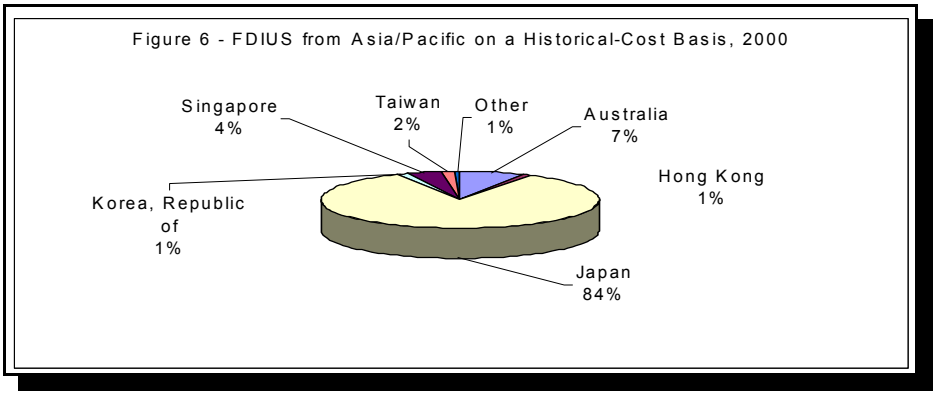
Australia with $14,487 million, Singapore with $7,661 million, and Taiwan with $3,224 million. Japan has the largest increase with $64,702 million. The Republic of Korea with an increase of $2,769 million has a 3793% increase in FDIUS from 1994. The majority of these increases are from manufacturing, particularly automotive. Many U.S. firms have FDI in Taiwan and Singapore. Lower Japanese investment was the "post bubble age" in Japan, when money was tight, and the Japanese economy relatively weak. Also, Japan was busy during this period investing in countries with low labor cost, such as Indonesia and Malaysia, due to the high value of the yen (Douglas Meade, 1997). Because companies like Haier and Holley have access to inexpensive capital through China's overvalued stock markets, "it's relatively cheap for Chinese companies to buy assets in the U.S., and there's a good economic rationale for them to do this," says Jonathan Woetzel, a Shanghai-based director at consulting firm McKinsey & Co. Twenty years ago, China's Holley Group made bamboo brooms. Now it is weeping up high tech companies in North America. Its most recent purchase: technology-design units in Dallas and Vancouver, acquired from Phillips Semiconductor. "We're walking on the shoulders of a giant to take a shortcut into world competition," says Wang Licheng, Holley's 41-year old chairman. Refrigerator maker Haier, telecommunication firm Huawei, and semiconductor manufacturer Huahong are just a few of the Chinese companies that have set up assembly, R&D, venture capital, and other operations in the U.S.

Table 8 - FDIUS from Asia/Pacific on a Historical-Cost Basis, 1994 and 2000
(Millions of Dollars)

	1994	2000	% Increase
Australia	8,838	14,487	64%
Hong Kong	1,505	1,494	-1%
Japan	98,513	163,215	66%
Korea, Republic of	-73	2,696	3793%
Singapore	1,375	7,661	457%
Taiwan	1,574	3,224	105%
Other	1,316	1,225	-7%

Source: Bureau of Economic Analysis, 2001

Figure 6 shows a chart for FDIUS from Asia/Pacific. Japan has 84% of the total Asia/Pacific investment to the United States. Australia has 7% and Singapore has 4%.



Source: Bureau of Economic Analysis, 2001

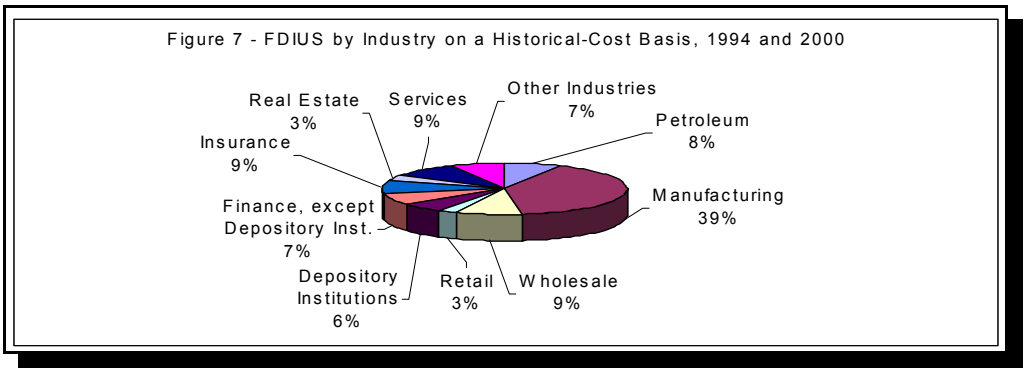
FDIUS by Industry

Table 9 shows FDIUS by industry. Clearly the bulk of foreign direct investment capital is drawn to manufacturing industries with $496,598 million. Within manufacturing, investment is concentrated in food and kindred products $23,442 million, chemicals and allied products $122,083 million, primary and fabricated metals $21,561 million, machinery $118,920 million, and other manufacturing $210,571. Finance has the biggest increase from 1994 though 2000 of $62,955 (251%), followed by services with $72,459 million (196%), petroleum $60,566 million (188%), insurance $67,570 million (174%), retail $20,234 million (171%), manufacturing $307,119 million (162%), and depository $41,480 million (153%). Manufacturing has the highest single increase of $307,119 million.

Table 9 - FDIUS by Industry on a Historical-Cost Basis, 1994 and 2000 (Millions of Dollars)

	1994	2000	% Change
Petroleum	32,290	92,856	188%
Manufacturing	189,459	496,578	162%
Wholesale	63,792	109,611	72%
Retail	11,857	32,091	171%
Depository Institutions	27,139	68,619	153%
Finance, except Depository Inst.	25,127	88,082	251%
Insurance	38,833	106,403	174%
Real Estate	31,613	42,682	35%
Services	37,045	109,504	196%
Other Industries	23,511	90,219	284%
Source: Bureau of Economic Analysis, 2001			

Figure 7 shows a chart of FDIUS by industry. Manufacturing collects 39% of the total FDIUS, followed by wholesale 9%, insurance 9%, and services 9%.



Source: Bureau of Economic Analysis, 2001

SUMMARY AND CONCLUSIONS

The United States has been a favored destination of FDI partly because the pace of deregulation and technological change that has been particularly rapid in the U.S. The record outlays reflected the continuing strength and stability of the United States economy that provided foreign investors with strong incentives to invest in the United States. In addition, a desire to gain access to the advanced and growing technological capability and large markets in the United States may have led a number of foreign companies to acquire information related business in manufacturing services.

FDIUS on a historical cost basis increased 24 % between 1998 and 1999, and 28 % between 1999 and 2000. The six economic areas are Canada, Europe, Latin America and Other Western Hemisphere, Africa, the Middle East, and Asia/Pacific. The top three areas for FDIUS were Europe (72%), Asia/Pacific (16%), and Canada (8%). The top three areas for increases were Europe (203%), Canada (145%), and Asia/Pacific (72%). Western Europe has a history of close ties with America and their relative low risk. The countries from Europe with the highest investments are the United Kingdom (27%), Netherlands (17%), Germany (14%), and France (13%).

The three major investors from Latin America were Bermuda (35%), United Kingdom Islands (29%), and Mexico with (9%). FDIUS from Africa increased 72%. FDIUS from the Middle East increased 27%. The major investing countries from the Asia/Pacific are Japan (84%), Australia (7%), and Republic of Korea (1%).

Table 10 - Foreign Direct Investment in the United States on a Historical-Cost Basis, 1994-2000
(Millions of Dollars)

Year	1994	1995	1996	1997	1998	1999	2000	% Increase
All Countries -Total	**480,667**	**535,553**	**598,021**	**681,842**	**778,418**	**965,632**	**1,238,627**	**157.69%**
Canada	**41,219**	**45,618**	**54,836**	**65,175**	**72,696**	**76,526**	**100,822**	**144.60%**
Europe - Total	**294,035**	**332,374**	**370,843**	**428,721**	**518,576**	**670,030**	**890,611**	**202.89%**
France	32,950	36,167	43,253	50,141	59,925	82,276	119,069	**261.36%**
Germany	39,630	46,017	61,096	68,838	93,289	111,706	122,846	**209.98%**
Luxembourg	2,301	5,756	3,643	11,687	26,804	57,047	83,304	**3520.34%**
Netherlands	66,600	65,116	75,349	84,195	92,298	125,775	152,432	**128.88%**
Switzerland	24,936	27,458	30,363	37,962	48,263	53,706	81,698	**227.63%**
United Kingdom	98,732	116,272	121,582	129,421	137,489	166,900	229,762	**132.71%**
Other	28,886	35,588	335,286	35,557	458,068	60,508	101,500	**251.38%**
Latin America and Other Western Hemisphere - Total	**24,526**	**27,873**	**28,002**	**33,602**	**28,056**	**38,104**	**42,700**	**74.10%**
Bermuda	1,745	2,626	1,471	3,987	3,735	12,590	14,942	**756.28%**
Mexico	2,069	1,850	1,641	3,100	2,055	1,730	2,471	**19.43%**
Panama	4,253	4,939	6,014	5,599	6,227	5,475	4,004	**-5.85%**
UK Islands	5,273	7,207	7,595	11,556	9,885	11,082	12,513	**137.30%**
Other	11,186	11,251	11,281	9,360	6,154	7,227	8,770	**-21.60%**
Africa - Total	**1,230**	**1,113**	**994**	**1,463**	**853**	**1,547**	**2,119**	**72.28%**
South Africa	-5	-2	-30	-28	120	421	663	**13360.00%**
Other	1,235	1,115	1,020	1,491	733	1,126	1,456	**17.89%**
Middle East - Total	**6,608**	**5,801**	**5,812**	**6,773**	**4,126**	**4,432**	**8,373**	**26.71%**
Israel	1,965	1,883	1,604	2,180	2,337	2,485	3,183	**61.98%**
Kuwait	2,821	2,525	2,640	2,964	N/A	916	957	**-66.08%**
Saudi Arabia	0	1,211	1,398	1,476	N/A	946	N/A	
Other	1,822	182	170	153	2,337	623	4,233	**132.33%**
Asia/Pacific - Total	113,048	122,774	137,533	146,109	154,111	174,993	194,002	**71.61%**
Australia	8,838	10,356	14,968	11,721	10,520	13,230	14,487	**63.92%**
Hong Kong	1,505	1,511	1,711	1,656	1,458	883	1,494	**-0.73%**
Japan	98,513	104,997	116,144	125,041	134,340	153,119	163,215	**65.68%**
Korea, Republic of	-73	692	-103	644	1,355	1,853	2,696	**3793.15%**
Singapore	1,375	1,637	1,246	2,635	1,828	1,370	7,661	**457.16%**
Taiwan	1,574	2,142	2,133	2,858	3,194	2,990	3,224	**104.83%**
Other	1,316	1,439	136,099	1,434	1,416	1,548	1,225	**-6.91%**

In 2000, investors made sizable outlays to acquire high tech businesses in telecommunication, information services, and computer equipment manufacturing. Outlays were also substantial in number of other industries, including petroleum, manufacturing, food, mining, utilities, and investment banking, consulting, insurance, financial management, and advertising services. The major industries for investing were manufacturing (39%), insurance (9%), services (9%), and petroleum (8%).

While the economic indicators suggest that the U.S. economy might have an economic slowdown, however, the dollar's remarkable resilience against foreign currencies may indicate that the rest of the world is unfazed, and is keeping faith in the long term potential of U.S. investments. Recent statistics released by the U.S. Department of Commerce (DOC) show that despite America's recent downturn, international companies continue to make impressive direct investment across the states.

The era of massive foreign direct investment in the U.S.- a major source of dollar strength-may be drawing to a close. Economist Joseph Quinlan of Morgan Stanley Dean Witter & Co. notes that net announced merger-and-acquisition inflows (inflows minus U.S. investment outflows) was a paltry $4billion in July, compared with $82 billion in July 2000. Meanwhile, the pending acquisitions by foreign investors are also down sharply. The main cause is a drop in direct investment from Europe, which on a nest basis fell to just $13 billion in the first seven months of this year, from $104 billion in the same period last year. Domestic woes, global overcapacity, and poor U.S. profits compounded by a weakening dollar are tempering Europe's appetite for U.S. acquisitions (Koretz, Gene, 2000). Japanese investors were far less interested in acquiring or establishing business in the United States in 2001, with their direct investment in the U.S. plunging 85.4% from the previous year to 3.8 billion. The Japanese have been investing in China's manufacturing industries.

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DO INTERNATIONAL BANKS' ASSESSMENTS OF COUNTRY RISK FOLLOW A RANDOM WALK? AN EMPIRICAL EXAMINATION OF THE MIDDLE EAST

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Min Qi, Kent State University

ABSTRACT

The article empirically investigates the stochastic properties of a widely used indicator of country risk: Institutional Investor's creditworthiness ratings. It tests whether Institutional Investor's ratings of Middle Eastern countries follow a random walk by checking for unit root. It is important to test for unit root because estimated relationships between environmental variables and indicators of country risk may exhibit spurious relationships. Furthermore, if the variable contains a unit root the impact of changes in perceptions of creditworth may have a long-lasting effect rather than a temporary one. Our analysis reveals that country risk ratings for some countries in the Middle East follow a random walk, even after adjusting for structural changes.

INTRODUCTION

Country risk analysis has increased in importance in recent years. "The phenomenal growth of international capital flows is one of the most important developments in the world economy since the breakdown of the Bretton Woods system of fixed exchange rates in the early 1970s" (Council of Economic Advisers, 1999, p. 221). This increase in cross-border capital flows to developing countries created the need to understand the risks associated with these monies. In response to this growing need, which began to develop rapidly in the 1970s, a number of institutions have constructed methods to measure the country's credit worthiness (also referred to as country risk) to help investors and lenders evaluate their various exposures. Recent crises in the global economy serve to underline the importance of country-risk analysis.

While "country risk" refers to the ability and willingness of a country to service its foreign debt, private firms are also influenced by country risk because their ability to pay their foreign obligations can be seriously impaired by a sudden depreciation of the currency, exchange controls, or insufficient foreign currency in their respective central banks (Wells, 1997). Therefore, foreign companies have adjusted the level and type of investment, and the organizational form of entry into emerging countries based on their perceptions of country risk.

Because country-risk ratings are supposed to reflect the probability of default on foreign financial obligations, the extant literature on the topic shows that country risk impacts a variety of economic factors such as foreign direct investment (Gross & Trevino, 1996), equity ownership (Pan, 1996), stock market returns (Erb, Harvey & Viskanta, 1996), as well as bank loans, bond prices and bond yields (Scholtens, 1999).

Banks' loan practices in developed economies have been called into question when economic crises have unsettled emerging markets. In response to changes in a country's credit ratings, banking institutions have adjusted the volume and interest-rate spread for syndicated commercial loans to developing countries. Feder and Ross (1982) ascertained a systematic relationship between bankers' assessment of country risk and interest rate differential in the Euromarket. This paper is concerned with examining the stability of *Institutional Investor's* country-risk ratings over time for selected Middle Eastern countries using unit root analysis.

Measure of Country Risk

Despite the widespread use of *Institutional Investor's* country-risk ratings in academic research (e.g., Cosset & Roy, 1991; Lee, 1993; Somerville & Taffler, 1995; Grosse & Trevino, 1996; Pan, 1996; Haque et al., 1996), no known studies have examined the stationarity of this measure over time. The focus of this article is to find whether international banks' assessments of country risk follow a stationary path or a random walk or unit-root process. While several measures of country risk exist, we chose *Institutional Investor's* rating system because (1) it is the only measure that is based solely on the ratings of leading international bankers, (2) it is offered free to *Institutional Investor's* readers ensuring widespread dissemination, (3) it is a widely accepted measure by both industry and academia, and (4) it correlates closely with other leading measures of country risk.

As to the latter point, Cosset and Roy (1991) found a high correlation ($r = 0.96$) between the ratings of *Euromoney* and *Institutional Investor*. Brewer and Rivoli (1990) found that Institutional Investor and *Euromoney*'s ratings react similarly to changes in relevant independent variables. To test for convergent validity, Dichtl and Koglmayr (1986) compared the German country-risk ratings of *Manager Magazine* -- which is based on 225 experts from business, banks, Chambers of Commerce and other institutions -- to *Institutional Investor*, finding a correlation coefficient of 83%.

Some country analysts have pointed to the general problem of country-risk measures' reliability and, therefore, their usefulness (Oetzel et al., 2001). They claim that country-risk models often fail to predict crises and discontinuous changes and are reactive rather than predictive. In addition, the political, social and economic context of a country or a region is so complex that it makes prediction virtually impossible. Thus, if the measure of country risk is not actually correlated with realized risk, what is the point of testing or using these measures?

We believe that country risk measures do matter, even if they fail to capture some of the discontinuous changes in the political economy. The main reason is a simple one: decision makers in banking, government agencies, and private companies use these measures and inevitably affect the participants' behaviors. While managers may not always be held accountable for overlooking the knowable, they may suffer repercussions if they ignore widely available information about country risk. Bankers' assessments are especially meaningful not only because they affect their own lending and pricing practices, but also because bankers are typically the international financial advisors of multinational companies and government agencies. While country-risk measures fail to predict discontinuous changes, they are relatively successful in explaining continuous and gradual changes, the kinds of changes that prevail the majority of the time.

Determinants of Country Risk

Researchers have attached a variety of economic and political explanations to the behavior of country-risk ratings (Feder & Uy, 1985; Dichtl & Koglmayr, 1986; Citron & Nickelsburg, 1987; Brewer & Rivoli, 1990; Cosset & Roy, 1991; Balkan, 1992; Oral et al., 1992; Lee, 1993; Haque et al., 1997; DeHaan et al., 1997). Although some dimensions of country risk have emerged, there is no agreement in the literature with respect to the exact specifications of an ideal country-risk model. Table 1 shows a list of explanatory variables used in the various studies along with their corresponding rational and expected influence on the perceived level of country risk. It should be noted that the purpose of the present study is neither to explain nor to predict country risk, but rather to examine the stability of the measure over time to ascertain whether it is even appropriate to include the country-risk measure in future empirical studies, regardless of its common-sense usage.

Table 1. Factors of Country Risk

Factor	Variables	Rational	Expected Sign
Wealth	GNP per Capita* Growth of PCGDP	Wealthier countries can lower consumption to implement an austerity program.	+
Growth	Propensity to Invest Change in GDP	Countries with higher growth have a high opportunity cost of defaulting and are more likely to finance their debt.	+
Financial Ability to Generate Hard Currency	Current Account/GNP, Export Growth Rate, Export Volume, BOP Surplus, Capital Inflw/Debt	These variables are sources of hard currency needed to maintain debt service. It should be noted that some of the variables are expressed as stocks and some as flows.	+
Domestic Economic Structure	Increase Money Supply Rise in Prices Consumption/GDP	High domestic prices will lead to capital flight. Strong domestic economy can deal better with financial shocks.	–
Economic Sensitivity	Export Variability Import Volumes Export Structure Current Acct/GDP	High export variability can sensitize the country to currency crisis. However, the default risk can be smaller because they depend on frequent borrowing to smooth out consumption (Cosset & Roy, 1991).	+/-

Table 1. Factors of Country Risk

Factor	Variables	Rational	Expected Sign
Political Instability	Changes in Gov't Changes in Leadership Political Legitimacy Armed Conflict	Political instability reduces the country's willingness to pay because the costs of obtaining a larger share of GNP through taxation increases the possibility of governmental collapse (Citron & Nickelsburg, 1987). Assumes new government is weaker.	–
International Institutional Affiliation	Credits from IMF Debt Rescheduling or Service Difficulties Claims to IMF Credits from BIS	While no explanation was offered, Ditchtl and Koglmayr (1986) found that credits from the IMF worsen country risk, while credits from BIS improves it.	– +
Leverage	Net Debt/Exports Gov't Debt/GDP Foreign Debt/GDP Debt Payment/Export Total Int. Debt/GNP	Highly leveraged countries are more likely to experience disturbances in debt payments during hard times.	–
Liquidity	Gold Stocks Int. Reserves/Imports Int. Reserves Currency Reserves	While liquidity cannot solve persistent BOP problems, it can help a country deal with short-term fluctuations.	+

A number of researchers have focused on prediction instead of explanation to form a "best-fit" and a practical model, building on the premise that a good model is one that is able to accurately predict the correct level of country risk, even if it does not unveil the entire causal structure. Balkan, for example, stated: "the sign and the value of the coefficients, estimated from a structural model are not very meaningful and usually not robust with respect to alternative model specifications" (1992, p. 999). Because the empirical specification is often not amenable to devising robust structural models, Balkan suggested the replacement of the model-building approach with one that is forecast-based.

Others have criticized the empirical approach to measuring default risk, claiming that the predictive capabilities of the models are not high. The empirical literature on default risk suggests that country risk either follows a random walk or the market of international lending does not fully account for it (Citron & Nickelsburg, 1987). Our paper tests the first argument.

Importance of Unit Root for Country Risk

Understanding whether country-risk measures follow a stationary process has profound implications for international business theory and practice. If the unit root null hypothesis is rejected, or the measures of country risk are stationary over time, and the countries' risk measures will revert to their long run mean. If the unit root hypothesis is not rejected then one can say that

the data follow a random walk (i.e., past observations do not provide information on the future). More to the point, the impact of a shock -- whether positive or negative -- on a random walk can last forever. Several important implications follow from this type of analysis. First, previously established relationships between selected environmental variables and country-risk ratings may exhibit spurious relationships (for problems of spurious relationships, see Granger and Newbold, 1974). Second, univariate forecasts of non-stationary country-risk data are not reliable because shocks are permanent and the mean does not revert to its long-run level. Since *Institutional Investor's* country-risk ratings have been rigorously used as proxies for country risk and/or bankers' perceptions of credit worthiness in developing and testing country-risk models, construction and interpretation, prediction and structural analysis can all be potentially improved from knowledge of the stationarity of the data.

The Middle East

We focused on the Middle East because it is an area that is of strategic importance to many developed countries. The region has a population of about 390 million people and is home to most of the world's oil reserves. Recognizing the strategic importance of the region, the United States spends as much as $60 billion a year to preserve its interests there (Abbas, 1999). Risk assumption is a given since uncertainty is a given. The Iranian revolution, the Iran-Iraq War, the Gulf War, and the Arab-Israeli conflict are just a few examples of the types of events that stem from the political instabilities that plague the region.

Country-risk ratings of one country in the Middle East may spill over to another because countries share external borders, which can lead to disputes over territories, resources (such as energy and water), and ideologies. Regional geopolitical influences both from outside - such as U.S. foreign policy - and inside - such as the Arab-Israeli conflict - may systematically affect all the countries in the region.

Many of the countries also share economic space. Members of the Organization of Petroleum Exporting Countries (OPEC), for example, share a common economic denominator: oil. The impact of oil prices on the balances of payments of oil-producing countries is exactly the opposite of their impact on developed oil-importing countries: the higher the oil prices, the greater the balance of payment surpluses. When world oil prices crashed in 1998, oil exporters experienced financial imbalances and shrinking GDPs. Iran, for example, did not meet all of its debt service obligations to Germany, Italy, and Japan as a result (Dun & Bradstreet, 1999).

A recent study shows that the U.S. and other industrialized nations might become increasingly dependent on oil from the Middle East in the next two decades and will need oil-rich countries in the Gulf to increase oil production by almost 80% to satisfy the world's growing demand (Fialka, 2001). OPEC countries produce about 40 percent of the world's oil and have more than 77

percent of its proven oil reserves. Seven of OPEC's eleven countries are in the Middle East. Saudi Arabia alone has 25% of the world's known reserves, while Iraq holds about 11% (Fialka, 2001).

The next section (Section 2) contains a review of the methodology, including information about the data and the analytical technique used to test for unit root. The empirical results are explained in Section 3. Section 4 includes a discussion of the implications of our analysis. Conclusions and directions for future research are provided in the final section.

METHODOLOGY

Data

Institutional Investor provides a composite rating system that consists of a weighted average of leading international bankers' evaluations of various countries' creditworthiness. Perceptions of leading international banks regarding the risk environment impact the relative score given to each country. The ratings range from 0 (maximum risk of default) to 100 (minimum risk, most creditworthy). The ratings of international banks with the largest worldwide exposure receive more weight than those from smaller international banks. Our analysis divides OPEC from Non-OPEC countries. Figure 1 plots the ratings from 1979 to 1999 for all fourteen Middle Eastern countries considered in the present study, while Table 2 provides several descriptive statistics.

Figure 1. Middle East Countries' Country-Risk Ratings

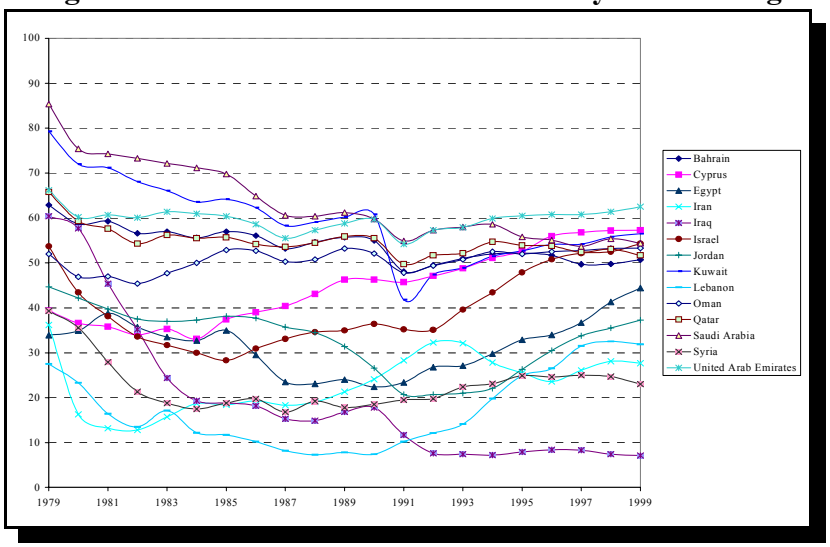

Table 2. Descriptive Statistics							
Country	**Mean**	**Std.**	**Min**	**Max**	**Skewness**	**Kurtosis**	**Correlation (1)**
OPEC Countries							
Iran	23.09	6.53	12.8	36.2	0.22	-0.78	0.67
Iraq	19.87	16.29	7.1	60.4	1.61	1.69	0.98
Saudi Arabia	63.41	8.91	53.7	85.4	0.91	-0.02	0.96
Qatar	54.82	3.31	49.7	65.8	1.84	5.51	0.71
United Arab Emirates	59.77	2.52	54.2	66.2	0.03	1.79	0.50
Kuwait	59.43	8.99	41.8	79.3	0.23	0.08	0.84
Non-OPEC Countries							
Israel	39.99	8.64	28.3	54.3	0.52	-1.23	0.90
Syria	22.77	5.76	16.8	39.3	1.73	3.04	0.90
Jordan	32.87	7.29	20.7	44.7	-0.52	-0.81	0.93
Egypt	31.59	6.29	22.4	44.4	0.13	-0.69	0.89
Lebanon	17.43	8.71	7.3	32.5	0.55	-1.15	0.92
Oman	50.73	2.45	45.4	53.5	-0.84	-0.56	0.62
Cyprus	44.73	8.18	33.1	57.3	0.23	-1.28	0.97
Bahrain	54.11	3.80	48.1	62.9	0.41	-0.24	0.82

Most countries except Jordan and Oman have positive skewness, indicating a distribution with an asymmetric tail extending more toward the right. Nine of these fourteen countries have negative excess kurtosis, which indicates a relatively thin-tailed distribution compared to the normal distribution. The first-order autocorrelation of the countries is fairly high, ranging between 0.50 (United Arab Emirates) and 0.98 (Iraq).

Unit Root Processes and Testing for Unit Root

Whether a time series is stationary or not has both economic and statistical implications. If a series contains a unit root, it is not predictable or mean reverting, the usefulness of point forecast diminishes as forecast horizon increases, the unconditional variance is unbounded, Detrending by regression is inappropriate, spurious regression might happen, and finally the effect of any shock will be permanent; however, for a stationary series, the effect of a shock will fade away over time. For instance, consider the model

$$y_t = \rho y_{t-1} + e_t$$

where:

$$e_t \sim iid(0, \sigma_e^2)$$

Suppose that in some time period, say, T, there is a jump C in e_t. Then if $\rho = 1$ (indicating y is a unit root process), $y_T, y_{T+1}, y_{T+2}, \ldots$ will all increase by C: thus, the effect of the shock C is permanent. On the other hand, if $\rho < 1$ (indicating y is stationary), a jump by C starting with y_T will increase the successive values of y, by c_ρ, $c_{\rho 2}$, $c_{\rho 3}$,... thus, the effect of the shock fades away over time.

On the statistical side, there are two issues: The first is about the appropriateness of trend-removal methods (by regression or by differencing). Studies have shown that spurious autocorrelation will arise whenever a unit root process is de-trended by regression or differenced by a trend-stationary process. The second statistical problem is that the distribution of the least squares estimate of the autoregressive parameter has a nonstandard distribution (unlike the usual t or F distributions) when there is a unit root. This distribution has to be computed numerically on a case-by-case basis, depending on what other variables are included in the regression (constant term, trend, other lags, and so on). This in part accounts for the proliferation of unit root tests and their associated tables.

Testing for unit root was popular in the 1980s and 1990s among econometricians because of its importance in studying the impact of a policy change or an economic event on the economy's long run behavior. The Dickey-Fuller test (1979, 1981) is the unit root test used most widely by econometricians. The test considers three model specifications: a pure random walk, a random walk with a drift (or intercept), and a random walk with both a drift and a linear time trend. The methodology is precisely the same regardless of which of the three forms of the equation is estimated. However, the critical values of the t-statistics are dependent upon whether an intercept and/or time trend is included in the regression equation. The augmented Dickey-Fuller test is similar to the Dickey-Fuller test except that some lagged changes in the series are included in the regression. Dickey-Fuller tests require that errors are statistically independent and have a constant variance. Problems may arise if the error terms are correlated and have changing variance.

Phillips and Perron (1988) developed a generalization of the Dickey-Fuller procedure that allows the disturbances to be weakly dependent and heterogeneously distributed. We thus adopt the Phillips-Perron test in the present study. Our test proceeds as follows. Consider the following model specifications:

$$y_t = \alpha + \beta + \rho y_{t-1} + e_t \tag{1}$$

$$y_t = \alpha + \rho y_{t-1} + e_t \tag{2}$$

$$y_t = \rho y_{t-1} + e_t \tag{3}$$

For each country, Model (1) is estimated first. The null hypotheses $\alpha = 0$, $\beta = 0$, and $\rho = 1$ are tested by the Phillips-Perron test as follows. First, the significance of α and β are tested by their corresponding Phillips-Perron statistics. If both are significant, the parameter estimates and their Phillips-Perron test statistics are reported. If neither of the two coefficients is significant, then

Model (2) is estimated, and the significance of is tested. If significant, results from Model (2) are reported; otherwise, the results of Model (3) are reported. Critical values are from Dickey and Fuller (1981), and Fuller (1976), and we use *, **, and *** to indicate significance at the 10%, 5%, and 1% significance level, respectively.

It should be noted that in performing unit root tests, special care must be taken if it is suspected that structural change has occurred. When structural breaks are present, the various Dickey-Fuller and Phillips-Perron test statistics are biased toward the non-rejection of a unit root (Perron, 1989). Perron (1997) proposed a test for unit root that does not require an *a priori* fixed date of possible structural change, but treats it as an unknown. This test is particularly useful in the present study because the Middle East has been a region affected by numerous political and economic events, both within and outside the region, that span the entire period of investigation.

Perron (1997) studied the various methods used to select the break points and the asymptotic and finite sample distributions of the corresponding statistics. To avoid the possible bias of the Phillips-Perron (1988) test because of the ignorance of the potential structural change, we also conduct the Perron (1997) test. The model we considered is

$$y_t = \alpha + \theta DU_t + \delta D(T_b)_t + \beta t + \gamma t DU_t + \rho y_{t-1} + e_t \quad (4)$$

$$y_t = \alpha + \theta DU_t + \delta D(T_b)_t + \beta t + + \rho y_{t-1} + e_t \quad (5)$$

where T_b denotes the time at which the change in the intercept occurs, $DU_t = 1(t > T_b)$ and $D(T_b)_t = 1(t = T_b + 1)$ where $(\cdot)$ is the indicator function. For each country, model (4) is estimated first.

If Y is significant, the results of model (4) are reported, otherwise, estimate model (5). If Θ is significant, the results of model (5) are reported, otherwise the results from model (1) are reported. For models (4) and (5), the null hypothesis $\rho = 1$ is tested using the critical values are from Perron (1997). Again, we use *, **, and *** to indicate significance at 10%, 5%, and 1%, respectively.

It is obvious that the range of the country risk measure considered in this study is between 0 and 100. Since not a single country hit these boundaries during the entire sample period, unit root tests are still applicable. This is why unit root tests have been widely applied to unemployment rate which is also bounded (e.g., Nelson & Plosser, 1982b).

EMPIRICAL RESULTS

The results for the Phillips-Perron test are reported in Table 3. The null of unit root is strongly rejected (1% significance level) for seven countries: Iran, Iraq, Saudi Arabia, Qatar, Israel, Syria, and Cyprus. The null of unit root is rejected at 5% significance level for United Arab

Emirates. The null of unit root is not rejected at 5% significance level for six countries: Kuwait, Jordan, Egypt, Lebanon, Oman, and Bahrain. One interesting observation is that while the ratings for most of the OPEC countries are stationary, the case for unit root is stronger for Non-OPEC countries.

Table 3. Phillips-Perron (1988) Test for Unit Root in Country Credit Ratings

Country	${}^{\alpha}Z(t_{\alpha})$			${}^{\beta}Z(t_{\beta})$			${}^{\rho}Z(t_{\rho})$		
OPEC Countries									
Iran	15.72	4.81	***	0.68	4.05	***	0.29	-5.07	***
Iraq							0.85	-6.05	***
Saudi Arabia	10.57	3.25	**				0.81	-3.80	***
Qatar	28.48	5.38	***				0.47	-5.54	***
United Arab Emirates									
	34.58	3.41	**				0.42	-3.43	**
Kuwait	15.24	2.34	*				0.73	-2.57	
Non-OPEC Countries									
Israel	11.07	6.40	***	0.61	10.25	***	0.72	-6.49	***
Syria	5.43	3.99	**	0.19	3.74	***	0.73	-4.79	***
Jordan	3.83	2.69	**				0.87	-1.81	
Egypt							1.02	0.40	
Lebanon							1.00	-0.34	
Oman	33.09	3.38	**	0.21	2.57	*	0.35	-3.38	*
Cyprus	21.33	4.71	***	0.69	5.18	***	0.54	-4.49	***
Bahrain	15.21	2.45	*				0.71	-2.58	

Note:

1. For each country, Model (1): $y_t = \alpha + \beta + \rho y_{t-1} + e_t$ is estimated first. The significance of and are tested by their corresponding Phillips-Perron statistics. If both are significant, the parameter estimates and their Phillips-Perron test statistics are reported in Table 2. If either of the two coefficients is not significant, then Model (2), $y_t = \alpha + \rho y_{t-1} + e_t$ is estimated, and the significance of is tested. If significant, results from Model (2) are reported, otherwise, report the results of Model (3): $y_t = \rho y_{t-1} + e_t$.
2. The null hypotheses $\alpha = 0$, $\beta = 0$, $\rho = 1$ are tested by the Phillips-Perron (1988) test. *, **, and *** indicate significant at 10%, 5%, and 1% significance level, respectively. Critical values are from Dickey and Fuller (1981), and Fuller (1976).

Table 4. Perron (1997) Test for Unit Root with Endogenous Time Break

Country	T_b	α	θ	δ	β	Y	ρ	t_θ	
OPEC Countries									
Iran	1993	4.41 (2.80)	-8.63 (-5.87)	3.51 (1.77)	1.20 (10.19)		0.29	-9.89	***
Iraq	1990	4.95 (1.74)	-2.83 (-1.69)	-3.45 (-2.01)	0.00 (0.02)		0.71	-6.48	***
Saudi Arabia	1985	65.55 (6.63)	-7.90 (-5.04)	2.56 (1.53)	-0.51 (-3.60)		0.13	-7.02	***
Qatar	1990	37.10 (6.20)	-0.66 (-0.66)	-4.50 (-3.85)	-0.07 (-0.75)		0.34	-6.65	***
United Arab Emirates	1989	71.42 (5.81)	-19.71 (-4.61)	4.95 (2.98)	-0.52 (-2.62)	1.48 (4.41)	-0.14	-6.06	**
Kuwait	1989	89.54 (12.26)	-57.63 (-12.09)	-19.59 (9.67)	-1.91 (-7.88)	3.64 (10.76)	-0.19	-13.14	***
Non-OPEC Countries									
Israel	1991	7.83 (4.61)	3.38 (2.85)	-4.91 (-3.68)	-0.43 (4.94)		0.65	-8.80	***
Syria	NA	5.43 (3.99)			0.19 (3.74)		0.73	-4.79	***
Jordan	1988	14.58 (4.34)	-17.59 (-4.29)	3.98 (2.18)	-0.21 (-1.17)	1.01 (3.70)	0.64	-4.82	
Egypt	1990	47.47 (4.45)	-58.22 (-4.26)	1.94 (0.83)	-1.94 (-4.49)	4.61 (4.63)	-0.09	-4.46	
Lebanon	1988	17.31 (2.60)	-40.73 (-2.80)	2.65 (0.95)	-1.22 (-2.23)	3.68 (2.95)	0.21	-3.45	
Oman	1990	36.37 (4.48)	-3.61 (-2.44)	-2.06 (-1.30)	0.52 (3.65)		0.20	-4.58	
Cyprus	NA	21.33 (4.71)			0.69 (5.18)		0.54	-4.49	***
Bahrain	1989	64.99 (5.42)	-12.05 (-3.48)	5.52 (3.11)	-0.54 (-2.61)	0.67 (2.67)	-0.09	-5.67	**

Note:

1. Model: $y_t = \alpha + \theta DU_t + \delta D(T_b)_t + \beta t + \gamma t DU_t + \rho y_{t-1} + e_t$. T_b denotes the time at which the change in the intercept occurs. $DU_t = 1(t > T_b)$ and $D(T_b)_t = 1(t = T_b + 1)$ where $1(\cdot)$ is the indicator function. The numbers in parenthesis are the t statistics.
2. The null hypothesis $\rho = 1$ is tested by the Perron (1997) test. *, **, and *** indicate significant at 10%, 5%, and 1% significance level, respectively. Critical values are from Perron (1997).

While most (11 out of 14) of the Middle East countries have a significant drift term, few (5 out of 14) present a significant time trend. The five countries that show a positive significant trend in the ratings are Iran, Israel, Syria, Oman, and Cyprus, largely agreeing with the plots in Figure 1.

The results from the Perron test are reported in Table 4. The unit root test results from the Phillips-Perron test in Table 3 largely hold in Table 4 despite the fact that the Perron test detected structural breaks for all the countries but Syria and Cyprus. The null of unit root was not rejected in Table 3 for Kuwait and Bahrain without structural break, but is rejected when the structural change is considered in Table 4. The Perron test reinforces the proposition that the country-risk ratings for most OPEC countries are stationary; the case for random walk is much stronger for most of the Non-OPEC countries.

In Table 4 a casual inspection of T_b, the year at which the change in the intercept occurs, and δ, the change in the intercept in the following year, shows the impact of some historical events on country-risk ratings in the Middle East. For example, T_b for both Iraq and Kuwait detected the Iraqi invasion that led to the Gulf War. The single largest year drop of 19 points in the rating for Kuwait from 1990 to 1991 (the so-called innovational outlier) was successfully captured by the unusually large negative δ of -19.59. In the next section, we will examine this event in more detail.

DISCUSSIONS AND CONCLUSIONS

The empirical results of this study imply the following. First, there is a presence of unit root in *Institutional Investor's* ratings of country risk, suggesting a potential for spurious regression in econometric studies. Second, OPEC risk ratings are on average higher and more stable compared with non-OPEC Middle Eastern countries. Third, the Gulf War marks a change in the structure of country-risk ratings of six out of fourteen countries in the Middle East, but, ironically, Saudi Arabia is unaffected. Fourth, sub-regional categorization of Middle Eastern countries can help explain differences in the country-risk ratings of international bankers.

Unit Root in the Middle East

The presence of unit root in the data of some developing countries suggests that the use of country-risk ratings in regression modeling is problematic both in longitudinal and in cross-sectional research designs using the measure. This is a significant finding given the many studies that use *Institutional Investor* to explain and predict country risk. Such models could potentially report only a spurious relationship. The instability of country-risk ratings for some countries in the Middle East is also indicative of these countries' political and economic structures. Countries with non-stationary country-risk ratings are more likely to experience disturbances with lasting effects.

OPEC vs. Non-OPEC

The results show that non-OPEC countries of the Middle East are more likely to exhibit unstable country-risk ratings, in addition to being more likely to have less- favorable country-risk ratings, compared with their OPEC-member neighbors. This challenges the previous proposition that country risk is likely to be adversely affected by a country's dependence on fuel exports (Haque et al., 1996). Furthermore, in the context of the Middle East, Kassicieh and Nassar (1982) claimed that the economic dependency of OPEC countries on oil has destabilized their economic and political structures because of fluctuating oil prices leading to debt repayment problems. Building on this argument, Alon et al. (1998) suggested that fluctuating revenues have made it difficult for the governments of OPEC countries in the Middle East to maintain their welfare states, resulting in a disgruntled citizenry. In contrast to these arguments, the present analysis of the Middle East suggests that countries that have oil will actually benefit from fewer fluctuations in bankers' evaluations of their country-risk structure. Evidenced in Figure 1 and Table 2, of the six OPEC countries listed, four (Saudi Arabia, United Arab Emirates, Kuwait, and Qatar) have been receiving consistently higher ratings than the included non-OPEC countries.

The Gulf War

On August 2, 1990, Iraq invaded Kuwait, triggering an immediate international backlash including UN economic sanctions, the entry of U.S. forces into Saudi Arabia, a U.S. blockade, an Arab League vote to commit troops to Saudi Arabia, and pledges by Saudis, Kuwaitis and the Japanese to contribute billions of dollars to opposition forces (Congressional Quarterly, 2000). The years surrounding Iraq's invasion of Kuwait and the Gulf War have been marked by a structural change in the country-risk ratings of eight of the fourteen Middle Eastern countries in our study. Four of six OPEC countries -- Iraq, Qatar, Kuwait, and United Arab Emirates -- as well as four of eight non-OPEC members -- Israel, Egypt, Oman and Bahrain -- are impacted by these events. The Gulf War sent country-risk shockwaves that spread beyond the borders of Iraq and Kuwait, perhaps starting a new era of regional political economy in the region. The Gulf War was a turning point in Middle Eastern global politics: it is the first time in recent history that a regional Middle Eastern war had powerful repercussions on the global economy, culminating in the direct involvement of a superpower.

Ironically, the overall country-risk ratings of Saudi Arabia were not affected by the Gulf War, despite the fact that so much Allied military activity was launched from within its borders. The military and financial support provided for Saudi Arabia has shielded its country-risk ratings from deteriorating in the eyes of international bankers. Since Saudi Arabia is by far the largest producer of oil in OPEC, the international community had a large stake in preserving the stability of Saudi Arabia's borders.

Based on the Perron test (1997), the risk ratings for most countries in the Middle East experienced a downward break in the intercept terms. The multi-country effect displayed in the country-risk ratings of the Middle East supports Alon et al.'s (1998) findings that political risk spillovers are present in the Middle East and Nigh's (1986) call to examine political risks within a regional framework. The data suggest that international bankers make global evaluations of the region in addition to the country-specific variables affecting country-risk climate.

Sub-categorization of the Middle East

OPEC and non-OPEC countries in the Middle East can be further grouped into smaller regions that can help explain the magnitude and stability of the ratings. From the standpoint of a country-risk environment, Iran and Iraq stand apart from the rest of the OPEC countries because of the long war they waged in the 1980s. Among all fourteen countries, the country-risk rating for Iraq is the most volatile with the largest standard deviation (16.29); further, it has been deteriorating over time. Both countries have been receiving relatively low credit ratings. Iraq emerged from its war with Iran only to enter into a war with Kuwait and, later, with combined Allied forces.

Although most countries in the region initially declared neutrality, by 1982 the Gulf Cooperation Council had openly expressed financial and logistical support for Iraq. Jordan, Saudi Arabia, and Kuwait declared Iran an enemy of Arabism and Islam (Kassicieh & Nessar, 1986). Using *Institutional Investor's* country-risk correlation analysis, Alon et al. (1998) proposed that a strong positive spillover effect of country risk exists between Iraq and the Arab nations that supported it. This article does not find the onset of the Iran-Iraq War to have been a significant event leading to a structural change in their country-risk ratings.

Those countries involved in the Arab-Israeli conflict constitute an additional subset of the non-OPEC countries. Egypt, Jordan, Syria, and Lebanon all share a border with Israel and have been directly involved in wars and land disputes (often stemming from religious disagreements) with Israel. These conflicts have destabilized the region and have made it a less desirable location for nesting international capital. Therefore, the country-risk ratings of these countries are, on average, comparatively low. Alon et al. (1998) proposed that the improvements seen in the 1990s and the strong correlation in the country-risk ratings of Israel, Jordan and Egypt are attributable to the peace treaties these countries signed, suggesting that a resolution to the conflict will lower the country-risk environment of these countries, and perhaps the entire region, and will spur regional economic growth.

RESEARCH LIMITATIONS AND FUTURE RESEARCH

This research is not without limitations. First, we have concentrated on one region, i.e., the Middle East. Results of unit root analysis may vary significantly by region. Second, we only

examined one country risk variable, *Institutional Investor's* ratings. Future research can empirically examine other country risk assessments to see if the same conclusions can be reached.

A number of additional implications for future research can be drawn from this study. First, country-risk ratings should be examined for unit root prior to their inclusion in explanatory and predictive models. Researchers should examine country risk within a regional framework. The causes of country risk and the weight given to each cause can vary widely between regions and, sometimes, even within regions. Examining the countries by geographic region controls for common outside influences and inter-regional cooperation and conflict, providing context for the event and a framework for comparative research. Given the importance of oil and oil prices to the Balances of Payments of both industrialized nations and oil-producing nations, we suggest that future studies control for oil-related variables such as oil price, oil reserves, OPEC membership, etc.

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