

The Development of Preferences for Institutions: Evidence from North Korean Refugees*

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Abstract

We explore the development of support for market economy and democracy among North Korean refugees settled in South Korea since their experiences of socialism in North Korea and capitalism in South Korea make them an ideal sample. We find that these refugees exhibit weaker support for both institutions than native-born South Koreans. Nevertheless, exposure to market activities in North Korea is positively associated with preferences for market economy as well as for democracy. Communist Party membership in North Korea and education in South Korea are respectively linked to stronger support for market economy and democracy. Lastly, those who were young at the time of arrival at South Korea assimilate quickly to democracy.

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1 Introduction

Public support for institutions is a key factor in determining their stability. Lack of support may lead to social instability and potential conflicts. This problem is particularly pertinent for people whose societies are undergoing institutional transition, such as those in post-Communist countries, and for people who migrate to a new society and face different institutions and cultural norms. Mounting evidence suggests that institutions have non-trivial, and sometimes long-lasting, impacts on individual attitudes and preferences (Alesina and Fuchs-Schüdeln, 2007; Tabellini, 2008; Aghion et al., 2010). When people are confronted with institutional change, the extent to and the speed with which they assimilate to the new institutions are critical in determining not only the welfare of those individuals but also the outcome of institutional transformation. Thus, it is natural for social scientists to explore factors which affect the development of individual preferences or attitudes toward institutions.

In this paper we take the case of North Korean refugees (henceforth, NK refugees) who are settled in South Korea and investigate whether their support for South Korea's key institutions is different from native-born South Koreans' and also how their support changes through living in South Korea. The division of Korea into North and South provides a large-scale social experiment in institutional change (Acemoglu et al., 2005; Kim et al., 2014). A major contrast between North Korea's and South Korea's institutions lies in political institutions—democracy vs. dictatorship—and economic institutions—market economy vs. socialist economy. We hence focus on NK refugees' attitudes toward market economy and democracy. We not only compare attitudes toward these institutions between NK refugees and native-born citizens of South Korea, but we also examine factors which affect NK refugees' support for market economy and democracy. We conduct our analysis by separating the effects of NK refugees' experiences with their former society (North Korea) from those with their assimilation in the new society (South Korea). By doing so, we attempt to understand the development of preferences for institutions.

Unlike post-Communist countries in Central or Eastern Europe, North Korea still remains governed by dictatorship and its socialist economy, and North Korean people are largely

secluded from the outside world. In the mid- and late-1990s during which North Korea experienced severe economic downturn, central planning and public distribution suffered a major crisis. Since then, North Korea has gradually allowed for market activities, albeit to a limited extent. The country has also extended its trade with other countries, predominantly with China. How could the recent expansion of market activities affect North Korean's support for market economy and democracy? To answer this question, we draw special attention to the market experiences of NK refugees in North Korea and their effects on the refugees' support for economic and political institutions. Market activities in North Korea include trading in buying goods at a cheaper price and reselling them at a higher one, as well as selling self-produced goods. While the adaptation to a new society is made through many different channels, education and participation in the labor market may be important factors determining assimilation (Dustmann and Glitz, 2011; Duleep, 2015). We focus on NK refugees' acquisition of formal education in South Korea in addition to outcomes resulting from labor market participation.

We recruited both NK refugees and native-born citizens of South Korea and administered four surveys annually from 2011 to 2014. We collected detailed information on participants' demographic and socioeconomic characteristics. We also asked a wide range of attitudinal questions on key institutional features of market economy and democracy. Questions related to market economy were comprised of four components: performance pay, market rules, private ownership, and competition. The questions concerning democracy consisted of the following five components: multi-party system, freedom of voting, individualism, anti-strong political leader, and human equality. With these detailed responses, we compared the scores of support for each component of institutions across different groups as well as total scores for market economy and democracy.

Despite the uniqueness of NK refugees case, our paper has general relevance to understanding the formation and development of preferences toward institutions. We first note the prevalence of considerable heterogeneity in preferences for institutions across countries. Figure 1 shows substantial differences across countries in the support for private ownership of business and democracy.¹ There is also significant variation across individuals within

¹The source of data is World Values Survey Wave 5, 2005-2007. The question of support for market

countries. Numerous factors are likely to contribute to such heterogeneity in the attitudinal responses within and across countries. Our paper sheds light on the issue by tapping into the unusual experiences of NK refugees.

- *Figure 1 here* -

Our main findings are as follows. Firstly, we find significant differences between NK refugees and South Koreans in their preferences for both market economy and democracy. NK refugees exhibit weaker support for market economy than South Koreans. This discrepancy is mainly driven by NK refugees' weaker support for private ownership. The inter-Korean difference in preferences for democracy is driven by the differences in preferences for individualism and for a strong political leader when pursuing national development. Secondly, we find evidence that North Korean refugees' preferences for institutions are associated with their experiences in North Korea. In particular, refugees who have participated in market activities in North Korea hold significantly more favorable opinions toward both market economy and democracy. We cautiously take this as an indication that the recent expansion of market activities in North Korea may strengthen the support for market economy and democracy within North Korea. Interestingly, those who were Communist Party members in North Korea tend to be more supportive of market economy. Thirdly, we find that NK refugees' experiences in South Korea also matter for their support for institutions. Refugees who receive formal education in South Korea are more supportive of democracy. In particular, receiving education in South Korea is positively related to the extent to which NK refugees value human equality, although it does not seem to affect preferences for market economy. Household income in South Korea is also significantly linked to refugees' higher support for market economy, in particular for private ownership and competition. However, such income effects are not as pronounced for democracy.

We contribute to several strands of the literature. First, our paper is closely related to the literature that investigates the effects of life experiences with socialism on individual attitudes and preferences (Shiller et al., 1992; Alesina and Fuchs-Schüdeln, 2007; Aghion et al., 2010; Grosjean and Senik, 2011). Distinct from most studies of the literature, our

economy is whether the private or government ownership of business and industry should be increased. The question of support for democracy is how important it is to live in a country that is governed democratically.

paper explores multi-dimensional aspects of market economy and democracy. We also relate support for market economy and democracy to experiences with different institutions in both the old and new societies. Second, our paper is related to the literature of immigrant assimilation. This literature documents a vast amount of evidence on economic, political, social, and cultural assimilation of immigrants into the host country (for a comprehensive review, see the Handbook of the Economics of International Immigration edited by Chiswick and Miller (2015)). The case of NK refugees provides an unusual opportunity to study assimilation issues because North and South Koreans share a common language and have the same ethnic background, but grow up under starkly distinct institutional environments. We add novel evidence to the topic of immigrant assimilation into the political and economic institutions of the host country. Finally, we contribute to the growing body of the literature investigating the interaction between institutions, values, and attitudes (Tabellini, 2008; Algan and Cahuc, 2009; Alesina and Giuliano, 2010; Alesina et al., 2015).

The remainder of the paper is organized as follows. Section 2 describes the data collection of the survey and provides some background on marketization of North Korea and on North Korean refugees. Section 3 reports the data analysis of the inter-Korean differences in preferences for institutions and their association with NK refugees' life experiences in both Koreas. We conclude in Section 4.

2 Survey and Background

2.1 Survey Data

We recruited both NK refugees and native-born citizens of South Korea and administered four surveys annually from 2011 to 2014.² For SK respondents, we recruited college students for the first three surveys and a representative adult population in the last survey. For NK refugees, we recruited various groups, including college students in one of the surveys. In total, we have surveyed 432 NK refugees and 564 SK-born citizens. Table 1 presents the summary statistics of basic demographic and socioeconomic characteristics of

²For more detail about surveys and data collection, please refer to Kim et al. (2014).

the respondents.

- Table 1 here -

The first to note is that only about 31 percent of NK refugees are male. This matches the official statistics collected by the Ministry of Unification statistics; 31 percent of all NK refugees from 1999 to 2011 are male. The average age is 37 for NK refugees while it is 28 for SK-born citizens. The marriage rate is lower for SK respondents than for NK refugees. The proportion of the college-educated among SK respondents is very high. For NK refugees, we asked their final education level that they received in NK. Given differences in the education system between NK and SK, higher education is defined for NK refugees as 11 years of schooling or more, which is by and large equivalent to college education in SK. According to this definition, 23 percent of NK respondents in our sample are college educated in NK. The average monthly household income is about 5.2 million KRW (about 4,800 USD) for SK citizens while it is only 1.4 million KRW (about 1,300 USD) for NK refugees.

The remaining part of Table 1 presents some NK-specific characteristics. First, NK refugees have stayed in South Korea for an average of 4.2 years. The average age when they entered SK is 33. In addition, 37 percent of the refugees have received some formal education in SK, which includes formal schooling and passing the General Educational Development test. Second, we asked a variety of questions about their socioeconomic status in NK. We find that about 23 percent of NK respondents were Communist Party members in NK.³ A majority of them, 77 percent of the respondents, are from China-North Korea border provinces. Slightly more than one third have experienced market activities—*i.e.*, trading in markets. This includes buying goods at a cheaper price and reselling them at a higher one, as well as selling goods produced by themselves. Regarding their socioeconomic status in NK, 29 percent of the refugees responded that they were in the higher class and 38 percent of them responded that they were in the middle class. This suggests that the NK refugees are not confined to relatively poor groups in North Korea.

³The formal name of the Communist Party is the Workers' Party of North Korea. We refer to that party as the Communist Party throughout the paper. The frequency of Communist Party membership in our data is higher than the estimated share in the total population aged 15 or above, which is 16.2% (Chung, 2007).

We use a set of survey questions to measure preferences for economic and political institutions. Because these institutions are multi-dimensional, we carefully designed the survey to elicit respondents' preferences toward various features of the institutions. Then we construct a composite measure that encompasses all such features for market economy and democracy. With regard to preferences for market economy, we aggregated the responses to the following four questions that correspond to the main principles of market economy: (i) performance-based incentives, (ii) market rules, (iii) private ownership (vs. state ownership), and (iv) competition. As for performance-based incentives, the following sentence is presented: "One should be paid a higher wage than another, if the former works better than the latter, even though they are of the same age and same rank in the same company." Then, as for market rules, we use the sentence "Capitalism is a system that deems any means justifiable as long as it makes more money." With regard to private ownership, we present subjects "It is better for the state rather than individuals to own firms, lands, residences, etc." Finally, about competition are presented two questions: "Competition among individuals is necessary for economic development" and "It is more convenient to live in a collectivist society without competition." For each question, we use a five-point Likert scale ranging from "strongly disagree" to "strongly agree," and normalize the responses by simply dividing each respondent's response (ranging from 1 to 5) by the maximum score (5). When necessary, we re-order the responses so that a higher score always represents more favorable attitude for institutions, and in case of multiple sub-questions, sum the responses and normalize them with a corresponding maximum score. We also construct a composite measure of preference for market economy in general, by similarly summing up the responses to all sub-questions and constructing the standardized measure.

Analogously, attitudinal support for democracy aggregates the degree of support for the following five major components of democracy: (i) anti-strong political leader, (ii) multi-party system, (iii) freedom of voting, (iv) individualism (vs. collectivism), and (v) equality. Specifically, the question concerning anti-strong political leader is "A powerful leader is necessary for national development." The question for multi-party system is "Multiple political parties are necessary to aggregate diverse opinions." Regarding freedom of voting, the following two questions are asked: "A nation's leader should be selected among multiple

candidates by people’s free will” and “I make my own voting decision rather than following others’ opinions.” As for individualism, “One’s liberty can be sacrificed for the benefit of the whole” is asked. Lastly, the question for human equality is “A man should be treated equally regardless of his income, place of origin, educational attainment, ethnicity, or nationality.” We construct the standardized score for each component of democracy as well as the composite measure for preferences for democracy.

2.2 Marketization of North Korea

The traditional North Korean economy was based on central planning which controlled economic activities of firms and households. For instance, households derived income from an official job and purchased consumer goods at state-owned shops. In particular, the North Korean authorities operated a unique system to distribute food and consumer goods to households, called the “Public Distribution System (PDS).” The PDS rationed rice according to age, occupation types, rank, and residential areas of individuals. This system aimed not only for a fair distribution of food but also for controlling and monitoring households.

The amount of rationed grain was reduced in both 1972 and 1992 but the PDS was put to the hardest test in the mid- and late-1990s during which North Korea experienced a severe economic recession. This crisis, called “the Arduous March”, forced authorities to stop rationing food to households in many parts of the country. Estimates suggest that about 500,000 to 600,000 people, which was approximately 2 to 3 percent of the total North Korean population at the time, starved to death during this period (Goodkind and West, 2001; Lee, 2004; Park, 2012). This extreme famine led households to trade food and consumer goods at informal markets, and the authorities had no choice to turn a blind eye to such market transactions which had been severely repressed before. Informal markets expanded further as the official economy which virtually broke down in the mid- and late-1990s failed to recover to the level before the crisis.

A number of studies suggest that informal markets are more important than the official sector for household survival. According to the data from the surveys of North Korean refugees in South Korea or in China, the share of informal income in total household income ranges from 60 to 90 percent (Haggard and Noland, 2010; Kim and Song, 2008; Kim and

Yang, 2012). At the same time, markets became the most important channel for obtaining food and consumer goods (Kim and Yang, 2012). Households are now involved in various activities such as market trading, sale of agricultural products grown in private plots, provision of private services, smuggling, etc (Kim and Koh, 2011).

The increase of market experiences and private property holdings is also observed from our survey data. We divide our sample of NK refugees into four different groups with respect to the year of entry to South Korea: before 2000, between 2000 and 2004, between 2005 and 2009, and since 2010. Figure 2 shows, across these four groups, the percentage of NK refugees who experienced market activities in North Korea and the percentage of perceived prevalence of private property holding in North Korea. The more recently they defected from North Korea and arrived at South Korea, the more market experiences they have, and the more they believe that private holdings are prevalent.

- *Figure 2 here* -

“Reform from below” coined by Haggard and Noland (2010) transformed the North Korean economy in various ways. First, a natural consequence is that the official workplace became secondary for households in its economic importance. Official salary is much smaller than informal income as suggested by the average share of informal income in total income. Furthermore, official work is often unavailable as the rate of capacity utilization of state-owned firms is estimated to be 20 to 30 percent (Park, 2002). The participation rate in the informal sector is about 70 percent while that in the official sector stands at 50 percent (Kim and Koh, 2011; Kim and Yang, 2012). Second, official firms and organizations tend to use informal methods to survive. One example is “8-3 workers” which refers to “those who are allowed to work elsewhere instead of working at the official workplace.” Most of these 8-3 workers make money by market-related activities and should pay a certain amount of money to the official workplace in return for his being absent from his job. The average payment made by 8-3 workers to the firm is more than seven times as much as the average official salary (Kim and Yang, 2012). The firms use such payments to pay salaries to the workers remaining at the official job, to purchase inputs for production, to pay taxes, and so on.

An unexplored question is whether such widespread marketization in North Korea af-

affected the support for socialist ideology. On the basis of their experiences in various market activities, households may realize that the socialist system is inferior to a capitalist one in terms of efficiency and sustainability. They may also come to believe that dictatorship is the root of their economic hardship. As a result, households exposed to market activities may shift their support for socialism to that for a market economy and democracy. Of course, one may claim that a value system of human beings can change only very slowly, and may require at least a few hundred years to observe its shift (Williamson, 1985). Furthermore, the indoctrination of socialist ideology by the North Korean authorities has been so successful that NK people regard it as a religion impossible to doubt (Chung, 2007).

2.3 Adaptation of North Korean Refugees

The adaptation of North Korean refugees is an important issue in South Korea. The welfare of the refugees depends critically on their successful integration into the South Korean society. Hence, the South Korean government provides a comprehensive package to support their settlement and adaptation, including a lump-sum payment of settlement amounting to seven million KRW (approximately 6,100 USD), support for housing up to thirteen million KRW (11,000 USD), medical benefits, subsidies on job training, exemption from university tuition, and eligibility for basic livelihood securities.

Despite such governmental support, North Korean refugees find it difficult to adapt to the South Korean society. The unemployment rate among North Korean refugees is as three times as much as those of South Koreans (Korea Hana Foundation, 2014). Inadequate level of human capital, lack of understanding of South Korean culture, and discrimination against North Korean refugees are often suggested as the factors affecting their economic life (Min, 2008). However, such claims are merely anecdotal, and not based on scientific evidence. Researchers only recently began to analyze economic adaptation of North Korean refugees, and their findings are often conflicting (Lee, 2006; Kim, 2007; Park and Kim, 2008; Yu et al., 2008; Kim et al., 2009). For instance, the effects of education received in North Korea on income in South Korea are not clear. Studies evaluating the effects of job training programs on economic adaptation fail to reach a consensus, although a majority of these studies suggest that such programs have little effect on labor market participation. Yu et

al. (2012) provides some evidence that support the importance of job finding channels in employment. Specifically, they find that job finding through contacts with South Koreans is the most effective in finding employment. However, to our best knowledge, there are no previous studies investigating the impacts of various achievements made in South Korea by North Korean refugees on their social norms.

3 Results

3.1 Inter-Korean Differences

We begin our analysis by comparing the levels of support for institutions between NK refugees and SK-born citizens. Despite some concerns of self-selection, we take the study of NK refugees as valid because it is practically impossible to gain access to the general population in the North Korea, and NK refugees are likely a sample of North Koreans with relatively stronger support for the South Korean society than ordinary North Koreans in North Korea.

We first graphically present the average normalized total scores for market economy and democracy with all samples and over four different age groups for each NK and SK respondents. The four age groups are before 30, between 30 and 39, between 40 and 49, and at least as old as 50 years. The numbers of respondents in each age group are 167, 96, 87, and 82 for NK refugees (respectively, 430, 36, 36, and 61 for SK-born citizens). This is presented in Figure 3. A horizontal dotted line in each panel represent the sample mean of the measure with all corresponding samples. We can see that NK refugees are overall less favorable to both institutions. Both NK refugees and SK-born citizens prefer democracy less as they get older, as evident in Figure 3B.⁴ Given the declining support for democracy over age, the level of support by the youngest group of NK refugees is almost similar to that by the oldest group of SK-born citizens. As for market economy in Figure 3A, support for this institution appears U-shaped over age for SK-born citizens; those who are aged 40-49 are the least favorable to market economy. This may reflect the fact that the South Korean

⁴The age effect might reflect some cohort effect. Since we have only four year survey data, we do not attempt to distinguish the two effects.

economy has been lately suffering both low growth and inequality, while the labor market situations deteriorated accordingly.

- *Figure 3 here* -

Next, we make inter-Korean comparisons for each component of market economy and democracy. We visualize the comparisons in a radar chart with each axis representing a distinct component of the corresponding institution. The response to each component is normalized with the strongest level of support being equal to one. Figure 4A reveals that the inter-Korean differences in the total score of market economy are driven by the gaps in the support for private ownership and for market rule. NK refugees exhibit less support for private ownership and market rule than SK-born citizens. It is interesting to observe that there is little difference in inter-Korean attitudes toward performance pay or toward competition. Figure 4B shows that the inter-Korean differences in the total score of democracy are largely driven by their attitudes toward the necessity of strong leadership in national development and toward individualism. There is little difference in their attitudes toward multi-party system, freedom of voting, or human equality.

- *Figure 4 here* -

Although the aforementioned comparisons with graphs are informative, the inter-Korean differences might be confounded by heterogeneity in socioeconomic characteristics. Among others, as Table 1 showed, NK refugees and SK-born citizens are significantly different in gender, age and household income. In Table 2, we match NK refugees and SK-born citizens by propensity score matching. We make use of gender, age, gender-age interaction, marital status, and household income as matching variables. We also restrict the samples to make NK and SK-born respondents more comparable on observables by comparing only the samples of NK and SK-born college students, and also by excluding high-income SK-born respondents.

- *Table 2 here* -

Probably the most notable finding from the analysis of propensity score matching is that if we match NK and SK-born respondents by household income, the differences in preferences

for market economy appear insignificant. This is not the case for preference for democracy. Even after controlling for household income, we find that SK-born citizens are significantly more favorable to democracy than NK refugees. Overall, it suggests that household income is not a major factor associated with support for democracy but is importantly associated with support for market economy.

3.2 What Accounts for NK Refugees' Institutional Preferences?

In this section we investigate factors affecting NK refugees' support for market economy and democracy. Specifically, we separate the effects of life exposure to the old regime, North Korea, from those to the new regime. This will inform us of the general issue of the development of institutional preferences, but also of more practical issues of NK refugees' assimilation to the new society.

3.2.1 Market economy

We first conduct regression analysis with the overall support for market economy. Table 3 presents the results of this regression analysis. We start with the baseline specification reported in column (1) with controlling for demographic information of age, gender, and marital status, as well as the fixed effect for the year of defection. We then add a set of variables related to life experiences in NK. They include education in North Korea, Communist Party membership, market experiences in North Korea, subjective perception of living standards in North Korea, whether they come from the border provinces of North Korea with China, and reasons of defection from North Korea. This is reported in column (2). We also explore the effects of life experiences in South Korea by adding a set of variables typically relevant to assimilation of migrants or refugees, including the duration of stay, education, and household income in South Korea. Column (3) reports the results of this specification. Lastly, we combine all the variables together, whose results are reported in column (4).

- Table 3 here -

We then conduct regression analysis with support for each institutional component of market economy by utilizing all variables. This is reported in Table 4.

- Table 4 here -

Demographics Among the three demographic variables, we find that age is significantly associated with support for market economy: the older the NK refugees are, the less favorable they are to market economy. Based on the estimates in Column (4), the magnitude of the effect from being 10 years younger amounts to about 0.13 standard deviation increase in the score of support for market economy. While male respondents appear to be more supportive of market economy in the baseline specification, its significance disappears when we add extra controls. Marriage is not strongly associated with preferences for market economy.

The component analysis of market economy provides further insight. The age effect is noticeable in the attitudinal responses of private ownership and competition. The older NK refugees are, the less supportive they are for private ownership and competition. Support for private ownership is significantly related to gender, with male NK refugees being more favorable to private ownership than female refugees. On the other hand, marital status is also significantly associated with performance-based incentives: married people support performance pay more than single people.

NK experiences We are interested in the long-lasting effects of life experiences in North Korea on the support for market economy. Our regression results suggest that Communist Party membership and market experiences in North Korea are strongly associated with overall support for market economy. As can be expected, refugees who were exposed to market experiences in North Korea are more favorable to market economy. The magnitude of the effect of market experiences amounts to about 0.29 standard deviation increase in the score. This can be interpreted as an indication that the recent expansion of market activities in North Korea may be able to strengthen the support for market economy in North Korea. On the other hand, those who were the member of the Communist Party in North Korea exhibit stronger support for market economy. The magnitude of the effect of Communist Party membership is larger than that of market experiences in North Korea. One can probably interpret that because Communist Party membership is highly selective, its membership is

associated with high abilities. Then, those with its membership in North Korea may indicate that they are able to adjust their ways of life more quickly to the market economy system.

Richer pictures emerge from the component analysis. The association between market experiences in North Korea and current support for market economy is driven via private ownership and competition. Market activities seem to make people develop the sense of private ownership and recognize the value of competition for economic development. On the other hand, Communist Party members' stronger support for market economy is driven via stronger support for market rules and competition. It is somewhat consistent with our conjecture that Communist Party membership may be associated with refugees' abilities, which in turn may turn those affiliated more pro-competitive. Interestingly, education in North Korea is positively associated with support for performance pay but negatively related to support for market rules.

SK experiences NK refugees' adaptation to the new society, South Korea, is likely to have an impact on support for market economy. We focus on the duration of stay, education, and household income in South Korea. Since South Korean society is market-oriented, household income can be considered a proxy for labor market activities. We find that household income is strongly associated with support for market economy. While we allow for nonlinearity in their relationship, support for market economy is increasing within the range of household income in our data. In terms of the magnitude of this income effect, one million KRW increase is associated with 0.02 standard deviation increase in the score of support for market economy, when evaluated at the sample mean. The length of stay in South Korea appears negatively associated with support for market economy but is insignificant. Education has no significant influence. The component analysis provides us a further insight. The strong association of household income with overall support for market economy is driven by its association with support for market rule.

3.2.2 Democracy

Next, we conduct regression analysis with the overall support for democracy by summing up the five institutional components and normalizing the score. Analogously as in the

analysis of market economy, we begin with the baseline specification, add the variables of life experiences in North Korea and those of experiences in South Korea separately, and combine all the variables. The analysis with the composite total score of the five institutional components is reported in Table 5. The component analysis of the five institutional details of democracy is reported in Table 6.

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Demographics We find that age is significantly related to support for democracy: young people support more strongly democracy than old people. Gender and marital status have little to do with preferences for democracy. The component analysis suggests that the age effect is mainly driven by NK refugees' support for the necessity of strong leadership for national development, as well as by their support for individualism. Old NK refugees agree more on the idea of national development driven by strong leadership than young people. Also, the component analysis finds that marital status is related to anti-strong leadership and human equality: the married people support less strong leadership and more human equality.

NK experiences Just as exposure to market activities in North Korea affects positively support for market economy, it is also positively associated with democracy. It is intriguing because it seems to indicate that the recent expansion of market activities in North Korea may be accompanied with the rise of support for democracy. This finding may be related to the understanding that democracy is an effective mechanism to protect private property acquired by market activities. More specifically, participants in market activities may form their beliefs that market transactions should be conducted freely without being penalized by the state and extorted by the police. Education in North Korea appears negatively associated but loses its significance when we combine the variables of life experiences in North and South Korea. The component analysis shows that the association of market exposure in North Korea with the support for democracy is mainly driven by its positive association with support for a multi-party system and human equality. Education in North

Korea is negatively related to support for multi-party system, while people from the North Korean border to China show less support for human equality. Interestingly, Communist Party membership has little to do with preferences for democracy.

SK experiences The notable finding about support for democracy is that education in South Korea has positive impacts on NK refugees' support for democracy. The magnitude of this education effect amounts to 0.3 standard deviation increase in the score of support for democracy. When taking into account the five institutional components, we find that the main channel of the education effect is through support for individualism. Education is also positively related to multi-party system, freedom of voting, and human equality but its effects on them are imprecisely estimated. The length of stay and household income in South Korea have little relation with preferences for democracy. In the component analysis, household income has an inverse U-shaped relation with human equality.

3.2.3 The role of age at arrival

The average years of stay of NK refugees in South Korea in our sample is about 4.2 years. This is short relative to their years spent in North Korea, but it is vital to investigate whether there exists a short-term impact on the support for institutions. We first consider this duration effect without controlling for ages. We divide the samples of North Korean refugees into four different groups: less than 1 year, between 1 and 3 years, between 3 and 5 years, and above 5 years. The numbers of NK refugees are 93, 127, 73, and 133 across the four groups. Figure 5 represents the patterns over years in South Korea about support for the two institutions. While there is a slight drop in the support for market economy within the first 3 years, preferences for market economy and democracy are overall stable.

- Figure 5 here -

We are concerned that this duration effect may be confounded with age at the time of their arrival at South Korea. Specifically, those who were young at the time of arrival at South Korea may assimilate more easily or quickly into the South Korean society than those old. In order to investigate this concern, we divide the sample of NK refugees into two

groups: younger than 30 years old and at least as old as 30 years when they arrived at South Korea. The number of the corresponding sample is 208 for the young group and 222 for the old group. For market economy, there is no difference of the duration effect between the young and old group at SK arrival. However, the duration effect on support for democracy is strikingly different between the young group and the old group. For the young group, support for democracy increases over years in South Korea, particularly in the first few years of settlement. The opposite pattern is observed in the older group; their support for democracy decreases over years in South Korea. Why would the young be able to assimilate quickly to democracy? This seems related to the young group's higher tendency of acquiring education in South Korea. About 60 percent of the young group obtained education in South Korea, while only about 17 percent of the old group did so. These differential duration effects over the two age groups have important policy implications for the successful assimilation of refugees into the South Korean society.

-Figure 6 here -

4 Conclusion

How does preferences for market economy and democracy change? In order to address this question, we used the sample of North Korean refugees who are settled in South Korea. Their experiences living under both socialism and capitalism make them ideal subjects for the investigation of this question. We relied on a rich set of attitudinal survey responses to various components of market economy and democracy, which are the two key institutions in most capitalist societies. In our inter-Korean comparison, we found that NK refugees show weaker support for market economy and democracy than native-born South Korean citizens. Nevertheless, some life experiences in North and South Korea have positive associations with NK refugees' attitudes toward the institutions. In particular, we found that exposure to market activities in North Korea is strongly related to refugees' support for market economy. While this was expected, we also discovered that such exposure is also linked to refugees' higher support for democracy. Communist Party membership is, intriguingly, positively related to preferences for market economy but not to those for democracy. Also, formal

education in South Korea boosts NK refugees' support for democracy but has little to do with support for market economy. We further examined these associations by exploiting detailed information about refugees' support for different components of the institutions.

Related to the recent trends of market expansion in North Korea, our findings have important implications about the potential transition of the North Korean society. A higher level of exposure to market activities may lead ordinary North Koreans to be more supportive of market economy and democracy, which may put some pressure on other North Korean institutions to adapt. Of course, it remains to be seen whether shifts in people's attitudes and social and cultural norms can actually transform North Korea's social institutions. Whether such transformation happens will have implications for debates that focus on the interactions between value, culture, and institutions (North, 1990; Williamson, 1985, and Roland, 2007).

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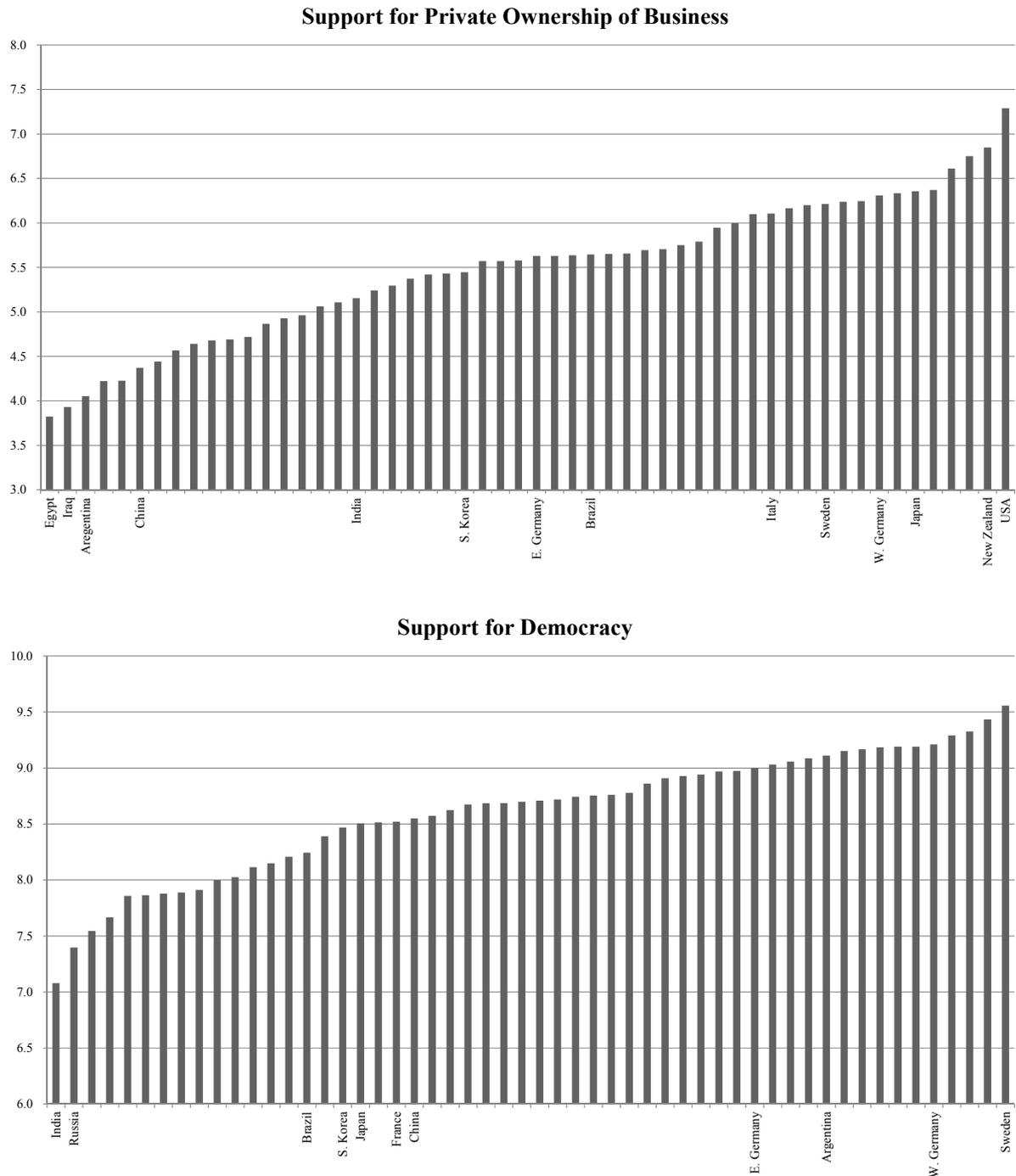
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Figure 1. Support for Market Economy and Democracy: Cross Country Heterogeneity



Notes: World Values Survey Wave 5, 2005-2007. The question for market economy is whether the private or government ownership of business and industry should be increased. The response is the 10 Likert scale from 1 (government) to 10 (private). The question for democracy is how it is important to live in a country that is governed democratically. The response is also on the 10 Likert scale from 1 (not at all) to 10 (absolutely important). The means are calculated with survey weights.

Figure 2. Market Experience in NK and Perceived Prevalence of Private Property Holding in NK by Year of SK Arrival

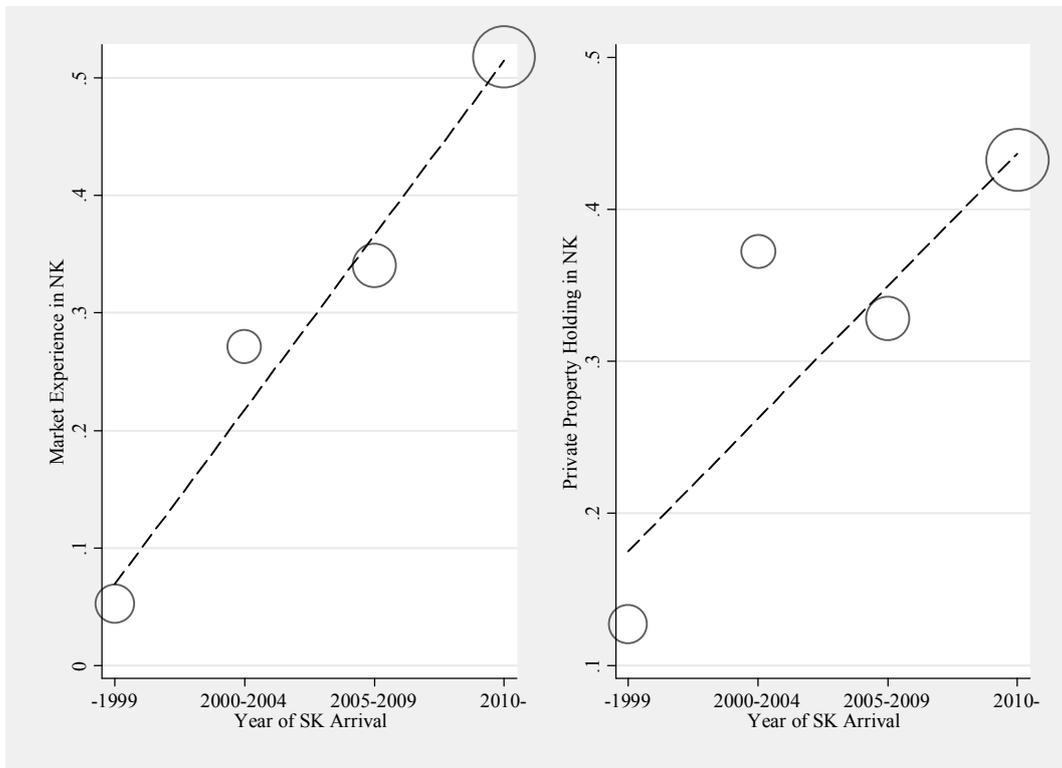
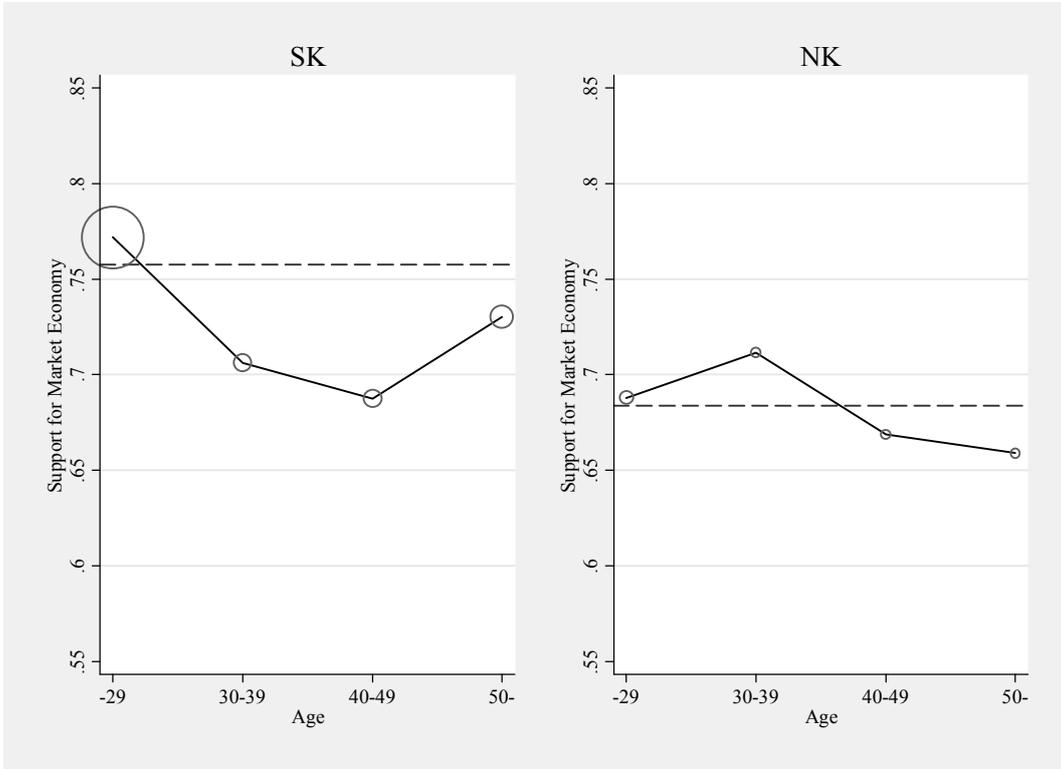
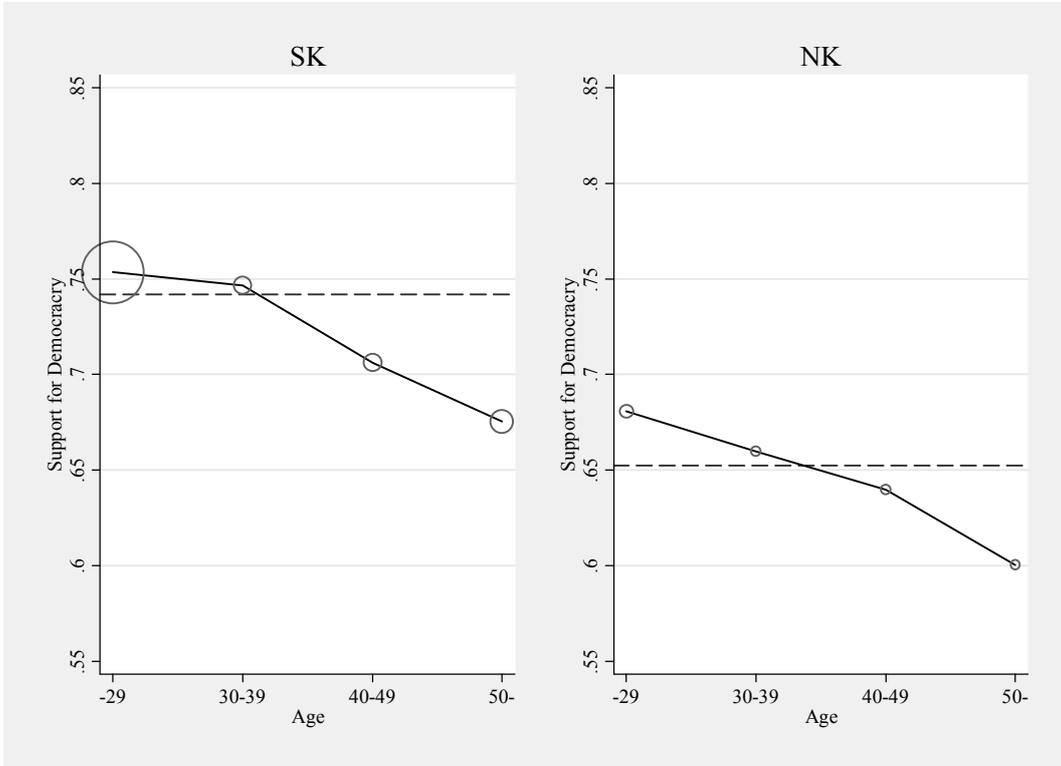


Figure 3. Preferences for Institutions by Age: SK versus NK

A. Market Economy



B. Democracy



Notes: The size of circle is proportionate to the number of observations in each age group within each sample of SK or NK.

Figure 4. Components of Preferences for Institutions: SK and NK

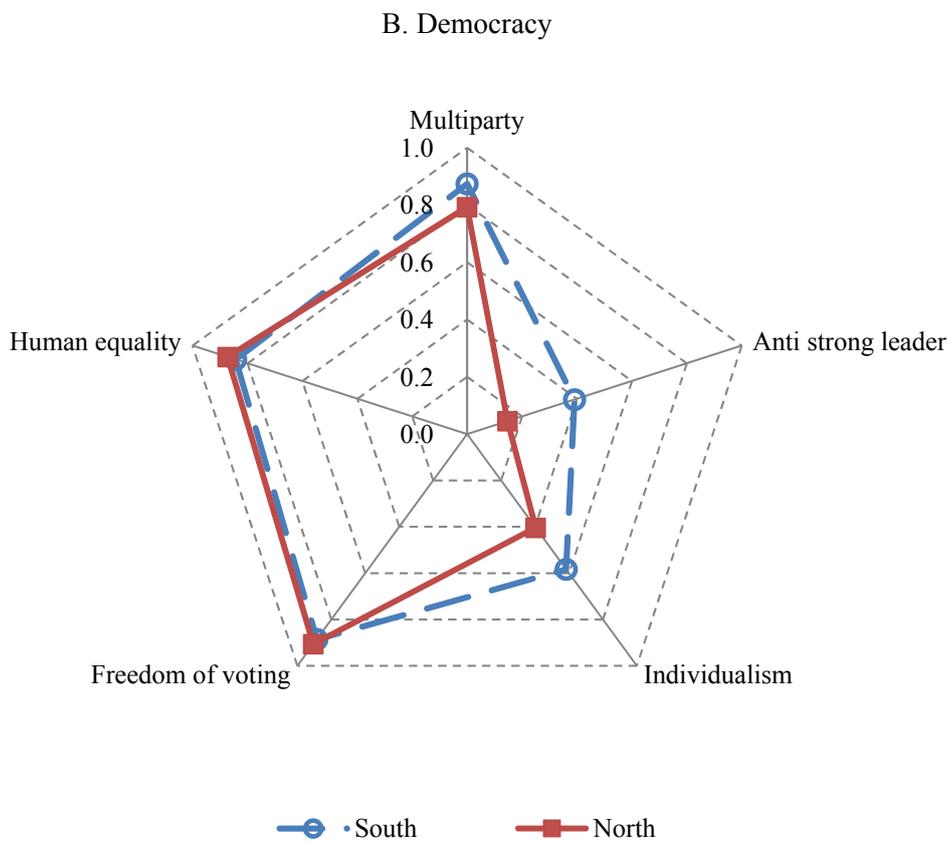
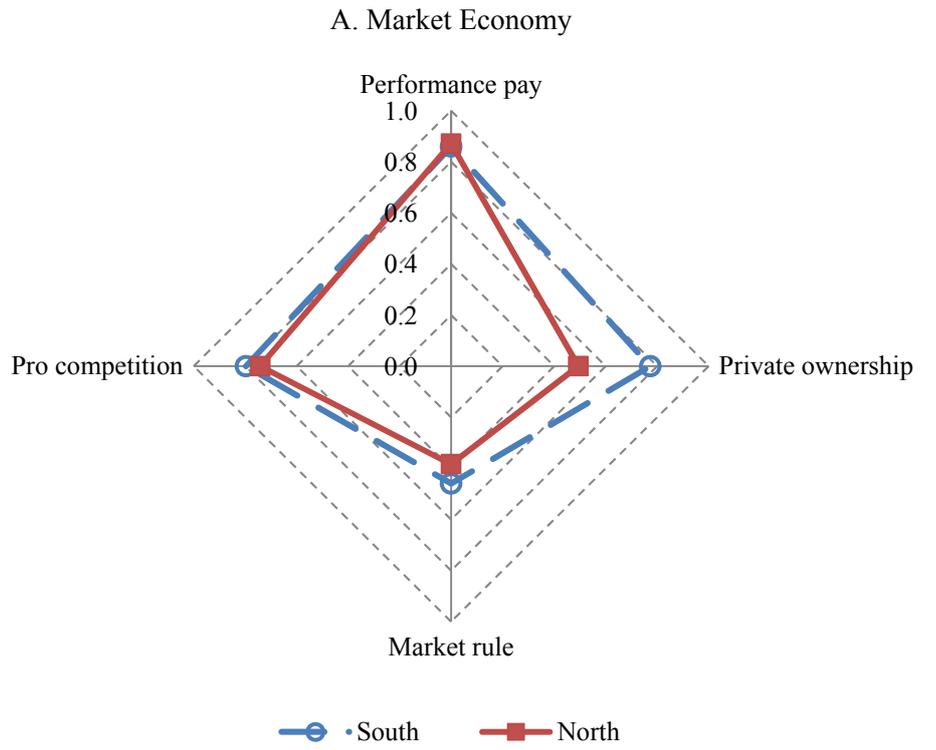
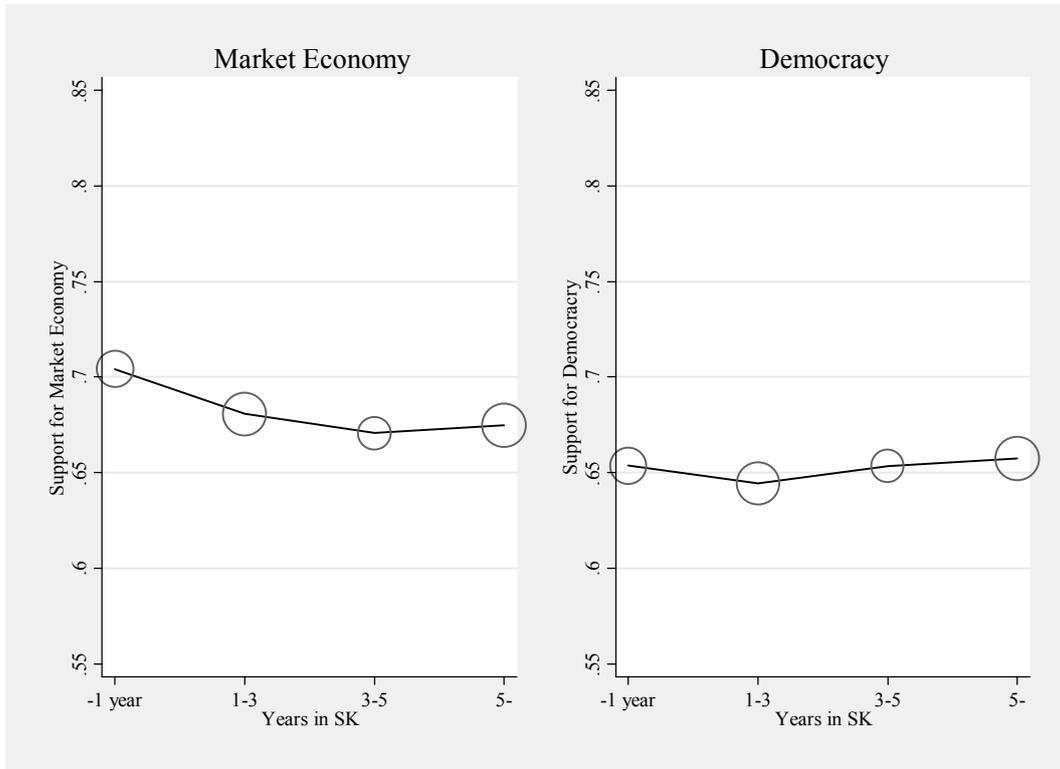


Figure 5. NK Refugees' Preferences for Institutions over Years in South Korea



Notes: The size of circle is proportionate to the number of observations in each age group within each sample of SK or NK.

Figure 6. Preferences for Institutions over Years in South Korea by Age at SK Arrival

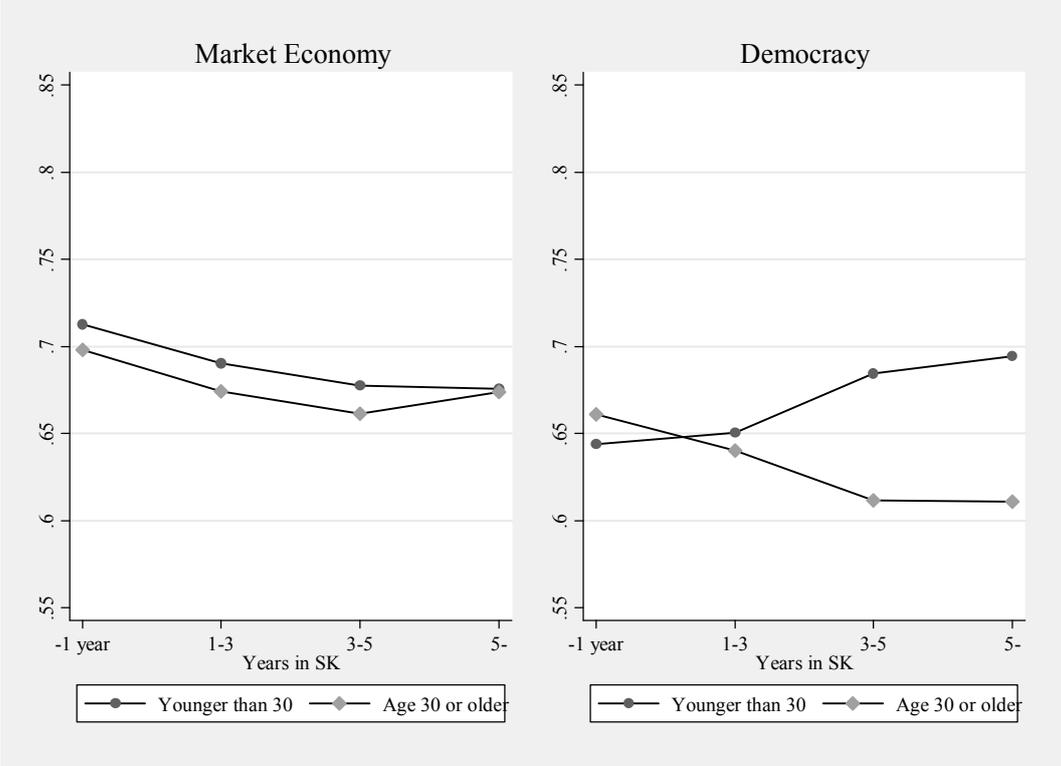


Table 1. Summary Statistics

	SK	NK
Age	28.04 (11.480)	36.87 (13.171)
Male	0.555 (0.497)	0.313 (0.464)
Secondary education	0.051 (0.221)	0.544 (0.499)
Higher education	0.949 (0.221)	0.234 (0.424)
Married	0.195 (0.397)	0.257 (0.437)
Household monthly income (millions KRW)	5.225 (2.621)	1.400 (1.081)
Years in SK		4.158 (3.451)
Age at SK arrival		32.86 (13.413)
Communist party member		0.233 (0.423)
Market experience in NK		0.361 (0.481)
Higher living class in NK		0.289 (0.454)
Middle living class in NK		0.380 (0.486)
China border provinces		0.774 (0.418)
Education in SK		0.374 (0.485)
Observations	564	432

Notes: The sample size is different by variable depending on the number of missing values. The question about household income was not asked for college students. The number of observations in the last row is the maximum number of observations. For NK student sample, the variable of communist party member represents their parents' membership status. Education in SK includes schooling at all levels including GED. For NK refugees, secondary and higher education variables indicate the final level of education they received in North Korea. Secondary education is between 6 and 12 years of schooling for South Korea and between 4 and 10 years of schooling in North Korea.

**Table 2. NK-SK Differences in Preferences for Institutions:
OLS and Propensity Score Matching**

A. Preferences for Market Economy

	Unmatched			Matched		
	NK	SK	Gap	NK	SK	Gap
(1) All	0.684	0.758	-0.074 (9.23)	0.684	0.753	-0.069 (8.20)
(2) College students	0.708	0.790	-0.082 (4.16)	0.708	0.792	-0.084 (4.04)
(3) Controlling for income	0.684	0.714	-0.030 (2.45)	0.696	0.714	-0.018 (1.29)
(4) Low-income SK households	0.684	0.710	-0.026 (1.01)	0.698	0.710	-0.012 (0.36)

B. Preferences for Democracy

	Unmatched			Matched		
	NK	SK	Gap	NK	SK	Gap
(1) All	0.654	0.742	-0.088 (12.19)	0.654	0.744	-0.090 (12.19)
(2) College students	0.711	0.757	-0.045 (2.26)	0.711	0.751	-0.040 (1.95)
(3) Controlling for income	0.644	0.715	-0.071 (7.18)	0.637	0.715	-0.078 (6.89)
(4) Low-income SK households	0.644	0.724	-0.080 (3.98)	0.630	0.724	-0.094 (3.20)

Notes: The absolute value of t statistic is presented in parentheses. For all and college students, basic demographic variables (male, age, their interaction and marital status) are used for matching. Propensity score is estimated by logit regression and the nearest neighbor one-to-one matching is used. For matching (4), we exclude SK households with monthly income 3 million KRW or above.

Table 3. Regression Analysis of Preferences for Market Economy

	(1)	(2)	(3)	(4)
Baseline controls				
Age	-0.0012** (0.0005)	-0.0020*** (0.0006)	-0.0006 (0.0006)	-0.0017** (0.0007)
Male	0.0237* (0.0143)	0.0186 (0.0145)	0.0198 (0.0163)	0.0128 (0.0177)
Married	0.0165 (0.0158)	0.0232 (0.0161)	0.0072 (0.0177)	0.0155 (0.0174)
Life experiences in NK				
Secondary education in NK		-0.0074 (0.0193)		0.0072 (0.0248)
Higher education in NK		0.0279 (0.0233)		0.0404 (0.0278)
Communist party member		0.0440*** (0.0148)		0.0548*** (0.0201)
Market experience in NK		0.0413*** (0.0157)		0.0383** (0.0173)
Higher living class in NK		-0.0077 (0.0190)		-0.0031 (0.0211)
Middle living class in NK		-0.0095 (0.0149)		-0.0094 (0.0177)
China border provinces		-0.0101 (0.0163)		-0.0064 (0.0193)
Reason of defection: Economic		0.0158 (0.0243)		0.0104 (0.0298)
Political		0.0393* (0.0235)		0.0238 (0.0298)
Family		0.0220 (0.0239)		0.0079 (0.0299)
Life experiences in SK				
Years in SK			-0.0014 (0.0043)	-0.0010 (0.0044)
Education in SK			0.0224 (0.0209)	0.0220 (0.0210)
Household monthly income in SK			0.0392*** (0.0149)	0.0321** (0.0152)
Monthly income in SK squared/100			-0.4443** (0.1884)	-0.4262** (0.1811)
Constant	0.7148*** (0.0198)	0.7091*** (0.0361)	0.6567*** (0.0320)	0.6625*** (0.0508)
Year of defection FE	Yes	Yes	Yes	Yes
Observations	426	421	322	317
R-squared	0.0619	0.1181	0.0977	0.1497

Notes: Robust standard errors are presented in parentheses. *** 1% significant; ** 5% significant; * 10% significant.

Table 4. Components of Preferences for Market Economy

	(1)	(2)	(3)	(4)
	Performance Pay	Market Rules	Private Ownership	Pro-Competition
Baseline controls				
Age	-0.0000 (0.0010)	-0.0008 (0.0019)	-0.0040** (0.0016)	-0.0028** (0.0011)
Male	0.0119 (0.0244)	-0.0626 (0.0426)	0.1094*** (0.0409)	0.0047 (0.0286)
Married	0.0617*** (0.0206)	-0.0298 (0.0457)	-0.0141 (0.0437)	0.0007 (0.0309)
Life experiences in NK				
Secondary education in NK	0.0474 (0.0319)	-0.1118** (0.0555)	0.0197 (0.0544)	0.0357 (0.0378)
Higher education in NK	0.0627* (0.0339)	-0.1389** (0.0638)	0.0896 (0.0658)	0.0965** (0.0420)
Communist party member	-0.0018 (0.0255)	0.1150** (0.0519)	0.0828 (0.0535)	0.0583* (0.0326)
Market experience in NK	0.0034 (0.0191)	0.0276 (0.0425)	0.0863** (0.0386)	0.0581** (0.0260)
Higher living class in NK	0.0215 (0.0266)	-0.0275 (0.0511)	-0.0071 (0.0500)	-0.0141 (0.0340)
Middle living class in NK	-0.0048 (0.0240)	-0.0230 (0.0473)	0.0006 (0.0446)	-0.0168 (0.0286)
China border provinces	-0.0057 (0.0222)	-0.0625 (0.0501)	-0.0049 (0.0455)	0.0192 (0.0315)
Reason of defection: Economic	0.0410 (0.0350)	0.0317 (0.0671)	-0.0325 (0.0707)	-0.0049 (0.0495)
Political	0.0079 (0.0360)	0.1357** (0.0643)	0.0345 (0.0686)	-0.0160 (0.0502)
Family	0.0326 (0.0366)	0.0336 (0.0636)	-0.0326 (0.0699)	-0.0126 (0.0496)
Life experiences in SK				
Years in SK	-0.0023 (0.0059)	-0.0021 (0.0103)	0.0172 (0.0113)	-0.0070 (0.0069)
Education in SK	0.0375 (0.0240)	0.0103 (0.0495)	0.0592 (0.0467)	-0.0053 (0.0325)
Household monthly income in SK	0.0232 (0.0197)	0.0795** (0.0369)	0.0507 (0.0403)	0.0058 (0.0255)
Monthly income in SK squared/100	-0.1490 (0.2665)	-1.2134*** (0.4417)	-1.1955* (0.6296)	0.1039 (0.3041)
Constant	0.7518*** (0.0653)	0.4372*** (0.1248)	0.4128*** (0.1233)	0.8007*** (0.0803)
Year of defection FE				
Observations	321	320	318	321
R-squared	0.1097	0.1182	0.2107	0.1181

Notes: Robust standard errors are presented in parentheses. *** 1% significant; ** 5% significant; * 10% significant.

Table 5. Regression Analysis of Preferences for Democracy

	(1)	(2)	(3)	(4)
Baseline controls				
Age	-0.0021*** (0.0004)	-0.0022*** (0.0005)	-0.0015*** (0.0005)	-0.0018*** (0.0005)
Male	0.0137 (0.0113)	0.0126 (0.0117)	0.0128 (0.0122)	0.0148 (0.0134)
Married	-0.0058 (0.0114)	-0.0026 (0.0118)	0.0103 (0.0124)	0.0109 (0.0129)
Life experiences in NK				
Secondary education in NK		-0.0350** (0.0150)		-0.0115 (0.0192)
Higher education in NK		-0.0119 (0.0184)		0.0124 (0.0215)
Communist party member		0.0124 (0.0130)		0.0068 (0.0165)
Market experience in NK		0.0305** (0.0120)		0.0324** (0.0127)
Higher living class in NK		0.0008 (0.0153)		0.0088 (0.0170)
Middle living class in NK		-0.0030 (0.0131)		0.0045 (0.0144)
China border provinces		-0.0046 (0.0135)		0.0045 (0.0154)
Reason of defection: Economic		0.0119 (0.0228)		0.0141 (0.0271)
Political		0.0200 (0.0210)		0.0076 (0.0250)
Family		0.0178 (0.0212)		-0.0069 (0.0253)
Life experiences in SK				
Years in SK			-0.0026 (0.0030)	-0.0020 (0.0030)
Education in SK			0.0351** (0.0144)	0.0331** (0.0150)
Household monthly income in SK			-0.0061 (0.0104)	-0.0046 (0.0110)
Monthly income in SK squared/100			0.0499 (0.1269)	-0.0074 (0.1325)
Constant	0.7289*** (0.0154)	0.7300*** (0.0318)	0.7028*** (0.0252)	0.6858*** (0.0436)
Year of defection FE	Yes	Yes	Yes	Yes
Observations	425	420	321	316
R-squared	0.1278	0.1571	0.1184	0.1485

Notes: Robust standard errors are presented in parentheses. *** 1% significant; ** 5% significant; * 10% significant.

Table 6. Components of Preferences for Democracy

	(1)	(2)	(3)	(4)	(5)
	Anti Strong Leader	Multi-Party	Freedom of Voting	Individualism	Human Equality
Baseline controls					
Age	-0.0038*** (0.0008)	-0.0010 (0.0012)	0.0010 (0.0009)	-0.0064*** (0.0016)	0.0003 (0.0013)
Male	0.0580* (0.0299)	0.0476* (0.0280)	0.0097 (0.0269)	-0.0616 (0.0415)	0.0007 (0.0334)
Married	-0.0801*** (0.0236)	0.0337 (0.0281)	0.0248 (0.0239)	-0.0171 (0.0424)	0.0657** (0.0300)
Life experiences in NK					
Secondary education in NK	-0.0072 (0.0342)	-0.0720** (0.0350)	0.0005 (0.0284)	0.0044 (0.0538)	0.0520 (0.0578)
Higher education in NK	0.0135 (0.0381)	-0.0315 (0.0389)	0.0294 (0.0342)	0.0126 (0.0607)	0.0577 (0.0608)
Communist party member	0.0216 (0.0371)	0.0109 (0.0336)	0.0099 (0.0304)	-0.0225 (0.0473)	0.0056 (0.0467)
Market experience in NK	0.0158 (0.0251)	0.0505* (0.0257)	0.0109 (0.0231)	0.0167 (0.0405)	0.0523* (0.0307)
Higher living class in NK	0.0052 (0.0340)	0.0249 (0.0303)	0.0262 (0.0311)	-0.0538 (0.0469)	0.0322 (0.0384)
Middle living class in NK	0.0307 (0.0313)	0.0169 (0.0281)	0.0130 (0.0293)	-0.0465 (0.0452)	-0.0095 (0.0365)
China border provinces	-0.0001 (0.0293)	0.0268 (0.0348)	0.0020 (0.0250)	0.0265 (0.0439)	-0.0612* (0.0333)
Reason of defection: Economic	0.0437 (0.0380)	0.0259 (0.0456)	0.0689 (0.0593)	-0.0418 (0.0669)	-0.0368 (0.0427)
Political	0.0191 (0.0305)	0.0232 (0.0463)	0.0825 (0.0530)	0.0103 (0.0629)	-0.1114*** (0.0417)
Family	0.0003 (0.0316)	0.0451 (0.0467)	0.0019 (0.0566)	-0.0768 (0.0655)	-0.0535 (0.0434)
Life experiences in SK					
Years in SK	-0.0016 (0.0047)	-0.0075 (0.0063)	-0.0043 (0.0057)	0.0117 (0.0090)	-0.0042 (0.0074)
Education in SK	-0.0033 (0.0276)	0.0318 (0.0309)	0.0052 (0.0240)	0.0814* (0.0489)	0.0440 (0.0346)
Household monthly income in SK	0.0132 (0.0228)	-0.0028 (0.0233)	0.0078 (0.0214)	0.0091 (0.0362)	-0.0517** (0.0250)
Monthly income in SK squared/100	-0.0532 (0.2803)	-0.1815 (0.2820)	-0.0135 (0.2730)	-0.3462 (0.4349)	0.7358** (0.2851)
Constant	0.2157*** (0.0683)	0.7975*** (0.0816)	0.7843*** (0.0838)	0.6280*** (0.1215)	0.9185*** (0.0857)
Year of defection FE					
Observations	321	317	321	320	321
R-squared	0.1733	0.0919	0.0924	0.1455	0.1370

Notes: Robust standard errors are presented in parentheses. *** 1% significant; ** 5% significant; * 10% significant.