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RESEARCH ARTICLE

Foreign Direct Investment, Brand Value, and Economic Performance: A Multinational Analysis

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ABSTRACT
The visibility and dependability of multinational corporations' products increase with the fact that they introduce their goods to markets in other nations through foreign direct investments. The method for presenting products to international markets through foreign direct investments reveals the product's reputation and therefore the brand's development value. This study examines the relationship between foreign direct investments and brand value in Australia, Canada, China, France, India, Japan, Spain, the USA, and the UK for the period 2007-2023. The majority of studies in the literature attempt to explain the impact of brand value on foreign direct investments. However, very few studies explain the impac foreign direct investments on brand value and 1st generation unit root tests were generally used. Unlike existing studies, In this study, the second-generation unit root test, Durbin-Hausman cointegration, and Common Correlated Effects Mean Group estimation methods were used. As a result, it is anticipated that this study will contribute to the literature in this regard. The findings show that increases in foreign direct investments boost brand value.

Keywords: Brand value, Foreign direct investments, Panel data analysis
JEL Clasification: D02, F21, C23

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1. Introduction

The barriers of custom between nations have been destroyed, and economic integrations have started to grow day by day as a result of the spread of globalization in terms of economic, social, and political terms, and the increase in financial liberalization. Because of this, international trade in products and services has started to pick up speed (Çeştepe, Tatar and Erdogan, 2023). However, developments in technology also lead to the imitation of a product. The introduction of a product to the market, the production of the same or similar product elsewhere, and the imitation of the product are a rapidly evolving situation. Increasing product variety decreases product prices, which is in favor of consumers according to the law of demand. However, it may result in negative outcomes such as a decrease in the producer's market share and profit rate. As a result, manufacturers attempt to distinguish their products from their competitors by creating brand value for their products. Manufacturers can increase the reliability of their products in the eyes of consumers, protect their market shares, increase their profit shares, and increase their competitive power in the international arena in this manner.

Brand value and foreign direct investments (FDI) have a symbiotic relationship. With the brand image they create, multinational corporations can increase their FDI. At the same time, the brand image they create elevates their products above their competitors. By doing this, companies will be able to defend their current markets and open up new ones. As a result, by increasing their profit rates, these companies contribute significantly to the increase in national income in their respective countries. Similarly, multinational corporations can use FDI to promote their products in foreign markets. Companies can ensure the positive development of brand value in this manner by increasing the product's reliability and image.

Nevertheless, there are not many studies that address this in the literature. Therefore, this study will fill this gap in the field. Accordingly, the study investigated how FDI affects brand value. Within the parameters of data

availability, a model has been developed in this regard utilizing data for Australia, Canada, China, France, India, Japan, Spain, the USA, and the UK from 2007 to 2023. As anticipated, the results have concluded that FDI raises brand value in the countries under investigation.

The first section of this study, which explores the association between brand equity and FDI, discusses the significance of brand value and how it interacts with FDI. The second section addresses national and international research on the association between branding and FDI. The empirical study that explains the relationship between FDI and brand value is examined in the third chapter. In the fourth section of the study, the results obtained from the empirical analysis are presented. The discussion and conclusion were made in the final section.

2. Theoretical and Empirical Literature

Brand value refers to a company's capacity to conduct commercial operations and manage its managers in a manner that enables it to meet its objectives (Gupta et al., 2020). Companies use brand value to differentiate their products from those of their competitors and to make these products trustworthy in the eyes of consumers. Branding has started to gain importance in parallel with the change in the global economy from a macro perspective in general (Ökten et al., 2019). A company's brand contributes to its performance as an intangible asset and a marketing tool. It affects the economic trend of societies in this way.

As previous research has shown, with the advancement of technology since the Industrial Revolution, production capabilities have advanced rapidly (Yıldız, Arslan and Çeliköz, 2022). As a result, the need for consumption is rising every day. To meet the rising consumer demand and accelerate economic progress, civilizations are working to produce more goods and services. With the spread of globalization and free trade, raw materials, capital, and labour move freely today, and the resources owned cannot be considered a sufficient indicator of international competition (Ulutaş and Yıldırım, 2020; Bilgin, Marco Lau and Karabulut, 2012).

Countries are competing to attract domestic and foreign consumers in an era of increasing trade wars and globalization. Major macroeconomic events such as trade wars, pandemics, and global economic crises may have an impact on the link between brand value and FDI (Smith, 2020; Kaya, 2019; Choudhury, 2019; Anderson, 2021; Fan et al., 2022). These macroeconomic events impact capital flows and investors' perceptions of risk (Himounet, 2022). Reduced FDI may result from countries' economic stability because of rising market risks and uncertainty during financial crises (Doe, 2019).

Supply and demand chains may be disrupted during pandemics (Moosavi, Fathollahi-Fard and Dulebenets, 2022). Foreign investments and brand value may suffer because of this situation (Johnson, 2021). On the other hand, the increase in online services during the pandemic period may lead to the rise in the value of some brands while causing others to lose value (Gourinchas, Kalemli-Ozcan and Penciakova, 2020).

The increasing tariffs and trade restrictions resulting from trade wars can undermine investor confidence and create uncertainty in the markets where companies operate (Fan et al., 2022; Choudhury, 2019). FDI may be impacted by international trade wars. Trade restrictions and increased tariffs may discourage foreign investment (Liu and Zhang, 2021).

In this new economic paradigm, the economy' dynamics are driven by intangible assets such as computerized information (software and databases, etc.), innovative ownership (science and non-scientific R&D, copyrights, designs, and trademarks, etc.), and economic capacities (Ökten et al., 2019). In this regard, several nations and commercial enterprises have been exerting significant efforts in the name of branding from the past to the present. Companies can gain a competitive advantage by producing high-value products, presenting these products to domestic and international markets, and finally, creating a brand by distinguishing themselves from similar products (Chang, 2020). Because of branding, businesses can project a confident, stable, and dependable image to their customers. The goal of branding is to identify the markets in which

companies operate, protect these markets from competitors, and differentiate the products obtained from other products (Ulutaş and Yıldırım, 2020).

Through FDI, the business may raise capital, improve its financial stability, and fortify its financial structure, which enables it to make investments in marketing initiatives and expansion projects (Yılmaz, 2023). With the financial support provided in this way, opportunities can be expanded to increase marketing and promotional expenditures to enhance brand awareness (Jones and Wren, 2019). The knowledge and technology that foreign investments bring to the board can help the business create new products and improve its operational efficiency (Vujanović et al., 2022). The brand' market position and consumer perception of its worth may both improve because of the developments brought about by this situation (Petersen and Pedersen, 2017).

FDI gives the company that invests access to international markets. This circumstance may increase the brand' value globally and make it easier for consumers to recognize it in foreign markets (Andersson and Forsgren, 2019).

Companies that attract foreign investment are typically seen as more dependable manufacturing facilities (Zhang, 2022). This makes it possible for customers, suppliers, and business partners to view the developed brand as more trustworthy and legitimate, which raises the brand' value (Fung, 2020).

FDI may help businesses stand out from the competition and increase their competitive power. Foreign investments help brands sustain their market superiority, which eventually raises brand value, particularly in developing economies (Zhang and Zhao, 2018). FDI may thus boost the company' competitiveness and strengthen its position in the market as a result of these advances, which will raise the value of the brand (Dunning, 1993; Eiteman, Stonehill and Moffett, 2016).

Since the 1980s, there has been an increase in the number of studies on branding and measuring brand value (Ökten et al., 2019). The global business

climate is dynamic and complex (Montanari, Giraldi and Galina, 2019). Due to the expansion of open international trade, globalization, and ever-increasing technical advancements, factor mobility across nations has become unrestricted. The availability of the same or a comparable product in another market is a circumstance that is rapidly evolving. Multinational corporations develop a brand image to protect their market shares, boost their profit margins, and retain their ability to compete globally by granting access to new foreign markets. The first analysis of brand value, according to Ercan et al. (2010), was conducted by Rank Havis Mc Dougall in 1988 to thwart attempts by Goodman Fielder Wattie, one of the major players in the English food sector, to acquire his own business. It was accomplished by having Interbrand, a consulting firm, determine the brand value. (Ulutaş and Yıldırım, 2020). Following company executives' recognition of the importance of brand value, multinational corporations such as Canada-Dry and Colgate-Palmolive began to incorporate experts in this field into their organizational structures. (Lassar, Mittal and Sharma 1995).

According to Dunning (1981), the OLI (Ownership-Location Internalization) model, also known as the OLI Paradigm or the eclectic paradigm, the inflows and, outflows of FDI are determined by ownership, location, and internalization (Da Cruz, Floriani and Amal, 2020). The firm's ownership advantage can be expressed as having some tangible (naturally limited resources, financial capital, economies of scale, technology, etc.) or intangible values (patent, trademark, etc.) (Wagner, 2020). Companies; It has a privileged entry into markets because it owns naturally limited resources, patents, and trademarks. Patents, trademarks, and economies of scale are the exclusive property of multinational corporations, and by utilizing these advantages, corporations can outperform their rivals by achieving higher marginal profits and lower marginal costs (Denisia, 2010).

FDI contributes significantly to the well-being of both developed and developing countries. FDI has gained prominence recently as an important financing tool in place of foreign debt, particularly because developing countries provide the capital required for economic growth. According to Dunning's OLI Paradigm, the location advantage allows the country chosen for investment to

develop its international branding strategy. FDI that improves a country's development, on the other hand, improves the country's brand image and provides more competitive advantages. (Montanari et al., 2019). Opening up a company to international trade and selling its products in other countries' markets can help boost brand image by increasing positive opinions about that product.

Offering the same or a similar product to another market is a rapidly developing situation because of globalization, rapid developments in international trade, increasing economic integrations, and rapidly developing technology. This is why there is a need to develop brand value because of the rise in the number of products available to consumers and the manufacturers' need to win their trust, maintain their market share, and raise their profit margins. As a result, multinational corporations and countries are expanding their product offerings to new markets by increasing FDI. By fostering a favourable image in the eyes of the customer, businesses can raise the product's brand value and, consequently, the profit share.

According to Montanari et al. (2019), branding and FDI interact with each other. Although a country's brand image is not required to attract FDI, it does influence the outflow of FDI from that country. FDI outflows help boost the image of the nation by increasing brand recognition.

According to Fetscherin (2010), a high inflow of FDI indicates a strong country brand. More FDI strengthens the brand image. The efforts of a country to develop a brand image are dependent on its progress in international trade, such as FDI, as well as national policies and domestic economic stability.

Kalamova and Konrad (2010) conducted an OLS (Ordinary Least Squares regression) analysis on data from 64 developed and developing countries from 2005 to 2006. According to the study's findings, the national brand index increases FDI inflows into the domestic country. Aleidan (2021) conducted a similar study. Examining the effect of Saudi Arabia's geographical brand on FDI, Aleidan (2021) concluded that geographical branding increases FDI using the structural equation model. Based the study's outcomes, international investments

in the host country are associated with political and economic issues, including the country's image and its good impact on international investors.

Lahrech, Alabdulwahab and Bouayach (2020) conducted a random effect analysis on data from 2009 to 2014 from 10 countries with the best national brand index. The findings show that there is a strong and positive relationship between national branding and FDI. Host countries with strong national brands have a competitive advantage in attracting foreign investment. Branding is one of the elements influencing the entry of FDI into a nation, according to Napolitano, Ibrahim, De Nisco and Papadopoulos (2018), who conducted an OLS regression analysis for MENA countries. According to this study, a country's efforts to maintain the ideal exchange rate, increase market openness, and develop brand image are more effective than other political and economic improvements in attracting FDI. A nation's brand image can be used as a strategy to draw in FDI, according to studies like those by Bitzenis (2004), Metaxas and Tsavdaridou (2011), Cleeve (2012), Matiza and Oni (2014), Hong and Kim (2017), and Sirr, Garvey and Gallagher (2012). A negative image created by a country can reduce FDI inflows, whereas a positive image created by a country can increase FDI inflows. At the same time, cultivating a positive image positively impacts the FDI.

According to the literature review findings, most studies on FDI and branding evplain the impact of branding on FDI. There are few studies examining the effect of FDI on brand value. This gap in the literature is addressed in this study by investigating the impact of FDI on brand value in Australia, Canada, China, France, India, Japan, Spain, the USA, and the UK, using annual data for the period 2007-2023. The majority of studies in the literature attempt to explain the impact of brand value on FDI, and there are very few studies explaining the impact of FDI on brand value. Additionally, in the studies conducted, 1st generation unit root tests were generally used. Unlike existing studies, this study uses the second-generation unit root test and CCEMG (Common Correlated Effects Mean Group) analysis to examine the relationship between FDI and brand value. Subsequently, it is expected that the study would close a gap in the literature in this field. The findings imply that increased FDI boosts brand value.

3. Methodology and Data

3.1. Description of the Data Sets

Data from the countries of Australia, Canada, China, France, India, Japan, Spain, the USA, and the UK are used in the empirical analysis portion of this study, which investigates the relationship between brand value and FDI. The data used are organised in annual periods from 2007 to 2023. While the World Bank provides data on FDI and GDP per capita, the Brand value data were obtained from the Brand Finance Branch Directory Official website. The net FDI (% GDP) data were obtained using the following method.

$$\text{Net FDI} = \frac{\text{Net FDI (current US\$)}}{\text{GDP (current US\$)}} * 100$$

The model obtained with the variables used in the empirical application part of the study is expressed as follows.

$$\text{Model: } bv_{it} = \alpha_0 + \alpha_1 nfdi_{it} + \alpha_2 pgdp + \epsilon_{it}$$

In the model, bv represents brand value, nfdi is net FDI, and pgdp is the real per capita national income.

3.2. Methodology

In this study, the relationship between brand value and FDI was examined. Before starting with the stationarity study, a cross-sectional dependence analysis was performed to achieve more precise outcomes from the analyses. Cross-sectional dependence analysis produces more precise results when determining the unit root and cointegration analyses to be used in the next phase. Cross-sectional dependence was examined using the Breusch and Pagan (1980) LM, Pesaran (2004) CD_{LM}, and Pesaran, Ullah, and Yamagata (2008) LMadj test methods. Then, the stability analysis was tested using the second-generation unit root test (CADF), which can be used when discovering the cross-sectional dependence. Because the variables are

stationary at different levels [I (1) and I (0)] and there is cross-sectional dependence in the series and the model, the Durbin-Hausman cointegration method was used to determine if the variables were cointegrate. After determining that the variables were cointegrate, the CCEMG estimation method was employed to estimate the long-term coefficients because the variables were stationary at different levels and the series showed cross-sectional dependence.

3.2.1.Cross-Sectional Dependency

Cross-section dependency occurs when a change in one of the economic units affects the other economic units. Globalization and increased free trade make it nearly impossible for countries to act independently of one another. As a result, the results will be more accurate if the cross-section dependency analysis is carried out before the stationarity analysis of the variables. The LM test developed by Breusch and Pagan (1980) is the first cross-sectional dependence analysis. Equation 1 displays the regression equation for the LM test.

$$LM = T \sum_{i=j}^{N-1} \sum_{j=i+1}^{N} \hat{\rho}_{ij}^2 \sim X_{N(N-1)/2}^2 \quad (1)$$

H_0: No cross-section dependency (H_0: Cov $(u_{it}, u_{jt}) = 0\ for\ all\ i\ and\ t, i = j -$)

H_1: There is a cross-section dependency (H_1: Cov $(u_{it}, u_{jt}) \neq for\ at\ lst\ one\ couple, i \neq j -$)

ρ_{ij} expresses the correlation coefficients derived from the model's error terms.

The asymptotic distribution of x^2 is obtained from N for all (i, j) while $T_{(i,j)} \rightarrow \infty$.

Pesaran (2004) developed the CD_{LM} test, which can be used when the time dimension is greater than the cross-sectional dimension (T>N) or T<N. The regression equation is shown as follows.

$$CD_{LM} = \sqrt{\frac{2T}{N(N-1)}} \left\{ \sum_{i=1}^{N-1} \sum_{j=i+1}^{N} \rho_{ij} \right\} \quad (2)$$

H_0: No cross-section dependency (H_0: Cov $(u_{it}, u_{jt}) = 0\ for\ all\ i\ and\ t, i = j -$)

H_1: A cross-sectional dependency is present. (H_1: Cov $(u_{it}, u_{jt}) \neq for\ at\ least\ one\ couple, i \neq j -$)

Pesaran, Ullah and Yamagata (2008) obtained the LMadj test by adding the variance and mean to the test statistic. The LMadj test regression equation is written as follows.

$$LM_{adj} = \sqrt{\frac{2}{N(N-1)}} \sum_{i=1}^{N-1} \sum_{j=i+1}^{N} (T\hat{\rho}_{ij}^2 \frac{(T-k)\hat{\rho}_{ij}^2 - \mu_{Tij}}{\vartheta_{Tij}} \quad (3)$$

H_0: No cross-section dependency (H_0: Cov $(u_{it}, u_{jt}) = 0\ for\ all\ i\ and\ t, i = j -$)

H_1: There is a cross-section dependency (H_1: Cov $(u_{it}, u_{jt}) \neq for\ at\ least\ one\ couple\ \ i \neq j -$)

k= regressors number, μ_{Tij}=average ϑ_{Tij}=variance.

3.2.2. Panel Unit Root Test

Pesaran (2007) developed the CADF unit root test, which can be used when cross-sectional dependence between variables is discovered. It can also be used when N>T (Pesaran, 2007). The estimation equation is as follows.

$$\Delta y_{it} = a_i + b_i y_{i,t-1} + c_i \bar{y}_{t-1} + \sum_{j=0}^{p} d_{ij} + \Delta \bar{y}_{t-j} + \sum_{j=1}^{p} \delta_{ij} \Delta y_{i,t-j} + e_{it} \quad (4)$$

H_0: It has a unit root (H_0: b_i=1)

H_1: It has no unit root (H_1: $b_i \neq 1$)

CIPS (Cross-Sectionally Augmented Unit Root Properties) statistics are used in CADF unit root analysis by comparing test statistics and critical values using absolute values (Pesaran, 2007). Equation 5 represents the CIPS statistics equation.

$$CIPS(N,T) = N^{-1} \sum_{i=1}^{N} t_i(N,T) \quad (5)$$

H_0: It has a unit root (H_0: b_i=1)

H_1: It has no unit root (H_1: $b_i \neq 1$)

3.2.3. Homogeneity Test

The delta test developed by Pesaran and Yamagata (2008) was used to determine whether the slope coefficient was heterogeneous or homogeneous.

The test was developed from Swamy's (1970) homogeneity test. The estimation equation is as follows.

For large sample, $\widetilde{N} = \sqrt{N}(\frac{N^{-1}\,\tilde{S}-k}{\sqrt{2k}})$ (6)

For a small sample, $\widetilde{N}_{adj} = \sqrt{N}\left(\frac{N^{-1}\,\tilde{S}-E(\tilde{Z}_{iT})}{\sqrt{Var}(\tilde{Z}_{iT})}\right)$ (7)

H_0: Slope coefficients are homogenous $(\beta_i = \beta)$
H_1: Slope coefficients are heterogeneous $(\beta_i \neq \beta)$

N, S, and k represent the number of horizontal sections, the Swamy test statistic, and the explanatory factors, respectively.

3.2.4. Durbin-Hausman Co-integration Test

Durbin-Hausman test is a cointegration analysis method developed by Westerlund (2008) that can be applied when the variables are stationary at different levels. The Durbin Hausman panel statistics are examined when the cross-section is homogeneous, and the Durbin Hausman group statistics are examined when the cross-section is heterogeneous (Westerlund, 2008). The regression equations and hypotheses for DHp and DHg are expressed as follows.

$$DH_g = \sum_{i=1}^{N} \hat{S}_i(\widetilde{\emptyset}_i - \widehat{\emptyset}_i)2 \sum_{i=2}^{T} \hat{\epsilon}_{it-1} \quad (8)$$

H_0=$\emptyset_i$=1, for all i's, it has no cointegration.
H_0=$\emptyset_i$<1, it is expressed in this way for some i, it has cointegration.

$$DH_p = \hat{S}_n(\widetilde{\emptyset}\text{-}\widehat{\emptyset})^2 \sum_{i=1}^{N} \sum_{i=2}^{T} \hat{\epsilon}_{it-1} \quad (9)$$

H_0=$\emptyset_i$=1, for all i's, it has no cointegration.
H_0= $\emptyset_i = \emptyset$ ve $\emptyset_i$<1, created this way for all i's, it has cointegration.

3.2.5. CCE Analysis

When it is determined that the variables are cointegrate, the phase of estimating the long-term coefficients is completed. The CCE (Common Correlated Effects) method developed by Pesaran (2006) was used to estimate the long-term coefficients in this study. The CCE method is an analysis methodology that enables long-term coefficient estimation when the series are stationary at various levels. At the same time, because it is a forecasting method that takes into account the cross-sectional dependence in the series, it can produce results that are more reliable for the long-term coefficient estimate method. In the CCE analysis, the CCEP (Common Correlated Effects Pooled) estimator is used if the slope coefficient is homogenous, and the CCEMG estimator is used if the slope coefficient is heterogeneous (Pesaran, 2006). As a result, because the slope coefficient was heterogeneous in the obtained homogeneity test, CCEMG analysis was used to estimate the variables's long-term coefficients. The estimation equations of the CCE and CCEMG analyses are asfollows:

$$y_{it}=\alpha_i' d_t+\beta_i' x_{it}+\epsilon_{it} \tag{10}$$

$$\epsilon_{it}=\gamma_i' f_t+\varepsilon_{it} \tag{11}$$

d→n*1 observable (fixed, trend, seasonal puppets) effects
f→m*1 unobservable effects

$$\hat{b}_{\text{CCEMG}}=\frac{1}{N}\sum_{1=i}^{N}\hat{b}_{\text{i}} \tag{12}$$

$\hat{b}_{\text{i}}=(X_i'\dot{M}_i X_i)^{-1}X_i'\dot{M}_i y_i \rightarrow$ Each cross-CCE section is an estimate.

4. Results

In the panel data analyses, the presence of cross-sectional dependence in the series caused a change during the estimation methods used in the empiricial analyses and the results obtained. Therefore, before proceeding to unit root and

cointegration analyses, we examined whether there is a cross-section in the obtained model and variables. Table 1 displays the results of the variables's cross-sectional dependency analyses.

Table 1: Cross-Sectional Dependency test results

Variables	LM	LM_{CD}	LMadj
$Model_1$	126.9 (0.0000)	10.26 (0.0000)	19.17 (0.0000)
bv	155.1 (0.0000)	10.69 (0.0000)	29.48 (0.0000)
nfdi	47.62 (0.0932)	-0.3987 (0.6901)	1.758 (0.0787)
pgdp	244.3 (0000)	12.55 (0000)	52.46 (0000)

Note: The values in parenthese show the probability value (*p*-value)

The findings indicate that the bv and pgdp variables exhibit cross-sectional dependence, whereas the nfdi variable does not. Nevertheless, all three cross-sectional analysis tests (LM, LM_{CD}, and LMadj) have determined that the given model exhibits cross-sectional dependence. Therefore, for the variable stability analysis, the CADF unit root test was used.

Table 2: CADF Panel Unit Root test results

	CIPS STATISTICS				
	Level		1. Difference		
Variables	Test Statistics	P-value	Test Statistics	P-value	Result
bv	-1.992	0.222	-2.425	0.021*	I(1)
nfdi	-1.829	0.387	-3.471	0.000*	I(1)
pgdp	-2.721	0.002*			I(0)

Note: * indicates significance at the 5% level

The results of the variable stationarity analysis are shown in Table 2. According to the findings, the bv and nfdi variables used in the model are stationary at the I (1) level, while the pgdp variable is stationary at the I (0) level. After the stationarity analysis, the homogeneity test was applied to predict which statistical method should be used in the Durbin-Hausman cointegration analysis.

Table 3: Homogeneity Test Results

Models	Test	Test statistic	P-value	Decision
Model	$\widetilde{N}$	4.901	(0.000)*	Heterogeneous
	$\widetilde{N}_{adj}$	5.605	(0.000)*	

Note: * indicates significance at the 5% level.

The homogeneity test results are shown in Table 3. Both the and estimation approaches show that the H_0 hypothesis is rejected. Therefore, it was decided that the slope coefficient was heterogeneous.

Table 4: Durbin-Hausman Panel Cointegration Test Analysis Results

	Durbin-Hausman Testi	
	Test statistic	**p-value**
DH-g (Group)	-1.994	0.023*
DH-p (Panel)	-1.231	0.109

Note: * indicates significance at the 5% level.

Because of the homogeneity test, it has been determined that the slope coefficient is heterogeneous. As a result, the Durbin-Hausman Panel Cointegration study was based on the DH-g (Group) estimation results. Table 4 shows that the Ho hypothesis is rejected because the p-value of the DH-g estimator is less than the 0.05 significance level. Therefore, it has been concluded that there is a cointegration relationship between the variables in the long term.

Table 5: CCEMG Analysis Test Results

Common Correlated Effect Mean Group (CCEMG)			
Dependent Variables: bv	**Coefficients**	**Std. Er.**	**P-values**
nfdi	0.8157	0.0406	0.045*
pgdp	4.2246	1.3856	0.002*
Wald-Test	11.44 (0.0033)*		

Note: * indicates significance at the 5% level.

After determining that the variables were cointegrate, the CCEMG estimation method was used for long-term coefficient estimation. Table 5 displays the estimation results of the CCEMG analysis. This shows that nfdi and pgdp have a

significant and positive relationship with brand value. In the countries under consideration, the brand value rises as per capita income and FDI rise. The developed countries of the USA, Japan, Germany, the UK, Canada, and France are experiencing rapid growth in FDI inflows and outflows. China and India have also experienced the fastest economic growth and the greatest increase in FDI recently. As a result, the rising levels of FDI and economic development in these nine countries ensure that brand values are positively impacted.

5. Discussion and Conclusion

Trade barriers between countries have been removed because of increased economic cooperation, and information exchange has begun to spread rapidly with technological advancements. As an outcome, the movement of goods and services between countries and regions has been revitalized. Rapid economic liberalization and an increase in FDI both considerably contributed to this. It benefits by increasing the mobility of goods and services, economic development, commercial activity, and product diversity. However, this situation has created a need for manufacturers to demonstrate the differences between their products and other products, to demonstrate the superiority of these products, and to ensure the reliability of their products in the eyes of the consumer. As a result, companies attempt to brand their products to reflect the features of their products, avoid losing market share, and increase profit rates. In this sense, FDI and brand value are inextricably linked.

Multinational corporations can improve the dependability of their products and make them more recognizable by increasing their FDI and expanding their product offerings to new markets. By doing this, the brand value and reputation of the items can both improve. Similarly, increased FDI results from high brand value. Because consumers regard products with high brand value as more trustworthy. They are more popular in the market than comparable products. This will increase FDI.

In the study's econometric analysis, the Durbin Hausman test was considered to examine the cointegration relationship, and CCEMG analysis was used to

examine the variable coefficient estimation. The analysis findings indicate a considerable and positive correlation between real per capita income and brand value and FDI. Increases in FDI and per capita real income increase brand value. Montanari et al. (2019) and Fetscherin (2010) found similar results. Increased FDI in Australia, Canada, China, France, India, Japan, Spain, the USA, and the UK ensures the products' recognition and dependability. Parallel to this, the brand value of these products rises.

In conclusion, FDI and brand value in a country's economy are directly proportional. Consequently, it is critical to implement policies that encourage FDI to build a trustworthy brand image. The development of social responsibility projects by multinational companies under FDI can have a positive impact on the brand's reputation. Investments in areas that attract the local community's interest, such as education, environmental protection, or health, can increase the brand's value. Government regulations that encourage or require foreign investors to participate in social responsibility programmes can boost societal support and improve the country's investment environment. It is important for multinational companies to develop marketing and RP strategies to strengthen brand perception in the country where they invest. Increasing options for active communication in local media and social platforms can help raise brand awareness. Governments can highlight foreign investors's success stories to foster an attractive investment climate in their homeland. This can be encouraging for other possible investors. The government's support policies for boosting FDI, such as tariff reductions and incentive strategies to encourage additional investment, can help the country's image. This makes it simpler and quicker to realize the growth in the brand value of the manufactured goods. At the same time, the government's implementation of incentive policies that increase R&D activities can enable innovation activities and therefore the development of new products. In this context, the government's implementation of R&D incentive policies plays an important role in increasing the brand value of countries. As a result, integrating R&D expenditures or R&D personnel in future studies of brand value and FDI may serve as an extension of the focus of those studies.

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