



The Determinants of the FDI Reinvestment Rate

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Introduction

- According to OECD, Foreign Direct Investment (FDI) is defined as an investment made by a resident of one country to an enterprise in another, with the goal of obtaining long-lasting interest. The long-lasting interest is generally measured as acquiring at least 10% of the voting power of the enterprise. There are multiple ways an investor may acquire the voting power, including by creating a subsidiary or by acquiring an existing enterprise in the host country.
- Past literature suggests that FDI is an important factor promoting the country's economic growth in the presence of strong institutional quality (Raza et al., 2019). For investors, it allows for access to resources abroad, and for enterprises, it gives them an opportunity for technology and knowledge exchange.
- Investors have the choice of repatriating the profit to their parent company or reinvesting it in an enterprise. This project aims to determine the factors affecting the company's decision to reinvest or repatriate their profit.

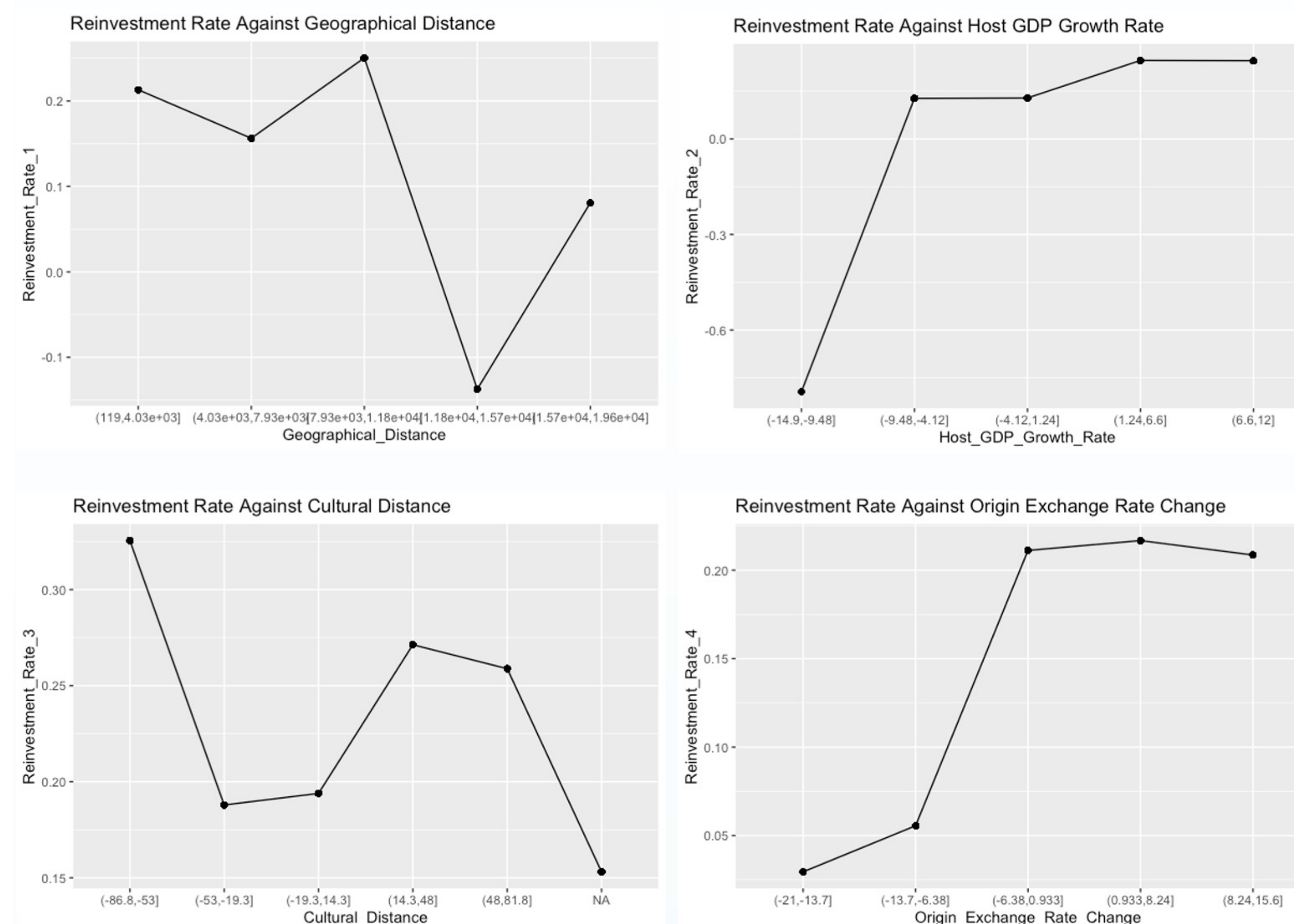
Methods

- The pairwise reinvestment and repatriation data had 34 host countries and 38 origin countries in the span of 16 years (2005 to 2020). The data contained three different types of companies. Of those, the resident operating units were used, which excludes the companies that are present in foreign countries for tax purposes.
- Reinvestment rate was calculated by $(\text{Reinvested} / |\text{Reinvested} + \text{Repatriated}|)$.
- The explanatory variables were geographical distance, GDP growth rate, trade openness, cultural distance, linguistic distance, religious distance, exchange rate change, short-term interest rate, and business confidence index.
- Based on the correlation coefficients, none of the variables had extremely high (>0.9) correlations.
- In order to exclude outliers from the data, the top and bottom 10% of the observations were removed.

Statistic	N	Mean	St. Dev.	Min	Max
Year	3,878	2,014.822	3.895	2,005	2,020
reinvestment_rate_ROU	3,878	0.205	0.595	-1.143	1.000
cultural_distance	3,434	-20.694	28.375	-86.679	81.671
linguistic_distance	3,032	0.944	0.121	0.0003	1.000
religious_distance	3,878	0.674	0.132	0.301	0.992
genetic_distance	3,878	0.012	0.012	0.000	0.049
geographical_distance	3,878	3,446.127	3,806.140	138.530	19,620.000
host_GDP_growth_rate	3,878	1.881	3.345	-14.839	11.965
host_trade_openness	3,878	100.560	42.705	23.376	190.699
origin_GDP_growth_rate	3,878	1.587	3.185	-14.629	25.176
origin_trade_openness	3,878	101.602	64.272	23.376	380.104
host_short_interest	3,663	1.391	2.252	-0.695	13.084
origin_short_interest	3,779	0.779	1.539	-0.819	9.632
host_inflation	3,768	1.518	4.717	-10.822	26.647
origin_inflation	3,272	1.016	3.706	-19.204	26.647
host_exchange_rate_change	3,878	-0.329	3.906	-16.495	13.158
origin_exchange_rate_change	3,878	-0.351	3.758	-21.000	15.556
host_BCI	3,780	100.095	1.805	92.299	105.514
origin_BCI	3,848	100.116	1.525	90.634	105.817

Figure 1: Summary statistics

Explanatory Analysis of the Independent Variables



Regression Model

- Since the data had multiple years and multiple host and origin countries, in order to control for the characteristics specific to each country and year, a fixed effect model was used (with the `fe` function in the `lfe` package).
- $$\text{Reinvestment Rate}_{ijt} = b_1 \text{Geographical distance}_{ijt} + b_2 \text{host GDP growth rate}_{ijt} + b_3 \text{host trade openness}_{ijt} + b_4 \text{origin GDP growth rate}_{ijt} + b_5 \text{origin trade openness}_{ijt} + b_6 \text{cultural distance}_{ijt} + b_7 \text{linguistic distance}_{ijt} + b_8 \text{religious distance}_{ijt} + b_9 \text{host exchange rate change}_{ijt} + b_{10} \text{host short interest}_{ijt} + b_{11} \text{host BCI}_{ijt} + b_{12} \text{origin exchange rate change}_{ijt} + b_{13} \text{origin short interest}_{ijt} + b_{14} \text{origin BCI}_{ijt} + \text{Year}_t + \text{origin country}_i + \text{host country}_j$$
 - i is the origin country, j is the host country, and t is time.
 - Year_t is the year fixed effects, origin country_i is the origin country fixed effects, and host country_j is the host country fixed effects.

Regression Results

- The statistically significant variables were geographical distance, host GDP growth rate, cultural distance, and origin exchange rate change. The adjusted R squared was 0.190.
- Interpretation of the regression and possible explanations:
 - A 1 km increase in geographical distance is associated with a 0.003 percentage points decrease in the reinvestment rate.
 - When the two countries are farther apart, it gives less incentive for the origin country to have long-term investments in the host country and to reinvest.

Regression Results (continued)

	Dependent variable: reinvestment_rate_ROU
geographical_distance	-0.203*** (0.055)
host_GDP_growth_rate	0.195*** (0.051)
host_trade_openness	0.272* (0.147)
origin_GDP_growth_rate	0.072 (0.044)
origin_trade_openness	0.391 (0.246)
cultural_distance	-0.204*** (0.034)
linguistic_distance	0.055 (0.043)
religious_distance	0.003 (0.051)
host_exchange_rate_change	-0.063 (0.044)
host_short_interest	-0.003 (0.064)
host_BCI	-0.019 (0.047)
origin_exchange_rate_change	0.048** (0.021)
origin_short_interest	-0.054 (0.060)
origin_BCI	0.043 (0.044)
Observations	2,379
R2	0.212
Adjusted R2	0.185
Residual Std. Error	0.889 (df = 2300)

Note: *p<0.1; **p<0.05; ***p<0.01

- A 1 percentage point increase in host country GDP growth rate is associated with a 3.5 percentage points increase in the reinvestment rate.
 - As the host country's GDP growth rate rises, its productivity and purchasing power increase, which could make the origin country better off continuing the production in the host country.
- A 1 unit increase in cultural distance is associated with a 0.4 percentage points decrease in the reinvestment rate.
 - When the two countries are culturally distant, there could be less incentive for the origin country to make a long-term relationship with the host country and thus to reinvest.
- A 1 percentage point increase in origin exchange rate change is associated with a 0.7 percentage points increase in the reinvestment rate.
 - When there is an increase in the origin exchange rate change, the origin country's currency is stronger than the previous year, and therefore the host country's production costs are relatively lower, encouraging the origin country to reinvest (Goldberg).

Conclusion

- Geographical distance, host country GDP growth rate, cultural distance, and origin exchange rate change were the statistically significant variables impacting the reinvestment rate.
- Of those, geographical distance and cultural distance had negative regression coefficients, indicating that as the two countries become distant either geographically or culturally, the origin country has less incentive to reinvest.
- The increase in host GDP growth rate and origin exchange rate change were positively associated with the reinvestment rate, which could be explained by the higher productivity and lower production costs in a host country, respectively.
- Further exploration could be done by obtaining data for more country pairs with various income levels.

References

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