The International Journal of Economic Policy Studies
Volume 7 2012 Article 5

Effects of Exchange-Rate and Political Environment on Japanese Outward FDI: a panel data analysis

Ivan DESEATNICOV
Waseda University
1-6-1 Nishi-Waseda, Shinjuku-ward
Tokyo 169-8050, Japan
E-mail: ivan.deseatnicov@fuji.waseda.jp

Hiroya AKIBA
Waseda University
1-6-1 Nishi-Waseda, Shinjuku-ward
Tokyo 169-8050, Japan
E-mail: hiroya@waseda.jp

ABSTRACT

Foreign Direct Investments (FDI) represent an important economic phenomenon in the current global society. The activities of Multinational Enterprises (MNC) have considerably influenced a variety of economic processes. Through FDI MNCs get access to new markets, lower prices of resources and other benefits that can strengthen their competitive position in global markets. On the other hand, host countries can benefit not only from the inflow of additional capital, but also from improved managerial and technological knowledge in the national economy, and access to international business culture and practice. As a consequence one can observe improved productivity in many sectors that welcome FDI.

This paper attempts to answer a question about the role of financial and institutional risks for MNCs, and particularly, of the exchange-rate level and political factors in Japanese outward FDI. Empirical analysis uses data of 30 developed and developing countries for the period 1995-2009.

A regression model is constructed on the basis of the OLI (ownership, location and internalization) advantages and general equilibrium theoretical models. Exchange-rates and political factors are included as additional explanatory variables, as well as market potential, wages, skilled workforce endowments, investment cost and openness.

We found that the model with real exchange-rate, political factors and traditional explanatory variables reasonably explains recent Japanese outward FDI flows and reveals new patterns in its behavior depending on the economic development stage. These findings are highly important from a policy prescription perspective as the host countries' governments could consider exchange-rate, political stability and the stage of economic development together when prescribing policies for attracting FDI.

Key words: foreign direct investment, multinational corporations, political environment, exchange rate

JEL Classification: F-21, International Investment; Long-Term Capital Movement,
F-23, Multinational Firms; International Business

Acknowledgment: Earlier versions of this paper were presented at various Conferences and Workshops, including JEPA (Kwansei Gakuin Univ.), EUIJ (Pusan), GLOPE II (Waseda Univ.), Graduate Workshop (Waseda Univ.), WEAI (San-Francisco). We would like to express our sincere thanks to Professors Shujiro Urata, Fukunari Kimura, Young-Ryeol Park, Yi Chae-Deug, Kenichiro Tamaki, Koji Takase, Hisatoshi Tanaka, Hideki Konishi, Ueda Atsuko, John Devereux, Nathan Cook and Lein Lein Chen, and other participants for their critical but constructive comments and suggestions, which improved the paper considerably. The usual disclaimer applies.

Effects of Exchange Rate and Political Environment on Japanese Outward FDI: a panel data analysis

I. INTRODUCTION

The central objective of this paper is to examine the effects of financial and institutional risks via exchange-rates and political factors on recent Japanese outward Foreign Direct Investment (FDI, hereafter) using panel data of 30 developed and developing countries for the period of 1995-2009.

This paper focuses exclusively on outward FDI from Japan. It is true that Japan has actively engaged in FDI, and their MNCs' recent activities reflect to a certain extent general trends in the global economy. Despite the global financial crisis and the decline in global as well as Japanese FDI flows since the fall in 2008, Japanese MNCs maintained their position as leaders in world Outward FDI flows. According to the UNCTAD World Investment Report 2010, Japan was ranked as the third country in the world by level of Outward FDI flows, with the amount of $75 billion. It is also worth mentioning that previously FDI flows were more concentrated in developed countries, and general equilibrium theories (e.g. Carr et al., 2001) explained this behavior to a certain extent. However, recent FDI flows to developing countries record a higher share in global FDI flows. According to UNCTAD (2010) FDI inflows to developing economies represented 42.9% of total FDI in 2009. Moreover, in our dataset of Japanese Outward FDI flows the share of developing countries surpasses the share of FDI in developed ones. In 2009 around 60% of total Japanese FDI flows was received by developing countries.[1]

An MNC engaged in FDI in addition to cost-benefit analysis is also concerned with the various risks that may affect its future income. If exchange-rates between home and host counties change in future, asset values as well as cash flow values might be devaluated in home currency, leading to poor financial performance (Glaum, 1990). In addition, poor political environment and consequences such as expropriation, non-payment, confiscatory taxation and other risks might reduce profitable opportunities; and influence MNCs location choice decision. (Kesternich and Schintzer, 2010).

Thus, our investigation of Japanese FDI has been motivated by at least four reasons: First of all, although a recent trend of FDI research has stressed the potential importance of investment risks and particularly exchange-rate and political factors that might affect FDI flows (e.g. Clare and Gang, 2009), as far as the authors know, there has been no close examination of the effects of exchange-rate and political factors together on *Japanese* FDI alone. Secondly, although Japanese FDI has been considered as a sample country among many others in cross-section and panel data analyses, there is

[1] The calculation is based on the OECD data on Japanese Outward FDI flows to 20 developed countries and 10 developing countries used in the current study.

seldom any empirical analysis isolating and focusing only on Japanese FDI activities. Thirdly, although a number of papers consider FDI flows to developed and developing countries (e.g. Hayakawa et al., 2011), a formal econometric examination of Exchange-rate level and Political Factors as determinants of Outward FDI to developed and developing countries has rarely been conducted. And fourthly, we use another composite index, the Euromoney Political Risk (EPR) data, reflecting multiple dimensions of each host country's political environment for empirical investigation. To the authors' knowledge, this composite index has rarely been used previously in the analysis of FDI.

Thus, we are interested in how differently Japanese MNCs behave in respect to real exchange-rate levels and the EPR index. Since we found significant differences in sensitivity to these potential risks between developed and developing countries, we propose a tentative new hypothesis for the difference, and discuss several alternative reasons as well.

Using panel data of Japanese outward FDI flows to 30 developed and developing countries, we estimate a hybrid regression model reflecting general equilibrium theories (Carr et al., 2001; Helpman et al., 2004; Bergstrand and Egger, 2007) and the OLI (Ownership, Location, and Internalization advantages) hypotheses (Dunning, 1992). We first construct a model which incorporates the traditional FDI determinants such as market size, growth prospects, openness, investment cost, wage cost, skill difference, etc. Then, we extend the model to examine the effects of exchange-rate and political environment on Japanese outward FDI flows to developed and developing countries separately.

The rest of the paper is organized as follows. Section II provides a review of the recent literature, with special emphasis on the effects of exchange-rate level and political factors. Section III presents our empirical models and discusses the effects of explanatory variables on FDI. Section IV describes the data and methodology, and the estimation results. Section V focuses on the exchange-rate level and political factors results, and proposes a new hypothesis for the relationship between exchange-rate level, political factors and FDI. Section VI provides summary and conclusions.

2. EXCHANGE-RATE AND POLITICAL FACTORS EFFECTS ON FDI: REVIEW OF LITERATURE

Since Mundell's (1957) attempt to explain FDI flows in terms of relative factor endowments and relative factor costs, a large number of theoretical and empirical works appeared to modify, elaborate, and/or propose new or alternative models for FDI flows. A review of the literature on FDI determinants is found in a recent work by Deseatnicov (2009), in which political factors are emphasized as potentially important determinants for contemporary FDI. Exchange-rates have also been analyzed extensively in a large number of papers. For instance, Blonigen (2005) emphasizes Exchange-Rates as an important and researchable factor in the FDI literature. Thus, this section

presents exclusively a brief review of recent literature that has stressed the significance of Exchange-Rate and Political Factors for FDI flows.

2.1. Exchange Rate and FDI

In general, exchange-rate effects have been analyzed in the research literature by means of three factors: level, volatility and expectations. Our paper examines exchange-rate level effects on Japanese outward FDI in developed and developing countries.

Early perceptions of Exchange-Rate (ER) effects on FDI stated that there might be a minor role of this factor due to the two directions by which ER affects FDI decisions. On the one hand, lower ER levels (appreciation of the source country's currency) cause lower costs of the factors of production in the host country and serve as an incentive for FDI. On the other hand, revenues generated by the foreign subsidiaries and converted into the source country currency will also be devalued. However, actual observations were contrary to these assumptions and so a number of theoretical and empirical works addressed ER effects on FDI flows. One of the first theoretical attempts to explain the effects of exchange-rate on FDI was undertaken by Cushman (1985). He analyzed both theoretically and empirically exchange-rate risk, expectations and level effects on FDI. Using a 1963-1978 annual dataset of FDI outflows from US to UK, France, Germany, Canada and Japan he confirmed a theoretical prediction that host country currency appreciation has a negative effect on inward FDI.

In the course of theoretical and empirical research two main hypotheses were introduced to explain FDI behavior in response to ER changes. First, Froot and Stein (1991) proposed a capital market imperfection model, arguing that a host country's currency depreciation increases inward FDI through a wealth effect. Thus, foreign investors increase competitive bidding advantage by means of a higher reservation price. This hypothesis was confirmed empirically for FDI inflows to United States and West Germany during 1973-1988. However, the result for Japan was not significant.

Second, Blonigen (1997) proposed an alternative hypothesis of exchange-rate effect on acquisition FDI caused by firm-specific assets in the context of goods market imperfection. Companies have different access to markets causing the purchase of firm-specific assets to be more susceptible to currency movements. Using a dataset of Japanese acquisition FDI in US manufacturing and non-manufacturing industries during 1975-1992 he provided evidence that US dollar depreciation stimulated acquisition FDI with a higher significance in the high-technology industries. In a more recent study Buch and Kleinert (2008) found support for this hypothesis by means of panel data analysis of German FDI to OECD countries during the period of 1997-2002. On the whole, it seems that both theoretical and empirical work support the hypothesis of FDI being stimulated by host country exchange-rate depreciation.

Nevertheless, some ambiguity still exists on the effects of ER changes. For instance, Stevens (1998) gave opposite evidence using the same model as Froot and Stein (1991), but using data over 1973-1991. Healy and Palepu (1993) also obtained similar opposite results in their analysis.

A number of studies addressed the effects of exchange-rate on Japanese outward FDI. Often Japan was included as one sample country among others. As mentioned above, for example, Blonigen (1997), analyzed ER change effects on Japanese FDI activities together with some other developed countries. However, some empirical research addressed ER change and volatility effects on exclusively Japanese FDI. For example, Kiyota and Urata (2004) analyzed Japan's FDI activities at aggregate and industry level, as well as for different regions (World, East Asia, Latin America). Using a dataset of Japanese outward FDI to 127 partner countries for the period 1990-2000 they found that depreciation of a host country's currency attracts Japanese FDI while high volatility in exchange-rate has a negative effect. Based on analysis of Japanese outward FDI to China, Xing and Zhao (2008) argued that Yen appreciation induces FDI to China and reverse imports from the subsidiaries back to Japan. In a more recent paper Takagi and Shi (2011) considered Japanese FDI to 9 Asian economies during the period of 1997-2008 and found that host currency appreciation decreases FDI. In sum, previous studies that examined Japanese outward FDI flows found evidence for positive effect of host country currency depreciation.

Most of the empirical research (with the exception of Benassy-Quere et al., 2001) considered bilateral FDI between developed countries. Research on Japanese FDI activities addressed mostly developing and emerging market economies. However, there has been little research focusing specifically on Japanese outward FDI to both developed and developing countries. Since the channels of exchange-rate effect on FDI might differ significantly depending on the host country's stage of development, our paper is aimed at contributing to this aspect in the FDI research literature.

2.2. Political Factors and FDI

Political factors have also been emphasized recently as an important factor in international economics. For instance, Blonigen (2005, p.390) mentioned that the "quality of institutions is likely an important determinant of FDI activity, particularly for less-developed countries". While he argued that a negative impact of poor institutions on FDI leaves no room for doubt, it is difficult to empirically confirm the effects of institutions because of several problems inherent to data; measurement errors and little informative variations over time, among others.

Although theoretical modeling of the effects of political factors on international investment activities has been scarce, Lipschitz, Lane, and Mourmouras (2006) is an exception. They argued that institutional factors "that determine the perceived risk of confiscatory taxation or exchange controls, as

well as unclear property rights and uneven application of laws and contracts"(p.214) could be blamed as a source of small capital inflows for ten CEE countries.

There have been many empirical investigations of political factors on FDI activities. For example, Jun and Singh (1996) was one of the first to analyze the impact of political environment for the sample of 31 developing countries and found by a panel data estimation that the political "risk" turned out to have a negative and significant effect on FDI. The political risk was captured by an index developed by Business Environment Risk Intelligence (BERI) with six internal causes of political risk.[2] In their recent work Blonigen and Piger (2011) analyzed FDI determinants using Bayesian statistical techniques in an empirical model, and found low influence across host-country legal and political institutions. They used three variables for political environment and institutions: political stability, legal institutions, and corruption, but the contents and the sources were not disclosed. On the other hand Eicher, Helfman and Lenkoski (2011), using a similar approach and the ICRG's political environment data, found that FDI flows increase if there is lower corruption and fewer internal tensions in the host country, as well as if there is lower corruption, greater bureaucratic efficiency and democratic accountability in source countries.

In terms of Political Factors analysis, Peng and Beamish (2008) is in a sense close to ours in spirit. They investigated Japanese FDI empirically using a panel data set of 50 host countries from 1999-2003 by OLS and random effect regressions. They examined the relationship between FDI and the host country's corporate social responsibility environment. A composite index, National Corporate Responsibility Index (NCRI), based on a series of corporate social responsibility (CSR) factors has been developed as a composite index comprising 7 broad components which include several measures of political environment, such as the "business cost of corruption" or the "degree of civil freedom" as basic data. They first derived a testable hypothesis for developed countries that FDI increases with lower NCRI, because NCRI is an indicator of corporate responsibility institutions in host countries. Their novelty is summarized in their discussion of developing countries, summarized as a second testable hypothesis claiming that NCRI has a *positive* relationship with FDI. They reported that both hypotheses are successfully vindicated empirically, and the results are robust after several additional checks.

Several interesting facts are drawn from the studies reviewed above. First of all, the Political Factors have been taken from various data, often represented by an aggregate (or composite) index incorporating multiple dimensions of socio-economic, and internal and external political and/or institutional characteristics. As a result, secondly, political factors may reflect different needs of the

[2] They are fractionalization of the political spectrum (linguistic, ethnic, and religious fractionalization), and coercive political risk (dependence on and/or importance to a hostile power), and 2 symptoms of political risk (societal conflict involving demonstrations and street violence).

political environment and/or different cost sensitivity to those factors for MNCs. Thus, thirdly, MNCs behave differently, depending on such factors as the host country's development stage. As a consequence the effects of political factors on FDI may have different results for developed and developing countries. Specifically, the multiple dimensions of aggregated political environment indices have made it difficult, if not impossible, to reach a definitive view on the effect on FDI in empirical research (Peng and Beamish, 2008).[3]

To our knowledge, Clare and Gang (2009) is a rare empirical study that analyzed Political and Exchange-rate risk together. They used Euromoney Political Score as a measure of political environment. They analyzed the effects of exchange-rate and political risk on inward FDI to 53 countries during the years 1999-2003 and found that political stability has a positive effect on FDI only for developing countries. Moreover, when the analysis moved from "Manufacturing" to "All industries" the result changed to a paradoxical negative effect. For that matter our redefinition and re-estimation of political factors suggests a complimentary explanation to this phenomenon. Exchange-rate risk had a significant and negative impact on FDI for all countries, both developed and developing.

In view of these recent theoretical and empirical developments, this paper aims at empirically analyzing Japanese FDI flows by a regression model reflecting the OLI and General equilibrium hypotheses, with possible determinants derived from these theoretical frameworks. The general equilibrium models (Carr et al., 2001; Helpman et al., 2004; Bergstrand and Egger, 2007) proposed that different types of FDI flows (horizontal, vertical, platform) emerge endogenously, and are encouraged by a number of factors: GDP, Skill Difference, Investment cost, Trade cost, distance and some other explanatory variables. The objective and logic of general equilibrium models is not only to understand the FDI determinants, but also, if possible, to distinguish horizontal, vertical and platform FDI flows.[4] The OLI theoretical framework allows for different alternative determinants in order to explain FDI flows from Ownership, Internalization and Location Advantage perspectives (Dunning, 1992).[5][6]

[3] One commonly observed feature of those composite indices is that the correlation between them is high (e.g. Alesina and Wagner, 2006).

[4] Horizontal FDI involve producing and trading in the host country market, while Vertical FDI involve producing semi-products in the host country and delivering them to the home country for final assembling. Platform-type FDI involves producing and serving host country markets as well as neighboring countries' markets.

[5] In many cases previous literature analyzed several control variables following Dunning's explanation. However, this traditional exposition of variable selection (based on the OLI framework) was criticized by Itaki (1991) on the grounds that "Ownership-advantage is redundant and inseparable from Location-advantage or Internalization-advantage".

[6] The current paper's scope is limited to empirical analysis of Exchange-Rate changes and Political Factor effects on Japanese Outward FDI flows. An extensive summary of FDI determinants theoretical and empirical models can be found in Blonigen 2005, Deseatnicov 2009, or Faeth 2009.

As put forth above, the present paper focuses on Japanese FDI, with particular emphasis on the effects of investment risks, and in particular on exchange-rate level and political factors. We use another composite index for Political Factors here, the EPR Index. Real Exchange Rate levels are calculated based on the GDP deflator, which allows for capturing all industries' effects. The contribution of our investigation, if any, rests on the fact that ours is the first attempt to analyze empirically the effects of Political Factor and Exchange-Rate level exclusively on Japanese FDI flows to developed and developing countries.

3. EMPILRCAL MODES AND VARIABLES DESCRIPTION

This section presents our basic specification for the empirical strategy. The dependent variable in our study is FDI flow from Japan to 'country i' in US Dollar (FDI), and the independent variables are chosen as explained below. Two of them (GDP and Wage cost) are expressed in logarithmic form, and the others remain as they are, as they represent the computed indices. The log form allows reducing the influence of heteroscedasticity to be reduced to a certain extent.[7]

The basic model for GMM is specified in a reduced form as:

$$y_{it} = \delta\, y_{it-1} + X'_{it}\beta + \varepsilon_{it} \qquad (1)$$

where y_{it} is the net annual outward FDI from Japan into host 'country i' at time t and X'_{it} denotes an (1 x k) vector of exogenous variables which vary in cross-section and in the time dimension. δ is a scalar. y_{it-1} is a lagged dependent variable. ε_{it} is a stochastic error term, which is assumed to be uncorrelated over all *i* and *t*.[8]

The estimation form of the basic model is linearly specified as:

$$(FDI)_{it} = \delta\ FDI_{it-1} + \beta_1 LOG\_GDP_{it} + \beta_2 SD_{it} + \beta_3 LOG\_W_{it} + \beta_4 OPENNESS_{it} + \beta_5 ICREAL_{it} + \beta_7 PE\_REAL_{it} + \beta_8 RER_{it} + \varepsilon_{it}. \qquad (2)$$

Some previous studies have measured FDI activity through affiliate sales of FDI stock in the host country. Sometimes it was processed and measured in several ways: FDI divided by GDP, FDI per capita, FDI sum of home and host country, and others. We use FDI flow as our dependent variable, as this, first, provides a greater amount of observations and, second, allows statistical inferences for flow effect of real FDI. Data for FDI activity are collected from an OECD database which provides data of Japanese FDI for a large number of countries for the period 1985 to 2009.

[7] FDI flows are not logarithmically transformed since they are positive and negative for some countries in different years.

[8] In general, we estimate different structures of the panel model under different assumptions.

The explanatory variables are selected mostly from those used in many previous empirical studies to test the general equilibrium and/or OLI hypotheses. First is **LOG_GDP_{it}** representing the market size for country i at time t which has been considered as one of the first principal determinants of FDI.[9] The greater the market accessible through FDI, the higher should be the FDI flow. Thus, we expect positive effect of GDP on FDI. The GDP data are taken from the World Bank World Development Indicators (WDI) database.

Second, human capital of the host economy is another important factor for FDI flows (Markusen and Venables, 2000). It has been argued that two important aspects should be considered for human capital: skill endowment and labor cost. Skill endowment for 'country i' at time t is proxied by **SD_{it}=S(J)-S(i)**, where **S(J)** and **S(i)** mean the skill scores for Japan and the i-th host country, respectively. Thus, **SD_{it}** in effect represents the *difference* of the skill score for the host country relative to that of Japan.[10] The skill score measures the level of the skilled labor available in each country; the higher the score, the easier it is to employ skilled labor. Thus, the sign for this variable is expected to be positive when Japanese MNCs are looking for cheap unskilled labor (as general equilibrium model predicts in case of vertical or platform-type FDI), and negative in case Japanese FDI flows are attracted by host countries' skilled labor abundance (as in case of horizontal FDI).

In addition, availability of low cost labor is expected to stimulate FDI of vertical type where the cheap wages are considered to be of high importance (e.g., Sahoo, 2006). Labor cost can be proxied by wage cost (Nunes et al. 2006). Thus, **LOG_W_{it}**, which is the log of employees compensation received in US$ per hour for country i at time t, represents the labor cost.[11] The sign of this variable is expected to be negative as higher labor cost is expected to discourage FDI flows.

The next explanatory variable is **$OPENNESS_{it}$** of host country which is opposite to trade cost. In general the impact of openness is linked to the type of FDI (Sahoo, 2006). Horizontal FDI is attracted by high trade barriers first because of the high alternative export cost to the host country, and second, as it also creates barriers for competitors. On the other hand, vertical FDI (which is export-oriented) is attracted to a relatively open economy. The Openness is expected to have a negative sign in case of horizontal FDI, and positive sign in case of vertical and platform-type FDI. Following some previous studies, openness measures come from Penn-World Tables, and are defined as the ratio of the sum of imports and exports to GDP.

$ICREAL_{it}$ is investment cost for 'country i' at time t, regarded as impediments and difficulties in the operational activity of foreign affiliates in the host country. These include financial, juridical, fiscal

[9] The market size allows exploitation of economies of scale and offers significant growth perspectives (Morrissey and Rai, 1995). It is proxied by the log of Gross Domestic Product in current US$.
[10] The data source of the index is the World Competitiveness Yearbook (WCY, hereafter).
[11] The data source is also the WCY statistics, and represents the average salary ($/h) in the host country.

and other incentives/impediments. Carr et al. (2001) composed an index including the appropriate factors for investment cost. The current paper follows the same approach. The investment cost was constructed from various indices in the World Competitiveness Yearbook.[12] It is computed on a scale from 0 to 100, with higher numbers indicating higher investment cost. The sign of the investment cost is expected to be negative, implying that the higher investment barriers are, the lower will be the tendency for MNCs to invest in the host country.

PE_REAL$_{it}$ represents the political environment for 'country i' at time t, which has recently been emphasized as one of the most researchable issues in international economics, as reviewed and discussed in the previous section. Indeed, political factors usually influence some economic phenomena not only in domestic activities, but also in the international environment, and FDI is one of them. For instance, Japanese MNCs had a very negative historical experience in the Middle East in 1970-1980s, as well as during the Asian crisis in the 1990s, when political instability led to big financial losses. The political index is calculated from the EPR index, and has been scored from 0 to 25 with a higher score indicating a lower political risk. We rescale the index from zero to 10, then the index is subtracted from the maximum value of 10 to indicate that a higher number is supposed to indicate higher "country risk". According to conventional wisdom, Political risk is expected to have a negative sign as higher political risk might have adverse effects on FDI flows. However, EPR index includes not only political risk, but also *government* and *institutional assessment* as quantitative expert opinions. In addition, EPR index also includes information and policy environment (see Table 1). Thus, it is likely that these multiple dimensions of a composite index may have different effects on MNCs' behavior for FDI, depending on the host country's development stage, as will be discussed later in more detail.

[12] The index includes the level of control of foreign companies, restraints on negotiating joint ventures, strict controls on firing and hiring practices, an absence of fair administration of justice, access to local and foreign capital markets, difficulties in acquiring local bank credit, inadequate protection of intellectual property rights, anti-trust and competition laws, and immigration laws.

Table 1: Variables and indicators incorporated into the Euromoney political risk (EPR) index

Component		Score
Qualitative expert opinions		
Political risk		
1	Corruption	10=no corruption, 0=serious corruption
2	Government non-payments/non-repatriation	10=no government interference, 0=high government interference
3	Government stability	10=stable, 0=highly unstable
4	Information access/transparency	10=unrestricted, 0=totally restricted
5	Institutional risk	10=efficient and independent institutions, 0=no state institution
6	Regulatory and policy environment	10=highly consistent, 0=no regulatory environment exists

RER_{it} is the real exchange-rate for 'country i' at time t that represents the relative price difference between the host country and Japanese aggregated goods. The real exchange-rate is calculated as $e^{host}_{it} * P^{host}_{it}/P^{JP}_{t}$, and is normalised assuming a value of 100 in 2005. The nominal exchange-rate, e^{host}_{it}, is defined as the amount of Japanese Yen required to purchase one unit of the host country currency. The relative price of country *i* to Japan P^{host}_{it}/P^{JP}_{t}, is calculated using the GDP deflator index. Yearly GDP deflator data are obtained from IMF-IFS database. As for Taiwan, the GDP deflator data are taken from the National Statistics database. We use the GDP deflator rather than consumer or producer price index, since we consider FDI in both manufacturing and consumption goods industries. Exchange-rates of the Yen against the host currencies are obtained from Yen/Dollar rates. RER index is calculated so that an increase (positive sign) is associated with Yen depreciation (host country currency appreciation), and a decrease is associated with Yen appreciation (host country currency depreciation). Following previous studies (e.g. Froot and Stein, 1991) we expect that Yen appreciation will favor Japanese outward FDI. This argument was consistently brought to the attention of researchers since a continuous Yen appreciation in the 1990s was regarded as an important incentive for Japanese outward FDI. Thus, we expect a negative sign of the RER index for both developed and developing countries.

This completes the explanation of our estimation model. As evident, our model is a hybrid model of traditional general equilibrium models and OLI model as reviewed earlier, with additional and explicit consideration of real exchange-rates and political factors.

4. METHODOLOGY AND CONTROL VARIABLES ESTIMATION RESULTS

The data set consists of annual observations for the period 1995-2009 for the 2 sets of countries: 20 developed and 10 developing countries[13]. The list of countries is presented in Appendix 1. The data source for Japanese FDI is the OECD database, and for other variables different sources such as the WDI (the World Bank), the WCY (International Institute for Management Development), Penn-World Tables, and Euromoney.

We employ a panel data analysis in order to capture the static and dynamic nature of the FDI flows, accounting for, at the same time, possible heteroscedasticity, autocorrelation and endogeneity. Thus our panel data set consists of two sets and two dimensions: one dimension is cross-section (20 developed countries and 10 developing countries: i = 1,….,N) and the other is time dimension (15 years: 1995-2009: t=1,…,T). The total number of observations in this context is 300 for developed countries and 150 for developing ones, and can be considered adequate to produce robust estimations for the scope of the analysis.[14] The panel data model is analyzed using Generalized Method of Moments (GMM).[15]

Generally the problem of autocorrelation and heteroscedasticity is characteristic of economic data sets. Thus, by including lagged FDI flows as an additional regressor we can change a static model to a dynamic panel model. A commonly used method for dynamic panels is the Arellano and Bond (1991) GMM estimator. As their estimator is set up, the fixed effects are eliminated using first differences, and an instrumental variable estimation of the differenced equation is performed.[16] In our case we employ orthogonal deviations set-up, as the first differences produced biased estimators.[17]

We consider equation (2) by using GMM method in order to analyze Japanese FDI with our data sample under different econometric specifications. The results are presented in Table 2 below.

[13] We used a list of high-income OECD members in order to select developed countries, and the rest of the countries are considered to be developing and emerging economies.
[14] Due to space limits the descriptive statistics are not presented here. For interested readers it is available upon request.
[15] A common constant (pooled OLS) and Fixed Effects methods' analysis was also performed. Due to space limits the results are not reported here.
[16] Since most of the variables are non-stationary in level, the first-differences are used as the instrument variables for our GMM estimation. Panel unit root tests are available upon request.
[17] An extensive explanation of why first-difference could produce weak instruments and biased estimation can be found in Arellano and Bover (1995), and Arellano and Bond (1991).

Table 2 Determinants of Japanese FDI to developed and developing countries

Dependent Variable: FDI	1	2	3	4	5	6
Method:	Panel Generalized Method of Moments					
Transformation:	Orthogonal Deviations					
	White diagonal standard errors & covariance (d.f. corrected)					
Countries:	Developed	Developed	Developed	Developed	Developed	Developing
Variables	GMM(a)	GMM(b)	GMM(c)	GMM(d)	GMM(e)	GMM(f)
FDI(-1)	0.11	0.05	0.06	0.07	0.07	0.18
	(7.21)***	(5.29)***	(8.38)***	(6.01)***	(7.21)***	(5.68)***
GDP	1432.58	571.6	641.46	1103.05	421.71	629.06
	(7.99)***	(3.00)***	(2.66)***	(5.14)***	(2.8)*	(7.24)***
Wages	-1154.6	-803.42	-655.87	-515.52	-349.05	-207.85
	(-5.42)***	(-5.02)***	(-4.18)***	(-3.59)***	(-2.49)**	(-4.62)***
Investment Cost	-2.03		-26.94			-24.86
	(-1.00)		(-3.59)***			(-9.04)***
Skill Difference	2.82			80.87		111.05
	-0.18			(4.01)***		(3.36)***
Openness	12.78	25.61	18.37	13.86	16.69	1.89
	(7.8)***	(12.77)***	(8.7)***	(6.29)***	(8.67)***	(1.93)*
Political Environment	219.13	1593.88	1381.62	1283.54	1059.41	-45.45
	(3.41)***	(11.1)***	(13.14)***	(10.08)***	(10.91)***	(-2.55)**
Real Exchange Rate	-4.32	18.19	5.07	11.9	3.49*	-6.57
	(-2.2)**	(5.79)***	(2.22)**	(4.58)***	-1.8	(-5.79)***
ICREAL*RER		-0.43		-0.44		
		(-6.57)***		(-7.88)***		
SD*RER		1.28	0.76			
		(5.56)***	(2.28)**			
RER*ICREAL*SD					-0.01	
					(-2.17)**	
SE of regression	932.71	1016.34	978.97	979.16	953.85	488.63
J-statistic	77.28	73.61	67.75	70.13	69	70.43
Instumental Rank	94	94	94	95	93	74
Sargan test, 5% significance level	114.27	113.15	93.95		105.27	
	t-statistics in parentheses. ***,**, and * mean significant at the 1, 5, and 10% level, respectively.					
Instrument list:	GMM(a): @DYN(FDI,-2) LOG_GDP LOG_W ICREAL SD OPENNESS TI					
	GMM(b): @DYN(FDI,-2) LOG_GDP LOG_W ICREAL OPENNESS SD TI					
	GMM(c): @DYN(FDI,-2) LOG_GDP LOG_W OPENNESS TI PR_REAL					
	GMM(d): @DYN(FDI,-2) SD TI PR_REAL ICREAL NC OPENNESS					

Appendix 1 List of countries included in analysis (total 30 countries)

Developed countries:
Belgium, Denmark, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Switzerland, United Kingdom, Sweden, Austria, Finland, Hungary, Poland, Czech Republic, Korea
Developing countries:
Hong Kong, India, Indonesia, Malaysia, Philippines, Singapore, Taiwan, Thailand, China, Turkey

Note: Figures on the axes are the sample means.

We applied the Arrelano-Bond GMM estimator using orthogonal deviations with one-period lagged dependent variable. The results present robust estimator and the Sargan test of over-identifying restrictions confirmed the appropriateness of the selected instruments. The results are presented in the rightmost 5 columns of Table 2.

Control independent variables are mostly significant and consistently signed for developed and developing countries. Large market size (proxied by GDP), openness to trade, relatively unskilled labor (in comparison to Japanese man-power) promote FDI. Labor cost (proxied by Wages) and Investment Cost have an adverse effect on FDI. Lagged FDI is positive suggesting that the existence of FDI flows is stimulating future FDI in the same host country.

In general the results are consistent with previous literature and confirm initial hypotheses. The next section is devoted to discussion of the financial and institutional risks in terms of Exchange-Rate and Political Environment effects on FDI, which are the main scope of our paper.

5. EXCHANGE-RARE AND POLITICAL FACTORS

We now turn to discuss the GMM results on the effect of exchange-rate level and political environment on Japanese outward FDI. First, we examine the results of GMM specification for developing countries. The sign of Real Exchange-Rate (**RER_{it}**) is negative and significant (GMM(f)). This result is consistent with the theoretical prediction. Indeed, Yen appreciation is associated with Japanese outward FDI in developing countries. Thus the so-called “hollowing-out” hypothesis is successfully vindicated for developing countries (low cost and technologically disadvantageous) due to probable vertical orientation of FDI flows. Japanese MNCs products as parts or intermediate products can be imported into Japan (or any other countries) with much lower costs, the competitive

advantage being large. Indeed, it was observed that Japanese MNCs moved part of their production facilities to Taiwan, Thailand, China and other developing countries.[18]

In the case of developed countries (GMM(a)) the sign of RER is also negative and significant. However, in this specification ICREAL and SD are not significant. We suspect that these results might be biased due to composite (balanced) effect of exchange-rates on FDI. In order to investigate this possibility we decided to analyze the existence of direct and indirect effects of exchange-rates. Thus, the following regressions were examined:

GMM(b): regression with all 3 variables reflecting the direct and the 2 indirect effects: (1) RER, (2) RER*SD, and (3)RER*ICREAL.

GMM(c): regression with 2 variables reflecting the direct and one of the 2 indirect effects: (1) RER, and (2) RER*SD

GMM(d): regression with 2 variables reflecting the direct and the rest of the 2 indirect effects: (1) RER, and (2)RER*ICREAL.

GMM(e): regression with 2 variables reflecting the direct and a single variable of 2 indirect effects: (1) ER, and (2) RER*SD*ICREAL.

As evident from the results, the direct effect of exchange-rates on FDI turned out to be positive and significant, meaning that Yen appreciation ***discourages*** FDI for developed countries. This result is new and different from the initial hypothesis. We would like to propose the following explanation. It is plausible that Japanese manufacturers have not invested in high-cost developed countries as vertical FDI. They have invested as horizontal FDI in, e.g. U.K, for local production and sales. Thus, with Yen appreciation, the sunk cost of (initial) investment increased, and Japanese manufacturers possibly could not tolerate it anymore, because the future internalization advantage[19] will not be as large as in the developing countries case. Hence, they cut their FDI in developed countries. In fact, FDI in several developed countries, e.g. U.K., has been on a decreasing trend since around 2000.

The cross variable ER*ICREAL has a negative effect (GMM(b), GMM(d)) meaning that a composite effect of ER and Investment cost influences FDI negatively. Likewise, SD*RER composite effect (GMM(b), GMM(c)) is positive. Finally, the cross effect ICREAL*SD*RER is negative and significant (GMM(e)). A possible interpretation of these results is based on an interaction of a positive RER effect with a negative ICREAL effect and a positive SD effect. Thus, these regressions again support the hypothesis that the sunk cost effect of Exchange-Rate on FDI is stronger than the export

[18] As noted earlier, Xing and Zhao (2008) also argued that Yen appreciation leads to an increase of ”reverse imports” meaning an intensification of vertical FDI activities.

[19] In view of Itaki (1991), explanation of changes in exchange-rates may be related to sunk costs, and thus affect MNC’s “perceived cost of integration”.

substitution effect for developed countries. This result is new and highly important for policy prescriptions when considering Exchange-Rate regime strategies.

A seemingly puzzling result of the GMM estimation appears in the case of Political environment (**PE_REAL$_{it}$**), a composite index of "political risk". The coefficient is statistically significant both for developed and developing countries. In case of developing countries it is negative and corresponds to our initial hypotheses that Japanese MNCs are concerned about political stability and reduce their investment when perceiving a higher political risk. This confirms the empirical estimates in preceding literature (Jun and Singh, 1996; Eicher et at., 2011). In the case of developed countries the estimator is ***positive and consistently significant*** for Japanese FDI flows (see GMM(a)-GMM(e)). Literally interpreted, this suggests that Japanese MNCs tend to invest in more politically unstable countries, which contradicts our initial presumption. The next discussion is devoted to address this seemingly puzzling phenomenon, and to offer our new hypothesis regarding difficulties in interpretation for aggregate indices.[20] [21] However, it is interesting to note that our results are compatible with the finding by Peng and Beamish (2008), although their Political Environment variable is different from ours. In particular, using a composite political environment (PE, hereafter) index, FDI increases with higher PE for developed countries, but FDI decreases with higher political environment for developing countries.

We offer several reasons that seem to be plausible or convincing for the ***consistently positive*** coefficient of PE for our sample of developed countries. They may not be exhaustive, nor mutually exclusive.

We first propose our hypothesis as follows: Since the composite index PE is constructed with six different qualitative components (see Table 1), they may have different effects on MNCs behaviors for developed and developing countries. We may term these qualitative components "institutional quality" (IQ, hereafter), reflecting multiple qualitative characteristics of host countries. By the definition of PE, an increase means a lower level of IQ. Then, if MNCs are more concerned with IQ, there might be a case that an increase in IQ is positively associated with an increase in FDI. Specifically, if the level of "government stability" (item 3 in Table 1) reflects such factors as juridical, bureaucratic and social

[20] It is interesting to note that ours is not the only FDI research that finds different and contradicting signs for developed and developing countries for PE. A similar sign pattern was reported in recent empirical research by Peng and Beamish (2008) who discussed difficulties in interpreting the effect of another composite index, National Corporate Responsibility Index (NCRI) on Japanese outward FDI.

[21] It is also interesting to note that the effects of some composite indices may be ambiguous has been found in another area, the choice of the (optimal) exchange-rate regime. Alesina and Wagner (2006) used the Business Environment Risk Intelligence (BERI) index and the Composite Indicator Dataset of the World Bank in order to examine the ambiguous effects of institutional quality on the choice of the exchange-rate regime. Likewise, Bearce and Hallerberg (2011) used another aggregate index named "Democracy" which was compiled by Gurr et al.(1990) and scored from -10 (most autocratic) to 10 (most democratic), to investigate the choice of the exchange-rate regime.

development in the host country, a lower value of the PE variable means a relatively higher level of IQ, resulting in a lower level of legal and social environment pressure. In other words, Japanese MNCs might expect lower pressure from the government and public sector, which could serve as an incentive for their FDI. From this point of view, starting from a point where PE has been sufficiently low (i.e., IQ has been high enough) as in developed countries, it is likely that Japanese MNC's could tolerate a slightly lower IQ (i.e. a slightly higher PE) to undertake additional FDI if profitable. Several reasons could be put forth. The first reason may be that an increase in PE (a decrease in IQ) means a slightly higher level of legal and social environment pressure, which could be perceived as a good sign by Japanese MNCs as it might imply *"more discipline"*.[22] The second reason for it may be that if an increase in PE (a decrease in IQ) is associated with slightly deteriorated information access within the market (item 4 in table 1), then some wider and "profitable business opportunities" could be opened for Japanese MNC's due to an asymmetric information argument.

Needless to say, when PE is high, implying a low level of IQ, as in the case of developing countries, a higher level of PE (i.e. lower IQ) is always associated with lower FDI. This implies that Japanese MNCs may react differently to the Political environment in developing host countries, compared with developed ones. Specifically, observing a composite Political environment variable, Japanese MNCs may be more sensitive to risk factors such as corruption and government non-payment/non-repatriation, (items 1 and 2 in Table 1) when deciding FDI to developing countries.

We formalize our hypothesis of the effects of IQ on FDI with the following three steps.[23] First, there is some level of IQ for which Japanese FDI is insensitive. In general, Japanese MNC's may not be concerned with IQ if the host's IQ is not significantly different from theirs.[24] Second, FDI may not be undertaken in countries with a very poor record of IQ. Thus, for a marginally lower IQ, FDI is less. Third, for very stable (developed) countries, FDI is undertaken. Moreover, a marginally lower level of IQ (i.e., higher PE) is interpreted as a good sign for a more disciplined economy, and thus more FDI.

Formally, let F be the appropriately defined, real-valued functional relationship between PE and FDI. We postulate that the function $F(PE, FDI \mid Z)=0$ be a real and multi-valued function on its domain. Z is a vector of other independent variables in equation (2). To reiterate our hypothesis, it is equivalent to assuming that there is some ***non-linearity*** between PE and FDI (cf. Alesina and Wagner, 2006;

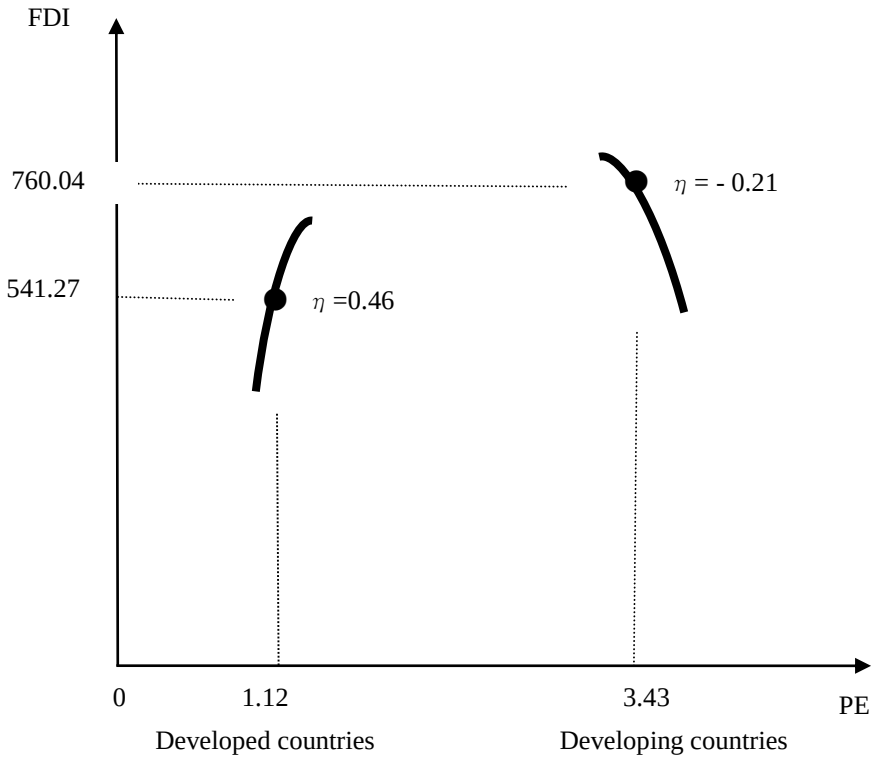
[22] For example, if the country's PE is relatively low and stable, a slight increase is associated with slight IQ deterioration, meaning a possibility for stricter rules to be introduced in the business environment that could be perceived as positive "more discipline" effect by Japanese MNCs.

[23] For a similar formulation for exchange-rate regimes with IQ, see Alesina and Wagner (2006).

[24] According to our Japanese data (not shown), the mean and standard deviation of PE are, respectively, 0.67 and 0.31. Thus, the 95% confidence interval is [0.06, 1.28].

Peng and Beamish, 2008). Figure 1, with our estimated elasticities (evaluated at the sample means), visualizes our hypothesis.[25,26]

Figure 1: Relationship between PE and FDI (η =elasticity of FDI w.r.t. PE)



As illustrated in the figure, the elasticity of FDI with respect to PE evaluated at the mean values for developed countries is 0.46 (based on GMM(a)), which is more than twice as large as that for developing countries in absolute terms (i.e. 0.21). This implies that Japanese MNCs are not insensitive to PE when investing in developed countries. It may be inferred from the figure that the function F attains the (unique or non-unique) maximum at some PE level somewhere in between the mean values of developed countries (1.12) and developing countries (3.43).

Although we have put forth our hypothesis, and interpret the positive coefficient on the PE variable, alternative interpretations could be possible. We will end this section by enumerating some of them. First of all, as noted in section III, the PE variable is usually associated with, *inter alia*, the risk of corruption, or non-payment, or other qualitative factors. Since our sample of developed

[25] Figure 1 is inspired by the idea of Alesina and Wagner (2006). A similar figure can be found in Peng and Beamish (2008), but they have not mentioned the possibility of a multi-valued function of F(PE,FDI | Z)=0, or non-linearity.

[26] The null hypothesis of equality of the mean for PE, 1.12 (s.d.=1.15) for developed countries and 3.43 (s.d.=1.84) for developing countries, is rejected by a normal test with 1% level of significance.

countries has been relatively stable politically and financially, the relative change in political situation would not necessarily mean an increase of corruption, or non-payment risk. Thus, the sign of the coefficient could be either positive or negative. Our new hypothesis proposed earlier in this section provides a plausible interpretation to reconcile those seemingly contradictory observations, and proposes an important interpretation as "more discipline" and "more profitable opportunities" of the positive coefficient of PE for developed countries. Expressed differently, a slight *loosening* of political environment will attract more FDI for developed countries, because the level of political environment may be far above what is necessary for MNCs' operations (Peng and Beamish, 2008).

The second possible reason for the positive sign of PE comes from a general characteristic of investment. Since some FDI activities are of a long-term nature, it may not be a rare case that some investments started from previous periods still continue even after the political situation has changed. Thus, depending on the sample period or countries, the coefficient of PE could be negative.

The third reason is somewhat related to the first. It emphasizes the special nature of our sampled developed countries which include the former Socialist countries that have been in transition to the market economy system. So even if Political Environment is getting higher in those European countries, this might be a good sign for Japanese multinationals, as it implies that the sample European countries will be more democratic or liberal after, for example, changes of government (administration). Thus, it could be possible that the coefficient is on average positive.

At this moment, we are not certain which of the above-suggested reason(s) is more convincing for the positive coefficient of PE for developed countries. We are more inclined to interpret the positive coefficient with our hypothesis of non-linearity á la Alesina and Wagner (2006) and Peng and Beamish (2008). But in order to ensure theoretical consistency for the presented hypothesis, it should be tested by further empirical research, and as such, it is on our future research agenda. However, to our knowledge, this is a new and significant contribution to the previous literature on FDI and Political Environment.

We also would like to emphasize that these results are highly important from the policy prescription perspective as the host countries' government could consider exchange-rate risk, political stability and the aspect of economic development stage together when prescribing FDI attracting policies. In the case of developing countries, a depreciation of the host country's currency and an increase in Political stability potentially lead to more FDI. On the other hand in the case of developed countries the issue may be more controversial. We found that there are both a sunk cost effect (a positive coefficient meaning that an appreciation discourages FDI) and an export substitution effect (a negative coefficient meaning that an appreciation encourages FDI) as a result of a change in the real exchange-rate. However, our estimation with cross effects revealed that the former sunk cost effect

dominates the export substitution effect. Institutional quality was shown to have a seemingly puzzling effect on FDI, meaning that deterioration of IQ encourages FDI. For developed countries this is explained by a possibility that institutional quality is far above what is necessary for MNCs operations, and thus a slight deterioration in institutional quality releases MNCs from political pressure, thereby making FDI easier.

6. CONCLUSIONS

This paper empirically examined outward Japanese FDI with panel data of a total of 30 developed and developing countries for the period 1995-2009. Based on the OLI theoretical framework and general equilibrium models, a number of traditional determinants (GDP, Human capital indicators, Investment cost, Trade cost, etc.) are complemented with 2 additional determinants for Japanese FDI, namely Political Environment and Real Exchange-Rate. The main results are mostly consistent with the preceding studies and are robust for all specifications.

One of the main concerns in this paper, Exchange-Rate had a different sign for developed and developing countries. In the case of developing countries the sign was negative and significant, which is consistent with previous studies. In the case of developed countries the estimated coefficient was not consistently signed among the specifications. In order to depict different channels of exchange-rate effect on FDI, cross-variables analysis was employed. As a result RER positive direct effect proved to be significant and consistent meaning that real Yen appreciation caused a decrease in Japanese outward FDI flows to developed countries, possibly due to a sunk cost effect which was stronger than any export substitution effect.

Another main concern, Political environment (PE), also had a different sign for developed and developing countries. In the case of developing countries it has a negative sign, which is consistent with most of the preceding literature. However, in the case of developed countries within the GMM framework, the sign is positive, implying that Japanese MNCs tend to invest in slightly lower PE countries, because the political environment in developed countries may be well above what is necessary for MNCs' operations (Peng and Beamish, 2008)..

On this seemingly contradictory result, we put forth our hypothesis of the existence of non-linearity between Political environment and FDI, following an interpretation by Alesina and Wagner (2006). We postulated that the political environment might be associated with institutional quality (as shown in Table 1) and, if the economy has been in a sufficiently high IQ environment, its deterioration might be perceived by Japanese MNCs as a slight increase in legal and social environment pressure, leading to “more discipline” and “more profitable opportunities” in the operational environment.

Moreover, several possible interpretations could be suggested to explain this result. Further research is necessary to confirm which of these interpretations is true, and this is on our future research agenda. This line of research is highly important from the government policies perspective since countries' development stage, exchange-rate level and Political Environment could be considered simultaneously.

In sum, we conclude that Japanese FDI can be reasonably explained by the proposed independent variables. As far as the authors know, this is the first formal attempt to empirically examine the effects of exchange-rate and political environment on Japanese FDI to developed and developing countries. We successfully found that exchange-rate and political environment are, as expected, significantly associated with Japanese FDI flows. These findings have important implications for future policy consideration by host countries and academic research on Japanese outward FDI.

REFERENCES

Alesina, Alberto and Wagner, Alexander. 2006. Choosing (and Reneging on) Exchange-Rate Regimes. *Journal of European Economic Association* 4(4): 770-799.

Arellano, Manuel and Bond, Stephen. 1991. Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. *Review of Economics Studies* 58(2): 277-297.

Arellano, Manuel and Bover, Olympia. 1995. Another Look at the Instrumental-variable Estimation of Error-components Models. *Journal of Econometrics* 68(1): 29-51.

Bearce, David H. and Hallerberg, Mark. 2011. Democracy and De Facto Exchange-Rate Regimes. *Economics & Politics* 23(2): 172-194.

Bergstrand, Jeffrey H. and Egger, Peter. 2007. A knowledge-and-physical-capital model of international trade flows, foreign direct investment, and multinational enterprises. *Journal of International Economics* 73: 278–308.

Blonigen, Bruce A. 1997. Firm specific assets and the link between exchange-rates and foreign direct investment. *American Economic Review* 87: 448–465.

Blonigen, Bruce A. 2005. A Review of the Empirical Literature on FDI Determinants. *Atlantic Economic Journal* 33(4): 383-403.

Blonigen, Bruce A. and Piger, Jeremy. 2011. Determinants of Foreign Direct Investment. NBER Working Paper 16704.

Buch, Claudia .M. and Kleinert, Jörn. 2008. Exchange-rates and FDI: goods versus capital markets frictions. *The World Economy* 31(9): 1185–1207.

Carr, David L., Markusen, James R. and Maskus, Keith E. 1998. Estimating the Knowledgecapital Model of the Multinational Enterprise. NBER Working Paper 6773. Cambridge, MA: National Bureau of Economic Research, 1998 (An abridged version with the same title published in *American Economic Review* 91(3), June 2001: 693-708).

Clare, Gregory and Gang, Ira. N. 2010. Exchange-Rate and Political Risks, Again. *Emerging Markets Finance and Trade* 46(3): 46-58.

Cushman, David. O. 1985. Real exchange-rate risk, expectations, and the level of foreign direct investment. *Review of Economics and Statistics* 67(2): 297–308.

Deseatnicov, Ivan. 2009. Theoretical approaches to FDI determinants and Japanese FDI specifics. *Economica Academy of Economic Studies of Moldova* 5(69): 81-91.

Dunning, John H. 1992. Multinational Enterprises and the Global Economy. Wokingham, England: Addison-Wesley Publishing.

Eicher, Theo, Helfman, Lindy and Lenkoski, Alex. 2011. Robust FDI Determinants: Bayesian Model Averaging In The Presence Of Selection Bias. Working Paper, University of Washington, Department of Economics.

Faeth, Isabel. 2009. Determinants of FDI - A tale of Nine Theoretical Models. *Journal of Economic Surveys* 23(1): 165-196.

Froot, Kenneth A. and Stein, Jeremy. 1991. Exchange-rates and FDI: an imperfect capital markets approach. *Quarterly Journal of Economics* 106: 1191–1127.

Glaum, Martin. 1990. Strategic Management of Exchange-Rate Risks. *Long Range Planning* 23(4): 65-72.

Gurr, Ted Robert, Jaggers, Keith, and Moore, Will H. 1990. The Transformation of the Western State: The Growth of Democracy, and State Power Since 1980. *Studies in Comparative International Development* 25(1): 73-108.

Helpman, Elhanan, Melitz, Marc J., and Yeaple, Stephen R. 2004. Exports versus FDI with Heterogeneous Firms. *American Economic Review*, 94(1): 300–316.

Hayakawa, Kazunobu, Kimura, Fukunari, and Lee, Hyun-Hoon. 2011. How does country risk matter for foreign direct investment? IDE Discussion Paper. No. 281, Tokyo: Institute of Developing Economies, Japan External Trade Organization (JETRO).

Healy, Paul and Palepu, Krishna. G. 1993. International equity acquisitions: who, where and why? In: *Froot, K.A. (Ed.), Foreign Direct Investment.* University of Chicago Press, Chicago, pp. 231–253.

Itaki, Masahiko. 1991. A Critical Assessment of the Eclectic Theory of the Multinational Enterprise. *Journal of International Business Studies* 22(3): 445-460.

Jun, Kwang W. and Singh, Harinder. 1996. The Determinants of Foreign Direct Investment in Developing Countries. *Transnational Corporations Journal* 5(2): 67-105.

Kiyota, Kozo and Urata, Shujiro. 2004. Exchange-rate, exchange-rate volatility and foreign direct investment. *The World Economy* 27: 1501–1536

Lipschitz, Leslie, Lane, Tomothy, and Mourmouras, Alex. 2006. Capital Flows to Transition Economies: Master of Servant? *Finance a uver - Czech Journal of Economics and Finance* 56(5-6): 202-222

Markusen, James R. and Venables, Anthony J. 2000. The Theory of Endowment, Intra-industry, and Multinational Trade. *Journal of International Economics* 52(2): 209–234

Mundell, Robert A. 1957. International Trade and Factor Mobility. *American Economic Review* 47(3): 321-335.

Nunes, Luis. C., Oscategui. Jose and Peschiera. Juan. 2006. Determinants of FDI in Latin America. Documento De Trabajo 252.

Peng, George Z. and Beamish, Paul W. 2008. The Effect of National Corporate Responsibility Environment on Japanese Foreign Direct Investment. *Journal of Business Ethics* 80(4): 677-695.

Sahoo, Pravakar. 2006. Foreign Direct Investment in South Asia: Policy, Trends, Impact and Determinants. ADB Institute Discussion paper No. 56.

Stevens, Guy V.G. 1998. Exchange-rates and foreign direct investment: a note. *Journal of Policy Modeling* 20(3): 393–401.

Takagi, Shinji, and Shi, Zongying. 2011. Exchange -rate movements and foreign direct investment (FDI): Japanese investment in Asia, 1987–2008. *Japan and the World Economy* in press, doi:10.1016/j.japwor.2011.08.001.

UNCTAD *World Investment Report 2010: Investing in a low-carbon economy*. Geneva, Switzerland: UNCTAD, July 2010

Xing, Yuqing, and Zhao, Laixun. 2008. Reverse imports, foreign direct investment and exchange-rates. *Japan and the World Economy* 20(2): 275–289.