Does Culture Trump Money? New evidence on the role of cultural distinctions for migrant and non-migrant mothers' employment in Germany

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Abstract

This study explores which role cultural distinctions play against economic resources for the employment probability of West German mothers aged 20-55 with a child below age three in the household and with a direct migration background (1,414 obs.) vs. no migration background (3,877 obs.). We measure culture with a rich set of factors including gender roles, religious practices and social milieus and, for migrant women, factors of migrant biography as well as indicators for social, structural and emotional integration. We further account for potential endogeneity of childcare use in the employment decision. Based on the waves 2007-2016 of the German Socio-Economic Panel Study (SOEP), including the migrant samples M1and M2 and the samples L1-L3 from the project Families in Germany (FiD), our bivariate probit and 2SLS estimations show that cultural distinctions play a crucial role for maternal employment even when one accounts for the mother's human capital and her household context. Gender roles are decisive for both groups of mothers. For migrant mothers, facets of structural and social integration, immigration period, refugee experience and sometimes milieu affiliation are influential. The specification of culture leaves employment associations of economic resources mostly unchanged.

Keywords: maternal employment, culture, childcare, migration background, milieu, 2SLS, bivariate probit

JEL Codes: J220; J130; J610

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Introduction

The relevance of a stronger integration of parents and in particular of mothers with a migrant background into the labour market exists both from the macroeconomic and the individual perspective. From a macroeconomic point of view, this group has a significant pool of skilled workers: 39 % of non-employed mothers with a migration background would like to resume work immediately or within the coming year, and a further 26 % in 2 to 5 years. A total of 652,000 of non-working mothers expressed the wish to return into employment within the next maximum five years (BMFSFJ 2017a, p. 36f.). As forecasts show, significant immigration may attenuate the decline in the labour force potential (Fuchs et al. 2016), but this will only help mitigating labour bottlenecks if migrants add to the workforce. The individual importance of labour market integration becomes particularly clear against the background of the risk of poverty. Based on a nationwide analysis of the Microcensus 2015, it can be seen that, compared with an at-risk-of-poverty rate of families without a migration background (13 %), migrant families are much more at risk with a rate of 29 % (BMFSFJ 2017a, p. 27).

A mother' decision for or against the use of state-subsidized childcare is, like her labour supply, an individual decision, which in turn has consequences for her family and society. The use of childcare can improve not only maternal employment opportunities (thereby mitigating earnings losses, cf. Boll 2011), but also children's development opportunities. As many studies show, attending institutional childcare is essential, especially for children from educationally deprived families and/or with non-German family language (e.g. Anders 2013, Anders et al. 2012, Ebert et al. 2013, Weinert andEbert 2013). In addition, early childcare enrolment can positively impact personality traits in adolescence (Bach et al. 2018).

The international empirical literature on maternal employment and childcare use is abundant, and several studies have already been carried out on the basis of German data. However, the database on the migrant population in Germany has only been significantly improved in recent years with the migration and refugee samples of the German Socio-Economic Panel study (SOEP). The study at hand makes use of this data exploring the role of cultural distinctions and economic resources for the employment decisions of migrant and non-migrant mothers of toddlers in Germany. The starting point of our analysis is the fact that country of ancestry is a relevant but not the only pertinent dimension of culture. Benefitting from a data set that provides extensive information on attitudes, norms and values held by the autochthonous and the migrant population, we use different specifications of culture to test its role against economic resources for maternal employment and childcare use.

The paper proceeds as follows. The next section discusses the state of the literature. The subsequent two sections present the data, models and hypotheses. They are followed by a results and a discussion section which delineates the findings in the context of the postulated associations derived from the hypotheses. A final section concludes.

Literature

Economic resources and their relation to female employment

Economic resources shape individual employment decisions. Resources depend on human capital and the household context. According to human capital theory (Becker 1964, Ben-Porath 1967, Mincer 1974) formal education attained reflects general human capital, while work experience reflects firm-specific human capital. Both positively impact a person's income-generating capacity, which enhances her incentives and intensity to work and, in turn, also her likelihood of using external childcare. The link

between the mother's household context and her employment behaviour can also be economically motivated. According to the Theory of Allocation of Time (Becker 1965), household productivity c. p. increases with household size as more individuals benefit from the provided services, with correspondingly decreasing incentives for the provider to assume a job instead. In return, employment incentives increase with a higher age of the youngest child in the household, because in-home childcare can more easily be replaced by external care. Thus, small children and a high number of children present in the household as well as being a single parent facing the full household and childcare burden limit the mother's possibility to make full use of her earnings capacity. The empirical literature on maternal employment in Germany accords with the theoretical underpinnings. The employment rate of mothers with a youngest child aged below 1 (between 1 and 2 or 2 and 3, respectively) amounted to 9% (44% or 60%) in 2015. The respective values for single mothers were 6% (34% or 44%; BMFSFJ 2017b: 68). Further, only 42 % of lowly qualified mothers were employed in 2010, compared to 69 % (74%) of mothers with medium (high) education (BMFSFJ 2012: 35). An increasing divergence of work-care arrangements with a more strongly increasing employment and childcare usage among medium and highly qualified mothers compared to their lowly qualified counterparts has been ascertained by Stahl and Schober (2018) for mothers with under threes between 1997 and 2013.

A mother's usage of institutional childcare can stimulate her employment behavior since she gains a time budget that she can use for gainful employment. However, public childcare provision is an effective enabler of maternal employment only if mothers consider external childcare services an appropriate substitute for inner-family care. There is substantial East-West-variation in population views with respect to the employment of mothers with small children under the age of three in Germany (IfD Allensbach 2015). Thus, the availability and social acceptance of childcare is key for the question as to what extent the presence of small children in the household limit a mother's earnings capacities. Rainer et al. (2013) find a significantly positive effect of the use of day care even when other confounders like maternal attitudes and education are controlled for. However, the use of childcare facilities could also be a consequence of employment instead of its cause. IV techniques methodologically address the potential endogeneity of individual childcare use. Aggregate coverage rates at the local level often prove as valid instruments. In doing so, a positive association between (an extended) public childcare provision and (increased) maternal employment could be established in several studies based on German data (Kröll and Borck 2013, Müller and Wrohlich 2018, Boll and Lagemann 2019).

Economic resources which are indicated by a person's age, qualifications and household context, also shape the labour market integration of migrants (Kogan 2011). The acknowledgment of educational degrees attained abroad facilitates the access to qualified jobs (Kogan 2016).

An important aspect in this regard is migration motivation. The human capital of labour migrants may fit better with the demanded qualifications in the target country than that of persons who lack the economic motive to migrate. This may be particularly true for refugees. Results based on the IAB-SOEP migration sample show that among those that migrated from third countries by 31.12.2012, only about one tenth came to Germany for gainful employment or job search. By contrast, the proportion of persons who moved to Germany as citizens of EU or European Economic Area countries and who were thus able to claim the free movement of workers was 46 % (Brücker et al. 2014b). One third (34%) of refugees who immigrated to Germany in the period from 2013 to 2016 are assessed to be overeducated, compared to 15% of the population without a migration background (Bürmann et al. 2018 based on SOEP 2016 data).

Educational mismatch is also more likely for migrant women, because women immigrate more often than their male counterparts as family members, i.e. partners of (male) migrant workers (Chiswick 1999:

63). In the context of traditional gender roles, women act as tied movers (Mincer 1978): The migration destination is selected in accordance to a maximization of economic returns, that is, the optimization of the male partner's job match. As a consequence, after migration women "reside in labour markets that bear no relation to their skills and employment needs (Hanson and Pratt 1995: 125). Boyle et al. (2001) who confirm the tied migrant or trailing spouse phenomenon for Great Britain and the US highlight the importance to identify linked migrant couples when investigating economic outcomes of family migration. Boyle et al. (2009) shed more light on the pre-migration employment status of women and state based on data from the British Household Panel Survey that for previously employed women, moving for the sake of the male partner's job negatively affects their own post-migration job status whereas previously not employed women slightly benefit from family immigration.

Further, refugee women are more likely to get pregnant the year after arrival as they often postpone the realization of child desires prior to and during the flight due to the associated burdens and insecure future prospects (Liebig and Tronstad 2018). Third and perhaps most importantly, refugees and asylum seekers face rather high legal impediments for gainful employment in Germany, e.g. only asylum seekers with a (temporary) resident permit are granted unlimited access to employment and self-employment without approval by the Federal Employment Agency (Federal Employment Agency 2017).

The relatively low labour force participation of mothers with a migrant background is also related to the use of daycare facilities. Studies on the use of day care centres repeatedly show that children with a migrant background are underrepresented in state-subsidized day care (Peter and Spieß 2015, Federal Statistical Office 2014, Schober and Spieß 2012). This applies both to children below 3 and 3 to 5 years of age. The proportion of migrant children in institutional care has risen in recent years, but to a lesser extent than of other groups (Schober and Stahl 2014). According to a study by Alt et al. (2016) based on data from the first supplementary KiföG study by AID:A3, parents who were both born abroad are less likely than autochthonous families to make use of a day care place for their children under 3 years of age. Other studies come to similar conclusions (Jessen et al. 2018, Schmitz and Spieß 2018).

Culture and its role for female employment

Culture is an important determinant of individual actions. Fernandez and Fogli (2009: 147) describe culture as "differences in preferences and beliefs across socially or geographically differentiated groups". Bellido et al. 2016 (p. 102) consider culture, following the definition proposed by the United Nations Educational, Scientific and Cultural Organization (UNESCO 2001), as "the set of distinctive spiritual, material, intellectual, and emotional features of society or a social group." As the authors state further, "this set [does not only] encompass art and literature, but it also includes lifestyles, ways of living together, value systems, traditions, and beliefs."

Studying immigrants offers the opportunity to investigate country of ancestry effects (Fernandez and Fogli 2009). Cultural heritage may be learned though socialization. This holds true for German mothers but also for first generation migrants who grew up in their home country. For second generation migrants who grew up in the host country, culture is transmitted from (grand-)parent to child. Preferences and beliefs, norms**,** values and role models are held by the individual herself or/and by a portion of society with whom the individual interacts (e.g. family, neighbors). That is, an individuals' behavior may be influenced as well by the rewards and punishments associated with different actions (Fernandez and Fogli 2009). The transmission channel here is social desirability (Fernandez and Fogli 2009). The horizontal transmission of culture has been investigated by Marcén and Morales (2019). Their results

confirm that living in same-ethnic communities enforces the relationship between the country of ancestry and the gendered division of housework which is their focused behavioral outcome.

In this regard, the milieu concept is a fruitful approach. In reference to Hradil (1987: 165), social milieus are understood as "groups of people who have such external living conditions and/or inner attitudes that common lifestyles emerge" (see also Georg 1998: 17 with a similar definition), which fits well into Bourdieu's (1983) concept of economic, cultural and social capital. Also from urban economics and urban geography it is stated that residential neighborhoods are important settings affecting the behavior and economic prospects of their inhabitants (Lobo and Mellander 2019, Sampson et al. 2002), e.g. via the channel of social networks (Granovetter 1973). Further, membership of a particular milieu has an influence on values and lifestyles; this applies, for example, to gender role orientations (Becher and El-Menouar 2014: 27), which refers to the channel of social desirability mentioned earlier. However, empirical evidence shows that neither the country of origin can be inferred from the milieu nor vice versa (Sinus Sociovision 2007: 21).

Which are the pertinent dimensions of ethnicity? According to Max Weber (1972), religion, language and distinct lifestyles with respect to clothing, housing, nutrition, and work division of genders has to be considered. Schnell (1990) differentiates between 15 dimensions, thereof language proficiency, religion and religious practices, experience of discrimination, contacts with Germans and with the home country, sense of foreign nationality, sense of belonging, parenting styles, gender role orientation, and cultural habits (reading newspapers, watching movies, listen to radio broadcasts in the home country language, cooking home country recipes). Some of these indicators (language, sense of belonging, religiosity) are also investigated in the study by Gerhards and Tuppat (2018). Based on SOEP data, the authors differentiate between linguistic, structural and social integration and emotional identification with Germany. Linguistic integration is measured with German language proficiency, structural integration with i.a. nationality and education, social integration with “at least one close friend is German”, and emotional identification with “Feeling German” and “sense of foreign nationality”. Bader (2010) stresses the importance of ethnic-cultural habits such as Turkish cooking, music and literature as well as parenting styles, religiosity and gender roles for Turkish migrants’ educational aspirations and perspectives in Germany. Nauck et al. (1995) refer to the named cultural habits in the parental home and highlight their importance for adolescents’ educational success.

Norms and attitudes are crucial for maternal employment, irrespective of migration background (Levine 1993, Vella 1994, Fortin 2005, Contreras and Plaza 2010). This also holds true for Germany. A study by Rainer et al. (2013) based on the Socio-Economic Panel (SOEP) of the 2004 and 2008 waves concludes that maternal attitudes exert an independent effect on the likelihood of maternal employment, even when a variety of socio-economic factors is controlled for. As ALLBUS data show, population agreement to the statement “A working mother’s relation to her child can be as warm and stable as that of a non-working mother” differs between German states (Blome and Müller 2017).[1] From their multivariate analyses controlling for population size and composition as well as the regional economic and political situation, Blome and Müller (2017) identify an independent effect of regional attitudes on regional public childcare coverage rates. Indeed, coverage-rates of under-threes in state-subsidized

[1] In 1992, the lowest agreement was achieved in Bavaria and Hesse (both 71%), the highest in Mecklenburg-Vorpommern (for West Germany, the highest value referred to Berlin with 89%). Consent increased over time throughout states, but differences (although on a lower level) remain: In 2012, highest levels were reached in the City of Hamburg, the City of Bremen, Mecklenburg-Vorpommern and Saarland (100%) whereas North Rhine-Westphalia marked the bottom line with 89%

childcare notably varied across West German states even in 2017.[2] Childcare policies prove to be particularly effective for female labour market outcomes (Olivetti and Petrongolo 2018). Hence, it does not come as a surprise that the employment ratio of mothers vs. fathers with children under three in the household differs significantly between German states.[3] Also with respect to weekly working hours, East-West-differences are still pertinent. West (East) German mothers of toddlers work on average 24.5 (32.5) weekly hours (BMFSFJ 2017b).

Cultural distinctions also impact employment perspectives of *migrant women*. Their participation in the labour market greatly hinges on their *region of origin*, even if their family status, age and qualification are accounted for (Kogan 2011). The greater the cultural differences, the more difficult it is to integrate the person into the culture of the host country (Kogan 2011). Polavieja (2015) confirms the strong association between non-migrants' and immigrants' traits (with respect to traditionalism) which is why he uses the former as instruments for the latter to investigate the impact of cultural traits on female migrants' behavior (i.e. labour force participation rate, LFPR) in the country of destination. Also according to findings from van Tubergen et al. (2004), women's LFPR in the origin country are carried over to the destination country. Further studies come to similar conclusions (Antecol 2000 Fernández 2007). As Guetto et al. (2015) show, the importance of religiosity in the country of origin has a decisive influence as a normative force: Countries of origin with a higher significance of religiosity go hand in hand with more traditional gender roles and more passive behaviour of women in the labour market. Cultural factors are also cited as crucial for the behaviour of women of Turkish origin in Berlin (Brenke 2008). Knize-Estrada (2018), based on the IAB-SOEP migration sample of 2013, also finds evidence for the high significance of traditional attitudes for migrants' employment behaviour. In addition to the usual socio-demographic determinants, she also analyses country of origin as well as attitudes towards female employment and gender-specific division of household tasks, measured in religious denomination and religiosity. According to her findings, traditional attitudes impair in particular the employment chances of women of Middle Eastern or North African descent, Muslim religion and higher religiosity. However, as the author points out, Muslim religion has an ambivalent interpretation as it could reflect both preferences and discriminatory practices in the host country.

Integration as a moderating factor for cultural effects on employment

Immigrants behave like non-migrants if culture is the same across countries or if cultural assimilation works rapidly (Fernandez and Fogli 2009). Migrants' cultural will arguably adapt (to a larger or lesser extent) to the ones of non-migrants in the course of the acculturation and integration process in the host country's society. The more advanced the integration process, the smaller should be the cultural distance to the home country. Therefore, the time span that the migrant already lives in the host country influences the chances of acquiring country-specific knowledge about culture, the legal and economic system, institutions and language and is therefore also decisive for labour market integration (Giesecke et al. 2017). The relative earnings position of migrants in the host society also improves with the length of stay (Grabka 2018).

[2] The City of Hamburg ranges at the top (44.7%) and North-Rhine-Westphalia (26.3%%) coming last, closely followed by the City of Bremen (26,4%) and Bavaria (27.4%) (BMFSFJ 2018, p. 11., based on data from the Center for Statistics on Child and Youth Welfare in Dortmund).

[3] With fathers' employment rate setting a baseline (1), mothers' employment rate reached scores of 0.44 and higher in all East German states, the highest West German value was displayed for the City of Hamburg (0.40 to 0.44), whereas indices of less than 0.36 were achieved in Lower Saxony and North-Rhine-Westphalia. The remaining states ranged in between (BMFSFJ 2016, p. 61, based on the Microcensus 2014). For the City of Bremen and Saarland, information was not available for statistical reasons. The employment rates refer to mothers and fathers aged 15 to 64.

Gerhards and Tuppat (2018) distinguish between structural integration (language skills, nationality), emotional integration (feel German) and social integration (visit Germans, receive visits from Germans). Another aspect of structural integration is discrimination experience, since 'culture' plays a pertinent role also on the side of labour demand, for example if recruitment procedures beyond competences and skills are geared towards the 'cultural matching' of applicants with human resource managers and/or firm staff (Rivera 2012).As to social integration it has been shown that contact to German friends significantly impacts the employment status of refugee women in Germany (Worbs and Baraulina 2017). As Kogan (2016) shows, migrants who cultivate inter-ethnic social contacts are more successful in the German labour market.

Contribution to the literature

Acknowledging the vital importance of gainful employment of mothers for individual and family wealth and of a deeper understanding of the behavioral inferences of culture in increasingly diverse societies, we make a threefold contribution to the literature. (1) We present a comprehensive investigation of culture that goes beyond the state of the art, comprising of distinct cultural dispositions, indicators for acculturation and integration, social milieu affiliation and migration biography. (2) We investigate migrant and non-migrant mothers separately to explore whether the role of culture against economic resources differs between the two groups. (3) We supplement our individual-level data with macro-level information, region and year fixed effects to account for variation in employment opportunities across space and time which further validates our results.

Hypotheses

The following four research hypotheses that structure our multivariate analyses:

1) **Economic resources**, i.e. a higher *human capital* (with respect to formal education and work experience) increases employment propensity, whereas individual impediments to use one's own resources arising from the *household context* (with respect to single parenthood, number and age of children) decrease employment propensity for migrant and non-migrant mothers. This holds true irrespective of individual cultural distinctions and even when potentially endogenous individual childcare usage is controlled for.
2) We argue that **culture** – (a) in terms of individually observed norms, role models and cultural practices and/or (b) through behavioral expectations of social neighborhood, exerts an additional effect on employment behavior even when economic resources are controlled for.

   Specifically, we expect for migrant and non-migrant mothers:

   (a) Mothers who exhibit less frequent religious practices and who assign job success a high importance should be more likely to be employed and

   (b) Mothers affiliated to less employment-affine milieus are less likely to work.

   We further suggest that *integration* reduces the individual's cultural distance between the country of ancestry and the host country. Therefore, we expect for migrant mothers:

   (c) Integration advancement in terms of social, structural and emotional integration enhances employment propensity.

Methodology

Data

For our analyses we use waves 2007-2016 of the German Socio-Economic Panel study of the DIW Berlin (SOEP)[4] including the IAB-SOEP Migration Sample (IAB-SOEP-MIG).[5] The SOEP began to record persons with a migration background in the form of separate samples as early as 1984, the year of origin, with the survey of guest workers (sample B) who had immigrated to (western) Germany up to 1983, followed by sample D of immigrants in the period 1984-1994. This was followed by the immigrant sample D with immigrants in the period 1984-1994. The migrant samples M1-M5 were drawn in order to further improve the representativeness of persons with a migration background in the SOEP. The first migrant sample (M1) was drawn in 2013 from the Integrated Employment Biographies (IEB) of the Institute for Employment Research (IAB).[6] Respondents are persons who were recorded in the register data of the Federal Employment Agency for the first time after 1995 (i.e. persons who were either once employed subject to social insurance contributions, seeking or having sought employment or participated in a measure of the Federal Employment Agency) and immigrated themselves or are children of immigrants (anchor persons) as well as their family members over the age of 16.[7] It consisted primarily of immigrants from other EU countries. In 2015, a second sample of migrants was drawn from the IAB's Integrated Employment Biographies (M2). It consists of persons who immigrated in the period 2010-2013. In these two data sets, refugees can be identified by self-disclosure as asylum seekers or refugees entering Germany.[8] The migration samples M+ are integrated as sub-samples into the delivery of regular SOEP data. This makes it possible (a) to additionally evaluate the information provided by persons with a migration background from other SOEP samples in order to distinguish for example immigrants since 1995 from those who immigrated earlier, and (b) to form a comparison group of persons without a migration background. Information is also available for migrants from SOEP's standard personal and household questionnaire, such as employment biography, educational qualification and information on the use of institutional daycare facilities. Almost half of the observations in our sample originate from the SOEP-related study Families in Germany (Familien in Deutschland, FiD). The FiD projects was initiated in 2010 in order to increase the number of single partners, low income families and large families with three or more children. Migrant households are oversampled (Kroh et al. 2018).

[4] Cf. Goebel et al. (2018). The specific contents of the survey include migration biography, intentions to return, professional recognition procedures, language competence and remittances to home countries.
[5] For more information see: Brücker et al. (2014a). For our analysis, we could only use persons from samples M1 and M2, as some of the culture related information was only collected until 2015. Therefore, persons from M3 and M4, who were sampled in 2016 for the first time, could not be included in our sample.
[6] Due to M1, the number of migrant adults in the SOEP almost doubled (Gerstorf and Schupp 2016, p. 41-42) and also the number of migrant parents has considerably risen.
[7] The sample is drawn on the basis of 250 regional units (sample points) in a multi-stage procedure, so that each person from the migrant population has the same probability of being included in the sample. The structure of the gross sample therefore approximates the distribution of migrants living in Germany. Compared to the distribution of all households in Germany, migrant households are found significantly more frequently in the western federal states and in the centres of larger cities. The largest number of sample points are found in major cities and metropolitan areas. Certain countries of origin have a higher drawing probability in order to guarantee a sufficiently large number of cases for specific groups. These include in particular persons from the new EU member states and persons from Southern Europe (cf. Kroh et al. 2015 and Brücker et al. 2014a, p. 10).
[8] Cf. Giesecke et al. (2017), p. 78.

The macro variables for the years 2007 to 2016 are taken from the INKAR database ‚Indikatoren und Karten zur Raumentwicklung' of the Federal Institute for Research on Building, Urban Affairs and Spatial Development (Bundesinstitut für Bau-, Stadt- und Raumforschung, BBSR).[9] Data on childcare coverage rates for the years 2007 to 2016 are taken from the publications ‚Kindertagesbetreuung regional' of the Federal and State Statistical Offices (2008-2017).

We set the restriction that all data sources employed in this study (SOEP and FiD) have to deliver full information on all independent variables used in the estimations.

Samples

Since the concept of culture is multifaceted and because different aspects are of different importance to migrant and non-migrant mothers, we analyze both groups separately. Doing so we implicitely allow for interaction effects of migration background with the full list of cultural dispositions and economic resources. Hence, we use non-migrant mothers as the baseline group and contrast them with migrant mothers.

In line with the literature that emphasizes the role of cultural aspects being particularly relevant for children below the age of three, the present study focuses on mothers with a youngest child in this age group.

In this study, we refer to mothers with direct migration background only, who have immigrated themselves (first generation of migrants).[10] Observation numbers, cultural and biographical variation among second generation mothers were too low to cope with the distinctive research design of this study. Maternal employment patterns and childcare structures differ between East and West Germany. Therefore, using a sample including both regions leads to biased results. Instead, the sample should be subdivided between East and West. However, as the number of observations with full information for migrants is too low in East Germany, we restrict our sample to West Germany.

From the sample of migrant mothers, we build three subsamples, according to the type of migration biography that is controlled for: (a) no control; (b) country of origin (EU-28, South Eastern Europe, former Commonwealth of Independent States (CIS) states, Arab and other Muslim states, rest of the world) or (c) immigration period (1950-1994, 1995-2009, 2010-2016)[11] with 1950-1994 as a reference. The categories for the region of origin are based on the literature (Brücker et al. 2014b), and those for the immigration period on the observation numbers. In addition, a dummy for an existing refugee experience is included.

[9] The BBSR has been regularly offering current information on the situation and the development of the regional living conditions in Germany for many years. The developed INKAR indicators are published in the INKAR online atlas. For more information (available in German only), see: http://www.bbsr.bund.de/BBSR/DE/Raumbeobachtung/InteraktiveAnwendungen/INKAR/inkar_online_node.html

[10] See Brücker et al. 2014a, p. 5 on the corresponding coding of the variable in the IAB-SOEP-MIG dataset. In the SOEP, the migration background since wave Y (2008) is recorded in the data published by the DIW in the variable MIGBACK, which makes it possible to identify the migration status of respondents (cf. Groh-Samberg et al. 2010).

[11] The age distribution of mothers who immigrated in the period 1950-1994 in 2016 ranges from 24 to 50 years. For example, 62.9 % of mothers are represented in the age group 25-34 years and 36.6 % in the age group 35-44 years, so that almost every mothers who immigrated during this period were of childbearing age in the observation period 2007-2016. 81.3 % of the mothers in this group were under 15 years of age at the time of immigration.

We restrict our samples to mothers[12] of working age (20-55) with a youngest child aged under 3 years. 99% of the mothers gave birth at the age of 20-50, thus we limit our sample to this range. Excluded are persons who are currently in education or training (apprentices, trainees and students).[13] The sample comprises 2,217 mothers with 5,291 observations. In the period under review, the share of mothers without a migration background continuously decreased[14], e.g. from 89.2 % in 2007 to 53,7 % in 2016. The panel is highly unbalanced. Half of the mothers are observed only once, another third is observed for two years only (see **Table 1**). The reasons for this incomplete panel structure are twofold. Firstly, due to the sample restriction to mothers with a youngest child below the age of 3, a mother cannot be observed for more than three years unless during this period, she gives birth to another child and is surveyed in the new child's first years of age (each additionally born child extends the mother's potential observation period for a further three years). Secondly, even though the SOEP strives for complete information for all participants in all years, 60 % of all respondents drop out of the panel completely due to refusal, death or move to a foreign country or skip participation for one or more years (Kroh et al. 2018).

Table 1: Observations per person

Number of observations per person	Frequency	Frequency in percent
1	626	28.2
2	752	33.9
3	433	19.5
4	232	10.5
5	121	5.5
6	46	2.1
7	5	0.2
9	2	0.1

Sources: SOEP v33; HWWI.

Variables

The ***dependent variable*** in the multivariate analyses is a binary variable of whether or not the mother is employed[15]. Employment is measured according to the current employment status. Employed persons include dependent employees (workers, employees and civil servants) as well as self-employed persons. In addition to employees subject to social security contributions, those in marginal employment are also included.

Operationalisation of economic resources

[12] It does not matter whether they are biological mothers; mothers with adopted children and children of a partner living in the household are also included in the sample. Mothers whose children aged below 6 do not live with them in the same household are excluded from the sample.

[13] In addition to registered unemployed persons, unemployed persons also include persons in military or civilian service and parental leave as well as persons in partial retirement with an indication of zero weekly hours. The generated SOEP variable 'PGEMPLST' (cf. DIW Berlin/SOEP (2017), p. 20 and p. 46f.) is decisive for the current employment status.

[14] The sole exception refers to the period 2013-2015 when the FiD data (‚Familien in Deutschland') has been integrated into the SOEP.

[15] 1=employed, 0=not employed

Concerning the *independent variables* on the side of economic resources, we account for age, highest educational attainment (low: ISCED level 0-2, medium: 3-4, high: ISCED-97 level 5-6 or ISCED-2011 level 5-8), work experience (past full-time or part-time employment in years) and the mother's (estimated) use of state-subsidized childcare in both samples, The usage of state-subsidized childcare is used as dichotomous information (yes/no) since information regarding the scope of use is not available for all years and types of care.[16] The information on childcare-use refers to the youngest child in the household. As characteristics of the household context which, according to the empirical literature, shape the employment behaviour of mothers, we use the household type (single parent or couple household), a dummy for the absence of another adult with a direct or indirect migration background in the household[17], the number of minor children and the age of the youngest child in the household.

Operationalization of culture

Based on the literature, we operationalize culture in a set of indicators. We thereby exploit migration-specific modules and questions that were developed specifically for the IAB-SOEP Migration Sample and used here for the first time. Others refer to questions from the standard SOEP questionnaire that was also surveyed on this SOEP subsample (Brücker et al. 2014a). As mentioned in the literature section, it is necessary to disentangle culture from other country-of-ancestry effects on first generation migrants' (employment) behavior. Country of ancestry can embody unobserved heterogeneity in terms of economic conditions and institutions (Fernandez and Fogli 2009). For example, first generation migrants may have attained their formal education abroad where they also might have spent parts of their employment career, both affecting their human capital which is offered on the host country's labour market. Another example refers to people from Arab regions who might experience ethnic discrimination in the host country. In this case, a country fixed effect would fail to disentangle employment consequences of discrimination from those of traditional gender roles (Knize-Estrada 2018). Therefore, we measure culture directly via selected cultural distinctions and add country of origin fixed effects to capture unobserved institutional, economic and cultural disparities.

First, we argue that culture is intergenerationally transmitted through socialization. Thus, an individual's cultural orientation should be reflected in features such as preferences, beliefs and role models. We suggest that religiosity and gender roles should be shaped by socialization in the first place. We measure religious practices with the frequency of attending church or other religious events (0=never, 3=every week).[18] We measure gender roles[19] with the importance of having success in the job (1=very important, 4=unimportant)[20], relying on the assumption of a linear relationship. For migrant women, the country of ancestry could capture further (unobserved) cultural dispositions relevant to employment behavior.

[16] The SOEP records the daily care time only since 2009. Prior to this, it was asked whether the parent uses a full-day or a half-day place for the child. However, information on the hours volume in day care is not available for all years, so that the information on half-day and full-day is not complete either. Especially for toddlers (children below 3 years of age), childminders play an important role for institutional childcare (Federal Statistical Office 2016, Federal and State Statistical Offices 2008-2017).

[17] The dummy takes the value of 1 for single mothers and for mothers who live together with autochthonous adult persons only.

[18] Variable pli0098, observed in 2005, 2007, 2009, 2011 and 2015; pli0171, observed in 2008and 2013

[19] Some variables referring to gender roles were available in the FiD data in year 2012 only. This data refers to migrants who immigrated before year 2010. Thus, by using this information, migrants who came later would have been severely underrepresented in the analysis of gender role importance. Other information was only collected in 2016. Therefore, we refrained from using these additional gender role variables.

[20] Variable plh0107, observed in 2004, 2008, 2012 and 2016.

Second, individual behavior should be influenced by the family context and particularly the cultural orientation of partners or other adults present in the household. The presence of another migrant adult in the household could decrease the respondent's effort and motivation to establish inter-ethnic social ties and/or signal a female "tied mover" (Mincer 1978), both being related to a lower maternal employment propensity.

Third, we argue that the mother's social neighborhood is influential for her employment behavior through the channel of social desirability. To this end, we use the Sinus milieu concept which defines milieus geographically in terms of housing blocks. Moreover, it clusters individuals not only in terms of spatial but also social proximity. Hence, a milieu is defined as a cluster of housing blocks with inhabitants pursuing the same lifestyle. For example, basic orientations in upper-class milieus are shaped by performance and success ethics, the desire for self-determination, intellectuality and responsibility (Sinus Markt- und Sozialforschung GmbH 2015: 16). The implementation of these orientations in practical behavior is made possible by the high economic resources in the form of formal education, professional status and income that characterize the high social situation of the upper class milieus.

Fourth, as discussed earlier, migration biography features provide information on cultural distance to the host country (country of ancestry), the potential advancement of integration (immigration period) and the motivation to migrate (refugee experience).

Fifth, as to acculturation and integration, we measure structural integration by current German language proficiency (0= not at all, 4=very good, 5=no migrant background)[21] and experience of discrimination due to descent (0=no migrant background, 1=never, 3=often)[22]. We measure social integration by having received visits from Germans in the previous year (yes/no)[23] and having visited Germans in the previous year (yes/no). Emotional integration can be measured with feeling German (0=no migrant background, 1=fully, 5=not at all) and the sense of a foreign nationality (1=very strong, 5=not at all, 6=no migrant background). As the named cultural distinctions are not measured every year, we have to deal with missing values. We keep values from previous years for subsequent years as long as the variable is measured again. As noted in Table 1, our data is overwhelmingly cross-sectional. Cultural habits are not at our disposal since they were collected for the last time in 2000[24] or have too many missing values[25]. Parenting styles are asked only from parents with children aged 7 to 8 (Richter et al. 2017). Unfortunately, we do not have information on migration motivation either.

In the estimations, we incorporate the named cultural dispositions (importance of job success, church attendance and six indicators of structural/emotional/social integration) in separate estimations and, alternatively, altogether in one single estimation. Further, in main component analyses preceding the multivariate regressions, we investigated the covariance structure of the named eight indicators. We came up with three ***latent factors***. The first one which is strongly associated with language proficiency, discrimination experience, feeling German and sense of foreign nationality reflects the structural-emotional integration level of the respondent. The second factor is formed by visits and received visits

[21] plj0071 (language skills: German), observed in 2007, 2008, 2009, 2010, 2011, 2013, 2015, 2016; plj0072 (writing skills: German), observed in 2007, 2008, 2009, 2010, 2011, 2013, 2015, 2016; plj0073 (Reading skills: German), observed in 2010, 2011, 2013, 2015, 2016. The generation of the indicator follows Brücker et al. (2019), p. 60. The scores (0=not all, 1= fairly bad, 2=not bad, 3=good, 4=very good) for each language proficiency category (language, writing, reading) are added. The composite indicator is divided into five groups (0=not at all, 1-3= fairly bad, 4-6=not bad, 7-9=good, 10-12=very good).

[22] Variable plj0048, observed in 2007, 2008, 2009, 2010, 2011, 2013, 2015, 2016.

[23] Variable plj0060: having visited Germans, observed in 2007, 2009, 2011, 2013, 2015; plj0062: having received visits from Germans in previous 12 months, observed in 2007, 2009, 2011, 2013, 2015

[24] plj0064 (Listen to Music from home country); plj0065 (Cook home country cuisine)

[25] plj0070 (Newspapers from Germany vs. country of origin)

of Germans and therefore signals social integration. The third factor captures church attendance and job importance and thus can be seen as an indicator for gender roles and family values. We make use of these latent factors in our sensitivity analysis for the underlying eight factors in our main analyses.

All in all, we differentiate between 12 specifications of culture (S1-S12) in our estimations (Table 2). S1 is very basic in the sense that it accounts for economic resources only (human capital and household context). That is, it does not refer to cultural distinctions except – in the sample of migrant mothers – for those who are embodied in the migration background information (country of ancestry, immigration period) which is included in each of the 12 specifications. S2 employs milieu affiliations, with the modern upper class as a reference. S3 replaces milieu affiliations by the eight cultural dispositions discussed above. S4-S8 use church attendance (4), language proficiency (5), discrimination experience (6), importance of job success (7) and the four indicators of social /emotional integration (8) separately. S9 incorporates all three latent factors at once, S10-S12 use them separately (10=structural/emotional integration, 11= social integration, 12=gender roles/family values).

Table 2: Hypotheses referring to culture and corresponding variable specifications

	Hypotheses referring to culture			
	2a Individually reported cultural distinctions (norms/beliefs/gender roles)	2b Behavioral expectations arising from milieus	2c Individually reported integration advancement	Individual reports (2a+2c)
Specification of cultural distinctions	S4, S6, S7, S12	S2	S5, S6, S8, S10, S11	S3, S9

The Sinus® milieu which the mother is most likely to be affiliated to is used as a proxy for her social neighborhood in this study. Sinus-Milieus® are a typology that was determined in market research and has been identified from value priorities, lifestyles and the social status of the persons through qualitative analysis procedures. They are provided by Sinus Sociovision GmbH. [26] In 2010, there was a change in the milieu classification. **Table A1 in the** A**nnex** provides brief descriptions of the 10 milieus in the classification since 2010. The middle and upper layers of the population with a traditional basic orientation have regressed over the years; instead, groups with a more modern basic orientation have become more differentiated. In the middle class, this also applies to people with a distinctly individualistic basic orientation. The milieus are available for the first time for the year 2000. In order to be able to assign each person in the sample for each observation year 2007-2015 a most probable milieu in a consistent manner, we have transformed the 10 Sinus-Milieus® into 9 milieu categories as combinations of 3 basic orientations and 3 social status (see **Table A2 in the Annex**). These 9 status-orientation combinations are used as regressors in the multivariate analyses. Each mother in the sample

[26] To obtain milieu information in the SOEP data set, the MOSAIC Milieus® were matched via the microm data. MOSAIC-Milieus® serve to systematically describe the regional environment of the SOEP respondents (e.g. the type of residential area, socio-structural information as well as information on the probability of occurrence of the various Sinus-Milieus®, cf. Küppers 2018). Due to the small size of the additional information (house block level), an analysis is only possible on specially secured devices at the SOEP group at DIW Berlin for reasons of data security (cf. Goebel et al. 2007, p.1). Each of the ten milieu variables available in the SOEP data set indicates the statistical probability with which a household can be assigned to the respective milieu (cf. Goebel et al. 2007, p. 28; Goebel et al. 2014).

is assigned the milieu she is statistically most likely to be affiliated to. Thus, milieu information does not inform us on individual attitudes of our sample person but, as we assume that individuals strive to match the behavioral expectations of their peers, we suggest that mothers living in milieus with conservative basic orientations will tend to follow traditional gender roles. Further, we suggest that mothers who live in milieus with a high social status will expose of more dense occupational networks and a higher success ethic compared to mothers living in milieus with lower status.

In order to also take into account the potential influence of the economic and institutional context, three *macro-level factors* are taken into account at the level of spatial planning regions (ROR)[27] (district type[28], unemployment rate, gross domestic product (GDP) per capita). These macro-level factors for the years 2007 to 2016 are derived from the INKAR data. A large number of studies have proven the influence of the settlement type on employment (Speil et al. 1988, Van Ham and Büchel 2004). In the first stage estimations of individual childcare use, coverage rates for children under 3 years are also taken into account. The coverage rates at county level are not differentiated according to migration background.[29] The coverage rates are not available before 2006. For the years from 2007 to 2016, they are taken from the Federal and State Statistical Offices (2008-2017).

Year dummys are incorporated to disentangle individual-level from calendar year effects. For example, a high influx of immigrants within a short period of time can seldom be immediately and completely absorbed by the labour market, even when the economic conditions are favourable. In 2016, foreign women and men from non-European countries that have access to asylum as well as the EU accession states in 2007 (Bulgaria, Romania) recorded sharp increases in unemployment (Federal Employment Agency 2017, p. 17 f.). Table A3 depicts descriptive statistics of the incorporated explanatory variables.

Models

Due to the highly unbalanced structure of the data, we are not able to apply panel data models that would have allowed us to control for unobserved heterogeneity of sample individuals. Instead, we use pooled data sets in all estimations.[30] Theoretically, unobserved individual traits can affect employment decisions at the intensive and extensive margin, in terms of a shift factor and/or via their impact on single covariates. Disentangling the within-person from the between-person variation in individual employment across time requires at least two observations per person, which is the case for only seven out of ten (71.8%) of our sample (see Table 1). Note however, that our key variables are fully time-invariant (migration status (direct/indirect), country of origin, immigration period) and covariates like milieu and education are hardly time-variant. Thus, the research question of this article is more of a cross-sectional than a longitudinal nature as its primary focus is on the between-person variation in employment.

With respect to childcare use we analyse the probability of use of state-subsidized childcare (daycare centres or child minders) for the youngest child in the household. In the context of the employment

[27] RORs (*Raumordnungsregione*n) are larger than counties, hence district type varies more within RORs.
[28] Categories of district type are: large cities, urban counties, rural counties showing densification tendencies, and sparsely populated rural counties (reference category).
[29] We are unable to calculate county-specific coverage rates for children with and without migration background separately. The reason is that although the number of migrant children who are enrolled in state-subsidized childcare can be identified for the corresponding age group 0-2, the county-specific population numbers of migrant and non-migrant children in this age group are not available.
[30] In principle, a panel model (Random effects probit with Mundlak correction; Mundlak 1978) would also have been possible. However, the samples are too small and the longitudinal scope of the data is not sufficient to formulate the estimation models as panel models.

estimation, the methodological difficulty of the potential endogeneity of individual childcare use arises. The Durbin-Wu-Hausman test (cf. Davidson and MacKinnon 1993) for endogeneity confirms this assumption. [31]

We address this problem as follows. Since both individual **employment propensity** for the individual i in year t (EMP_{it}) and individual childcare use (CC_{it}) probability are binary variables, a bivariate probit model (Heckman 1978) is used as a first model specification, estimating both probabilities simultaneously (**Model 1**).

$$CC_{it} = \alpha + HC_{it}\gamma_0 + HH_{it}\gamma_1 + MIG_{it}\gamma_2 + MIL_{it}\gamma_3 + MAC_{it}\gamma_4 + Y_t\gamma_5 + CH_{it}\gamma_6 + u_{it} \quad (1a)$$

$$EMP_{it} = \alpha + HC_{it}\beta_0 + HH_{it}\beta_1 + MIG_{it}\beta_2 + MIL_{it}\beta_3 + MAC_{it}\beta_4 + Y_t\beta_5 + \widehat{CC}_{it}\beta_6 + \varepsilon_{it} \quad (1b)$$

The likelihood of individual childcare usage (equation 1a) is supposed to be associated with the mother's human capital (HC_{it}), her household context (HH_{it}), her milieu affiliation (MIL_{it}) and, in case of migrant mothers, her migration background type (MIG_{it}). Further confounders are year-specific macro variables on the county level (MAC_{it}) as well as year dummies (Y_t). In addition, we suggest that individual childcare usage is associated to the aggregate childcare coverage rate. CH_{it} depicts the county-specific coverage rate for children aged 0-2, respectively which refers to the mother's residence. The county-specific coverage rates are employed as instruments for the mother's individual childcare use. According to findings for the period 2006-2016, the childcare usage rates calculated in the SOEP are quite close to the aggregate coverage rates of official statistics for the below threes (Jessen et al. 2018).

The likelihood of employment (equation 1b) is formulated as a function of the same individual level and macro-level characteristics that are deployed in the childcare use equation (1a), namely HC_{it}, HH_{it}, MIG_{it}, MIL_{it}, MAC_{it} and Y_t, plus the estimated individual childcare use ($\widehat{CC}_{it}$) obtained as the estimation outcome from equation 1a.

However, since the bivariate probit approach is based on strong parametric assumptions and interpretation is difficult, an alternative estimation of both binary variables is carried out with a two-stage least-squares model (2SLS, Angrist and Pischke 2009) (**Model 2**) using the same set of regressors and instruments as in Model 1, that is, (2)=(1b).[32]

We run the same models for both samples. In all estimations, standard errors are clustered at the individual level.[33]

[31] Firstly, an instrument must be relevant, i.e. it must correlate strongly with the potential endogenous regressor under the control of the exogenous regressors. This is tested using the first stage of a 2SLS estimation. The values of the F statistics are well above the limit value of 10, which indicates a relevant instrument (242.0). Secondly, the instrument must be valid, i.e. it must not be correlated with the dependent variable in the main estimation, the individual employment probability. The required exogeneity is to be assumed for the aggregate coverage rate at the county level, on which the behaviour of individuals is unlikely to have a resounding success. Nevertheless, additional models without individual childcare use and with actual (instead of estimated) childcare use, respectively, were estimated.

[32] Unless explicitly mentioned, the results described below refer to the findings that are consistent in both models with regard to the direction and significance level of the association. If concrete values are mentioned that express the influence of an explanatory variable on the employment probability in percent, these refer to Model 2. However, some interesting results are retrieved from model comparisons with respect to significance levels. Tables depict marginal effects (for bivariate probit estimations) and coefficients for 2SLS.

[33] The multivariate analyses are preceded by principal component analyses, which inform about the correlation structure of the covariates in the two estimation equations. As the rotation method, the orthogonal rotation method

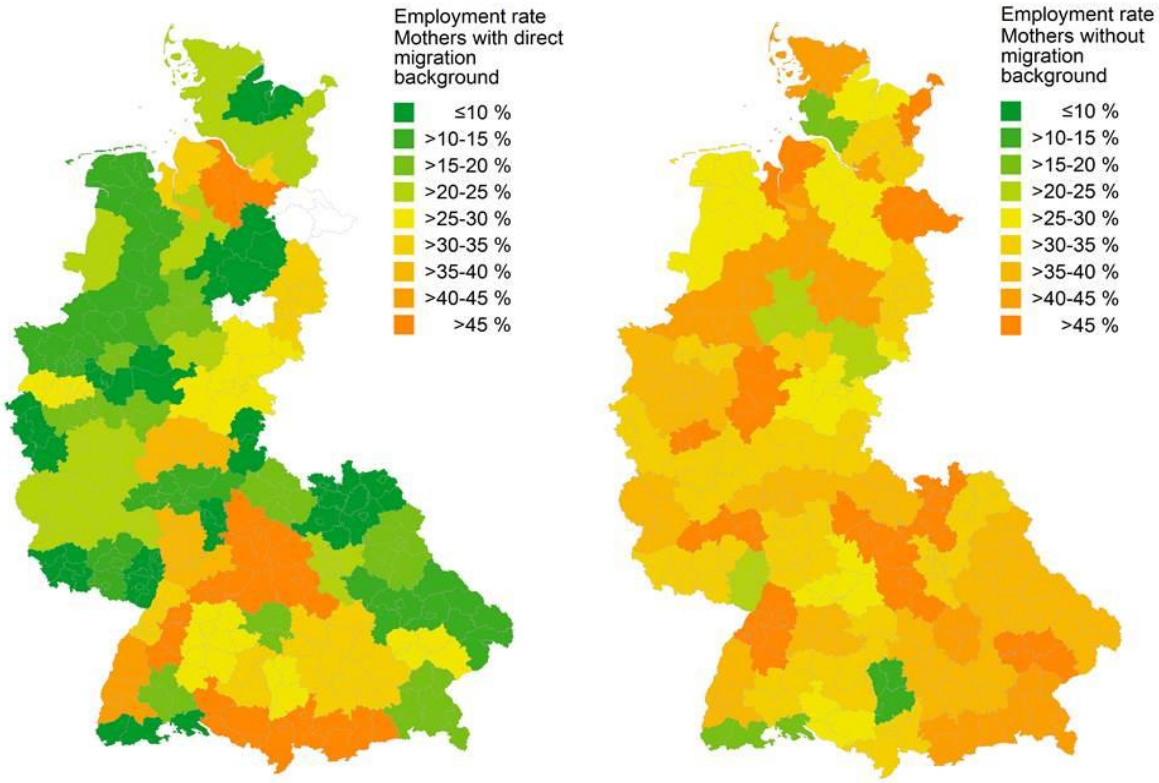
Results

Descriptive statistics

The employment propensity is much higher among non-migrant mothers (36.6 %) than among migrant mothers (22.5 %). Furthermore, the employment propensity within these groups differs between spatial planning regions, especially among migrants (see Figure 1 and Table A3).[34]

The employment rates for mothers without migration background show no regional disparities between Northern and Southern Germany. They range from 13.0 % in Donau-Iller to Westmittelfranken 77.7 %, both in Bavaria. Almost 95 % of the spatial planning regions have employment rates between 20 and 60 %, almost 50 % of the regions show employment rates between 30 and 40 %. Among migrant mothers, differences are between spatial planning regions are higher. About one fifth have employment rates below 10 %. One quarter of the regions ranges between 10 and 20 %, another quarter exhibit employment rates between 20 and 30 %. Regions in Southern Germany have on average slightly higher employment rates than regions in the North.

Figure 1: Employment rates by migration background and spatial planning region



"Varimax" is selected. In summary, the principal component analyses show that the data confirms our economic model. As expected, the three factors nationality, country of origin and immigration period are closely related. We therefore refrain from using nationality. It is interesting to note that none of the other socio-demographic characteristics of the parents that are relevant to the employment context – age, level of education, household context – correlates significantly with the migration biographical characteristics (country of origin, immigration period, nationality).

[34] We report average employment rates over time. Note that due to low observation numbers in some spatial planning regions of the sample, the actual numbers can differ. However, the large variation between regions underlines the necessity to include RORs as a control variable in the multivariate analyses.

Sources: SOEP v33; HWWI.

Concerning the independent variables, migrant and non-migrant mothers also exhibit different characteristics (see Table A4). Non-migrant mothers are somewhat younger, have a higher work experience and are more highly educated on average.[35] The higher educational average is for its most part driven by a lower share of lowly educated mothers. Non-migrant mothers are less often associated to the lower class holding new basic values (hedonists) but more often affine to the modernistic upper class. They are more likely to live in sparsely populated rural counties and possess slightly more egalitarian gender roles (they assign job success a slightly higher importance). Interestingly, there is hardly any difference between both groups with respect to household context such as age and number of children, or the fraction of mothers who make use of public childcare for their below three-aged child.

Both groups display a rather low level of religious practices. Within the range of never (0) and every week (3), both groups of mothers report an average value of 0.7.

In order to test whether non-migrant and migrant mothers differ from each other with respect to the independent and dependent variables, we use a two-sample t-test (see Table A4). The results indicate that the means of most variables are statistically different between the two groups.[36]

Main multivariate analyses

Before referring to the results of the estimation of the employment propensity, we briefly summarize the results first stage of the 2SLS regression, i.e. the estimation of the individual usage of public childcare.[37] In the group of migrant mothers, using public childcare is positively associated with work experience, graduate education, living in a large city (in some specifications, on a 10% significance level only), being single parent (in some specifications, on a 10% significance level only), a higher age of the youngest child and the absence of another adult with direct migration background. The latter accords with previous findings for Germany indicating a lower public childcare attendance probability for under threes whose parents have both a migrant background (Alt et al. 2016). Age does not show significant correlations to individual childcare usage, the same holds true for macro level factors except settlement structure (see Table A5).

As to the specification of culture, having roots in a former CIS country negatively relates to individual childcare usage. The immigration period, refugee experience, and the milieu the mother is affiliated to in the host country are insignificant. Single cultural distinctions do not show significant associations,

[35] The share of graduate education notably varies across countries of ancestry. While almost every second mother (47.6 %) with roots in the EU-28 and almost two thirds of mothers (65.0 %) in ROW are highly educated, this applies to 2 out of 10 mothers only in Arab and other Muslim states (20.4 %) and to 1 out of 10 mothers in South Eastern Europe (9.9 %). Furthermore, the share of mothers who obtained their educational degree differs between countries: Roughly three quarters of mothers from EU-28, former CIS countries and the rest of the world (ROW) who attained a tertiary education achieved this degree abroad. This applies also to roughly half of mothers with graduate education from South East Europe. Among mothers with medium education and direct migration background, roughly 3 (South East Europe, ROW) and 4 (EU-28) out of 10 mothers, respectively, achieved their educational degree abroad. Information as to whether educational degrees from abroad are formally acknowledged by the German educational system is not available. Accounting for the fact that quality of education correlates with cultural distinctions on the country of ancestry level, measuring the role of cultural distinctions for mothers' employment decisions notably relies on valid information at the individual level.

[36] The only exceptions refer to: high education, traditional middle class, traditional lower class, modern lower class, church attendance, dummy for the absence of another adult with a direct or indirect migration, household type, number of children in the household and childcare use

[37] Detailed results can be found in Table A5 (direct migration background) and A6 (no migration background).

but latent factor three which refers to traditional views proxied by a low importance of job success and a high frequency of religious practices is negatively related to childcare usage. In combination with the insignificance of the named two single factors this points to the importance of other unobserved factors captured by the latent factor which are related to the two observed ones (see Table A5).

Among mothers without migration background, childcare usage is negatively associated with low education and positively associated with high education, being a single parent, the age of the youngest child and living in a large city. Concerning the cultural variables, belonging to the upper traditional class and being more religious exhibit negative associations, while the opposite is true for belonging to the new upper class and receiving visits from other Germans. Similar to migrant mothers, considering success in the job unimportant is negatively related to childcare usage, the latter holds true also in combination with more frequent religious practices (as captured by the third latent factor)(see Table A6).

The results regarding the employment propensity follow the structure of our twelve estimation specifications[38]. Starting with our **slim specification S1** that does not account for any cultural features beyond the individual's migration biography, we note that **economic resources** in terms of human capital and household context are very decisive.

Concerning *human capital*, age is negatively and employment experience is positively associated with employment propensity in both models and both samples. Referring to the 2SLS Model 2 (see Tables A9 (migrant mothers) and A10 (non-migrant mothers)), for non-migrant (migrant) mothers, increasing age by one year lowers employment propensity by roughly 2 (1.4-1.5) percent. Each additional year in the labour market increases this probability by 2.5 (3.0) percent. Compared to medium education, a low (high) education decreases (increases) employment propensity by 12.2% (12.6%) for non-migrant mothers, whereas the effect of low education is weaker (7.1-7.6%) and not statistically significant in case of high education for migrant mothers which may be due to migrant mothers' high variation in educational quality as reported in the descriptives section.

With respect to *household context*, it can be generally stated that Model 2 provides less significant results than Model 1 for both samples, but particularly for migrant mothers. This is not surprising since the household context plays a crucial role also for individual childcare use which is estimated in step 1 of the 2SLS model. For non-migrant mothers, being a single parent decreases employment propensity in both models (although statistically significant only in Model 1), whereas a higher age of the youngest child, an increasing number of children and a higher (estimated) use of childcare increases it (the latter being also significant in Model 1 only).[39] Further note that a higher age of the youngest child means a switch from age 0 to age 1 or from age 1 to age 2 since the sample comprises only mothers with a youngest child below three (see Tables A8 (Model 1) and A10 (Model 2)). For migrant mothers, the direction of effects are the same, but effect sizes are notably smaller for the number of children and for family type in Model 1 and age of the youngest child is the only significant variable (at 10% level) in Model 2. The absence of another adult with an indirect or direct migration background shows ambiguous results across models and samples. For migrant mothers, the effect is insignificant throughout models for a direct migration background. For an indirect migration background, significant associations have a positive sign. In a cautious interpretation, this could indicate the absence of a tied mover or trailing spouse, confirming the positive employment associations, but the overall evidence in our data on this theory is rather weak (see Tables A7 (Model 1) and A9 (Model 2)).

[38] Tables A7–A10 depict detailed results.

[39] Note that a higher number of children means that the youngest child below three is not the mother's youngest child which might correspond to a higher labour market attachment of those mothers.

Concerning *migration biography*, immigration period is decisive. Compared to immigration between 1950 and 1994, being immigrated between 2010 and 2016 is associated with a 14 percent lower employment probability for migrant mothers. Immigration from 1995 to 2009 does not significantly hamper employment propensity, the same applies to country of ancestry. A refugee experience decreases employment likelihood by 8.6-9.0% (significant at the 10% level) if migration biography control refers to immigration period or is not controlled at all. However, if it refers to country of ancestry, the refugee parameter turns insignificant (see Table A9).

For non-migrant mothers, adding milieus in **Specification S2** leaves the associations of economic resources (human capital and household context parameters) widely unchanged in both models (see Tables A8 (Model 1) and A10 (Model 2)). . For this group, the milieu affiliation does not show significant relations to employment probability. The picture is different for migrant mothers. In Model 2, maternal education and the household context turn completely insignificant when milieus are added to the model, and milieus themselves are insignificant (see Table A9). In Model 1, milieu affiliation leaves other parameters untouched (as for non-migrant mothers), but milieu itself shows significant associations to employment (see Table A7). Specifically, compared to mothers affiliated to the modern upper class (reference), mothers affiliated to the new middle class, the modern or traditional lower class feature a significantly lower employment propensity. The difference is most pronounced (in terms of statistical significance and effect size) for the modern lower class. The direction of the effect is independent of the type of migration biography that is controlled for (only country of origin/only immigration period/none), and effect sizes are virtually the same. The significance is somewhat lower when immigration period is controlled for. Note that the correlation between education and milieu is weaker for migrants than for non-migrants, as descriptive statistics show. A notable part of migrant mothers with graduate education is affiliated to the hedonistic milieu (new lower class) which is the case for a minority of their non-migrant counterparts.

In **specification S3**, milieus are replaced with the above named eight individual cultural dispositions. Six of them address aspects of social, structural and emotional integration, respectively. It turns out that only the importance of job success which is used as a proxy for egalitarian gender roles is (negatively) significant for both groups of mothers in both models and, among migrant mothers, irrespective of the specification of migration biography. This means that the higher the agreement of the mother to this item, the more is she likely to be employed. This confirms our expectations. The significance and effect size of gender roles is somewhat higher for non-migrant than for migrant women (1 % vs. 5% level). For migrant mothers, language proficiency is positively related to employment in some specifications, but only on a 10% significance level (see Table A7). Any of the other cultural dispositions do not show significant associations to employment. The role of mothers' migration background, household context and human capital remains unchanged compared to the slim specification S1. The only exception refers to the role of high education in the group of migrant mothers. Adding cultural dispositions results in a loss of significance of the high education parameter, but this is true for migrant mothers only.

Specifications S4-S8 incorporate different items of cultural disparities separately. S4 accounts for church attendance, which is insignificant in both models and samples. The insignificance may be due to a low level of religious practices as reported in the descriptive statistics section. Within the range of never (0) and every week (3), both groups of mothers report an average value of 0.7. Other model parameters remain virtually unchanged. S5 and S6 account for language proficiency and experience of discrimination, respectively, which both applies for migrant mothers only (see Tables A7 and A9). Whereas language proficiency is positively related to employment probability in the specifications which do not control for immigration period (the latter being plausibly connected to language skills), discrimination experience does not exert significant associations in any specification. Also here,

parameters of household context and human capital remain unchanged compared to S1. Specification S7 incorporates gender role orientation which proves to be highly significant in both models and samples, which migrant mothers exhibiting a slightly lower effect size (5%) and significance (5% level) than non-migrant mothers (6% effect size, at 1% significance level). The decrease in employment propensity refers to switching from one score to a higher one on a 4-score-scale (1=very important, 4= unimportant). Presumably due to less pronounced differences in formal education between migrant compared to non-migrant women (see Table A4), the parameter of high education is lost in S7 in the sample of migrant women (see Tables A7). Specification S8 addresses migrant mothers only as it focuses on socio-emotional integration. None of the four indicators shows a significant relation to maternal employment, neither in the bivariate probit (see Table A7) nor in the 2SLS (see Table A9) estimation. Interestingly, the parameter of high education turns significant at 5% level in this specification (as far as country of origin is left out from the controls), which is different to S2-S7 (where high education is insignificant) and also compared to S1 (where it is significant at the 10%-level only). Visiting Germans and receiving visits from them, feeling German and a sense of foreign nationality does not substantially correlate with graduate education and neither with employment.

Robustness checks

Specification S9 includes the three latent factors together. Factors 1 and 2, which reflect emotional/structural and social integration, respectively, do not provide a meaningful interpretation for non-migrant mothers. Factor 3 which indicates traditional views in terms of frequent religious practices and a low importance of job success, is negatively correlated with maternal employment propensity. For migrant mothers, the parameter of factor 3 has the same sign, but effect size and significance are at a slightly lower level. The specification of migration background does not affect effect size but significance tends to be lowest when immigration period is controlled for. Factor 1 is insignificant in the 2SLS model (see Table A9) and hardly significant in the bivariate probit model (see Table A7). This is in line with the results of the S8 specification. Language proficiency which also enters factor 1 showed some relevance in S5 and presumably drives the partly significant associations displayed in S9 for the bivariate probit model (the significance of factor 1 is lost in the 2SLS model). Factor 2, absorbing features associated with social integration displays positive linkages (although with a fairly low effect size) to employment propensity, but again, the significance vanishes in the 2SLS model. The finding is nonetheless interesting since social integration turned insignificant in S8 when grouped together with emotional integration. Hence, the results suggest that social integration has an independent impact on mothers' employment probability. Factor 3 is negatively associated to maternal employment probability and remains significant (yet on a lower level which is due to its significant association to childcare use also) in the 2SLS model. For all three latent factors, it can be stated that parameters of economic resources are unchanged compared to the slim specification S1. **Specifications S10-S12** incorporate each of the three latent factors separately, where once again, factor 3 turns out to be most significant, albeit less significant and of lower effect size compared to S6 which focuses on job success importance only. This holds for both samples and models. As it seems, the poor relevance of religious practices (due to a low sample variation in this aspect) dilutes the effect of gender roles in the S12 specification. Other model parameters remain again unaffected.

Discussion

As our results suggest, a mother's employment propensity is closely related to her human capital and household context. The employment associations of **economic resources** are mostly unaffected by the specification of culture and furthermore untouched by other controls such as macro-level factors or year fixed effects. As to *human capital*, age and work experience turn out to be most robust. Education, particularly high education, is of less statistical relevance for migrant mothers compared to non-migrant mothers. For non-migrant mothers, education of all types is highly significant throughout models and variable specifications. For migrant mothers, high education seems to be closely related to gender roles and structural integration (discrimination experience, German language proficiency). At the same time, high education seems to be uncorrelated with socio-emotional integration (in terms of visits from Germans, feeling German etc.). Further, the significance of high education depends on the specification of migration biography: it is particularly low when country of ancestry is controlled for, which is explained by diverging educational compositions of migrants across countries. Third, the model type is influential: Migrant mothers' graduate education which is highly relevant both in effect size and significance for childcare usage, loses significance in the 2SLS estimations of employment propensity. The same applies to the household context. Leaving the relation to childcare aside, we learn from model 1 results that the household context and, as to human capital, age, employment experience and low vs. medium education are crucial to both groups whereas high education is of less statistical relevance for migrant mothers as soon as cultural features are controlled for.

Household-related limitations to a full use of human capital are decisive, but they differ between models and samples. For both groups of mothers, a higher age of the youngest child, a lower number of children, a higher (estimated) use of child care and not being a single parent is associated with a higher employment propensity throughout variable specifications in Model 1. The highest significance level is thereby observed for the age of the youngest child. The positive relation of a higher number of children to employment propensity disaccords with economic theory which postulates a higher household productivity (and therefore a lower employment likelihood) with an increasing number of children. We suggest that the higher experience of mothers in child-rearing that is associated to a higher number of children might drive the result. Effect sizes, significance levels and directions of the effects are virtually the same throughout specifications for both mother samples. However, effect sizes notably differ between samples. Whereas childcare use is of a higher importance to non-migrant mothers' employment, the opposite holds for household type and the number of children. Being a single parent is of double effect size for migrant compared to non-migrant mothers, whereas the parameter magnitude with respect to the number of children is only slightly different and effect sizes are almost identical referring to the age of the youngest child. Generally, the significance of parameters is lower in Model 2 compared to Model 1, which is due to a high relevance of household features to mothers' use of childcare also. In Model 2, for non-migrant mothers the significance of the estimated childcare use and of the household type is lost. Among migrant mothers, all household characteristics except the age of the youngest child turn insignificant here. The absence of a further adult with a migration background in the household is sometimes positively associated to a migrant mother's employment chance but the picture is too inconsistent to derive stringent conclusions on the trailing spouse-theory.

In a nutshell, **hypothesis 1** which postulates that economic resources are decisive for maternal employment irrespective of cultural distinctions can be confirmed for both groups of mothers. With respect to human capital, this holds with the sole exception of high education for migrant mothers. Household context is of different importance to migrant and non-migrant mothers in some aspects and of similar importance in others and moreover, some aspects seem to be closely related to mothers' childcare usage.

Hypothesis 2a is partly confirmed. Our results strongly support the notion that a high individual relevance of job success boosts mothers' employment. This holds for non-migrant and (to a somewhat lesser extent) for migrant mothers. As a mother's high appreciation for job success indicates rather egalitarian gender roles, our findings accord with previous findings which highlight the importance of gender roles for maternal employment. As our results show, this holds even when individual economic resources in terms of human capital endowments and their household-related restrictions are controlled for. On the contrary, church attendance does not prove relevant associations in this regard. This might be due to a decreasing importance of religious norms as an integral part of general social norms, resulting in lower social pressure to adhere to these norms (indicated e.g. by a lower performance of religious rites, cf. Hagevi 2017 for Sweden).

Hypothesis 2b is only partly confirmed. We find significant associations for migrant mothers only. For non-migrant mothers, milieus do not sufficiently reflect behavioral expectations from the side of social neighborhood or these expectations are too weak to effectively exert an independent impact on mothers' employment behavior beyond socioeconomic traits on the individual and household level. Indeed, descriptive statistics shows that whereas highly educated mothers without migration background rather refer to upper class milieus, a notable part of their similarly educated counterparts with migration background is affiliated to lower class milieus (especially the escapists). For first generation migrant mothers which are referred to in this study, there is notable variance. As the used milieu concept in this study does refer to basic orientations and social status, it is likely that the behavioral stimulus induced by milieus is multifaceted, ranging from normative settings to different social, cultural and economic capital (Bourdieu 1983).

Hypothesis 2c which addresses migrant mothers only is only partially confirmed**.** Language proficiency (S5) is significantly related to employment propensity but discrimination experience as the second indicator for structural integration is not (S6). Language proficiency seems to be correlated with immigration period, which is intuitive. Mothers' social integration in terms of having visited Germans and received visits from them in the previous year (S9, S11) tends to enhance employment and seems to be of relevance for individual childcare use also which stresses the role of public childcare institutions as network platforms for (especially) migrant mothers. Emotional integration measured in a (lower) sense of foreign nationality and feeling German (S8, S10), respectively does not prove statistically significant associations to employment probability of mothers.

Conclusion

In summary, it can be seen that beyond mothers' economic resources (human capital and household context), cultural distinctions shape their employment behavior and the use of state-subsidized childcare. Thus, the data does neither support the notion of a 'dominance of culture over money' nor does it come to the opposite conclusion. Rather, cultural factors can be decisive in the event of equal economic endowments, and the opposite holds also true. As to migrant mothers, countries of ancestry do not exert independent associations to employment behavior. We suggest that this is partly due to significant correlations of attitudes with institutional factors on the national level and further a result of the study design, making extensive use of cultural distinctions on the individual level. In this regard, the importance of job success which is used as a proxy for gender role orientation turns out to be decisive for both groups of mothers. Thus, our findings point to a relevant variation of egalitarian views not only across, but also within groups of mothers with similar economic endowments. Moreover, economic endowments are less closely related to social milieu affiliation for migrant mothers, compared to their

non-migrant counterparts. It seems as if the twofold link between graduate education and labour market attachment which is motivated by both a higher economic and social capital and more egalitarian views has to be questioned for migrant mothers. What is deemed socially desirable from the side of peers seems to play a crucial role beyond individual orientations shaped by education. Or, as an alternative explanation, social neighborhood moderates the returns to human capital more strongly for migrant than for non-migrant mothers. Further, an advanced structural and social integration into the host country's society seems to boost maternal employment, supporting previous findings. Finally, economic and cultural traits significantly impact individual childcare usage. As our 2SLS estimations show, some individual traits affect maternal employment rather indirectly by stimulating individual childcare use which by itself enhances employment. This highlights the importance of childcare use as an employment enabler, particularly for migrant mothers.

With regard to political inferences to be drawn from our findings, political communication and information campaigns should aim to raise awareness of the benefits of childcare use for children and their families. Our results are in line with former empirical evidence suggesting that this is particularly important for families with two migrant adults. Moreover, since graduate migrant women's labour market attachment seems less straightforward than that of their similarly educated but autochthonous peers, the former deserve special political attention. Beyond local strategies that help mothers (and fathers) to reconcile family and work which is crucial irrespective of migrant background and education, migrant mothers who often migrate as tied movers (trailing spouses) need additional support to make full use of their human capital and to access jobs which match their attained qualification.

Limitations

This study provides new insights into the mutual behavioral associations of culture. However, due to the lack of longitudinal data in combination with sometimes low observation numbers, we are not able to derive causal relationships. In addition, some criteria such as whether the formal qualification of the mother has been acquired abroad could not be investigated. With the continuous increase in content and longitudinal scope of migrant and refugee data in the SOEP and elsewhere, the issue of unobserved heterogeneity within the migrant population may be addressed more appropriately in future years, ameliorating the robustness of achieved results.

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Appendix

Table A1: Brief Profile of Sinus-Milieus® in Germany

Upper classes	
Established Conservative milieu	The classical Establishment: responsibility and success ethic, aspirations of exclusivity and leadership versus tendency towards withdrawal and seclusion
Liberal Intellectual milieu	The fundamentally liberal, enlightened educational elite with post-material roots, desire for self-determination, an array of intellectual interests
High Achiever milieu	Multi-optional, efficiency-oriented top performers with a global economic mindset and a claim to avantg arde style, high level of IT and multi-media expertise
Movers and Shakers milieu	The unconventional creative avant-garde: hyper-individualistic, mentally and geographically mobile, digitally networked, and always on the lookout for new challenges and change
Middle classes	
New Middle Class milieu	The modern mainstream with the will to achieve and adapt: general proponents of the social order, striving to become established at a professional and social level, seeking to lead a secure and harmonious existence
Adaptive Pragmatist milieu	The ambitious young core of society with a markedly pragmatic outlook on life and sense of expedience: success oriented and prepared to compromise, hedonistic and conventional, flexible and security oriented
Socio-ecological milieu	Idealistic, discerning consumers with normative notions of the 'right' way to live: pronounced ecological and social conscience, globalisation sceptics, standard bearers of political correctness and diversity
Lower middle / lower classes	
Traditional milieu	The security and order-loving wartime/post-war generation: rooted in the old world of the petty bourgeoisie or that of the traditional blue-collar culture
Precarious milieu	The lower class in search of orientation and social inclusion, with strong anxieties about the future and a sense of resentment: keeping up with the consumer standards of the broad middle classes in an attempt to compensate for social disadvantages, scant prospects of social advancement, a fundamentally delegative / reactive attitude to life, and withdrawal into own social environment
Escapist milieu	The fun and experience-oriented modern lower class/lower middle class: living in the here and now, shunning convention and the behavi-oural expectations of an achievement-oriented society

Source: SINUS Markt- und Sozialforschung GmbH (2015), p. 16.

Table A2: Status-orientation combinations (in italics) with their respective milieu names in the respectively valid milieu classification 2000-2009 or from 2010 onwards

Social status	**Upper class**	Upper Conservatives	Well-Established	Modern Performers
			Post-Materialists	
			Established conservatives	High Achievers
			Liberal intellectuals	
		Traditional upper class	*Modern upper class*	*New upper class*
	Middle class	Nostalgics of former GDR	New middle class (2000)	Experimentalists
			New middle class (2010)	Movers and Shakers
			Socio-ecologicals	Adaptive-Pragmatists
		Traditional middle class	*Modern middle class*	*New middle class*
	Lower class	Traditionals	Consumer-Materialists	Escapists (2000)
		Traditionals	Precarious	Excapists (2010)
		Traditional lower class	*Modern lower class*	*New lower class*
		Tradition	**Modernisation**	**Re-orientation**
			Basic values	

Sources: Sinus Markt- und Sozialforschung GmbH (2015), p. 14-19, own illustration.

Remarks: The top row in each cell indicates the milieus according to the concept 2000-2009, the middle row of each cell the milieu valid from 2010 (if still available, blank lines indicate milieu mergers). The milieus in italics are the situation-orientation combinations used in the multivariate analyses

Table A 3: Regional employment rates by migration background

Spatial planning region		no migration background	direct migration background	Spatial planning region		no migration background	direct migration background
101	Schleswig-Holstein Mitte	0.286	0.000	605	Starkenburg	0.320	0.385
102	Schleswig-Holstein Nord	0.426	0.214	701	Mittelrhein-Westerwald	0.324	0.242
103	Schleswig-Holstein Ost	0.588	0.210	702	Rheinhessen-Nahe	0.577	0.240
104	Schleswig-Holstein Süd	0.323	0.250	703	Rheinpfalz	0.231	0.091
105	Schleswig-Holstein Süd-West	0.186	0.250	704	Trier	0.381	0.235
201	Hamburg	0.444	0.308	705	Westpfalz	0.319	0.125
301	Braunschweig	0.306	0.333	801	Bodensee-Oberschwaben	0.273	0.600
302	Bremen-Umland	0.442	0.235	802	Donau-Iller (BW)	0.320	0.333
303	Bremerhaven	0.471	0.333	803	Franken	0.288	0.643
304	Emsland	0.294	0.222	804	Hochrhein-Bodensee	0.182	0.077
305	Göttingen	0.217	0.273	805	Mittlerer Oberrhein	0.551	0.333
306	Hamburg-Umland-Süd	0.273	1.000	806	Neckar-Alb	0.354	0.273
307	Hannover	0.432	0.067	807	Nordschwarzwald	0.525	0.471
308	Hildesheim	0.409		808	Ostwürttemberg	0.338	0.167
309	Lüneburg	0.583		809	Schwarzwald-Baar-Heuberg	0.350	0.174
310	Oldenburg	0.303	0.133	810	Stuttgart	0.360	0.258
311	Osnabrück	0.417	0.111	811	Südlicher Oberrhein	0.386	0.414
312	Ost-Friesland	0.289	0.111	812	Unterer Neckar	0.350	0.364
313	Südheide	0.292	0.000	901	Allgäu	0.333	0.500
401	Bremen	0.367	0.375	902	Augsburg	0.366	0.308
501	Aachen	0.313	0.080	903	Bayerischer Untermain	0.344	0.000
502	Arnsberg	0.600	0.000	904	Donau-Iller (BY)	0.130	0.300
503	Bielefeld	0.233	0.188	905	Donau-Wald	0.395	0.154
504	Bochum/Hagen	0.362	0.071	906	Industrieregion Mittelfranken	0.316	0.231
505	Bonn	0.468	0.214	907	Ingolstadt	0.405	0.333
506	Dortmund	0.324	0.172	908	Landshut	0.543	0.273
507	Duisburg/Essen	0.377	0.150	909	Main-Rhön	0.381	0.200
508	Düsseldorf	0.389	0.261	910	München	0.392	0.329
509	Emscher-Lippe	0.317	0.115	911	Oberfranken-Ost	0.310	0.000
510	Köln	0.370	0.156	912	Oberfranken-West	0.531	0.000
511	Münster	0.406	0.148	913	Oberland	0.412	1.000
512	Paderborn	0.318	0.231	914	Oberpfalz-Nord	0.370	0.200
513	Siegen	0.520	0.200	915	Regensburg	0.357	0.125
601	Mittelhessen	0.330	0.364	916	Südostoberbayern	0.434	0.174
602	Nordhessen	0.275	0.286	917	Westmittelfranken	0.778	1.000
603	Osthessen	0.316	0.059	918	Würzburg	0.469	
604	Rhein-Main	0.380	0.148	1001	Saar	0.333	0.000

Sources: SOEP v33, HWWI.

Table A 4: Descriptive statistics

	no migration background				direct migration background				Two-sample t-test	
	Mean	SD	Min	Max	Mean	SD	Min	Max	Difference between means	p-value
Dependent variable										
Employment propensity	0.366	0.482	0	1	0.225	0.418	0	1	0.141	0.00
Economic resources										
Human capital										
Age	33.623	5.130	20	52	32.752	5.173	20	50	0.872	0.00
Work experience	8.225	5.222	0	26.7	5.836	4.958	0	24.2	2.389	0.00
Education										
Low	0.091	0.288	0	1	0.224	0.417	0	1	-0.133	0.00
Medium	0.583	0.493	0	1	0.463	0.499	0	1	0.121	0.00
High	0.326	0.469	0	1	0.313	0.464	0	1	0.012	0.40
Household context										
Dummy: no further direct migration background in the household	0.811	0.391	0	1	0.824	0.381	0	1	-0.013	0.29
Dummy: no further indirect migration background in the household	0.829	0.377	0	1	0.313	0.464	0	1	0.515	0.00
Household type (1=single parent)	0.052	0.223	0	1	0.062	0.242	0	1	-0.010	0.16
Number of children in the household	2.051	1.057	1	8	2.098	1.031	1	8	-0.047	0.15
Age of youngest child	1.311	0.701	0	2	1.247	0.731	0	2	0.064	0.00
Childcare use	0.148	0.355	0	1	0.137	0.344	0	1	0.010	0.34

Table A 4 continued: Descriptive statistics

Cultural variables										
Migration background										
Refugee experience	0.000	0.000	0	0	0.086	0.281	0	1	-0.086	0.00
Migration background										
no migration background	1.000	0.000	1	1	0.000	0.000	0	0	1.000	0.00
direct migration background	0.000	0.000	0	0	1.000	0.000	1	1	-1.000	0.00
Country of origin										
EU-28	0.000	0.000	0	0	0.322	0.468	0	1	-0.322	0.00
South East Europe	0.000	0.000	0	0	0.193	0.395	0	1	-0.193	0.00
Former CIS	0.000	0.000	0	0	0.318	0.466	0	1	-0.318	0.00
Arab/Muslim states	0.000	0.000	0	0	0.066	0.248	0	1	-0.066	0.00
Rest of the world	0.000	0.000	0	0	0.101	0.302	0	1	-0.101	0.00
no migration background	1.000	0.000	1	1	0.000	0.000	0	0	1.000	0.00
Year of immigration										
no migration background	1.000	0.000	1	1	0.000	0.000	0	0	1.000	0.00
1950-1994	0.000	0.000	0	0	0.298	0.458	0	1	-0.298	0.00
1995-2009	0.000	0.000	0	0	0.554	0.497	0	1	-0.554	0.00
2010-2016	0.000	0.000	0	0	0.147	0.354	0	1	-0.147	0.00
Milieu affiliation										
upper class#traditional	0.009	0.092	0	1	0.002	0.046	0	1	0.006	0.01
upper class#modern	0.216	0.412	0	1	0.136	0.343	0	1	0.081	0.00
upper class#new	0.093	0.290	0	1	0.076	0.265	0	1	0.017	0.05

Table A 4 continued: Descriptive statistics

middle class#traditional	0.003	0.051	0	1	0.000	0.000	0	0	0.003	0.06
middle class#modern	0.119	0.324	0	1	0.084	0.278	0	1	0.035	0.00
middle class#new	0.158	0.365	0	1	0.184	0.388	0	1	-0.026	0.03
lower class#traditional	0.120	0.325	0	1	0.121	0.326	0	1	-0.001	0.92
lower class#modern	0.155	0.362	0	1	0.146	0.354	0	1	0.009	0.43
lower class#new	0.128	0.334	0	1	0.251	0.434	0	1	-0.123	0.00
Attend church or other religious events (0=never,...,3=every week)	0.721	0.879	0	3	0.707	0.970	0	3	0.014	0.61
Current language proficiency (0=not at all,..., 4=very good, 5=no migration background)	5.000	0.000	5	5	3.257	0.876	0	4	1.743	0.00
Experience of discrimination (0=no migration background, 1=never,..., 3=often)	0.000	0.000	0	0	1.431	0.609	1	3	-1.431	0.00
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)	2.286	0.715	1	4	2.098	0.809	1	4	0.188	0.00
Visited Germans Previous Year (1=yes)	0.983	0.127	0	1	0.847	0.360	0	1	0.136	0.00
Received Visits From Germans Previous Year (1=yes)	0.989	0.105	0	1	0.902	0.297	0	1	0.087	0.00
Feel German (0= no migration background, 1=fully,..., 5=not at all)	0.000	0.000	0	0	2.586	1.173	1	5	-2.586	0.00
Sense Of Foreign Nationality (1=very strong,..., 5=not at all, 6=no migration background)	6.000	0.000	6	6	2.780	1.173	1	5	3.220	0.00
Factor 1	0.623	0.096	0.412	1.387	-1.491	0.606	-3.480	0.110	2.114	0.00
Factor 2	0.061	0.589	-5.617	0.482	-0.220	1.659	-5.545	0.948	0.281	0.00
Factor 3	0.033	0.971	-1.664	3.287	-0.064	1.056	-1.708	3.528	0.097	0.00

Table A 4 continued: Descriptive statistics

Macro-level variables										
Settlement structure										
Large cities	0.222	0.415	0	1	0.362	0.481	0	1	-0.141	0.00
Urban counties	0.450	0.498	0	1	0.412	0.492	0	1	0.038	0.01
Rural counties showing densification	0.191	0.393	0	1	0.147	0.354	0	1	0.044	0.00
Sparsely populated rural counties	0.137	0.344	0	1	0.079	0.270	0	1	0.058	0.00
Unemployment rate	6.055	2.717	1.2	17.0	6.256	2.685	1.3	17.0	-0.200	0.02
GDP per capita (in thousands)	34.895	15.536	14.0	178.7	42.730	21.193	16.2	178.7	-7.834	0.00
Childcare coverage	20.053	7.693	3.0	47.9	23.527	7.363	3.1	43.5	-3.474	0.00
Year										
2007	0.064	0.245	0	1	0.021	0.144	0	1	0.043	0.00
2008	0.048	0.215	0	1	0.023	0.149	0	1	0.026	0.00
2009	0.052	0.221	0	1	0.026	0.160	0	1	0.025	0.00
2010	0.205	0.403	0	1	0.147	0.354	0	1	0.057	0.00
2011	0.168	0.374	0	1	0.120	0.325	0	1	0.047	0.00
2012	0.128	0.334	0	1	0.101	0.302	0	1	0.027	0.00
2013	0.102	0.303	0	1	0.127	0.333	0	1	-0.025	0.01
2014	0.094	0.292	0	1	0.105	0.306	0	1	-0.010	0.01
2015	0.075	0.263	0	1	0.176	0.381	0	1	-0.102	0.26
2016	0.065	0.247	0	1	0.154	0.361	0	1	-0.089	0.00

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

Table A 5: Estimation of individual childcare use (Model 2, first stage): direct migration background

Model specification	1 a	1 b	1 c	2 a	2 b	2 c	3 a	3 b	3 c
Human capital									
Age	-0.002	-0.002	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
Work experience	0.007***	0.006**	0.007***	0.007**	0.006**	0.007**	0.007**	0.006**	0.007**
Education (reference: medium education)									
Low	-0.017	-0.016	-0.018	-0.015	-0.014	-0.015	-0.014	-0.012	-0.012
High	0.123***	0.111***	0.121***	0.116***	0.105***	0.114***	0.114***	0.104***	0.111***
Migration background									
Refugee experience	-0.014	-0.019	-0.013	-0.014	-0.021	-0.013	-0.013	-0.015	-0.011
Country of origin (reference: EU28)									
South East Europe		-0.036			-0.031			-0.037	
Former CIS		-0.056**			-0.06**			-0.056*	
Arab/Muslim states		-0.027			-0.026			-0.04	
Rest of the world		-0.002			-0.005			-0.002	
Year of immigration (reference: 1950-1994)									
1995-2009			0.013			0.013			0.017
2010-2016			0.022			0.019			0.032
Milieu affiliation (reference: upper class#modern)									
upper class#traditional				-0.108	-0.129	-0.106			
upper class#new				0.029	0.025	0.029			
middle class#traditional									
middle class#modern				0.024	0.023	0.023			

Table A 5 continued: Estimation of individual childcare use (Model 2, first stage): direct migration background

middle class#new				-0.046	-0.049	-0.047			
lower class#traditional				0.045	0.043	0.044			
lower class#modern				0.02	0.019	0.019			
lower class#new				-0.003	-0.008	-0.004			
Attend church or other religious events (0=never,...,3=every week)							-0.016	-0.018*	-0.017
Current language proficiency (0=not at all,..., 4=very good, 5=no migration background)							0.002	0.004	0.006
Experience of discrimination (0=no migration background, 1=never,..., 3=often)							-0.012	-0.01	-0.012
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)							-0.016	-0.015	-0.015
Visited Germans Previous Year (1=yes)							0.033	0.028	0.032
Received Visits From Germans Previous Year (1=yes)							-0.022	-0.023	-0.022
Feel German (0= no migration background, 1=fully,..., 5=not at all)							0.002	0	0.001
Sense Of Foreign Nationality (1=very strong,..., 5=not at all, 6=no migration background)							-0.01	-0.007	-0.009
Factor 1									
Factor 2									
Factor 3									
Household context									
Dummy: no further direct migration background in the household	0.05**	0.051**	0.051**	0.048**	0.049**	0.048**	0.05**	0.051**	0.051**
Dummy: no further indirect migration background in the household	-0.038	-0.044*	-0.036	-0.041*	-0.048*	-0.04	-0.041*	-0.048*	-0.04
Household type (1=single parent)	0.092*	0.096*	0.09*	0.1**	0.105**	0.098**	0.097**	0.099**	0.094*
Number of children in the household	-0.015	-0.014	-0.014	-0.018*	-0.017*	-0.017*	-0.013	-0.012	-0.012
Age of youngest child	0.146***	0.146***	0.147***	0.145***	0.145***	0.145***	0.146***	0.146***	0.147***

Table A 5 continued: Estimation of individual childcare use (Model 2, first stage): direct migration background

Macro-level variables									
Settlement structure (reference: Sparsely populated rural counties)									
Large cities	0.142**	0.155**	0.142**	0.149**	0.161**	0.148**	0.127*	0.134*	0.126*
Urban counties	0.087	0.095	0.086	0.085	0.091	0.084	0.073	0.078	0.072
Rural counties showing densification	0.049	0.045	0.049	0.043	0.037	0.043	0.045	0.037	0.045
Unemployment rate	-0.001	-0.001	-0.001	-0.004	-0.004	-0.004	-0.001	-0.001	-0.001
GDP per capita	0	-0.001	0	0	-0.001	0	0	-0.001	0
Childcare use	0.005	0.005	0.005	0.004	0.004	0.004	0.005	0.005	0.005
Year (reference: 2007)									
2008	-0.019	-0.009	-0.015	-0.015	-0.004	-0.012	-0.023	-0.014	-0.019
2009	-0.033	-0.024	-0.03	-0.035	-0.027	-0.033	-0.029	-0.019	-0.026
2010	0.037	0.042	0.04	0.041	0.045	0.044	0.035	0.04	0.039
2011	-0.03	-0.028	-0.03	-0.03	-0.029	-0.03	-0.031	-0.03	-0.031
2012	0.064*	0.068*	0.064	0.069*	0.073*	0.068*	0.063	0.066*	0.062
2013	0.002	0.007	0.001	0.008	0.013	0.007	0.007	0.011	0.006
2014	-0.003	0.001	-0.004	0	0.003	-0.001	0.001	0.004	0
2015	-0.02	-0.022	-0.024	-0.011	-0.014	-0.014	-0.017	-0.019	-0.022
2016	0.009	0.006	0.004	0.019	0.016	0.015	0.011	0.009	0.005
Constant	-0.333***	-0.309***	-0.349***	-0.323***	-0.293**	-0.336***	-0.257*	-0.248*	-0.293*
N	1414	1414	1414	1414	1414	1414	1414	1414	1414

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

* p<0.1, ** p<0.05, *** p<0.01

Results for spatial planning regions are not reported.

Table A 5 continued: Estimation of individual childcare use (Model 2, first stage): direct migration background

Model specification	4 a	4 b	4 c	5 a	5 b	5 c	6 a	6 b	6 c
Human capital									
Age	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002
Work experience	0.007***	0.006**	0.007***	0.007**	0.006**	0.007**	0.007**	0.006**	0.007***
Education (reference: medium education)									
Low	-0.019	-0.018	-0.019	-0.016	-0.014	-0.015	-0.016	-0.015	-0.017
High	0.122***	0.109***	0.12***	0.123***	0.111***	0.119***	0.124***	0.112***	0.121***
Migration background									
Refugee experience	-0.015	-0.019	-0.014	-0.014	-0.019	-0.011	-0.014	-0.019	-0.012
Country of origin (reference: EU28)									
South East Europe		-0.039			-0.035			-0.035	
Former CIS		-0.06**			-0.058**			-0.056**	
Arab/Muslim states		-0.035			-0.027			-0.026	
Rest of the world		0.001			0			-0.001	
Year of immigration (reference: 1950-1994)									
1995-2009			0.013			0.018			0.015
2010-2016			0.025			0.033			0.023
Milieu affiliation (reference: upper class#modern)									
upper class#traditional									
upper class#new									
middle class#traditional									
middle class#modern									

Table A 5 continued: Estimation of individual childcare use (Model 2, first stage): direct migration background

middle class#new									
lower class#traditional									
lower class#modern									
lower class#new									
Attend church or other religious events (0=never,...,3=every week)	-0.015	-0.018*	-0.015						
Current language proficiency (0=not at all,..., 4=very good, 5=no migration background)				0.002	0.006	0.007			
Experience of discrimination (0=no migration background, 1=never,..., 3=often)							-0.008	-0.007	-0.009
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)									
Visited Germans Previous Year (1=yes)									
Received Visits From Germans Previous Year (1=yes)									
Feel German (0= no migration background, 1=fully,..., 5=not at all)									
Sense Of Foreign Nationality (1=very strong,..., 5=not at all, 6=no migration background)									
Factor 1									
Factor 2									
Factor 3									
Household context									
Dummy: no further direct migration background in the household	0.051**	0.052**	0.051**	0.05**	0.052**	0.051**	0.049**	0.051**	0.05**
Dummy: no further indirect migration background in the household	-0.039	-0.047*	-0.037	-0.038	-0.046*	-0.037	-0.039	-0.045*	-0.037
Household type (1=single parent)	0.094*	0.099**	0.091*	0.092*	0.096*	0.089*	0.093*	0.097*	0.091*
Number of children in the household	-0.014	-0.014	-0.013	-0.015	-0.014	-0.013	-0.015	-0.014	-0.014
Age of youngest child	0.146***	0.147***	0.147***	0.146***	0.146***	0.147***	0.146***	0.146***	0.147***

Table A 5 continued: Estimation of individual childcare use (Model 2, first stage): direct migration background

Macro-level variables									
Settlement structure (reference: Sparsely populated rural counties)									
Large cities	0.132*	0.143*	0.133*	0.142**	0.154**	0.141**	0.143**	0.155**	0.143**
Urban counties	0.084	0.091	0.083	0.087	0.095	0.086	0.086	0.094	0.085
Rural counties showing densification	0.044	0.038	0.045	0.049	0.044	0.05	0.048	0.044	0.049
Unemployment rate	0	0	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
GDP per capita	0	-0.001	0	0	-0.001	0	0	-0.001	0
Childcare use	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Year (reference: 2007)									
2008	-0.023	-0.012	-0.019	-0.02	-0.009	-0.015	-0.018	-0.007	-0.013
2009	-0.031	-0.02	-0.028	-0.033	-0.024	-0.029	-0.032	-0.023	-0.029
2010	0.036	0.041	0.039	0.037	0.041	0.041	0.037	0.042	0.041
2011	-0.03	-0.029	-0.031	-0.029	-0.028	-0.029	-0.029	-0.028	-0.029
2012	0.062	0.066*	0.061	0.065*	0.07*	0.064*	0.065*	0.069*	0.065*
2013	0.001	0.006	-0.001	0.003	0.008	0.002	0.004	0.008	0.003
2014	-0.004	0	-0.005	-0.002	0.002	-0.003	0	0.003	-0.001
2015	-0.019	-0.022	-0.025	-0.019	-0.02	-0.023	-0.019	-0.022	-0.023
2016	0.009	0.007	0.003	0.01	0.008	0.003	0.009	0.007	0.004
Constant	-0.334***	-0.308***	-0.352***	-0.34***	-0.329***	-0.383***	-0.317***	-0.296***	-0.332***
N	1414	1414	1414	1414	1414	1414	1414	1414	1414

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

* p<0.1, ** p<0.05, *** p<0.01

Results for spatial planning regions are not reported.

Table A 5 continued: Estimation of individual childcare use (Model 2, first stage): direct migration background

Model specification	7 a	7 b	7 c	8 a	8 b	8 c	9 a	9 b	9 c
Human capital									
Age	-0.002	-0.001	-0.001	-0.002	-0.002	-0.002	-0.001	-0.001	-0.001
Work experience	0.007**	0.006**	0.007**	0.007**	0.006**	0.007**	0.007**	0.006**	0.007**
Education (reference: medium education)									
Low	-0.015	-0.014	-0.015	-0.016	-0.014	-0.015	-0.016	-0.013	-0.014
High	0.12***	0.109***	0.118***	0.117***	0.11***	0.116***	0.119***	0.108***	0.117***
Migration background									
Refugee experience	-0.017	-0.021	-0.015	-0.011	-0.015	-0.01	-0.017	-0.022	-0.016
Country of origin (reference: EU28)									
South East Europe		-0.036			-0.035			-0.037	
Former CIS		-0.057**			-0.053*			-0.062**	
Arab/Muslim states		-0.028			-0.03			-0.035	
Rest of the world		-0.006			-0.006			-0.002	
Year of immigration (reference: 1950-1994)									
1995-2009			0.014			0.011			0.017
2010-2016			0.023			0.018			0.03
Milieu affiliation (reference: upper class#modern)									
upper class#traditional									
upper class#new									
middle class#traditional									
middle class#modern									

Table A 5 continued: Estimation of individual childcare use (Model 2, first stage): direct migration background

middle class#new									
lower class#traditional									
lower class#modern									
lower class#new									
Attend church or other religious events (0=never,...,3=every week)									
Current language proficiency (0=not at all,..., 4=very good, 5=no migration background)									
Experience of discrimination (0=no migration background, 1=never,..., 3=often)									
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)	-0.017	-0.017	-0.017						
Visited Germans Previous Year (1=yes)				0.032	0.028	0.033			
Received Visits From Germans Previous Year (1=yes)				-0.021	-0.022	-0.021			
Feel German (0= no migration background, 1=fully,..., 5=not at all)				0	-0.002	-0.001			
Sense Of Foreign Nationality (1=very strong,..., 5=not at all, 6=no migration background)				-0.009	-0.006	-0.009			
Factor 1							-0.005	0.003	0.001
Factor 2							0.002	0.001	0.003
Factor 3							-0.018*	-0.02**	-0.019*
Household context									
Dummy: no further direct migration background in the household	0.05**	0.052**	0.051**	0.049**	0.05**	0.05**	0.051**	0.052**	0.052**
Dummy: no further indirect migration background in the household	-0.037	-0.043*	-0.035	-0.039	-0.045*	-0.038	-0.039	-0.047*	-0.038
Household type (1=single parent)	0.085*	0.09*	0.083*	0.099**	0.1**	0.097**	0.089*	0.092*	0.085*
Number of children in the household	-0.014	-0.014	-0.013	-0.014	-0.014	-0.013	-0.014	-0.013	-0.013
Age of youngest child	0.145***	0.146***	0.146***	0.146***	0.146***	0.147***	0.146***	0.146***	0.147***

Table A 5 continued: Estimation of individual childcare use (Model 2, first stage): direct migration background

Macro-level variables									
Settlement structure (reference: Sparsely populated rural counties)									
Large cities	0.132*	0.144**	0.132*	0.146**	0.155**	0.145**	0.123*	0.132*	0.122*
Urban counties	0.077	0.085	0.076	0.086	0.092	0.085	0.075	0.08	0.073
Rural counties showing densification	0.046	0.042	0.046	0.052	0.046	0.052	0.044	0.036	0.044
Unemployment rate	-0.001	-0.001	-0.001	-0.002	-0.001	-0.002	-0.001	0	-0.001
GDP per capita	0	-0.001	0	0	-0.001	0	0	-0.001	0
Childcare use	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Year (reference: 2007)									
2008	-0.019	-0.008	-0.014	-0.022	-0.013	-0.019	-0.022	-0.011	-0.017
2009	-0.029	-0.02	-0.026	-0.036	-0.026	-0.033	-0.027	-0.017	-0.023
2010	0.039	0.043	0.042	0.034	0.039	0.037	0.038	0.043	0.042
2011	-0.031	-0.03	-0.032	-0.03	-0.029	-0.03	-0.032	-0.03	-0.032
2012	0.064*	0.069*	0.064	0.064	0.067*	0.063	0.062	0.067*	0.062
2013	0.006	0.011	0.005	0.001	0.005	0	0.005	0.011	0.004
2014	-0.001	0.003	-0.002	-0.004	-0.001	-0.005	-0.001	0.003	-0.002
2015	-0.019	-0.022	-0.024	-0.02	-0.023	-0.024	-0.018	-0.02	-0.023
2016	0.01	0.007	0.004	0.008	0.005	0.003	0.011	0.009	0.004
Constant	-0.3***	-0.276**	-0.317***	-0.302**	-0.285**	-0.316**	-0.354***	-0.317***	-0.367***
N	1414	1414	1414	1414	1414	1414	1414	1414	1414

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

* p<0.1, ** p<0.05, *** p<0.01

Results for spatial planning regions are not reported.

Table A 5 continued: Estimation of individual childcare use (Model 2, first stage): direct migration background

Model specification	10 a	10 b	10 c	11 a	11 b	11 c	12 a	12 b	12 c
Human capital									
Age	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.001	-0.001	-0.001
Work experience	0.007***	0.006**	0.007***	0.007**	0.006**	0.007**	0.007**	0.006**	0.007**
Education (reference: medium education)									
Low	-0.018	-0.015	-0.017	-0.016	-0.015	-0.016	-0.016	-0.015	-0.016
High	0.122***	0.112***	0.121***	0.123***	0.112***	0.12***	0.12***	0.107***	0.117***
Migration background									
Refugee experience	-0.014	-0.02	-0.013	-0.014	-0.019	-0.012	-0.018	-0.022	-0.016
Country of origin (reference: EU28)									
South East Europe		-0.036			-0.035			-0.038	
Former CIS		-0.058**			-0.056**			-0.061**	
Arab/Muslim states		-0.026			-0.027			-0.035	
Rest of the world		-0.001			-0.002			-0.003	
Year of immigration (reference: 1950-1994)									
1995-2009			0.014			0.014			0.015
2010-2016			0.023			0.023			0.027
Milieu affiliation (reference: upper class#modern)									
upper class#traditional									
upper class#new									
middle class#traditional									
middle class#modern									

Table A 5 continued: Estimation of individual childcare use (Model 2, first stage): direct migration background

middle class#new									
lower class#traditional									
lower class#modern									
lower class#new									
Attend church or other religious events (0=never,...,3=every week)									
Current language proficiency (0=not at all,..., 4=very good, 5=no migration background)									
Experience of discrimination (0=no migration background, 1=never,..., 3=often)									
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)									
Visited Germans Previous Year (1=yes)									
Received Visits From Germans Previous Year (1=yes)									
Feel German (0= no migration background, 1=fully,..., 5=not at all)									
Sense Of Foreign Nationality (1=very strong,..., 5=not at all, 6=no migration background)									
Factor 1	-0.003	0.006	0.002						
Factor 2				0.002	0.002	0.003			
Factor 3							-0.018*	-0.02**	-0.019*
Household context									
Dummy: no further direct migration background in the household	0.05**	0.051**	0.05**	0.05**	0.051**	0.05**	0.051**	0.053**	0.052**
Dummy: no further indirect migration background in the household	-0.037	-0.045*	-0.036	-0.039	-0.045*	-0.037	-0.039	-0.045*	-0.036
Household type (1=single parent)	0.092*	0.095*	0.089*	0.093*	0.097*	0.091*	0.087*	0.092*	0.084*
Number of children in the household	-0.014	-0.015	-0.014	-0.015	-0.014	-0.014	-0.014	-0.013	-0.013
Age of youngest child	0.146***	0.146***	0.147***	0.146***	0.146***	0.147***	0.146***	0.146***	0.147***

Table A 5 continued: Estimation of individual childcare use (Model 2, first stage): direct migration background

Macro-level variables									
Settlement structure (reference: Sparsely populated rural counties)									
Large cities	0.143**	0.154**	0.142**	0.141*	0.154**	0.141**	0.123*	0.133*	0.122*
Urban counties	0.087	0.095	0.086	0.087	0.095	0.086	0.075	0.08	0.073
Rural counties showing densification	0.049	0.044	0.049	0.05	0.045	0.05	0.042	0.036	0.043
Unemployment rate	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	0	-0.001
GDP per capita	0	-0.001	0	0	0	0	0	-0.001	0
Childcare use	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Year (reference: 2007)									
2008	-0.019	-0.008	-0.015	-0.019	-0.009	-0.015	-0.022	-0.011	-0.017
2009	-0.033	-0.023	-0.03	-0.032	-0.023	-0.029	-0.027	-0.017	-0.024
2010	0.037	0.042	0.04	0.037	0.042	0.041	0.038	0.043	0.041
2011	-0.03	-0.028	-0.03	-0.029	-0.028	-0.029	-0.032	-0.031	-0.032
2012	0.064*	0.069*	0.064	0.065*	0.069*	0.064*	0.062	0.066*	0.061
2013	0.002	0.007	0.001	0.003	0.007	0.002	0.005	0.01	0.003
2014	-0.003	0.001	-0.004	-0.001	0.001	-0.003	-0.001	0.002	-0.003
2015	-0.02	-0.022	-0.024	-0.019	-0.022	-0.023	-0.019	-0.021	-0.024
2016	0.009	0.006	0.003	0.01	0.007	0.005	0.01	0.008	0.003
Constant	-0.336***	-0.301***	-0.347***	-0.332***	-0.309***	-0.349***	-0.347***	-0.322***	-0.368***
N	1414	1414	1414	1414	1414	1414	1414	1414	1414

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

* p<0.1, ** p<0.05, *** p<0.01

Results for spatial planning regions are not reported.

Table A 6: Estimation of individual childcare use (Model 2, first stage): no migration background

Model specification	1	2	3	4	7	8	9	10	11	12
Human capital										
Age	-0.002	-0.002	-0.001	-0.002	-0.002	-0.002	-0.001	-0.002	-0.002	-0.001
Work experience	0.003	0.003*	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Education (reference: medium education)										
Low	-0.054***	-0.056***	-0.066***	-0.068***	-0.053***	-0.054***	-0.065***	-0.058***	-0.053***	-0.065***
High	0.082***	0.081***	0.081***	0.088***	0.076***	0.081***	0.081***	0.084***	0.081***	0.08***
Milieu affiliation (reference: upper class#modern)										
upper class#traditional		-0.084**								
upper class#new		0.04*								
middle class#traditional		0.078								
middle class#modern		0.024								
middle class#new		0.026								
lower class#traditional		-0.018								
lower class#modern		0.022								
lower class#new		0.009								
Attend church or other religious events (0=never,...,3=every week)			-0.03***	-0.032***						
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)			-0.027***		-0.029***					
Visited Germans Previous Year (1=yes)			-0.043			-0.057				
Received Visits From Germans Previous Year (1=yes)			0.118**			0.125**				
Factor 1							0.105	0.07		
Factor 2							0.023		0.009	
Factor 3							-0.032***			-0.035***

Table A 6 continued: Estimation of individual childcare use (Model 2, first stage): no migration background

Household context

Dummy: no further direct migration background in the household	0.011	0.01	0.016	0.013	0.013	0.013	0.015	0.011	0.012	0.014
Dummy: no further indirect migration background in the household	-0.016	-0.016	-0.018	-0.015	-0.018	-0.017	-0.018	-0.015	-0.016	-0.017
Household type (1=single parent)	0.081***	0.083***	0.072**	0.074***	0.078***	0.08***	0.073**	0.08***	0.081***	0.072**
Number of children in the household	-0.01	-0.009	-0.003	-0.005	-0.008	-0.011	-0.003	-0.01	-0.01	-0.003
Age of youngest child	0.15***	0.151***	0.151***	0.151***	0.15***	0.15***	0.151***	0.15***	0.15***	0.151***
Macro-level variables										
Settlement structure (reference: Sparsely populated rural counties)										
Large cities	0.134***	0.135***	0.136***	0.136***	0.132***	0.135***	0.136***	0.133***	0.135***	0.134***
Urban counties	0.046	0.047	0.051	0.049	0.048	0.045	0.052	0.045	0.047	0.051
Rural counties showing densification	0.024	0.024	0.025	0.027	0.023	0.023	0.027	0.024	0.025	0.025
Unemployment rate	-0.007	-0.007	-0.007	-0.008	-0.007	-0.007	-0.008	-0.007	-0.007	-0.007
GDP per capita	0	0	0	0	0	0	0	0	0	0
Childcare coverage	0.007***	0.007***	0.007***	0.007***	0.007***	0.007***	0.007***	0.007***	0.007***	0.007***
Year (reference: 2007)										
2008	0.009	0.015	0.003	0.01	0.001	0.01	0.002	0.01	0.009	0.001
2009	-0.02	-0.014	-0.021	-0.022	-0.02	-0.019	-0.022	-0.02	-0.019	-0.022
2010	-0.054***	-0.05**	-0.056***	-0.056***	-0.055***	-0.053***	-0.056***	-0.055***	-0.054***	-0.057***
2011	0.014	0.014	0.014	0.014	0.014	0.013	0.015	0.014	0.014	0.014
2012	-0.003	-0.003	-0.002	-0.003	-0.002	-0.003	-0.002	-0.003	-0.003	-0.002
2013	-0.056**	-0.056**	-0.053**	-0.053**	-0.054**	-0.057**	-0.052**	-0.055**	-0.056**	-0.052**
2014	-0.017	-0.018	-0.016	-0.014	-0.018	-0.018	-0.015	-0.016	-0.018	-0.015
2015	-0.029	-0.027	-0.029	-0.027	-0.03	-0.029	-0.028	-0.028	-0.028	-0.029
2016	-0.013	-0.014	-0.01	-0.013	-0.01	-0.013	-0.01	-0.013	-0.013	-0.01

Table A 6 continued: Estimation of individual childcare use (Model 2, first stage): no migration background

Constant	-0.238***	-0.256***	-0.251***	-0.227***	-0.186**	-0.304***	-0.327***	-0.284***	-0.238***	-0.262***

N	3877	3877	3877	3877	3877	3877	3877	3877	3877	3877

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

* p<0.1, ** p<0.05, *** p<0.01

Results for spatial planning regions are not reported.

Table A 7: Estimation of the employment propensity (Model 1): direct migration background

Model specification	1 a	1 b	1 c	2 a	2 b	2 c	3 a	3 b	3 c
Human capital									
Age	-0.0126***	-0.0131***	-0.0138***	-0.0134***	-0.0139***	-0.0144***	-0.0112***	-0.0119***	-0.0124***
Work experience	0.0209***	0.0214***	0.0207***	0.0219***	0.0223***	0.0217***	0.0197***	0.0203***	0.0196***
Education (reference: medium education)									
Low	-0.0709**	-0.0652**	-0.0600**	-0.0622*	-0.0581*	-0.0538*	-0.048	-0.047	-0.0492*
Medium									
High	0.0573*	0.059	0.0729*	0.0598**	0.0629*	0.0782**	0.052	0.049	0.064
Migration background									
Refugee experience	-0.0997**	-0.0847*	-0.106**	-0.0923**	-0.075	-0.0996**	-0.0961**	-0.080	-0.108**
Country of origin (reference: EU-28)									
South East Europe		-0.017			-0.019			-0.018	
Former CIS		0.017			0.015			0.013	
Arab/Muslim states		-0.026			-0.037			-0.027	
Rest of the world		0.056			0.041			0.067	
Year of immigration (reference: 1950-1994)									
1995-2009			-0.0422*			-0.041			-0.035
2010-2016			-0.149***			-0.143***			-0.142***
Milieu affiliation (upper class#modern)									
upper class#traditional				0.084	0.116	0.097			
upper class#new				-0.0669*	-0.0701*	-0.064			
middle class#traditional									
middle class#modern				0.043	0.048	0.060			
middle class#new				-0.0757*	-0.0783*	-0.064			

Table A 7 continued: Estimation of the employment propensity (Model 1): direct migration background

lower class#traditional				-0.0778**	-0.0801**	-0.060			
lower class#modern				-0.100***	-0.0997***	-0.0872**			
lower class#new				-0.039	-0.040	-0.027			
Attend church or other religious events (0=never,...,3=every week)							-0.003	-0.005	0.000
Current language proficiency (0=not at all,..., 4=very good, 5=no migration background)							0.0248*	0.0276*	0.001
Experience of discrimination (0=no migration background, 1=never,..., 3=often)							-0.021	-0.024	-0.019
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)							-0.0375**	-0.0387**	-0.0395**
Visited Germans Previous Year (1=yes)							-0.006	-0.010	-0.001
Received Visits From Germans Previous Year (1=yes)							0.062	0.063	0.061
Feel German (0= no migration background, 1=fully,..., 5=not at all)							0.002	0.004	0.006
Sense Of Foreign Nationality (1=very strong,..., 5=not at all, 6=no migration background)							0.007	0.008	0.008
Factor 1									
Factor 2									
Factor 3									
Household context									
Dummy: no further direct migration background in the household	-0.003	-0.005	-0.005	0.001	-0.001	0.000	-0.003	-0.004	-0.003
Dummy: no further indirect migration background in the household	0.0550**	0.0521**	0.040	0.0611**	0.0587**	0.0467*	0.0469*	0.0431*	0.0406*
Household type (1=single parent)	-0.169***	-0.168***	-0.150***	-0.159***	-0.157***	-0.143***	-0.176***	-0.174***	-0.161***
Number of children in the household	0.0274**	0.0274**	0.021	0.0267**	0.0271**	0.020	0.0273**	0.0275**	0.021
Age of youngest child	0.134***	0.138***	0.126***	0.136***	0.141***	0.130***	0.124***	0.128**	0.117*
estimated childcare use	0.266**	0.248*	0.282**	0.255**	0.234*	0.262**	0.290**	0.275	0.305

Table A 7 continued: Estimation of the employment propensity (Model 1): direct migration background

Macro-level variables									
Settlement structure (reference: Sparsely populated rural counties)									
Large cities	0.041	0.039	0.031	0.037	0.034	0.032	0.003	0.002	-0.010
Urban counties	0.069	0.071	0.067	0.069	0.068	0.069	0.043	0.047	0.036
Rural counties showing densification	-0.008	-0.003	-0.016	-0.009	-0.006	-0.014	-0.027	-0.021	-0.034
Unemployment rate	-0.015	-0.014	-0.014	-0.012	-0.011	-0.011	-0.014	-0.013	-0.013
GDP per capita	0.00173**	0.00190**	0.00177**	0.00154*	0.00169**	0.00160*	0.00179**	0.00194**	0.00185**
Year (reference: 2007)									
2008	0.045	0.041	-0.016	0.018	0.012	-0.035	0.044	0.042	-0.002
2009	0.089	0.093	0.046	0.071	0.073	0.030	0.093	0.100	0.059
2010	0.042	0.042	-0.008	0.013	0.011	-0.031	0.030	0.029	-0.009
2011	0.028	0.022	-0.009	0.016	0.012	-0.018	0.012	0.005	-0.018
2012	0.109***	0.114***	0.0778**	0.103***	0.108***	0.0738*	0.0924***	0.0931**	0.064
2013	-0.029	-0.030	-0.0617*	-0.032	-0.032	-0.0626*	-0.044	-0.045	-0.0696**
2014	0.009	0.005	-0.021	0.004	0.001	-0.025	0.012	0.008	-0.015
2015	0.024	0.023	-0.006	0.019	0.019	-0.009	0.025	0.025	0.000
2016	-0.037	-0.035	-0.027	-0.030	-0.030	-0.022	-0.039	-0.038	-0.030
N	1414	1414	1414	1414	1414	1414	1414	1414	1414

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

* p<0.1, ** p<0.05, *** p<0.01

Results for spatial planning regions are not reported.

Table A 7 continued: Estimation of the employment propensity (Model 1): direct migration background

Model specification	4 a	4 b	4 c	5 a	5 b	5 c	6 a	6 b	6 c
Human capital									
Age	-0.0126***	-0.0133***	-0.0140***	-0.0121***	-0.0127***	-0.0136***	-0.0125***	-0.0131***	-0.0137***
Work experience	0.0212***	0.0218***	0.0211***	0.0202***	0.0207***	0.0206***	0.0204***	0.0209***	0.0202***
Education (reference: medium education)									
Low	-0.0731**	-0.0679**	-0.0616**	-0.0571*	-0.0533*	-0.0573**	-0.0672**	-0.0617**	-0.0574**
Medium									
High	0.0590*	0.061	0.0760*	0.053	0.051	0.0705*	0.0565*	0.057	0.0704*
Migration background									
Refugee experience	-0.101**	-0.0850*	-0.107**	-0.0881*	-0.075	-0.102**	-0.0983**	-0.0834*	-0.104**
Country of origin (reference: EU-28)									
South East Europe		-0.021			-0.017			-0.014	
Former CIS		0.013			0.011			0.021	
Arab/Muslim states		-0.032			-0.021			-0.023	
Rest of the world		0.058			0.064			0.058	
Year of immigration (reference: 1950-1994)									
1995-2009			-0.0424*			-0.037			-0.040
2010-2016			-0.149***			-0.138***			-0.144***
Milieu affiliation (upper class#modern)									
upper class#traditional									
upper class#new									

Table A 7 continued: Estimation of the employment propensity (Model 1): direct migration background

middle class#traditional									
middle class#modern									
middle class#new									
lower class#traditional									
lower class#modern									
lower class#new									
Attend church or other religious events (0=never,...,3=every week)	-0.006	-0.009	-0.004						
Current language proficiency (0=not at all,..., 4=very good, 5=no migration background)				0.0312**	0.0333**	0.009			
Experience of discrimination (0=no migration background, 1=never,..., 3=often)							-0.019	-0.021	-0.012
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)									
Visited Germans Previous Year (1=yes)									
Received Visits From Germans Previous Year (1=yes)									
Feel German (0= no migration background, 1=fully,..., 5=not at all)									
Sense Of Foreign Nationality (1=very strong,..., 5=not at all, 6=no migration background)									
Factor 1									
Factor 2									
Factor 3									
Household context									
Dummy: no further direct migration background in the household	-0.002	-0.004	-0.004	-0.005	-0.007	-0.005	-0.006	-0.008	-0.007
Dummy: no further indirect migration background in the household	0.0544**	0.0506*	0.040	0.0460*	0.042	0.039	0.0530**	0.0503*	0.039
Household type (1=single parent)	-0.169***	-0.166***	-0.150***	-0.164***	-0.162***	-0.150***	-0.167***	-0.166***	-0.148***
Number of children in the household	0.0277**	0.0279**	0.021	0.0277**	0.0277**	0.0214*	0.0275**	0.0273**	0.0211*
Age of youngest child	0.138***	0.144***	0.130***	0.126***	0.130***	0.125***	0.129***	0.131***	0.121***
estimated childcare use	0.255**	0.228*	0.266*	0.284**	0.269**	0.284**	0.283**	0.271**	0.299**

Table A 7 continued: Estimation of the employment propensity (Model 1): direct migration background

Macro-level variables									
Settlement structure (reference: Sparsely populated rural counties)									
Large cities	0.041	0.039	0.033	0.036	0.034	0.030	0.038	0.034	0.027
Urban counties	0.069	0.072	0.068	0.069	0.072	0.066	0.066	0.068	0.063
Rural counties showing densification	-0.009	-0.005	-0.015	-0.012	-0.007	-0.016	-0.009	-0.004	-0.017
Unemployment rate	-0.015	-0.014	-0.014	-0.014	-0.013	-0.014	-0.015	-0.014	-0.014
GDP per capita	0.00173**	0.00189**	0.00178**	0.00169**	0.00183**	0.00175**	0.00165*	0.00182**	0.00171**
Year (reference: 2007)									
2008	0.042	0.037	-0.019	0.031	0.028	-0.015	0.050	0.047	-0.011
2009	0.088	0.092	0.044	0.082	0.086	0.047	0.095	0.099	0.051
2010	0.040	0.039	-0.009	0.029	0.028	-0.008	0.044	0.043	-0.006
2011	0.027	0.020	-0.011	0.019	0.013	-0.009	0.029	0.023	-0.007
2012	0.108***	0.112***	0.0769*	0.102***	0.106***	0.0783**	0.109***	0.114***	0.0785**
2013	-0.030	-0.032	-0.0625*	-0.036	-0.037	-0.0610*	-0.029	-0.030	-0.0608*
2014	0.009	0.004	-0.022	0.005	0.001	-0.021	0.012	0.008	-0.019
2015	0.023	0.022	-0.006	0.018	0.018	-0.005	0.027	0.026	-0.003
2016	-0.037	-0.036	-0.027	-0.036	-0.036	-0.027	-0.038	-0.036	-0.027
N	1414	1414	1414	1414	1414	1414	1414	1414	1414

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

* p<0.1, ** p<0.05, *** p<0.01

Results for spatial planning regions are not reported.

Table A 7 continued: Estimation of the employment propensity (Model 1): direct migration background

Model specification	7 a	7 b	7 c	8 a	8 b	8 c	9 a	9 b	9 c
Human capital									
Age	-0.0116***	-0.0121***	-0.0125***	-0.0126***	-0.0133***	-0.0140***	-0.0118***	-0.0123***	-0.0132***
Work experience	0.0206***	0.0211***	0.0200***	0.0206***	0.0212***	0.0208***	0.0203***	0.0207***	0.0207***
Education (reference: medium education)									
Low	-0.0650*	-0.0600*	-0.0553*	-0.0622*	-0.0585*	-0.0571**	-0.054	-0.0511*	-0.0537*
Medium									
High	0.050	0.051	0.061	0.0680**	0.0691*	0.0783**	0.0636*	0.061	0.0729*
Migration background									
Refugee experience	-0.105**	-0.0867*	-0.110**	-0.0998**	-0.0870*	-0.106**	-0.0998**	-0.0825*	-0.110**
Country of origin (reference: EU-28)									
South East Europe		-0.021			-0.014			-0.022	
Former CIS		0.019			0.011			0.006	
Arab/Muslim states		-0.031			-0.026			-0.037	
Rest of the world		0.051			0.059			0.061	
Year of immigration (reference: 1950-1994)									
1995-2009			-0.0423*			-0.040			-0.035
2010-2016			-0.150***			-0.147***			-0.139***
Milieu affiliation (upper class#modern)									
upper class#traditional									
upper class#new									
middle class#traditional									

Table A 7 continued: Estimation of the employment propensity (Model 1): direct migration background

middle class#modern									
middle class#new									
lower class#traditional									
lower class#modern									
lower class#new									
Attend church or other religious events (0=never,...,3=every week)									
Current language proficiency (0=not at all,..., 4=very good, 5=no migration background)									
Experience of discrimination (0=no migration background, 1=never,..., 3=often)									
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)	-0.0345**	-0.0359**	-0.0350**						
Visited Germans Previous Year (1=yes)				0.009	0.007	0.007			
Received Visits From Germans Previous Year (1=yes)				0.054	0.056	0.050			
Feel German (0= no migration background, 1=fully,..., 5=not at all)				-0.005	-0.004	0.003			
Sense Of Foreign Nationality (1=very strong,..., 5=not at all, 6=no migration background)				0.007	0.007	0.005			
Factor 1							0.0357*	0.0374*	0.009
Factor 2							0.0158**	0.0155**	0.0124*
Factor 3							-0.0216*	-0.0235**	-0.0211*
Household context									
Dummy: no further direct migration background in the household	0.001	-0.001	-0.001	-0.006	-0.007	-0.005	-0.004	-0.006	-0.003
Dummy: no further indirect migration background in the household	0.0593**	0.0571**	0.0453*	0.0489*	0.0457*	0.037	0.0441*	0.040	0.036
Household type (1=single parent)	-0.181***	-0.181***	-0.161***	-0.172***	-0.169***	-0.150***	-0.172***	-0.169***	-0.153***
Number of children in the household	0.0274**	0.0276**	0.021	0.0260**	0.0261**	0.020	0.0272**	0.0275**	0.0216*
Age of youngest child	0.134***	0.138***	0.121**	0.134***	0.138***	0.128***	0.133***	0.135***	0.130***
estimated childcare use	0.266**	0.246*	0.294*	0.262**	0.244*	0.272**	0.263**	0.251*	0.264*

Table A 7 continued: Estimation of the employment propensity (Model 1): direct migration background

Macro-level variables									
Settlement structure (reference: Sparsely populated rural counties)									
Large cities	0.020	0.019	0.007	0.032	0.031	0.023	0.013	0.011	0.007
Urban counties	0.049	0.052	0.044	0.066	0.069	0.065	0.052	0.054	0.051
Rural counties showing densification	-0.017	-0.012	-0.028	-0.012	-0.008	-0.018	-0.023	-0.020	-0.028
Unemployment rate	-0.015	-0.015	-0.014	-0.014	-0.014	-0.013	-0.014	-0.013	-0.014
GDP per capita	0.00177**	0.00195**	0.00180**	0.00187**	0.00203**	0.00190**	0.00180**	0.00193**	0.00188**
Year (reference: 2007)									
2008	0.047	0.044	-0.013	0.042	0.039	-0.015	0.033	0.030	-0.019
2009	0.091	0.095	0.048	0.090	0.094	0.047	0.091	0.098	0.051
2010	0.042	0.042	-0.010	0.038	0.038	-0.010	0.028	0.026	-0.014
2011	0.025	0.019	-0.013	0.022	0.017	-0.015	0.013	0.006	-0.019
2012	0.101***	0.104***	0.0672*	0.107***	0.112***	0.0754*	0.0967***	0.0992***	0.0681*
2013	-0.035	-0.036	-0.0684**	-0.031	-0.031	-0.0634*	-0.043	-0.043	-0.0702**
2014	0.013	0.008	-0.018	0.009	0.005	-0.022	0.007	0.003	-0.022
2015	0.027	0.026	-0.004	0.022	0.022	-0.006	0.019	0.020	-0.007
2016	-0.039	-0.038	-0.029	-0.036	-0.035	-0.026	-0.040	-0.039	-0.030
N	1414	1414	1414	1414	1414	1414	1414	1414	1414

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

* p<0.1, ** p<0.05, *** p<0.01

Results for spatial planning regions are not reported.

Table A 7 continued: Estimation of the employment propensity (Model 1): direct migration background

Model specification	10 a	10 b	10 c	11 a	11 b	11 c	12 a	12 b	12 c
Human capital									
Age	-0.0121***	-0.0126***	-0.0137***	-0.0128***	-0.0134***	-0.0140***	-0.0119***	-0.0125***	-0.0132***
Work experience	0.0202***	0.0206***	0.0205***	0.0208***	0.0213***	0.0207***	0.0211***	0.0217***	0.0210***
Education (reference: medium education)									
Low	-0.0638*	-0.0584*	-0.0593**	-0.0642*	-0.0598**	-0.0552**	-0.0715**	-0.0662**	-0.0612**
Medium									
High	0.0602*	0.059	0.0718*	0.0603*	0.0621*	0.0758**	0.0552*	0.055	0.0705*
Migration background									
Refugee experience	-0.0957**	-0.0837*	-0.105**	-0.0996**	-0.0831*	-0.106**	-0.105**	-0.0850*	-0.111**
Country of origin (reference: EU-28)									
South East Europe		-0.017			-0.014			-0.027	
Former CIS		0.011			0.019			0.011	
Arab/Muslim states		-0.020			-0.029			-0.040	
Rest of the world		0.062			0.054			0.057	
Year of immigration (reference: 1950-1994)									
1995-2009			-0.041			-0.040			-0.041
2010-2016			-0.147***			-0.147***			-0.148***
Milieu affiliation (upper class#modern)									
upper class#traditional									
upper class#new									

Table A 7 continued: Estimation of the employment propensity (Model 1): direct migration background

middle class#traditional									
middle class#modern									
middle class#new									
lower class#traditional									
lower class#modern									
lower class#new									
Attend church or other religious events (0=never,...,3=every week)									
Current language proficiency (0=not at all,..., 4=very good, 5=no migration background)									
Experience of discrimination (0=no migration background, 1=never,..., 3=often)									
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)									
Visited Germans Previous Year (1=yes)									
Received Visits From Germans Previous Year (1=yes)									
Feel German (0= no migration background, 1=fully,..., 5=not at all)									
Sense Of Foreign Nationality (1=very strong,..., 5=not at all, 6=no migration background)									
Factor 1	0.028	0.030	0.002						
Factor 2				0.0118*	0.0117*	0.011			
Factor 3							-0.0226**	-0.0250**	-0.0207*
Household context									
Dummy: no further direct migration background in the household	-0.007	-0.009	-0.005	-0.004	-0.006	-0.005	0.001	0.000	-0.001
Dummy: no further indirect migration background in the household	0.0506**	0.0467*	0.040	0.0507**	0.0482*	0.037	0.0556**	0.0519**	0.0413*
Household type (1=single parent)	-0.172***	-0.170***	-0.150***	-0.165***	-0.164***	-0.147***	-0.174***	-0.172***	-0.155***
Number of children in the household	0.0267**	0.0264**	0.021	0.0270**	0.0272**	0.021	0.0282**	0.0287**	0.0216*
Age of youngest child	0.127***	0.128***	0.124***	0.136***	0.140***	0.129***	0.139***	0.145***	0.131***
estimated childcare use	0.287**	0.278**	0.288**	0.256**	0.241*	0.269**	0.249**	0.224	0.265*

Table A 7 continued: Estimation of the employment propensity (Model 1): direct migration background

Macro-level variables									
Settlement structure (reference: Sparsely populated rural counties)									
Large cities	0.037	0.033	0.029	0.036	0.033	0.027	0.024	0.022	0.016
Urban counties	0.066	0.068	0.065	0.068	0.070	0.066	0.055	0.058	0.055
Rural counties showing densification	-0.011	-0.007	-0.016	-0.009	-0.004	-0.017	-0.017	-0.013	-0.024
Unemployment rate	-0.015	-0.014	-0.014	-0.015	-0.014	-0.014	-0.015	-0.014	-0.014
GDP per capita	0.00164*	0.00178**	0.00175**	0.00185**	0.00202**	0.00188**	0.00174**	0.00190**	0.00179**
Year (reference: 2007)									
2008	0.041	0.038	-0.016	0.043	0.039	-0.017	0.039	0.035	-0.021
2009	0.090	0.095	0.047	0.090	0.093	0.047	0.089	0.094	0.046
2010	0.038	0.037	-0.008	0.040	0.038	-0.010	0.037	0.036	-0.013
2011	0.026	0.020	-0.009	0.023	0.017	-0.014	0.022	0.015	-0.015
2012	0.107***	0.112***	0.0780**	0.107***	0.111***	0.0753*	0.101***	0.104***	0.0700*
2013	-0.032	-0.032	-0.0617*	-0.030	-0.032	-0.0634*	-0.038	-0.039	-0.0687**
2014	0.008	0.005	-0.021	0.009	0.005	-0.022	0.009	0.005	-0.022
2015	0.022	0.022	-0.006	0.024	0.023	-0.006	0.022	0.023	-0.007
2016	-0.038	-0.037	-0.027	-0.036	-0.035	-0.027	-0.038	-0.038	-0.029
N	1414	1414	1414	1414	1414	1414	1414	1414	1414

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

* p<0.1, ** p<0.05, *** p<0.01

Results for spatial planning regions are not reported.

Table A 8: Estimation of the employment propensity (Model 1): no migration background

Model specification	1	2	3	4	7	8	9	10	11	12
Human capital										
Age	-0.0192***	-0.0195***	-0.0183***	-0.0193***	-0.0182***	-0.0192***	-0.0184***	-0.0192***	-0.0192***	-0.0187***
Work experience	0.0217***	0.0218***	0.0213***	0.0218***	0.0212***	0.0217***	0.0213***	0.0216***	0.0217***	0.0216***
Education (reference: medium education)										
Low	-0.108***	-0.106***	-0.104***	-0.107***	-0.107***	-0.107***	-0.105***	-0.103***	-0.106***	-0.112***
High	0.106***	0.107***	0.0941***	0.106***	0.0955***	0.106***	0.0948***	0.102***	0.105***	0.106***
Milieu affiliation (reference: upper class#modern)										
upper class#traditional		-0.007								
upper class#new		-0.026								
middle class#traditional		-0.073								
middle class#modern		0.006								
middle class#new		-0.005								
lower class#traditional		-0.016								
lower class#modern		-0.001								
lower class#new		-0.038								
Attend church or other religious events (0=never,...,3=every week)			0.007	0.004						
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)			-0.0537***		-0.0526***					
Visited Germans Previous Year (1=yes)			0.062			0.055				
Received Visits From Germans Previous Year (1=yes)			-0.031			-0.035				

Table A 8 continued: Estimation of the employment propensity (Model 1): no migration background

Factor 1							-0.663***	-0.145*		

Factor 2							-0.0751***		0.016	
Factor 3							-0.0446***			-0.0247***
Household context										
Dummy: no further direct migration background in the household	-0.0414*	-0.039	-0.038	-0.0415*	-0.038	-0.0419*	-0.037	-0.0409*	-0.0409*	-0.039
Dummy: no further indirect migration background in the household	0.0477*	0.0465*	0.0432*	0.0476*	0.0433*	0.0479*	0.0430*	0.0470*	0.0474*	0.0455*
Household type (1=single parent)	-0.0751**	-0.0713**	-0.0757**	-0.0734**	-0.0787**	-0.0741**	-0.0771**	-0.0736**	-0.0745**	-0.0783**
Number of children in the household	0.0184**	0.0183**	0.0222**	0.0176**	0.0229***	0.0187**	0.0217**	0.0173**	0.0185**	0.0231***
Age of youngest child	0.141***	0.143***	0.144***	0.142***	0.143***	0.141***	0.144***	0.141***	0.142***	0.143***
estimated childcare use	0.489***	0.483***	0.479***	0.486***	0.482***	0.489***	0.478***	0.490***	0.487***	0.482***
Macro-level variables										
Settlement structure (reference: Sparsely populated rural counties)										
Large cities	-0.072	-0.072	-0.075	-0.071	-0.077	-0.071	-0.075	-0.070	-0.069	-0.072
Urban counties	-0.035	-0.036	-0.032	-0.035	-0.033	-0.034	-0.033	-0.034	-0.033	-0.032
Rural counties showing densification	-0.045	-0.047	-0.047	-0.045	-0.049	-0.044	-0.049	-0.044	-0.044	-0.044
Unemployment rate	-0.002	-0.002	0.000	-0.002	0.000	-0.002	0.000	-0.002	-0.002	-0.001
GDP per capita	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
Year (reference: 2007)										
2008	-0.022	-0.022	-0.035	-0.023	-0.034	-0.022	-0.035	-0.024	-0.022	-0.026
2009	-0.001	-0.003	0.000	-0.002	0.000	-0.001	-0.001	0.000	-0.001	-0.002
2010	0.033	0.032	0.032	0.033	0.031	0.033	0.032	0.034	0.033	0.031
2011	0.015	0.015	0.014	0.015	0.013	0.015	0.014	0.015	0.015	0.014

Table A 8 continued: Estimation of the employment propensity (Model 1): no migration background

2012	-0.025	-0.025	-0.024	-0.025	-0.025	-0.025	-0.024	-0.025	-0.025	-0.027
2013	0.018	0.017	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.017

2014	-0.014	-0.014	-0.018	-0.014	-0.018	-0.014	-0.018	-0.014	-0.014	-0.016
2015	-0.014	-0.014	-0.019	-0.014	-0.020	-0.014	-0.019	-0.013	-0.013	-0.017
2016	-0.046	-0.0469*	-0.042	-0.045	-0.042	-0.046	-0.042	-0.044	-0.045	-0.046
N	3877	3877	3877	3877	3877	3877	3877	3877	3877	3877

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

* p<0.1, ** p<0.05, *** p<0.01

Results for spatial planning regions are not reported.

Table A 9: Estimation of the employment propensity (Model 2): direct migration background

Model specification	1 a	1 b	1 c	2 a	2 b	2 c	3 a	3 b	3 c
Human capital									
Age	-0.0137***	-0.0137***	-0.0147***	-0.0134***	-0.0135***	-0.0143***	-0.0116***	-0.0116***	-0.0128***
Work experience	0.0297***	0.0288***	0.0291***	0.0314***	0.0302***	0.0308***	0.0293***	0.0281***	0.0289***
Education (reference: medium education)									
Low	-0.0759*	-0.071*	-0.0717*	-0.0707	-0.0682	-0.0668	-0.057	-0.0525	-0.0594
High	0.2065	0.187	0.2076	0.2277	0.206	0.2275	0.2063	0.1807	0.2024
Migration background									
Refugee experience	-0.0857*	-0.0784	-0.0901*	-0.0767	-0.0724	-0.0809	-0.088*	-0.0812	-0.0929*
Country of origin (reference: EU28)									
South East Europe		-0.0604			-0.0608			-0.0586	
Former CIS		-0.057			-0.0794			-0.0705	
Arab/Muslim states		-0.0488			-0.0671			-0.0665	
Rest of the world		0.0474			0.0282			0.0607	
Year of immigration (reference: 1950-1994)									
1995-2009			-0.0265			-0.0189			-0.0114
2010-2016			-0.1378**			-0.1265*			-0.1091
Milieu affiliation (reference: upper class#modern)									
upper class#traditional				-0.0707	-0.0945	-0.0544			
upper class#new				-0.0296	-0.0359	-0.0295			
middle class#traditional									
middle class#modern				0.0848	0.08	0.0866			

Table A 9 continued: Estimation of the employment propensity (Model 2): direct migration background

middle class#new				-0.1436	-0.1462	-0.1353			
lower class#traditional				-0.0292	-0.0313	-0.0223			
lower class#modern				-0.0924	-0.0934	-0.0877			
lower class#new				-0.0562	-0.0613	-0.0518			
Attend church or other religious events (0=never,...,3=every week)							-0.0254	-0.0292	-0.0219
Current language proficiency (0=not at all,..., 4=very good, 5=no migration background)							0.0274	0.033	0.013
Experience of discrimination (0=no migration background, 1=never,..., 3=often)							-0.0415	-0.0412	-0.04
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)							-0.0527**	-0.0498**	-0.053**
Visited Germans Previous Year (1=yes)							0.0271	0.0161	0.0273
Received Visits From Germans Previous Year (1=yes)							-0.0039	-0.0046	-0.0018
Feel German (0= no migration background, 1=fully,..., 5=not at all)							0.0052	0.0044	0.0063
Sense Of Foreign Nationality (1=very strong,..., 5=not at all, 6=no migration background)							-0.0076	-0.0017	-0.0067
Factor 1									
Factor 2									
Factor 3									
Household context									
Dummy: no further direct migration background in the household	0.03	0.0186	0.0215	0.0203	0.0086	0.0129	0.013	0.0002	0.0128
Dummy: no further indirect migration background in the household	0.0603	0.0603	0.0528	0.0709	0.071	0.064	0.0665	0.063	0.059
Household type (1=single parent)	-0.0518	-0.0486	-0.0449	-0.0077	-0.0015	-0.0037	-0.0467	-0.0481	-0.0455
Number of children in the household	0.0111	0.0116	0.0067	0.0025	0.004	-0.0013	0.011	0.0124	0.0082
Age of youngest child	0.2898*	0.291*	0.2744*	0.3247	0.3247	0.309	0.3032*	0.2966*	0.2874*
estimated childcare use	-0.7761	-0.7857	-0.7013	-1.0266	-1.0262	-0.946	-0.8862	-0.8446	-0.7919

Table A 9 continued: Estimation of the employment propensity (Model 2): direct migration background

Macro-level variables									
Settlement structure (reference: Sparsely populated rural counties)									
Large cities	0.2557	0.2714	0.2296	0.2998	0.3143	0.2729	0.2232	0.2264	0.1996
Urban counties	0.2003	0.2126	0.1877	0.2236	0.2321	0.2104	0.1706	0.1778	0.1572
Rural counties showing densification	0.0655	0.0648	0.0518	0.0738	0.0652	0.0604	0.0595	0.0488	0.0466
Unemployment rate	-0.0194	-0.0189	-0.0184	-0.019	-0.0185	-0.0181	-0.0192	-0.0178	-0.0184
GDP per capita	0.0016	0.0015	0.0016	0.0014	0.0012	0.0014	0.0015	0.0014	0.0015
Year (reference: 2007)									
2008	-0.0118	0.0058	-0.0651	-0.0519	-0.0304	-0.0993	-0.0345	-0.0146	-0.0671
2009	0.0129	0.0285	-0.0297	-0.0377	-0.0198	-0.0745	0.0074	0.0265	-0.0201
2010	0.0658	0.0769	0.0175	0.0417	0.0534	-0.0017	0.0525	0.0606	0.0201
2011	0.0068	0.0074	-0.0327	-0.0193	-0.017	-0.0556	-0.0119	-0.0128	-0.0399
2012	0.0775	0.0797	0.0421	0.0506	0.0551	0.0182	0.057	0.0601	0.0316
2013	0.0621	0.0684	0.0215	0.066	0.0744	0.0271	0.0573	0.0597	0.0244
2014	0.0205	0.0292	-0.0111	0.0108	0.0216	-0.0189	0.0314	0.0387	0.0064
2015	0.0391	0.0468	0.0096	0.0286	0.0376	0.0008	0.0462	0.0527	0.0233
2016	0.0102	0.0092	0.0166	0.0197	0.0191	0.0252	0.0128	0.0097	0.0175
Constant	-0.144	-0.126	0.000	-0.127	-0.087	0.001	-0.077	-0.071	0.083
N	1414	1414	1414	1414	1414	1414	1414	1414	1414

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

* p<0.1, ** p<0.05, *** p<0.01

Results for spatial planning regions are not reported.

Table A 9 continued: Estimation of the employment propensity (Model 2): direct migration background

Model specification	4 a	4 b	4 c	5 a	5 b	5 c	6 a	6 b	6 c
Human capital									
Age	-0.0132***	-0.0132***	-0.0143***	-0.013***	-0.0131***	-0.0141***	-0.0138***	-0.0139***	-0.0148***
Work experience	0.0294***	0.0284***	0.0288***	0.0298***	0.0286***	0.0293***	0.0299***	0.029***	0.0293***
Education (reference: medium education)									
Low	-0.0772*	-0.073*	-0.0729*	-0.0628	-0.0562	-0.0651	-0.074*	-0.0689	-0.0702*
High	0.1988	0.1758	0.2011	0.2173	0.1922	0.2128	0.2185	0.1976	0.2178
Migration background									
Refugee experience	-0.0868*	-0.0768	-0.091**	-0.0816	-0.0786	-0.0865*	-0.0855*	-0.0782	-0.0896*
Country of origin (reference: EU28)									
South East Europe		-0.0622			-0.0584			-0.0601	
Former CIS		-0.0591			-0.0729			-0.0577	
Arab/Muslim states		-0.06			-0.0506			-0.0492	
Rest of the world		0.0532			0.0598			0.0547	
Year of immigration (reference: 1950-1994)									
1995-2009			-0.0267			-0.0117			-0.0207
2010-2016			-0.1346**			-0.1061			-0.1308**
Milieu affiliation (reference: upper class#modern)									
upper class#traditional									
upper class#new									
middle class#traditional									

Table A 9 continued: Estimation of the employment propensity (Model 2): direct migration background

middle class#modern									
middle class#new									
lower class#traditional									
lower class#modern									
lower class#new									
Attend church or other religious events (0=never,...,3=every week)	-0.0227	-0.0272	-0.0193						
Current language proficiency (0=not at all,..., 4=very good, 5=no migration background)				0.0337*	0.0403**	0.0194			
Experience of discrimination (0=no migration background, 1=never,..., 3=often)							-0.0332	-0.0345	-0.0295
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)									
Visited Germans Previous Year (1=yes)									
Received Visits From Germans Previous Year (1=yes)									
Feel German (0= no migration background, 1=fully,..., 5=not at all)									
Sense Of Foreign Nationality (1=very strong,..., 5=not at all, 6=no migration background)									
Factor 1									
Factor 2									
Factor 3									
Household context									
Dummy: no further direct migration background in the household	0.0296	0.0178	0.0214	0.0162	0.001	0.0155	0.0235	0.0115	0.0162
Dummy: no further indirect migration background in the household	0.059	0.0578	0.0518	0.0657	0.0651	0.0579	0.0606	0.06	0.0536
Household type (1=single parent)	-0.054	-0.0509	-0.0469	-0.0423	-0.0377	-0.0409	-0.0421	-0.039	-0.0366
Number of children in the household	0.0125	0.0138	0.008	0.0092	0.0095	0.0066	0.0094	0.0098	0.0054
Age of youngest child	0.2828*	0.2819*	0.2688*	0.3009*	0.2996*	0.2846*	0.2999*	0.3005*	0.2844*
estimated childcare use	-0.7229	-0.7165	-0.6576	-0.8736	-0.868	-0.775	-0.8474	-0.8522	-0.7686

Table A 9 continued: Estimation of the employment propensity (Model 2): direct migration background

Macro-level variables									
Settlement structure (reference: Sparsely populated rural counties)									
Large cities	0.2333	0.2427	0.2113	0.2627	0.2768	0.2373	0.269	0.2841	0.2415
Urban counties	0.1909	0.1997	0.1802	0.2077	0.2204	0.1932	0.204	0.2163	0.1908
Rural counties showing densification	0.0564	0.0518	0.0445	0.0714	0.0675	0.0572	0.0677	0.0667	0.0538
Unemployment rate	-0.0182	-0.0174	-0.0174	-0.0195	-0.0187	-0.0187	-0.0197	-0.0191	-0.0187
GDP per capita	0.0016	0.0015	0.0016	0.0017	0.0016	0.0016	0.0015	0.0014	0.0015
Year (reference: 2007)									
2008	-0.018	-0.0008	-0.0691	-0.0325	-0.0128	-0.0649	-0.0087	0.0102	-0.0596
2009	0.0158	0.0325	-0.0263	-0.0033	0.0141	-0.0293	0.012	0.0284	-0.0284
2010	0.0605	0.0704	0.014	0.0542	0.064	0.0223	0.0678	0.0791	0.0219
2011	0.0048	0.0049	-0.0333	-0.0058	-0.0061	-0.0326	0.0047	0.0053	-0.0334
2012	0.0759	0.0778	0.0418	0.0661	0.0689	0.0417	0.0761	0.0786	0.0417
2013	0.0528	0.0568	0.0147	0.0616	0.0681	0.0287	0.0689	0.075	0.0286
2014	0.0165	0.0246	-0.0136	0.0167	0.0262	-0.0078	0.0268	0.0358	-0.0049
2015	0.0359	0.0431	0.0077	0.0342	0.042	0.012	0.0473	0.0554	0.0176
2016	0.0084	0.0068	0.0149	0.0122	0.0107	0.0165	0.0113	0.01	0.0173
Constant	-0.126	-0.287	-0.027	-0.100	-0.149	-0.099	-0.279	-0.011	-0.076
N	1414	1414	1414	1414	1414	1414	1414	1414	1414

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

* p<0.1, ** p<0.05, *** p<0.01

Results for spatial planning regions are not reported.

Table A 9 continued: Estimation of the employment propensity (Model 2): direct migration background

Model specification	7 a	7 b	7 c	8 a	8 b	8 c	9 a	9 b	9 c
Human capital									
Age	-0.0121***	-0.0121***	-0.0132***	-0.0136***	-0.0135***	-0.0149***	-0.0114***	-0.0114***	-0.0127***
Work experience	0.029***	0.0281***	0.0285***	0.0292***	0.0281***	0.029***	0.0283***	0.027***	0.0281***
Education (reference: medium education)									
Low	-0.068*	-0.064	-0.0642*	-0.0681*	-0.0635	-0.0685*	-0.0584	-0.0532	-0.0603
High	0.1932	0.176	0.1945	0.2079	0.1882	0.2072	0.1984	0.1732	0.1949
Migration background									
Refugee experience	-0.0933*	-0.0858*	-0.0973**	-0.0838*	-0.0798	-0.0875*	-0.0919*	-0.088*	-0.0947**
Country of origin (reference: EU28)									
South East Europe		-0.0586			-0.0559			-0.0546	
Former CIS		-0.0575			-0.0592			-0.0727	
Arab/Muslim states		-0.0521			-0.0488			-0.0614	
Rest of the world		0.0363			0.0463			0.0564	
Year of immigration (reference: 1950-1994)									
1995-2009			-0.0231			-0.0278			-0.0133
2010-2016			-0.135**			-0.1393**			-0.1115*
Milieu affiliation (reference: upper class#modern)									
upper class#traditional									
upper class#new									
middle class#traditional									

Table A 9 continued: Estimation of the employment propensity (Model 2): direct migration background

middle class#modern									
middle class#new									
lower class#traditional									
lower class#modern									
lower class#new									
Attend church or other religious events (0=never,...,3=every week)									
Current language proficiency (0=not at all,..., 4=very good, 5=no migration background)									
Experience of discrimination (0=no migration background, 1=never,..., 3=often)									
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)	-0.0519**	-0.0509**	-0.0501**						
Visited Germans Previous Year (1=yes)				0.0365	0.0274	0.0336			
Received Visits From Germans Previous Year (1=yes)				0.0046	0.0052	0.0006			
Feel German (0= no migration background, 1=fully,..., 5=not at all)				-0.0053	-0.0067	0.001			
Sense Of Foreign Nationality (1=very strong,..., 5=not at all, 6=no migration background)				-0.0042	0.0014	-0.0063			
Factor 1							0.0311	0.0451*	0.0144
Factor 2							0.0099	0.0092	0.0074
Factor 3							-0.0398*	-0.0409*	-0.0377
Household context									
Dummy: no further direct migration background in the household	0.0348	0.0242	0.0264	0.0238	0.0142	0.0172	0.0212	0.008	0.0183
Dummy: no further indirect migration background in the household	0.06	0.0605	0.0528	0.0586	0.0562	0.0538	0.0567	0.0527	0.0524
Household type (1=single parent)	-0.076	-0.0714	-0.0683	-0.0442	-0.0478	-0.0338	-0.067	-0.067	-0.0599
Number of children in the household	0.0129	0.0136	0.0086	0.0105	0.0111	0.0065	0.012	0.0132	0.0091
Age of youngest child	0.2828*	0.2849*	0.2681*	0.2904*	0.2862*	0.2786*	0.2782*	0.2722*	0.2667*
estimated childcare use	-0.7363	-0.7512	-0.6644	-0.7859	-0.7599	-0.7307	-0.7124	-0.674	-0.6504

Table A 9 continued: Estimation of the employment propensity (Model 2): direct migration background

Macro-level variables									
Settlement structure (reference: Sparsely populated rural counties)									
Large cities	0.2177	0.2339	0.1926	0.2549	0.2624	0.2345	0.1956	0.2008	0.1777
Urban counties	0.1665	0.1782	0.1548	0.1993	0.2076	0.1902	0.1647	0.1696	0.1558
Rural counties showing densification	0.0559	0.0542	0.0424	0.0688	0.0634	0.0573	0.0486	0.0373	0.0383
Unemployment rate	-0.0198	-0.0193	-0.0188	-0.0193	-0.0184	-0.0185	-0.0175	-0.0165	-0.017
GDP per capita	0.0016	0.0015	0.0016	0.0017	0.0016	0.0016	0.0017	0.0016	0.0017
Year (reference: 2007)									
2008	-0.0115	0.0049	-0.0637	-0.0163	0.0035	-0.0697	-0.0288	-0.007	-0.0688
2009	0.023	0.0372	-0.0192	0.0114	0.0297	-0.0338	0.0195	0.04	-0.0147
2010	0.0671	0.0774	0.0198	0.0627	0.073	0.0144	0.0528	0.0624	0.0169
2011	0.0046	0.0054	-0.0346	0.005	0.0059	-0.0349	-0.0051	-0.004	-0.036
2012	0.0719	0.0741	0.0368	0.0765	0.0801	0.04	0.0665	0.0711	0.0378
2013	0.0578	0.0644	0.0175	0.0622	0.0664	0.0226	0.046	0.0507	0.0128
2014	0.0304	0.0387	-0.0016	0.0197	0.0278	-0.0113	0.021	0.0305	-0.006
2015	0.0433	0.0507	0.0137	0.0374	0.0446	0.0088	0.0365	0.0449	0.0113
2016	0.0101	0.0095	0.0164	0.0101	0.0078	0.0177	0.0075	0.0045	0.0136
Constant	-0.130	0.012	-0.117	0.110	0.031	-0.011	-0.101	-0.040	-0.008
N	1414	1414	1414	1414	1414	1414	1414	1414	1414

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

* p<0.1, ** p<0.05, *** p<0.01

Results for spatial planning regions are not reported.

Table A 9 continued: Estimation of the employment propensity (Model 2): direct migration background

Model specification	10 a	10 b	10 c	11 a	11 b	11 c	12 a	12 b	12 c
Human capital									
Age	-0.0131***	-0.013***	-0.0144***	-0.0137***	-0.0138***	-0.0148***	-0.0118***	-0.0119***	-0.013***
Work experience	0.0294***	0.0282***	0.029***	0.0295***	0.0286***	0.0289***	0.0288***	0.0277***	0.0283***
Education (reference: medium education)									
Low	-0.0691*	-0.0617	-0.0692*	-0.0707*	-0.0672	-0.0676*	-0.0707*	-0.0668*	-0.0673*
High	0.2134	0.1901	0.21	0.21	0.1898	0.2102	0.187	0.1652	0.1895
Migration background									
Refugee experience	-0.0865*	-0.0855*	-0.09*	-0.0847*	-0.0778	-0.0892*	-0.0925**	-0.0823*	-0.096**
Country of origin (reference: EU28)									
South East Europe		-0.057			-0.0581			-0.0608	
Former CIS		-0.0695			-0.0569			-0.061	
Arab/Muslim states		-0.0447			-0.0499			-0.0651	
Rest of the world		0.06			0.0461			0.0459	
Year of immigration (reference: 1950-1994)									
1995-2009			-0.0197			-0.0241			-0.0228
2010-2016			-0.126*			-0.1338**			-0.1278**
Milieu affiliation (reference: upper class#modern)									
upper class#traditional									
upper class#new									
middle class#traditional									

Table A 9 continued: Estimation of the employment propensity (Model 2): direct migration background

middle class#modern									
middle class#new									
lower class#traditional									
lower class#modern									
lower class#new									
Attend church or other religious events (0=never,...,3=every week)									
Current language proficiency (0=not at all,..., 4=very good, 5=no migration background)									
Experience of discrimination (0=no migration background, 1=never,..., 3=often)									
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)									
Visited Germans Previous Year (1=yes)									
Received Visits From Germans Previous Year (1=yes)									
Feel German (0= no migration background, 1=fully,..., 5=not at all)									
Sense Of Foreign Nationality (1=very strong,..., 5=not at all, 6=no migration background)									
Factor 1	0.032	0.0465*	0.0137						
Factor 2				0.0087	0.0072	0.0071			
Factor 3							-0.0415*	-0.0436*	-0.038
Household context									
Dummy: no further direct migration background in the household	0.0252	0.0107	0.0202	0.0247	0.0146	0.0174	0.0319	0.0209	0.0239
Dummy: no further indirect migration background in the household	0.0569	0.054	0.0521	0.0616	0.0611	0.0541	0.0584	0.0575	0.0517
Household type (1=single parent)	-0.0569	-0.057	-0.0476	-0.0439	-0.042	-0.0386	-0.0718	-0.0686	-0.0637
Number of children in the household	0.0102	0.0103	0.0067	0.0101	0.0109	0.006	0.0142	0.0156	0.0098
Age of youngest child	0.2878*	0.2837*	0.2751*	0.2935*	0.2936*	0.278*	0.2753*	0.275*	0.2623*
estimated childcare use	-0.7719	-0.7473	-0.706	-0.8075	-0.8079	-0.7292	-0.6769	-0.6758	-0.6159

Table A 9 continued: Estimation of the employment propensity (Model 2): direct migration background

Macro-level variables									
Settlement structure (reference: Sparsely populated rural counties)									

Large cities	0.2505	0.2613	0.2284	0.2569	0.2712	0.2308	0.1971	0.207	0.1773
Urban counties	0.1967	0.2071	0.1864	0.2032	0.2139	0.1901	0.1634	0.1706	0.1545
Rural counties showing densification	0.0611	0.0554	0.0505	0.0706	0.0681	0.0561	0.0463	0.0407	0.035
Unemployment rate	-0.0192	-0.0183	-0.0184	-0.0191	-0.0186	-0.0182	-0.018	-0.0173	-0.0172
GDP per capita	0.0016	0.0014	0.0016	0.0017	0.0016	0.0017	0.0016	0.0015	0.0016
Year (reference: 2007)									
2008	-0.0148	0.007	-0.0619	-0.0159	0.0023	-0.067	-0.0216	-0.0042	-0.0702
2009	0.0129	0.0329	-0.0261	0.01	0.0259	-0.0309	0.0233	0.0396	-0.0171
2010	0.0628	0.0734	0.0206	0.0631	0.0742	0.0168	0.0586	0.0687	0.0145
2011	0.0045	0.0054	-0.0313	0.0024	0.0039	-0.0355	0.0019	0.0021	-0.0347
2012	0.0766	0.081	0.0437	0.0742	0.0772	0.0401	0.0708	0.0727	0.0381
2013	0.0605	0.0663	0.0234	0.063	0.0689	0.0231	0.0459	0.051	0.0092
2014	0.0199	0.0295	-0.0096	0.0206	0.0291	-0.0105	0.0215	0.0304	-0.0083
2015	0.0392	0.0477	0.0113	0.0385	0.0462	0.0097	0.0369	0.0447	0.0095
2016	0.0082	0.0054	0.0153	0.0116	0.0103	0.0176	0.0078	0.0066	0.0139
Constant	-0.100	-0.148	-0.140	-0.047	-0.127	-0.114	0.006	-0.007	-0.007
N	1414	1414	1414	1414	1414	1414	1414	1414	1414

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

* p<0.1, ** p<0.05, *** p<0.01

Results for spatial planning regions are not reported.

Table A 10. Estimation of the employment propensity (Model 2): no migration background

Model specification	1	2	3	4	7	8	9	10	11	12
Human capital										
Age	-0.0216***	-0.0217***	-0.0205***	-0.0216***	-0.0205***	-0.0216***	-0.0205***	-0.0216***	-0.0216***	-0.0209***
Work experience	0.0251***	0.0251***	0.0245***	0.0251***	0.0245***	0.0251***	0.0245***	0.025***	0.0251***	0.0249***
Education (reference: medium education)										
Low	-0.1219***	-0.118***	-0.1218***	-0.1225***	-0.1234***	-0.121***	-0.1222***	-0.1151***	-0.1192***	-0.136***
High	0.1264***	0.1268***	0.1181***	0.1268***	0.1186***	0.1265***	0.1174***	0.1222***	0.125***	0.1304***
Milieu affiliation (reference: upper class#new)										
upper class#traditional		-0.0219								
upper class#modern		-0.0201								
middle class#traditional		-0.0457								
middle class#modern		0.0113								
middle class#new		-0.0038								
lower class#traditional		-0.0203								
lower class#modern		0.0052								
lower class#new		-0.0352								
Attend church or other religious events (0=never,...,3=every week)			0.0007	-0.0011						
Importance: To Have Success In The Job (1=very import,..., 4=unimportant)			-0.0637***		-0.0633***					
Visited Germans Previous Year (1=yes)			0.0332			0.0306				
Received Visits From Germans Previous Year (1=yes)			0.0112			-0.0057				
Factor 1							-0.6955***	-0.1319*		
Factor 2							-0.0779***		0.0154	
Factor 3							-0.0547***			-0.0348**

Table A 10 continued. Estimation of the employment propensity (Model 2): no migration background

Household context										
Dummy: no further direct migration background in the household	0.0477*	0.0459*	0.0426	0.0477*	0.043	0.0476*	0.0424	0.0466*	0.0468*	0.0452
Dummy: no further indirect migration background in the household	-0.0445*	-0.042	-0.04	-0.0444	-0.0402	-0.0445	-0.0394	-0.044	-0.0438	-0.0406
Household type (1=single parent)	-0.0695	-0.0651	-0.0696	-0.0696	-0.0704	-0.0687	-0.0711	-0.0683	-0.0687	-0.0721
Number of children in the household	0.0203**	0.0202**	0.0256***	0.0204**	0.0254***	0.0205**	0.0252***	0.0197**	0.0206**	0.0265***
Age of youngest child	0.1857***	0.1878***	0.1955***	0.1859***	0.1953***	0.1861***	0.1941***	0.1839***	0.1856***	0.1968***
estimated childcare use	0.4432	0.4295	0.3788	0.4417	0.3798	0.4404	0.3884	0.4545	0.4443	0.3741
Macro-level variables										
Settlement structure (reference: Sparsely populated rural counties)										
Large cities	-0.0525	-0.0505	-0.0472	-0.0522	-0.0489	-0.051	-0.0487	-0.0521	-0.05	-0.0435
Urban counties	-0.0247	-0.0244	-0.0163	-0.0245	-0.0175	-0.0236	-0.018	-0.0244	-0.0231	-0.0165
Rural counties showing densification	-0.0392	-0.0404	-0.0396	-0.0391	-0.0411	-0.0379	-0.0414	-0.0385	-0.0374	-0.0369
Unemployment rate	-0.0053	-0.0056	-0.0041	-0.0053	-0.0041	-0.0053	-0.004	-0.0049	-0.0053	-0.0057
GDP per capita	-0.0004	-0.0004	-0.0003	-0.0004	-0.0003	-0.0004	-0.0003	-0.0004	-0.0004	-0.0003
Year (reference: 2007)										
2008	-0.0376	-0.0371	-0.0559	-0.0376	-0.0559	-0.0376	-0.0553	-0.0389	-0.0379	-0.0454
2009	-0.0182	-0.019	-0.0193	-0.0183	-0.0193	-0.0183	-0.0188	-0.0171	-0.018	-0.0216
2010	0.0218	0.0209	0.0168	0.0217	0.0164	0.0219	0.0175	0.0238	0.0228	0.0156
2011	0.0205	0.0206	0.022	0.0206	0.0219	0.0207	0.0216	0.0202	0.0205	0.0222
2012	-0.0286	-0.028	-0.0259	-0.0286	-0.0259	-0.0286	-0.026	-0.0284	-0.0286	-0.0276
2013	0.0157	0.0149	0.0154	0.0157	0.0155	0.0156	0.0154	0.0155	0.0154	0.0154
2014	-0.013	-0.0129	-0.0152	-0.013	-0.0149	-0.0132	-0.0154	-0.0145	-0.0138	-0.0122
2015	-0.0177	-0.017	-0.023	-0.0177	-0.0233	-0.0175	-0.0231	-0.0178	-0.0174	-0.02
2016	-0.046	-0.0469	-0.0404	-0.0461	-0.0405	-0.046	-0.0404	-0.0452	-0.0457	-0.0441

Table A 10 continued. Estimation of the employment propensity (Model 2): no migration background

Cons	0.5444***	0.5578***	0.5928***	0.5443***	0.6365***	0.5192***	0.9341***	0.6301***	0.5428***	0.4996***
N	3877	3877	3877	3877	3877	3877	3877	3877	3877	3877

Sources: SOEP v33, BBSR 2019, Federal and State Statistical Offices 2008-2017, HWWI.

* p<0.1, ** p<0.05, *** p<0.01

Results for spatial planning regions are not reported.