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ABSTRACT

Nation Brands and Foreign Direct Investment

by Margarita M. Kalamova and Kai A. Konrad *

We study the explanatory role of fundamentals versus the effects of nation brands for the size of foreign direct investment (FDI) flows. Using the EUROSTAT data on FDI flows we find that the Anholt Nation Brands Index has a significant and strong impact on FDI flows in a multi-variate analysis that is based on the knowledge-capital (KC) model of FDI. Our results suggest that the nation brands index accounts for important aspects of FDI decisions that are not captured in fundamental data which explain FDI in the standard foreign trade approach to FDI.

Keywords: Country stereotypes, foreign direct investment, knowledge-capital model, nation brands, governance

JEL classification: F23, M3

ZUSAMMENFASSUNG

Nation Branding und ausländische Direktinvesitionen

Dieser Artikel untersucht empirisch, ob immaterielle Faktoren wie Länderstereotypen oder Verbrauchereinstellungen über Produkte aus bestimmten Ländern eine Auswirkung auf deren ausländische Direktinvestitionen haben. Die immateriellen Faktoren eines Landes werden mit seinem Landesimage („Nation Brand“) operationalisiert. Das Konzept zum Nation Brand(-ing) eines Landes steht im direkten Zusammenhang mit der Bedeutung und dem Verständnis zur spezifischen Originalität und somit auch zur Qualität des Landes und seiner Produkte. Die Marke des Herstellungslandes dient zugleich als Aushängeschild für dieses Land und hat oft maßgeblichen Einfluss auf Entscheidungen für oder gegen den Konsum von Produkten aus diesem Land. Es liegt daher nahe, sich für einen Standort zu entscheiden, den der Verbraucher mit positiven Attributen bezüglich Herstellung und Qualität in Verbindung bringt. Diese Einsichten führen zum folgenden Hauptergebnis der Analyse: Der Umfang von ausländischen Investitionen im Gastland steigt um 27 Prozent, sobald sein Image bzw. seine immaterielle Faktoren sich um einen Punkt verbessern. Die empirische Analyse nutzt das „Knowledge-Capital“-Modell und umfasst 30 Investorenländer und 34 Gastländer über den Zeitraum 2005-2006.

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1 The research question

The state-of-the-art theory for explaining the size and the direction of flows of foreign direct investment (FDI) considers trade openness and geography as 'fundamentals' of FDI flows, and more recently added production fragmentation as an explanatory factor. This theory is known as the knowledge capital model (KC model). It takes into consideration that knowledge-generating activities, such as R&D, can be geographically separated from production, and that these activities are skilled-labor-intensive compared to the actual production (Carr et al. 2001). A large number of studies use this theory as a workhorse, and augment the standard framework by further economic variables.[1] FDI may, however, be driven by intangible factors that are often disregarded in economic analysis. In this paper we consider the role of some of these factors. We focus on the strength of variables measuring country stereotypes or consumer perceptions.

To operationalize these intangibles, we use the *Anholt Nation Brands Index.* This index is available for a large number of countries. It captures mainly individuals' perceptions about other countries, such as perceptions about a country's governance regimes, its products, its cultural status, its attractiveness from a tourism perspective, perceptions about the population, and about economic and social conditions. We ask whether these perceptions, stereotypes, or the quality of the 'nation brand' generate incentives for FDI, in particular, if we control for the 'fundamentals' that are used for explaining FDI flows in standard international economics.

There are several strong reasons why intangibles may play a major role in investors' decisions which we consider in more detail in section 2.1. First, stereotypes about a country may be used as a heuristic or a source of in-

[1] For instance, Blonigen and Davies (2004) provide an empirical assessment of the impact of bilateral tax treaties on FDI. Daude and Stein (2007) use measures of institutional quality, while Stein and Daude (2007) study the role of time zones and Gao (2003) the role of business and social networks on the location of FDI. The study by Kessing, Konrad and Kotsogiannis (2007) considers the role of federal governmental architecture. Kalamova (2008) examines the role of measures of fiscal vertical decentralization.

formation about the quality of a country as an investment location. If the stereotype is that workers of a certain country are punctual, reliable and trustworthy, or if it is that its public administration is supportive and efficient, the information value of these stereotypes may make it more likely for the country to be an attractive location for investment. Second, if purchasing decisions by consumers are based on stereotypes about the country of origin of a product, then FDI may be a means by which a firm can take advantage of existing stereotypes. For instance, if a country's consumers have negative stereotypes about products from abroad, FDI in this country may give the firm access to the market in a country.[2] Similarly, if the widespread stereotype about a country is that the products of this country are of high quality and reliability, then FDI in this country may be a means to benefit from this reputation. For these and possibly further reasons stereotypes about countries should be important for firms' investment decisions.

For a general index that measures and aggregates stereotypes, we use the 'nation brand'. The concept of the 'nation brand' has been developed by marketing research and the difficulties of this concept have been widely discussed. Fan (2006), for instance, considers the nation brand as an umbrella brand, which is tied to the products of the respective country. Empirically, the nation brand is strongly related to the considerations on the importance of 'country-of-origin' labels for products, the study of which has received considerable attention. Bilkey and Nes (1982) survey a large stock of evidence that documents 'country-of-origin' biases for both industrial and consumer products. They emphasize the role of 'country of origin' as an informational cue. Some studies report consumers' home bias, or low ranking for US products by European consumers. Product evaluations are also seemingly positively correlated with the economic development of the country of origin. The meta-analysis by Peterson and Jolibert (1995) concludes that the country-of-origin effect is 'somewhat generalizable'. Ver-

[2] Samiee, Shimp and Sharma (2005), for instance, find that consumers often have misperceptions about a product's true country of origin.

legh and Steenkamp (1999) offer a further meta-study in which they confirm that the country-of-origin effect is a 'substantial factor'. They conclude that there is a strong link between country-of-origin and perceived quality, and that cognitive, affective and normative aspects and their interaction play a role for country-of-origin effects. Li and Wyer (1994) discuss that the country origin of a product can be a relevant aspect for several reasons. Among them, they mention country origin as a product characteristic, as an attribute with signaling value and as a means of applying a heuristic for simplified decision-making. Klein (2002) summarizes the country-of-origin effect: consumers use the country of origin to assess product quality and to optimize their consumption choice.[3] Given the role the country of origin may play for purchase decisions, the size and direction of country-of-origin biases should be important for multinational investors when choosing the location of production, and everything else given, investors should choose as their location of production countries to which consumers show a positive country bias.

These considerations are the basis for why the stereotypes associated with countries or, more generally, nation brand value should have an effect on location choices for international direct investment. We would, therefore, expect that FDI in a particular host country is driven, at least partially, by these perceptions and stereotypes. Whether this hypothesis is empirically sustained is the research question addressed in this paper. To assess this question appropriately, it is important to distinguish between a country's image, or the perceptions and subjective beliefs about a country, and the facts

[3] Moreover, Maheswaran (1994) discusses the effects of the country of origin on product evaluations within the framework of stereotyping and Johansson et al. (1985) add to the debate by taking into consideration the effect of familiarity and knowledge about the product class. Hong and Wyer's (1989) findings are that the country of origin not only has a direct influence on product evaluations, but also appears to stimulate subjects to think more extensively about other product attribute information, augmenting the latter's effect. In their analysis on how to remove negative country images Tse and Lee (1993) investigate the effects of decomposing a country's image into component and assembly origins, as well as the effects of global branding and product experience. Samiee (1994), for instance, rationalizes the buying decision processes within the context of country-of-origin influences and links country-level considerations to firm-level decision-making.

and fundamentals that are seemingly directly relevant for FDI decisions. Perceptions and subjective beliefs may be formed by marketing campaigns[4], large-scale events which attract international media attention, such as the Olympic games or other sports world championships, prejudices and images that are deeply rooted in the history of countries, but also fundamentals, such as a country's governance quality, products, income level and human capital skills. If these perceptions and subjective beliefs are simply a function of 'fundamentals' that are directly important for FDI decisions, the nation brands index should lose its explanatory power once we control for the 'fundamental' variables. Our analysis shows that this is not the case: the nation brands index carries independent weight.

We use as a dependent variable the bilateral FDI flows from 30 source countries to 34 host countries, taken from the European Union Direct Investment Yearbook by EUROSTAT. As regressors, we employ the fundamental variables used in the KC approach, and the *Anholt Nation Brands Index* - as our measure of those intangible psychological factors. We find that the explanatory power of the nation brands index is statistically significant and quantitatively large and picks up independent weight in the multivariate estimation. The findings are robust with respect to a number of alternative specifications. We conclude that we cannot reject the hypothesis that the nation brands index, and the perceptions and stereotypes which it is based on, have independent explanatory power for FDI flows.

In what follows, we proceed with the description of the main hypothesis, the empirical approach and the data in Section 2. Section 3 presents the results of the baseline estimation and discusses a number of specifications and robustness checks. Section 4 concludes.

[4]For a prominent example, see e.g. the large campaign "Germany, Land of Ideas" that was initiated in Germany (http://www.land-of-ideas.org/).

2 Research strategy and data

2.1 The hypothesis

In the theory of international economics, flows of FDI are typically explained by what could be called 'fundamentals'. Intangible assets such as perceptions or stereotypes about countries, typically, play no role in these theories. Perceptions or stereotypes may, however, directly or indirectly influence investors' behavior as will be explained below. We ask whether it is only the sphere of these 'fundamentals' which affects the decisions of multinational firms to invest in certain countries, and which determines the success of a country in its competition for international capital flows, or whether soft factors such as country stereotypes or perceptions about relevant aspects of a possible investment location play an important independent role. Our empirical strategy, therefore, is to use an index or its sub-indices that measure such perceptions and stereotypes as a possible explanatory variable when estimating FDI flows in the state-of-the-art FDI model in international economics.

As a measure of these soft factors - perceptions and stereotypes - we use the *Anholt Nation Brands Index* and its components. This index maps the answers of individuals on their perceptions along different dimensions into a single index number. Individuals are asked about their perceptions of other countries, which may be summarized by the following dimensions:

- *Tourism*: the country's attractiveness from a tourism point of view,
- *Exports*: their perceptions and stereotypes about the products from that country,
- *Governance*: their perceptions as regards the government in this country,
- *Investment and Immigration*: their personal willingness to work in this

country and their perceptions about social and economic conditions in this country,

- *People*: stereotypes about the people from the respective country as employees,
- *Culture*: perceptions about the country's achievements in terms of culture, history and sports.

The analysis has a focus on the explanatory power of the aggregate index. However, each of the six dimensions may have an impact on FDI, which we illustrate in the following: (1) If a country is perceived as attractive from a tourism point of view it may attract investors building hotels or holiday resorts to exploit the local public goods which generate this attractiveness. (2) If the label of origin *Made in Country X* is associated with high-quality, reliable, and particularly, stylish products or is loaded with high status or other appealing attributes, then firms may want to invest in production facilities in this country. Note that the use of the 'Made-in'-label typically requires a large share in the value added of the product to be generated in the respective country.[5] Note also that the investment incentive here is rather indirect, since the investor observes buyers' perceptions about a host country, and the buyers' perceptions influence the producer's investment decisions. (3) Perceptions about the quality of the government have a more direct influence on FDI decisions. If investors perceive a country as overly bureaucratic, or if they consider the government to be disrespectful of investors' property rights, this will negatively affect their investment behavior. (4) The willingness to work in a certain country and the perceptions about the local social and economic conditions also matter for foreign direct investors, because an investment project usually requires the investor and/or the managerial team to spend a considerable amount of time and

[5] In the United States, for instance, the Federal Trade Commission regulates the eligibility to use the label „Made in USA". Only products that comply with the „all or virtually all standard" can claim this label.

resources in the host country. A country becomes more attractive for the investor if his team can be easily motivated to travel to that country and work there. (5) Stereotypes about the labor market in the host country, including employees' qualifications, abilities, motivation and skills are a determining factor for FDI decisions, because, typically, locally trained and situated people cover the employment needs of the foreign investor. (6) Perceptions about the host country's achievements in culture, history and sports may affect the investment behavior more indirectly. An outstanding reputation for creative skills or for research excellence may have positive spillover effects for creative industries or innovators with considerable R&D, and thus influence their investment decisions.

In most of the cases described above perceptions can essentially be seen as an informative signal about the true qualities of a country along the respective dimension. Adding more objective information about these dimensions may pick up some of the explanatory power of the *Anholt Nation Brands Index*. Whenever perceptions serve as investor's source of information about a country's "true" qualities but deviate from the true state of the country's conditions, they carry independent explanatory power which does not disappear even when additional vatiables are added to account for the true qualities. Moreover, the "true" qualities may be rather difficult to observe. Thus, using the Index as an explanatory variable instead of "hard" evidence on these true qualities may still be a reasonable thing to do. For instance, in the case of product qualities that are associated with a country of origin of the product, the mechanism between true qualities and buyers' perceptions is rather indirect, the causality may go both ways, and further determinants may play a role. Overall, given the discussion above, we expect that the following hypothesis holds for the aggregate index, and possibly also for the various sub-indices:

Hypothesis *Perceptions and stereotypes matter for decisions on FDI, and they even matter if one controls for the 'fundamentals' which standard international economics accounts for.*

This hypothesis is rejected if the index or its components do not exhibit a significant effect once controlling for the 'fundamentals' that are usually considered the explanatory factors of FDI. If we cannot reject the hypothesis, we can interpret this as evidence supporting the theory that soft factors such as perceptions carry an independent weight for whether a country is attractive as an investment location. In particular, we expect - by controlling for 'fundamentals' - an increase in a country's national image to have a positive effect on the amount of FDI that is attracted by this host country.

2.2 The knowledge-capital model

The standard FDI model we use here is a merger of the horizontal and vertical models of production fragmentation that have dominated the literature on FDI. The horizontal model traces back to the seminal work of Markusen (1984) where a multinational enterprise produces in multiple countries to minimize trade and firm-specific fixed costs. In Helpman's vertical model (1984) firms geographically fragment production by stages. Recently, these two models have been combined into the KC model developed by Markusen (2002). This approach assumes that: "i) services of knowledge-based and knowledge-generating activities, such as R&D, can be geographically separated from production and supplied at low cost; ii) these knowledge-intensive activities are skilled-labor-intensive relative to production; and iii) knowledge-based services have a joint-input characteristic, in that they can be utilized simultaneously by multiple production facilities" (Carr et al. 2001). The first two assumptions explain vertical fragmentation decisions, while the third one motivates horizontal investment. Thus, the theory predicts that horizontal multinationals dominate when countries have similar endowments and sizes. Furthermore, horizontal FDI is encouraged by higher trade costs and higher firm-level scale economies. In contrast, vertical FDI is greatest when countries have very different factor endowments. The combination of small size and skilled-labor abundance leads to vertical firms, which choose the skilled-labor-abundant country as their headquarters

country while the location of a single-plant depends on market size.

Carr et al. (2001) demonstrate a primary empirical specification of the KC model, which has become the workhorse for analyzing international investment flows. Subsequently, the model has been widely debated and extended in Blonigen et al. (2003), Carr et al. (2003), Markusen and Maskus (2002) and Davies (2008), among others. The empirical framework of the KC model employs a number of measures describing economic conditions and geographic characteristics of the host country, the source country, and between them in order to explain the motivation behind FDI decisions and the choice of investment mode.

2.3 Empirical specification

To test our central hypothesis about the relevance of the perceptions and stereotypes (aggregated in the index) for FDI flows, our empirical analysis is based on the KC model described above, augmenting the set of explanatory variables by the nation brands index. Accordingly, the variable to be explained is the bilateral flows of FDI from 30 source countries to 34 host countries as reported from the source country side. The data come from the European Union Direct Investment Yearbook by EUROSTAT. We consider EU-27 countries, excluding Luxembourg and Malta, together with Croatia, Japan, Switzerland, Turkey and the United States as source countries. The set of host countries comprises 34 developed and less-developed economies[6]. For our research question, the EUROSTAT data set is superior to other data sets on FDI (such as the International Direct Investment Statistics Yearbook by OECD or the World Investment Report by United Nations). It is well suited to our empirical strategy of examining the pattern of international

[6]The 34 countries are the OECD member states Australia, Belgium, Canada, Czech Republic, Denmark, France, Germany, Hungary, Ireland, Italy, Japan, Korea, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States of America together with the BRIC countries (Brazil, Russia, India, China) and Argentina, Estonia, Indonesia, Malaysia, Singapore, and South Africa.

capital movements for several reasons: a) national data have been harmonized, which makes a cross-section comparison possible, b) missing and zero observations are distinguished, and c) the member states of the European Union and some OECD countries which do not belong to the EU report data on their inward and outward investment flows. Our measure of FDI flows is explained by the following variables:

$$\begin{aligned}\ln FDI_{ijt} &= \beta_1 \sum GDP_{(i,j)t} + \beta_2 \left(\Delta GDP_{(i,j)t}\right)^2 + \beta_3 \Delta Skill_{(i,j)t} + \beta_4 \left(\Delta Skill_{(i,j)t}\right)^2 \\ &+\beta_5(\Delta GDP_{(i,j)t} * \Delta Skill_{(i,j)t}) + \beta_6 Dist_{ij} + \beta_7 TradeCosts_{ijt} \\ &+\beta_8 Tariff_{it} + \beta_9 Tariff_{jt} + \beta_{10}(Tariff_{jt} * \left(\Delta Skill_{(i,j)t}\right)^2) \\ &+\beta_{11} INVC_{jt} + \beta_{12} NBIndex_{jt} + \beta_{13} X_{jt} + \lambda_t + \gamma_i + c + \varepsilon_{ijt}.\end{aligned}$$

Here, i and j indicate the source and host country, respectively, and t stands for year. The left-hand side variable $\ln FDI_{ijt}$ represents the logarithm of bilateral FDI flow. $NBIndex_{jt}$ denotes host country's power and appeal of a nation's brand image, X_{jt} is a vector of host country-specific control variables (each of these is discussed further below).

In Table A-1 in the Appendix we describe all variables and the sources we collect them from, but we also discuss them briefly here.

The KC framework suggests using six types of variables to explain the incentives for horizontal and vertical fragmentation of production at the bilateral level. These are, first, the sum and squared difference between the source and host country economic size: $\sum GDP, (\Delta GDP)^2$, second, relative factor endowments[7]: $\Delta Skill, (\Delta Skill)^2$. Third, an interaction term of economic size with factor endowment: $\Delta Skill * \Delta GDP$. Fourth, a measure of proximity, where we use *Distance*. Fifth, trade costs in the source and host coun-

[7] Although GDP per capita is not a perfect measure of skilled labor abundance, we employ it as its proxy, since data are available for all countries and years under consideration. Furthermore, the empirical literature shows that there is practically no difference in the results whether GDP per capita or other factor measures are used (e.g. Blonigen et al. 2003).

try which are measured by a whole set of variables: $Tariff_i$ and $Tariff_j$ that capture tariffs as barriers, the interaction term $Tariff_j * \left(\Delta Skill_{(i,j)}\right)^2$ which interacts tariffs with differences in human capital endowments, and bilateral trade costs. The latter account for international barriers which result from (not) sharing the same language or (not) belonging to the same customs union or free trade agreement for the source-host pair and are denoted as $TradeCosts_{ij}$ - *Common Language*$_{ij}$, *Customs Union*$_{ij}$, and *Free Trade Agreement*$_{ij}$.[8] Finally, the costs of setting up a business as a percentage of outcome per capita accounts for investment frictions in the host country via the variable $INVC_j$. We adopt the interpretation of the KC measures and the expectations about their effects on FDI from Carr et al. (2001)[9].

In addition to the variables used in the KC approach, we include a number of variables with characteristics of the host country, such as population from the World Development Indicators (WDI) and institutional measures, which we describe later. Furthermore, we include fixed time effects λ_t to control for omitted, time-variant effects that affect all country-pairs in the same way; c denotes the intercept term. In order to capture differences in

[8] Each binary variable is equal to 1 when the source and host countries share the same language, belong to the same customs union or free trade agreement, respectively, and 0 otherwise.

[9] They predict a positive sign for the bilateral sum of gross domestic product (GDP) levels and a negative coefficient for the squared difference in GDP between parent and host country, since investment is constructed to have an inverted U-shaped relationship to differences in country size, with a maximum at zero difference. The third construct which is the difference between the skilled-labor level of the source country relative to that in the host country is expected to be positive, because firms will be headquartered in the skilled-labor-abundant country. The squared skill difference reproduces the nonmonotic relationship between skill differences and FDI as predicted by the theoretical KC model. The interaction term of economic size with factor endowment differences should have a negative sign according to Carr et al. (2001), since investment is likely to be highest when the country is small and skilled-labor-abundant. Source country tariff is a proxy for trade openness and should have a negative effect, whereas host country tariff is expected to have a positive impact, taking into account the potential trade-off between goods trade and investment abroad. The interaction term of the host-country specific trade costs is predicted to have a negative effect. High investment costs in the host country are expected to discourage investors and thus have a negative effect. The binary bilateral trade costs will have a positive impact similarly to the gravity model in international trade.

reporting methodologies across source countries and other characteristics of the latter, we include source country dummies, γ_i.

The core explanatory variable of our analysis is *Anholt Nation Brands Index*. According to Anholt (2005) this variable "measures [particularly] the power and appeal of a country's brand image". On a quarterly basis, a panel of 25,000 people across more than 30 countries is polled on their perceptions of the character and personality of 35 countries, including their own one. The total *Nation Brands Index* for each country is compiled as an unweighted sum of six different sub-indices: *NBI_ Tourism*, *NBI_ Exports*, *NBI_ Governance*, *NBI_ Investment and Immigration*, *NBI_ Culture and Heritage*, and *NBI_ People*[10]. Each of these six areas of national competence are characterized by three to five questions, for which the answers range between 1 and 7 with a higher value standing for a higher appeal. We compile the data for the last quarters of the years 2005 and 2006 and supplementary information about the *Nation Brands Index* through the direct support of Simon Anholt's web site (earthspeak.com, Anholt 2005), and two global research companies conducting the index, GfK Roper and Global Market Insite, Inc.

An overview of the values of the *Nation Brands Index* in the host countries are presented in Table 1. The *Nation Brands Index*, which is the total sum of the values along all six dimensions described above, ranges from 94.22 (Indonesia) as its lowest to 131.44 (United Kingdom) as its highest value in our sample. The index varies slightly over the two years and remains essentially constant for some of the countries in our sample. In the next step, in Figure **??**, we have a cursory look at the data by plotting the index against the log of total FDI flows into each host country relative to its gross domestic product for the two years under consideration[11]. The graphs foreshadow

[10] Empirical results including the sub-indices individually or jointly will be also presented in the next section.

[11] For this purpose, we regress for each of the two years $lnFDI = const + \beta lnGDP + \gamma NBIndex + \varepsilon$ and plot the estimated $(lnFDI - \beta lnGDP)$ on the vertical axis against $(const + \gamma NBIndex)$ on the x-axis. Since a one-percentage increase in the GDP does not necessarily lead to the proportional increase in incoming total FDI, the estimated

the results of a more formal analysis. *Anholt Nation Brands Index* of the host country appears to have a clear and seemingly strong positive impact on the incoming investment flows. Furthermore, a threshold value exists for the index at around 110 points which splits our sample into two groups: developed to the right and less-developed countries to the left of this value.

Before turning to the results of the multivariate analysis, we mention two methodological issues. Firstly, there are a number of zero FDI observations in our data sample. To address this we use a Tobit estimation which is a standard procedure in the FDI literature that treats all zero observations as resulting from a censored process. Secondly, some studies (among others, Blonigen and Davies 2004) find that due to the skewed nature of FDI data, the KC specification tends to yield non-normal residuals. This motivates the use of the logarithmic transformation of the left-hand side variable. It mitigates this problem in an analogous way to the gravity model in international trade.[12]

3 Empirical results

We first describe the results for the baseline model. Then we consider the robustness of the result by testing several modifications of the baseline model.

3.1 The baseline model results

In the baseline specification we regress the (natural) logarithm of inbound FDI flows on the *Nation Brands Index* of the host countries controlling for all KC variables. The first column of Table 2 shows the results of the Tobit estimation. The Tobit coefficients are not directly interpretable, but we calculate the marginal effect of the Nation Brands Index by the McDonald and

relationship above is to be preferred to the use of just *ln(FDI/GDP)*.

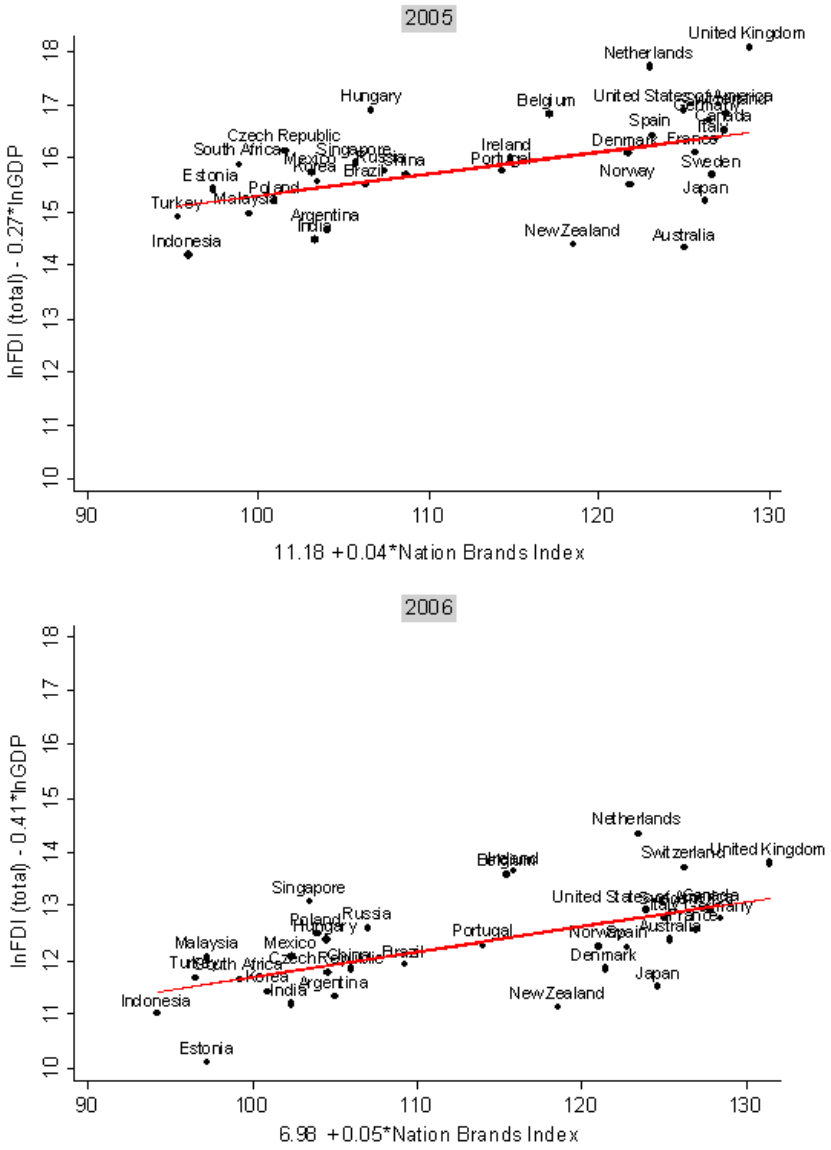
[12] Since it is important to contain the zero observations which provide information about why such low levels of FDI are observed, we express the dependent variable in our baseline model as $\ln(FDI_{ijt}+1)$. For high levels of FDI flows, $\ln(FDI_{ijt}+1) \simeq \ln(FDI_{ijt})$ and for $FDI_{ijt}=0$, $\ln(FDI_{ijt}+1)=0$.

Table 1: The Nation Brands Index

host country	**2005**	**2006**
Argentina	104.0	105.0
Australia	125.0	125.4
Belgium	117.0	115.5
Brazil	106.3	109.3
Canada	127.3	127.8
China	108.7	106.0
Czech Republic	101.6	104.6
Denmark	121.7	121.5
Estonia	97.3	97.2
France	125.6	126.9
Germany	126.4	128.4
Hungary	106.6	104.5
India	103.3	102.3
Indonesia	95.9	94.2
Ireland	114.7	115.9
Italy	126.8	125.0
Japan	126.3	124.7
Korea	103.4	101.0
Malaysia	99.4	97.2
Mexico	103.2	102.4
Netherlands	123.0	123.4
New Zealand	118.5	118.6
Norway	121.8	121.0
Poland	101.0	104.0
Portugal	114.3	114.0
Russia	107.4	107.0
Singapore	105.7	103.5
South Africa	98.9	99.2
Spain	123.1	122.8
Sweden	126.6	125.3
Switzerland	127.4	126.2
Turkey	95.3	96.6
United Kingdom	128.8	131.4
United States of America	124.9	123.9

Notes: i) Data has been provided by Simon Anholt from www.earthspeak.com; ii) The reported values are from the fourth quarter of 2005 and 2006, respectively.

Figure 1: The Nation Brands Index and log of FDI to GDP



Notes: i) We regress $\ln FDI = const + \beta \ln GDP + \gamma NBIndex + \varepsilon$ for each year separately; ii) We plot the estimated $(\ln FDI - \beta \ln GDP)$ on the y-axis against $(const + \gamma NBIndex)$ on the x-axis.

Moffitt (1980) procedure and present it beneath its coefficient. In addition, the second column reports the results for the baseline model estimated by ordinary least squares (OLS). The coefficient of the index is highly significant and large, and the marginal effect for the Tobit estimation and for OLS is very similar. Despite the skewed nature of the dependent variable, many studies, incuding Carr et al. (2001, 2003) and Davies (2008), use the absolute value of FDI instead of its logarithmic value. To check our findings against this part of the literature we report in columns (3) and (4) the Tobit results for our baseline model and the original KC model (which does not include the index), respectively, with the absolute value of FDI flows as the dependent variable. We report only heteroskedasticity-robust standard errors.

Summarizing, we find strong and consistent support for our main hypothesis, according to which host countries with a higher index value (expressing brand appeal and brand power) attract significantly higher incoming investment flows. The coefficients on the *Nation Brands Index* are positive and statistically significant at the 1% level and the numerical effect is large. The marginal effects are evaluated at the sample mean of the covariates. From the marginal effect of the index (0.238) it then becomes easy to calculate that a one-grade increase in *Nation Brands Index* is associated with a 27% (=100*[exp(0.238)-1]) increase in the flow of inward FDI. The Tobit specification yields a slightly larger estimate of the effect of the *Nation Brands Index* than does the linear specification in column (2), which is 21%[13]. Column (3) reinforces the positive impact of *Nation Brands Index* on the incoming investment flows. However, the results are interpretable in a different way from those in the first two columns, since the dependent variable is in levels. The large *Nation Brands Index* marginal effect reported beneath its coefficient in column (3) means that only a one-point increase in the index suffices for an increase of inward FDI by 35 Mill.US Dollars. The coefficient results for the original KC model presented in column (4) corre-

[13]=100*[exp(0.1877)-1]

Table 2: Results

Dependent variable: FDI_{ij}				
Variables	Tobit	OLS	Tobit	Tobit (KC)
	(1)	(2)	(3)	(4)
Sum of GDP	9.51E-13***	6.57E-13***	0.0008667***	0.0013613***
	(3.24E-13)	(2.16E-13)	(0.0001677)	(0.0002117)
GDP difference squared	-2.16E-26	-1.5E-26	-2.30E-17	-6.16E-17***
	(3.38E-26)	(2.27E-26)	(1.60E-17)	-1.80E-17
Skill difference	0.0003055***	0.0001745***	61739.62***	50723.36***
	(0.0000567)	(0.0000344)	(22838.54)	(14649.76)
Skill difference squared	3.08E-9*	1.19E-9	-0.1590386	-0.792485
	(1.77E-9)	(1.00E-9)	(0.4643258)	(0.4903903)
GDP difference Skill difference*	6.82E-18	1.87E-18	-8.79E-9**	-1.30E-08***
	(9.17E-18)	(6.15E-18)	(4.32E-9)	(3.99E-09)
Distance	-0.00074***	-0.0004118***	-244631.2***	-225165.5***
	(0.0001024)	(0.0000566)	(55927.94)	(53248.78)
Population	9.34E-10	5.51E-10	-0.8005587**	-1.016418***
	(1.34E-9)	(7.93E-10)	(0.3816228)	(0.3463298)
Common language	-0.753479	-0.2518278	1.42E+9**	2300000000***
	(1.401568)	(1.017244)	(6.49E+8)	(631000000)
Free trade agreement	1.733162*	1.035571*	6.11E+8**	484000000*
	(1.015232)	(0.5779132)	(2.84E+8)	(248000000)
Customs union	-2.145772*	-1.140196	9.53E+7	432000000
	(1.194345)	(0.7004934)	(3.33E+8)	(297000000)
Tariff_ source	-0.6041231	-0.1804822	-1.61E+8	-372000000***
	(0.5636157)	(0.2195071)	(1.60E+8)	(139000000)
Tariff_ host	-0.2212904	-0.1045936	501561.7	-105000000*
	(0.1794374)	(0.0864462)	(47300000)	(53700000)
*Skill difference squared**	2.62E-10	1.60E-10	0.1157189*	0.2114975***
Tariff_ host	(2.42E-10)	(1.36E-10)	(0.0642253)	(0.0810974)
Set up costs	-0.0284208	-0.0110398	677503.1	-15100000*
	(0.0188258)	(0.0091944)	(5579758)	(8606596)
Nations Brand Index	0.3340842***	0.1876643***	94300000***	
	0.238085***	(0.0318427)	35400000***	
	(0.0561223)		(3.07E+7)	
Observations	1752	1752	1752	1752
Uncensored obs.	1005	1005	1005	1005
(Pseudo) R-squared	0.09	0.4	0.01	0.01

Notes: i) *** - significant at 1% level, ** - significant at 5% level, * - significant at 10% level; ii) Robust standard errors in parantheses; iii) All estimations include year and source country dummies; iv) The explained variable in columns (1)-(2) is the log of FDI. The explained variable in columns (3)-(4) is FDI in levels; v) Columns (1), (3) and (4) present Tobit estimates and marginal effects for the Nation Brands Index. Column (2) presents OLS results.

spond in their statistical signs to those reported in the literature (compare with Carr et al. 2001 and Davies 2008, for instance).

We can also look briefly at the other controls in the baseline model. The sum of a host country's and a source country's GDP affects investment positively. The squared GDP difference enters with a negative sign (even though being insignificant) for all specifications. These qualitative results are in line with the KC model predictions of a U-shaped relationship between the FDI flow and bilateral differences in economic size. We find that FDI is strictly increasing in the skill difference. According to Davies (2008) this result should identify the predominant horizontal mode of production fragmentation among the countries in our sample. The interaction term between skill difference and difference in economic size in the country pair has an explanatory power at the 5% significance level only in columns (4) and (5). Its negative sign is in line with the predictions in Carr et al. (2001) that investment is most intensive when the country is small and skilled-labor-abundant. Distance has a consistent negative estimate across our results. Source and host country specific trade costs do not appear to play a major statistical role in contrast to the predictions of the KC model. Similarly, the three different proxies for bilateral trade costs - *Common Language*$_{ij}$, *Customs Union*$_{ij}$, and *Free Trade Agreement*$_{ij}$ - which according to the predictions of the theoretical model should have a positive sign, have weak explanatory power and the dummy variable for belonging to the same customs union yields a negative effect on FDI at 10% significance level. The negative sign, though insignificant, in front of the investment costs associated with setting up a business in the log FDI specification is in line with the theoretical predictions. In conclusion, many of the fundamentals of the KC model remain important determinants of FDI flows, but the *Nation Brands Index* is most powerful as a key explanatory variable.

In addition, we present in Table 3 the results of our model using the sub-indices for the six areas that jointly determine the Nation Brand Index. All sub-indices are significant and positive in sign when included sepa-

rately which clearly supports our main hypothesis. When we consider them jointly, *Investment and Immigration* and *Culture and Heritage* emerge as the stronger ones with a statistical significance of at least 10% and a positive sign. The sub-indices are highly correlated among each other (with correlation coefficients ranging between 0.37-0.94), and the possible multicollinearity problem makes it difficult to give a clear and unambiguous interpretation to the coefficients in this specification. In the analysis to follow we keep to the use of the general Nation Brands Index.

Table 3: Sub-indices

Dependent variable: $logFDI_{ij}$							
Variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
NBI_ Exports	1.743494***						0.6992728
	(0.2850558)						(0.4287074)
NBI_ Governance		1.031478***					-0.7136829
		(0.2940222)					(0.6664627)
NBI_ Investment			1.262109***				1.005377*
			(0.2212142)				(0.5148234)
NBI_ Culture				1.558782***			1.239075**
				(0.2502916)			(0.582175)
NBI_ People					1.82769***		0.4979638
					(0.4197623)		(1.340347)
NBI_ Tourism						1.171554***	-0.9543602
						(0.2691505)	(0.7245579)
Observations	1752	1752	1752	1752	1752	1752	1752
Uncensored obs.	1005	1005	1005	1005	1005	1005	1005
(Pseudo) R-squared	0.0868	0.0842	0.0865	0.0868	0.0847	0.0848	0.0885

Notes: i) *** - significant at 1% level, ** - significant at 5% level, * - significant at 10% level; ii) Robust standard errors in parantheses; iii) All estimations include year and source country dummies; iv) All columns present Tobit estimates.

3.2 Robustness Analysis

Let us now turn to some variations of the basic specification in order to check for the robustness of the basic findings. First, we account for the potential relationship between the quality of political institutions and the nation's brand quality measured by the index. There are intuitive reasons to assume this relationship. On the one side, the *Nation Brands Index* contains a "Governance" dimension, which builds up one-sixth of the index. On the other side, the way consumers perceive a certain country, as a whole, is heavily determined by the behavior of this country's government; thus, a strong national brand may be a direct consequence of good governance quality.[14] To account for that we add the following institutional variables - voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and corruption - drawn from Kaufmann et al. (2008). Accountability and political stability are indicators of the political process and civil rights; government effectiveness and regulatory quality are related to the bureaucracy quality and the existence of market-unfriendly regulations, respectively. Rule of law and control of corruption consider aspects related to the respect for the institutions that resolve conflicts and govern interactions between citizens/firms and the government. The values of these variables range between -2.5 and 2.5 with a higher positive value being associated with better governance quality. Because the six indices are highly correlated with each other, they will be included one by one into the model. It becomes obvious from Table 4 that the positive sign of the *Nation Brands Index* persists when we control for institutional quality. Furthermore, the magnitude of the variable remains the same and is still significant at the 1% level. In contrast, only two of Kaufmann's variables - voice and accountabil-

[14] Furthermore, empirical evidence identifies a direct relationship between governance institutions and FDI decisions. Most of the literature has focused on the impact of corruption and property rights protection. Wei (2000) finds a negative impact of corruption on FDI flows and Mauro (1995) shows than corruption deteriorates economic growth through the investment channel. Daude and Stein (2007) use a large set of institutional variables and show that Kaufmann's indicators influence FDI positively.

ity and political stability - play a statistical role on FDI flows, however with the wrong, negative sign. These indicators seem to be correlated not only with Anholt's index but also with GDP, since the statistical significance of our first regressor decreases with the inclusion of institutional measures.

There is a reason to suspect that the nation brand of a developed country affects its incoming FDI flows in a different way than that of a developing country. Moreover, from the graphical analysis of our data it becomes evident that the *Nation Brands Index* separates our sample into two sets, developed economies and less developed countries. Implicitly if not explicitly, the perception of consumers worldwide about the products, people, or government quality of a certain country may be a much more determining factor for a multinational company which plans to invest in a developing country in comparison to an investment in a developed one. To account for this we let the *Nation Brands Index* assume potentially different slopes for the two different groups of host countries. Specifically, we create an OECD dummy for all high-income host countries in our sample which are members of the OECD up to 1993[15], and we add an interactive term *NBIndex*OECD* to the list of regressors. The results are reported in column (1) of Table 5. As assumed, the effect of the *Nation Brands Index* on FDI decisions is slightly weaker when the host is an OECD country, since the interaction term enters with the negative sign. We run a similar empirical exercise by creating an EU dummy equal to 1 when both the source and host country in a certain pair belong to the European Union, and 0 otherwise, and using its interactive term, *NBIndex*EU*. The result in column (2) of Table 5 points at the fact that the nation brand will be of less relevance while investing within the EU area. This and the OECD outcome indirectly suggest the importance of *Anholt Nation Brands Index* as an information-bringer, in particular, about countries which do not belong to a well-known "league".

[15]The OECD dummy takes the value 1 when the host country is Australia, Belgium, Canada, Denmark, France, Germany, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, and United States of America, and 0 otherwise.

Table 4: Governance Quality

Dependent variable: FDI_{ij}						
Variables	(1)	(2)	(3)	(4)	(5)	(6)
Sum of GDP	6.99E-13**	4.69E-13	8.5E-13**	8.9E-13***	7.7E-13**	9.34E-13**
	(3.47E-13)	(3.59E-13)	(3.63E-13)	(3.35E-13)	(3.58E-13)	(3.67E-13)
GDP difference squared	5.32E-27	-1.5E-26	-1.54E-26	-1.65E-26	-1.14E-26	-2.07E-26
	(3.58E-26)	(3.47E-26)	(3.55E-26)	(3.49E-26)	(3.51E-26)	(3.55E-26)
Skill difference	0.0002737***	0.0001874***	0.000282***	0.0002914***	0.0002604***	0.0003023***
	(0.000058)	(0.0000643)	(0.0000718)	(0.0000612)	(0.0000698)	(0.0000686)
Skill difference squared	3.23E-9*	3.26E-9*	3.0E-9*	2.96E-9*	2.89E-9	3.06E-9*
	(1.76E-09)	(1.76E-09)	(1.78E-09)	(1.78E-09)	(1.78E-09)	(1.78E-09)
*GDP difference**	5.84E-18	8.49E-18	6.74E-18	6.9E-18	7.18E-18	6.81E-18
Skill difference	(9.12E-18)	(9.11E-18)	(9.16E-18)	(9.15E-18)	(9.15E-18)	(9.18E-18)
Distance	-0.0007101***	-0.0005715***	-0.0007197***	-0.0007159***	-0.0007044***	-0.0007364***
	(0.0001022)	(0.0001083)	(0.0001085)	(0.0001094)	(0.0001059)	(0.0001105)
Population	-1.61E-9	1.64E-9	1.06E-9	9.21E-10	1.24E-9	9.44E-10
	(1.71E-09)	(1.35E-09)	(1.35E-09)	(1.34E-09)	(1.34E-09)	(1.33E-09)
Common language	-0.5654489	-0.5264229	-0.6752101	-0.6904277	-0.596557	-0.7420962
	(1.40064)	(1.398891)	(1.414133)	(1.411225)	(1.414689)	(1.413819)
Free trade agreement	2.342368**	1.994886**	1.724894*	1.765783*	1.630982	1.729467*
	(1.025106)	(1.012762)	(1.015045)	(1.018404)	(1.020425)	(1.014788)
Customs union	-0.8250611	-1.026482	-2.052456*	-1.909499	-1.96323	-2.131288*
	(1.271889)	(1.204902)	(1.209094)	(1.260788)	(1.200793)	(1.209121)
Tariff_source	-0.6329369	-0.6521663	-0.6051858	-0.6099395	-0.6100223	-0.6041819
	(0.5570095)	(0.5479186)	(0.5631937)	(0.5627296)	(0.5620749)	(0.5635761)
Tariff_host	-0.1571635	-0.4785349**	-0.2589841	-0.2765509	-0.3117021	-0.2278729
	(0.180435)	(0.1869047)	(0.1898789)	(0.19974)	(0.1947008)	(0.1926433)
*Skill difference squared**	2,24E-10	1.99E-10	2.68E-10	2.71E-10	2.77E-10	2.63E-10
Tariff_host	(2.41E-10)	(2.41E-10)	(2.42E-10)	(2.42E-10)	(2.43E-10)	(2.43E-10)
Set up costs	-0.0241429	-0.0807789***	-0.0337043	-0.033494	-0.0367608*	-0.0291225
	0.0186953)	(0.0224635)	(0.0211653)	(0.0206082)	(0.0200914)	(0.0205133)
Nation Brands Index	0.4023038***	0.3038007***	0.3330979***	0.3356156***	0.3412703***	0.3351621***
	(0.0603298)	(0.0563071)	(0.056294)	(0.0562059)	(0.0561469)	(0,0572582)
Voice and accountability	-2.183202***					
	(0.8358683)					
Political stability		-4.134126***				
		(0.9791213)				
Government effectiveness			-0.5217391			
			(0.9375797)			
Regulatory quality				-0.6249467		
				(1.057984)		
Rule of law					-1.024673	
					(0.8770034)	
Control of corruption						-0.0718911
						(0.8549284)
Observations	1752	1752	1752	1752	1752	1752
Uncensored obs.	1005	1005	1005	1005	1005	1005
(Pseudo) R-squared	0.09	0.09	0.09	0.09	0.09	0.09

Notes: i) *** - significant at 1% level, ** - significant at 5% level, * - significant at 10% level; ii) Robust standard errors in parantheses; iii) All estimations include year and source country dummies; iv) The explained variable is the log of FDI; v) Results are coefficients from Tobit regressions.

Table 5: OECD and EU countries; Years

Dependent variable: FDI_{ij}					
Variables	**NBIndex*OECD**	**NBIndex*EU**	**2005**	**2006**	**2006 with $NBIndex_{2005}$**
	(1)	(2)	(3)	(4)	(5)
Sum of GDP	7.15E-13**	9.23E-13***	2.14E-12***	2.43E-12***	2.44E-12***
	(3.41E-13)	(3.13E-13)	(4.09E-13)	(4.69E-13)	(4.71E-13)
GDP difference squared	-7.61E-28	-2.29E-26	-1.71E-25***	-1.17E-25***	-1.20E-25***
	(3.5E-26)	(3.31E-26)	(4.63E-26)	(4.1E-26)	(4.09E-26)
Skill difference	0.0002631***	0.0003427***	0.0004775***	0.0003555***	0.0003609***
	(0.0000576)	(0.00006)	(0.0000426)	(0.000039)	(0.0000397)
Skill difference squared	2.95E-9*	2.80E-9	2.07E-9	1.51E-9	1.53E-09
	(1.77E-9)	(1.75E-9)	(2.46E-9)	(2.75E-9)	(2.74E-09)
*GDP difference**	6.53E-18	7.04E-18	1.66E-17	-1.53E-17	-1.47E-17
Skill difference	(9.13E-18)	(9.04E-18)	(1.48E-17)	(1.19E-17)	(1.20E-17)
Distance	-0.0006949***	-0.0008147***	-0.0010953***	-0.0001863	-0.0002096
	(0.0001044)	(0.0001044)	(0.0001407)	(0.0001482)	(0.0001494)
Population	5.96E-10	6.44E-10	-8.86E-10	3.21E-11	-6.66E-10
	(1.34E-9)	(1.33E-9)	(1.93E-9)	(2.13E-9)	(2.12E-09)
Common language	-0.5853463	-0.9585952	-1,764627	3.573909*	3.587535*
	(1.391105)	(1.399717)	(2.19372)	(1.986033)	(1.982863)
Free trade agreement	1.569498	1.54673	1.957174	2.359017	2.260064
	(1.007707)	(1.008631)	(1.402693)	(1.479653)	(1.480655)
Customs union	-1.678915	0.4941939	-3.356886**	1.434405	1.524243
	(1.203228)	(1.546705)	(1.544214)	(1.6114)	(1.616213)
Tariff_source	-0.6016206	-0.6255232	-1.290379***	-1.390959*	-1.362247
	(0.5677785)	(0.5548401)	(0.4153521)	(0.8419687)	(0.841906)
Tariff_host	-0.3091071*	-0.2720795	-0.0200886	-0.926988***	-0.8807748***
	(0.1824458)	(0.18026)	(0.2292162)	(0.2921563)	(0.2954861)
*Skill difference squared**	2.63E-10	2.25E-10	-5.21E-11	9.2E-10**	9.10E-10**
Tariff_host	(2.41E-10)	(2.42E-10)	(3.12E-10)	(4.58E-10)	(4.57E-10)
Set up costs	-0.0104959	-0,0263637	-0.0469737*	-0.0286663	-0.0355359
	(0.0195105)	(0.0187993)	(0.0278548)	(0.0294519)	(0.0289979)
Nation Brands Index	0.5669078***	0.3857076***	0.4219751***	0.2907769***	
	(0.0988615)	(0.0603627)	(0.0702625)	(0.0678837)	
Nation Brands Index_(t-1)					0.2925871***
					(0.0688212)
*NBIndex*OECD*	-0.0521394***				
	(0.0184823)				
*NBIndex*EU*		-0.0321289**			
		(0.0125766)			
Observations	1752	1752	901	851	851
Uncensored obs.	1005	1005	508	497	497
(Pseudo) R-squared	0.09	0.09	0.07	0.06	0.06

Notes: i) *** - significant at 1% level, ** - significant at 5% level, * - significant at 10% level; ii) Robust standard errors in parantheses; iii) The estimations in columns (1)-(2) include year and source country dummies; iv) Columns (3)-(4) present cross-section estimation results; v) Column (5) reports the results of a cross-section regression for the year 2006 with the 2005 value of *NBIndex*; vi) The explained variable is the log of FDI; vii) Results are from Tobit regressions.

The availability of our main explanatory variable *Nation Brands Index* since the year 2005 restricts our analysis to the use of just two subsequent years. Substantial variations are unlikely to occur on both, regressors and dependent variable sides, for such a short period. It is possible that the significance of our main explanatory variable results from the higher number of partially repeating observations. We can check and rule this out by running cross-section regressions for 2005 and 2006, separately. The *Nation Brands Index* keeps its positive sign and explanatory power at the 1% significance level in columns (3) and (4) of Table 5. In addition, another major KC regressor, $(\Delta GDP)^2$, appears statistically significant, which supports the idea that both the fundamentals in the KC model and the *Nation Brands Index* carry independent weights.

It is interesting to add further controls such as the effect of corporate income tax, market capitalization, and decentralization, among others. This does decrease the number of observations, but it does not change our main findings (we report the results in Table A-2 in the Appendix). Also the exclusion of *Population* from the estimation does not change the results.

Our benchmark estimation does not address a possible reverse causality by which current inbound FDI may be a determinant of the *Anholt Nation Brands Index.* Almost as a *ceterum censeo* in empirical work, endogeneity is a possible problem. The actual FDI into a country may, in principle, have an impact on how foreigners perceive this country along the six dimensions captured in the *Anholt Nation Brands Index*. The use of FDI flows rather than stocks only moderates the problem if it is a problem. To further address this potential reverse causality we used the *Nation Brands Index* of the respective previous year rather than its contemporaneous value as our main explanatory variable in a robustness check. The results are reported in the last column of Table 5.[16] The results clearly validate our main findings: *Nation Brands Index* is statistically significant and has a large positive effect

[16] Due to lack of availability of more recent data on FDI flows, we can run this empirical exercise just for the cross-section of 2006.

for inbound FDI flows.

4 Concluding Remarks

Governments invest (or investigate opportunities to invest) into an improvement of the country's image. The considerable competition for attracting major cultural events or sports championships, the international competition for the Olympic games, but also marketing campaigns such as *Germany, Land of Ideas*[17] and the campaign for *Cool Britannia* are recent examples. These activities may affect beliefs, stereotypes or prejudices about countries which are mapped in a nation's brand index. We show that a nation's brand index as measured by *Anholt Nation Brands Index* (and its components) indeed has some independent effect for one of the key variables of a country's economic prosperity: inbound FDI. We show that FDI flows into a host country rise as its nation image, the value of its intangibles, improves. We also show that this effect is not driven by 'fundamental' or 'economic' variables that are known from international economics to influence FDI flows. For this purpose we use the theory-based KC model which includes the main economic variables and is the workhorse for explaining FDI in international economics. We show that a nation brands index bears considerable explanatory weight in this multivariate analysis. Our analysis provides strong evidence suggesting that intangibles - stereotypes and perceptions - indeed matter for investment decisions. We find that the *Anholt Nation Brands Index*, our measure for intangibles in the host country, has a large positive effect on FDI: a one-point increase in the index is associated with a 27% increase in the flow of inward FDI. Moreover, the index plays a role for both developing and developed countries with the effect being weaker for the latter group.

[17] See their homepage at http://www.land-of-ideas.org/.

5 Appendix

Table A-1: Data sources

Variables	**Description**
FDI	Flow of foreign direct investment from the source to the host country. We use the nominal FDI flow in Euro from EUROSTAT Database. We convert the variable into US dollars by employing year-average bilateral exchange rate of the EURO expressed in US dollars from the International Financial Statistics of IMF.
$\Sigma GDP, \Lambda GDP$	Difference / Sum of gross domestic products between source and host country in US dollars with base year 2000; Source: World Development Indicators (WDI).
$\Lambda Skill$	Difference of gross domestic product per capita between source and host countries in US dollars; Source: WDI.
Tariff	Tariff rates based on unweighted averages for all goods in ad valorem rates, or applied rates, or MFN rates, for source and host country; Source: World Bank.
Distance	Distance in km between the capitals of the source and host country; Source: Centre d'Etudes Prospectives et d'Informations Internationales (CEPII).

Table A-1 continued: Data sources

Variables	**Description**
Common Language	A binary variable equal to 1 when two source and host countries share the same language and 0 otherwise; Source: CEPII.
Customs Union	A binary variable equal to 1 if the source and host countries belong to the same customs union and 0 otherwise; Source: World Trade Organization (WTO), own compilation.
Free Trade Agreement	A binary variable equal to 1 if the source and host countries belong to the same free trade agreement and 0 otherwise; Source: WTO, own compilation.
Population	Number of citizens in the host country; Source: WDI.
Set up costs	Costs of starting business expressed as of host country's GDP per capita; Source: Djankov et al. (2002).
Voice and accountability	Rating of voice and accountability in host country with a range from -2.5 to 2.5; Source: Kaufmann et al. (2008).
Control of corruption	Rating of the control of corruption in host country with a range from -2.5 to 2.5; higher values indicate better control of corruption; Source: Kaufmann et al. (2008).
Government effectiveness	Rating of government effectiveness in host country with a range from -2.5 to 2.5; Source: Kaufmann et al. (2008).
Regulatory quality	Rating of regulatory quality in host country with a range from -2.5 to 2.5; Source: Kaufmann et al. (2008).
Political stability	Rating of political stability in host country with a range from -2.5 to 2.5; Source: Kaufmann et al. (2008).
Rule of law	Rating of rule of law in host country with a range from -2.5 to 2.5; Source: Kaufmann et al. (2008).
Market capitalization	Average market capitalization as a percentage of GDP in host country calculated by dividing the value of traded stocks in percent of GDP through the turnover ratio; Source: WDI.
Government tiers	A time-invariant discrete variable with values between 1 and 6 equal to the number of central and sub-central government levels; Source: Treisman (2002).
Corporate income tax rate	Highest marginal tax rate measured in percentage points for the year 2004; Source: WDI.
Nation Brands Index	A measure of country's brand image ranging between the values of 95 and 132 in our sample; Source: Simon Anholt (earthspeak.com).

Table A-2: Further robustness check

Dependent variable: FDI_{ij}				
Variables	(1)	(2)	(3)	(4)
Sum of GDP	1.06E-12***	8.37E-13**	1.00E-12***	1.03E-12***
	(3.19E-13)	(3.41E-13)	(3.30E-13)	(2.94E-13)
GDP difference squared	-3.08E-26	-1.55E-26	-3.00E-26	-2.36E-26
	(3.38E-26)	(3.43E-26)	(3.54E-26)	(3.35E-26)
Skill difference	0.0003314***	0.0003142***	0.000309***	0.0003127***
	(0.0000576)	(0.000066)	(0.0000588)	(0.0000539)
Skill difference squared	3.31E-09*	2.44E-09	2.92E-09	3.15E-09*
	(1.77E-09)	(1.80E-09)	(1.84E-09)	(1.76E-09)
*GDP difference**	7.29E-18	8.66E-18	8.91E-18	5.39E-18
Skill difference	(9.22E-18)	(9.26E-18)	(9.83E-18)	(8.72E-18)
Distance	-0.0007537***	-0.0007478***	-0.0007551***	-0.0007523***
	(0.0001032)	(0.0001197)	(0.0001096)	(0.0000999)
Population	9.08E-10	1.06E-09	1.26E-09	
	(1.33E-09)	(1.47E-09)	(3.25E-09)	
Common language	-1.034106	-0.9553246	-0.7814387	-0.7545036
	(1.412529)	(1.48174)	(1.42315)	(1.401607)
Free trade agreement	1.273871	1.306075	1.685297	1.669293*
	(1.051327)	(1.221236)	(1.027178)	(1.003698)
Customs union	-1.665566	-2.307559*	-2.250431*	-2.256678*
	(1.194665)	(1.269016)	(1.232345)	(1.168625)
Tariff_source	-0.5937343	-0.7184805	-0.6039676	-0.6044291
	(0.5586368)	(0.5720441)	(0.5718108)	(0.5634317)
Tariff_host	-0.1967495	-0.2742201	-0.2377854	-0.2041618
	(0.1786715)	(0.1848234)	(0.2002899)	(0.1786414)
*Skill difference squared**	1.88E-10	2.35E-10	2.90E-10	2.86E-10
Tariff_host	(2.42E-10)	(2.45E-10)	(2.56E-10)	(2.39E-10)
Set up costs	-0.0222154	-0.0289305	-0.0300443	-0.0275478
	(0.0189232)	(0.0236941)	(0.0217442)	(0.0188159)
Nation Brands Index	0.330244***	0.3380943***	0.3350051***	0.3383826***
	(0.0555309)	(0.0709361)	(0.0567056)	(0.0550058)
Market capitalization	0.0132408**			
	(0.0055382)			
Government tiers		0.1716182		
		(0.8572914)		
Corporate income tax rate			-0.016611	
			(0.049158)	
Observations	1752	1646	1699	1752
Uncensored obs.	1005	948	966	1005
(Pseudo) R-squared	0.09	0.08	0.08	0.09

Notes: i) *** - significant at 1% level, ** - significant at 5% level, * - significant at 10% level; ii) Robust standard errors in parantheses; iii) All estimations include year and source country dummies; iv) The explained variable is the log of FDI; v) Results are coefficients from Tobit regressions; vi) Market capitalization in column (1) is measured as a percentage of GDP of the host country; vii) In column (2) *Government tiers* is a proxy for the degree of decentralization in the host country; viii) In column (3) *Corporate income tax rate* measures the highest marginal corporate tax rate for each host country in year 2004.

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