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Importing Trust: An Experimental Analysis
On the Fiscal Behavior of North Korean Refugees and Indian Citizens

Dane Thorley

Submitted to donors of the Harold B. Lee Library
at Brigham Young University

Introduction:

Stemming largely from the studies by Robert Putnam,¹ the last decade has been marked by a significant increase in research focused on social capital and trust. These studies have varied from sociological evaluations to economic analyses and have almost all found that levels of social trust play a critical factor in determining the social health, economic strength, and government efficiency in communities and nation states. The vast majority of these studies have explored the effects of increased social trust. While I recognize the importance of these works, I submit that understanding the means of *creating* social trust is just as essential.

This paper's theory posits that nations struggling from chronically low levels of social trust can in some cases, import trust through facilitating investment to domestic business from foreign companies. I hypothesize that this foreign investment to private companies legitimizes those private companies in the eyes of potential domestic investors, thereby increasing domestic fiscal relationships and eventually, general social trust. By testing this hypothesis, I hope to shed light on the debate concerning domestic market strategies, particularly concerning developing nations. If nations can in fact 'import' trust through opening their domestic financial sectors to the international market, this research should serve as a strong argument in favor of such policies.

This study consists of a survey experiment using North Korean refugees living in South Korea and citizens of the Republic of India. Subjects were randomly assigned a hypothetical investment opportunity and asked how much

¹ Putnam, Robert D. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press; see also Putnam, Robert D. 2001. *Bowling Alone: The Collapse and Revival of American Community*. Touchstone Press.

money they would be willing to invest in one of three businesses (one that had received no investment, domestic investment, or foreign investment). I have also included a brief series of regression analyses on the North Korean refugee data in order to better understand their background.

Through the application of these different treatments, I find that the effect of foreign investment on North Korean refugees' and Indians' fiscal trust is either negligible or inconclusive; the results from the Indian sample indicate that investment treatments have no substantive effect and the North Korean sample was too small to yield any statistically significant results. However, some additional testing shows that even these conclusions may be invalid.

Section one of this paper explores the existing literature relating to trust and social capital and lays out my theory on importing trust; section two explains the background and experimental designs for both the North Korean refugee and Indian samples; section three analyzes the experimental outcomes of both of these samples; section four presents the implications of my findings, and section five contains the results of a separate quantitative regression analysis, meant to further explore the data collected during the North Korean experiment.

1: Trust, Social Capital, and the “Importing Trust” Theory

Trust:

Before exploring social capital theory, it is important to understand trust, which lies at the heart of social capital. Trust is a broad and complex concept that covers many areas of study; economists, political scientists, financial analysts,

sociologists, and even those in medicine have recognized the importance of trust.² However, each of these fields defines trust in different ways.

The inherent complexity of defining trust becomes apparent by looking at simple, everyday activities. For instance, by driving to the bank to deposit money, one exercises a variety of different types of trust: trust in the functionality of the automobile, trust in the bank as an institution, trust that the teller will not pocket the money, trust that the check will not bounce, and trust that if any of the items one has trusted fails to perform, one will receive some form of compensation (possibly by pursuing remedial action through the court system).

While there are many varieties of trust, it is important to select one concrete definition, as any attempt to identify and measure trust (which is necessary for sound quantitative analysis) on all of its levels is bound to be vexing if not fruitless. For the purpose of this paper, I will focus primarily on social trust, or, simply put, the trust that one person has towards another person or group of people. This interpersonal trust has profound effects on the functionality of societies, and while it is still difficult to accurately define social trust, it is the type of trust with the most robust set of statistical indicators and, thus, has been studied the most by those interested in social capital theory.

In general, confidence, or trust, can develop in two ways: moralistically or strategically. While both lines of development typically result from experience and knowledge, these varieties are different in that moralistic trust is positive in nature, while strategic trust is normative. Essentially, moralistic trust suggests

² Hummels, Harry and Hans E. Rosendaal. 2001. Trust in scientific publishing. *Journal of Business Ethics* 34 no. 2. 87-8.

that some people employ trust merely because they feel that they *should* trust others. Uslaner states,

Moralistic trust is a value that rests on an optimistic view of the world and one's ability to control it. Moralistic trust is not a relationship between specific persons for a particular context. If the grammar of strategic trust is "A trusts B to do X",³ the etymology of moralistic trust is simply "A trusts."⁴

It is only through this additional definition of trust that social phenomena like civic engagement can be explained.⁵ This moralistic trust is not inherently religious or spiritual, although beliefs concerning how one should treat others regardless of past experience are common in many religions.

As opposed to moralistic trust, which is more of a belief or stance than a calculated decision, strategic trust lends itself to more scientific research concerning cause and effect relationships. It is a statement concerning what people should expect other people to do. Strategic trust is inherently easier to quantify and measure. Because of this, and because the effects of moralistic and strategic trust are closely correlated, the results of this study will mostly reflect levels of strategic trust. It is important to note, however, that although this definition is easier to test, defining trust primarily as a function of rational choice limits validity.

³ Hardin, Levi. "A State of Trust"; *Trust and Trustworthiness*. As cited in Farrel.

⁴ Uslaner, Eric M. Varieties of trust. Working paper for the *European Journal of Political Research*.

⁵ Uslaner, Eric M. Varieties of trust. Working paper for the *European Journal of Political Research*.

Social trust is typically defined as an individual's confidence in another's actions based on prior experience and information concerning that individual.⁶ This trust gives an individual a reasonable expectation for specific outcomes. In a social sense, it garners confidence in an individual that other individuals will act in a certain way given certain circumstances.

The gradual development of social trust builds a confidence that allows people to engage in activities that, without a set of somewhat reliable expectations, would be too risky.⁷ Trust is therefore a strategic action that involves rational choice. Coleman and others have already covered the detailed mechanisms of this rationality (the nuances of which will not be covered in this paper) and conclude that trust is a process in which net risk of an action is outweighed by the benefits of cooperation.⁸

Social Capital Theory:

the modern theories concerning the value and effect of social capital have developed based off of these basic definitions of social trust that . Stemming largely from Robert Putman's book *Making Democracy Work*, the social sciences have seen a significant increase in the study of social capital in the last decade.⁹

Generally accepted as legitimate, these studies have shown that the ability for

⁶ Offe, Claus. 1999. *Trust and Knowledge, Rules and Decisions: Exploring a Difficult Conceptual Terrain*. In Mark Warren, ed., *Democracy and Trust*. Cambridge: Cambridge University Press.

⁷ Putnam, Robert D. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press.

⁸ Coleman, James. 1990. Chapter 5; see also Mayer, Roger C., James H. Davis, and F. David Shoorman. 1995. *An integrative model of organizational trust*.

⁹ Boix, Carles and Daniel Posner. 1996. *Making Social Capital Work: A Review of Robert Putnam's 'Making Democracy Work: Civic Traditions in Modern Italy.'* Weatherhead Center for International Affairs Publication.

members of a community to interact with each other (a form of social capital) and the social phenomena that perpetuate such an ability (trust) to be important building blocks in the development of a functional economy and sound society.

Putnam explains this relationship by stating,

Voluntary cooperation is easier in a community that has inherited a substantial stock of social capital, in the form of norms of reciprocity and networks of civic engagement. Social capital here refers to features of social organizations, such as trust, norms and networks that can improve the efficiency of society by facilitating coordinated action.¹⁰

Social trust is an important component of social capital, and the level of social trust in a region has significant influence on the development of financial markets;¹¹ social trust minimizes transaction-cost by building a set of expectations that allow people to engage in activities that, without a set of somewhat reliable expectations, would be too risky.¹² Having trust in someone or something is therefore a strategic action that involves rational choice; it is a process in which net risk of an action is outweighed by the benefits of cooperation.¹³ This increased incentive to cooperate leads to greater and stronger fiscal relationships and consequentially, more robust financial markets.

¹⁰ Putnam, Robert D. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press.172.

¹¹ Coleman, James. 1990. Chapter 5; see also Mayer, Roger C., James H. Davis, and F. David Shoorman. 1995. An integrative model of organizational trust.

¹² Putnam, Robert D. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press.

¹³ Coleman, James. 1990. Chapter 5; see also Mayer, Roger C., James H. Davis, and F. David Shoorman. 1995. An integrative model of organizational trust.

This conclusion is convincing and is supported by experimental studies,¹⁴ but the mechanisms through which such literature attempts to explain the development of trust itself are relatively weak. Putman and others argue that the “social trust in complex modern settings can arise from two related sources— norms of reciprocity and networks of civic engagement.”¹⁵ In attributing the development of trust to these two variables, these theories seem to have a difficult time finding the actual root causes of trust itself; explaining societal trust (the willingness to work with each other) using habits of cooperation is somewhat circular and fails to address the core questions. Likewise, civic engagement may in fact be a causal factor in the development of trust, but how did civic engagement develop without trust in the first place?

In response to the holes in the above literature, there has recently been a tide of theories that attempt to explain the root causes of trust. They argue that Putnam’s theory appears to have confused the origins of trust with its effects. Their studies and analyses indicate that trust is maintained and developed through institutional transaction and fiscal relationships.¹⁶ This view is supported by experimental data in the studies of societal cooperation by Henrich et. al.¹⁷

I assert that both theories are inter-compatible. This paper recognizes the merits of both arguments and finds it reasonable to accept implications of both

¹⁴ Casieri, Arturo, Concetta Nazzaro, and Luigi Roselli. *Trust building and social capital as development policy tools in rural areas. An empirical analysis: the case of the LAG CDNISAT.*

¹⁵ Putnam, Robert D. *Making Democracy Work: Civic Traditions in Modern Italy.* Princeton: Princeton University Press. 171.

¹⁶ Hardin, Levi. “A State of Trust.” *Trust and Trustworthiness.* As cited in Farrel.

¹⁷ Henrich et. All. 2003. *Economic man in cross-cultural perspective.* 1. (These studies are primarily concerned with cooperation, but recognize social capital such as trust as well.)

theories. The relationship between social capital and the growth of financial markets is inherently endogenous; trust is a necessary component of all fiduciary relationships, but increased trust is also an inevitable outcome of nearly all such relationships. It is with this understanding that I add to the existing literature concerned with the sources of trust.

Foreign Direct Investment- "Importing Trust":

Building on the conclusions in the above literature concerning variables that increase social trust, I suggest that countries that experience an increase in foreign investment (FDI) to private corporations and businesses will also see an eventual increase in social trust and general social capital. While the idea that increased fiduciary relationships can act as a catalyst in increasing social trust is not new,¹⁸ my theory suggests that nations with low levels of social trust can "import" trust from other nations by facilitating increased foreign investment.

Quantitative analysis by Hixson, Jackson, and Thorley show that nations that see large increases in FDI also see increases in social trust three or four years later; the increases in FDI foster greater fiduciary relationships, which research has shown eventually leads to more fiduciary trust in the participants of these relationships. Such increases in fiscal trust eventually lead to increases in general social trust. In addition to quantitative analysis, the above literature also provided anecdotal evidence of the relationship between trust and FDI through a comparative analysis of Belarus and Hungary, and showed that Belarus, which saw significant increases in FDI after the dissolution of the USSR, also saw 75%

¹⁸ Hardin, Russel. 2002. "A State of Trust." *Trust and Trustworthiness*. Russel Sage Foundation, as cited in Farrel.

increases in social trust, while Hungary, which had a decrease in FDI, actually lost social capital over the same time period.¹⁹

The relationship proposed above is explained through two causal mechanisms: (1) that the existence of foreign investment in a company is perceived as a sign of legitimacy by domestic investors and will increase the rate of fiduciary transaction, which increases trust, and (2) that fiduciary relationships such as investment, always employ institutions (such as contract agreements or financial stipulations,) which also increase trust.

While the testing in the above literature yielded statistically significant support for the Importing Trust Theory, the authors had difficulty overcoming problems associated with the inherently endogenous relationship between trust and investment. They employed mechanisms such as a time lag between the variables to account for this problem, but the testing left the questions concerning FDI and trust only partially answered.

This paper represents an attempt to overcome those problems and does so through testing the first causal mechanism in the Importing Trust Theory: increased legitimacy. This mechanism is fairly straightforward: when a domestic investor is assessing any given investment opportunity, he or she will likely look for indications that a business was and will continue to be successful. Often, these indicators are based on an individual's prior experience with the company or those that are running the company. However, in the absence of prior indications of investment security, foreign investment plays an important role in

¹⁹ Hixon, Nate, Scott Jackson, and Dane Thorely. 2011. Importing trust: Increasing domestic social capital through foreign direct investment. Working Paper, Brigham Young University.

legitimizing recipient businesses. Generally, if a company receives an investment from a foreign company or individual, it has to have shown proof that it was worth investing in. While this proof is not necessarily personally connected with the potential investor, domestic investors will realize the implications and therefore be more likely to trust the company with their money. For example, if a foreign firm invests in a Ugandan business, the foreign firm tacitly acknowledges its trust in that local business or the business' potential. Local investors can observe the trust relationship between the local business and the foreign corporation in such a way that foreign investment serves as a positive signal to potential domestic investors. With their confidence bolstered by the trust that the foreign firm has in the local business, investors should be more willing to financially back the local business.

2. Experimental Design

The survey experiment in this paper was designed in order to expand the results of the above study by focusing on just the one mechanism in the trust imports theory. Making use of a hypothetical investment situation, North Korean refugees and Indian natives were asked to answer questions relating to their willingness to invest in a local business. Though a survey approach may seem simplistic, it provides sufficient insight into the topic of how foreign investment influences individuals' investment behavior. There are, of course, shortcomings to such an approach, but it allowed for a greater number of subjects given the limited amount of time and resources available to conduct the research.

I chose to survey North Korean refugees and Indians for entirely different reasons. The data provided by surveying North Koreans is not only extremely unique, but potentially very telling as to how a nation emerging from an isolated authoritarian regime would react to exposure to the international market. These refugees grew up in one of the most isolated dictatorial nations in the world (North Korea) and are now living in one of the most capitalist (South Korea). I chose to survey the Indian sample because it gives context in which to understand the Korean group and because India is a developing nation that has been exposed to international investment for some time. Indians were also chosen because they were the most cost efficient sample available through the survey method I employed, Amazon's MTurk,²⁰

Due to minor variances in survey design as well as probable cultural differences, I present the background, design, and results of each sample separately.

North Korean Refugee Sample Group:

The North Korean refugee sample used for this research consisted of 84 recently defected²¹ North Korean refugees (27 males and 57 females) living in Seoul, the South Korean capital, and Daejeon, a large city located about 170 kilometers south of Seoul. Limiting the sample pool to these two areas may leave some large demographic holes in my data, but I have seen no indication that those refugees living in my sample regions differ from the rest of the general

²⁰ Mturk.com; A detailed analysis of the MTurk program is given later in this article.

²¹ The average refugee had defected seven years before this study was conducted.

population. In fact, the vast majority of North Korean refugees live in Seoul, with a large portion of the remaining refugees living in Daejeon, Daegu or Busan.

Recently, sharp increases in North Korean studies have made the known refugee population in South Korea somewhat of a valuable resource for research. The refugees have realized this, and thus, most of them have begun to become more reluctant to work with academics. Because of the difficulty in recruiting these refugees, I chose to partner with Saejowi-TOOK, a prominent Seoul-based NGO focused on promoting Korean reunification and refugee assimilation.²² Although TOOK is a small organization, they have extensive political and social connections that allowed us to access the North Korean refugees observed in this experiment.

Partnering with TOOK likely had some effects on the type of subjects that are observed in the experiment. Because the entire sample consisted of TOOK constituents, it is not a random sample. While TOOK is an open-doors organization, the vast majority of their constituents are female and do not work full-time. This is reflected in my sample, where almost seventy percent of the individuals are female. This particular demographic may seem crippling to the validity of the experimental outcomes, but the North Korean refugee population living in South Korea is also overwhelmingly females who do not work full time. Another potential limitation is the fact that those that associate themselves with TOOK or take advantage of the health centers may be more willing to admit or expose their North Korean origins, which can be socially taboo in South Korea. While my sample is not perfectly representative, it is close enough to allow us to

²²A description of Saejowi-TOOK and their goals can be found at saejowi.org

make inferences concerning the population. Also, because the control and treatment were administered randomly,²³ all possibly confounding coefficients in the sample were controlled for.

Surveys were administered in one of two ways: they were either given to refugees attending the classes, seminars, or meetings organized by TOOK or they were given out at the TOOK North Korean Refugee Health Clinics located in medical centers in Seoul and Daejeon. About half of the Seoul surveys and all of the Daejeon surveys were given at these health clinics. Surveys were administered by TOOK employees, all of whom were trained in giving the survey but not informed of the theory or the desired outcome of the research. None of the surveys were administered orally, although the option was given to anyone who wanted it. I do have some concerns that the survey administrators, particularly those at the health clinics, may have influenced individuals' responses. While there no reason to believe the sample was contaminated, Koreans, particularly North Koreans, are very conscience about doing well on tests and may have pressured administrators to help them find the "right" answer to the more difficult questions in the survey, possibly the hypothetical.

North Korean Refugee Experimental Design:

Each North Korean refugee was randomly given one of two surveys, either the control or the treatment.²⁴ In each version of the survey, the respondent was

²³ Testing indicates that randomization was balanced.

presented with a basic hypothetical situation: A businessman that the respondent does not know is looking to expand his business, which has grown over the past two years. He promises to give a three hundred percent return on any investment that the respondent chooses to give. The subject was told that he or she has recently inherited 50,000,000 Korean Won (roughly 50,000 American Dollars) from a relative and is given the opportunity to invest any part—or none—of that money (see below).

Control Hypothetical:

“A local business has grown over the last two years. The business wants to continue to expand and is looking for individuals willing to invest in the business. Imagine that you have recently inherited 50,000 dollars from a relative. How much of this money would you be willing to invest in this business? The business promises a 300% return on your investment.”

The control paragraph presents only the information given above. The treatment paragraph differs slightly. It builds on the exact wording of the control paragraph, but adds a sentence describing how the businessman has received investment from an international firm and that this international firm now has some measure of control over the local business (see below).

Treatment Hypothetical 1: International Investment

“A local business has grown over the last two years. During that time this business received a large investment from an international firm, which now has some control over the local business. The local business wants to continue to expand and is looking for individuals willing to invest in the business. Imagine that you have recently inherited 50,000 dollars from a relative. How much of this money would you be willing to invest in this business? The business promises a 300% return on your investment.”

²⁴ Because the North Korean sample was completed early in the research process, the second treatment could not be implemented in this sample.

In addition to the survey experimental question about their willingness to invest their money, I also included a secondary measurement for trust by asking the individuals how much they actually trust the business in the hypothetical.

The survey also included basic demographic questions and asked several questions relating to prior investment experience, trust in others, and amount of time spent with foreigners. The North Korean refugees were also asked about North Korea specific information such as defection date, defection trail (which countries they went through to reach South Korea), and their occupations in the North. These questions provide a deeper look into which factors determine investment behavior in individuals, and greatly enhance my ability to examine and interpret the data.

Indian Sample Group:

The Indian sample used for this research consisted of 364 citizens of the Republic of India (225 males and 139 females, average age: 29). Due to financial and time related constraints, the Indian sample was surveyed through Amazon's Mechanical-Turk (MTurk) program.

MTurk is an online labor market that allows 'employers' to post jobs for 'workers' (MTurks) to complete. Each job, or task, is given a price tag, and the large body of MTurks can browse potential tasks. The employer is able to specify the type of individual that will be able to complete his or her task. The task that I posted on MTurk was labeled as a simple and short survey that would reward those who complete it with 15 cents. If workers chose to participate in the survey, they were taken to an external webpage and were given questions relating to

basic demographic information and randomly assigned one of three hypothetical business situations.²⁵

Using MTurk as the vehicle for my survey was incredibly cheap,²⁶ but may carry with it unwanted effects. Recent studies have shown that the research samples used through MTurk are relatively balanced demographically and that they yield similar results to samples found through conventional methods. However, these studies were done on the US MTurk user-base, and may not be applicable to the Indian user-base. In addition, the fact that the Indian sample was paid for taking the survey like had significant results on the experimental outcomes. I ran a manipulation check on a small portion (65 individuals) of the Indian sample, and tests indicate that only half of the subject pool actually received the treatment.²⁷ This is likely due to the fact that MTurk workers are paid by the task, so they are heavily incentivized to finish quickly. Because the treatments are only two additional sentences, many individuals in my sample may have read them without internalizing them.

Indian Experimental Design:

Because of the financial limitations imposed by using MTurk, the survey given to the Indian sample included only a portion of the questions included in the survey given to the North Korean refugees. These questions regarded the

²⁵ Testing indicated that outside of one variable (prior investment experience) randomization was balanced. See analysis section for a discussion of this unbalanced variable.

²⁶ I received 364 surveys in one night for only 80 US dollars.

²⁷ The text of the manipulation check can be found in Appendix C: Manipulation Check.

basic demographic information that I thought would be important in evaluation my experimental outcome.²⁸

In addition to fewer questions, the survey given to the Indian sample had one additional treatment. This second treatment was identical to the international investment treatment except it indicated that the local business had received an investment from a local, Indian firm (see below).

Treatment Hypothetical 2: Domestic Investment

“A local business has grown over the last two years. During that time this business received a large investment from another Indian firm, which now has some control over the local business. The local business wants to continue to expand and is looking for individuals willing to invest in the business. Imagine that you have recently inherited 50,000 dollars from a relative. How much of this money would you be willing to invest in this business? The business promises a 300% return on your investment.”

Using two slightly different treatment conditions is helpful in making distinctions as to the scope of the resulting treatment effects. Our theory infers that foreign investment, as embodied in our survey in the international investment condition, should trigger higher levels of investment from survey respondents than the no investment control and the local Indian investment treatment conditions. By using both a domestic investment condition and an international investment condition, we can better determine whether any observed effects are the result of the presence of investment in general, or of foreign investment specifically.

3. Experimental Results

²⁸ The text of this survey can be found in Appendix C.

Because two different survey designs were used in this experiment, the results for North Koreans and Indians are given separately. Though the survey designs are slightly different, the results are still useful in drawing basic conclusions about the plausibility of my theory.

3.A: North Korean Refugee Results:

Using a multiple regression analysis and a t-test we are able to see the effect that foreign investment has on the North Korean refugee sample. Surprisingly, the differences in the mean amount individuals were willing to invest indicate that the presence of foreign investment actually deters potential investors in the North Korean sample, which runs in stark contrast to my theory. However, almost none of the statistics derived from the Korean sample are statistically significant, likely because of the small sample size.

According to a comparison of means test (see Table 1), those who received the treatment gave 18.5% of their inherited money as an investment as opposed to the control group who paid 24.5%. While the results are not statistically significant, a 20% decrease in willingness to pay is an interesting treatment outcome.

Table 1: Comparison of means of investment between the two conditions. Korean Sample

Average Amount of Investment, as a percentage of what they were given

No Investment		International Investment	
Variable	Mean % Invested	Variable	Mean % Invested
Experimental investment	24.52381 (5.303806)	Experimental investment	18.48485 (4.809264)
95% confidence interval	[13.81256, 35.23506]	95% confidence interval	[8.688699, 28.281]
n = 42		n = 33	

(Standard errors provided in parentheses)

t=.8217, not significant at the .05 level

Because testing indicated that there were no randomization imbalances in the distribution of the hypotheticals, there is no need to control for other coefficients. However, I also ran a series of four different regressions using covariates that would likely play a role in predicting investment willingness (see table 2 below). The treatment proved to have some effect on the amount of money that people were willing to invest, decreasing the amount by nearly six percent. Interestingly, this effect was negative, implying that if this sample is indicative of the real population, then North Korean refugees are actually less willing to invest in a company that has received foreign investment.

None of the other variables had this substantive of an effect, although the individuals' monthly income and perception of foreigners were statistically significant factors. In creating these control variables, I expected them to have a greater affect on the dependent variable than they actually had.

Table 2: Determinants of investment behavior, North Korean Sample

Variable	Effects on Amount of Investment, as a percentage of what they were given			
	Coefficients			
	(1)	(2)	(3)	(4)
Intercept	24.52381*** (4.8748977)	21.54386*** (6.804333)	10.03279 (13.49992)	7.721843 (18.95926)
Treatment (1) or Control (0)	-6.038961 (7.349304)	-7.341398 (8.114497)	-6.115409 (8.123709)	-6.129182 (8.177135)
Monthly Income (Won)	-- --	.061601 (.042509)	-.078652* (.04332)	.077424* (.043672)
Perception of foreigners	-- --	-- --	5.977035* (3.3358)	6.021813* (3.381216)
Trust level in others	-- --	-- --	-- --	-2.371892 (4.667852)
n	75	62	61	61
R ²	0.0092	0.0447	0.0950	0.0992

(Standard errors provided in parentheses, * p < 0.1, ** p < 0.05, *** p < 0.01)

In the survey I also asked the individuals how well they felt they could trust the businessman from the hypothetical.²⁹ One would expect that this variable would be positively correlated with the amount of money that individuals were willing to invest in the business. However, after running a similar set of regressions as above, except using this trust variable as the dependent variable, it appears that the trust that individuals had in the businessman and their willingness to invest were actually negatively correlated (see table 3 below). This may suggest that instead of being xenophobic towards the businesses that had received foreign investment, the refugees may have actually invested less money because of a genuine distaste for foreign business. It is also interesting, but not surprising, to see that individuals' general trust levels (their trust levels of other people in general) have a statistically significant affect on their trust levels concerning the business in the hypothetical.

Table 3: Determinants of investment behavior, North Korean Sample

Variable	Effects on Trust in the Businessman			
	Coefficients			
	(1)	(2)	(3)	(4)
Intercept	2.697674*** (.1637403)	2.858332*** (.232543)	3.203406*** (.4500387)	1.968944*** (.5942111)

²⁹ See Appendix A: Question 1.b.

Treatment (1) or Control (0)	.1508104 (.2484879)	.0584648 (.274913)	.023987 (.278906)	.01733 (.2619864)
Monthly Income (Won)	-- --	-.0015856 (.0014447)	-.0019485 (.0014983)	-.0016545 (.0014108)
Perception of foreigners	-- --	-- --	-.0914616 (.111603)	-.107177 (.1049635)
Trust level in others	-- --	-- --	-- --	.4452311*** (.1506165)
n	76	63	62	62
R ²	0.0050	0.0447	0.0332	0.1617

(Standard errors provided in parentheses, * p < 0.1, ** p < 0.05, *** p < 0.01)

Indian Results:

A series of t-tests comparing the mean amount invested by the control group with each of the treatment groups reveals that the Indian reaction to foreign and domestic investment is also unsupportive of my original hypothesis, but in a different way (see tables 4, 5, and 6 below). The data show that the existence of investment does nothing to mitigate mistrust and increase fiscal relationships. Power analysis suggests that the Indian sample size is large enough to confirm the null-hypothesis.

However, because the manipulation check I ran indicated that at least half of the individuals in the Indian sample did not receive the treatment, these findings do not necessarily disprove my theory. Unfortunately, the manipulation check was only run on a small percentage of the total sample, so I am unable to only evaluate those that received the treatment.

Table 4: Comparison of means of investment between control and international treatment

Average Amount of Investment, as a percentage of what they were given

No Investment		International Investment	
Variable	Mean % Invested	Variable	Mean % Invested
Experimental investment	35.583333 (2.338879)	Experimental investment	36.08333 (2.379581)
95% confidence interval	[31.20212, 40.46455]	95% confidence interval	[31.37152, 40.79514]
n = 120		n = 120	

(Standard errors provided in parentheses)
t=.0760, not significant at the .05 level

Table 5: Comparison of means of investment between control and domestic treatment

Average Amount of Investment, as a percentage of what they were given

No Investment		Domestic Investment	
Variable	Mean % Invested	Variable	Mean % Invested
Experimental investment	35.583333 (2.338879)	Experimental investment	34.0 (2.35623)
95% confidence interval	[31.20212, 40.46455]	95% confidence interval	[29.33443, 38.66557]
n = 120		n = 120	

(Standard errors provided in parentheses)
t=.5627, not significant at the .05 level

Table 6: Comparison of means of investment between domestic and international treatments

Average Amount of Investment, as a percentage of what they were given

Domestic Investment		International Investment	
Variable	Mean % Invested	Variable	Mean % Invested

Experimental investment	34.0 (2.35623)	Experimental investment	36.08333 (2.379581)
95% confidence interval	[329.33443, 38.66557]	95% confidence interval	[31.37152, 40.79514]
n = 120		n = 120	

(Standard errors provided in parentheses)
t=-.6304, not significant at the .05 level

Tests for randomization imbalances indicated that the proportion of individuals with prior investment experience was unevenly distributed in the control and international treatment groups. In order to account for this I ran a simple regression, controlling for prior investment experience. The relationship was not statistically significant, and the imbalance should not have had any real effect on the t-test results.

4: Implications and Policy Suggestions

Although the North Korean sample data was not statistically significant and a failed manipulation calls into question the Indian data, my results are still intriguing. The data may, with a more robust sample, indicate that among North Korean refugees, the existence of foreign investment actually deters domestic investment and lowers trust levels. This result certainly goes against my theory, but may not be as counter-intuitive as it seems. These refugees had lives most of their lives in the most secluded nation in the world, and while they were the ones that decided to leave communist North Korea, they had likely been indoctrinated by xenophobic policy for such a long time, that they still see something like foreign investment as a threat or a warning sign. However, this unwillingness to invest may also be a function of a genuine distaste for foreign involvement. This could suggest that some countries, particularly those that have negative views

concerning foreign influence, are less ready to import trust through increases in FDI, while in other countries, FDI has little if any effect at all. My results are unable to prove my hypothesis but are also too inconclusive to disprove it. Further testing is necessary.

5: Quantitative Regression Analysis

Research Method and Model Selection:

My research method consists of a series of multi-variate OLS regression models. Because my dependent variable (amount of investment) is continuous and I need to control for a number of factors to determine the effect that my independent variables (time out of the DPRK and time in the ROK) have on investment, OLS regression analysis is the best method in testing my hypothesis.

I measured willingness to engage in free-market capitalism using two variations of exposure to free-market ideology, time out of the DPRK and time in the ROK. While these two measurements would seem to be similar, my testing suggests that using time in the ROK leaves much of the refugees' story untold (see Table 1, Model 1). Most of the refugees have lived in ROK for only half the time they have lived outside of DPRK, with most of the refugees living in at least three "interim" countries during that time (see Appendix: Table 3). While these countries, which include China, The Philippines, Russia, and Mongolia, are not as capitalist as South Korea, living in them likely affected the fiscal behavior of the refugees. My regression models indicate that time out of DPRK is a better predictor of investment than time in ROK (see Appendix: Table 1, notes). While my final model selection is relatively simple (see Table 1: Model 5), I ran a series

of functional form tests to identify all possible non-linear relationships. My final model uses the natural log of investment as my dependent variable and quadratic functions for both “Timeout DPRK” (time out of DPRK, my main independent variable) and “Interim” (the number of countries that the individual traveled through before reaching ROK). No other quadratic functions were statistically significant, and no interaction variables were statistically significant and theoretically valid.

I also tested for multicollinearity and found that none of the variables were correlated enough to cause any problems for my regression model (see Appendix: Table 4). Likewise, my correlation test indicates that I am not excluding any variables that would impact my model, and thus, any omitted variable bias is a result of insufficient data, not variable exclusion. The model, as a whole, has a reasonably high adjusted r-square (.33, see Appendix: Table 1, Model 5), indicating that the ten variables I included are good predictors of variation in investment. The standard error of the regression is also acceptably low. My model fulfilled all three assumptions of least squares regression: the errors are distributed with a mean of zero, investment and time out of DPRK are independently and identically distributed, and there were no significant outliers in the data (see Appendix: Figure 2).

Results:

My results indicate that the amount of time that individuals are out of the DPRK environment has a substantial impact on their willingness to engage in fiduciary transactions and thus, their willingness to engage in free-market

capitalism. Using the natural log of the refugees' investment amounts, my regression model shows that the relationship between time out of the DPRK and investment is quadratic. For the first few years that individuals are out of the DPRK, every additional year increases the amount they invest by 33%. However, this effect tails off and the relationship becomes slightly less positive as more years are spent out of the DPRK. The significance of this impact is compounded by the fact that most of the refugees spend seven years or more outside of the DPRK before they arrive in the ROK. This coefficient is statistically significant at the 95% level, so we can be quite confident that the relationship is not due to chance.

The strong relationship between time out of the DPRK and investment is not surprising. What is surprising is the extent to which time out of DPRK makes an impact; 33% more investment for every additional year is not trivial, especially when we consider the fact that the amount that an individual invests is capped off at 100% of the money they receive. Essentially, the coefficients for time out of DPRK tell us that the amount of money an individual is willing to invest will double for every two-and-a-half additional years they have been out of DPRK's oppressive communist regime.

The control variables in my model give additional data that tells an interesting story; in addition to time out of the DPRK, the number of countries that an individual lives in or travels through before he/she arrives in the ROK and the level of general trust that the individual has towards his/her neighbors are substantively and statistically significant factors in determining their willingness to

invest. The relationship between interim countries and investment is non-linear, and suggests that investment goes up as the number of interim countries increases (about 100% per year), but only to a certain point. Once an individual has been to more than one country, that individual's investment decreases by almost 200% for every additional country they lived in or traveled through. The relationship becomes less negative as the number of interim countries increases.

The implications of these results are hard to understand. While I have no doubt that an individual's experience while traveling from the DPRK to the ROK has a substantial impact on their willingness to take part in an investment relationship, the impact that my model suggests is so profound that I believe my model is missing some important information. For example, it would be nice to know which individual visited which countries so I could control for the respective levels of capitalism in each of those countries. However, given the limitations in my analysis, the coefficients for interim countries suggests that for individuals who had only been to one or two countries, the effect that the DPRK's communism had on them was quickly mitigated. However, as individuals travelled to more countries, they may have been jaded by the things that they saw and participated in, which may cause them to develop a distaste for capitalism, leading to lower levels of investment.

The impact that general trust has on investment behavior is more understandable than the impact that interim countries had on investment; the more an individual trusts the general population, the more likely they are to invest money. General trust was measured on a five-point scale, and my results indicate that for every

additional point in trust, there is a 50% decrease in the amount of money invested. All other control variables were either not statistically significant or substantively insignificant.

Limitations:

Two main issues limit this regression analysis, and subsequently my results: omitted variable bias and small sample size. Because I am using primary research to test my hypothesis, I am limited to the data that I collected from my surveys, and while the surveys did catch important data, there are variables that I would like to control for that I do not have data on. For example, I would like to control for political orientation, but did not ask about that in the surveys (I was told that politics were too sensitive to ask the refugees about). Also, as I mentioned in the results section, it would also be nice to know exactly which interim countries each individual lived in or visited. Because my regression model does not include variables that likely have an impact on the amount of money an individual would be willing to invest, my model likely suffers from omitted variable bias.

My small sample size is also a concern. While my results are very statistically significant, not all of the coefficients for the variables I included are at an acceptable confidence level. This may be a result of non-existent relationships, but it may also be because I did not have a large enough sample.

Internal Validity: The internal validity of my study is limited by two factors: self-reporting bias and the use of investment as an indicator for a more capitalist ideology. Like most surveys, it is likely that some of the answers given by the

refugees were not truly representative of the truth. While subjects were assured that their identities would remain anonymous, North Korean refugees are typically (and understandably) paranoid about giving away personal information.

Some may also question the use of investment as an indicator for capitalist ideology. This limitation is significant, as the crux of my results is based off of the investment variable. However, I feel that the use of this variable is valid, as the risks associated with investment act as a valid buffer against those who are uncomfortable with risky fiduciary behavior, which is closely correlated with an individual's comfort with capitalism.

External Validity: Recently, sharp increases in North Korean studies have made the known refugee population in South Korea somewhat of a valuable resource for research. Because of the difficulty in recruiting these refugees, I chose to partner with Saejowi-TOOK, a prominent Seoul-based NGO focused on promoting Korean reunification and refugee assimilation.³⁰ Partnering with TOOK likely had some effects on the type of subjects that are observed in the experiment. Because the entire sample consisted of TOOK constituents, it is not a random sample. Thus, my results may not be representative of the North Korean refugee population as a whole.

Conclusions:

My results tell an interesting narrative. The amount of time that individuals have been out of the DPRK does have a substantial impact on their willingness to invest, but that investment also depends on the number of countries that individuals lived in or travelled through before coming to the ROK. Certainly, this

³⁰A description of Saejowi-TOOK and their goals can be found at saejowi.org

suggests that the factors impacting an individual's economic ideology are nuanced and complicated. However, my results are strong enough to support my hypothesis that exposure to free-market capitalism promotes a transition away from communist economic ideologies to capitalism. These results are not altogether unsurprising and should be useful in determining how to help North Korean refugees adapt to their new environment. Currently, the refugees are treated as an analogous whole when they arrive in the ROK, but by focusing free-market classes and training on individuals who have only recently defected from the DPRK, ROK government institutions and NGOs may be more effective and impactful.

Appendix A: Hypothetical Text

Control Hypothetical:

A local business has grown over the last two years. The business wants to continue to expand and is looking for individuals willing to invest in the business. Imagine that you have recently inherited 50,000 dollars from a relative. How

much of this money would you be willing to invest in this business? The business promises a 300% return on your investment.

Treatment Hypothetical 1: International Investment

A local business has grown over the last two years. During that time this business received a large investment from an international firm, which now has some control over the local business. The local business wants to continue to expand and is looking for individuals willing to invest in the business. Imagine that you have recently inherited 50,000 dollars from a relative. How much of this money would you be willing to invest in this business? The business promises a 300% return on your investment.

Treatment Hypothetical 2: International Investment

A local business has grown over the last two years. During that time this business received a large investment from another Indian firm, which now has some control over the local business. The local business wants to continue to expand and is looking for individuals willing to invest in the business. Imagine that you have recently inherited 50,000 dollars from a relative. How much of this money would you be willing to invest in this business? The business promises a 300% return on your investment.

Investment Question:

How much of your money are you willing to invest in this business?

- 100 ~ 5,000 Dollars
- 5,001 ~ 10,000 Dollars

- 10,001 ~ 15,000 Dollars
- 15,001 ~ 20,000 Dollars
- 20,001 ~ 25,000 Dollars
- 25,001 ~ 30,000 Dollars
- 30,001 ~ 35,000 Dollars
- 35,001 ~ 40,000 Dollars
- 40,001 ~ 45,000 Dollars
- 45,001 ~ 50,000 Dollars
- I do not want to invest any money.

Trust Question:

How do you feel about this business?

- A) I strongly trust it.
- B) I trust it.
- C) Neutral
- D) I do not trust it.
- E) I strongly do not trust it.

Appendix B: North Korean Sample Survey

Korean Version:

통계조사 (북한 이탈주민)

(해당사항에 X 표시해주십시오)			
연령	만_____세(현재)	성별	<input type="checkbox"/> 1. 남성 <input type="checkbox"/> 2. 여성
결혼여부 (현재)	<input type="checkbox"/> 1. 기혼 (결혼 등기했음) <input type="checkbox"/> 2. 동거 <input type="checkbox"/> 3. 이혼 <input type="checkbox"/> 4. 미혼 <input type="checkbox"/> 5. 사별 <input type="checkbox"/> 6. 기타_____		
	☆ 현재 남한에서 살고 있는 상태를 말씀해주십시오		
가족월평균 소득	_____만원		
종교	<input type="checkbox"/> 1. 기독교 <input type="checkbox"/> 2. 천주교 <input type="checkbox"/> 3. 불교 <input type="checkbox"/> 4. 무교 <input type="checkbox"/> 5. 없음 <input type="checkbox"/> 6. 기타_____		
남한입국시기	____년____월	(최초)북한이탈시기	____년____월
북한이탈 이후 체류국가	<input type="checkbox"/> 1. 중국 <input type="checkbox"/> 2. 몽골 <input type="checkbox"/> 3. 러시아 <input type="checkbox"/> 4. 태국 <input type="checkbox"/> 5. 캄보디아 <input type="checkbox"/> 6. 베트남 <input type="checkbox"/> 7. 라오스 <input type="checkbox"/> 9. 기타_____		

북한에서의 학력	<input type="checkbox"/> 1. 인민학교 중퇴 <input type="checkbox"/> 2. 인민학교 졸업 <input type="checkbox"/> 3. 고등중학교 중퇴 <input type="checkbox"/> 4. 고등중학교 졸업 <input type="checkbox"/> 5. 대학교 중퇴 <input type="checkbox"/> 6. 대학교 졸업 <input type="checkbox"/> 7. 기타_____
남한에서의 학력	<input type="checkbox"/> 1. 검정고시 (중학교) <input type="checkbox"/> 2. 검정고시 (고등학교) <input type="checkbox"/> 3. 고등학교 중퇴 <input type="checkbox"/> 4. 고등학교 졸업 <input type="checkbox"/> 5. 일반대학교 졸업 <input type="checkbox"/> 6. 사이버대학교 졸업 <input type="checkbox"/> 7. 재학 <input type="checkbox"/> 8. 기타_____
현재 고용 상태	<input type="checkbox"/> 1. 자영업 <input type="checkbox"/> 2. 회사원 <input type="checkbox"/> 3. 무직 <input type="checkbox"/> 아르바이트 <input type="checkbox"/> 4. 학생 <input type="checkbox"/> 5. 은퇴 <input type="checkbox"/> 주부 <input type="checkbox"/> 7. 기타_____
북한에서의 고향	<input type="checkbox"/> 1. 평양시 <input type="checkbox"/> 2. 자강도 <input type="checkbox"/> 3. 평안남도 <input type="checkbox"/> 4. 평안북도 <input type="checkbox"/> 5. 양강도 <input type="checkbox"/> 6. 함경남도 <input type="checkbox"/> 7. 함경북도 <input type="checkbox"/> 8. 강원도 <input type="checkbox"/> 9. 황해남도 <input type="checkbox"/> 10. 황해북도 <input type="checkbox"/> 11. 기타_____
북한에서의 직업	<input type="checkbox"/> 1. 노동자 <input type="checkbox"/> 2. 농민 <input type="checkbox"/> 3. 교육 <input type="checkbox"/> 4. 군인 <input type="checkbox"/> 5. 주부 <input type="checkbox"/> 6. 학생 <input type="checkbox"/> 7. 당기관 <input type="checkbox"/> 8. 기타_____

설문조사 (북한 이탈주민)

1a. 어떤 회사가 지난 2년간 성공을 하였습니다. 그리고 그 회사에서 귀하께 투자를 권유합니다. 만약 귀하께서 상속을 5천 만원 받았다면 그 회사에 얼마를 투자하겠습니까? 만약 투자를 한다면 3 배의 수익을 약속 한다고 합니다.

1b. 어떤 회사가 지난 2년간 성공을 하였습니다. 그 동안 그 회사는 외국기업의 투자를 받았습니다. 그리고 투자한 외국기업은 그 회사에 영향력을 가지게 되었습니다. 그 회사가 귀하께 투자를 권유합니다. 만약 귀하께서 상속을 5천 만원 받았다면 그 회사에 얼마를 투자하겠습니까? 만약 투자를 한다면 3 배의 수익을 약속 한다고 합니다.

가. 귀하는 얼마를 투자하실 생각이십니까?

- 10만원 ~ 500만원
- 501만원 ~ 1000만원
- 1001만원 ~ 1500만원
- 1501만원 ~ 2000만원
- 2001만원 ~ 2500만원
- 2501만원 ~ 3000만원
- 3001만원 ~ 3500만원

- 3501만원 ~ 4000만원
- 4001만원 ~ 4500만원
- 21 4501만원 ~ 5000만원
- 22 투자하고 싶지 않다

나. 귀하는 이 회사에 대해 어떻게 생각을 하십니까?

- 완전히 신뢰할 수 있다
- 대체로 신뢰할 수 있다
- 보통이다
- 대체로 신뢰할 수 없다
- 완전히 신뢰할 수 없다

2. 만약 이익금이 생기면 그 돈으로 무엇을 하시겠습니까?

- 은행에 저축
- 생활비로 지출
- 집에 가지고 있는다
- 투자를 한다
- 북한 가족에게 보낸다
- 기타

3. 귀하는 주식이나 부동산에 투자해본 적이 있습니까?

- 있다
- 없다
- 없지만 앞으로 계획을 가지고 있다

4. 귀하께서 투자(부동산, 주식등) 경험이 있다면 투자에 대해 어떻게 생각을 하십니까?

- 매우 좋았다
- 대체로 좋았다
- 중립이다
- 대체로 싫었다
- 매우 싫었다

5. 귀하는 소득에 얼마를 저축하십니까?

____%

6. 귀하는 소득에 얼마를 투자하십니까?

____%

7. 귀하는 투자에 대해 어떻게 생각하십니까?

- 매우 안전하다
- 대체로 안전하다
- 보통이다

- 대체로 안전하지 않다
- 전혀 안전하지 않다

8. 만약에 귀하의 친구나 아는 사람이 돈 800 만원을 빌려달라고 한다면 어떻게 하실 건가요?

- 생각해 보겠다
- 빌려주겠다
- 거절한다
- 빌려 주고 싶어도 돈이 없어서 못 빌려 준다

9. 만약에 귀하의 친구의 친구(귀하가 모르는 사람)가 돈 800 만원을 빌려달라고 한다면 귀하는 빌려줄 것인가요?

- 생각해 보겠다
- 빌려주겠다
- 거절한다
- 빌려 주고 싶어도 돈이 없어서 못 준다

10. 귀하는 외국인과 대화를 얼마나 자주 합니까?

- 매일 한다
- 주간 한다
- 월간 한다
- 년간 한다
- 거의 절대 하지 않는다

11. 귀하는 한국에 입국 한 후 몇 번이나 외국을 방문했습니까?
_____번

12. 귀하는 외국인들이 자신과 얼마나 다르다고 생각합니까?

- 매우 다르다
- 조금 다르다
- 보통이다
- 별로 다르지 않다
- 전혀 다르지 않다

13. 법이 귀하의 일상 생활에 얼마나 중요하다고 생각합니까?

- 매우 중요하다
- 조금 중요하다
- 보통이다
- 별로 중요하지 않다
- 전혀 중요하지 않다

14. 법이 귀하의 행동에 영향이 얼마나 큼니까?

- 아주 크다
- 조금 크다

- 보통이다
- 별로 크지 않다
- 전혀 크지 않다

15. 만약 다음과 같은 상황이 벌어진다면 경찰에 신고하거나 법적인 조치를 취할 것입니까?

- . 도둑을 맞았을 때?
 - 경찰에 신고하거나 법적인 조치를 할 것이다
 - 경찰에 신고하거나 법적인 조치를 하지 않을 것이다
- . 귀하께서는 이웃에 강도 침입을 목격 했을 때?
 - 경찰에 신고하거나 법적인 조치를 할 것이다
 - 경찰에 신고하거나 법적인 조치를 하지 않을 것이다
- . 사업상 다른 사람이 계약을 위반 했을 때?
 - 경찰에 신고하거나 법적인 조치를 할 것이다
 - 경찰에 신고하거나 법적인 조치를 하지 않을 것이다
- . 다른 사람이 폭행을 당하는 것을 목격했을 때?
 - 경찰에 신고하거나 법적인 조치를 할 것이다
 - 경찰에 신고하거나 법적인 조치를 하지 않을 것이다

16. 귀하는 귀하에게 불리한 법이라도 지킬 생각이 있습니까?

- 많이 있다
- 조금 있다
- 보통이다
- 별로 없다
- 많이 없다

17. 귀하는 귀하의 이웃이 그자신에게 불리한 법이라도 지킬 생각이 있다고 생각합니까?

- 많이 있다
- 조금 있다
- 보통이다
- 별로 없다
- 많이 없다

18. 일반적으로 귀하는 다른 사람들을 신뢰할 수 있다고 생각합니까?

- 완전히 신뢰할 수 있다
- 대체로 신뢰할 수 있다
- 보통이다
- 대체로 신뢰할 수 없다
- 완전히 신뢰할 수 없다

19. 북한인과 남한인들 중에 누구를 더 많이 신뢰할 수 있다고 생각합니까?

- 북한인

- 남한인
- 동일하게 신뢰할 수 있다고 생각한다

20. 귀하가 한국의 법률 시스템을 신뢰할 수 있다고 생각합니까?

- 완전히 신뢰할 수 있다
- 대체로 신뢰할 수 있다
- 보통이다
- 대체로 신뢰할 수 없다
- 완전히 신뢰할 수 없다

21. 귀하는 귀하의 생활에 만족합니까?

- 매우 그렇다
- 대체로 그렇다
- 보통이다
- 대체로 그렇지 않다
- 전혀 그렇지 않다

22. 귀하의 삶이 앞으로 개선될 것을 기대합니까?

- 네
- 아니오

Appendix C: Indian Sample Survey

1. Please indicate your gender.

- A. Male
- B. Female

2. Please type in your age (in years).

3. Please type in your family's monthly income (in Indian Rupee).

4. In general, how well do you think other people can be trusted?

- A. People can be perfectly trusted
- B. People can usually be trusted
- C. Neutral
- D. People can usually not be trusted
- E. People can absolutely not be trusted

5. What level of schooling have you completed?

- A. Did not finish primary school
- B. Finished primary school

- C. Did not finish secondary school
- D. Finished secondary school
- E. Did not finish college
- F. Finished college

6. Hypothetical

7. Have you ever invested in a business before?

- A. Yes
- B. No
- C. No, but I plan to in the near future

8. If you have invested in a business before, how was the experience?

- A. Good
- B. Neutral
- C. Bad

Manipulation Check:

On the previous page you were told about a local business that was looking for investments. From what you remember, did the local business receive any investments from other firms?

- A. No, it did not
- B. Yes, from another Indian firm
- C. Yes, from an international firm

Appendix D: Regression Data

Table 1: Predictors of Investment
Dependent Variables: Percentage of money invested (Model 4) and Natural Log of Percentage of Money Invested (Models 1-3 and 5)

Regressors	(Model 1) ln(Invest)	(Model 2) ln(Invest)	(Model 3) ln(Invest)	(Model 4) Invest	(Model 5) ln(Invest)
Timeout DPRK		0.000497 (0.0367)	0.418*** (0.139)	1.360** (0.607)	0.327** (0.155)

TimeoutSq			-0.0262*** (0.00876)	-0.0842** (0.0392)	-0.0205** (0.00964)
Age	0.0209 (0.0127)	0.0234** (0.0110)		0.0420 (0.0529)	0.0145 (0.0131)
Income	0.00707*** (0.00177)	0.00678** (0.00270)	0.00140 (0.00144)	0.0223** (0.00903)	0.00625*** (0.00208)
Interim	-0.672*** (0.165)	3.020** (1.296)	3.192*** (1.006)	12.46*** (4.414)	3.219*** (1.049)
InterimSq		-2.604*** (0.934)	-2.406*** (0.739)	-9.401*** (3.319)	-2.689*** (0.786)
InterimCu		0.527** (0.204)	0.448*** (0.159)	1.758** (0.771)	0.532*** (0.181)
GTrust	-0.403*** (0.130)	-0.440*** (0.149)	-0.405*** (0.130)	-1.421** (0.557)	-0.468*** (0.139)
Female	0.0237 (0.440)	-0.372 (0.436)	-0.676* (0.356)	-2.119 (1.630)	-0.408 (0.328)
Marriage	-0.295 (0.367)	-0.205 (0.318)	-0.187 (0.272)	-1.482 (1.407)	-0.280 (0.304)
Christian	-0.282 (0.359)	-0.268 (0.383)		-1.142 (1.614)	-0.303 (0.387)
Unemployed	-0.768 (0.576)	-0.673 (0.659)	-0.524 (0.421)	-1.523 (2.042)	-0.665 (0.526)
Northern Province	-0.432 (0.524)	-0.556 (0.469)	-1.138** (0.514)	-2.428 (2.529)	-0.936 (0.645)
Timein ROK	0.0169 (0.0470)				
Constant	2.166** (0.832)	1.204 (0.979)	1.635* (0.823)	1.206 (4.199)	1.137 (1.009)
Observations	40	39	44	39	39
R-squared	0.418	0.479	0.456	0.482	0.550
Adjusted R-squared	0.312	0.239	0.269	0.213	0.330
SER	3.287	0.778	0.741	3.031	0.730

Notes: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Description of variables can be found in Table 2.

Model Summary: Model 1 shows the relationship between my alternative, main independent variable, Timein ROK. I included this model to show that this variable was not significant. Model 2 shows the need to use a quadratic form for my main independent variable, Timeout DPRK, by excluding the squared term. Model 3 shows the impact of removing two of the least significant variables, Age and Christian. Models 4 and 5 show the difference between using the natural log of the dependent variable, Invest. Model 5 is the final model.

Table 2: Variable Descriptions

Variable	Variable Name	Description
Investment	Investment	This variable measured the percentage of their

		hypothetical 5 Million Korean Won (\$50,000) inheritance that they were willing to invest in the South Korean business.
Time Spent in ROK	Timein ROK	This variable measures the amount of time, in years, that the individual refugee had been in the ROK at the time of the survey.
Time Since Defecting from DPRK	Timeout DPRK	This variable measures the amount of time, in years, that the individual refugee had been out of the DPRK at the time of the survey.
Age	Age	This variable measures the age, in years, of the refugee at the time of the survey.
Gender	Female	This variable represents whether the refugee was female (1=yes, 0=no).
Marital Status	Marriage	This variable represents whether the refugee was married (1=yes, 0=no).
Montly Income	Income	This variable measured the refugee's monthly income in Korean Won.
Religion	Christian	This variable represents whether the refugee was Christian (1=yes, 0=no).
Number of Interim Countries	Interim	This variable measures the number of countries the refugee lived in or travelled through before reaching the ROK.
Employment Status	Unemployed	This variable represents whether the refugee was unemployed (1=yes, 0=no).
General Trust of Nieghboors	Gtrust	This variable measures the level of trust that the refugee has towards his/her neighbors in general. Trust levels were measured on a five-point scale, 1 being the highest level of trust and 5 being the lowest.
North Korean Hometown	Northern Province	This variable represents whether the refugee was from the four Northern Provinces in the DPRK (Pyongan-bukdo, Chagang-do, Yangang-do, Hamgyong-namdo, Hamgyong-bukdo) (1=yes, 0=no).

Notes: All data came from a survey conducted by the author in South Korea (May 2011). Survey Transcript will be provided upon request.

Table 3: Descriptive Statistics

Variable	Observations	Mean	Std. Dev.	Minimum	Maximum
Investment	75	0.7663059	0.8497917	0	2.397895
Timeout DPRK	58	7.796379	4.201025	0.66	15.75
Timeout ²	58	78.12785	67.81799	0.4356	248.0625
Age	71	42.09859	11.2328	18	73
Income	67	98.08955	93.84477	0	600
Interim	80	1.5375	0.7946618	0	5
Interim ²	80	2.9875	3.473202	0	25
Interim ³	80	7.1625	15.25931	0	125

GTrust	79	2.797468	0.8378811	1	5
Female	75	0.84	0.3690748	0	1
Marriage	76	0.2763158	0.4501462	0	1
Christian	75	0.6666667	0.474579	0	1
Unemployed	78	0.1538462	0.3631365	0	1
Northern Province	80	0.8875	0.3179742	0	1

Notes: Description of variables can be found in Table 2.

Table 4: Correlation Coefficients

	Inv	In	Out	Age	Fem	Mar	Inc	Chst	Int	Unep	NProv
Investment	1.0										
Timein ROK	0.0	1.0									
Timeout DPRK	0.0	0.6	1.0								
Age	0.0	0.2	-0.1	1.0							
Female	-0.2	0.0	0.0	0.0	1.0						
Marriage	0.0	0.4	0.2	-0.1	0.1	1.0					
Income	0.3	0.1	0.1	-0.3	-0.2	0.2	1.0				
Christian	0.0	0.0	-0.2	0.2	0.0	0.0	0.1	1.0			
Interim	-0.2	0.2	0.0	0.2	0.1	-0.1	0.1	0.1	1.0		
Unemployed	0.0	-0.2	0.1	-0.3	0.0	0.0	0.0	-0.2	-0.4	1.0	
Northern Province	0.0	0.1	-0.1	0.2	-0.1	-0.1	0.0	0.3	0.0	0.1	1.0

Notes: Correlation coefficients are measure on a scale from -1 to 1, rounded to the nearest tenth. Description of variables can be found in Table 2.

Figure 1: Investment Question

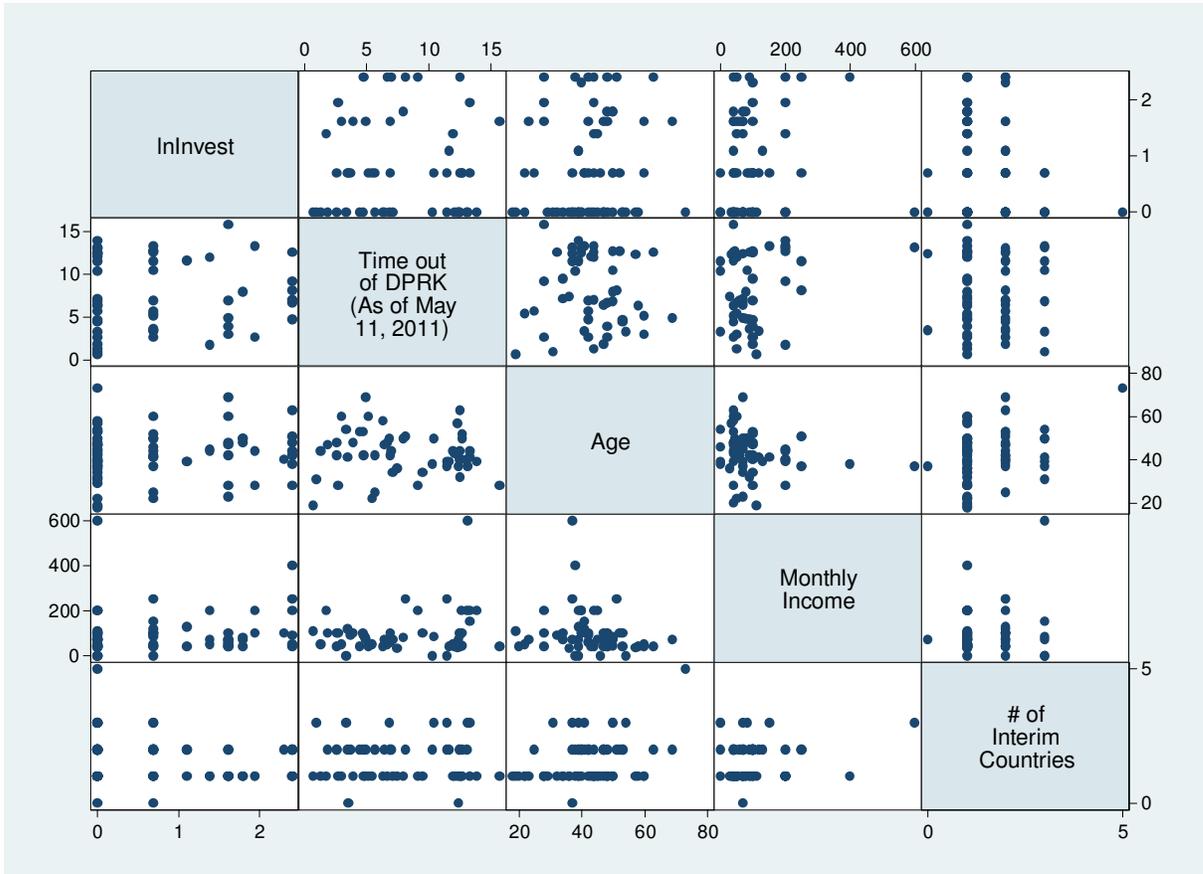
A local business has grown over the last two years. During that time this business received a large investment from an international firm, which now has some control over the local business. The local business wants to continue to expand and is looking for individuals willing to invest in the business. Imagine that you have recently inherited 50,000 dollars from a relative. How much of this money would you be willing to invest in this business? The business promises a 300% return on your investment.

How much of your money are you willing to invest in this business?

- 100 ~ 5,000 Dollars
- 5,001 ~ 10,000 Dollars
- 10,001 ~ 15,000 Dollars
- 15,001 ~ 20,000 Dollars

- 20,001 ~ 25,000 Dollars*
- 25,001 ~ 30,000 Dollars*
- 30,001 ~ 35,000 Dollars*
- 35,001 ~ 40,000 Dollars*
- 40,001 ~ 45,000 Dollars*
- 45,001 ~ 50,000 Dollars*
- I do not want to invest any money.*

Figure 2: Scatterplot Matrix (for outliers)



Notes: Description of variables, including units of measurement, can be found in Table 2. I did not exclude any outliers. However, I did consider excluding the observation that has the very high monthly income (almost \$6,000 a month), but because it did not impact my results, I decided to keep it in my analysis.