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Individual Attitudes toward the Impact of Multinational Corporations on Domestic Businesses: How Important are Individual Characteristics and Country-Level Traits?

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Abstract: We study factors influencing individual attitudes toward the impact of multinational corporations on domestic businesses. Using survey data on more than 40,000 respondents from 29 countries provided by the International Social Survey Program (ISSP), we find that individual demographic factors and socioeconomic status, such as gender, age, income and education, are strong predictors of attitudes. In addition, ordered logit

multilevel model results show that approximately 7% of total variations in individual attitudes around our sample mean are due to country-level heterogeneity such as (possibly) different cultural roots or aggregate income levels.

1. Introduction

Previous empirical research primarily explores individual attitudes toward international trade (Beaulieu, *et al.*, 2011; Jakel and Smolka, 2013; Scheve and Slaughter, 2001). Such a focus is understandable given the importance of trade and clear predictions from neoclassical trade theories. Few studies, however, have focused on individual attitudes toward multinational corporations (MNCs) even though foreign direct investment (FDI) by MNCs in many countries has grown faster than their imports and exports during the past few decades. As of 2008, there were 82,000 MNCs worldwide, with more than 800,000 foreign affiliates (United Nations, 2009). The total value of MNCs' investment (foreign direct investment or FDI) has been rising rapidly at an annual rate of 9% over 1990-2012, and the worldwide sales of foreign affiliates also rose from $5.1 trillion in 1990 to $25.98 trillion in 2012 (United Nations, 2013).

As Fayerweather (1972:472) points out, "the future evolution of multinational firms will depend to a large degree on the policy decisions of host nations…" Policy makers are often informed by individual attitudes. A government's responses to globalization and the policies it pursues may be constrained by those attitudes. In addition, how the public perceives MNCs or the receptivity of MNCs in host countries affects how well MNCs can function in those hosts (Jeon and Ahn, 2001; Kaya and Walker, 2012). Consequently, it is important to understand the factors shaping public opinion toward MNCs. Anecdotal evidence often suggests that the general public has mixed feelings about MNCs. Some view MNCs as companies bringing employment opportunities and increasing local productivity in the host country while others see MNCs as exploiters hurting local businesses. However, as mentioned previously, systematic research on this topic is extremely limited.

In this paper, we study how individual demographic and socioeconomic characteristics are associated with their attitudes toward the impact of MNCs on domestic businesses with micro-level data from the 2003 National Identity survey for 29 countries provided by the International Social Survey Programme (ISSP). Our paper contributes to the international business economics literature in several ways. First, we add to the scant literature on individual attitudes toward MNCs. Second, our paper uses a broad sample compared to previous research in order to extensively study attitudes toward MNCs' impact on domestic busiensses. The few studies that have explored individual attitudes toward MNCs are mainly single-country analyses and often focus on a specific income group (e.g. the elite group) (Ajami, 1980; Fayerweather, 1972; Jeon and Ahn, 2001). It might be difficult to generalize their findings as the results can be driven by unique country conditions and/or specific socioeconomic status. A recent study by Kaya and Walker (2012) uses the same dataset from ISSP to examine individual attitudes toward MNCs' impact on local businesses with a focus on the effect of education. The authors find that better educated individuals and those employed in the private sector are more likely to consider that MNCs are not harming local firms. The main difference between our study and Kaya and Walker (2012) is that we use ordered logit model that better fits the ordered nature of individual responses to the main question of interest about their attitudes toward MNCs.[1] In addition, we also adopt a hierarchical model to explore the clustering of the survey data and the influence of country-level traits on individual attitudes, which are not often researched in previous studies and cannot be easily measured by estimating models with country fixed effects dummies.

Our results show that individual characteristics are indeed strong predictors of their attitudes toward the impact of MNCs on domestic businesses. Further, with the hierarchical model, we find that roughly 7% of the total variations in individual attitudes around the sample mean is attributable to differences in various country-level traits and 93% of the total variations in individual attitudes are explained by differences in individual characteristics.
The rest of our paper proceeds as follows. We describe our empirical specification and data in Section 2 and present the empirical results in Section 3. We conclude by summarizing our results in Section 4.

2. Methodology

With 47 countries being its members, the International Social Survey Program (ISSP) is an annual program of cross-country collaboration on surveys covering a wide variety of topics in social science. Our study uses data from the ISSP 2003 National Identity survey, which includes more than 40,000 respondents in 29 countries.[2]

Our empirical specification is as follows:

$$Attitude_{ij} = \alpha + \beta' X + \epsilon_{ij}$$

(1)

where $Attitude_{ij}$ is the attitude rating of individual i in country j; X is a vector of personal characteristics that can affect an individual's attitude toward MNCs toward the impact of MNCs on local businesses and ϵ_{ij} is a stochastic error term.

The dependent variable in our paper is measured on a 5-point likert scale based on a survey question about the impact of international companies on local businesses. The 2003 National Identity survey respondents were asked to indicate whether they "agree strongly", "agree", "neither agree nor disagree", "disagree" or "disagree strongly" with the statement "Large international companies are doing more and more damage to local business". We code the answer "agree strongly" as 1, "agree" as 2, "neither agree nor disagree" as 3, "disagree" as 4, and "disagree strongly" as 5. In other words, the higher the rating, the more favorable is an individual's attitude toward MNCs. The average value of attitude rating in our sample is 2.4 with a standard deviation of 1.08. About 60% of the 41409 respondents either "agree strongly" or "agree" with the statement while only 19% either "disagree" or "disagree strongly" with the statement. Among the countries in our sample, individuals in France have the least favorable attitude toward the impact of multinational corporations (MNCs) on domestic businesses with an average rating of 1.88, followed by Australia with an average attitude rating of 1.96. Individuals in Venezuela have the most favorable attitude toward MNCs with an average rating of 2.9 and Ireland also

shows a more favorable attitude toward MNCs than other countries with an average rating of 2.8.

Drawing from the general literature on attitudes toward trade and immigration, we include in the *X* vector individual socio-demographic factors and socioeconomic status such as gender (female = 1), age, marital status (married and living with spouse = 1), education, household income, union membership (current union member = 1), party affiliation, work type, and occupation. In addition, we also include measures for a respondent's patriotic and nationalist attitudes.

Women seem to be more protectionist than men, which is a robust result in empirical studies on trade or immigration attitude. We expect in our study that gender is a strong predictor of views on MNCs and women are more likely than men to have a less favorable attitude toward MNCs' impact on local businesses. An individual's age is typically found to negatively affect his/her attitude toward trade or immigration in previous studies, possibility due to the fact that age is negatively associated with mobility and mobility may reduce possible adverse effect MNCs have on an individual.

Education is often used as a proxy for skills and an individual's exposure to economic ideas (Hainmueller and Hiscox, 2007). If individuals with higher levels of education are more exposed to ideas about benefits of globalization or are high-skilled workers (who are more likely to benefit from MNCs), we expect that education should have a positive effect on an individual's attitude toward MNCs' impact on domestic businesses. However, it can also be difficult to compare years of education in different countries given the difference in quality of education and degrees can be country specific. In addition, raw data on income from the survey are not directly comparable across countries in our sample. For example, the National Identity survey respondents in Canada need to choose one out of eight categories for their household annual income, ranging from less than $15,000 to more than $75,000. In Australia, respondents need to choose one out of 16 categories for their annual household income, which ranges from $1-$39 per week ($1-$2079 per year) to $3500 or more per week ($182,000 or more per year). To make these variables meaningful, we construct a relative education measure (*relative education*) as well as

a relative income variable (*relative income*). They represent a respondent's years of education and annual household income relative to the average value from all respondents in his/her country, respectively. For example, a relative income value of 120 for a respondent in Canada means that his/her annual household income is 20% higher than the average household income of all respondents from Canada. Similarly, a value of 90 means a respondent's annual household income is 10% lower than his/her national average.

Political party affiliation, nationalism, and patriotism are categorical variables. Political party affiliation ranges between 1 (far left) to 7 (far right or no party preferences). Nationalism is constructed based on answers to the question "Generally speaking, [Country] is a better country than most other countries." Five answers vary from "disagree strongly" to "agree strongly". We assign a value of 1 to the answer "disagree strongly" and a value of 5 to "agree strongly". Patriotism is constructed based on respondents' answers to the question "How proud are you being [Country] national?" Four answers to this question vary from "not proud at all" to "very proud". A value of 1 is assigned to the answer "not proud at all" and a value of 4 is assigned to the answer "very proud".

Dummy variables for work types are included for *Public owned firm*, *Private firm*, *Self-employed*, *Cooperate firm*, and *Others* with *Work for the government* as the base group. Dummies for occupations are included for *Armed forces*, *Legislators, senior officials and managers*, *Professionals*, *Technicians and associated professionals*, *Clerks, Service workers*, *shop and market sales workers*, *Skilled agricultural and fishery workers, Plant and machine operators and assemblers*, *Elementary occupations*. The base group includes individuals who do not adequately classify their occupations. Summary statistics are provided in Table 1.[3]

3. Results

We use ordered logit to quantify the coefficients in our model given the nature of the ordered responses (our dependent variable) and report the results in Table 2. Country fixed effects are always

included. To save space, cut points are not reported and we only report the coefficients on work types and occupations that are statistically significant. Estimated coefficients on other work types/occupations and cut-points are available upon request.

Looking across columns in Table 2, female dummy has a robustly negative coefficient. This indicates that women are significantly more likely than men to feel that MNCs are harming domestic businesses. Based on regression 2.2, the estimated probability that a female strongly agrees with the statement that MNCs are hurting local businesses is 21% which is four percentage points higher than the predicted probability of a male strongly agreeing with the statement.[4] A respondent's age is generally negatively correlated to support for MNCs as well. Both a higher income and a higher level of education (relative to the national average) are associated with a more favorable attitude toward MNCs. Respondents who are currently labor union members are more inclined to consider MNCs as harmful to local businesses. The estimated probability that a union member strongly agrees with the statement of MNCs harming domestic businesses is 21.2%, while a union member strongly disagrees with this statement is only 2.1%. Party affiliation also seems to be an indicator of individual attitudes toward MNCs with being far left associated with a less favorable attitude toward the impact of MNCs on domestic businesses.

Regressions 2.3 and 2.4 control for individual work type and occupation, respectively. As shown in regression 2.3, respondents who work in private firms are less likely to feel MNCs are hurting domestic firms than individuals who work for the government (the base group). On the other hand, there does not exist a significant difference in attitudes between individuals who work in public owned firms, cooperate firms, or self-employed and individuals who work for the government. In terms of occupations, we find that individuals who are clerks, service workers, shop and market sales workers, skilled agricultural and fishery workers, craft and related trades workers, and plant and machine operators are more likely to have a less favorable attitude toward the impact of MNCs on local businesses.

The ISSP survey data, with individuals grouped in countries, offer a nice opportunity for us to consider the natural clustering in the

sample. The reported attitudes of two individuals in the same country may be more similar than attitudes of two individuals in different countries. We then utilize a hierarchical model to estimated equation (1), which can help to detect how important country-level traits are when influencing individual attitudes toward MNCs. Results are reported in Table 3.

The hierarchical framework is recognized as an important methodology for survey data when micro units are nested within macro groups (Kreft et al., 1995). Different from single-level models, "multilevel models assume a hierarchically structured population, with random sampling of both groups and individuals within groups" (Hox and Kreft, 1994: 285). Errors within each randomly-sampled group (country in our case) are considered to be correlated. In a hierarchical model, total variations of individual attitudes ($var(total)$) are partitioned into between country variations ($var(ctry)$) and variations between individuals within countries ($var(indiv)$).[5] We illustrate in panel (A) Figure 1 a single-level model where the clustering of individuals is not considered. Panel (B) shows the same data when total variations of individual attitudes are partitioned into between country variations and variations between individuals within a country. Typically, intra-class correlation (ICC) can be calculated in a hierarchical model. ICC is the share of variations of attitudes at the country level to total variations of attitudes in our sample or

$$ICC = \frac{va(ctry)}{var(total)}$$

which is not readily shown in a model with country dummies. ICC in general is bounded between zero and one. If all respondents in a country present the same attitude rating, then ICC equals one. This means all observed variations in attitudes are caused by country differences. In contrast, if all countries have the same average attitude rating, then ICC has a value of zero, indicating that variations in attitudes toward MNCs are entirely explained by differences characteristics across individuals. The larger is ICC, the more important it is to recognize the clustering nature of our data.

Results in Tables 3 and 2 are consistent in terms of signs of estimated coefficients and their level of significance. In addition, Table 3 shows that respondents in the same country can share similar

opinions toward the impact of MNCs on local businesses regardless of their individual characteristics. Values of ICCs in Table 3 range between 0.073 and 0.077, indicating that heterogeneity at the country level plays a non-negligible role in shaping individual attitudes. To be more specific, the ICCs suggest that 7.3-7.7% of total variations in individual attitudes around the overall average in our sample are due to differences in various country-level traits, which can include, for example, differences in national income, trade openness, or cultural roots. The rest are attributable to unique individual characteristics.

4. Conclusions

This paper examines factors shaping individual attitudes toward the impact of MNCs on domestic businesses. Using the 2003 National Identity survey data, we find that individual characteristics such as gender, age, and education are strong predicators of their attitudes. In addition, about 7% of total variations in individual attitudes are due to differences in various national features across countries.

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Notes

[1] Kaya and Walker (2012) use a simple logit model.

[2] These 29 countries include Australia, Austria, Bulgaria, Canada, Chile, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Japan, Latvia, New Zealand, Norway, Philippines, Poland, Portugal, Russia, Slovak, Slovenia, South Korea, Spain, Sweden, Switzerland, U.K., U.S., and Uruguay.

[3] Results excluding observations with extreme values in age, income and education are essentially identical to those reported in this paper.

[4] The probability is

$$(Y=m|X)= \frac{1}{1+exp(-(\tau_m-X\beta)} - \frac{1}{1+exp(-(\tau_{m-1}-X\beta)}$$

where $m=1-5$ and τ is the cut point value.

[5] $v(total)=var(ctry)+var(indiv)$

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Figure 1. Single- vs. Multi-level Models
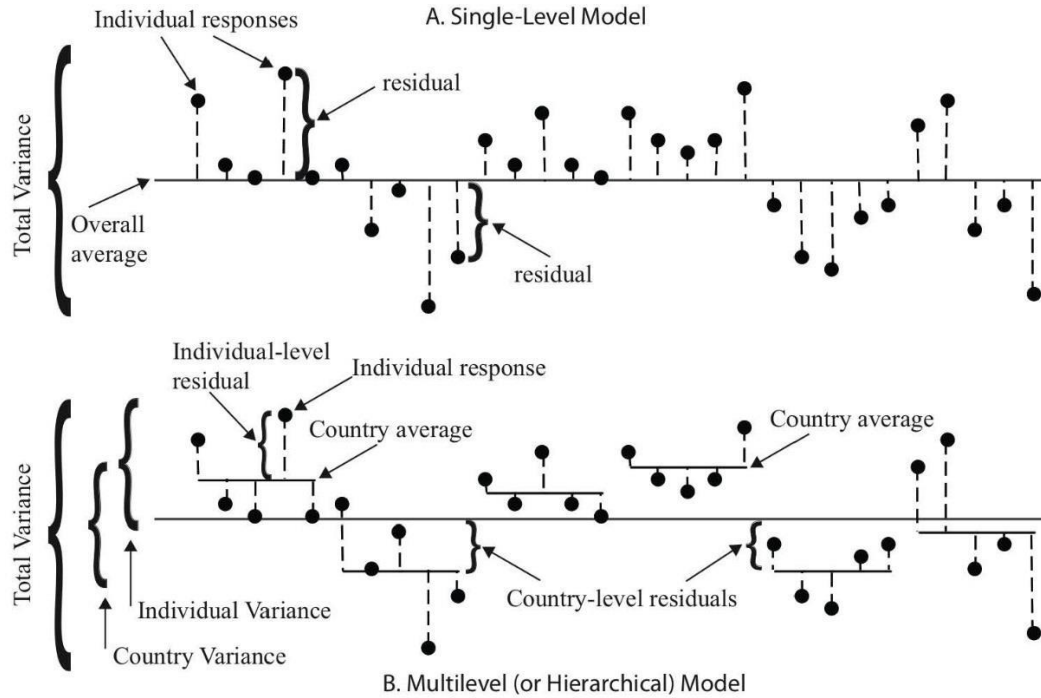
Long horizontal lines in both panels represent the average of attitude across all respondents.

Panel (A): Dashed vertical lines represent the spread of a respondent's attitude around the overall average. Total variance of individual attitudes is the range of individual residuals around the overall average attitude.

Panel (B): Short horizontal lines represent the average of attitudes for each country. Country-level residual is the difference between country average and the overall average. Individual-level residual is the difference between individuals' attitude and the country means. The total variance of individual attitudes is partitioned into between-country variance and variations between individuals within countries.

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Table 1. Summary Statistics

Variables	Obs	Mean	Std.Dev.	Min	Max
Age	45533	46.013	17.225	15	98
Female	45806	0.54128	0.498	0	1
Income	37888	100	105.46	0.415	9082.225
Education	40029	100	33.139	0	331.8789
Married	45506	0.573	0.494	0	1
Union	36855	0.229	0.421	0	1
Party	31347	3.749	1.852	1	7
Work Type					
Public owned firm	34360	0.109	0.312	0	1
Private firm	34360	0.515	0.499	0	1
Self employed	34360	0.148	0.356	0	1
Cooperate firm	34360	0.0004	0.021	0	1
Others	34360	0.0006	0.025	0	1
Occupation					
Armed Forces	35905	0.005	0.072	0	1
Legislators, senior officials and managers	35905	0.087	0.282	0	1
Professionals	35905	0.146	0.353	0	1
Technicians and associate professionals	35905	0.148	0.355	0	1
clerks	35905	0.111	0.314	0	1
Service workers, shop and market sales workers	35905	0.132	0.338	0	1
Skilled agricultural and fishery workers	35905	0.037	0.189	0	1
Craft and related trades workers	35905	0.131	0.337	0	1
Plant and machine operators and assemblers	35905	0.075	0.264	0	1
Elementary occupations	35905	0.116	0.321	0	1

Table 2. Ordered Logit with Country Fixed Effects

VARIABLES	2.1	2.2	2.3	2.4
Female	-0.102***	-0.124***	-0.117***	-0.154***
	(0.0261)	(0.0271)	(0.0284)	(0.0304)
Age	-0.0086***	-0.0074***	-0.006***	-0.0085***
	(0.000889)	(0.000925)	(0.000997)	(0.000996)
Income	0.00196***	0.00187***	0.00183***	0.00157***
	(0.000174)	(0.000177)	(0.000183)	(0.000183)
Education	0.00484***	0.00437***	0.00515***	0.00275***
	(0.000460)	(0.000479)	(0.000502)	(0.000561)
Married	0.00926	0.0123	0.0188	0.00527
	(0.0282)	(0.0293)	(0.0305)	(0.0305)
Union	-0.167***	-0.166***	-0.140***	-0.149***
	(0.0329)	(0.0339)	(0.0354)	(0.0349)
Party	0.0256***	0.0252***	0.0269***	0.0283***
	(0.00780)	(0.00813)	(0.00849)	(0.00844)
Nationalism		-0.176***	-0.182***	-0.170***
		(0.0142)	(0.0148)	(0.0148)
Patriotism		-0.0792***	-0.0722***	-0.0788***
		(0.0206)	(0.0216)	(0.0216)
Work Type				
Private firm			0.171***	
			(0.0380)	
Occupation				
clerks				-0.415**
				(0.203)
Service workers, shop and market sales workers				-0.505**
				(0.214)
Skilled agricultural and fishery workers				-0.465**
				(0.202)
Craft and related trades workers				-0.499**
				(0.205)
Plant and machine operators and assemblers				-0.371*
Pseudo R2	0.040	0.040	0.042	0.044
Observations	19,966	18,683	17,411	17,403

Country fixed effects are included
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3. Ordered Logit Multilevel Model

VARIABLES	3.1	3.2	3.3	3.4
Female	-0.104***	-0.126***	-0.120***	-0.157***
	(0.0260)	(0.0270)	(0.0283)	(0.0304)
Age	-0.0088***	-0.0077***	-0.0063***	-0.0087***
	(0.000947)	(0.000985)	(0.00105)	(0.00105)
Income	0.00195***	0.00186***	0.00182***	0.00155***
	(0.000173)	(0.000176)	(0.000182)	(0.000182)
Education	0.00484***	0.00438***	0.00516***	0.00274***
	(0.000460)	(0.000479)	(0.000502)	(0.000561)
Married	-0.00507	-0.00688	-0.00895	-0.00467
	(0.00885)	(0.00917)	(0.00952)	(0.00953)
Union	-0.162***	-0.161***	-0.135***	-0.144***
	(0.0328)	(0.0339)	(0.0354)	(0.0349)
Party	0.0258***	0.0255***	0.0272***	0.0287***
	(0.00778)	(0.00811)	(0.00847)	(0.00842)
Nationalism		-0.175***	-0.180***	-0.168***
		(0.0142)	(0.0148)	(0.0147)
Patriotism		-0.0801***	-0.0731***	-0.0797***
		(0.0206)	(0.0216)	(0.0215)
Work Type				
Private firm				0.173***
				(0.0379)
Occupation				
Service workers, shop and market sales workers				-0.416**
				(0.196)
Skilled agricultural and fishery workers				-0.507**
				(0.208)
Craft and related trades workers				-0.470**
				(0.196)
Plant and machine operators and assemblers				-0.502**
				(0.199)
Elementary occupations				-0.375*
				(0.198)
Intra-class correlation (ICC)	0.073	0.076	0.077	0.074
Observations	19,966	18,683	17,411	17,403

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1