



Exchange Rates and the Magnitude of U.S. Foreign Direct Investment

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I. Introduction

Extensive research has explored whether the value of exchange rates is a determinant of foreign direct investments. If exchange rates affect foreign direct investment, then any change in the former will influence the prices of foreign purchases between countries. For example, an appreciation of the USD relative to the Japanese Yen will cause US acquisitions of Japanese assets to become cheaper. This concept can be extended to foreign direct investment (FDI), which measures the international investments of both individuals and multinational corporations. This implies that there is a correlative relationship between the amount invested between two countries, and the level of the exchange rate between their currencies. The intent of this paper is to empirically analyze the effect that exchange rates play on international investment from the United States into 12 other partner countries (see Table 3 in Appendix).

In this research, it is assumed that there are three major factors that affect the level of outgoing FDI in the US: the price of the asset, the return on investment, and the return on other investments or opportunity cost. This analysis endeavors to account for all of these factors because they affect US investor's and their country-specific international ventures. More specifically, this model also assumes that US-based investors will choose to invest in the highest yielding return available. This necessitates accounting for the factors that affect profits from country-specific international investments. This is done by including the change in the direct foreign exchange rate to capture the price of foreign purchases. By doing this, it is hoped that the model used in this research will sufficiently account for the relevant variables that share a statistical relationship with outgoing US FDI.

To the direct investor, the profit from an international investment is a function of the revenue and cost of that venture, as well as the exchange rate between the two currencies. Because profits are the driving force behind investments and understanding the factors of it are foundational to this research. The following equation provides a basic explanation behind the movements and motivations of US international investments.

$$(1) \quad \pi = N \left[\frac{R(N)E(e_1)}{1+r} \right] - C(N)e_0$$

Where, π , the profit from the international investment, N is the scale of the venture, R is the revenue, $E(e_1)$ is the expected change in the exchange rate, r is the opportunity cost, and C is the actual cost of the investment as a function of the scale of the investment in time 0. According to this theoretical model, the profit gained from foreign direct investment is determined by the relative value of the exchange rate between the two economies.¹

Although there has been substantial research on the relationship between exchange rates and FDI, this research represents one of the most extensive analyses on the subject by using data for 12 international economies. The unique insights into the factors that affect outgoing US

¹ Udomkerdmongkol, Manop, and Oliver Morrissey. "Foreign Direct Investment and Exchange Rates: A Case Study of US FDI in Emerging Market Countries." *Researchgate*, January 2006. Accessed March 6, 2018.

foreign investment in countries that have yet to be represented in the current literature. Few researchers have looked at the causes of incoming FDI from the United States, which makes this paper's approach even more unique. Comparatively, the vast majority of the research in this sphere of economics and finance has been focused on the factors that affect FDI inflows to an economy instead of outflows. This research seeks to provide a comprehensive analysis of the variables that affect international investments and ventures of multinational corporations and individuals using a unique empirical model.

In addition to analyzing the correlation between exchange rates and the magnitude of FDI, this paper also tests for historical 4-year volatility in the exchange rate and FDI. It is assumed that investors are risk averse and that, *ceteris paribus*, volatility will deter FDI inflows to the host economy. Dr. Morrissey and Dr. Udomkerdmongkol provide evidence that investors are risk averse.² In their research, as well as Dr. Jayasekara's, volatility is quantified by using the standard deviation of the exchange rate.³ The metric for volatility in this paper, building on Morrissey and Udomkerdmongkol's research, is the standard deviation of the yearly exchange rate, through 4 years (the initial year and the 3 years prior). This paper tests for a statistical relationship between both the yearly change as well as the 4-year historical volatility of the exchange rate with the volume of FDI inflows.

Analyzing exchange rate stability as a determinant for FDI adds additional depth to this research and provides greater insights into how exchange rates impact international investments. As found by Udomkerdmongkol and Morrissey, an unstable currency makes investors' projected profits ambiguous, and thus investors can be expected to have an aversion towards volatile exchange rates.⁴ Because of this uncertainty in an investment's projected return, investors would be less inclined to undertake an international venture. Also, including historical volatility will capture the investors' medium-term perception of the instability in the FX markets.

II. Literature Review

While a number of empirical studies have looked at the relationship between exchange rates and FDI, few have looked at this from the perspective of the US investor. Another way this research differentiates itself from the current literature is that it includes 12 economies from differing developmental stages. The existing empirical research in this area primarily looks at developed economies and fails to include a holistic picture of the macroeconomy. Because of the narrowness in the literature, it is possible that it has not given a complete understanding of the relationship between FDI and exchange rates.

The study conducted by Morrissey and Udomkerdmongkol looks at the relationship between exchange rates and FDI by examining three different metrics for the exchange rate: the yearly movement of the exchange rate, the expected value, and the volatility. While exchange rate movements have been extensively studied in the current literature, simultaneously measuring

² Udomkerdmongkol and Morrissey.

³ Jayasekara, S. G. S. D. "Exchange Rate, Exchange Rate Volatility and Foreign Direct Investment in Sri Lanka." *Sri Lanka Journal of Advanced Social Studies* 3, no. 2 (2016): 75. Accessed March 24, 2018. doi:10.4038/sljass.v3i2.7138.

⁴ Udomkerdmongkol and Morrissey.

three different metrics for the exchange rate adds to the robustness of this study and its conclusions.⁵

Morrissey and Udomkerdmongkol's first measure for exchange rates is the yearly movement in the exchange rate throughout the year. This variable in their model captures the yearly movements in the exchange rate throughout the year. The second metric is the expected exchange rates which are the actual exchange rate in the next year. Measuring this variable in this way assumes that forecasted exchange rates are accurate. With that said, the future value of the exchange rate is used as a proxy variable to capture investor's perceptions of future exchange rate values.⁶

The third metric that is used in Morrissey and Udomkerdmongkol's study is the standard deviation of the exchange rate to capture volatility. Their hypothesis for this variable is that investors are risk averse and thus will avoid investing in international markets that are volatile. Exchange rate volatility as used by these authors is similar to the measure used in this research; which is testing for exchange rate variability.⁷

In addition to Morrissey and Udomkerdmongkol's three metrics for the exchange rate, the author also controls for relevant variables such as the trade ratio (bilateral trade/GDP) and the level of industrialization in the recipient economies. The variable for trade captures the effect that bilateral trade as a percentage of GDP has on FDI inflows. Controlling for the level of industrialization, this research uses the number of telephones poles per capita in the host country. The authors of the paper concluded that a stronger dollar and the future expectation of a strong dollar will increase US investment overseas. In addition, they also find statistical evidence that volatile exchange rates will deter US investment.⁸

Jayasekara, in his research, looks specifically at how exchange rate instability affects incoming FDI to Sri Lanka. The measure he uses for exchange rate volatility is the monthly standard deviation of the exchange rate for the period 1978-2012. While this research is extremely narrow in its research scope, it does provide interesting insight into the effect that volatility has as a determinant of incoming FDI in Sri Lanka.

The results from the study find that exchange rate volatility is a significant negative factor of FDI inflows. This paper only concludes that this is because international investors do not like volatility and are averse to variability in the forex marketplace.⁹

Grosse and Trevino, in their study, focus on the factors that influence FDI coming into the US from international investors. They do this by estimating the impact that the exchange rate at the end of the year has on foreign investors. The scope of this research includes 10 countries from 1980-1992 and the magnitude of their investment in the US using a random effects model.

⁵ Ibid.

⁶ Ibid.

⁷ Ibid.

⁸ Ibid.

⁹ Jayasekara, S. G. S. D. "Exchange Rate, Exchange Rate Volatility and Foreign Direct Investment in Sri Lanka." *Sri Lanka Journal of Advanced Social Studies* 3, no. 2 (2016): 75. Accessed March 24, 2018. doi:10.4038/sljass.v3i2.7138.

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Many of the independent variables in this paper were influenced by those included by Grosse and Trevino. For example, in their research, they control for the bilateral trade between two economies in addition to the home country's GDP. Further, this paper also controls for both geographical distance of the investing country and the foreign country's market size.

In Grosse and Trevino's paper, the effects of incoming international investment into the United States from international investors are estimated. They conclude from their research that a stronger end-of-the-year direct exchange rate has a significant negative effect on incoming FDI into the US. They also find that geographical distance (negative effect) and the foreign country's market size (positive effect) are both significant determinants of FDI inflows into the US.¹⁰

Additional insight on this topic comes from research by Chakrabarti and Scholnick who also examined the correlation between exchange rates and FDI from the US. These two examine how exchange rate expectations influence US direct investor's investment in 20 economies from 1982-1995. In their analysis, they use panel data and three statistical definitions of exchange rate expectations: mean, standard deviation, and skewness of monthly exchange rate (similar to Morrissey and Udomkerdmongkol's approach).¹¹ By breaking out exchange rate expectations into three different measures, they expect to find more detailed results on how investors' expectations of exchange rates impact FDI outflows from the US. The results of the paper concluded that a statically significant relationship existed between the expected exchange rate and US FDI, implying more broadly that a stronger home currency increases the magnitude of FDI inflows into foreign economies.¹²

Blonigen also studied the correlation between exchange rates and FDI by looking at the relationship between FDI and exchange rates in Japan. In particular, he examines the Japanese acquisitions of US assets: the number of yearly acquisitions of US assets in both the manufacturing and nonmanufacturing sectors individually. While Blonigen's study is focused on the relationship between exchange rates and FDI, it is unique because it uses data for the actual quantity of Japanese purchases of US assets. The results of the paper find that exchange rates play a significant role in determining the actual number of Japanese acquisitions of US assets.¹³

In Dewenter's study, the author looks at both the components that affect foreign acquisitions of US assets by foreign investors relative to domestic purchases of assets and absolute levels of FDI. Absolute foreign investment refers to the actual amount that is invested via international acquisitions in the US. Relative foreign investment means that it takes into account investments made by domestic investors in the US, which is the nominal value of FDI divided by the parallel measure of domestic merger and acquisition activity. The results of the study confirmed that a stronger foreign currency is positively correlated with the purchasing of US assets.¹⁴

¹⁰ Grosse, Robert, and Len Trevino. "Foreign direct investment in the United States: An analysis by Country of origin." *Journal of International Business Studies* 27, no. 1 (1996). Accessed March 6, 2018.

¹¹ Udomkerdmongkol and Morrissey.

¹² Chakrabarti, Rajesh, and Barry Scholnick. "Exchange Rate Expectations and Foreign Direct Investment Flows." *Springer*, 2002, 1-21. Accessed March 6, 2018.

¹³ Blonigen, Bruce A. "Firm-Specific Assets and the Link between Exchange Rates and Foreign Direct Investment." *The American Economic Review* 87 (June 1997): 447-65. Accessed March 6, 2018.

¹⁴ Dewenter, Kathryn L. "Do Exchange Rate Changes Drive Foreign Direct Investment?" *The Journal of Business* 68 (July 1995): 405-33. Accessed March 6, 2018.

III. Empirical Model

The goal of this empirical study is to account for the relevant factors that affect the level of US individuals' and multinational firms' international acquisitions of assets. The assumption of this study is that three primary factors affect US purchases of foreign assets: the price of the asset, the return on that asset investment, and the return on other assets. The model accounts for the price of foreign assets via the exchange rate, the risk through the exchange rate volatility. The return on other investments is captured by the recipient economy's GDP growth, and the return on domestic investment option via the US GDP percentage change. For reference, the theoretical model that provides the basis for this paper's empirical research is:

$$(1) \quad \pi = N \left[\frac{R(N)E(e_1)}{1+r} \right] - C(N)e_0$$

Where π is the profit from the international investment, N is the scale of the venture, R is the revenue, $E(e_1)$ is the expected change in the exchange rate, r is the opportunity cost, and C is the actual cost of the investment initially. According to this model, the profit gained from foreign direct investment is, in part, determined by the relative value of the exchange rate between the two economies.¹⁵

Other relevant independent variables are included based on empirical models from the literature discussed. Two exchange rate variables are used in this research: one for measuring the yearly percentage change and one for the historical three-year volatility of the exchange rate in a single model.

$$(2) \quad FDI = \beta_0 + \beta_1 EXCHANGE\ RATE\ CHANGE + \beta_2 EXCHANGE\ RATE\ VOLATILITY + \beta_3 FOREIGN\ GDP + \beta_4 TRADE\ RATIO + \beta_5 HUMAN\ DEVELOPMENT\ INDEX + \beta_6 US\ GDP\ GROWTH + \varepsilon$$

The first independent variable in this model is the exchange rate yearly change. Having this variable will show how investor's foreign exposure is affected by yearly currency changes. It is believed that both appreciations in the home currency and depreciation in the foreign currency should increase foreign investment.

The addition of the 4-year historical volatility in the exchange rate is valuable because it allows insight into how US investors react in the presence of volatility. In general, it is believed that investors are risk-averse, so when exchange rates are volatile it should deter US investors. Therefore, highly volatile foreign exchange markets will disincentivize foreign investors.

For this empirical model, the dependent variable is a measure of the bilateral magnitude of outgoing direct foreign investment from US investors by country of destination. The variable for GDP growth is added to the model as a proxy variable to capture the opportunity cost of domestic investment options for the US direct investor. This model assumes that investors will choose the investment that yields the greatest return, whether domestic or international. Logically, it would follow that a downturn in US markets will cause more investors to opt for international ventures. Since GDP is strongly connected to a country's investment potential, growth in the US economy should attract more investors away from international ventures.

¹⁵ Udomkerdmongkol and Morrissey.

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Therefore, this independent variable should capture a negative correlation between domestic growth and international direct investment.

The independent variable for foreign GDP growth is added as a proxy for the foreign country's economic investment potential. The rationale for this variable is that it can be used as a proxy to capture the return on the foreign ventures of US investors. Since a country's investment potential is highly related to GDP, this should account for the foreign economy's aggregate return on investment. With that said, it is expected that there will be a positive relationship between the increases in an economy's GDP and the ability of that country to attract US investors.

The trade ratio variable (Bilateral Trade over Foreign GDP) is added to capture how US exports affect US foreign direct investment into that economy. The metric used to capture this relationship is the ratio of US exports to the foreign country over the foreign economy's GDP. This variable is added because there is a theoretical relationship between the level of trade between two economies and the amount of investment.

The final independent variable is a Human Development Index as a proxy variable for the standard of living in the recipient economy. From the current literature, it is hypothesized that industrialization and the standard of living increases investment from abroad.¹⁶ Accordingly, the Human Development Index is included in this paper's empirical model as a relevant control variable.

¹⁶ Udomkerdmongkol and Morrissey.

IV. Dataset Summary

Table 1 provides descriptive statistics for the data used in the model specifications for this research.

Table 1: Descriptive Statistics

Variable	Mean	Max	Min	S.D.
FDI	5888.903	47087	-10128	10168.62
EXCHANGE RATE VOLATILITY	9.157	153.291	0.0009	27.167
US GDP GROWTH	1.7	3.8	-2.8	1.709
EXCHANGE RATE CHANGE	-0.008	0.236	-0.289	0.0827
FOREIGN GDP GROWTH	3.368	14.2	-5.4	3.47964
TRADE RATIO	0.04	0.221	0.006	0.055
HUMAN DEV. INDEX	0.792	0.942	0.499	0.128

Sample: 12 countries through 2001-2012

The dataset for FDI is the yearly bilateral dollar amount of direct investment (inflows minus outflows) by US investors into 12 international economies. It describes the aggregate magnitude of cash flows in US dollars between the US and the foreign economy. This data was chosen for this variable because it provides actual outgoing investment from the US into country of destination. The data for this variable was retrieved via the United Nations Conference on Trade and Development website for bilateral FDI.¹⁷

The data for the exchange rate is from the OFX historical exchange rate database for the direct USD exchange rate (USD/foreign currency). The data for this variable were the December 31st direct USD exchange rates. Because this database is the end of the year exchange rate, it is not probable that it would have a significant effect on FDI for the duration of that given year. However, to work around this issue we have taken the percentage change between the previous year and the current year to capture how a change in the exchange rate in a given year affects FDI. Given the available data, this is the best method to capture the overall yearly moves of the exchange rate effects on US direct investors.¹⁸

¹⁷ "Bilateral FDI Statistics." United Nations Conference on Trade and Development. April 2014. Accessed March 07, 2018.

¹⁸ "Historical Exchange Rates Tool & Forex History Data." OFX. 2017. Accessed March 07, 2018.

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Similarly, the variable for the exchange rate volatility was retrieved from the same source which was also the December 31st exchange rate for that year. To provide a better representative measure of past instability in the exchange rate this variable is measured as the standard deviation from the past three years. Specifying the variable for volatility in this way provides a better understanding of how investors react to volatility from an historical perspective.¹⁹

The independent variable for the US GDP was found from the International Monetary Fund data website. This variable is measured as the yearly percentage change in GDP of the US. The yearly percentage change was used as a more accurate metric instead of a nominal dollar amount of GDP change. This metric for US GDP was chosen because it should represent the strength of investments in the US economy. Also, by adding this variable, the effect of the opportunity cost of investing in international markets should be captured.²⁰

The data for foreign GDP growth comes from the International Monetary Fund database on economic indicators. The metric used is real GDP growth, measured as the annual percentage change per year. The measure of the percentage change is preferable to GDP dollar amounts because the percentage change will make the interpretation of its relationship with FDI easier.²¹

The variable for the trade ratio was found by dividing the bilateral trade with the foreign economy divided by their GDP. This provides the variable as the percent of GDP in the foreign economy that was made up of imports. The rationale for including it as a ratio and not just the dollar amount of imports is to allow its relationship with the dependent variable to be dependent upon the size of the economy.²²

The final independent variable is the Human Development Index which was found via the United Nations data website. The data that comprises this variable is determined three factors which are health, education and the standard of living. The inclusion of this variable provides a holistic metric of the level of development in the host country. This does assume that the magnitude of incoming international investment is partly determined by the level of development.²³

¹⁹ Ibid.

²⁰ "GDP Per Capita, Current Prices." International Monetary Fund. 2017. Accessed March 07, 2018.

²¹ "GDP Per Capita, Current Prices." Accessed March 07, 2018.

²² Branch, Foreign Trade Data Dissemination. "Foreign Trade: Data." U.S. Trade by Country. April 21, 2009. Accessed March 07, 2018.

²³ "Bilateral FDI Statistics." Accessed March 07, 2018.

V. Diagnostic Tests

Using the Wooldridge test for autocorrelation, significant serial correlation was found in the data used for this paper. The presence of autocorrelation means that OLS estimates of the $SE(\beta)$ s to biased which leads to unreliable hypothesis testing. To fix this problem, generalized least squares (GLS) was used to rid the data for both equations of pure first-order serial correlation. Thus, from the use of the GLS panel data method.²⁴

VI. Regression Results

This paper investigates the relationship between exchange rates movements and the volatility of FDI outgoing from the US. By implementing a fixed effects GLS model, the correlation between outflows of US FDI and both the percentage change and the volatility of a direct exchange rate are tested. The results found in this research will hopefully be added to the current discussion on this topic in the current literature. Tables 2 reports the estimated coefficients of the independent variables from this analysis.

The results of this paper, as seen in Table 2, indicate that there is not a statistically significant correlation for the exchange rate change but exchange rate volatility was found to be significant. In addition, several of the control variables are found to be statistically significant which help to justify the methodological approach of this paper.

Table 2 - GLS Regression

Variable	GLS Regression
EXCHANGE RATE CHANGE	462.9693 (0.04)
EXCHANGE RATE VOLATILITY	-53.14712* (-1.81)
US GDP GROWTH	300.9419 (0.54)
FOREIGN GDP GROWTH	80.40672 (0.25)
TRADE RATIO	58968.59*** (4.29)
HUMAN DEV. INDEX	22533.45** (2.77)

t-statistics are in parenthesis, *= significant at the 0.10 level, **= significant at the 0.05 level, ***= significant at the 0.01 level

²⁴ Studenmund, A. H. *Using Econometrics: A Practical Guide*. Boston: Pearson, 2017.

The results from Equation (2) indicate that exchange rate percentage change did not have a significant correlation between this metric for the exchange rate and FDI. The results of this paper imply that no significant relationship exists between a percentage change in an exchange rate and the inflows of country-specific FDI from the US. The coefficient is given by the GLS-fixed effects model also finds that it is negatively correlated with FDI, which is conducive with the initial hypothesis.

The results for the exchange rate volatility, found in Table 2, indicate that there is a significant correlation with US FDI outflows to specific foreign economies. The fixed effects GLS model used in this research also yielded a negative coefficient, which represents risk-averse investors. This means that the results from this research indicate that volatility will decrease foreign investments from the US.

The variable for the trade ratio was added to capture the influence that trade has on FDI. Results for this variable shows a significant relationship between country-specific FDI inflows and the level of bilateral trade between the two economies. This indicates that trade relationships between economies helps to increase the amount of US FDI investment.

Human Development Index was statistically significant with the magnitude of FDI inflow. The fixed-effects GLS gives a positive coefficient, which indicates that increases in the standard of living attracts US FDI.

The variable for US GDP growth was not statistically significant; however, the positive coefficient indicates that higher levels of US growth would increase international investment. While this is not conducive with our theoretical understanding of the substitution effect (relative cost of foreign investment decrease leads to an increase in foreign investments), it does coincide with the income effect (increase of disposable income leads to an increase in foreign investments). The results are not statistically significant and indicates that this variable is not an accurate representation of opportunity cost as hypothesized.

Foreign GDP was not statistically significant in the fixed effects GLS regression results. However, the regressor's coefficient was positive, indicating that increased foreign growth makes the foreign country more attractive to US investors.

Although the results of this analysis do not completely match the consensus of current literature, the presence of statistically significant control variables (TRADE RATIO, HUMAN DEVELOPMENT INDEX) and the volatility variable, support the legitimacy of this paper's methodology.

VII. Concluding Remarks

From this research, no observable statistical evidence of a relationship exists between exchange rates movement and FDI inflows. The results of this regressor were not significant and do not appear to be a factor in US FDI. There is statistical evidence that volatility plays a significant negative role in FDI inflows, deterring investors from international investments. In addition, the human development index and trade ratio were positively correlated with FDI inflows. The results from these regressors align with this paper's hypothesis, and also support the findings of previous researchers. As seen in the regression results in Table 2, foreign ventures made by US investors are responsive to exchange rate volatility, but not for exchange rate changes.

While this analysis provides the most comprehensive global analysis of the relationship between FDI and exchange rates, the majority of the current literature focuses on countries that have similarities either in geographical factors or in development stage. Because this analysis does not take into account the geographical or developmental factors, the relationship portrayed between exchange rate and FDI may be significantly skewed. In the research conducted by Udomkerdmongkol and Morrissey,²⁵ they found that there were significant differences in the impact that exchange rates have on FDI based on geography. Thus, it is possible that the omission of the geographical nature of FDI may be one explanation for these unexpected results. Future research could investigate variables to include in these regressions to test this theory. The significance of FDI and how it is affected by exchange rates is a significant topic in international economics, and this research will add meaningful insights to the current discussion.

VIII. References

Blonigen, B. A. (1997). Firm-Specific Assets and the Link between Exchange Rates and Foreign Direct Investment. *The American Economic Review*, 87, 447-465. Retrieved October 17, 2017.

Branch, F. T. (2009, April 21). Foreign Trade: Data. Retrieved January 25, 2018, from <https://www.census.gov/foreign-trade/balance/index.html>

Chakrabarti, R., & Scholnick, B. (2002). Exchange Rate Expectations and Foreign Direct Investment Flows. *Springer*, 1-21. Retrieved November 5, 2017.

Dewenter, K. L. (1995). Do Exchange Rate Changes Drive Foreign Direct Investment? *The Journal of Business*, 68, 405-433. Retrieved October 18, 2017.

Froyen, Richard T. *Macroeconomics: Theories and Policies*. 10th ed. Noida, India: Pearson, 2014.

Historical Exchange Rates Tool & Forex History Data. (2017). *USForex Inc. dba OFX*. Retrieved October 21, 2017, from <https://www.ofx.com/en-us/forex-news/historical-exchange-rates/>

Human Development Reports. (n.d.). Retrieved February 18, 2018, from <http://hdr.undp.org/en/indicators/137506>

International Monetary Fund. (2017). Retrieved October 21, 2017, from

²⁵ Udomkerdmongkol and Morrissey.

<http://www.imf.org/external/datamapper/NGDPDPC@WEO/OEMDC/ADVEC/WEOWORLD>

Jayasekara, S. G. S. D. "Exchange Rate, Exchange Rate Volatility and Foreign Direct Investment in Sri Lanka." *Sri Lanka Journal of Advanced Social Studies* 3, no. 2 (2016): 75. Accessed March 24, 2018. doi:10.4038/sljass.v3i2.7138.

Morrissey, O., & Udomkerdmongkol, M. (2008). Foreign Direct Investment and Exchange Rates: A Case Study of US FDI in Emerging Market Countries. *Research Gate* . Retrieved January 20, 2018, from file:///C:/Users/christopher.chafin/Downloads/Foreign_Direct_Investment_and_Exchange_Rates_A_Cas.pdf.

Studenmund, A. H. *Using Econometrics: A Practical Guide*. Boston: Pearson, 2017.

Trevino, L., & Grosse, R. (1996). Foreign Direct Investment in the United States: An Analysis by Country of Origin. *Journal of International Business Studies*, 27, 1st ser., 139-155. Retrieved October 18, 2017.

Bilateral FDI Statistics. (2014) *United Nations Conference on Trade and Development*. Retrieved October 20, 2017, from <http://unctad.org/en/Pages/DIAE/FDI%20Statistics/FDI-Statistics-Bilateral.aspx>

IX. Appendix

Table 3 - FDI Outflows by Year and Country of Destination

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
U. K	7890	15265	26738	42359	6269	30535	21978	29615	27638	47087	36799	46815
Canada	16841	15003	17340	24005	13556	-1551	22331	12293	10170	28398	40410	26304
Sweden	-6883	2520	2270	4360	875	2616	2364	4056	-10128	-6337	2405	-206
Norway	706	822	961	246	1194	691	964	151	1160	3926	300	4901
Japan	-4731	8711	867	12787	5940	2709	15721	-16566	9602	1386	5062	4016
South Africa	-86	125	232	480	82	159	1000	306	410	779	722	250
China	1912	875	1273	4499	1955	4226	5243	15971	-8526	7089	-1663	-3482
Korean Republic	1206	1681	1231	4340	1687	2518	821	2157	3010	2678	4305	2406
India	214	919	354	1138	721	1834	3915	4310	2017	5735	2455	4116
Mexico	14226	7656	3664	8435	9596	9444	9798	4521	8191	414	8310	12628
Denmark	256	1538	-1602	843	732	-390	837	1231	-234	684	7158	706
Thailand	1286	1433	-627	691	789	695	1198	-97	1166	1393	1075	2323
Total	98207	113302	111931	198571	11042	173690	300912	223362	194265	245983	300497	259872

Figures are in millions of US dollars.