

6. OUTWARD FOREIGN DIRECT INVESTMENTS AND MERCHANDISE EXPORTS: THE EUROPEAN OECD COUNTRIES¹

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Abstract

This paper tests whether outward foreign direct investments (FDI) serve as complements or substitutes to merchandise exports. A direct link between outward FDI and country-level merchandise bilateral exports between the European Organisation for Economic Cooperation and Development (OECD) countries is tested using a gravity model and four different econometric approaches with panel data analysis for the period 2004-2008. The model is specified with traditional gravity variables for gross domestic product and distance, and the variables of specific interest for outward FDI and related characteristics of countries and country pairs. We find that outward FDI reduces merchandise exports as there is a direct, negative outward FDI effect on the increase in bilateral merchandise exports. Internationalization of enterprises and economies through outward FDI serves as the merchandise exports substitutes likely causing home country regional production and employment.

Keywords: foreign direct investment, gravity model, panel data analysis, merchandise exports, European OECD countries

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I. Introduction

Internationalization of enterprises has taken different modes and foreign direct investment (FDI) is one of them with impacts on international trade. A remarkable growth has been achieved in FDI flows by developed and developing countries (e.g. Demirhan and Masca, 2008). This has changed the traditional FDI flows with the associated impacts on technology sourcing countries and beneficial spill-over effects on improving productivity and efficiency.

Our specific focus is to test whether there is a direct link between outward FDI and a country-level merchandise bilateral export between the European Organisation for Cooperation and Economic Development (OECD) countries. Since the collapse of communism and iron curtain in 1989, the European economies have changed owing to transition to a market economy in the Central and Eastern European (CEE) countries, the OECD and European Union (EU) enlargement towards the CEE countries, the trade and FDI effects of EU and European Monetary Union (EMU) enlargement (Brenton *et al.*, 1999; Brouwer *et al.*, 2008). The main thesis is whether outward FDI serves as a substitute if there is increase in outward FDI, but decrease in bilateral merchandise exports or as a complement if there is an increase in outward FDI and in bilateral merchandise exports.

This present paper contributes to literature in two significant directions. First, we specify our gravity model with traditional gravity trade variables including gross domestic product and distance (Anderson and van Wincoop, 2003), and include the variables of specific interest for outward FDI and related characteristics for the sample of the European OECD countries and country pairs. The European OECD countries are selected in order to test the hypothesis on the outward FDI substitution/complement issue on the country level panel data for the European OECD countries following the EU enlargement to the East in 2004. Second, in addition to the baseline gravity panel model, we employed panel fixed effects vector decomposition (FEVD) estimation technique developed by Plümper and Troeger (2007) to test the robustness of the estimations for uses time-invariant country characteristics for control variables.

We find that outward FDI contributes to merchandise export substitution as there is a direct negative effect of outward FDI on bilateral merchandise exports between the European OECD countries. An outward FDI from enterprises and economies is found as merchandise export substitutes.

The remaining part of the paper is organized as follows. In the next section, we present the literature review on FDI and trade and develop the main testable hypotheses. Next section provides an overview on the methodology and data used. The empirical section presents results on different specifications of the estimated gravity regressions. The final section concludes.

II. Related Literature and Testable Hypotheses

Literature distinguishes between different modes of internationalization of enterprises and the role of FDI activities (e.g. Hudea *et al.*, 2012). Empirical research on the

determinants of FDI supports interdependencies across markets that FDI between two countries is not independent of FDI in other economies (Coughlin and Segev, 2000; Blonigen *et al.*, 2007; Baltagi *et al.*, 2007, 2008).

Blonigen (2005) provides review of literature on FDI determinants, from enterprise characteristics that affect multinational enterprises (MNEs) decision for FDI to external factors affecting FDI decisions particularly on location focusing on exchange rate effects, taxes, institutions, trade protection and trade effects. Theoretical and empirical literature has addressed the importance of FDI for internationalization of enterprises and economies, international trade and for economic growth. Differentiation in host destination competitiveness and culture type and some other country-specific factors can be the most appropriate for location selection, entry to a certain market and for outward FDI flows (Lanaspa *et al.*, 2008; Savoiu *et al.*, 2013). FDI has been seen as a crucial determinant underlying international trade and growth performance experienced by the different economies and enterprises (e.g. Ang, 2008; Albu, 2013). Due to fast FDI growth, a substantial theoretical and empirical interest has been devoted to investigate its causes and consequences. Mundell (1957) analyzed the interaction between international flow of goods and international factors mobility, and found an inverse association that flows of goods trade and factors are substitutes: an increase in trade impediments stimulates factor movements and an increase in restrictions to factor movements stimulates trade. In contrast, Markusen (1983), Wong (1988), and Brenton *et al.* (1999) argued for a positive complementary association between the international trade in goods and in factors. Wong and Goh (2013) investigated the causality pattern between Singapore's outward FDI and major external trade components. They revealed an outward FDI-led trade hypothesis for merchandise exports and imports, but not for outward FDI-services trade linkages.

One of the key arguments for FDI trade geography literature are locational determinants for manufacturing start-ups, where trade costs is associated with distance (e.g. Limao and Venables, 2001; Anderson and van Wincoop, 2004; Egger, 2008; Neary, 2009). FDI occurs when the benefits of producing in a foreign market outweigh the loss of economies of scale from producing in the enterprise's home source plant. In a case that FDI is driven by the proximity-concentration trade-off, falls in trade costs discourage FDI as the benefits of concentrated production or agglomeration of MNEs increasingly outweigh the gains from improved market access by falls in technological and policy-induced barriers to trade.

Literature gives also evidence on the role of the EU enlargement on new economic geography in Europe and on the relationship between FDI and trade (Brenton *et al.*, 1999; Brouwer *et al.*, 2008). We focus on the European OECD countries. Most of them are members of the borderless EU Single Market. We examine the European OECD home country's merchandise export effects and test the hypothesis whether outward FDI serves as substitutes or complements for bilateral merchandise exports from the home source country (Kim and Kang, 1996; Lim and Moon, 2001; Liu and Huang, 2005; Lee *et al.*, 2009). We focus on bilateral outward FDI stocks into European OECD countries to test the following set of two hypotheses:

Hypothesis 1 (H1): A complement relation between outward FDI and bilateral merchandise exports holds when outward FDI is positively associated with bilateral

merchandise exports, and vice versa, a substitute relation when outward FDI is negatively associated with bilateral merchandise exports.

Hypothesis 2 (H2): The EU OECD countries after the 2004 EU enlargement do not perform substantially different than all the European OECD countries in terms of associations between merchandise exports and outward FDI.

To test of set Hypothesis 1, it is controlled by additional time-variant and time-invariant explanatory variables. In addition to outward FDI, as additional time-variant variables are specified: the size of gross domestic product (GDP) of home source and host destination countries and trade openness of home country. As time-invariant variables are specified variables: distance, contiguity, language, and landlocking. These variables are further explained in the methodological and data sections.

In addition to test of set H1 for possible role of the EU enlargement on bilateral merchandise export for all the European OECD countries, we limit our data sample only on the EU OECD countries to investigate set of H2 for possible differences and similarities of the EU enlargement on the EU OECD countries vis-à-vis all the European OECD countries.

III. Methodology

This section presents the econometrical consideration and the model specification. According to previous research, the most important empirical determinants of FDI flows are country size, skilled labour endowments, trade and investment costs, and interaction terms thereof (Carr *et al.*, 2001; Blonigen, 2005). In order to formally assess the effects of FDI on merchandise export flows we use panel data. The analysis of panel data has important advantages over pooled ordinary least square (OLS) estimates. They are advantages that may easily justify the extra costs of collecting information in both the cross-sectional and the longitudinal dimension. The static panel models offer two basic options: random or fixed effects models. However, the explanatory variables may correlate with the country-specific unobserved effect. Thus, the empirical literature usually suggests to use the fixed effects model to control unobserved heterogeneity. However, the fixed effects model uses only the within variance for the estimation and disregards the between variance, but it does not allow the estimation of time-invariant variables. The empirical literature on the impact of FDI on trade employs some important time-invariant variables relating to trade costs, for example distance between the pair of countries, use of common language, having a common border or a free trade agreement. Since some of the key variables of interest are time-invariant, their impact on merchandise export cannot be estimated with a conventional fixed effects estimator as identification of the parameters relies on the time variation within each cross section. Davis *et al.* (2008) argue that assessing the effect of time-invariant variables is also important because such proxy variables for trade costs yield insights into the motivation behind FDI. If FDI happens in order to gain access to consumers, higher trade costs are expected to increase FDI (horizontal FDI). Alternatively, if FDI takes place to create global production networks, higher trade costs decrease FDI (vertical FDI).

The solution for inefficiency of fixed effects model is to use the FEVD estimator technique developed by Plümer and Troeger (2007). The FEVD technique involves three stages: 1) The unit (country) fixed effects are estimated using a conventional fixed effects model; 2) These unit fixed effects are regressed on the time-invariant variables (regulation variables, distance, and language), in order to obtain their unexplained part, i.e., the part not explained by time-invariant variables; 3) Finally, a model which includes the time-varying variables, the time-invariant variables, and the unexplained part of the fixed effects vector – the residuals from stage 2), which control for the time-invariant unobserved factors – is estimated by pooled OLS and the degrees of freedom used in the computation of standard errors are adjusted downwards to account for the estimated individual effects in stage 1). This last stage 3) is equivalent to a fixed effects model in which the country-specific effects have been decomposed into an explained and unexplained part. Following Davis *et al.* (2008), we apply the FEVD method, which allows for dealing with potential biases in the time-varying coefficients while decomposing the fixed effects into explainable components (i.e. correlated with the time-invariant variables) and an unexplainable component.

To test of set H1, we specify the following model:

$$\ln \text{EXP}_{ijt} = \alpha_0 + \alpha_1 \ln \text{GDP}_{it} + \alpha_2 \ln \text{GDP}_{jt} + \alpha_3 \ln \text{openness}_{it} + \alpha_4 \text{FDIout}_{ijt} + \alpha_5 \ln \text{distance}_{ij} + \alpha_6 \text{contiguity}_{ij} + \alpha_7 \text{language}_{ij} + \alpha_8 \text{landlocked}_i + \varepsilon_{ijt} \quad (1)$$

Our dependent variable is the natural logarithm of OECD bilateral merchandise exports (EXP_{ijt}) of home source country i to host destination country j in time t . Among the explanatory variables are time-variant variables for bilateral outward FDI_{ijt} from home to host country, GDP_{it} and GDP_{jt} are GDPs of home and host countries, respectively, and openness_{it} is home country trade openness. The association between bilateral merchandise exports and outward FDI in the home country can be of a positive sign when they are complements or of a negative sign when they are substitutes. We expect a positive association between bilateral merchandise exports and the size of GDP of home and host countries, respectively, and between bilateral manufacturing exports and home country trade openness. Our gravity merchandise export equation (1) includes also standard time-invariant gravity trade variables: distance, contiguity, language, and landlocked. We expect positive association of bilateral merchandise exports of home country with having a common border (contiguity) and speaking a similar language (language) in host country, and negative association of bilateral merchandise exports of home country with distance to host destination country, and if the home country is landlocked. The time-invariant variables for distance, contiguity, language and landlocked for home country, they are not included in specifications with country pair fixed effects as they characterize bilateral transactions among home and host countries.

To test of set H2, gravity merchandise export equation (1) is econometrically tested and compared for two sub-samples: all European OECD countries and EU OECD countries, respectively. We expect that the EU enlargement has increased the outward FDI and bilateral merchandise exports for both sub-samples: all European OECD countries and the EU OECD countries.

IV. Data

Data on merchandise exports (EXP_{ijt}), outward FDI flow and GDP are expressed in millions of US dollars. The source of data is OECD, International Direct Investment Statistics. In the econometric analysis, we use a panel of annual data for the European OECD countries, which are obtained from the OECD's trade statistics between 2004 and 2008. The sample of home and host countries covers only the European member countries of the OECD. Since there was no change in the composition of the OECD within the sample period 2004-2008, its effect is captured by the country-pair dummies. As bilateral merchandise export depends on market size, we use nominal GDP as a proxy for market size in home and host country in the gravity merchandise export equation. Home country trade openness ($openness_{it}$) is defined as the sum of merchandise exports and imports divided by GDP, in per cent.

The source of data on distance, contiguity, language, and landlocked is the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII): <http://www.cepii.fr/anglaisgraph/bdd/distances.htm> database: In distance_{ij} represents natural logarithm of the great circle distance between capital cities of two European OECD countries' capitals of home *i* and host *j* countries in kilometres, serving as a proxy for transport costs in physical trade, and in investment decisions it is a proxy for costs in information transmission within FDI flows; contiguity = 1 when home *i* and host *j* countries share a common border, 0 otherwise; language = 1 when home *i* and host *j* countries share a common official language, 0 otherwise, and landlocked = 1 when home country *i* has an access to the sea port, and 0 otherwise.

The analyzed sample of variables for the period 2004-2008 includes the following twenty-two European OECD countries: Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland, Turkey, and the United Kingdom. Except for Norway, Switzerland and Turkey, the other nineteen countries are members of the EU. Between the analysed European OECD countries are considerable differentials in the size of the merchandise exports, the economic size of the country (GDP), and the size of outward FDI: among the smallest is Luxembourg and among the largest is Germany. Yet, differentials are also in the degree of the trade openness and geographical proximity between the analyzed European OECD countries.

V. Results of Regression Analysis

Baseline Gravity Merchandise Export Models for the European OECD Countries

For comparison purpose, we apply pooled OLS, random and fixed effects models and FEVD estimation approach. Table 1 shows that traditional time-variant international trade variables are largely of expected signs. Preliminary analysis reports the problem of heteroskedasticity, thus we apply heteroskedastic robust standard errors for the OLS. The variance inflation factor (VIF) statistics show that we can reject the issue of multicollinearity. The Breush-Pagan test rejects the null hypothesis of random effect. The F-test for fixed effect model indicates that there are significant individual effects

implying that pooled OLS is not an appropriate model. Merchandise export is positively and significantly associated with the size of GDP in the home country. A positive association between merchandise exports and the size of GDP holds also for the host country, but it is only statistically significant in the OLS and random effect regressions. The regression coefficient for time-variant trade openness in the OLS regression (1) in Table 1 is of a negative sign, but is insignificant. The regression coefficients for the time-invariant proximity variables in the OLS regressions are of the expected signs and are statistically significant: they are of a negative sign for the distance and landlocked variables, and of a positive sign for the contiguity and language explanatory dummy variables.

Table 1

Determinants of Merchandise Exports (In EXP_{ijt}) between the European OECD Countries, Panel Data 2004-2008

	OLS (1)	Random effect (2)	Fixed effect (3)	FEVD (4)
ln GDP _{it}	0.8693***	0.917***	1.2203***	1.2203***
ln GDP _{jt}	0.9831***	1.018***	0.1722	0.1722
ln openness _{it}	-0.0158	0.226***	0.5289***	0.5289***
FDIout _{ijt}	-0.6780**	-0.000***	-1.750**	-1.750**
ln distance _{ij}	-1.0497***	-0.969***		-0.6867***
contiguity _{ij}	0.2961***	0.347**		0.7975***
language _{ij}	0.4009***	0.379**		0.2166
landlocked _i	-0.1771***	-0.081		0.4580***
constant	17.6910***	16.493***	12.8616***	
N	2310	2310	2310	2310
R ²	0.8206	0.8166	0.6609	0.998
VIF	1.68			
Breush-Pagan test (p-value)		0.0000		
F-test (p-value)			0.0000	

Notes: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Source: Own calculations.

The variable of our specific interest to test set of H1 is the outward FDI variable, which is of a negative sign and statistically significant. Therefore, merchandise exports and outward FDI are negatively associated implying that the greater the outward FDI it reduces the merchandise exports. This is consistent with a substitution role of outward FDI on merchandise exports. Therefore, according to the set H1, the outward FDI represents substitutes to bilateral merchandise exports between the twenty-two European OECD countries.

In the case of the random effect model (2) in Table 1, the results of the regression coefficients for the GDP size for home and host countries, distance, contiguity and language are of similar sign, size and significance than in the OLS regression (1). The

major difference in the random effect equation (2) is insignificant regression coefficient for the landlocked variable and significant positive regression coefficient for the trade openness. In general, the fixed effects models deal with the potential biases in OLS models. In the case of the fixed effect model (3) in Table 1 the regression coefficients of time-invariant variables (i.e., distance, contingency, language, and landlocked) are not estimated. The comparison between the OLS regression (1) and the fixed effect regression (2) in Table 1 confirms the positive and significant association between exports in goods and the GDP size for home country on one hand, while the negative association between merchandise exports and the outward FDI is strengthened on the other. However, the association between merchandise exports and the GDP size for host country becomes insignificant in the fixed effect model. As the most remarkable, the association between merchandise exports and trade openness, similarly as in the random effect model (2), becomes positive and statistically significant in the fixed effect model (3), which is consistent with theoretical expectation.

The FEVD estimation of regression (4) in Table 1 for the regression coefficients of time-varying variables remains similar to the fixed effect estimates in regression (3) in Table 1. However, comparison of OLS and FEVD regressions indicates that controlling for the unobserved portion of the country-specific effects does impact the estimated regression coefficients for the time-invariant variables. For the landlocked variable in the FEVD regression, the statistically significant coefficient of this used time-invariant variable changes sign to be positive. For other time-invariant variables (distance, contingency, and language) the sign remains, but change only the size of the regression coefficients and/or its significance. This suggests the possible presence of unobserved country heterogeneity and differences in the extent of this problem across data sets.

Baseline Gravity Merchandise Export Models for the EU OECD Countries

To reinforce the set H1 and to test of set H2, we focus on the sub-sample of the EU OECD countries, i.e., which are members of the EU and OECD. In comparison to total sample of the analyzed twenty-two European OECD countries (Table 1), the number of observations in the sub-sample of the EU OECD countries is 86.4% (Table 2). This means that except for the economically developed Norway, Switzerland, and the emerging market economy of Turkey a great majority of the analyzed European OECD countries are at the same time members of the EU.

The specification tests report similar results as for the full sample estimation. To correct the problem of heteroskedasticity we employ heteroskedastic robust standard errors for the OLS. The VIF statistics imply that we do not have the presence of the issue of multicollinearity. The random effect null hypothesis is also rejected. The F-test for the fixed effect model rejects the appropriateness of the pooled OLS model.

The previous literature on the effect of enlargement, outward FDI and merchandise trade gives mixed results (e.g. Bowen *et al.*, 1998; Brouwer *et al.*, 2008). Our empirical results confirm the set H2 that the EU OECD countries do not perform substantially different than all the European OECD countries in terms of associations between merchandise exports and outward FDI. The comparison of Tables 1 and 2 reinforces the findings for set H1. It shows that there is not found any change in the sign of the estimated regression coefficients, but only in their size and, to a lesser extent, in their

statistical significance. The size of the regression coefficient for the size of GDP of home country has slightly increased. On the other hand, a positive sign for the size of the GDP of host country has become significant also in the fixed effect and FEVD regressions. The regression coefficient for the trade openness is of a positive sign and significant in the random effect, fixed effect and FEVD regressions. The change in the size of the regression coefficient for the outward FDI variable is considerable with an increase in the OLS regression and with a considerable decline in the fixed effect and FEVD regressions. These mixed results imply that the outward FDI in the EU OECD member countries has reduced merchandise exports slightly less than in the other European OECD countries. Moreover, there is only a slight difference in the size of the regression coefficients for the time-invariant proximity variables: a slight decline for contingency, a slight increase for language and landlocked. The regression results for distance are mixed (a slight decline in the OLS and random effect regressions, while a slight increase in the FEVD regression).

Table 2

Determinants of Merchandise Exports (ln EXP_{ijt}) between EU OECD Countries, Panel Data 2004-2008

	OLS (1)	Random effect (2)	Fixed effect (3)	FEVD (4)
ln GDP _{it}	0.8931***	0.933***	1.2573***	1.2573***
ln GDP _{jt}	0.9638***	0.992***	0.2174*	0.2174*
ln openness _{it}	0.0098	0.217***	0.4807***	0.4807***
FDIout _{ijt}	-0.8050***	-0.000**	-0.1580**	-0.1580**
ln distance _{ij}	-1.0051***	-0.929***		-0.6945***
contiguity _{ij}	0.2813***	0.321**		0.5937**
language _{ij}	0.4997***	0.489***		0.3741
landlocked _i	-0.1928***	-0.103		0.4990**
constant	17.3736***	16.314***	12.4516***	
N	1995	1995	1995	1995
R ²	0.8361	0.8330	0.6504	0.996
VIF	1.72			
Breush-Pagan test (p-value)		0.0000		
F-test (p-value)			0.0000	

Notes: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Source: Own calculations.

VI. Discussion and Policy Implications

The novelty and contribution of the paper is to test whether the European enlargement process has contributed to larger merchandise exports and outward FDI flows between the European and EU OECD countries. The results have confirmed our hypotheses: first, the outward FDI serves as substitutes to bilateral merchandise exports between the European and EU OECD countries, respectively. Second, the

European and EU OECD countries perform similarly in terms of the effects of the outward FDI and merchandise exports. Finally, the controlled time-variant and time-invariant explanatory variables have largely theoretically expected signs, but some variations are found by different estimation procedures. In the case of the time-variant variables for the size of GDP of home and host countries the regression coefficients have a positive sign, while for trade openness of home country the results is mixed, depending on the estimation procedure. In the case of the time-invariant variables for contiguity and language the sign of the regression coefficient is positive, but negative for distance, while mixed in the case of the landlocked variable.

These results and findings have important policy implications to manage with enterprise internationalization modes and implications for enterprises, national and regional economies. Among managerial decision making implications, the crucial are up-to-date management information for decision making process regarding modes of internationalization of enterprises, including on outward FDI roles and selling strategies. When decision is made for outward FDI, this can reduce merchandise exports in home country as revealed by our empirical results for the association between merchandise exports and outward FDI flows between the European and EU OECD countries. This substitution effect of outward FDI on merchandise exports can be offset by a greater enterprise's profitability in a host country. However, at the national and particularly regional economy level this might reduce local home country employment. Therefore, there are possible trade-offs with potential employment threats for the outward FDI home economies, which should not be neglected at the micro-enterprise level between enterprise capital profitability at different global locations and local home country job creation (Elia *et al.*, 2009). There are, of course, possible social welfare implications for local home country labour market, employment and unemployment. To avoid outward FDI flows due to unfavourable local home country environment such as high taxation with relatively high labour costs, there is implication at the micro-enterprise and regional economic and social home country levels in the sharing of risks when outward FDI flows have negative merchandise exports implications with other home economic and social implications.

Among the enlargement, EU regional and cohesion policy implications, they are related to the European and, particularly, EU enlargement process. They are associated with the nature and the distribution of merchandise trade and outward FDI effects. The EU enlargement has induced positive merchandise trade creation effects, while the outward FDI has merchandise export substitution role. The reasons for the outward FDI flows can be different: from less friendly home local environment up to an entrepreneurial search for more profitable host countries investment opportunities.

Finally, the regression results confirm the importance of the European and EU proximity variables. Costs along the distance dimension include transport costs, language, landlocked country situation, telecommunication and similar information costs (e.g. Bojnec and Fertő, 2009, 2010). The relationship between outward FDI and merchandise exporting revealed horizontal FDI. The outward FDI sets up a subsidiary in a host country, thus trading-off lower trade costs against higher fixed costs. This is also consistent with the borderless single European market, which has given opportunities for outward FDI at lower values of trade costs, with merchandise exports and outward FDI behaving as substitutes.

VII. Conclusions

FDI represents one of the modes for internationalization of involved enterprises and for internationalization of the economies and their regional parts in the era of regional integration and globalization. The paper contributes to the literature on outward FDI and econometric analysis of the causality pattern between the European OECD outward FDI and major country characteristics. The empirical analysis focuses on the robustness of the estimations of the hypothesis on the outward FDI substitution vs. complement effects to merchandise exports. The specific contribution is on outward FDI in association with merchandise export developments between the European and EU OECD countries, respectively. We find that outward FDI serves as a substitute for merchandise exports, where the outward FDI increases is negatively associated with bilateral merchandise exports between the European OECD countries, as well as between the EU OECD countries. These findings are consistent with set of H1 and H2.

Merchandise export is positively associated with the size of the GDP of the home economy, and to a lesser extent with the size of the GDP of the host country. The positive association between merchandise exports and the size of the GDP is consistent with the theoretical expectations.

The results for home source country trade openness are mixed, depending on the estimation procedure. The regression coefficients are of a positive sign and significant in the random effect, fixed effect and FEVD regressions, and vice versa in the OLS regressions.

Except for language and landlocked, the time-invariant home country proximity variables are significant and of expected sign: a negative sign for distance and a positive sign for contingency. Language is of a positive sign, but significant only in the OLS and random effect regression. The home country landlocked variable is significant, but of mixed signs: a negative sign in the OLS regressions (and in the random effect regressions, but insignificant) and a positive sign in the FEVD regressions. These mixed results for the home country landlocked position on export in goods are an issue for a future research. This might be due to a relatively short time span of the dataset, but this might also indicate that the home country landlocked position can be overcome and not necessarily always can be a barrier for merchandise exports. While there are some differentials in the size of the estimated regression coefficients for the analyzed European OECD countries vis-à-vis the EU OECD countries, the main finding remain valid. These results and findings are consistent with the set of H1 and H2. Among the most striking differentials is the considerable decline in the size of the regression coefficients for the outward FDI in the subsample of the EU OECD countries in the fixed effect and FEVD regressions models. This suggests that the substitution effect between the outward FDI and merchandise export seems to be less robust for the EU OECD countries than this holds for the analyzed sample of the twenty-two European OECD countries as a whole. Outward FDI impacts on their merchandise exports that are often the objective for outward FDI to make their sales more competitive by producing goods locally.

Among issues for future research is to investigate both FDI and trade (exports and imports, respectively), both of intermediate goods and final products as companies slice up the value chain before and after the 2004 EU enlargement. This would require firm level data on trade and FDI.

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