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Mishra, Anil V and Ratti, Ronald A

University of Western Sydney, University of Western Sydney

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Anil V Mishra[a] and Ronald A. Ratti[b]

School of Business

University of Western Sydney

Australia

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In this paper it is argued that the heavier is domestic taxation of domestic dividend income, the more attractive is foreign investment to domestic agents. Dividend imputation schemes play an important role in this discussion. Dividend imputation eliminates the double taxation of domestic income, reduces the effective tax rate on domestic investment and makes investment in foreign securities less attractive. A fall of 10% in effective tax rate on domestic dividend income reduces foreign equity investment by about 5%. Domestic investors paid dividends under a dividend imputation system receive a credit for the tax paid at the company level and this reduces the effective tax rate. Cross-border equity investment is increased if tax credit rises for taxes paid overseas. Empirical analysis is based on bilateral investments among 23 mature economies over 2001-2011. Results are robust to consideration of the global financial crisis and the role of double taxation treaties.

JEL Classifications: F21, F30, G15

Keywords: Foreign equity investment; Domestic Dividend Taxes; Dividend Imputation Schemes

[a]Corresponding author: Anil Mishra; University of Western Sydney, School of Business, Australia; Tel. No: 9685 9230; E-mail address: a.mishra@uws.edu.au

[b]Ronald A. Ratti; University of Western Sydney, School of Business, Australia; Tel. No: 9685 9346; E-mail address: r.ratti@uws.edu.au

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1.Introduction

The effect of taxation on cross-border capital holdings has been considered by a number of authors. Much of the focus of this literature has been on the effect of taxes on foreign investment or on income from foreign investment. In Black (1974) taxes are proportional to the net holdings of foreign assets and all risky assets are traded, whereas in Stulz (1981) investors pay a tax proportional to the absolute holdings of risky foreign assets and not all risky assets are traded[1]. Cooper and Kaplanis (1986) derive efficient portfolios in a world where there are barriers to cross border investment. Errunza and Losq (1989) find the effect of partial integration of markets on the multilateral structure of security returns and holdings within a multi-country model.

Demirguc-Kunt and Huizinga (1995) examine pre-tax return on stocks and conclude that capital gains taxes on foreign owners act as a barrier to portfolio investment. Desai and Dharmapala (2009) find that the residual tax on US multinational firms' foreign earnings skews the composition of outbound capital flows[2]. Huizinga and Nielson (1997) show that with an increase in foreign ownership of firms a higher tax rate on source based investment income may be called for. However, the globally optimal tax system may require exemption of foreign income tax. Davies et al (2009) use affiliate-level data from Swedish multinationals to examine the impact of tax treaties on both overall affiliate sales and the

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[1] Analysis of the effect of taxes on international portfolio flows is related to work on optimal taxation. Devereux (2008) states that the same rate of tax on investment income without regard to the source of that income ensures equality of pre-tax returns to capital across countries (maintaining production efficiency across countries). In empirical work Errunza and Losq (1985) find that over the period 1976-1980 markets are mildly segmented in that large risk premiums are found to exist for subsets of securities.

[2] Chan et al. (2005) employ a country specific time invariant tax variable capturing withholding tax from dividends effect on mutual fund equity allocations and find a statistically significant effect on home bias. Aviat and Coeurdacier (2007) examine the effect of dividend tax and interest rates on bilateral banking claims. They state that the tax rates are far from negligible, ranging from 0% to 40%.

composition of those sales and find that a tax treaty increases the probability of investment by a firm in a given country.

The primary goal in this paper is to investigate the influence of the taxation of domestic dividend income on the foreign investment holdings of domestic investors. It is conjectured that the heavier is domestic taxation of domestic dividend income, the more attractive is foreign investment to domestic agents. In this paper we recognize that in assessing the level of domestic taxation of domestic dividend income it is crucial to realise that some countries operate a dividend imputation system[3]. Under a complete dividend imputation tax system the double taxation of domestic dividend income is eliminated. Domestic investors paid dividends under a dividend imputation system receive a credit for tax paid at the company level and this reduces the overall effective tax rate on domestic investment.

It is important to factor in the influence of a dividend imputation system on returns to domestic investors since a higher level of dividend imputation makes investment in domestic securities more attractive and thus makes investment in foreign securities less attractive. In our sample of mature economies that have resident investors with foreign income, 52% of the observations are provided imputation of taxes paid on dividend income by domestic corporations. Imputation eliminates the double taxation of income and dividends. Accordingly shareholders receive a higher income stream under dividend imputation tax

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[3] Dividend imputation has been discussed in the literature. Cannavan et al. (2004) examine Australia's dividend imputation system and emphasize that in a small open economy a firm's cost of capital is not affected by such a system since the marginal stockholder is a foreign investor who receives no benefit from the imputation of tax credits. Feuerherdt et al (2010) estimate a value for the franking credits that attach to hybrid securities by examining stock price changes around ex-dividend date. They find that cum-dividend day prices on hybrid securities do not include any value for franking credits.

system. These factors have the potential to significantly influence the extent of foreign investment in equity flows.

The effective tax rate on domestic investment will be constructed to reflect the influence of dividend imputation and corporate and personal income tax rates. It is found that a fall of 10% in effective tax rate on domestic dividend income reduces foreign equity investment by about 5.22%. Tax levied by foreign governments on foreign dividend income is also considered. Cross border taxation in foreign country induces a bias towards source country holding domestic financial assets because it puts additional cost on holding foreign securities from a source country investors' perspective. In mitigation, with regard to dividend withholding tax on payments to foreign shareholders, French and Poterba (1991) note that typically these payments can be credited against taxes in the investors' home country. Taxation of dividend income accruing to foreign investors varies by country and by foreign investor. Cross-border equity investment is found to be increased if tax credit rises for taxes paid overseas.

Empirical analysis is based on bilateral investments among 23 mature economies over 2001-2011. Results are robust to consideration of the global financial crisis and the role of double taxation treaties. The presence of a double taxation treaty has a significant positive effect on cross-border equity holdings. To deal with endogeneity between the equity, tax and other variables the Arellano-Bover/Blundell-Bond linear dynamic panel-data method is used to estimate the model.

The taxation of domestic and foreign dividend income is discussed in section 2. The data and the variables are discussed in section 3. The econometric model is presented in Section 4. The empirical results are presented in section 5. Section 6 concludes.

2. Taxation of Domestic and Foreign Dividend Income

In this study the influence of the effective tax rate for domestic investment and the influence of taxation of foreign dividends on equity investment will be examined. We will define the effective rate of tax on domestic investment taking account of dividend imputation, and discuss international taxation of dividend income.

2.1. Taxation of domestic investment

A potentially important consideration in the effects of international taxation on foreign equity investment is whether a country has a dividend imputation system in place. Dividend imputation might bias domestic investors against foreign investment (Booth, 1987). Domestic investors paid dividends under a dividend imputation system receive a credit for the tax paid at the company level. Empirical analysis will be based on bilateral investments among 23 mature economies over 2001-2011. Table 1 presents information on taxation in 23 developed countries for the year 2011. In column (1) data are provided on the dividend imputation rate, the amount of the corporate income tax imputed to shareholders as a tax offset.

During each year over 2001-2004 eight, in 2005 six, in 2006 five, and each year over 2007-2011 four of the twenty three countries in our sample have dividend imputation systems in place. Finland and France (UK) have full (partial) dividend imputation over 2001-2011. Finland and France changed from full dividend imputation over 2001-2004 to a partial inclusion system in 2005, and Canada switched from partial to full dividend imputation in 2009. Norway has partial (full) dividend imputation in 2001 (2002-2005). Spain has partial dividend imputation over 2001-2006 and France has full dividend imputation over 2001-2004. Australia and New Zealand have full imputation and UK has partial imputation in place during 2001-2011. Most of the other countries in Table 1 have either a classical tax system

under which company profit is taxed at corporate level and again upon distribution as dividends at shareholder level, or a modified classical system under which dividend income is taxed at preferential rates (for instance, compared to interest income) at the shareholder level. A full (partial) imputation tax system provides full (partial) dividend tax credit at shareholder level for the underlying corporate profits tax. Thus, for example, Australia provides full imputation since 100% of the corporate income tax of 30% is imputed to shareholders as reflected in a 30% imputation rate. New Zealand provides full imputation since 100% of the corporate income tax of 28% is imputed to shareholders as reflected in a 28% imputation rate.[4]

In columns (2) through (4) of Table 1 data appears on corporate, top marginal rate for personal income tax on grossed-up dividends and the effective marginal tax rate on pre-tax distributed profit. The effective marginal tax rate is influenced by the corporate and personal income tax rates and by whether a dividend imputation system is in place. These connections will be discussed in the next subsection. These data show considerable variation across countries during 2011.

To illustrate the role of dividend imputation in influencing equity flows let's consider the following. The franking ratio f^i is defined as the actual fraction of corporate tax imputed as tax shield to shareholders. Define τ_c^i to be the corporate income tax rate in country i. For one of dollar of dividend income the underlying corporate income is $1/(1-\tau_c^i)$ and the corporate income tax paid is $\tau_c^i/(1-\tau_c^i)$. With a non-zero franking ratio, one dollar of dividend income generates a tax offset of $f^i\tau_c^i/(1-\tau_c^i)$ against taxes on dividend income

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[4] Cannavan et al. (2004) note that under Australia's dividend imputation system a foreign investor does not receive a benefit from the imputation of tax credits.

owed by the shareholder. This tax offset appears as part of the shareholder's taxable income. The shareholder's taxable income per one dollar of dividend income is given by

$$Y^i = 1 + f^i \tau_c^i / (1 - \tau_c^i) \tag{1}$$

Define τ_p^i to be the personal income tax rate on dividends in country i. With a non-zero franking rate, income tax paid by the shareholder will be the income tax liability minus the tax credit from the franked dividends and is equal to

$$Tax^i = \tau_p^i \{1 + f^i \tau_c^i / (1 - \tau_c^i)\} - f^i \tau_c^i / (1 - \tau_c^i) \leq \tau_p^i \ for \ f^i \leq 0. \tag{2}$$

Thus, an increase in the franking rate reduces the tax paid on domestic investment and makes a domestic investment more attractive relative to a foreign investment. In the absence of a dividend imputation system, one dollar of dividend income yields $(1 - \tau_p^i)$ dollars of after tax income.

The income tax paid per dollar of pre-tax profit is given by

$$I^i = \frac{Tax^i}{1 + \tau_c^i / (1 - \tau_c^i)} = \tau_p^i (1 - \tau_c^i) - f^i \tau_c^i (1 - \tau_p^i). \tag{3}$$

The effective marginal tax rate on distributed profit will be given by

$$\tau^{ii} = \tau_c^i + I^i = \tau_c^i + \tau_p^i (1 - \tau_c^i) - f^i \tau_c^i (1 - \tau_p^i). \tag{4}$$

If $f^i = 0$, classical double taxation of dividends applies and the effective tax rate $\tau^{ii} = \tau_p^i + \tau_c^i - \tau_p^i \tau_c^i$. Under full imputation, $f^i = 1$, and $\tau^{ii} = \tau_p^i < \tau_p^i + \tau_c^i - \tau_p^i \tau_c^i$. An increase in the franking ratio reduces the effective tax rate on distributed profit.

In this paper we will introduce the variable τ^{ii} as an influence on international equity investment. It is important to factor in the influence of a dividend imputation system on returns to domestic investors since an increase in dividend imputation makes investment in

domestic securities more attractive and thus makes investment in foreign securities less attractive.

2.2. Taxation of foreign investment

The withholding tax rates on dividends paid to foreigners vary between countries assessing the tax and across the country of residence of the investor. The withholding tax rates in 23 developed countries on dividends paid to foreigners are shown in Table 2. The withholding tax rates on dividends paid to foreigners in 2011 vary from 0% (on all foreign investors) in a number of countries including Hong Kong and the U.K., to rates that vary between 15% and 25% by France and Germany and 10% and 47% by Greece. It is also probable that bilateral tax treaties and regulatory associations might influence dividend tax rates and bilateral equity investments and trade flows. In Table 2, the withholding tax rate in country j on dividends paid to residents of i, τ_d^{ij}, is shown in bold in the event that a bilateral double taxation treaty applies.[5]

In a world with extensive double taxation treaties the variable tax burden on dividends paid to foreign investors is really a proxy variable for tax credit for foreign taxes paid. About 88% of the observations on foreign investment in our sample are for countries with a bilateral double taxation treaty on dividend tax withheld.[6]

A variable for the tax credit value for foreign dividend taxes paid will be given by:

$$TaxCredit1_t^{ij} = \tau_d^{ij} \frac{D_t^j}{M_{t-1}^j}(1+\varphi_t^{ij}) \qquad if \qquad \tau_d^{ij} \le \tau_c^i$$

$$= \tau_c^i \frac{D_t^j}{M_{t-1}^j}\left(1+\varphi_t^{ij}\right) \qquad if \qquad \tau_d^{ij} \ge \tau_c^i$$

(5)

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[5] In Table 2 for 2011, Hong Kong does not have a bilateral double taxation treaty with 11 countries and Greece does not have a bilateral double taxation treaty with 5 countries.

[6] Even in those cases where there is no tax treaty, default domestic law applies and there could well be a tax credit for foreign dividend tax paid. Another issue arises concerning the extent to which dividend tax credits for dividend income for foreign investors is not adequate to recapture all the taxes paid.

where is M_t^j is the equity market index for country j (in local currency) at the end of time period t, D_t^j / M_{t-1}^j is dividend yield for country j (D_t^j is always non-negative), and φ_t^{ij} is the appreciation of country $i's$ currency relative to country $j's$ currency between periods $t-1$ and t.

The assumption in equation (5) is that a tax credit is available tax treaty or not. $TaxCredit1_t^{ij}$ does not capture the situation in which there might be no tax credit when there is no tax treaty with the country in which the dividend is initially taxed. An alternative measure of tax credit is given by:

$$
\begin{aligned}
TaxCredit2_t^{ij} &= \tau_d^j \frac{D_t^j}{M_{t-1}^j}(1+\varphi_t^{ij}) && if && \tau_d^{ij} \leq \tau_c^i \quad and \quad TDD=1 \\
&= \tau_c^i \frac{D_t^j}{M_{t-1}^j}\left(1+\varphi_t^{ij}\right) && if && \tau_d^{ij} \geq \tau_c^i \quad and \quad TDD=1 \\
&= 0 && if && TDD=0
\end{aligned}
\tag{6}
$$

In equation (6), the construction of $TaxCredit2_t^{ij}$ assumes that if there is a double taxation treaty ($TDD=1$) the maximum tax credit is available, and if there is not a double taxation treaty ($TDD=0$) then the tax credit is zero. The actual tax credit available is likely to be bracketed between $TaxCredit1_t^{ij}$ and $TaxCredit2_t^{ij}$. The correlation of $TaxCredit1_t^{ij}$ with $TaxCredit2_t^{ij}$ is 0.83.[7] Note that if no dividends are paid, then $TaxCredit1_t^{ij}$ and $TaxCredit2_t^{ij}$ equal zero even though τ_d^{ij} is non-zero.

3. Data and Variables

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[7] In constructing the tax credit variable the corporate income tax has been used as the relevant domestic tax rate against which to compare the rate of tax on dividends levied by the foreign government.

The sources of data on the variables are provided in Table A.1. The cross-border portfolio equity data are from the International Monetary Fund (IMF) Coordinated Portfolio Investment Survey (CPIS). The empirical analysis involves cross-border equity investment for 23 countries over the period 2001 to 2011. The countries are listed in Table 1. In the paper, the dependent variable, cross-border equity holdings is defined as the log of equity holdings of the source country in host country normalized by the financial wealth of source country.

3.1. Tax Variables

The effective tax rate on the returns to domestic investment in the source country is used as a variable in the equation for foreign equity holdings. The effective tax rate on dividend income is defined in equation (4) and reflects the corporate, top personal income tax rate on dividend income and dividend imputation. Variables for tax credits for taxes on foreign dividend income are defined in equations (5) and (6).[8]

3.2. Familiarity and Financial Sophistication Variables

Familiarity and financial sophistication variables play an important role in investors' equity investment decisions (see Huberman (2001), Portes et al. (2001), Sarkissian and Schill (2004), Portes and Rey (2005), Ferreira and Matos (2008)). *Trade* is log value of ratio of imports of source country to product of gross domestic products (GDPs) of source and host countries. *Size* is log value of financial wealth of host country. *Foreign listing* is share of host country's stock market that is listed on source country's stock exchanges (either directly or has issued public debt in the source country). *Stocks traded* is total value of shares traded during the period divided by GDP. *Turnover ratio* is total value of shares traded during the

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[8] Tax rate variables have been employed in analyses of the effect of cross-border taxation on equity holdings. Desai and Dharmapala (2009) employ the top statutory corporate income tax rate as their primary tax variable. Aviat and Coeurdacier (2007), Chan et al. (2005) and Bekaert and Wang (2009) utilize the average percentage withholding tax on dividends paid to non-residents analyses of the effect of tax portfolio choice.

period divided by the average market capitalization during the period. *Market capitalization* is ratio of market capitalization of listed companies and GDP. This is a proxy for equity market development. More developed financial markets are generally more diversified and better integrated with world financial markets than smaller markets and hence likely to share information more intensively (as noted by Levine and Zervos (1998)). *Double taxation treaty* is dummy=1 if source and host country have a double taxation treaty in place otherwise 0. *Global financial crisis* is dummy=1 during and after global financial crisis (2007 to 2011) and dummy=0 before global financial crisis (2001 to 2006).

3.3. Summary statistics and Correlations

Summary statistics on the variables are provided in Table 3. The mean of effective tax on domestic investment in source country is around 44.90% with a range between 25.0% and 66.9%. The tax rate levied on foreign dividends varies between 0 and 47% and has a mean value of around 13.3%. Table 4 provides a correlation matrix of the variables. The correlation between dividend tax credit1 and dividend tax credit2 is 0.889. These variables will not appear in the same regression. Effective tax rate in the source country has a positive correlation with equity flow of 0.176. Most of the correlations do not suggest a problem with inclusion of variables in the regression equations.

4. The econometric models

To deal with endogenity between the equity, tax and other variables employed in the regression analysis the Arellano-Bover/Blundell-Bond linear dynamic panel-data method with be used to estimate the model. It is likely that countries well integrated financially are likely to better coordinate their fiscal policies and lower their bilateral taxation through tax treaties thus it is important to utilize an econometric method that deals directly with the issue of endogenous variables.

Estimation will be based on the dynamic panel models. These dynamic relationships include a lagged dependent variable among the regressors.

$$y_{it} = \delta y_{i,t-1} + x_{it}^{'}\beta + u_{it} \qquad i = 1,.........,N \qquad t = 2,.............T \qquad (7)$$

where δ is a scalar, $x_{it}^{'}$ is a $1 \times K$ vector of explanatory variables and β is a $K \times 1$ vector of parameters to be estimated. The error term u_{it} is composed of an unobserved effect and time-invariant effect μ_i and random disturbance term v_{it}.

$$u_{it} = \mu_i + v_{it} \qquad (8)$$

where $\mu_i \sim IID(0,\sigma_\mu^2)$ and $v_{it} \sim IID(0,\sigma_v^2)$ independent of each other and among themselves. The dynamic panel data regressions described in above equations (7) and (8) are characterized by two sources of persistence over time i.e. autocorrelation due to the presence of a lagged dependent variable among the regressors and individual effects characterizing the heterogeneity among the individuals. Since y_{it} is a function of μ_i, this implies that $y_{i,t-1}$ is also a function of μ_i. The OLS estimator for equation (7) is biased and inconsistent even if the v_{it} are not serially correlated. The fixed effect estimator of (7), which eliminates the individual effects μ_i, produces biased and inconsistent estimates (Nickell, 1981; Kiviet, 1995). Anderson and Hsiao (1981) suggest first differencing the model to get rid of the μ_i and then using $\Delta y_{i,t-2} = (y_{i,t-2} - y_{i,t-3})$ as an instrument for $\Delta y_{i,t-1} = (y_{i,t-1} - y_{i,t-2})$. This instrumental variable (IV) estimation method leads to consistent but not necessarily efficient estimates of the parameters in the model because it does not make use of all available moment conditions (Ahn and Schmidt, 1995) and it does not take into account the differenced structure on residual disturbances (Δv_{it}). Arellano Bond (1991) derived a one-step and two-step GMM estimators using moment conditions in which lagged levels of the dependent and

predetermined variables were instruments for the differenced equations[9]. Blundell and Bond (1998) show that the lagged-level instruments in the Arellano-Bond estimator become weak as the autoregressive process becomes too persistent or the ratio of the variance of the panel-level effect to the variance of the idiosyncratic error becomes too large. Linear dynamic panel data models include p lags of the dependent variable on covariates and contain unobserved panel level effects, fixed or random. Arellano and Bover (1995) develop a framework for efficient instrumental variable estimators of random effects models with information in levels which can accommodate predetermined variables. Building on the work of Arellano and Bover (1995), Blundell and Bond (1998) proposed a system estimator that uses moment conditions in which lagged differences are used as instruments for the level equation in addition to the moment conditions of lagged levels as instruments for the differenced equation. This estimator is designed for datasets with many panels and few periods. The method assumes that there is no autocorrelation in the idiosyncratic errors and requires the initial condition that the panel-level effects be uncorrelated with the first difference of the first observation of the dependent variable. This paper employs Arellano-Bover/Blundell Bond estimation technique with lags(1) and AR(2) tests.

In equation (7) y_{it} is the equity investment from source country to host country normalized by financial wealth of source country. x_{it} is the set of explanatory variables, and includes tax variables (dividend tax credit, effective tax, corporate tax, personal income tax), trade, size, foreign listing, stocks traded, turnover ratio, and market capitalization[10].

5. Results

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[9] See Arellano and Bond (1991), Anderson and Hsiao (1982) and Holtz et al (1988) for earlier works on GMM.
[10] Appendix Table A1 gives definition and data sources of variables.

Results from estimating versions of equation (7) by Arellano-Bover/Blundell-Bond linear dynamic panel-data method with lags(1) and AR(2) tests are reported for 2001-2011 in Tables 5 and 6. Cross-border equity holding is the dependent variable. In the regressions in Tables 5 and 6 tax variables, familiarity and financial sophistication variables appear in different combinations in order to examine the robustness of results. The Wald chi2 statistics is significant indicating that the parameters associated with these variables are not zero and inclusion of these variables in the regressions is appropriate. The Arellano-Bond test for serial correlation in the first differenced errors reported in the Tables indicates that there is no autocorrelation of second order.[11]

5.1. Effective tax rate

The effective tax on domestic investment in the source country (τ^{ii}, defined in equation (4)) appears in all regressions in Table 5. The effective tax rate (for domestic investment) in the source country has a positive and statistically significant effect on cross-border equity holdings in all regressions in Table 5. This result is robust to inclusion of alternative measures of dividend tax credit and to inclusion of a variety of familiarity and financial sophistication variables. Based on the coefficients in Table 5 (columns (1) to (4)), a rise of 10% in the effective tax rate in the source country will increase cross-border equity investment by 5.38%.[12]

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[11] The moment conditions employed by the Arellano Bover/Blundell method are valid only if there is no serial correlation in the idiosyncratic error. The Arellano Bond test is a test for no autocorrelation in linear dynamic panel models. The Arellano-Bond test examines for serial correlation in the first differenced errors. Because the first difference of independently and identically distributed idiosyncratic errors will be auto-correlated, rejecting the null hypothesis of no serial correlation at order one in the first differenced errors does not imply that the model is mis- specified. Rejecting the null hypothesis at higher orders implies that the moment conditions are not valid. After the one step estimator, the test can be computed only when robust standard error has been specified. The robust standard error uses the robust or sandwich estimator of variance. This estimator is robust to some types of misspecification so long as the observations are independent. In our regressions results, there is no autocorrelation of second order.

[12] The mean value of effective tax rate in source country is 44.904 and average coefficient of effective tax rate is 0.021 in columns (1) to (4) of Table 5. In columns (1) to (4) a rise in effective tax rate in source country by 10% increases equity flow by 5.388% (=4.4904 x 0.012).

5.2. Dividend tax credit

The dividend tax credit for foreign dividend taxes paid per unit of currency invested, defined as $TaxCredit1_t^{ij}$ in columns (1)-(4) and as $TaxCredit2_t^{ij}$ in columns (5)-(8), is positive and statistically significant in all regressions in Table 5. The average coefficient of dividend tax credit is 0.302 for $TaxCredit1_t^{ij}$ and 0.296 for $TaxCredit2_t^{ij}$. The average value of the coefficient of dividend tax credit implies that a 10 percent increase in the dividend tax credit will increase cross-border equity investment on average by approximately 1.07 percent.

In columns (9)-(12) of Table 5, the withholding tax rate in country j on dividends paid to residents of i, τ_d^{ij}, replaces $TaxCredit1_t^{ij}$ and $TaxCredit2_t^{ij}$ as explanatory variable in the regressions. The withholding tax rate in country j on dividends paid to residents of i has a negative sign but is not statistically significant. The estimate of the effect of effective tax on domestic investment in the source country (τ^{ii}) remains positive and statistically significant effect at the 1% in these regressions.

5.3. Familiarity and Financial Sophistication

The foreign listing variable is positive and significant at 1 percent in all regressions in Table 5. The reduction in information costs associated with foreign country's firms conforming to the source country's regulatory environment is an important determinant of the source country's equity holdings in foreign country. The result is in accordance with Ahearne et al. (2004). The financial wealth of host country (size) is positive and statistically significant in all regressions in Table 5 as expected. In all regressions in Table 5 the trade variable is positive and statistically significant implying that source country's investors' are better informed about those foreign firms, with which source country has a stronger trade in goods (as documented by Lane and Milesi-Ferretti (2008), amongst others).

In Table 5, variables that proxy for a lower level of financial friction are included in turn in the regression equations to ensure the robustness of the results regarding the role of effective taxation. The first three of these variables capture the financial sophistication of the host market. An increase in total value of shares traded divided by GDP in the host country has a statistically significant effect on equity investment. Similarly, a rise turnover ratio (total value of shares traded divided by market capitalization) and market capitalization (ratio of market capitalization of listed companies to GDP) have statistically significant effects on equity investment.[13]

5.4. Double taxation treaty and global financial crisis[14]

The effective tax rate for domestic investment has a positive and statistically significant effect at the 1% level on cross-border equity holdings in columns 1-4 and 5-8 in Table 6 when double taxation treaty and global financial crisis (GFC) dummy variables are included in the regression. The presence of a double taxation treaty between source and host countries significantly enhances cross-border equity investment. A dummy variable to capture the GFC period (dummy=1 over 2007 to 2011 and zero otherwise) is statistically significant and that cross-border equity investment is significantly less over 2007 to 2011 than over 2001 to 2006.

As a further robustness test we consider the effect of recognizing regulatory associations between countries. Regulatory associations that have an effect on bilateral tax rates as well as influence equity investment and trade are the European Union (EU), the North American Free Trade Agreement (NAFTA) and the Australia-New Zealand Free Trade Agreement (ANZ). In results not reported, it is found that inclusion of dummy variables to

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[13] Results are also robust to consideration of other measures the familiarity of domestic investors with the foreign market, such as if source and host country have a common language or have common legal origin.

[14] During global financial crisis, cross border equity holdings fell quite significantly during 2008 and then recovered (only partly) in 2009. For example, US equity holdings abroad were 5,248.0 billion USD in 2007, 2,748.4 billion USD in 2008, and 3.995.3 billion USD in 2009.

capture these associations between countries does not affect results. The statistical significance of the effective tax variable tax on domestic investors is statistically significant at the 1% level in all regressions estimated.[15]

5.5. Relatively high tax rates

An interesting question concerns the influence of relatively high taxation.[16] Dividend tax credits in the cases of high taxation of dividend income for foreign investors are not adequate to recapture all the taxes paid. To account for this factor we introduce a high tax dummy variable defined as follows:

$$HighTax_t^{ij} = 1 \qquad if \qquad \tau_d^{ij} > \tau_c^i$$

$$\qquad\qquad (9)$$

$$= 0 \qquad if \qquad \tau_d^{ij} \le \tau_c^i$$

where τ_d^{ij} is the tax rate in country j on foreign dividend income of investors from country i and τ_c^i is the corporate income tax rate in the investor's home country. If the foreign tax rate is high relative to the domestic tax rate, dividend tax credit cannot offset all foreign taxes paid. For this we expect the high tax dummy variable defined in equation (9) to be negatively associated with cross-border equity.

Results from the inclusion of $HighTax_t^{ij}$ in regression equations for cross-border equity are reported in columns 9 to 12 in Table 6. The coefficients of the high tax dummy variable are negative and statistically significant at 1 percent in all regression equations. Taxation of dividend income of foreign investors at relatively high rates reduces foreign

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[15] The recognition of regulatory associations between countries can capture a number of issues not described by the other variables. For example, conditions for exempting dividends from withholding tax vary by being a subsidiary company to its parent company with EU member states.

[16] Huizinga and Voget (2009) show that countries with high international double taxation are less likely to draw parent firms following an acquisition.

investment. The inclusion of the $HighTax_t^{ij}$ variable does affect the statistical significance of the effective tax on domestic dividend income variable.

In summary, it is found that the effective tax rate (inclusive of dividend imputation) on domestic investors in the source country and the tax credit for foreign taxes paid on dividend income generated overseas has a statistically significant positive effect on bilateral equity holdings.

6. Conclusion

In this paper it is argued that the heavier is domestic taxation of domestic dividend income, the more attractive is foreign investment to domestic agents. Under a dividend imputation system, domestic investors who are paid dividends receive a credit for tax for corporate taxes paid and this reduces the effective tax rate on domestic investment. The effective tax rate on domestic investment is constructed to reflect the influence of dividend imputation (and of corporate and personal income tax rates). To investigate the effect of tax on equity flows given the endogeneity of equity, tax and other variables, regressions are estimated by Arellano-Bover/Blundell-Bond linear dynamic panel-data method.

It is found that a fall of 10% in effective tax rate on domestic dividend income reduces foreign equity investment by between 5.38%. Taxation of dividend income accruing to foreign investors varies by country and by foreign investor. Cross-border equity investment is increased if tax credit rises for taxes paid overseas.

Empirical analysis is based on bilateral investments among 23 mature economies over 2001-2011. To deal with endogenity between the equity, tax and other variables employed in the regression analysis the Arellano-Bover/Blundell-Bond linear dynamic panel-data method with be used to estimate the model. The presence of a double taxation treaty has a significant

positive effect on equity holdings. Results are robust to consideration of the global financial crisis.

Our results shed light on issues related to formulation of cross-border investment and tax policies. The results suggest that fiscal and investing policies ought not to be regarded as independent. The financial liberalization policies enhancing cross-border equity investment through tax credit should be considered simultaneously rather than on a standalone basis. The finding of significant effects of taxation on equity investment on a bilateral basis, suggests that the current debate in Europe on a future harmonization of fiscal rules that is restricted to bilateral conventions between countries might be better conducted on a broader basis. Other things equal, results suggest that greater domestic investment by domestic investors is encouraged by lower taxation of domestic dividend income.

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Appendix Table A.1: Data sources of variables

Variables	Description and data sources
Equity Flows	Equity flows is log value of ratio of equity investment from source country to host country and financial wealth of source country.
	Source: Coordinated Portfolio Investment Survey. Authors own calculations.
Dividend tax credit1	Dividend tax credit1 is product of foreign dividend tax withheld rate and dividend yield if foreign dividend tax withheld rate is less than or equal to home country's combined corporate income tax rate. It is product of home country's combined corporate income tax rate and foreign dividend yield if foreign dividend tax withheld rate is greater than home country's combined corporate income tax.
	Source: Price Waterhouse, 2001-2012
Dividend tax credit2	Dividend tax credit2 = Dividend tax credit1 if there is a double taxation treaty between home and foreign country, and Dividend tax credit2 = 0 otherwise.
	Source: Price Waterhouse, 2001-2012
Effective tax source	Effective tax source is effective (corporate plus personal) tax rate on distributed profit in source country.
	Source: OECD tax database, 2001-2012. Authors own calculations.
High tax	High tax is dummy=1 if tax rate in host country on foreign dividend income from source country is greater than corporate income tax rate in investor's home country, otherwise 0
	Source: OECD tax database, 2001-2012. Price Waterhouse, 2001-2012. Authors own calculations.
Trade	Trade is log value of ratio of imports of source country to product of gross domestic products (GDPs) of source and host countries.
	Source: Import data is from Direction of Trade Statistics (2012). GDP data is from World Development Indicators (2012). Authors own calculations.
Size	Size is log value of financial wealth of host country.
	Source: Coordinated Portfolio Investment Survey. Authors own calculations.
Foreign listing	Foreign listing is share of host country's stock market that is listed on source country's stock exchanges (either directly or has issued public debt in the source country)
	Source: Coordinated Portfolio Investment Survey. Authors own calculations.
Turnover ratio	Turnover ratio is total value of shares traded during the period divided by the average market capitalization during the period.
	Source: Standard & Poor's Global Stock Markets Factbook.
Stocks traded	Stocks traded is total value of shares traded during the period divided by GDP.
	Source: Standard & Poor's Global Stock Markets Factbook.
Market Capitalization	Market capitalization is ratio of market capitalization of listed companies and GDP.
	Source: Standard & Poor's Global Stock Markets Factbook.
Double taxation treaty	Dummy=1 if double taxation treaty exists between source and host country otherwise it is zero.
	Source: Price Waterhouse, 2001-2012
Global financial crisis	Dummy=1 during and after global financial crisis (2007 to 2011) otherwise it is zero (2001 to 2006. Source: Authors' own calculations

Table 1: Taxation Rates and Treatment of Dividends and Imputation (2011)

Country	Dividend Imputation Rate	Corporate Income Tax Rate	Personal Income Tax Rate	Effective Tax Rate
Australia	30	30	46.5	46.5
Austria	0	25	25	43.8
Belgium	0	34	15	43.9
Canada	26.4	27.6	46.4	48
Denmark	0	25	42	56.5
Finland	0	26	28	40.5
France	0	34.4	52	57.8
Germany	0	30.2	26.4	48.6
Greece	0	20	21	32.5
Hong Kong	0	16.5	15	31.5
Ireland	0	12.5	41	48.4
Italy	0	27.5	12.5	36.6
Japan	0	39.5	10	45.6
Netherlands	0	25	25	43.8
Norway	0	28	28	48.2
New Zealand	28	28	33	33
Portugal	0	26.5	21.5	42.3
Singapore	0	17	20	37
Spain	0	30	19	43.3
Sweden	0	26.3	30	48.4
Switzerland	0	21.2	20	36.9
UK	10	26	42.5	52.7
US	0	39.2	21.2	52.1

Note: Data are for 2011 and may differ for other years. Dividend imputation rate is the rate of corporate income tax imputed to shareholders. Corporate income tax rate is combined (central and sub-central) marginal statutory corporate income tax rate on distributed profits, inclusive of surtax (if any). Personal income tax rate is combined (central and sub-central) top marginal statutory personal income tax rate inclusive of surtax (if any), imposed on dividend income (on grossed-up dividends where gross-up provisions apply), before taking account of imputation systems, tax credits and tax allowances in source country. Effective tax rate is the effective (corporate plus personal) tax rate on distributed profit.
Source: Tax information is from OECD tax database. Authors own calculations.

Table 2: Dividend tax withheld rates on dividend payment to foreigners (2011)

Taxing Country	Investor Home	aus	aust	bel	can	den	fin	fra	ger	gre	hk	ire	ita	jap	net	nor	nz	por	sin	spa	swe	swi	uk	us
aus		X	15	15	15	15	15	15	15	30	30	15	15	15	15	15	15	30	15	15	15	15	15	30
aust		15	X	15	15	15	10	15	15	15	10	10	15	20	15	15	15	15	10	15	10	15	15	15
bel		15	15	X	15	15	15	15	25	15	15	15	15	15	15	15	15	15	15	15	15	15	10	15
can		15	15	15	X	15	15	15	15	15	25	15	15	15	15	15	15	15	15	15	15	15	15	15
den		15	15	15	15	X	15	28	15	18	28	15	15	15	15	15	15	10	10	28	15	15	25	15
fin		15	10	15	15	15	X	0	15	13	28	5	15	15	15	15	15	15	10	15	15	10	28	15
fra		15	15	15	15	25	15	X	15	25	25	15	15	10	15	15	15	15	15	15	15	25	15	15
ger		15	15	15	15	15	15	15	X	25	25	10	15	15	15	15	15	15	15	15	15	15	15	15
gre		25	15	15	15	38	47	25	25	X	25	15	15	25	35	40	25	15	25	10	25	35	25	25
hk		0	0	0	0	0	0	0	0	0	X	0	0	0	0	0	0	0	0	0	0	0	0	0
ire		0	0	20	15	0	0	20	20	15	0	X	15	20	15	15	0	15	0	0	0	0	15	15
ita		15	15	15	15	15	15	15	15	15	27	15	X	15	15	15	15	15	10	15	15	15	15	15
jap		10	20	15	15	15	15	10	15	20	20	15	15	X	15	15	15	20	15	15	15	15	10	10
net		15	15	15	15	15	15	15	15	15	15	15	15	15	X	15	15	10	15	15	15	15	15	15
nor		15	15	15	15	15	15	15	15	20	25	15	15	15	15	X	15	15	15	15	15	15	15	15
nz		15	15	15	15	15	15	15	15	30	15	15	15	15	15	15	X	30	15	15	15	15	15	15
por		21.5	15	15	15	10	15	15	15	15	10	15	15	21.5	10	15	21.5	X	10	15	10	15	15	15
sin		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	0	0	0	0	0
spa		15	10	15	15	19	10	15	10	5	19	15	15	10	15	10	15	10	19	X	10	15	10	10
swe		15	10	15	15	15	15	15	15	0	30	15	15	15	15	15	15	10	15	15	X	15	5	15
swi		15	15	15	15	15	10	15	15	15	35	15	15	15	15	15	15	15	15	15	15	X	15	15
uk		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	0
us		15	15	15	15	15	15	15	15	30	0	15	15	10	15	15	15	15	0	15	15	15	15	X

Note: The dividend tax withheld rates are the highest corporate withheld taxes in foreign country on dividends generated in foreign country's firms from home country's investment for the year 2011. **X** indicates that investors and taxing country are same. Bold numbers indicate double taxation treaty exists between investor country and taxing country.

aus-Australia, aust-Austria, bel-Belgium, can-Canada, den-Denmark, fin-Finland, fra-France, ger-Germany, gre-Greece, hk-Hong Kong, ire-Ireland, ita-Italy, jap-Japan, net-Netherland, nor-Norway, nz-New Zealand, por-Portugal, sin-Singapore, swe-Sweden, swi-Switzerland, uk-United Kingdom, us-United States.

Source: Price Water House Coopers, 2001-2012.

Table 3: Summary Statistics

Variables	Observations	Mean	Standard Deviation	Minimum	Maximum
Equity Flows	4002	-5.800	2.068	-15.229	-0.227
Dividend tax credit1	4251	0.379	0.299	0	2.852
Dividend tax credit2	4251	0.340	0.293	0	2.852
Dividend tax rate	4265	13.352	7.286	0	47
Effective tax source	4496	44.904	7.967	25	66.9
Trade	4264	-32.908	1.401	-37	-27.9
Size	4455	26.998	1.428	23.815	30.758
Foreign listing	4116	0.077	0.277	0	6.358
Turnover ratio	4485	1.023	0.553	0.206	4.040
Stocks traded	4485	1.063	1.140	0.028	7.415
Market capitalization	4485	0.932	0.655	0.179	2.828

Note: Equity flows is log value of ratio of equity investment from source country to host country and financial wealth of source country. Dividend tax credit1 is product of foreign dividend tax withheld rate and dividend yield if foreign dividend tax withheld rate is less than or equal to home country's combined corporate income tax rate. It is product of home country's combined corporate income tax rate and foreign dividend yield if foreign dividend tax withheld rate is greater than home country's combined corporate income tax. Dividend tax credit2 = Dividend tax credit1 if there is a double taxation treaty between home and foreign country, and Dividend tax credit2 = 0 otherwise. Dividend tax rate is dividend tax rate withheld in host country on source country investor's dividend generated in host country. Effective tax source is effective (corporate plus personal) tax rate on distributed profit in source country. Trade is log value of ratio of imports of source country to product of gross domestic products (GDPs) of source and host countries. Size is log value of financial wealth of host country. Foreign listing is share of host country's stock market that is listed on source country's stock exchanges (either directly or has issued public debt in the source country). Turnover ratio is total value of shares traded during the period divided by the average market capitalization during the period. Stocks traded is total value of shares traded during the period divided by GDP. Market capitalization is ratio of market capitalization of listed companies and GDP.

Table 4: Correlation

	EF	DTC1	DTC2	DT	ETS	TR	SZ	FL	TURN	MC	ST
EF	1										
DTC1	-0.174	1									
DTC2	-0.048	0.889	1								
DT	-0.158	0.566	0.426	1							
ETS	0.176	-0.039	0.078	-0.146	1						
TR	0.189	-0.063	-0.022	-0.055	-0.074	1					
SZ	0.637	-0.222	-0.184	-0.081	-0.083	-0.184	1				
FL	0.100	0.095	0.116	0.045	0.108	0.105	-0.155	1			
TURN	0.445	-0.096	-0.073	-0.035	-0.068	-0.093	0.459	-0.124	1		
MC	0.124	-0.377	-0.343	-0.410	0.013	-0.031	0.337	-0.161	0.082	1	
ST	0.289	-0.345	-0.309	-0.325	-0.020	-0.086	0.396	-0.145	0.559	0.677	1

Note: Equity flows (EF) is log value of ratio of equity investment from source country to host country and financial wealth of source country. Dividend tax credit1 (DTC1) is product of foreign dividend tax withheld rate and dividend yield if foreign dividend tax withheld rate is less than or equal to home country's combined corporate income tax rate. It is product of home country's combined corporate income tax rate and foreign dividend yield if foreign dividend tax withheld rate is greater than home country's combined corporate income tax. Dividend tax credit2 (DTC2) = Dividend tax credit1 if there is a double taxation treaty between home and foreign country, and Dividend tax credit2 = 0 otherwise. Dividend tax rate (DT) is dividend tax rate withheld in host country on source country investor's dividend generated in host country. Effective tax source (ETS) is effective (corporate plus personal) tax rate on distributed profit in source country. Average tax burden (ATB) is log value of the weighted average tax burden on dividends earned from equities in host country where weights are the financial wealth of source country. Trade (TR) is log value of ratio of imports of source country to product of gross domestic products (GDPs) of source and host countries. Size (SZ) is log value of financial wealth of host country. Foreign listing (FL) is share of host country's stock market that is listed on source country's stock exchanges (either directly or has issued public debt in the source country). Turnover ratio (TURN) is total value of shares traded during the period divided by the average market capitalization during the period. Market capitalization (MC) is ratio of market capitalization of listed companies and GDP. Stocks traded (ST) is total value of shares traded during the period divided by GDP.

Table 5: Equity Flows, Dividend Tax Credit, Dividend Tax, Effective Tax

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Lag Equity Flows	0.717***	0.714***	0.707***	0.772***	0.682***	0.683***	0.675***	0.689***	0.696***	0.695***	0.689***	0.684***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Dividend tax credit1	0.283***	0.336***	0.307***	0.330***								
	(0.000)	(0.000)	(0.000)	(0.000)								
Dividend tax credit2					0.279***	0.320***	0.301***	0.286***				
					(0.000)	(0.000)	(0.000)	(0.000)				
Dividend tax									-0.002	-0.000	-0.000	-0.004
									(0.881)	(0.976)	(0.977)	(0.778)
Effective tax source	0.022***	0.022***	0.023***	0.020***	0.015**	0.016**	0.016**	0.014**	0.020***	0.008***	0.020***	0.020***
	(0.004)	(0.003)	(0.002)	(0.006)	(0.031)	(0.020)	(0.017)	(0.035)	(0.007)	(0.005)	(0.007)	(0.006)
Trade	0.123***	0.133***	0.119***	0.103***	0.125***	0.130***	0.118***	0.122***	0.111***	0.109***	0.101***	0.122***
	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.002)	(0.003)	(0.002)
Size	0.271***	0.234***	0.254***	0.186***	0.275***	0.245***	0.259***	0.254***	0.209***	0.200***	0.203***	0.242***
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Foreign listing	0.177***	0.188***	0.200***	0.136***	0.204***	0.209***	0.222***	0.201***	0.205***	0.212***	0.227***	0.204***
	(0.003)	(0.003)	(0.002)	(0.007)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)
Stocks traded		0.089***				0.067***				0.026*		
		(0.000)				(0.000)				(0.075)		
Turnover ratio			0.132***				0.114***				0.088***	
			(0.000)				(0.000)				(0.000)	
Market capitalization				0.116*				0.032				-0.059
				(0.059)				(0.553)				(0.352)
Observation	2937	2937	2937	2937	2937	2937	2937	2937	2937	2937	2937	2937
Wald Chi^2	1644.96***	1572.43***	1690.29***	2227.71***	1399.17***	1379.54***	1437.53***	1424.92***	996.56***	991.80***	1029.76***	1014.33***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Arellano Bond Test m1	-6.539***	-6.508***	-6.548***	-6.938***	-6.539***	-6.533***	-6.549***	-7.111***	-6.774***	-6.764***	-6.814***	-7.404***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Arellano Bond Test m2	0.200	0.108	0.162	0.238	0.213	0.143	0.176	0.213	0.391	0.321	0.266	0.456
	(0.841)	(0.913)	(0.870)	(0.811)	(0.830)	(0.885)	(0.859)	(0.830)	(0.695)	(0.748)	(0.790)	(0.648)

Note: Equity flows is dependent variable. Arellano-Bover/Blundell Bond Estimation with lags(1) and AR(2) tests. Arellano Bond test for no auto correlation. Lag Equity Flow is lag value of the dependent variable is not reported. P-values in brackets. Equity flows is log value of ratio of equity investment from source country to host country and financial wealth of source country. Dividend tax credit1 is product of foreign dividend tax withheld rate and dividend yield if foreign dividend tax withheld rate is less than or equal to home country's combined corporate income tax rate. It is product of home country's combined corporate income tax rate and foreign dividend yield if foreign dividend tax withheld rate is greater than home country's combined corporate income tax. Dividend tax credit2 = Dividend tax credit1 if there is a double taxation treaty between home and foreign country, and Dividend tax credit2 = 0 otherwise. Dividend tax is dividend tax rate withheld in host country on source country investor's dividend generated in host country. Effective tax source is effective (corporate plus personal) tax rate on distributed profit in source country. Refer Appendix Table A.1 for definition of Trade, Size, Foreign listing, Stocks traded, Turnover ratio, Market capitalization and Global financial crisis.

Table 6: Robustness Tests

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Lag Equity Flows	0.608***	0.600***	0.604***	0.620***	0.645***	0.644***	0.648***	0.651***	0.614***	0.610***	0.612***	0.626***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Dividend tax credit1	0.249***	0.286***	0.256***	0.287***	0.281***	0.333***	0.303***	0.300***	0.254***	0.284***	0.261***	0.283***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Effective tax source	0.011***	0.010***	0.010***	0.011***	0.012***	0.011***	0.012***	0.012***	0.010***	0.009***	0.009***	0.010***
	(0.001)	(0.002)	(0.001)	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.003)	(0.004)	(0.003)	(0.002)
High tax									-0.531***	-0.508***	-0.534***	-0.500***
									(0.008)	(0.011)	(0.008)	(0.000)
Trade	0.099***	0.109***	0.102***	0.079**	0.063*	0.063*	0.053*	0.059*	0.115***	0.125***	0.119***	0.101***
	(0.001)	(0.000)	(0.001)	(0.014)	(0.050)	(0.051)	(0.095)	(0.071)	(0.000)	(0.000)	(0.000)	(0.002)
Size	0.311***	0.287***	0.299***	0.249***	0.302***	0.271***	0.282***	0.261***	0.306***	0.286***	0.295***	0.257***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Foreign listing	0.276***	0.284***	0.282***	0.277***	0.295***	0.309***	0.308***	0.294***	0.280***	0.288***	0.287***	0.282***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Stocks traded		0.064***				0.073***				0.054***		
		(0.000)				(0.000)				(0.000)		
Turnover ratio			0.073***				0.100***				0.066***	
			(0.001)				(0.000)				(0.005)	
Market capitalization				0.112**				0.076				0.088*
				(0.020)				(0.121)				(0.079)
Double taxation treaty	0.591**	0.664**	0.634**	0.662**								
	(0.041)	(0.023)	(0.030)	(0.023)								
Global financial crisis					-0.067***	-0.084***	-0.087***	-0.055**				
					(0.003)	(0.000)	(0.000)	(0.010)				
Observation	2937	2937	2937	2937	2937	2937	2937	2937	2937	2937	2937	2937
Wald Chi^2	1518.66***	1496.32***	1559.13***	1498.84***	1441.83***	1424.51***	1452.53***	1456.68***	1195.90***	1181.19***	1216.33***	1205.11***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Arellano Bond Test m1	-8.196***	-8.144***	-8.215***	-8.451***	-8.430***	-8.420***	-8.444***	-8.611***	-8.149***	-8.127***	-8.164***	-8.537***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Arellano Bond Test m2	0.122	0.117	0.191	0.015	0.205	0.234	0.348	0.095	0.237	0.221	0.293	-0.007
	(0.902)	(0.906)	(0.848)	(0.987)	(0.837)	(0.814)	(0.727)	(0.923)	(0.812)	(0.825)	(0.768)	(0.933)

Note: Equity flows is dependent variable. Arellano-Bover/Blundell Bond Estimation with lags(1) and AR(2) tests. Arellano Bond test for no auto correlation. Lag Equity Flow is lag value of the dependent variable is not reported. P-values in brackets. Equity flows is log value of ratio of equity investment from source country to host country and financial wealth of source country. Dividend tax credit1 is product of foreign dividend tax withheld rate and dividend yield if foreign dividend tax withheld rate is less than or equal to home country's combined corporate income tax rate. It is product of home country's combined corporate income tax rate and foreign dividend yield if foreign dividend tax withheld rate is greater than home country's combined corporate income tax. Effective tax source is effective (corporate plus personal) tax rate on distributed profit in source country. Refer Appendix Table A.1 for definition of High Tax, Trade, Size, Foreign listing, Stocks traded, Turnover ratio, Market capitalization, Double taxation treaty and Global financial crisis.