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Fertility of Immigrants in Germany¹

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Abstract

Several aspects determine the immigrant fertility. Different hypotheses are discussed when analyzing this demographic behavior. Thus the assimilation hypothesis states for example that a migration decision does not affect the fertility, because values and norms experienced in the country of origin determine the fertility behavior. Further hypotheses are discussed controversial when analyzing the interaction between migration and fertility (e.g. selection processes, disruption, adaption).

After theoretical considerations of the linking between migration and fertility, the empirical part of the paper starts with a comparison of the fertility pattern of the immigrant population to the non-immigrant population in the former Federal Republic of Germany from 1970 to 2005. At first the fertility of migrants is calculated with data from the German Federal Statistical Office. Detailed results are presented, selected by age and country of origin. The fertility level of immigrants in Germany declined in the last decades, similar to the non-immigrant population. But the fertility patterns of the immigrants are still different, subject to the country of origin and time of duration in the receiving country. Further databases are introduced that enable migrant fertility analyses. Thus, the outcomes of the analysis of the official statistics are compared to the results based on data of the statutory pension insurance. It can be ascertained that great variances exist between several migrant groups. Thus African women have an above average fertility, while women from the neighbouring countries of Germany show an exceptionally low fertility.

1. Introduction

Fertility and migration are interdependent. Several arguments are discussed when analyzing this interaction (Carlson 1985, Kahn 1988, Young 1991, Stehpen/Bean 1992, Dinkel 1997, Mayer/Riphan 2000, Andersson 2004, Kulu 2005, Milewski 2006, Genereux 2007). The assimilation (or sozialisation) hypothesis states that migration does not affect fertility, because values and norms experienced in the childhood (in the country of origin) determine the fertility behavior. The selection hypothesis predicts that migrants are a selected group in the country of origin and would have fewer children, because they focus more on labour issues and not on childbearing. The disruption hypothesis suggests that migration always disrupts the life history of a person. Therefore migration lowers the fertility before and upon arrival into the receiving country. The adaption hypothesis assumes that cultural norms and the availability of resources in the receiving country have immediate effects on immigrants' reproductive behavior. By contrast cultural norms have less influence on immigrant fertility, because the adaption of unknown norms and values takes a long time.

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1.1. Statistical registration of immigrants

The demographic behavior of citizens in Germany can easily be analysed, because the statistical registers are quite exact and time series for several demographic parameters exist. But analyzing the demographic behavior of the immigrants' population is quite difficult. Indeed, the population registers are counted by nationality, but the parameter nationality is often a reason for biases in these registers. Foreign citizens often fail to deregister at the local registry office when they emigrate or remigrate. The failed deregistration of the former immigrants cause an overestimation of the migrant population in Germany. In case of analyzing immigrant fertility it will be underestimated, because the number of women at risk (for childbearing) are overrated. The bias factor should be marginal, because the overrating in the childbearing ages between 15 and 45 are not extreme. However, empirical immigrant studies based on official data should be interpreted carefully and should be adjusted by technical methods.

To estimate the immigrant fertility in Germany without biases, further databases have to be considered. For example, data from the German statutory pension insurance are used in this study. This database enables a detailed analysis of the immigrant fertility in Germany.

2. Theoretical considerations

Before investigating the childbearing behavior of female immigrants in Germany, the factors proposed in the literature behind the fertility patterns of migrants will be analyzed.

2.1. Hypotheses to explain immigrant fertility

Two major research streams exist concerning the fertility of immigrants:

- a) The first investigates the fertility of migrants in industrial counties, in particularly in Northern America (Kahn 1994, Stephen/Bean 1992).
- b) The second focuses on the fertility of rural-urban migrants in developing countries (Brockeroff/Yang 1994, Lee/Pol 1993, Goldstein/Goldstein 1981).

The demographic parameters migration and fertility are interdependent. Five different hypotheses are normally discussed when analyzing this interaction (Kulu 2005, Andersson 2004, Lindstrom 2003, Singley/Landale 1998, Lee 1992, Rundquist/Brown 1989, Hervitz 1985).

2.1.1. Assimilation/Socialization

The assimilation (or socialization) hypothesis states that a migration decision does not affect fertility, because values and norms experienced in the childhood (in the country of origin) determine the fertility behavior. The fertility of first generation migrants is still similar to the childbearing behavior in the country of origin, but second-generation migrants adapt their fertility to the TFR prevalent in the country of destination.

Supporters of the assimilation hypothesis can be found not only in early literature on migrant fertility in industrialized countries (Goldberg 1959, Freedman/Slesinger 1961, Duncan 1965) but also in current migration research (Stephen/Bean 1992, Rosenwaite 1973).

Rosenwaite (1973) showed in his study, that first-generation migrants from Italy maintained their childbearing behavior in the USA, but the second generation adapted their fertility to U.S.-levels (Adaption Hypothesis). Stephen and Bean (1992) found similar differences between the generations when researching Mexican women in the USA.

2.1.2. Selection

The selection hypothesis predicts that migrants are a selective group of people whose fertility is lower than the fertility level prevalent in their country of origin because they focus more on their occupational career than on childbearing. So their childbearing behavior is from the beginning more similar to the TFR at the country of destination than to the country of origin. According to this hypothesis fertility is not influenced by side-specific, but by group-specific or individual (education, occupation, career ambitions, sense of family) characteristics (Kreyenfeld 2002, Hoem 1975, Macisco 1970).

The selection hypothesis has been mentioned in many studies (Goldstein/Goldstein 1981, Myers/Morris 1966), but has been tested only a few times (Kulu 2005, Michielin 2004, Corgeau 1989).

Corgeau (1989) confirmed the selection hypothesis in his study about rural-urban and urbanrural migrants in France. In a multivariate longitudinal analysis he showed, that rural-urban migration lowers fertility, but urban-rural migration increases migrants' fertility. The reason for this fertility increase is that women moving from urban to rural areas adapt their childbearing behavior to the fertility level of the rural population. On the other side, women moving from rural to urban areas belong to a selective group whose fertility is already prior to migration similar to the TFR of the urban population.

2.1.3. Interrelation

The interrelation hypothesis argues that migration cannot be the sole reason for higher fertility levels. It is more likely that different events coincide with each other. Rising fertility levels right after migration can rather be explained for example by the coincidence of migration and family building (Mulder/Wagner 1993). This hypothesis has been tested and supported regards internal and international migrants (Lindstrom/Giorguli-Saucedo 2007, Kulu 2005, Andersson 2004).

More recent studies showed that right after marriage migration and family-formation migration fertility increases (Andersson 2004, Singley/Landale 1998). So migration influences fertility but is not the trigger of the fertility change. Singley and Landale (1998) compared the risk of first birth of several groups of Puerto Rican women by using longitudinal data. Their analysis revealed that single women migrating to the USA were much more likely than their non-migrant counterparts in Puerto Rico to form unions and experience a conception, either in unions or outside. So migration to the USA should be seen as part of the family building process of many Puerto Rican women. Andersson (2004) draw similar conclusions when examining immigrant fertility in Sweden. The analysis of risk of the first birth showed elevated levels of childbearing during the first years in Sweden. The author concluded that migration triggers childbearing rather than disrupting it.

2.1.4. Disruption

The disruption hypothesis suggests that migration always disrupts the life history of a person and causes a delay of childbearing. So migration lowers fertility before and upon arrival in the receiving country. But this fertility decrease is only temporary and fertility will return to the level prevalent in the country of origin.

The disruption hypothesis can be found in studies on internal and international migrants (White et al. 1995, Brockeroff 1995, Carlson 1985, Goldstein 1973). A short-term decrease of fertility caused by migration can be confirmed by the following studies. Goldstein (1973) showed in his studies on migrant fertility in Thailand that the fertility of migrants is almost similar to the fertility

of natives, except that the fertility of newly migrants (less than 5 years in the country of destination) is much lower. He explains this phenomenon with the spatial separation of partners due to migration and refers to the disruption hypothesis. Brockeroff (1995) reasons the initially very low fertility of African rural-urban migrants with the high proportion of unmarried migrants. Regarding married migrants he mentioned the spatial separation of the married couple as reason for low fertility levels. White et al. (1995) analyzed the fertility of migrants in Peru by using longitudinal data and found out that a change of residency prolongs the birth interval of migrant women.

2.1.5. Adaption

The adaption hypothesis assumes that the current socio-economic context (in the country of destination) has more influence on migrants' childbearing behavior than the familial socialization (in the country of origin). So the adaption hypothesis emphasizes the impact of socio-economic conditions and cultural norms in the receiving country on migrants' fertility. While socio-political entitlements and economic resources have immediate effects on migrants' reproductive behavior, cultural norms have less affect on the fertility of migrants, because the adaption to initially unknown norms and values takes a long time. The second migrant generation will have further/entirely adapted to the fertility behavior prevalent at the destination country.

The adaption hypothesis has been tested and supported by many studies on fertility of ruralurban migrants in developing countries (Brockeroff/Yang 1994, Faber/Lee 1984) and in migration research regarding industrialized countries (Kulu 2005, Courgeau 1989). Faber and Lee (1984) studied in Korea the influence of rural-urban migration on fertility. Therefore they compared the childbearing behavior of Korean women who have migrated from rural to urban areas with Korean women who have not migrated. They discovered that the fertility behavior of both groups differed significantly. The authors concluded that the rural-urban migration must be the reason for the fertility decline. Brockeroff and Yang (1994) supported the adaption hypothesis with a comparative study on fertility of rural-urban migrants in six African countries. The fertility declined with migration and maintained on a low level for a long time after migration. Further analyses showed that the fertility decline was related to the strong improvement of living conditions after migration and the use of modern contraceptives. Kulu (2005) emphasizes the influence of housing conditions on fertility, because the size of living spaces is related to overall living and opportunity costs which impact fertility decisions. The fertility behavior depends on economic and socio-cultural factors, individual values and social interactions with other persons.

Assimilation-, Selection-Hypothesis	Adaption-, Interrelation-, Disruption-Hypothesis
Wish for children and childbearing behavior of female migrants	
 are stable over time. are independent from context. They reflect the socio-geographical context of childhood, the parental home and some other factors that are important in early personality development. 	5

Table 1: Differences and similarities between the hypotheses of immigrant fertility

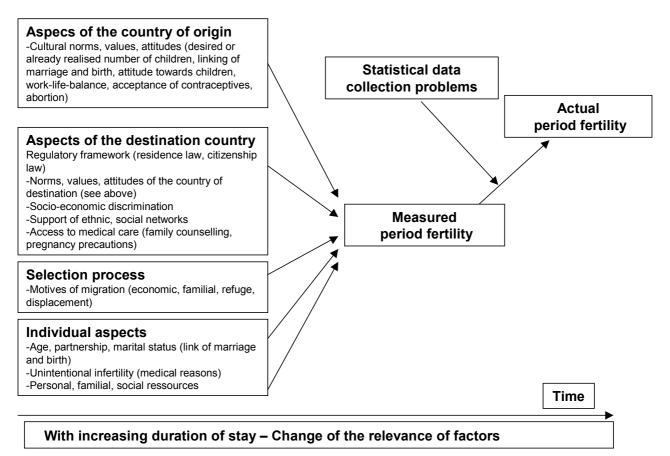
Source: own table.

As competing views exist on migrants' fertility, there is room and need for further research aimed at advancing our understanding of how and whether migration shapes a person's child-bearing behavior. Moreover, some shortcomings of previous studies further motivate our current undertaking to answer the question what influence migration on fertility has.

2.2. Model to explain immigrant fertility

An overarching model for explaining immigrant fertility must systematically summarize the explanation approaches and hypotheses scientifically discussed. With the following model (Fig.1) a basis for empiric analysis has been created, which includes all potential determinants of immigrant fertility.

Figure 1: Factors influencing immigrant fertility (period fertility)



Source: own figure

The immigrant fertility is influenced by aspects of the country of origin, aspects of the country of destination, by the selection process (based on the motives of migration) and individual aspects.

With increasing duration of stay the relevance of these factors changes. On the individual level childbearing behavior and living arrangements are initially influenced by norms, values and attitudes predominant in the country of origin. But with the duration of stay in the destination country the differences regarding fertility patterns and living arrangements between immigrants and natives decrease. The norms, values and attitudes of the receiving country are more and more adopted by the immigrant women.

3. Databases

The research deficits in the field of migrant fertility in Germany were mainly a result of missing databases. Previous studies exclusively based on official statistics have shown errors especially regarding migrant populations. Hence, beside the official statistics there are further databases from administration and registers as well as from social science surveys that make the analysis of the immigrant fertility in Germany possible. These are presented in the following section.

3.1. Administration and register data

Databases can be characterized as administration and register data when they are collected for a specific intention and based on a legal basis (e.g. census act, population statistic act). Furthermore databases can also result from process-produced data when they are collected for another intention. For example in the statutory pension insurance much data is collected to calculate the pension value. Thereby data concerning unemployment or parenting are identified. Databases from administration and registers are typically complete evaluations with high case numbers that are highly cost-intensive. Therefore the parameters of these databases are strongly limited and mostly fulfill only the legal intention.

3.1.1. Official statistics

The most important database of immigrant fertility analyses is the official birth statistics. Since 1970 births also were differentiated by nationality. The registration status and the birthplace also matter beside the nationality to the official birth statistics because only births are included who have also taken place in Germany by women, who are registered in the local registry office (Richter 2006). Nevertheless, this database is the most often used base of fertility analyses in Germany, because trend analyses are realizable.

3.1.2. Statutory pension insurance (Gesetzliche Rentenversicherung, GRV)

Migrant fertility analyses are also possible based on data of the statutory pension insurance (GRV). Detailed individual parameters are recorded in the GRV, e.g. age, sex, nationality or parenting time. The GRV databases show a high validity because the registration status depends directly on pension claims (Scholz 2005). Status changes, e.g. birth, death, immigration, emigration, unemployment are thereby exactly documented. A disadvantage of the database is that the persons in the GRV do not represent the German population because certain groups like officials, self-employed or also housewives are not included.

3.1.3. Mikrocensus

The microcensus was introduced in 1957 at first as a serial representative statistics in the former Federal Republic of Germany to get annual statistical informations about the population. Beside socio-demographic and labour statistics varying topics of interest are additionally collected. Information about the reproductive behavior is also evaluated. Thus it is possible to analyze differences between migrants and non-migrants as well as differences between single migrant groups. The microcensus enables social structured comparisons of migrants and Germans without restrictions because the response is compulsory for every random selected person. In addition, an innovative questionnaire concept is introduced in 2005, whereby a differential analysis of persons with and without migration background is possible (Statistical Federal Office 2007).

3.1.4. Central Alien Register (Ausländerzentralregister, AZR)

All foreigners officially registered in Germany are recorded in the central alien register (Ausländerzentralregister, AZR), including information about age, sex, nationality, date of immigration and registration status. A disadvantage of the register is that after naturalization and 10 years after remigration all individual informations are immediately removed. Births are taken into consideration in the AZR, indeed, only in the form that a completely new dataset is created. Hence children cannot be related clearly to the parents and migrant fertility analyses are not possible.

3.2. Data from social science surveys

Beside administrative and register databases which are collected to fulfill the legal requirements, there are numerous databases which serve only scientific intentions. These data from social-science surveys show typically small case numbers as well as parameters that are selected according to the survey intention.

3.2.1. Socioeconomic panel (SOEP)

The Socioeconomic Panel (SOEP), a panel survey started in 1984, is one of the most important databases in social research in Germany. The panel is designed as an annually repeated questioning in private households. At the beginning of the panel 3,198 of the total survey population migrants (12,245) were migrants, distinguished by Turkish, Yugoslavian, Italian, Greek and Spanish nationality. On account of the inclusion of further samples a total of 22,664 persons were included in 2006. Therefrom 1,494 persons have shown a foreign nationality. In principle fertility analyses are possible with it. Indeed, the sample of the non-German women is not representative so results regarding immigrant fertility can barely be valid.

3.2.2. Sample survey of selected migrant groups in Germany (Repräsentativbefragung ausgewählter Migrantengruppen in Deutschland, RAM)

The sample survey of selected migrant groups in Germany (RAM) was carried out in 2006/2007 by order of the Federal Office for Migration and Refugees (BAMF). It also enables analyses of the migrant reproductive behavior. Indeed, not all migrant groups have been included, so only analyses for Turkish, Greek, Italian, Polish and Former Yugoslavian women are possible (Babka von Gostomski 2008).

3.2.3. Generation and Gender Survey (GGS), former Family and Fertility Survey (FFS)

In the first part of the Generation and Gender Survey (GGS) approx. 10,000 random sampled persons were questioned in 2005 in Germany about fertility, partnership and generation relationship. Approx. 5% of the interviewed persons had a non-German nationality (Ruckdeschel et al. 2006). This survey is designed as a follow-up survey of the Family and Fertility Survey, carried out first in 1992. The principal of these surveys (FFS, GGS) was the Federal Institute for Population Research (BiB). On account of the low migrant sample an additional sample of approx. 4,000 Turkish persons was drawn in 2006 (Ette et al. 2007). All together migrant fertility analyses of the greatest migrant groups in Germany are possible, while estimates for the total migrant populations are not deducible.

3.2.4. Further databases (e.g. Integrationspanel)

The analysis of the migrant fertility is also possible with further databases. Thus, e.g. the integration panel, which was carried out in 2007/2008 to evaluate the language courses of the integration courses, shows data that enable migrant fertility analyses. But in the database merely persons are included who have taken part in a language course. Therefore representative migrant fertility analyses of the total migrant population are unfortunately not possible.

4. Conclusion

Altogether the research concerning migrant fertility in Germany is insufficient. One reason for it can be the data lacks due to the statistical registration of immigrants. On the one hand the official birth statistics is a wide (statistically significant) database whereas detailed single nationality analyses are not possible, however. On the other hand, there are a huge number of social-science surveys, which collects the nationality in detail, but the case numbers are so small that statistically significant results are not to be expected. For this reason further databases are to be used. Thus the process data of the statutory pension insurance are likewise suited to analyze the migrant reproductive behavior because parenting time is collected beside socio-demographic parameters. But this database cannot represent the total migrant population because officials, self-employed and also housewives are included incompletely. By contrast the AZR would offer a total sample of the migrant population, however, births of migrants are not clearly identifiable in it.

Moreover, further databases can be used to analyze the migrant fertility, that base on social science surveys (e.g. SOEP, RAM, GGS). However, these databases are often restricted by small case numbers and sample selection processes. Matching of single (small) databases could be a solution to raise the case numbers and so the significance of the results should be ensured.

As competing hypotheses exist to explain the migrant fertility, there is room and need for further theoretical and empirical research aimed at advancing our understanding of whether and how migration shapes the migrant childbearing behavior.

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