Social Norms vs. Policy Influences on Cohort Fertility Trends:
A Natural Experiment Study on the German Minority in Eastern Belgium

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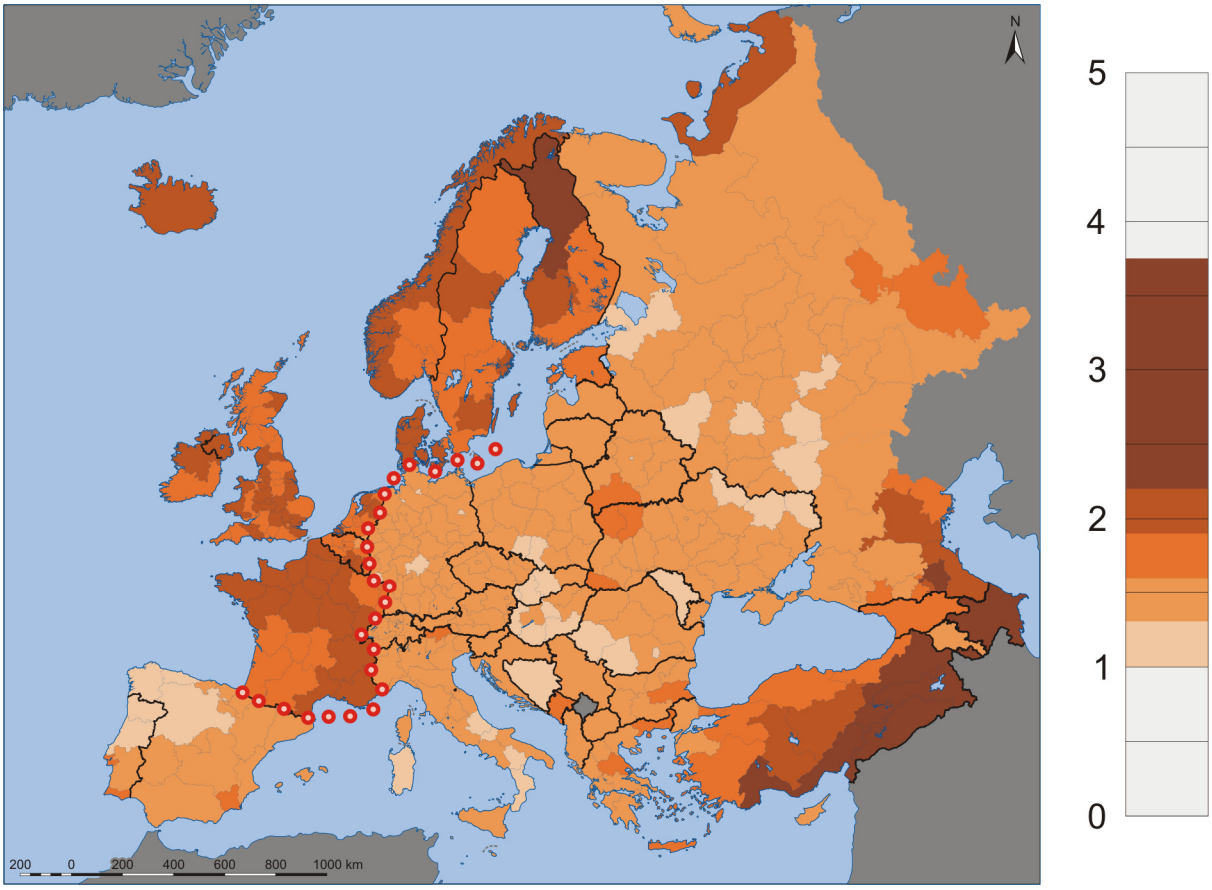
Abstract

A few countries in Europe – such as France, Sweden or Belgium – still report cohort fertility rates close to two children per women, while in other countries, particularly in the German-speaking area, cohort fertility is only around 1.5-1.6 children. In order to explain these country differences in fertility levels, scholars increasingly refer to the role of the social policy context, while others point to existing differences in value structure which may also account for country specific variations in fertility levels. However, due to the mutual interdependence of the two, it is cumbersome to isolate the impact of social/cultural norms and institutional factors on fertility decisions. In our study we attempt to disentangle the two by drawing on a natural experiment. After World War I two German districts were ceded to Belgium. The population in this area retained its German linguistic identity, but has, since then, been subject to Belgian social policies. Our study uses (micro)-census data to compare fertility behavior of the German minority in Belgium with data for western Germany and the Flemish and French Language Communities in Belgium, controlling for individual-level characteristics. Our findings indicate that the overall fertility outcomes of the German minority in Belgium resemble more the Belgian pattern than the German one. This provides support for the view that institutional factors are relevant for understanding the fertility differences between Belgium and Germany.

Fertility Differences in Western Europe[1]

Over the last decades a distinct fertility divide has emerged in Western Europe. Countries in the Centre and the South are reporting cohort fertility rates far below replacement level. This also includes the German-speaking countries, where e.g. in Germany the cohort fertility rates for women born in 1960 are at a level of around 1.6. This is well below the figures for countries in the West and the North, where e.g. Belgium (1.9), France (2.1) or Denmark (1.9) register values close to replacement level (GGP, 2011).

Fig. 1: Total Fertility Rate in Europe 2008 – The Fertility Divide in Western Europe



Sources: Statistical Offices, Eurostat
Basemap: Eurogeographics for the administrative boundaries, extended by MPIDR

Interestingly, these fertility differences are not just discrepancies in national averages, as can be seen in Fig. 1, which displays regional TFR data for Europe.[2] There seems to run a

[1] The maps used in this publication are partly based on the following source: © EuroGeographics for the administrative boundaries.

clear dividing line through Western Europe, which largely follows national borders. Overall, the map provides the impression that e.g. a person crossing the border between Germany and Denmark is in the same time crossing an imaginary line between two quite different fertility regimes.

It is disputed which factors have contributed to the emergence of this geographic fertility divide in Western Europe. Some scholars argue that differences in family policies are playing an important role for shaping Europe's fertility landscape (e.g. Gauthier 1996; Chesnais, 1998; Kaufmann et al 2002; McDonald, 2008). In this vein, high fertility levels are explained by the work and family friendly policies that are found in the Nordic countries, France and Belgium. Low fertility levels reported for the German-speaking countries have been attributed to the fact that family policies in these areas of Europe remained traditional and supportive to the male breadwinner model (Esping-Andersen 1999; 2009). Others have pointed out that the decline in cohort fertility in the German-speaking countries is paralleled with the emergence of low family size ideals (Goldstein et al., 2003) and a high prevalence of "child-free lifestyles" (Sobotka and Testa, 2008). It is however difficult to disentangle the role of societal norms and policies in influencing fertility trends, as they are usually mutually interrelated (Neyer and Andersson, 2008). For example, in societies with conservative family images it is likely that conservative family policies are implemented. These policies might again reinforce existing social norms on family formation behaviour, as the policy context often sets economic incentives in such a way, that norm-compliant behaviour is awarded.

The German Minority in Eastern Belgium

This study draws on a natural experiment setting that potentially allows us to disentangle the effects of the institutional context and social norms on fertility trends. We focus on the German minority in eastern Belgium, which is situated in the direct vicinity of the fertility divide line displayed in Fig. 1. After World War I Germany had to cede the two districts of Eupen and Malmedy to Belgium as a compensation for the attack on the neutral Belgian state

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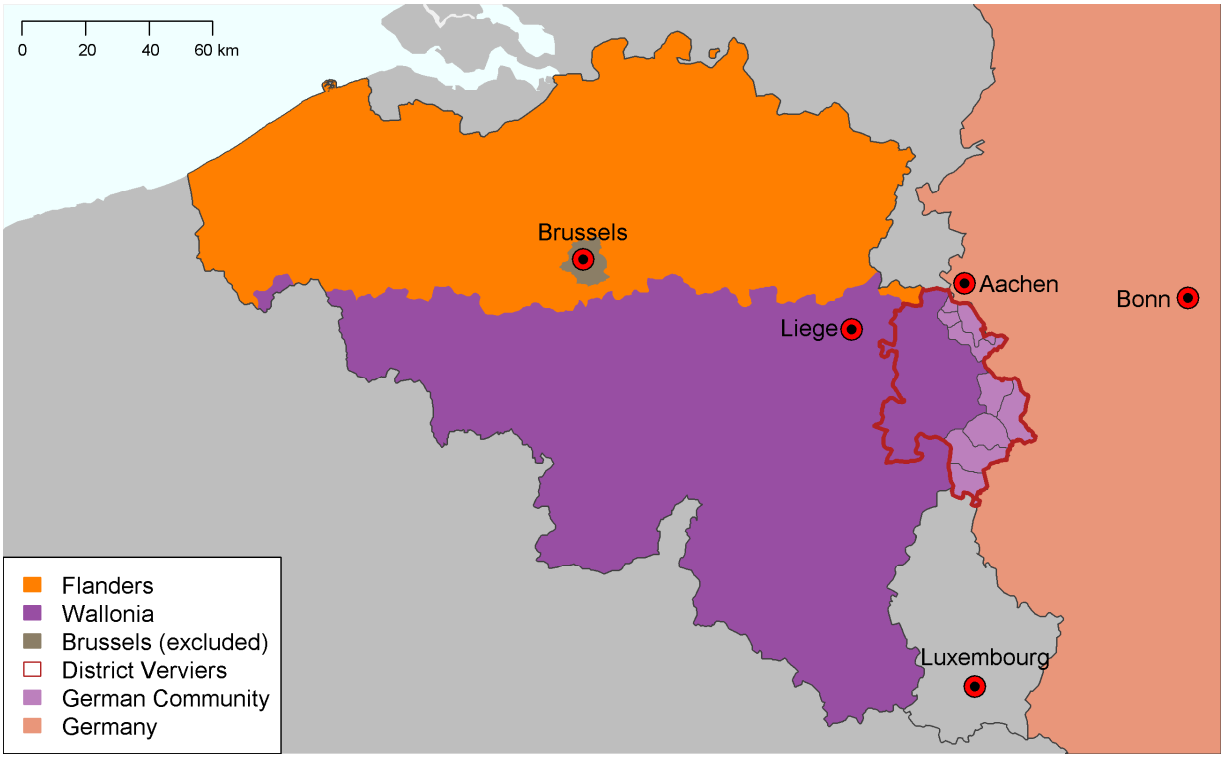
[2] The map displays period TFR values. As the period TFR is distorted by tempo effects (Sobotka and Lutz, 2010), cohort fertility rates are preferable to depict fertility levels. But as we wanted to display subnational differences, we were faced with the limitation that sub-national cohort fertility rates are not available for many countries. However, we can rule out that the fertility divide line in Western Europe is completely an artefact of tempo effects, as the divide would also be visible in a national-level cohort fertility map.

(George, 1927; Scharte, 2010). The predominantly German-speaking municipalities of these two districts form today the so-called German Language Community within Belgium[3] (*Deutschsprachige Gemeinschaft in Belgien*), which practically enjoys similar constitutional rights as the Language Communities of the two dominant language groups of the country, the Flemish and the French. The German Language Community is situated in the region of Wallonia and consists of two towns and seven rural municipalities with an area of 845 km² (see also Fig. 2). It has a population of 75,716 inhabitants (01.01.2011), which is app. 0.75% of the total Belgian population.

Fig. 2: The Research Area



Basemaps: GADM; © Eurogeographics for the administrative boundaries, extended by MPIDR

Over the last 90 years, the population living in the area of the German Language Community has been subject to the institutional context of the Belgian state, including Belgian family and labor market policies.[4] While prior to 1918 neither Belgium nor Germany had implemented substantial policies to support families, this has drastically changed since

[3] For background information on the federal system of the Belgian state see Swenden and Jans (2006).

[4] With the exception of a short period during World War II, in which Belgium was occupied by Germany (1940-1944).

then. In recent decades, the two countries followed rather different pathways when it comes to pre-school education and child care (Austin, 1970; Morel, 2007). At least since World War II, Belgium has been among the top-ranked countries worldwide in expanding full-time pre-school education and child care. This also includes the expansion of child care for children below age 3 in more recent decades, which potentially supports parents to reconcile work and family plans. Western Germany policies followed a different track. Public day care was expanded during the 1970s, however, the main focus was on half-day-care for children aged 3 to school-age, because the main motivation behind these policies were to educate pre-school children and not to facilitate the incompatibility between work and family life. Further, a whole battery of family policies (such as tax allowances for single earner households, coverage of non-working wives in health insurance or widow pension) buttressed the traditional male bread-winner model (Kolbe, 2002). Only very recently reforms were implemented in Germany that support maternal employment (Ostner, 2006; Henninger et al. 2008). From this it follows that the German minority in Belgium received over the last decades quite different family policy "treatments" compared to the western German population.

Although that the German minority in Belgium is subject to Belgian policies, it still maintains strong links to Germany, as large parts of the population retained their German linguistic identity. In this respect they benefited from being integrated into the Belgian state, where German had already prior to World War I been considered to be one of the three national languages[5] (e.g. in censuses since 1866). Besides, they took advantage from the Belgian political system constantly dealing with arranging compromises between the interests of the predominantly Flemish-speaking Northern part and the predominantly French-speaking Southern part. Especially Flemish politicians were highly supportive of protecting the rights of the German minority, as Flemish and the German language are closely linked. As a result, the German minority in Belgian has enjoyed strong minority rights since the 1920s (Markusse, 1999, p. 62 f.).[6] Since 1963 German has been, next to Flemish and French, one of

[5] There were small German minorities living in the Eastern and Southern part of Belgium prior to World War I. These minorities are today to a large degree assimilated (Nelde, 1984). In addition, the Belgian monarchs, who had been installed after independence in 1831, were from the Belgian line of the German House of Saxe-Coburg-Gotha.

[6] The only period, where minority rights were very limited was a short period directly following World War II, in which the German minority was accused of collaboration with the enemy. However, by 1960 the old

the official languages of Belgium. Since 1973 the German Language Community[7] has had an own parliamentary council, in 1984 it obtained an own executive government headed by a prime minister (*Ministerpräsident*), mostly responsible for education and social issues. In the German Language Community German is the official language of communication in the administration and all public education institutions, though support for French-speaking persons has to be provided. Belgium does not collect any official statistics on mother tongue, but a social science survey carried out in 2011 shows that approximately 90% of the population in the German Language Community speaks German as their mother tongue (DGStat, 2011, p. 13). There is no evidence that German is losing importance among the younger cohorts (ibid, 2011, p. 13).

The social and communication links between the German minority in Belgium and western Germany are manifold. Almost 20% of the economically active population living in the German Language Community commutes to Germany for work (DGStat, 2011, p. 33). Besides, the region has received substantial in-migration from Germany over the last decades (DGStat, 2010, p. 3.1-14 ff.; Capron et al., 2002). Also mass media plays an important role. Though there is some German-language media existing in the area of the German Language Community, this is due to the small size of the population very local in character.[8] As a result, the German minority is very much dependent on supply from Germany, when it wants to watch German-language television, read major German-language newspapers and journals or German-language literature (see e.g. Die Zeit, 24.09.1965).[9] This setting makes it very likely, that the German minority in Belgium is aware and potentially influenced by German-language

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institutional position of the German language was more or less restored (Markusse, 1999, p. 62 f.) and further increased in the following decades. A study comparing the minority rights in 36 European states concludes that Belgium provides next to Finland the most far-reaching rights to its national minorities (Pan, 2006, p. 645).

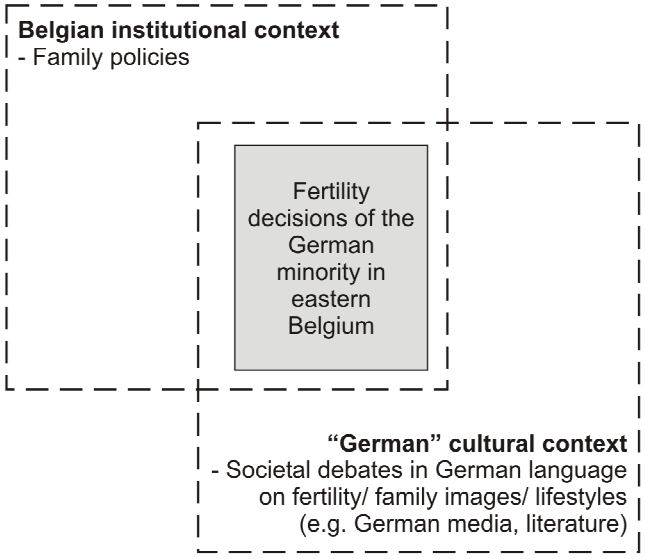
[7] Which is formed by the nine municipalities highlighted in Fig. 2.

[8] The television program in German language provided by the public Belgian broadcasting service (*Belgischer Rundfunk, BRF*) only exists since 1999. It broadcasts a limited programme whose core element is a daily news journal of 15 minutes (Combuchen, 2008, p. 57). In addition, the BFR maintains two radio channels. There are also a number of private radio stations operating in this area. This includes some German-based stations, which for license reasons broadcast from Belgian territory, but whose main target group is the population in the German border region around Aachen (see Pfeil, p. 50). Further, there is also one local German-language newspaper existing.

[9] Though it has to be noted that in the Southern part of the German Community also German-language media from Luxembourg plays a relevant role (Combuchen, 2008, p. 57).

societal discussions on family images, lifestyles and social norms related to fertility decisions, which are present in western Germany.

Fig. 3: Belgian Political Context vs. "German" Cultural Context



Following the considerations laid out above we assume, that the German minority in eastern Belgium is exposed to two potentially conflicting influences (see Fig. 3): On the one hand, the German minority is exposed to the incentive structure laid out by Belgian social policies, on the other hand the German minority may be influenced in their behavior through the exposure to German mass media and frequent cross-border contacts e.g. through commuter relations. It is surely simplistic to assume that e.g. mass media has the power to shape fertility behavior. However, it is undisputed that there are normative constraints that shape our action and these forces may be just as influential as the institutional contexts that we are exposed to (Ajzen 1985). In the realm of family life, the family images and the attitudes towards maternal employment and child care are frequently cited as prime determinants for Germany's low maternal employment rates and fertility rates alike (Kremer 2007). How these attitudes evolve, whether they are passed on over generations and why they are so resistant to change, is a key question in our debate on family change. The "Belgian case" may shed some light on this very basic question. We know that the German minority has been exposed to "family and work friendly policies", however, family images that are conveyed in the German media might have "buffered" an attitudinal change, a change which the rest of the Belgian society might have experienced. In this sense, the German minority in

Belgium provides to some degree the criteria of a natural experiment setting allowing us to disentangle the influence of the institutional context and social norms on fertility decisions.

The main aim of our paper is to compare fertility patterns and employment arrangements of young mothers of the German Language Community in Belgium with data for western Germany and the Flemish and French Language Communities in Belgium (Flanders and French-Speaking Wallonia). For this we analyze both individual- and aggregate-level data. Our main hypothesis may be summarized as follows: *If national family policies are the most important factor behind fertility differences between Belgium and western Germany, we would expect the fertility of the German minority in Belgium to resemble the one observed in other parts of Belgium. If social norms are predominantly responsible for the divide in fertility outcomes, the fertility levels of the German minority should rather follow the pattern observed in western Germany.*

We are aware that next to the German minority in Belgium there are other ethnic minorities in Western Europe, which might also qualify for answering our research question. This includes e.g. the German/Danish minorities in the Danish-German border region, the populations of Luxembourg, Alsace and Lorraine, where German dialects are/were widespread and which belonged in the 19th and 20th century at least for some time to Germany, or the Basque population on both sides of the border between France and Spain. However, we still think that the focus on the German minorities in Belgium qualifies best for disentangling the role of culture and policies for fertility choices. Firstly, the German minority in Belgium enjoys exceptional minority rights which enable its population to maintain their German linguistic identity. Secondly, in contrast to the minorities in the Danish/German border region, the German minority in eastern Belgium lives to a high degree spatially segregated from the Flemish- and French-speaking populations in own municipalities, where they constitute the majority. A third qualifying characteristic is the population size of the German minority in Belgium. It is of sufficient size to generate statistically meaningful results, but, as we argue, it is e.g. in contrast to Luxembourg[10] probably not big enough to develop an own unique regional identity, which in terms of linguistic or cultural dimensions

[10] Luxembourg had in the 19th century close cultural and economic ties to Germany. But the Luxembourgian population was able to maintain/develop a unique identity e.g. by turning its Mosel-Franconian dialect in a standardized language (Luxembourgish) and making French the lingua franca in the work sphere (see Weber, 1994).

and prevalent mass media discussions would set it strongly apart from the population in (western) Germany.

Our paper is organized as follows. First we will present our data and methods, which is followed by a section dealing with theoretical considerations on the role of the institutional context and social norms in fertility decision processes. Then we will provide more detailed evidence on the differences existing between Belgium and West Germany both with regard to the development of the institutional context as well as prevailing social fertility norms. Finally, we present the analysis of fertility outcomes, whose core element will be an individual-level analysis of fertility trends among the cohorts born between 1935 and 1959.

Research Design

The central element of our research design is the assumption that we are investigating a natural experiment/ critical juncture setting (see Dunning, 2008; Neyer and Andersson, 2008), where two populations with rather similar social and economic characteristics receive drastically different policy treatments with strong effects on contextual conditions for fertility decisions. In order to qualify for a natural experiment, a study setting should fulfill at least to some degree the following three criteria (Dunning, 2008, p. 282 f.): The first is that there are experimental subjects who receive a "treatment" (in our case a policy intervention with relevance to family formation behavior) and that their response can be compared to a control group, which does not receive the treatment. The second criterion is that subjects are randomly assigned to treatment and control groups, while the third is that the experiment is under the control of the researcher. Each of these three points are important to establish causality, though Dunning (2008) admits that the third criterion is seldom met in a natural experiment.

Comparing these criteria with our research setting, it has to be emphasized that we are facing some limitations. This does not only refer to the third criterion, which we do not meet. Regarding the first criterion a challenge is that both the population in western Germany as well as the German minority in eastern Belgium received family policy treatments. An additional complication is that the available micro-data does not allow us to follow the experiment from the very beginning, as the oldest cohort for which we have individual data available, is born in 1935. These violations imply that we will not be able to establish causality with regard to effects of policies and social norms on fertility in our study.

Nevertheless, we believe that the employment of a "quasi"-natural experiment research design is justified, as the differences in the policy treatments between Belgium and (western) Germany were very substantial. For the second criterion that subjects are randomly assigned to treatment and control groups, we will provide evidence below in the section dealing with the initial conditions of the experiment.

Data and Variables

Cross-country comparative studies often face limitations in the comparativeness and/or richness of the available data. Our study poses no exception from this general observation. Data for our analysis comes from the Belgian census of 2001 and from the Scientific-Use-File of the German Microcensus of 2008.[11] However, it should be mentioned that apart from these micro-level data we also use aggregate fertility information especially for the investigation of historical time periods. This data includes next to official statistical publications for the pre-1960 period data from the Princeton European Fertility Project (Coale and Watkins, 1986) and data from a Prussia dataset collected by Galloway et al. (1994). For most parts of the analysis, however, we rely on recent microcensus data.

Our key dependent variable is the total number of children. Furthermore, we study the proportion of women remaining childless. The study population includes women of the birth cohorts 1935-59. These cohorts are most relevant for our analysis, as the second half of the 20th century was the period, where we could see the strongest divergence in family policies between Belgium and Germany. For Germany, we restrict the sample to the western part of Germany. Eastern Germany including Berlin[12] is left out as we are mostly interested in the interplay of fertility with western German family policies, which were strongly oriented towards the male breadwinner model. The family policies in place in eastern Germany until 1990 strongly diverged from this model (Kreyenfeld, 2004). For Belgium, we omit women living in Brussels at time of census due to the particular population composition of this city

[11] The Belgian file is a 100% individual-level sample of the female population aged 15 and older living in Belgium in 2001. For Germany the Scientific-Use-File of the Microcensus of 2008 is a 0.7% sample of the population living in Germany. Unfortunately, data usage restrictions do not permit us to combine the German and the Belgian data for modelling purposes.

[12] We had to exclude West Berlin as well as the dataset does not differentiate between East and West Berlin.

and reasons that are explained in more detail below. Using German data from 2008 and Belgian data from 2001 has some implications. In the Belgian data, women were between age 42 and 46 at survey, which implies that not all members of this cohort had reached the end of the reproductive period at the time of the census. Unfortunately, the German data does not provide information on the birth histories, which would allow us to exclude all children born after 2001. Therefore, the numbers we provide will for Belgium slightly understate the completed fertility of the youngest cohort.

In order to identify the respondents of the German minority in the Belgian sample, we cannot use information on nationality, as the vast majority holds the Belgian citizenship. Instead we rely on the *place of residence.* A person who is living in the nine municipalities of the Belgian German Language Community in 2001, when the census was conducted, is assumed to be a member of the German minority.[13] The same way we define membership to the Flemish- and French-Speaking Communities in Belgium[14], which are used for comparisons (see Fig. 2). This decision follows the territorial principle which also the Belgian state applies in order to distinguish the different Language Communities. It is also supported by the already above mentioned results of a representative survey conducted in the German Community in 2011, where 92% of the respondents answered that one of their mother tongue is German, followed by French (7%) and Dutch (2%) (DGStat, 2011, p. 13). We exclude the Belgian capital region of Brussels from the analysis, as it contains next to a French-speaking majority also a substantial share of Flemish-speaking inhabitants (app. 15%). which are not very well identifiable in the census dataset.

An analytical challenge might arise from the socioeconomic structure of the regions we are comparing being quite different. As we have only a limited number of socioeconomic control variables in our models available, we might not be able to adequately control for these differences. Large parts of the German Language Community are situated in a rather non-metropolitan setting, which might provide a favourable context for fertility decisions compared to the large metropolitan areas, in which substantial parts of the Belgian and

[13] This also includes women which are born in Germany (app. 18.6% of the population in this area) and/or hold the German citizenship (15.8%). In the analysis we test the sensitivity of our findings by using alternative definitions of the German minority, in which one or both of these groups are excluded.

[14] We define members of the Flemish-Speaking Community as all persons living in Flanders at the time of the census and members of the French-Speaking Communtiy as all those living in Wallonia with the exception of the nine Walloon municipalities, which form the German Language Community.

western German populations are living.[15] We control for *settlement size* and *educational attainment*[16], which might be able to capture these differences to some degree. Nevertheless, we felt that we should compare the fertility data of the German minority not only with numbers for western Germany, Flanders and French-speaking Wallonia, but also with a reference group in Belgium, which lives in a comparable socio-economic context. For this we make use of the fact, that the German Language Community is part of the Belgian district Verviers (see Fig. 2), which comprises in addition to the nine predominantly German-speaking municipalities also 20 predominantly French-speaking municipalities. We use the population of these 20 municipalities as an additional reference group.

For the Belgian census dataset we do not only have information on the *place of residence* at the time of the census available, but also on the *place of birth*. This allows us to differentiate groups by these two geographical attributes as well as *nationality*. For the models on the district of Verviers and the region Wallonia, which both include the data for the German Language Community (see also Fig. 2), we distinguish in total six groups: (1) Belgian nationals, neither born nor living in the nine municipalities of the Belgian German Language Community in 2001 (2) Belgian nationals, not born but living in the German Community in 2001 (3) Belgian nationals, born, but not living in the German Community in 2001 (4) Belgian nationals, born and living in the German Community in 2001 (5) German nationals, irrespective of place of birth (6) Other nationals, irrespective of place of birth.

The last two categories, which are also used in the model on Flanders, were considered relevant to distinguish German women who moved into Belgium more recently from the

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[15] However, we can also find quite some socio-economic context variation within the German Language Community. The municipality of Kelmis, for example, is situated in the direct vicinity of the German city of Aachen, into which many of its inhabitants commute. It has a population density of more than 500 persons per km². Also the municipalities of Eupen, Raeren and Lontzen belong to the densely populated area along the transport and communication corridor connecting Cologne and Brussels in the Northern part of the German Language Community (see also Fig. 2). The overall population density in this area is around 200 per km², which is below the Belgian average (355 inhabitants per km²), but close to the German one (225 inhabitants per km²). The situation is very different in the Southern part, which is spatially separated from the Northern part by an almost unpopulated mountainous moorland. The South of the German Language Community can be characterized as peripheral and predominantly rural. The population density in this area is only at around 48 inhabitants per km². In this region tourism is an important economic factor, for commuters the most relevant foreign work destination is Luxembourg.

[16] Educational attainment is defined as follows: low (ISCED 0-2), middle (ISCED 3-4) and high (ISCED 5-6).

group of German-speaking Belgian nationals. The other nationality group is used to distinguish other immigrant groups – women holding the Italian, French, Spanish, Dutch, Turkish or Moroccan nationality – that are characterized in some cases by specific patterns of fertility and family formation.

In our analysis we assume, that across the first four groups the frequency of contact with social norms on fertility and family images communicated in German-language differs substantially. Belgian nationals who were born in the German Community and are living in the German Community in 2001 (category 4), to which we also refer as "ethnic Germans", are very likely to be exposed to such norm discussions in German language quite frequently. This is probably much less the case for the group of respondents who were neither born nor living in the German Community in 2001 (category 1). Among those who moved in and moved out we assume that most of this moves occurred after childhood. This would imply that the majority of those who moved out (category 3) would have been exposed to a predominantly German-speaking context during childhood and young adulthood, which is very relevant for the adaptation of social norms (Inglehart, 1977). For those who moved into the German Community from other parts of Belgium (category 2), on the other hand, we assume that most of them have only been exposed to a German speaking context at a later stage in life, at which the influence of the context on social norm development is less immanent. Based on these assumptions, we will order groups 1 to 4 in the model results according to our assumed degree of "exposure to German-language discussions" on fertility norms, life-styles and family images, with the group of Belgian nationals with the lowest exposure (category 1) being the reference category.

Also in the model for western Germany we differentiate according to *migration background*. Our reference group consists of German nationals without migration background. The second includes German nationals with migration background and the third category foreign nationals.

Method and Research Strategy

Our analytical strategy mainly is to provide descriptive results on the fertility patterns by region. We furthermore, estimate a probit model on the total fertility and a logit model on childlessness in which we control for cohort, size of municipality, education, citizenship and migration background.

In our modelling section we conduct all analyses separately for:

- western Germany
- Belgian district of Verviers (including German Language Community)
- Belgian Wallonia (including district of Verviers and German Language Community)
- Belgian Flanders

In the descriptive analysis we deviate from these group categories, as we instead contrast (1) western Germany, (2) the German Language Community, (3) the French Language Community (Wallonia without the nine municipalities of the German Language Community), (4) the Flemish Language Community (Flanders). Our motivation for this deviation is that while in the descriptive analysis we want to present separate numbers for the German minority, in the modelling part we prefer to directly compare the fertility of the German minority with reference groups in other parts of Belgium.

Despite being able to control for some relevant socio-economic variables, we also have to face that there are confounding factors, for which we cannot adequately control for.[17] We already mentioned that we do not have information on mother tongue, nor do we have data on migration histories and socioeconomic status at birth. We are also not able to identify Belgian respondents who are married to German nationals, as males are not included in the Belgian census dataset. Another problematic aspect is that the territory of the German Language Community is quite small, so that in- and out migration is likely to be high. This is particularly a problem because we rely on cross-sectional data to reconstruct cohort fertility rates. We are able to control for those that left the German Community to move elsewhere in Belgium. Next to this we can also identify all those, who moved from Germany or abroad into the territory of the German Community. But unfortunately, we do not have information on those who moved from Belgium into Germany. This is especially of concern, as this migration-pattern might be selective by educational attainment, as members of the German Community frequently choose to visit higher education institutions in Germany. These concerns are supported by descriptive statistics on educational attainment, which show that higher educated persons are underrepresented in the Germany minority, while lower educated

[17] For the Belgian census information on socio-economic status is only available for the cross-section in 2001. Similarly, the German micro-census only has this information available for the cross-section of 2008. Therefore, we limit ourselves to controlling for educational attainment, which allows us to at least partly also capture the confounding role of socio-economic status on fertility.

are overrepresented. We are able to control for this in our models, but it is likely to affect our descriptive results.

Another confounding factor with relevance for our natural experiment design is deriving from the fact that a substantial part of the German minority in Belgium is commuting to Germany for work (app. 20% of all economically active persons in 2011). These commuters are not only embedded in the Belgian institutional context, but to some degree also in the German one as they are affected by German labour market regulations. In addition, they can also benefit from German family policy measures which are linked to participation in the labour market. Couples, where one person is working in Germany and one in Belgium, are allowed to optimize family support by choosing the best combination of both systems. Unfortunately, the available census data does not allow us to identify such persons/couples.

The Role of Policies and Social Norms in Influencing Fertility Decisions

Reproductive decision making in modern societies is a complex process, whose outcomes can be influenced by many individual and contextual-level factors (see e.g. Becker, 1981, van de Kaa, 1987, Neyer and Andersson, 2008). Compared to pre-modern times the costs of raising a child have increased substantially. Next to direct costs the raising of a child also requires the investment of substantial time resources. These can either be provided in-kind by parents or supporting family members and friends, which might face opportunity costs as child rearing work is likely to conflict with the possibility to actively participate in the labour market. To some degree, child rearing work can also be offered by public and private child care providers, which usually involves additional direct costs.

Nevertheless, although in developed countries the decision to get a child implies substantial costs for the individuals involved, the percentage of childless persons remains quite low even in younger cohorts. This suggests that for vast parts of the population the reasons in favour of getting a child outweigh the ones which speak against it (at least at the time when they take the decision). In our study we are comparing two highly developed countries, which differ very little in their economic situation. But this does not imply that the same is true for the micro-economic context in which persons in Belgium and western Germany take their reproductive decisions. This context can be heavily influenced by the institutional setting in which persons are embedded. Labour market regulations, housing policies or the availability and costs of public and private child care supply can have

substantial impact on the direct and indirect costs of children. However, existing research results on the impact of family related policies on fertility decisions are highly controversial. One reason for this is the complex nature of reproductive decision processes, which makes it very difficult to single out the institutional context from other potential influencing factors (Neyer and Andersson, 2008).

In a review of existing literature on the impact of family policies on fertility, Anne Gauthier comes to the conclusion that there is "some evidence of the impact of family policies. However the impact tends to be small and also to vary highly depending on the type of data used and on the type of policies" (Gauthier, 2007, p. 342). She continues to point out that a comparison between ideal and actual fertility results in gaps of up to 0.5 children, which might potentially be closed by family policy support measures. Quantitative analyses, on the other hand, provide usually evidence of an impact of less than 0.2 children per woman (ibid, p. 342). Next to this, results are often contradictory, "especially when it comes to the magnitude of the impact of policies and on the differential impact by birth order" (ibid, p. 342).

Also the impact of social norms and family images on fertility choices (see e.g. Ajzen 1985, Lesthaeghe, 1980; Astone, 1999) is difficult to be disentangled from other influencing factors. Social norms can play an important role in the process of finding the "right" partner and in making decisions about the right moment for a birth. Also the way how working mothers are perceived can differ substantially between countries and/or different societal groups. If such behaviour is considered harmful for the development of the child, women might face difficulties in reconciling family and career goals, which might effect fertility decisions. Social norms can have an influence both at the individual as well as at the contextual level. If, for example, a region is mostly inhabited by individuals with a conservative world view, this might provide a conservative societal context. The latter may also affect the decisions of individuals with a non-conservative world view, who may choose to engage in conservative behaviour to avoid diminishing their local social capital.

In the following sections we will first give a short overview over the family relevant welfare state context in Belgium and western Germany and its development in the 20th century. This is followed by an analysis of social and demographic data on social norms related to fertility and family formation in the societies of these two countries.

Family-related Policy Developments in Belgium and Germany

From a pan-European comparative view Belgium and Germany share in their general welfare state set-up many similarities. Both are regarded as corporartist Bismarckian-type welfare states where social insurances play an important role and where the state is actively engaged in labour market regulations (Morel, 2007). Like Germany, also Belgian welfare policies were in the 20th century largely following a male breadwinner orientation (Vanhaute, 2002). When e.g. labour shortages occurred the Belgian government rather tended to get migrants in the labour market than to activate the female labour force (Morel, 2007).

In our comparison we will mostly focus on core family policies such as family allowances, parental leave schemes and the availability of institutional child care. Also in the development of family allowances and parental leave schemes the two countries share many similarities. In Germany tax benefits were introduced in the early 1920s and child benefits in the mid-1930s, while Belgium provided family allowances since the late 1920s. Both in Belgium and Germany the support increased depending on the number of the children (Watson, 1954, p. 163 ff.; Population Europe/MPIDR, 2012).

Parental leave schemes were also established at a very similar time. Belgium introduced its scheme in 1984, Germany in 1986.[18] The Belgian scheme (Voluntary Career Break) was not limited to parents, but open for everybody who wanted to take a leave from work for a limited period. The employer had to replace this person during the leave by an unemployed person. The financial support was very small, as it was paid at the lowest unemployment insurance rate available (Morel, 2007, p. 628). This made it not very attractive for people with high salaries, and contributed to a gender-bias in the take up. Substantial reforms to these schemes occurred in Belgium in 2001, and in Germany in 2001 and 2008. Especially the 2008-reform in Germany is seen as a move away from the male breadwinner model, as it aims at fostering gender equality and supporting reconciliation of dual employment and child rearing (Ostner, 2006; Henninger et al. 2008). But these last reforms are only of very limited relevance for the cohorts which are in the focus of our study.

Big differences between the two countries exist in the development of pre-school and child care coverage. Belgium followed the French example and achieved already very early a high coverage of children in pre-school institutions. This was according to Morel (2007)

[18] A maternal leave system has been in place since 1979.

rather motivated by providing school kids an equal start into their life than by pro-natalist considerations. However, at least in the French-speaking part of Belgium, which experienced the fertility decline much earlier than the Flemish-speaking part, also the concern about the low fertility rates played a role in political debates related to family policies (see e.g. Watson, 1954, p. 157 f.). Access to child care might be particularly relevant for fertility decisions of highly educated women and men, as they face high opportunity costs, if they cannot fully participate in the labour market due to child rearing obligations (see e.g. Kravdal, 1996, on Norway).

Belgium established already very early a well-functioning pre-school education system (*kleuterschool*, *école maternelle*, *Kindergarten*), which is today in Belgium for the 3-6 year-old almost universal and free of charge. Most of the pre-schools offer additional child care before and after school hours. Throughout the last 60 years Belgium has always been among the top-ranked countries worldwide in the level of child care provided. In Europe only France, East Germany and to some degree also Bulgaria were able to keep up with the trends reported in Belgium (O´Connor, 1988, p. 26). Already as early as 1956, 74% of the 3-4 year old were in a pre-school institution (see Tab. 1). In 1965, the share of the 3 year-olds in full-time education was 87%. For West Germany, the first data is available for 1970-71. The data shows that West Germany was clearly lagging behind the developments in Belgium. It is also important to point out that in West Germany most of the available institutional child care was (and still is) part-time, which limited the options of couples to both actively participate in the labour market.

Tab. 1: Pre-school and child care coverage by age

		Western Germany	Belgium
1956-57:	3-4 years		74%
1965:	3 years (full time)		87%
1970-71:	2 years	1%	15%
	3 years	10%	90%
	4 years	35%	95%
	5 years	70%	99%
	6 years	99%	99%
1994:	below 3 years	2%	30%
2005:	below 3 years	16%*	42%
2008:	below 3 years	20%*	43%

* Numbers for 2005 and 2008 include East Germany

Sources: Coulon, 1967; Austin, 1970; GGP, 2012

Despite recent improvements in Germany, the availability of institutional child care for children under 3 years as well as full-time child care for the 3-6 year old is still relatively low compared to other European countries (see Tab. 1 and Morel, 2007, p. 630). According to the EU-SILC-survey, in 2005 42% of all 0-3 year old in Belgium were in formal child care, while in Germany this was only the case for 16% of this age group (GGP, 2012).

However, the numbers for Belgium are national level averages. For our research design it is important to know to what extent these numbers differ for the German Language Community. Unfortunately, on the development of pre-school education and child care in the German Community we only have data from the 1980s on available. But we can benefit from the fact, that the Belgian education system was until the 1980s highly centralized and under the responsibility of the national government (Schifflers, 2009). This system also includes the pre-schools. Only since the late 1980s does the German Community have full command over the development of its education system. Such a setting makes it very unlikely that at least before the 1990s trends in the area of the German Community differed substantially from other parts of Belgium. This view is also supported by the structural characteristics of the pre-school system, which are in the German Community situated in the direct vicinity of the primary schools. This is a typical feature of the Belgian education system.

In the field of child care for under 3-year-old children the German Community supports since 1984 a childminder service (*Regionalzentrum für Kleinkinderbetreuung*), which is also in line with Belgian developments, as the country moved in the 1980s towards a more market-oriented approach in order to limit the high costs of public institutional child care. Evidence, that institutional support for families is quite high, is also provided by a consultancy study from 2006, which presents the German Language Community in Belgium as a best-practise example for supporting families with services (Robert Bosch Stiftung, 2006, p. 54 ff.).

Overall, our overview on family policy developments suggests, that substantial differences exist between Belgium and (western) Germany in the field of pre-school education and institutional support for child care. This obviously influences the opportunities of young mothers to participate in the labour market. In order to investigate this, we analyse data from the Belgian Census of 2001 and the German Microcensus of 2001. It allows us to

derive information on the employment status of mothers by age of the youngest child.[19] The numbers are displayed in Tab. 2. They show that between the two countries clear differences are visible. While in western Germany less than 10% of mothers whose youngest child is 0-2 years old are fully participating in the labour market, the values for the three Belgian groups are app. three times higher. The share of non-active mothers in western Germany is close to 50%, while in the German Language Community of Belgium it is just at 20%. That the employment pattern of the German minority is very different from western Germany, but shares many similarities with the ones observed in other parts of Belgium, is highly suggestive that differences in the national institutional contexts are playing an important role in shaping maternal employment patterns.

Tab. 2: Maternal employment patterns of women with youngest child between 0-2 years

	Western Germany	German Language Community (Belgium)	Wallonia* (Belgium)	Flanders (Belgium)
Employment Status of Mothers				
Full-time	10.4%	26.0%	34.1%	31.9%
Part-time	19.7%	42.4%	25.1%	24.3%
Parental Leave	19.3%	-	-	-
Unemployed	1.5%	13.2%	25.6%	13.1%
Not in Labour Force	49.0%	18.4%	15.2%	30.7%

* without German Language Community

Sources: Statistics Belgium, 2001 Census, SUF Microcensus 2001

Social Norms and Differences between Belgium and Germany

In the following section we will provide a descriptive overview on differences in social norms related to fertility and family images between western Germany and Belgium. Also in this area the two countries share at least historically many similarities, as large parts of their populations are Catholic. A characteristic of western German family norms is that views on the "right" order of family formation events are still wide-spread. This implies that prior to founding a family individuals should first finalize education, establish themselves on the labour market and marry (see Hank, 2003). Persons not complying with these ideals might decide to delay their transition to parenthood or ultimately remain childless. Evidence for this

[19] For Germany, the analysis only includes mothers who have children co-residing with them in the same household.

is also provided by value surveys, which show that the share of person disapproving non-marital childbearing is still quite high in western Germany, while the percentage thinking that marriage is an outdated institution is rather small. In Belgium, on the other hand, the societal context seems to be more liberal towards alternative family forms (see Tab. 3).

Tab. 3: Attitudinal differences between Western Germany, Wallonia and Flanders

	Western Germany	Wallonia incl. German Language Community (Belgium)	Flanders (Belgium)
Marriage and Cohabitation			
Share approving Non-Marital childbirth	21.8%	47.8%*	75.5%
Share who believe that marriage is an outdated institution	12.9%	28.8%	25.0%
Work and care arrangements			
Share disapproving if person has full-time job while having children under 3	29.3%	19.3%*	11.8%
Share approving that pre-school kid is likely to suffer if its mother works	52.7%	47.6%*	35.1%
Ideal Family Size			
Ideal number of children (Mean)	1.7	2.2	

* In Wallonia number of respondents in ESS wave 3 around 570

Sources: Generations and Gender Survey; European Social Survey; Eurobarometer

With regard to reconciliation of career and family plans another peculiarity of the (western) German debate on family images is that until very recently there were strong societal reservations against working mothers. This was especially true for mothers of young children, as it was widely believed, that such behaviour is harmful for the development of the child (see Kolbe, 2002, p. 153 ff.). There was even a special colloquial term for mothers pursuing such behaviour: raven mother (*Rabenmutter*) (Ruckdeschel, 2009). The existence of such norms, which are less prevalent in Belgium (see Tab. 3), increases difficulties for women to combine career goals with childbearing plans. This is likely to have an effect on fertility decisions. Also in Belgium labour force participation of married women outside their home was at least in the first half of the 20th century very low (Watson, 1954, p. 165; Vanhoute, 2002). However, this changed in the following decades, which according to Morel (2007) was

in-part also an unintentional effect of the high availability of institutional child care. Differences also exist in the ideal family size, which is in Western Germany with 1.7 substantially lower than in Belgium, where it is at a level of 2.2 (see Tab. 3). This might to some extent also be an effect of the differences in the national institutional contexts families are embedded in.

Unfortunately, none of the cross-country comparative social surveys we are aware of provides a representative sample of the Belgian German Language Community. Therefore, we are not able to measure directly, whether the family norms prevalent among the German minority are more comparable to the western German ones, or the ones of the French and Flemish Language Communities, and how this changed over time. However, the above presented data of employment arrangements of mothers with children below 3 years living in the German Language Community show that their employment pattern rather follows the Belgian one. This might be interpreted as evidence, that the disapproval of such behaviour is less prevalent among the German minority population compared to western Germany. However, this does not imply that this was also historically the case, as it might also be an effect of the Belgian institutional context providing very good access to child care.

As we have no survey data on the German minority, we refer to election outcomes, which are available at small geographical scale also for historical time periods. Before World War I the most important party in Eupen and Malmedy was the Catholic *Zentrum* party, which received between 50% and close to 100% of the votes (Galloway et al., 1994). This is of high relevance for our research, as the Zentrum party is the most important predecessor of the Christian Democratic Union (CDU), which played a dominant role in West German policies especially in the period 1949-1969. West German family policies were at that time mostly shaped by members of this party, often building up on concepts which had been developed within the Zentrum party based on Catholic social teaching ideas. High support for Christian parties remained also during the following decades a significant feature of the German minority's voting behaviour.[20] Wallonia incl. the Verviers district, on the other hand, has a long tradition in large support for secular parties. In the 1919 election more than 50% voted for liberal, socialist or communist parties (Lesthaeghe, 2010, p. 9). Also a linguistic study in this area in the 1980s noted that the linguistic division line is in the same time a

[20] Though especially in the 1930s there was also substantial support for nationalist pro-Germany formations (Markusse, 1999, p. 62).

division line in voting behaviour. While German-speaking areas show strong support for Christian parties, the neighbouring French-speaking areas of Wallonia were strongholds of the Socialist Party (Nelde, 1984).

In the first election to the German Cultural Council in 1973, which later became the parliament of the German community, the Christian Social Party (*Christlich Soziale Partei*) managed to obtain an absolute majority (DG Parlament, 2012). Since then it always maintained the status of the party with the highest election results. Other parties, which received frequently outcomes above 20% were the rather conservative liberal Party for Freedom and Progress (*Partei für Freiheit und Fortschritt*) and the Party of German-speaking Belgians (*Partei Deutschsprachiger Belgier*). The latter had been founded by former members of the Christian Social Party. Over the last decades the party system has diversified. Nevertheless, for large parts of the period 1950-2000, which is in the main focus of our study, there was large support for Christian and conservative parties, which rather follows the election pattern of the western German border regions than the one of the neighbouring municipalities in Wallonia. This suggests that conservative views similar to those prevalent in western Germany are wide spread among the German minority.

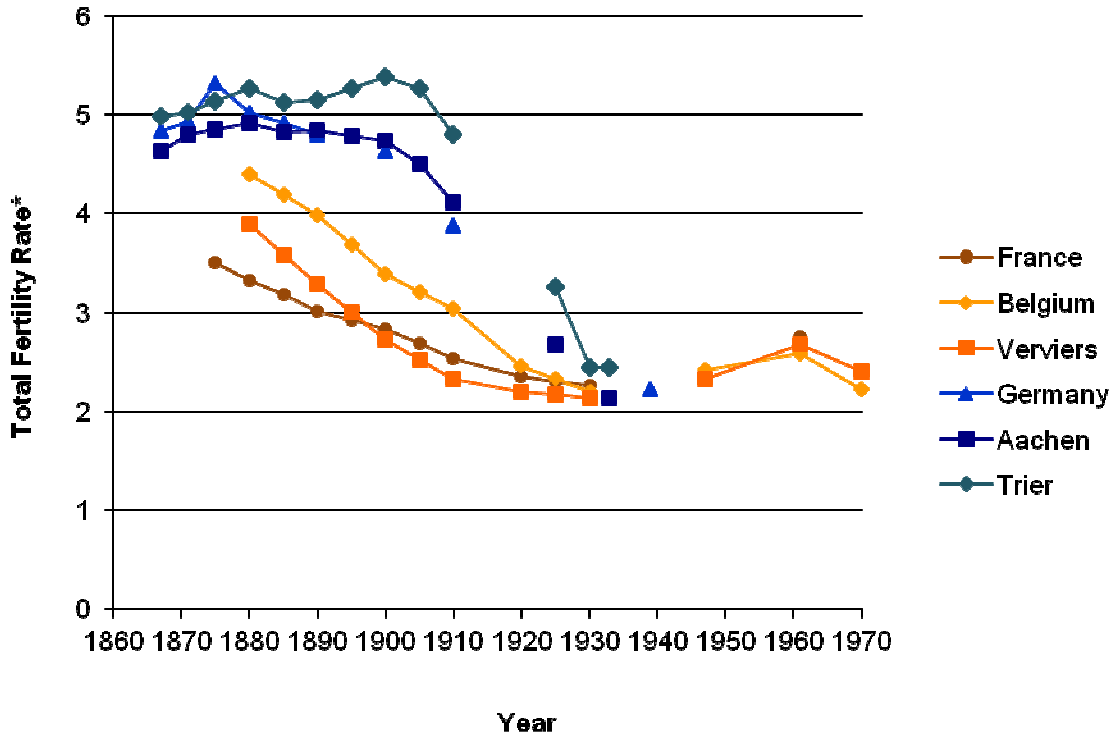
Descriptive Findings

Initial Conditions of the Experiment

Our available micro-data unfortunately does not enable us to analyze fertility developments from the end of World War I until today, but only for cohorts born from the 1930s on, who were of childbearing age around 1950. This does not allow us to follow the natural experiment from the beginning e.g. in a difference-in-differences analysis. Nevertheless, we consider it important to determine, whether the two districts of Eupen and Malmedy shared already prior to World War I common fertility characteristics, which were distinct from those bordering German districts that remained with Germany after World War I. With regard to this it is important to point out, that Eupen and Malmedy had belonged before 1815 to the Austrian Netherlands, which later formed the Belgian state. This raises the concern, that in terms of social norms and family formation behaviour this area might have been already prior to World War I a transitional border zone between Belgium and Germany. In such a case, we would violate the natural experiment condition that the “treatment group” is chosen at random.

We look into the initial conditions of the experiment by studying data on the fertility decline during the demographic transition. For this we use regional aggregate fertility data collected by the Princeton European Fertility Project (Coale and Watkins, 1986) and data on Prussia collected by Galloway et al. (1994). The Princeton data covers for Belgium both the level of the provinces as well as the smaller districts (*arrondisments*), while for Germany only data for the provincial level is provided (*Regierungsbezirke*). We therefore obtain statistical information for the Prussian districts (*Kreise*) in the German-Belgian border zone from the more fine-gridded Prussia-dataset by Galloway et al. (1994). The Princeton indicator on general fertility (If) we transformed into TFR-values based on an estimation procedure suggested by Sardon (1996). The data shows that during the demographic transition the Belgian district of Verviers, which at that time did not include the German speaking Eupen-Malmedy region, exhibited a trend pattern very similar to the one of France (see Fig. 4) and other French-speaking regions of Belgium (see Lesthaeghe, 1977, p. 131).

Fig. 4: Fertility Trends in the Belgian-German Border in Comparison to National-level Trends (1860-1970)



Source: Princeton European Fertility Project, transformed to TFR-values based on Sardon (1996)

By 1900, the TFR in Verviers had already fallen to a level below 3.0. The German regions at the border to Belgium (Aachen and Trier), on the other hand, follow in their trend development very closely the average values for the German Empire, where large-scale fertility decline only started in the period around 1900. Overall, the Princeton data on the fertility decline during the demographic transition provides no evidence, that the German-Belgian border area could be characterized as a transitional border zone with regard to onset and pace of the decline. On both sides of the border the regions seem to be quite representative for the overall national pattern or in the case of Belgium for the Walloon/French pattern. However, the data of the rather big regions of Aachen and Trier might exhibit some internal variation. In order to investigate this we look at Galloway et al.'s district level data, which contains next to fertility indicators also socioeconomic information. Tab. 4 shows demographic and socioeconomic information for the districts of Eupen and Malmedy as well as data for bordering German districts which remained with Germany after 1918. The fertility trend data, which Galloway et al. (1994) present in the form of the General Marital Fertility Rate, also does not show any indication that the fertility development in Eupen and Malmedy differed from the neighbouring German districts prior to World War I.

Tab. 4: Initial Conditions: Demographic and Socioeconomic data for Eupen, Malmedy and adjacent German Districts (1875-1910)

	Eupen	**Malmedy**	**Aachen (city and rural)**	**Montjoie**	**Schleiden**	**Prüm**
General Marital Fertility Rate						
1875	352.95	310.86	344.80	323.32	363.89	323.67
1890	309.02	300.25	320.51	301.63	320.78	289.21
1910	251.21	285.57	239.81	314.17	318.13	323.39
Share French/Walloon-Speaking Females 1900	0.69	29.13	0.31	0.17	0.03	0.02
Share Belgian Nationals Females 1905	3.80	0.81	0.43	0.01	0.00	0.01
Share Catholic 1910	96.88	98.35	93.62	95.56	95.18	99.02
Population Density (per km²) 1910	148.69	42.76	827.64	50.47	57.08	39.50
Female Labor Force Participation 1910	30.93	12.07	32.38	20.10	9.48	8.79

Source: Prussian Statistics compiled by Galloway et al. (1994)

However, in the socioeconomic data we see one deviation. In the district of Malmedy almost 30% of the population spoke French/Walloon as mother tongue. Most of these inhabitants lived in the area of the municipalities of Malmedy and Waimes, who were separated from the German-speaking Belgian areas after World War I and belong today to the Belgian French Language Community (Pfeil, 2006, 45).

The Galloway dataset also provides information on voting behaviour, albeit not at the district level but at the level of election districts (*Wahlkreise*), which usually comprised several districts. We already mentioned above that the population of Eupen and Malmedy voted predominantly for the Catholic Zentrum party. Also with regard to this aspect we do not see differences to the adjacent areas which remained with Germany after World War I.

Overall, our analysis of the initial conditions of the natural experiment presents no evidence for the view that in terms of fertility and family formation behaviour the German-Belgian border region could before World War I be characterized as a transitional border zone. It rather suggests, that clear divides existed in this area, with the population of the German districts of Eupen and Malmedy (or as you may say our "treatment group") exhibiting strong similarities with the populations in the German neighbour districts, while the Belgian district of Verviers shared strong similarities with Wallonia and France. This provides some support for the view, that the "treatment group" can be considered as randomly assigned, which is one of the three important criteria of a natural experiment setting.

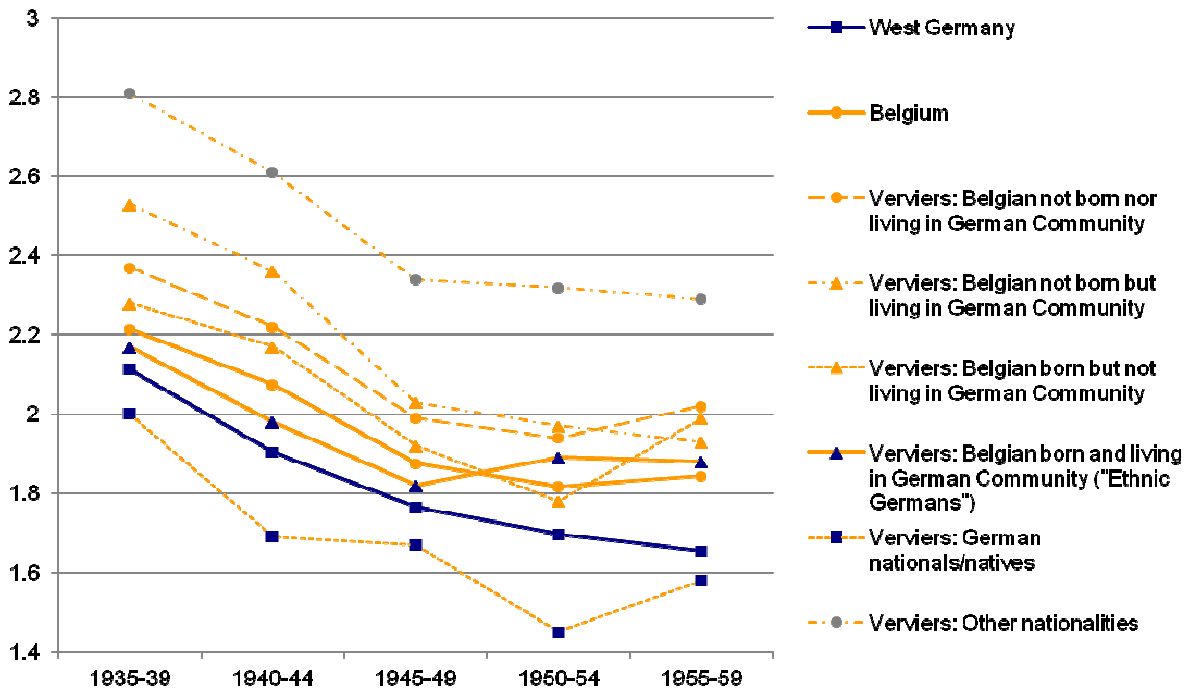
Fertility Trends since 1950

We will now turn to the micro-level data, from which we reconstructed the cohort fertility of women born between 1935 and 1960. In Fig. 5 we display the trend developments in the average number of children among the different groups observed. The data for western Germany and Belgium show that already among the cohorts born between 1935 and 1939 level differences are visible. These differences seem to have increased especially in the cohorts born after 1949, where Belgium experienced a turn-around in the cohort trend from decreasing to increasing rates, while fertility of western German women continued to decline.

For the district of Verviers we plot the data decomposed according to the above described group categories, defined by place of birth, place of residence and nationality. Based on our assumption these groups exhibit different degrees of contact with German-language discussions on fertility norms and family images. If we first look at the outliers, we

see that the average number of children born to German nationals and/or German born is below the numbers reported for Germany. This suggests that this is a very selective group[21]. The numbers for foreign nationals/foreign born, are on the other hand far above the average. Cohort fertility of the other four groups is for most of the cohorts above the average level for Belgium, which is remarkable as foreign women are included in the numbers for Belgium and western Germany. Overall, these numbers suggests, that the rather non-metropolitan setting correlates with levels of fertility. Also the ethnic Germans, which were born in the German Language Community and living there in 2001, exhibit high cohort fertility levels close to 1.9 in the youngest cohorts. However, compared to the three groups which according to our assumption have less contact with German language discussions on social fertility norms, the fertility outcomes of the ethnic Germans are with one exception among all cohorts the lowest reported.

Fig. 5: Cohort Fertility Trends in Verviers district/Belgian German Language Community in Comparison to National-level Trends

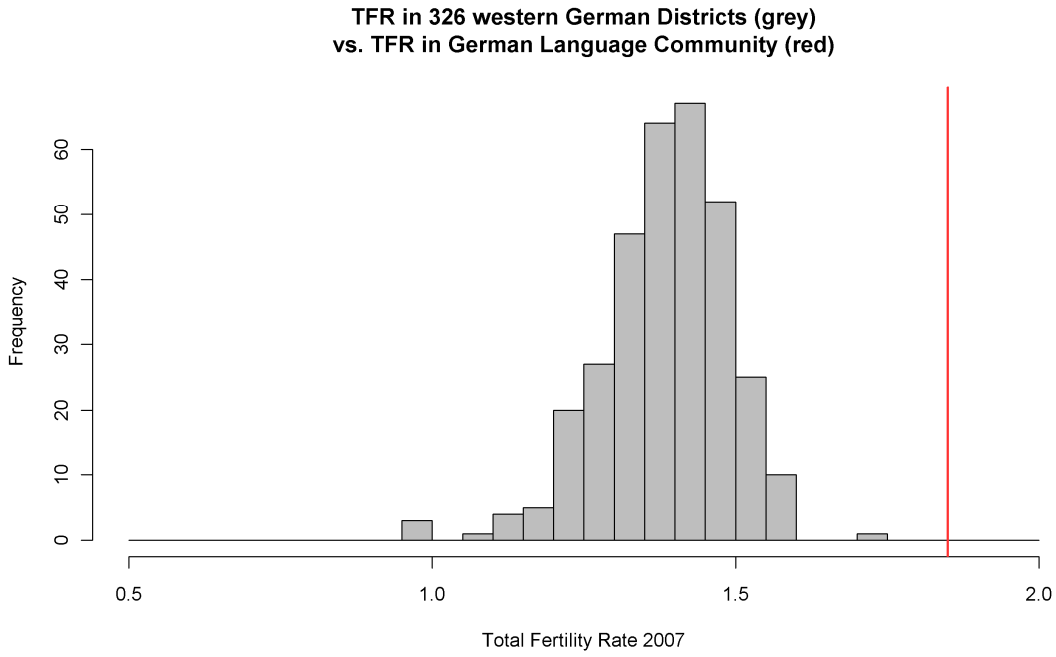


Source: Statistics Belgium, 2001 Census, German Microcensus 2008, calculations by authors

[21] One reason for this might be that moving across the border into Belgium was especially attractive for Germans with high income in Germany, as it allowed them to reduce their income taxes (see also Capron et al., 2000).

If we focus on differences between the cohort fertility of western German women and the ones born and living in the German Language Community, the level differences were small in the cohorts born between 1935 and 1949. But they have increased to more than 0.2 in the cohorts born between 1955-1959 as the "ethnic Germans" experienced similar to the national data for Belgium a turn-around in the trend, while western Germans did not. This might be an indication of the national institutional context of Belgium having an influence on the developments, into which we will look in more detail below.

Fig. 6: TFR 2007 – Contrasting western German districts and the German Language Community



Source: Statistics Belgium, Federal Office of Statistic Germany, own calculations

However, a direct comparison between the numbers for western Germany and the German Language Community might not be so informative, as western Germany is a big area with substantial variation in degree of urbanisation and selective migration pattern. Therefore, the average numbers for western Germany might mask substantial internal spatial variation in fertility levels. Unfortunately, the sample size of the Microcensus of 2008 does not allow us to generate cohort fertility by German regions. This forces us to use period TFR-data, which is due to possible distortions by tempo-effects a suboptimal choice. In 2007 the German Language Community with its nine municipalities reported a TFR of 1.84, which was substantially above the western German average of 1.38. In Fig. 6 we present for 2007 the

TFR-values for the 326 western German districts in order to contrast the distribution with the level observed in the German Community.

As it turns out, even the most rural districts with probably very favourable selective out-migration of highly educated persons are not even getting close to the numbers registered in the Belgian German Language Community. The highest TFR of 1.74 is reported in the rural district of Cloppenburg in Northwestern Germany, followed by the district of Lippe (1.60) and the district of Borken (1.58). The German districts directly bordering the German Community reported even much lower levels. This includes the city of Aachen (1.21), Aachen district (1.43), Euskirchen (1.45) and Eifelkreis-Bitburg-Prüm (1.51). Overall the data suggests that the TFR-values recorded for the German Community in Belgium are quite exceptional compared to western Germany, even in a district-level comparison.

Model Results

In the following we will look at the results of our multivariate models. Doing so, we will first study childlessness. The results are displayed in Appendix 1, with the first column presenting the results for the Belgian district of Verviers, which includes the nine municipalities forming the German Community. The second column contains the numbers for western Germany, the third the ones for Wallonia (including the German Community) and the fourth the ones for Flanders. Looking at the results by cohort, we see that in western Germany childlessness has increased among the younger cohorts in comparison to the cohorts born between 1935 and 1939. This typical feature of western German fertility trends (Gonzàlez and Jurado-Guerrero, 2006, p. 326, Sobotka and Testa, 2008) is not visible in the model of the district Verviers and also not in a model which just looks at those women who lived in the nine municipalities of the German Community in 2001.[22] For Wallonia and Flanders the numbers report first a decrease of childlessness up to the cohorts born between 1945 and 1949, followed by a slight increase towards the younger cohorts. Overall, the cohort trends for the three Belgian models differ considerably from the model for western Germany.

We will now look at the group categories defined by place of birth, place of residence and nationality, which according to our assumption exhibit different degrees of contact with German-language discussions on fertility norms, family images, and lifestyles. This we can do

[22] Not presented in the paper.

both for the Verviers model as well as for the one on Wallonia. Reference group are Belgian nationals which are not born in one of the nine municipalities of the German Community and were not living in one of them at the time of the census in 2001. Of all groups considered this one has the lowest prevalence of childlessness. The "ethnic" Germans, Belgian nationals born and living in the nine municipalities of the German Community, on the other hand, have an odds ratio of 0.72 of having at least one child compared to the reference group. Even lower are the numbers for the German nationals living in Verviers district, which report an odds ratio of 0.45.

However, as the degree of childlessness might have been different among the reference cohorts, we also look at the absolute numbers of the youngest cohorts. Among the persons living in the district of Verviers, 14.9% of the cohort born between 1955 and 1959 remained childless, while among the subgroup living in the nine municipalities of the German community it were 18.7%. The respective numbers for West Germany, Wallonia and Flanders were 18.8%, 14.0%, 14.9%. Overall the numbers suggest that with regard to the level of childlessness, the German minority in Belgium seems rather to follow the West German pattern than the one of the French- and Flemish-speaking population in Belgium.

We will now turn to the probit models on the number of children, which are presented in Appendix 2. In contrast to the models on childlessness, in these models all four groups show significant trends across cohorts, with the oldest cohort (1935-1939) exhibiting the highest levels. A slight difference is that western Germany and Flanders exhibit a negative trend across all cohorts, while Verviers and Wallonia experienced a turn-around in the trend direction between the cohorts born in 1950-1954 and the ones born in 1955-1959. This is especially remarkable, as our Belgian cross-sectional data from 2001 misses out some births of the younger cohort, which had not reached the end of their reproductive period at that time.

With regard to the educational attainment there are substantial differences between western Germany and Belgium. While in Germany, highly educated report the lowest fertility outcomes, in Belgium it is the group of those with medium educational attainment. Most notable are the numbers for Flanders, where the fertility outcomes of the highly educated are significantly higher than among the low educated. These distinct differences in the relationship between educational attainment and fertility outcomes might be a result of the institutional context, as good access to child care is especially of importance for highly educated persons (Kravdal, 1996).

The data on the migration background/degree of contact with German-language discussions related to fertility norms shows again a similar pattern, as in the models of childlessness. The Belgian citizens which are born and living in the German Community in 2001 have significant lower fertility outcomes compared to the control groups, which were neither born nor living in the German community in 2001. Also those, who were born and probably also socialized in the German Community, have a significant lower fertility outcome. Nevertheless, as the descriptive cohort fertility numbers suggest, the fertility outcomes of the Belgian German minority are nevertheless substantially above the levels reported in western Germany.

Discussion and Conclusion

The results of our analysis suggest that overall the cohort fertility of the German minority in Belgium rather resembles the Belgian pattern. This might be interpreted as support for the hypothesis, that the institutional context plays an important role in explaining fertility differences between Belgium and Germany. However, as the available data does not allow us to establish causality, also alternative explanations might be possible. One might be that being in a minority position might have an effect on the fertility decisions of the German-speaking population. Based on theoretical considerations, effects in both directions are plausible (Coleman, 1983, p. 78 f.). If minorities are constrained in their social mobility, they might e.g. limit their number of children in order to improve life chances for them. On the other hand, underprivileged minorities might be more likely to stick to old high fertility pattern, if they are excluded from livelihood opportunities. It is not possible for us to rule out this argument completely, but considering the high status the German minority enjoyed for almost the whole period since their inclusion in the Belgian state, we consider such effects rather unlikely. Also the data on employment arrangements of young mothers, where the pattern of the German minority is very similar to the one of the Flemish population and the French-speaking Walloons, but very different to the one in western Germany, rather supports the view, that differences in the institutional context are very important to explain the rather high fertility of the German minority in Belgium. As such we believe that our study can be interpreted as providing evidence for positive effects of family policies on fertility.

However, in the degree of childlessness the ethnic Germans in Belgium seem to follow more the pattern of western Germany compared to the one of the French- and Flemish-

speaking Belgians. This is an interesting finding in the light of the discussion around the reasons for the exceptional high level of childlessness observed in western Germany (see e.g. Sobotka and Testa, 2008). In this discussion some authors have linked this phenomenon to institutional constraints, which tend to support the traditional male breadwinner model and are not supportive of combining family and career ambitions (Federkeil, 1997; Kreyenfeld, 2004). Others have argued that independent of institutional constraints there seems to be evidence for the emergence of a "culture of childlessness" in Germany, where "child-free lifestyles" are enjoying popularity (Sobotka and Testa, 2008). The evidence of high childlessness among the members of the German Community in Belgium, which is situated in an institutional context providing high support for families, rather leans to support the second argument, that social norms seem to be highly influential (though the emergence of these norms might originally be linked to institutional developments in Germany).

Taking a parity-specific view, in our case the institutional context seems to be especially relevant for higher order parities, while the transition to first births seems to be to a higher degree influenced by social norms. But it is questionable, whether this finding can be generalized, as e.g. access to child care can also play a strong role in the decision to get a first child. In the same time, social norms on the ideal family size can also influence decisions to get a third or higher-order parity child.

We believe that our results provide support for the argument, that the policy regime change towards a dual-earner orientated model, which has occurred in Germany in recent years, has potentials to also lead to elevated fertility levels. The findings also suggest that especially improving access to child care can play an important role. Based on this argument eastern Germany is more likely to witness fertility increases in the near future, as access to child care is better in this part of Germany. However, we have to be cautious with such expectations, as there are also arguments which speak against rapid fertility changes. Proponents of the low fertility trap hypothesis argue that in societies which have witnessed for a longer period of time sub-replacement fertility, childlessness and small family sizes become highly accepted within the society (Lutz et al., 2006). Though at least childlessness cannot be inherited to the next generation, such a setting might implicate that changes in fertility behaviour will not occur rapidly, but rather in the dimension of decades.

We started our paper by looking at the current fertility divide in Western Europe. This divide is some thousands kilometres long, while our study just focused on a small part of this divide line. But we still think that our results contribute to improve our understanding, why

this divide has emerged during the 20th century, as they suggest that the role of the institutional context was not unsubstantial. This provides support to the expectation that reforms to the institutional contexts could in the mid- and long-term contribute to closing the divide (McDonald, 2008), if such a goal is considered important among those western European societies which currently exhibit rather low fertility levels.

In order to shed more light on this interesting natural experiment setting, it would be desirable if the German minority in Belgium would be oversampled in cross-country comparative surveys on fertility behaviour and/or social norms and values. This would allow getting a better understanding about the social norms and attitudes towards social policies prevalent among the German-speaking Belgians and enable us to make direct comparison with statistics for Belgium and western Germany. Potentially, there are also other minorities existing in Europe, which might be suited to study the effects of social norms, policies and economic circumstances on fertility outcomes by applying a natural experiment research design. This includes the Russian minorities in Estonia and Latvia, the Hungarian minority in Romania, or the Turkish minority in Bulgaria.

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Appendix 1: Logit model of childlessness, dependent variable: Childless (0) versus not childless (1)

	Verviers		West Germany		Wallonia (incl. Verviers)		Flanders	
Cohort								
1935-39	1.00		1.00		1.00		1.00	
1940-44	1.02		0.96		1.09	***	1.12	***
1945-49	1.00		0.86	***	1.06	***	1.11	***
1950-54	0.99		0.74	***	1.00		0.99	
1955-59	1.04		0.64	***	0.98		0.92	***
ISCED								
Low	1.00		1.00		1.00		1.00	
Medium	0.84	***	0.77	***	0.85	***	0.86	***
High	0.71	***	0.52	***	0.71	***	0.70	***
Size of Community								
below 5000	1.00		1.00		1.00		1.00	
5000-20000	0.95		1.04		1.03		1.08	
20000-100000	0.74	***	0.95		0.98		0.94	
100000–500000	---		0.84	***	0.70	***	0.60	***
500000 +	---		0.71	***	---		---	
Migration Background								
Belgian (not born nor living in German Community)	1.00						1.00	
Belgian (not born, but living in GC)	0.92				0.94		---	
Belgian (born, but not living in GC)	0.87	***			0.95		---	
Belgian (“ethnic German”) (born and living in GC)	0.72	***			0.73	***	---	
German nationals/ natives	0.45	***			0.65	***	0.83	***
Other nationalities/ foreign born	0.85	**			1.12	***	0.80	***
German nationals (no migration background)			1.00					
German nationals (no migration background)			1.51	***				
Foreign nationals			1.35	***				

Note: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics Belgium, 2001 Census, German Microcensus 2008, calculations by authors

Appendix 2: Ordered probit model of number of children

	Verviers		West Germany		Wallonia (incl. Verviers)		Flanders	
Cohort								
1935-39	0.00		0.00		0.00		0.00	
1940-44	-0.09	***	-0.10	***	-0.06	***	-0.10	***
1945-49	-0.24	***	-0.20	***	-0.20	***	-0.23	***
1950-54	-0.26	***	-0.24	***	-0.24	***	-0.29	***
1955-59	-0.19	***	-0.25	***	-0.20	***	-0.30	***
ISCED								
Low	0.00		0.00		0.00		0.00	
Medium	-0.13	***	-0.32	***	-0.15	***	-0.07	***
High	-0.10	***	-0.46	***	-0.09	***	0.06	***
Size of Community								
below 5000	0.00		0.00		0.00		0.00	
5000-20000	-0.06	**	0.01		-0.07	***	-0.06	***
20000-100000	-0.10	***	-0.01	***	-0.14	***	-0.11	***
100000–500000	---		-0.05	***	-0.23	***	-0.26	***
500000 +	---		-0.12	***	---		---	
Migration Background								
Belgian (not born nor living in German Community)	0.00				0.00		0.00	
Belgian (not born, but living in GC)	0.02				0.10	***	---	
Belgian (born, but not living in GC)	-0.10	**			0.02		---	
Belgian (“ethnic German”) (born and living in GC)	-0.14	***			-0.05	**	---	
German nationals/ natives	-0.34	***			-0.12	***	0.00	
Other nationalities/ foreign born	0.13	***			0.23	***	0.26	***
German nationals (no migration background)			0.00					
German nationals (no migration background)			0.24	***				
Foreign nationals			0.30	***				

Note: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics Belgium, 2001 Census, German Microcensus 2008, calculations by authors