Cultural Dissimilarity and Intermarriage
A Longitudinal Study of Immigrants in Sweden 1990–2005

Martin Dribe
Center for Economic Demography and Department of Economic History
Lund University
P.O. Box 7083
22007 Lund, Sweden
Phone +46462224677
Fax: +46462227339
Martin.Dribe@ekh.lu.se

Christer Lundh
Department of Economic History
University of Gothenburg
P. O. Box 720
405 30 Göteborg, Sweden
Phone: +46317860000
Fax: +46317864749
Christer.Lundh@econhist.gu.se

Acknowledgement
This work is part of the project Partner Choice and Career, financed by the Swedish Council for Working Life and Social Research. Previous versions of this article were presented at the Swedish Economic History Meeting in Uppsala, March 2009, at the seminar of the Centre for Labour Market Policy Research (CAFU), Växjö University, April 2009 and at the annual meeting of the Population Association of America, Detroit, MI, May 2009. We are grateful to participants for comments and suggestions.
ABSTRACT

Intermarriage with natives is a key indicator of immigrant integration. This article studies intermarriage between immigrants and natives for 138 immigrant groups in Sweden, using longitudinal individual level data from the population registers. It shows great variation in marriage patterns across immigrant populations from different parts of the world, ranging from over 70 percent endogamy in some immigrants groups to as low as below five percent in other groups. Although part of this variation is due to differences in human capital characteristics and the structure of the marriage market, this article shows the important role played by cultural factors (values, religion and language). Immigrants from countries categorized as distant to native standards with regards to values, religion or language were less likely to intermarry with natives, and instead more prone to endogamy, than were immigrants from culturally more proximate countries.

Keywords: Intermarriage, endogamy, partner selection, culture, values, religion, language, integration, assimilation
Introduction

The issue of immigrant societal integration has received enormous attention all over Europe at least since the early 1990s. The main focus has been on labor market related integration concerning employment and income (e.g., Zimmermann, 2005), as well as on problems of residential segregation and its possible effects on education and cultural integration of immigrants into host societies (e.g., Schönwälder, 2007). More recently growing attention has been devoted to the demographic integration of immigrants, for example in terms of fertility behavior (e.g. Andersson and Scott, 2005) and health (McGee et al., 1999; Sundquist, 2002). Intermarriage between immigrants and natives could also be seen as an indicator of the degree of immigrant integration (see Meng and Gregory 2005, Furtado, 2006; Furtado and Theodoropoulos, 2008; Dribe and Lundh, 2008; Meng and Meurs 2009).

According to the structural assimilation perspective (Gordon, 1964; Lieberson and Waters, 1988), integration is a gradual process during which the acculturation and structural adaption by the immigrant population take place. Integration is also a long term process which may include more than one generation of immigrants, starting on the moment of immigration and ending only when there are no perceived ethnic or structural differences between the immigrant group and the majority population. In this perspective intermarriage is a part of the integration process and its logical outcome.

Studies of immigrant economic integration usually view the pace of integration as a function of individual demographic and human capital characteristics (e.g. sex, age, educational level), the length of the adoption period and structural characteristics of the receiving society (e.g. degree of residential segregation) (e.g. Chiswick, 1978; Borjas 1987, 1994. For an overview of Europe, see Zimmermann 2005). Some studies indicate that intermarriage also has a positive effect on the economic integration of individual immigrants (Kantarevic, 2004, Meng and Gregory, 2005, Dribe and Lundh 2008; Meng and Meurs 2009). Thus, besides being a measure of social integration in itself, intermarriage is a factor that potentially influences the integration process.

Empirical studies indicate that individuals generally prefer a marriage partner that is similar with respect to race, ethnicity, education, socioeconomic status, language, religion, etc. (see Kalmijn, 1998 for an overview). Marriages between immigrants and natives are thus underrepresented and ethnically endogamous marriages overrepresented in most populations. However, several studies show that there is substantial variation across immigrant groups in the propensity to marry exogamously with a native (Alba and Nee 2003;
Qian, Blair and Ruf, 2001; Jacobs and Labov, 2002). Since intermarriage is part of the integration process, some determinants are similar to those of economic integration, i.e. individual demographic and human capital characteristics and structural factors, but also controlling for these factors large differences remain between immigrants from different countries (Dribe and Lundh, 2008, 2010). Our main hypothesis is that such differences in intermarriage rates reflect the degree of cultural dissimilarity (or distance) between immigrants and the majority population.

In this article we study partner selection, particularly intermarriage with natives, among immigrants in Sweden in the period 1990-2005. More specifically, we analyze the influence of values, religion and language on immigrants’ tendency to intermarry with natives, controlling for individual demographic and human capital characteristics and structural factors. The majority of the native Swedish population is Lutheran Protestant with Swedish as their mother tongue and English as a second language. As far as values are concerned, Swedes are close to the polar positions of ‘secular/rational’ and ‘self expression’ in the Inglehart indexes of the traditional–secular/rational and survival–self expression dimensions of values, respectively (Inglehart, 1997). Our main assumption is that a greater cultural dissimilarity, in terms of values, religion and language, reduces the likelihood of intermarriage between immigrants and natives, and vice versa.

Our study contributes to the literature in at least three ways. Firstly, while most studies aim at describing the prevalence and pattern of intermarriage, we study the association between cultural factors (values, religion and language) and partner selection of immigrants (intermarriage and endogamy). This is possible as we control for individual demographic and human capital characteristics as well as structural factors. Secondly, while most research has been based on cross-section data, which makes it impossible to study the impact of conditions before marriage on the likelihood of intermarriage, we use longitudinal data at the individual level, which allows us to follow unmarried immigrants from immigration to marriage, death or outmigration. Thirdly, while most previous studies of intermarriage include only one or a few immigrant groups, which makes it difficult to distinguish the effects on intermarriage of individual characteristics and structural factors from cultural and linguistic factors, and to measure the separate effects of values, religion and language, we include 138 different immigrant groups with great variation in cultural variables.
Theoretical background and previous research

Partner selection is a process of exposure of potential parties in the marriage market. The final match reflects the preferences and strategies of the involved parties including the possible interference of families, but it is also structured by collective norms and legal and religious institutions. Historically and geographically, marriage varies with regard to the influence of the individual and the family respectively, or with reference to legal or religious rules and taboos. Also, the basic meaning and value of marriage itself varies from being an economic arrangement to a union based on attraction, love and intimacy.

Previous research on partner selection point to an overall tendency towards endogamy, for instance with respect to race, ethnicity, education, socioeconomic status, religion, or other characteristics that are perceived to be important for the identity of the individual and the group (Bernard, 1966; Bumpass, 1970; Heer, 1974; Monahan, 1976; Porterfield, 1978; Johnson, 1980; DiMaggio and Mohr 1985; Mare, 1991; Kalmijn, 1998; Henz and Jonsson, 2003; Rosenfeld, 2005). Like other forms of exogamous unions, intermarriage is the exception rather than the rule. Assimilation theory has for long been the most influential way to explain immigrant integration, and possible assimilation (i.e. complete integration), into the host society. It has successfully predicted the path of integration and marriage pattern of ethnic groups of European origin in the United States (Alba and Golden, 1986; Alba and Nee, 2003; Lieberson and Waters, 1988; Pagnini and Morgan, 1990). According to the assimilation perspective, immigrants initially possess cultural and socioeconomic features that distinguish them from natives, which hinder interethnic marriages. The process of integration includes acculturation (e.g. learning the native language or adopting the cultural patterns of the native group) and structural integration (e.g. achieving socioeconomic status that is comparable to that of the native population). This process is completed when there are no perceived differences between the immigrant group and the native population (Gordon, 1964). Integration weakens the ethnic attachment and increases contacts with potential partners from other groups, which increases the propensity of exogamy. In this way, intermarriage is seen as an important part and the logical outcome of the integration process (Lieberson and Waters, 1988).

Interrmarriage requires three preconditions. Firstly, the prospective partners need to be exposed to each other in the marriage market. Residential segregation, exclusion from the regular labor market or gendered rules on the appropriate behavior of unmarried females may restrict the exposure of immigrants to prospective native parties. Linguistic barriers may
hinder exposure, too. Secondly, both prospective parties must desire to marry outside their own group. Regardless whether based on ‘true’ preferences or internalized collective norms, large differences in values and religion between marriage candidates probably make it more difficult to take the step into an exogamous marriage. It is needed that the attraction of the moment is stronger than the fear that such differences will cause friction on the relationship later on. Thirdly, the prospective couple must be able to handle potential barriers. Linguistic barriers make communication difficult, especially if the immigrant is newly arrived, but could to some extent be balanced by the use of a common second language. Religious taboos concerning the necessary confessional belonging of the out-group partner or on the ‘right’ behavior of the parties before the wedding may make an ethnically mixed marriage difficult to establish. Such barriers could be dealt with by accepting either the taboos or the social penalty of breaking up from the ethnic community.

According to the assimilation perspective, the probability of intermarriage depends on three factors. Firstly, the length of the adaptation period is of great importance because individual characteristics of immigrants change gradually towards the native standard (see, e.g. Chiswick and Houseworth 2008). Consequently, immigrants will be more likely to intermarry, the longer they stay in the host society.

Secondly, education could be expected to have a positive effect on intermarriage for different reasons. Education and the educational system promote universalistic and democratic norms among natives and immigrants, thereby breaking down group barriers (Gordon, 1964; Greasley and Sheatsley, 1971; Lieberson and Waters, 1988; Kalmijn, 1998). Hence, the propensity to marry across ethnic lines could be expected to increase with higher education. Some empirical studies also find a positive relation between education and interracial marriages (Lieberson and Waters, 1988; Wong, 1989; Sung, 1990; Hwang, Saenz and Aguirre, 1995).

Thirdly, intermarriage depends on the restrictions to endogamous marriages due to the structure of the local marriage market. The size of the own minority group, the availability of prospective partners of the opposite sex and the degree of ethnic, socioeconomic and residential heterogeneity influence the individual’s likelihood of intermarriage (Blau, 1977; Blau, Blum and Schwarz, 1982; Blau and Schwarz, 1984; Blau, Beeker and Fitzpatrick, 1984; South and Messner, 1986; Chiswick and Houseworth 2008).

Some studies show a great variety across immigrant groups in intermarriage rates. Compared to the high level of intermarriage of European immigrants and descendants in
the United States, much lower rates of intermarriage have been found for more recent immigrant groups characterized by highly familistic cultures, for instance among Mexicans (Alvirez, Bean and Williams, 1981; Hurtado, 1995) and immigrants of Asian background (Hwang, Saenz and Aguirre, 1987; Liang and Naomi, 1999; Qian, 1999; Qian, Blair and Ruf, 2001). Some European studies of partner selection of specific immigrant groups (e.g. from previous colonies) report a different pattern from the American assimilation story, too (van Niekerk 2004; Kalmijn and Tubergen 2006; Lucassen and Laarman 2009). Immigrants with a non-Western religion, cultural tradition or family system were found to be more endogamous and less prone to intermarriage. Muslim immigrants were highly endogamous, not only according to religion but also ethnically. Since most of these studies of non-European immigrants in America and Europe include only one or a few immigrant groups it is difficult to measure the separate effects of language, religion and values on the propensity to marry exogamously with a native, and also to distinguish these effects from the those of individual demographic and human capital characteristics.

In a previous study based on cross-sectional individual level data for 39 immigrant groups living in Sweden in 2003 we found that intermarriage was less frequent for immigrants coming from culturally and geographically more distant countries and who arrived more recently (Dribe and Lundh 2008). Controlling for education, time since immigration, size of the local population, and the relative size of the immigrant group of the opposite sex, two distinct intermarriage patterns appeared: immigrants from Western Europe and the United States had a higher likelihood of being married to a native than those from the rest of the world including the Balkans and Eastern Europe. Within these main patterns there was substantial variation between countries as well (see also Dribe and Lundh 2010).

Necessary preconditions for intermarriage like exposure to potential native partners, desire for, or acceptance of, an exogamous marriage, attractiveness as a spouse in the eyes of a possible native partner, and capability of dealing with barriers or potential social penalties are all influenced by cultural factors. Furthermore, it could be hypothesized that a greater cultural dissimilarity in terms of values, religion and language between the immigrant group and the native population is associated with a lower likelihood of intermarriage and a more emphasized tendency towards endogamy.

According to Inglehart and Welzel (2005), socioeconomic development causes two dimensions of cultural change. Industrialization gives rise to a move from traditional to secular-rational values, as a result of the intensifying exploitation of natural resources and
increasing sense of technological control over natural forces. However, because of the disciplined and regimented organization of industrial society, industrialization does not increase people’s sense of individual autonomy. Postindustrialization leads to massively growing emphasis on self-expression values as opposed to survival values, reflecting the increasing importance of human capital and individualized organization of production of modern society. Also when survival is taken for granted, there is a shift from materialist to postmaterialist values. Differences in values between countries could thus to a large extent be attributed to differences in the socioeconomic development but are also due to the historical heritage. A society’s religious traditions have enduring influences on the contemporary value systems of countries as have historical events as Colonialism or Communism.

Based on the World Value Surveys, two indexes for these dimensions of cultural change have been constructed (see Inglehart 1997; Inglehart and Baker 2000; Inglehart and Welzel 2005). In the traditional – secular/rational dimension, the traditional pole reflects societies in which religion is very important. Linked are the emphasis on parent–child ties, authority, high levels of national pride and a nationalistic outlook, traditional family values and absolute standards and the rejection of abortion, euthanasia, suicide and divorce. Societies close to the secular/rational pole emphasize the opposite values. In the dimension of survival – self-expression, societies near the survival pole emphasize the priority of economic and physical security over subjective well-being, self-expression and quality in life. Linked are little support for gender equality, low levels of political engagement or trust in other people, and negative attitudes towards homosexuals, foreigners, and people with AIDS or criminal records. Societies near the self-expression poles emphasize the opposite values.

The average Swedish population is characterized by highly secular/rational and self-expression values. As a comparison, the population of the United States is also characterized by self-expression values, but its position on the traditional – secular/rational value scale is in the middle. In accordance with our main hypothesis, we expect immigrants from countries characterized by traditional or survival values to be less likely to intermarry with natives than immigrants with more rational/secular or self-expression values, because of their greater dissimilarity in relation to average Swedes when it comes to basic value systems.

Religion includes a set of beliefs, values and practices that are shared within the religious group. To a varying extent, the dominant religion tends to influence the culture of a society in a broader sense as well. While the traditional – secular/rational index indicates the general degree of religiousness, there are also religion specific beliefs, values and practices
that also influence individual behavior. With regard to partner selection, such factors may influence both the exposure and desire/attractiveness of prospective marriage candidates, through taboos on the exposure of unmarried daughters or the confessional belonging of a spouse to individual wishes for a spouse with similar beliefs, attitudes and rites.

Though highly secularized, the Swedish population is traditionally Protestant Christian. Since many studies have shown a general pattern of religious endogamy (Bumpass, 1970; Johnson, 1980; Kalmijn, 1998) it could be hypothesized that immigrants that are religiously distant from the native population are less likely to intermarry than Protestant immigrants. In particular, for religions requiring conversion of marriage partners of a different religious belief, or where traditions or food requirements differ markedly, intermarriage rates can be expected to be low. Thus, we expect immigrants from non-Christian religions to show lower intermarriage rates with natives than immigrants from Christian, and especially Protestant, countries.

Language is the most important way of human communication. While the spoken language is crucial for personal communication, the written language is important for the gathering of information and formal communication. Immigrants are generally linguistically inferior to natives, especially shortly after immigration, which is a barrier to integration. By adopting native language proficiency, immigrants’ communication with the native population improves which makes economic integration easier. Several studies find a positive effect of host country language skills on immigrants’ employment and earnings (Chiswick xxxx; Dustmann and Fabbri, 2000; Dustmann and Van Soest, 2002).

In the marriage market, the linguistic ability influences both the potential exposure and the attractiveness of marriage candidates. Not being able to communicate with natives in their mother tongue decreases the pool of potential marriage candidates. To some extent, this deficiency could be compensated for by knowing a second language that is understandable for natives, e.g. a closely related language or world language. The lack of native language proficiency could also have a negative effect on the attractiveness of immigrant marriage candidates because modern marriages to a large extent build on a strong personal affinity, communication and the sharing of common interests and lifestyles.

The prevalence of linguistic endogamy (REF) may be explained by such factors, even though this is difficult to establish as most studies do not control for other cultural factors. Scandinavian languages (Danish and Norwegian) are closely related to Swedish and easily understandable for the native population. The most important second language is
English which is spoken by most natives, except for the oldest cohorts. In relation to the discussion above, we hypothesize that the linguistic preconditions for adaptation vary across immigrant groups depending on the dominant spoken and written language of the home country. Immigrants who are able to communicate with natives in Scandinavian languages could be expected to integrate faster than those with more distant languages, and the ability to speak English probably also increases the pace of integration and likelihood of intermarriage. A common or similar alphabet could also be assumed to speed up the adaptation process and thus the probability of intermarriage.

To sum up, we know that intermarriage is associated with standard human capital characteristics, such as time spent in host society, education and income, and we also know that the structure of the marriage market is decisive for partner choice. However, even when controlling for such individual factors there are large variations in partner choice between immigrants from different sending countries. We expect these differences to be connected to cultural factors to a large extent. More specifically, we hypothesize that immigrants from countries that are more different from Sweden in terms of religion, language and value systems are less likely to intermarry with natives, and instead more likely to marry endogamously, and vice versa.

**Data and method**

We use data from the Swedish population registers maintained by Statistics Sweden. From a dataset consisting of all individuals in the birth cohorts 1942–89 who resided in Sweden at any time from 1961 onwards, we select immigrants (foreign born) first entering Sweden after the age of 15 and who came after 1967. We only include unmarried immigrants and follow them from entry until they marry for the first time, or until they are censored because of out-migration, death, age 45 or the end of the study period. We study the period 1990-2005 for which we have full information on income, level and field of education, municipality as well as basic demographic measures such as children, country of birth, parent immigrant status, etc. This implies that only immigrants who were never married in 1990, or who moved in after 1989 as unmarried, are included in the analysis. From 1990 onwards, the Swedish population registers record non-marital cohabitation in cases where the couple has common children (*RTB-families*), which enable us to include information on pre-marital cohabitation for couples with common children.
Because the aim is to study marriage and partner selection in Sweden, we exclude marriages that were the possible results of matches abroad. From the data, we have excluded individuals who married during their first year in Sweden, and hence also excluded the first year of observation for the risk population.

The event of interest is a registered marriage which is divided into three different types: endogamy (marrying someone from the same country of origin), exogamy with a native (marrying a Swedish born with two Swedish born parents), and exogamy with others (marrying a second generation immigrant or another foreign born from a different country of origin).

We have information on country of birth for a total of 140 different immigrant groups while immigrant groups below 100 individuals are gathered in 7 residuary groups. In the analysis we exclude the small number of immigrants belonging to these 7 residuary groups because it is impossible to decide whether or not the marriage was endogamous. We also exclude immigrants from Cuba and Myanmar because we lack information on crucial variables (values), leaving 138 individual countries of origin in the analysis.

Split-up of countries (e.g. the Soviet Union, or Yugoslavia) or mergers of previously independent countries (e.g. DDR and BRD) forced us to adjust the country grouping to create as coherent units of analysis as possible. Because a majority of immigrants from the Soviet Union came from Russia we include the former in the category ‘Russia’ while all independent states in the former USSR are kept separate, such as the Baltic countries, Ukraine, etc. As regards former Yugoslavia it is included with Serbia-Montenegro, while Bosnia-Herzegovina, Macedonia, Slovenia and Croatia are kept separate. It has also been possible for immigrants from Yugoslavia to change their country of birth after arriving in Sweden, and a considerable number of them has chosen to do so (see Dribe and Lundh, 2008). Czechoslovakia is merged with the Czech Republic, keeping Slovakia separate. In the case of merging, countries are kept together for the whole period (i.e. DDR and BRD to Germany, North and South Vietnam to Vietnam, Congo and the Democratic Republic of Congo to Congo). Finally Palestine, the West Bank and Gaza have been merged into a single unit called Palestine. In total we have about 1.4 million observations on 251691 unique individuals (148266 men and 103425 women), and a total of 66883 marriages.

We model partner selection among immigrants in two ways. First we estimate a multinomial logit model on the transformed probability of marriage, where we follow unmarried immigrants from arrival until marriage, or until they are censored. The model
simultaneously estimate the impact of a set of explanatory variables on three different marriage outcomes – endogamy, exogamy with natives, and exogamy with other immigrants (including second generation immigrants) – compared to the base outcome of no marriage. These estimations indicate the differential impact of the explanatory variables on the different types of marriages. We also estimate a binary logit model on the transformed probability of marrying a native (intermarriage) vs. all other marriages for the sample of immigrants who marry in the study period. These estimates provide a clearer picture of the importance of the explanatory variables on intermarriage for those immigrants who actually marry. In these estimations all values of the explanatory variables refer to the year of marriage.

It could be argued that marriage decisions depend on migration decisions and that the patterns observed might be biased by selective internal migration processes. To account for this possibility we also estimated municipality fixed effects models, which control for unobserved heterogeneity at the municipality level. The fact that these models gave the same basic results as the models where municipality characteristics were included instead, shows that they are robust to municipality-specific heterogeneity.

**Variables**

The main focus of this analysis is on the influence on partner selection of immigrants’ cultural characteristics proxied by three sets of indicators: values, religion and language. All indicators are measured at the country level, and not at the individual level, because this is the only information available to us. Individual level measures would of course have been more precise, not least since immigration is selective and immigrants to a varying degree deviate from the average population of the home country. Nonetheless, we believe that the cultural features of the sending country provide valuable information reflecting the basic differences between immigrant groups and the native population.

We use the two indexes developed by Inglehart (1997) measuring values along two dimensions. The traditional – secular/rational values dimension reflects the difference between societies in which religion is very important and those in which it is not. The survival – self-expression values dimension reflects the difference between societies in which much emphasis is put on economic and personal security and societies in which survival is taken for granted and values on subjective well-being, self-expression and quality in life are important. Linked to these basic characteristics of the dimensions are a broader range of values, as previously discussed. The indexes build on the World Values Surveys which has been
undertaken in five waves centered in the years of 1981, 1990, 1995, 2000 and 2006. Respondents in about 100 countries have been answering questions on beliefs and values in at least one of the survey waves. The indexes were constructed from the answers to 10 questions that were similar in all surveys and that are highly correlated to the answers to a broader set of questions. The index scales on both dimensions are from about -2.0 to +2.0. No country is in the center position on both dimensions. Georgia is close to 0 on the traditional – secular/rational dimension while Thailand and Malta have a similar position on the survival – self-expression dimension. Sweden is an outlier on both dimensions, close to the poles of secular/rational values (similar to Germany) and self-expression values (similar to the Netherlands and Australia), respectively.

We have used the index scores on these two dimensions for countries where information is available from the survey of 1995 or surveys close to 1995. In total 88 out of our 138 countries of origin have information on the indexes from at least one survey, and 60 percent of these from the 1995 survey. For the remaining 50 countries we have interpolated using information for adjacent, similar countries. We have checked the robustness of this procedure by estimating models only for countries with real data, and the fact that this yielded practically identical results (not shown) shows that the imputation does not create any bias. In the analysis we subtract the country-specific figures from those of Sweden in 1995, thereby creating a measure of the distance between the different countries and Sweden in terms of values. Table 1 displays the mean value distance for men and women in the sample. All other things equal, we expect greater dissimilarity in values to lower the chances of exogamy with a native, and increase the likelihood of endogamy for both men and women.

We measure religion of immigrants by the dominant religion in the country of origin. It is divided into five different categories: Protestant, Catholic, Other Christian, Muslim, and Other religions (Hindu, Buddhist, Shinto, Daoist, Jewish, and different indigenous beliefs). As shown in Table 1, a majority of immigrants in the sample come from a Christian country, but nonetheless almost 40 percent of immigrant men, and more than 20 percent of immigrant women, in the sample were born in a Muslim country.

The linguistic features of sender countries were classified according to the dominant spoken language, or official language, and the dominant alphabet or system for written language. Countries were classified into four different groups: Scandinavian (Denmark and Norway), English, Non-English with Latin alphabet, and Other languages. Danish and
Norwegian are generally understood by natives as is Swedish by Danes and Norwegians, so these groups communicate with natives in their own language. English has been studied in primary and secondary schools in Sweden since the 1960s, and most Swedes are able to understand and speak English. This is especially true for younger generations. Other languages than Danish/Norwegian or English are not generally spoken or understood by native Swedes, even though some have learnt German, French, Spanish, Italian or other second or third foreign languages at school for some years. Immigrants from Scandinavian and English speaking countries should therefore experience lower language barriers coming to Sweden, which in turn should increase their likelihood of marrying a native. Immigrants from non-English speaking countries, but with a Latin alphabet could also be expected to have an advantage in learning Swedish and communication with natives, compared to immigrants from countries with non-Latin alphabets.

In the analysis we also control for individual demographic variables: age as a categorical variable, presence of children, type of settlement (municipality), the relative size of the immigrant population of the same origin by age, and the sex ratio of the country group by age. All control variables are time-varying in the multinomial regressions and referring to the year of marriage in the binary logistic regressions. Relative size of the immigrant group is the share of the total population from a certain country of origin, and is calculated for three broader age groups (17-24, 25-34, 35-44) for Sweden as a whole. It is a necessary control variable when estimating models of relative rather than absolute endogamy, because immigrants from larger immigrant groups will face a higher likelihood of marrying a spouse of the same origin at a random search, compared to an immigrant from a small country group. Sex ratio is calculated as the ratio of males to females in the immigrant population from a specific country of origin, by age. It is included to control for imbalances in the availability of prospective marriage partners between the sexes within each group. The categorization of Swedish municipalities comes from the Swedish Association of Local Authorities and Regions (SKL) and is commonly used in regional analyses. It captures both population density and character of the municipality.

Finally, we include control variables measuring the human capital characteristics: income, level of education and time since immigration. Individual income is the total inflation-adjusted income received from labor or labor induced activities. It includes income from employment or self-employment, unemployment benefits, sickness insurance, and pre-retirement benefits. Educational level is a time-varying measure of the highest education
attained, as recorded in the education register. The variable has been categorized from basic level less than nine years to having a post-graduate degree (PhD, PhLic). Higher education is expected to be connected to a higher likelihood of intermarriage. Time since immigration is defined as the time in years since first immigration to Sweden. It serves as a proxy for the adaptation time, thus increasing the level of Sweden-specific knowledge.

Results

Table 2 displays the distributions of type of marriages by country group of origin. These figures indicate the level of absolute exogamy and endogamy, without any controls for the relative size of the immigrant group in the population or for group-specific sex ratios. The percentages are based on the coding of marriages at the individual level using information on individual countries of birth. Overall men are more endogamous (55 percent) than women (37 percent), and they are also less likely to marry a native (21 percent) than are women (39 percent). 23 and 24 percent, respectively, marry exogamously with a foreign-born partner from a different country or a second-generation immigrant. The latter type of union constitutes about 7 percent of all marriages in the sample.

Table 2 here

It is clear that there are large differences across countries in partner selection, in the overall level as well as in the gender pattern. Immigrants from Middle East and Africa are the most endogamous among both men and women, with about 60-70 percent marrying a spouse from the same origin. Male immigrants from Eastern Europe and from Asian countries outside the Middle East are equally endogamous, while women from these areas show much lower endogamy. Good examples here are immigrants from Thailand and the Philippines, where over 60 percent of men, but only 5 percent or less of women, marry endogamously (Dribe and Lundh 2010). To a large extent the high rates of female intermarriage in these cases are due to partner related immigration ending up in marriages some years after immigration.

Turning to exogamy with natives, immigrants from Western Europe, North America and Oceania have the highest frequencies (between 60-80 percent of all marriages), followed by immigrants from the Nordic countries. Immigrants from the Middle East and North Africa show the lowest frequencies of intermarriage with natives.

Turning to the multivariate analysis, most of the country-specific differences that show up in the raw frequencies of endogamy and exogamy remain also after controlling for
individual characteristics and structural factors (see Dribe and Lundh 2010). Table 3 shows the estimated gender effects controlling for all variables. Women are more likely to marry exogamously, especially with natives, which is evident in both regressions.

Table 3 here

Given the highly gendered pattern of partner selection we estimate the models for men and women separately. First we look at the basic associations between the three sets of cultural variables and the different marriage outcomes. Table 4 shows estimates of separate models for each set of culture variable controlling only for basic demographic characteristics and the structure of the marriage market. Looking first at values, greater distance from Swedish values is connected to lower chances of marrying a native, for both men and women, and with higher chances of endogamy. Comparing native exogamy with all other marriages, reveals that a one unit deviation from Swedish values along the traditional-secular/rational dimension (e.g. Albania or Armenia) is connected to an almost 50 percent lower odds of marrying a native for men, and about 25 percent lower for women, while the corresponding figures along the survival-self-expression dimension (e.g. Finland or Ireland) is 70 percent and 56 percent, respectively. Thus, much as expected, the value system of the country of origin is strongly connected to the marriage prospects in the receiving country.

Table 4 here

Similarly, there are pronounced differences in marriage outcomes according to religion. Compared to coming from a Protestant country of origin, immigrant men from Catholic countries are about 40 percent more likely to marry endogamously and about 40 percent less likely to marry a native. Women from Catholic countries are even more prone to marry endogamously relative to Protestant immigrants, while the differences are a bit less for marrying a native than it is for Catholic men. For immigrants from other Christian countries, and especially from Muslim origins, the higher rates of endogamy and lower risks of marrying a native are even more pronounced. For example, immigrants from Muslim origins are about seven times more likely to marry endogamously than immigrants from Protestant countries, and have a 70 percent lower risk of marrying a native. Looking only at those who marry, the logit estimates show that Muslim immigrants are the least likely to marry a native among both men and women. For Other Christians and Other religions there are some noteworthy differences between men and women. While men from these religious groups seem quite similar to the Muslims, women are much more likely to intermarry with natives than are
Muslim women. These differences in marriage between religious groups are clearly in line with our expectations.

Also when we look at language it seems clear that immigrants from countries with a non-Latin alphabet are much more endogamous than Scandinavian- or English-speaking immigrants, and they are also considerably less likely to intermarry with a native. The non-English speakers with a Latin alphabet occupy a middle position. What seems a bit surprising is the very high chances of marrying a native among the English speakers; they are actually more likely to marry a native than Scandinavian immigrants. Most likely this is not due to the language itself but to partner related immigration or selective return migration of unmarried immigrants.

Thus far, we have confirmed our expectations on the importance of cultural dissimilarity for marriage outcomes among immigrants, when looking at each cultural aspect separately. Greater distance from Sweden in terms of values, religion and language implies higher rates of endogamy and lower chances of marrying a native. However, at least partly these differences could be due to heterogeneity in human capital across immigrant groups, as human capital variables affect immigrant integration and also intermarriage probabilities (see e.g. Dribe and Lundh 2008, 2010). Table 5 shows estimates of separate models for each set of cultural variables separately with the same control variables as before but in addition also controlling for education, income and time since immigration. It is quite clear that the inclusion of the human capital variables hardly alters the estimates of the cultural variables at all. Thus, also when controlling for basic human capital variables we find the same strong impact of cultural variables on marriage outcomes.

Table 5 here
The three sets of cultural variables are not completely independent of each other. Religion influences value systems, and more importantly the level of secularization differs between religious groups. Thus, what might seem to be a religious difference could in fact be a result of differences in values produced not by the religious doctrine itself, but the degree of secularization in society. Similarly, there is not full variation in languages across religions, which makes it difficult to interpret the language effects above as a pure result of linguistic barriers to marriage. To deal with this issue we have estimated a full model with all cultural variables included as well as all control variables. The results are reported in Table 6. Clearly, some results change when all variables are included simultaneously. The traditional-rational value dimension looses much of its explanatory power, especially for men, while the survival-
self expression dimension retains most of its effect. It is also evident that the association between religion and the language, on the one hand, and marital outcomes on the other, weakens considerably when all variables are included. Nonetheless, both factors are clearly important also when estimated jointly.

Table 6

All other things being equal, a greater distance from Sweden along the survival-self expression dimension increases the chances of endogamy relative to exogamy with a native for both men and women, which is in accordance with our hypothesis. For the traditional-secular/rational dimension, little effect remains when controlling for all covariates, which appears to run against expectations. Obviously religion and language capture most of the previously negative effect of this variable on the relative likelihood of marrying a native. Originating in a Muslim or Other Christian country also imply lower chances of marrying natives, and higher chances of endogamy for both men and women. This shows that religion plays an independent role in addition to value differences and is possibly overlapping with language barriers. At the same time it is evident that a large part of the initially big impact of religion was due to variation in values and language, rather than an effect of religion as such.

The story for language is similar but with much more modest effects when controlling for all covariates. Still, coming from a non-English/non-Scandinavian background considerably lowers the likelihood of marrying a native relative to marrying endogamously or exogamously with another immigrant.

**Concluding discussion**

In this study we analyze the patterns of partner selection among immigrants in Sweden, distinguishing endogamy from exogamy with natives and exogamy with other immigrants. It shows great variation across immigrant populations from different parts of the world, ranging from over 70 percent endogamy in some immigrants groups to as low as below five percent in other groups. Similarly the proportion of marriages between immigrants and natives ranges from around 80 percent of all marriages in the immigrant population with the highest propensity to intermarry with natives to less than 10 percent in the least intermarriage-prone groups. It is reasonable to believe that these differences to some extent stem from variations in individual demographic and human capital characteristics, marriage market restrictions, and for some groups in partner related immigration and selective outmigration of unmarried immigrants. However, these factors cannot, by far, explain all variation across countries.
On a general level our multivariate results support theories connecting intermarriage with cultural dissimilarity. Controlling for individual characteristics and structural factors, we find strong effects of cultural variables – values, religion and language – on the likelihood of intermarriage. Immigrants from countries that were categorized as distant to native standards with regards to values, religion or language were less likely to marry exogamously with a native than were immigrant from culturally more proximate countries. Although human capital variables previously have been shown to be important determinants of immigrant intermarriage, the impact of our cultural variables did not change much when controls for education, income and time since immigration were added. When including all cultural variables simultaneously, the effects still remain (though being smaller), except for one of the value variables. Thus, the results largely confirm our main hypothesis that greater cultural dissimilarity reduces the likelihood of an immigrant marrying a native, and instead increases the chances of endogamy.

Cultural factors influence partner selection through exposure, desire, attractiveness and barriers. Linguistic barriers influence exposure in the marriage market to prospective native mates, which is a hindrance to intermarriage. Thus, coming from a non-English non-Scandinavian speaking country implies considerably higher chances of endogamy, and consequently lower chances of marrying a native, than coming from a Scandinavian or English speaking country, and the effects are the biggest for immigrants from origins with a non-Latin alphabet. In the latter case this could reflect a lower ability to gather information on daily life and to learn the native language. Less language ability may reflect a lower attractiveness in the marriage market for another reason too, namely that it signals communication problems to a modern marriage built on equality and mutual communication.

The impact of religion on partner selection is also obvious from our results. Partly it could be due to individual preferences (including internalized collective norms) for a partner with the same beliefs, and partly through restrictions to exposure and choice imposed by the family or religious community that in a broader sense is part of the cultural tradition. We find that immigrants from countries classified as more religious on the traditional – secular/rational dimension were generally less prone to intermarry with natives than immigrants from countries close to Sweden in the secular/rational dimension. We also find that originating in a non-Christian, and especially a Muslim, country implies a much lower relative likelihood of intermarrying with a native than coming from a Protestant or Catholic
country. Thus, the tendency to religious endogamy is highest for immigrant groups from countries with a high level of religiousness, especially from Muslim countries.

There is a strong influence of values along the survival – self-expression dimension on partner selection. This dimension contrast materialist and postmaterialist values, survival and security against subjective well being, self-expression and quality in life. Immigrants coming from countries closer to Sweden in this respect are more likely to intermarry with natives than immigrant from countries with more dissimilar values. Since this variable captures the importance of a broader range of values concerning gender relations, trust for other people and tolerance towards individuals that deviate from the own group standard, it could be assumed to reflect individual preferences, collective norms and the risk for social penalties connected to the prospective choice of marriage partner. It could also be interpreted in terms of attractiveness to native prospective partners who presumably favors partners with similar values.

In conclusion, we have shown that the cultural heritage of immigrants is important for partner selection in general, and intermarriage with natives, in particular. Immigrant groups that are more distant to the native population with regard to values, religion and language are generally less likely to marry exogamously with a native and more prone to endogamy. Thus, to the extent that intermarriage reflects the integration of an immigrant group, the process of immigrant integration itself is partly structured by the cultural heritage of immigrants.
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______, and N. Theodoropoulos

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____, ____ , and ____


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_____. and W.E. Baker


_____. and C. Welzel


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Portes, A.


Qian, Z.


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Skop, E.
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Table 1. Descriptive statistics of the main variables.

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<td></td>
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N 852584 543353
Table 2. Type of marriage by country group (%)

A. Men

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<th>Exogamy-other</th>
<th>Total</th>
<th>N</th>
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B. Women

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<tr>
<th>Country Group</th>
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<th>Exogamy-other</th>
<th>Total</th>
<th>N</th>
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<td>100</td>
<td>3471</td>
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<td>3407</td>
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<td>Latin American and Carribean</td>
<td>27.1</td>
<td>46.5</td>
<td>26.4</td>
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<td>39.4</td>
<td>23.2</td>
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</table>
Table 3. Gender differences in intermarriage.

|                      | RR/OR | P>|z| | N         | Chi sq | Overall p |
|----------------------|-------|-----|----------|---------|-----------|
| **Logit**            |       |     |          |         |           |
| Exogamy native vs. other marriages | 1.98  | 0.000 | 66883    | 12952  | 0.000     |
| **Multinomial (vs. no marriage)** |       |     |          |         |           |
| Endogamy             | 1.04  | 0.001 |          |         |           |
| Exogamy native       | 1.89  | 0.000 | 1395937  | 39810000 | 0.000     |
| Exogamy other        | 1.20  | 0.000 |          |         |           |

Note: Based on models controlling for the same covariates as in Table 6.
Table 4. Regression estimates (RR/OR) basic separate models.

<table>
<thead>
<tr>
<th></th>
<th>Men Mlogit</th>
<th>Logit Exoswe vs all other</th>
<th>Women Mlogit</th>
<th>Logit Exoswe vs all other</th>
</tr>
</thead>
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<tr>
<td></td>
<td>RR P&gt;</td>
<td>z</td>
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<tr>
<td><strong>Value index</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Traditional-Rational</td>
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<td>0.76 0.000</td>
<td>1.10 0.000</td>
<td>0.52 0.000</td>
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<tr>
<td>Survival-Self expression</td>
<td>2.08 0.000</td>
<td>0.54 0.000</td>
<td>1.28 0.000</td>
<td>0.30 0.000</td>
</tr>
<tr>
<td><strong>Religion</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protestant</td>
<td>1 rc</td>
<td>1 rc</td>
<td>1 rc</td>
<td>1 rc</td>
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<tr>
<td>Catholic</td>
<td>1.43 0.000</td>
<td>0.62 0.000</td>
<td>0.98 0.513</td>
<td>0.52 0.000</td>
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<td>0.10 0.000</td>
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<td>1.66 0.000</td>
<td>0.07 0.000</td>
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<tr>
<td>Other</td>
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<td>0.32 0.000</td>
<td>0.94 0.316</td>
<td>0.11 0.000</td>
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<tr>
<td><strong>Language</strong></td>
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<td>Scandinavian</td>
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<td>1 rc</td>
<td>1 rc</td>
<td>1 rc</td>
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<td>English</td>
<td>0.16 0.000</td>
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<td>2.05 0.000</td>
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<td>Overall p</td>
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Note: Models control for age categories, presence of children, relative group size and sex ratio in age and origin group.
Table 5. Regression estimates (RR/OR) separate models including human capital variables.

<table>
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<tr>
<th>Value index</th>
<th>Men Mlogit</th>
<th>Exoswe</th>
<th>Exoth</th>
<th>OR</th>
<th>Endogamous Logit Exoswe vs all other</th>
<th>Exoswe</th>
<th>Exoth</th>
<th>OR</th>
<th>Endogamous Logit Exoswe vs all other</th>
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<th>Exoth</th>
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<tr>
<td>Traditional-Rational</td>
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<td>0.83</td>
<td>0.000</td>
<td>1.13</td>
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<td>0.000</td>
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<tr>
<td>Survival-Self expression</td>
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<table>
<thead>
<tr>
<th>Religion</th>
<th>Men Mlogit</th>
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<th>Exoth</th>
<th>OR</th>
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<th>Exoswe</th>
<th>Exoth</th>
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<th>Exoth</th>
<th>OR</th>
<th>Endogamous Logit Exoswe vs all other</th>
<th>Exoswe</th>
<th>Exoth</th>
<th>OR</th>
<th>Endogamous Logit Exoswe vs all other</th>
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| N                           | 852584     | 38301  | 543353 | 28582 |
| Chi sq.                     | 1.98E+07   | 3524.6 | 1.79E+07 | 3551.5 |
| Overall p                   | 0.000      | 0.000  | 0.000  | 0.000 |

Note: Models control for age categories, presence of children, relative group size and sex ratio in age and origin group as well as for place of residence and human capital variables (level of education, income and time since immigration).
Table 6. Regression estimates (RR/OR) full models including all covariates simultaneously.

<table>
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<tr>
<th></th>
<th>Men Mlogit</th>
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<th>Women Mlogit</th>
<th>Logit Exoswe vs all other</th>
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</table>

N 852584 38301 543353 28582
Chi sq. 19680000 7572 18730000 5906
Overall p 0.000 0.000 0.000 0.000

Note: Models control for age categories, presence of children, relative group size and sex ratio in age and origin group as well as for place of residence and human capital variables (level of education, income and time since immigration).