

Do immigrants react differently towards family policies than natives?

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PRELIMINARY VERSION - PLEASE DO NOT CITE!

Abstract: This paper investigates the employment effects of different family policies on immigrant mothers using German Microcensus data. An extension of public-sponsored child care has a smaller employment effect on the immigrants than on the natives. In contrast, we find no differences in the reaction to financial incentives altered by a parental benefits reform, natives and immigrants reduce their employment probability. However, a change in medium-run behavior induced by the same reform that leads to a positive employment effect for native mothers does not seem to affect immigrants' labor supply.

Keywords: family policies, immigrants, maternal employment

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1 Introduction

Immigrants have on average less favorable labor market outcomes than natives and this is in particular the case for woman (see for example Algan et al. (2010), De la Rica et al. (2013) and OECD (2014a)). This is a concern as employment is important for financial self-sufficiency of immigrant families and is also likely to increase immigrants' economic and social integration. Integration seems to be particularly important for mothers as their successful integration into society and their language skills may be crucial for the development of their children. Furthermore, a low labor market attachment of the mother is generally one important factor contributing to the risk of child poverty (OECD (2014b)) which is particularly high among migrants (e.g. Borjas (2011), Aydemir et al. (2008); Smeeding et al. (2012)). From the host countries perspective, immigrants represent an important share of many countries potential labor force in particular as they are often younger than the native population³.

Descriptive analysis e.g. for Germany shows that the employment gap between immigrants and natives widens once they give birth to a child and does not shrink again in later years (compare to section 2.2). Thus one channel to influence the employment probability of also immigrant mothers are family policies.⁴ Recently many countries have changed their family policies to support the combination of labor market attachment and raising children. Some of these policies support shorter or longer stay-at-home periods, while other policies ease employment through subsidized child care. Most of these reforms have altered maternal employment decisions for the population as a whole and many papers evaluate these reforms (e.g. Baker et al. (2005); Bauernschuster and Schlotter (2015); Bergemann and Riphahn (2011) and Bergemann and Riphahn (2015); Gathmann and Sass (2012); Kluge and Schmitz (2014); Felfe and Lalive (2014); Lefebvre and Merrigan (2008); Lundin et al. (2008); Nollenberger and Rodríguez-Planas (2015); Ludsteck and Schönberg (2014))

³In 2013, more than 20% of the working age population in Germany (aged 20-64) had a migration background Source: Destatis.

⁴Other channels that may also affect employment rates of immigrant mothers are welfare reforms not specifically targeted to families and not necessarily specific for migrants e.g. Borjas (2003), active labor market programs targeted to the unemployed in general or to unemployed migrants (e.g. Aldashev et al. (2010), Bergemann and Riphahn (2011)), and specific programs for mothers from migrant families migrants (see OECD (2014a) for examples of some small scale programs).

and a few papers engage in a study of the comparative effectiveness of different types of reforms (e.g. Cascio et al. (2015)) and De Boer et al. (2015)).

The effectiveness and the comparative effectiveness may be different for the group of immigrant women than for the overall population, because important factors influencing the reaction to changes in family policies are different. Therefore the question arises in how far family policies affect the employment probability of immigrant mothers and which types of reforms tend to be particularly relevant with regard to immigrants employment choices. There is not much discussion on this in the literature and empirical evidence is relatively scarce. A few papers evaluate particular reforms for immigrants, e.g. Hardoy and Schøne (2010) show that non-western immigrant mothers in Norway react strongly to financial incentives. They reduce employment as a response to a cash-for-care subsidy. Similarly, newly arrived female immigrants in Sweden with access to paid parental leave delay their entry into the labor market (Vikman (2013)).

We contribute to the literature by providing broader evidence on why family policies might affect mothers of migrant families on average differently and which types of policies might be particularly effective for immigrants. We discuss the relative effectiveness of different types of family policies for immigrant mothers relative to natives. As an outcome variable we focus on employment rates (extensive margin). Our finding may help to design family policies that are not only effective for natives but also for immigrant women. In a first step, we descriptively analyze the labor market attachment of female immigrants in Germany. We use data from the German Microcensus to calculate employment rates of mothers with pre-school children for several subgroups of migrants.

We then provide empirical evidence on this by comparing the effects of two reforms of distinctive types that were implemented in Germany during the last decade and all target at parents with children below the age of three. The two reforms differ with regard to the incentives through which they work: the first reform increases the availability of public sponsored child care slots. The second reform changes parental benefits by (1) increasing the benefit for parents with high pre-birth earnings, (2) shortening the eligibility period, and (3) provoking a change in behavior when to return back to work after giving birth to a child. The two reforms address parents of children

younger than three years old. This setting allows us to obtain exemplary evidence with regard to which type of incentives migrants tend to react more or less sensitive than migrants.

Preliminary results suggest that the child care expansion for children up to three years has a positive employment effect on immigrant mothers, but the effect is a bit smaller than that on natives. Our results provide no evidence that migrants react differently than natives to financial incentives being altered by the parental benefit reform. In contrast, positive medium-run employment effects found for native mothers in response to a parental benefit reform are not found for immigrant mothers.

The remainder of this paper is structured as follows. Section 2 provides information on our data and descriptive results on employment rates of native and immigrant mothers. Section 3 introduces the institutional setting in Germany and section 4 provides theoretical considerations. Section 5 introduces two recent family reforms in Germany and Section 6 concludes.

2 Immigrants on the German Labor Market

2.1 Data and Definitions

For our analysis we use German Microcensus data. The Microcensus data is collected on an annual basis and represents 1% of the German population. The German Microcensus contains information on citizenship and years since immigration of individuals as well as information on the migration status of spouses and parents. This rich information is needed to identify also those women with migration background who are German citizens. Compared to other survey data sets like the Socio-economic panel (SOEP), only the Microcensus sample is large enough to provide enough observations for our specific group of interest; migrant mothers of pre-school children. In this paper, we define *immigrants* as individuals who are born abroad and migrated to Germany (first generation immigrants). In contrast, *natives* are individuals that have no own migration history and are born in Germany. Their parents may be either native or foreign born. In addition, we

group immigrants according to their region of origin. We differentiate between immigrants from the European Economic Area⁵ (EEA) and immigrants from the Non European Economic Area (non-EEA) following Dustmann and Frattini (2013).

We define employment as being employed (*erwerbstätig*). In case, individuals are employed but have actual weekly working hours of zero, we check whether the reason for these zero actual working hours is maternity protection or parental leave. If this is the case we do not define these women as employed. Since we are interested in the point in time at which mothers return back to work after giving birth to a child, it is crucial to make this differentiation.

2.2 Descriptives

Immigrant women in Germany have a lower employment probability than native women. A closer look reveals that a widening of the gap occurs in the first years after childbirth. Figure 1 depicts employment rates by the age of the youngest child. When the child is 10-15 months old the slope in Figure 1 is higher for natives than for immigrants, so many more natives go back to work than immigrants. Later on the rates of returning mothers do not differ much between the two groups. This implies that immigrants do not catch up and when the youngest child is six years old, the average employment rate of immigrant mothers is on average 20 percentage points lower than for their native counterparts. Having a child thus widens the employment gap between immigrants and natives and this occurs when the children are still very young.

Table 1 summarizes important characteristics of mothers with pre-school children for four different groups. Women from immigrant families are on average younger, more likely to be married and less likely to be single mothers. Education is classified using the International standard classification of education (ISCED)⁶. The share of low educated mothers is with 12% lowest for native-born individuals. More than a fifth of the immigrant mothers coming from the EEA region are highly

⁵The European Economic Area (EEA) includes all 28 member states of the European Union plus Iceland, Liechtenstein, Norway and Switzerland.

⁶We use a do-file provided by GESIS missy to translate the Microcensus information into the ISCED levels: <http://www.gesis.org/missy/studie/klassifikationen/amtliche-klassifikationen/bildungsskala-isced-1997/>.

educated (compared to only 18% among the natives). About 51% of native mothers with pre-school children are employed compared to only 29% of the mothers from non-European region of origin. Table 1 shows that immigrants in Germany have diverse characteristics depending on several attributes e.g. their region of origin. In general, immigrant mothers from European countries of origin have very similar characteristics when compared to the natives.

Federal statistics show that children from families where at least one parent is foreign-born are underrepresented in public day care⁷. In 2012, 33 percent of children under three with no foreign-born parent participated in child care. In contrast, only 16 percent of children in the same age group with at least one foreign-born parent were enrolled in child care. Besides a higher employment rate among immigrant mothers, extended public child care has another effect. Child care attendance of children of immigrant ancestry is found to positively affect school placement and school readiness (Spieß et al. (2003), Cornelissen et al. (2015)).

3 Family policies in Germany

Germany experienced major changes in family policy within the last decade. For this paper we chose two reforms. Firstly, we are analyzing the effect of extended child care (Reform I) followed by an analysis of a new parental benefit that was introduced in 2007 (Reform II). Both reforms were implemented in the mid 2000s and target especially parents with children less than three years old (compare to Table 2).

The first reform provides in-kind incentives to parents in form of available daycare and lowers the wage net of child care costs. Since 2006, West Germany experienced a strong increase in the availability of highly subsidized public child care for children that are younger than three years old (Reform I). As a result, in West Germany the number of slots per 100 children under age three (including both slots in child care facilities and with subsidized childminders) increased from 9.8 to

⁷Source: Federal Statistical Office, 2012, Kindertagesbetreuung in Deutschland 2012 - Begleitmaterial zur Pressekonferenz.

22.3⁸ alone from 2006 to 2012. This reform provides a strong work incentive, because for those who obtain one of the additional child care slots (and who would otherwise have to pay for private child care) the difference between the wage rate and the price for child care (called *wage net of child care costs* in the following) will strongly increase. As in Germany basically the only option for private child care outside the family is to hire a nanny, many women could only gain a positive wage net of child care costs if they have access to public sponsored child care. Several papers have investigated the employment effects of the availability of public sponsored child care or changes in the price for child care. Depending on the institutional situation, some of them find strong positive effects on mothers' employment (see Bauernschuster and Schlotter (2015) for a literature review).

In the early 2000s, a major constraint for mothers with small children to participate in the labor market was the lack of available child care. There was a huge excess demand for slots in child care facilities for children aged zero to three. According to Wrohlich (2008) more than 50 percent of parents with children in this age group queued for a slot in a child care facilities in 2005. In Germany child care facilities are either run by communities, by churches, by non-profit organizations or by parents' initiatives and are highly subsidized. There are almost no facilities run by for-profit-institutions. These organizations are not eligible for subsidies (Wrohlich (2008)). An alternative to child care facilities is a care arrangement with a childminder. If the childminder fulfills the official requirements (e.g. has a certain qualification) these arrangements are also eligible for high subsidies and are also scarce. The fees for a slot in a public sponsored child care facility or a subsidized childminder depend on the family income so that low income families receive the service for a low fee or even for free.

The second reform provides financial incentives to not work fulltime when the child is less than 14 months old. Parents of children born on the first of January 2007 or later are eligible for a parental benefit (*Elterngeld*).⁹ The new benefit is more generous than before but paid for a shorter period of time. It is calculated from the pre-birth net income and in case of part-time work during parental

⁸Source: Kinderbetreuung regional, *Federal Statistical Office and Statistical Offices of the Länder*, several years.

⁹For a detailed description of this reform see Kluge and Schmitz (2014).

leave on the basis of the missed income. It amounts to 67% of the pre-birth income with a lower cap of 300 Euros and an upper cap of 1,800 Euros per month. The benefit is paid for each month in which a parent is on parental leave until the child is 14 months old. The parents may split the 14 months among them. If only one parent takes parental leave the maximum duration is 12 months. At the same time the previously existing child-raising benefit (*Erziehungsgeld*) was abolished. This transfer payment was means-tested and families received at most 300 Euros for two years or 450 Euros for 12 months.

4 Theoretical Considerations

Different types of reforms set incentives or disincentives for work through different channels. Consider a simple static labor supply model (e.g. Blundell and MaCurdy, 1999, Handbook of Labor Economics). An individual enters the labor market if the market wage to be obtained is higher than her reservation wage. The relevant market wage for an individual with child care duties is the wage net of child care costs. For a particular individual this depends among other things on her human capital (e.g. education, work experience, language skills), on the tax burden (e.g. depending on her husband's earnings) and on the child care costs she faces (e.g. availability of low-cost public sponsored child care, availability of informal child care by other families members). Her reservation wage depends on her preference for leisure relative to labor income (likely depending on her non-labor income through transfers and her husbands income) and on her opinion on child care as opposed to caring for her children herself. These preferences may depend on cultural norms or whether one lives in a foreign country. Observing a lower employment rate among mothers from immigrant families than among natives may be due to on average lower wage offers (e.g. due less education) or due to higher reservations wages.

So will a reform have a larger effect on natives or on immigrants? Any reform will *ceteris paribus* have a larger employment effect on the group in which in the initial situation more individuals have market wages and reservation wages close together so that many individuals are responsive to a

change in the market wage or the reservation wage. We observe lower employment rates among immigrants than among natives, but as the distribution of reservation wages and market wages is unknown, one cannot conclude from this that immigrants will necessarily be more or less responsive. As among the immigrants there is most likely a large group of individuals who would only have access to low paid jobs, it might be more likely that the gap between market wages and reservation wages is higher for immigrants, so that the groups of immigrants is less responsive to family policy reforms than natives.

Hypothesis I : Any reform will have a higher effect on the group in which a higher share of individuals is close to being indifferent of entering the labor market of not. This share might be lower for immigrants.

One important type of a family policy is an increase in the availability of subsidized child care, like the first reform we will consider. Reform 1 increases the wage net of child care costs. There will be a large jump in the wage net of child care costs if a family is offered such a low cost child care place and had no opportunity for low cost (informal) child care before. This is supposed to lead to an increase in the employment rate. The reform effect will work through the compliers, i.e. those mothers who obtain and accept a place through the reform. Will relatively more immigrant or native women enjoy this jump? First, most likely, immigrant women will have a higher probability to obtain one of the additional places, because many institutions have rules to give preference to children from immigrant families as it is a political goal to support their German language skills before schools starts. But it is also possible that more native children obtain the places through informal channels. Second, only those families who have no other low cost child care opportunity will experience a jump in wages net of child care costs. On the one hand, immigrants have possibly less family members in the host country, on the other hand, due to the lower employment rate of immigrants, it is more likely that family members have time for informal child care. Taking these two points together, it seems more likely that more immigrants than natives experience a reduction in child care costs. Furthermore, also the reservation wage may be affected by the option

to use subsidized institutional child care while working. Immigrants may value child care more than natives because of the children's opportunity to improve the host countries language in the institutions. These considerations lead us to the second hypothesis:

Hypothesis II : An increase in the availability of public child care is, relative to other types of reforms, more likely to induce immigrants to start working.

After the implementation of the parental benefit reform, mothers with high pre-birth earnings and families with incomes above the child-raising benefit threshold experience a strong increase in transfer payments if one parent does not work. This will lead to an increase in reservation wages and likely lower employment rates for these well-off families. This reform is thus expected to be less relevant for immigrants as they have on average lower incomes in the sample.

Hypothesis III: The increased parental benefit transfer is more relevant for natives and will thus affect their employment rate more than that of immigrants.

The parental benefit reform shortens the eligibility period from a maximum of 24 to a maximum of 14 months. Thus this reform consists of a cut in benefits for those who would have been eligible for the means-test child-raising benefit in absence of the reform. In contrast to the increase in benefits for families with high pre-birth earnings, the shorter eligibility period is more relevant for immigrants.

Hypothesis IV : The shortening of the eligibility period of the parental benefit for low income families is more relevant for immigrants.

In the medium run, positive employment effects of the parental benefit reform have been argued to emerge from the reform setting an "anchor" on when to return to work, i.e. at the moment the benefit expires. It is likely to be reinforced by a change in the opinion when it is a good time for the return which has been spread in the media and by a popular family minister. This effect should be more relevant for families who 1) receive more benefits that expire, 2) have no firm social norms to follow if and when to return to work, 3) are more strongly influenced by mainstream opinions

spread in the media. These factors are all more likely to be relevant for natives than for immigrants. There may be another reason for a positive medium run employment effect: to gain high payments when staying at home with a further child, it is necessary to work in the year before the birth of the further child. This effects would also be somewhat less important for immigrants, if more natives have the opportunity to obtain high enough wages to become eligible for a high payment for any further children.

Hypothesis V : The setting of an "anchor" in the vacuum of social norms as well as the incentive to collect high pre-birth earnings for an additional child is more relevant for natives.

5 Empirical Analysis

5.1 Reform I: An Increase in Child Care Availability

Since the early 2000s the federal government, the state governments, and the local authorities made a strong effort to increase the number of available slots in child care centers, see Bauernschuster et al. (2015) for a description of the laws and commitments to reach this. While all states increased available child care, there is variation in the path of this expansion across counties and across states. Reasons are manifold and range from complex administrative processes, strict regulations for opening new facilities to shortages in construction grounds and child care workers (see for example Bauernschuster et al. (2015) and Felfe and Lalive (2014)). In addition, political priorities of the states are likely to affect the extension of public child care.

5.1.1 The Empirical Approach

Using the sample of West German mothers¹⁰ with at least one child younger than three for the years 2006 to 2012, we regress an employment dummy on the public child care attendance rate for children under three (*u3quota*) in a particular county (*Kreis*) and year. We control for county dummies (capturing time-invariant heterogeneity between counties), year dummies, and mother’s characteristics. This approach exploits differences in the expansion paths between counties. Similarly to a difference-in-differences approach the key identifying assumption of our approach is that, conditional on the control variables, unobservables correlated to the child care expansion in the county in which the mother lives and the employment probability of the mother do not evolve differently over time in different counties. We cluster the standard errors on the county level since residuals may be correlated within each county. To study if immigrants react in the same way to the extension as natives, we add an immigrant dummy and an interaction term between this immigrant dummy and the treatment dummy to these regressions.

5.1.2 Results

Table 3 provides the regression results. The coefficient on *u3quota* in column (2) suggests a positive and significant effect of the child care attendance rate on employment. It indicates that one additional child care slot for a child under three per 100 children in the same age group is related to an increase in mothers employment rate of 0.41 percentage points. This means that two additional child care slots per 100 children bring almost one mother more into employment. Considering that child care for children younger than three has no tradition to be used for pedagogical reasons but is by far only used if both parents are employed or seek employment and considering that many facilities strongly prioritize those children of working mothers this result seems plausible.

For the regression shown in column (3) and (4) we have added the immigrant dummy as well as an

¹⁰We focus on West German mothers as we have not found any significant employment effects of the *u3quota* on East German mothers. This is reasonable because the extension of public child care in the 2000s was much larger in West Germany compared to East Germany.

interaction of the immigrant dummy and the attendance rate. As expected the immigrant dummy has a negative and strongly significant effect. The interaction term $U3*Immigrant$ is negative and significant (-0.0027***), suggesting that immigrant mothers react differently to the extension in child care. Immigrant mothers from European countries do not behave differently than the natives (the interaction term $U3*EEA$ is not significantly different from zero). This result is reasonable since we learned from Table 1 that European immigrants have very similar characteristics as do the natives. In contrast, we find that immigrants from non-European countries are differently affected by the increase in the U3-Quota (the interaction term $U3*Non-EEA$ is negative and significant). Adding up the coefficients of $u3quota$ and the interaction term $u3*immigrant$ we obtain the reform effect for immigrants. We find positive employment effects of increased child care on immigrants though these effects are not significant.

Summing up, native mothers experience an increased employment probability if the child care attendance rate in their county increases. For immigrants we find positive but insignificant effects. Section 2.2 showed that immigrant mothers show lower employment rates and their children are less likely to attend public child care. This might explain why we can not find a significant effect of child care on immigrant mothers employment rates.

5.2 Reform II: A Change in Financial Incentives and in Behavioral Effects

In this section we investigate how immigrant women react to the German parental benefit reform in 2007 (compare to Table 2 for an overview). This reform is very interesting for our purposes, because it has been shown by Kluge and Schmitz (2014), (henceforth KS), that the medium-run reform effect largely works through a change in the point in time at which women return back to work after childbirth. If many migrant mothers follow social norms that are less easily changed than those of many natives or if they are less influenced by the ideas discussed in the media than their German peers, they will be less affected by these changes. In the short run, this reform also

affects employment behavior through a change in financial incentives as shown by Bergemann and Riphahn (2011), Geyer et al. (2014), and KS.

The reform alters the mother's work incentives differently in different phases defined by the child's age: in the following we follow KS and look at three different phases. Phase 1 refers to the time period in which the child is 7 to 14 months old, phase 2 refers to the period of time in which it is 15 to 24 months old, and phase 3 to that in which it is 25 to 59 months old. If a mother had a high net pre-birth income and (or) if the family income is not low, the reform provides a strong incentive for the mother (and the father) to stay at home during phase 1. Such a family is eligible for a generous payment under the new system, while they would not have received any transfer before the reform. For mothers from low income families who do not have high pre-birth earnings the reform does not lead to any changes in phase 1. They would receive the full 300 Euros of the means-tested child-raising benefit before the reform and they would receive the minimal amount of the parental benefit after the reform. Thus, overall, one would expect a negative employment effect for phase 1. Indeed, this is what Geyer et al. (2014) and KS find in their empirical studies. Once the child is 14 months old the reform does not involve any further changes in financial incentives for those who would not have received the means-tested child-raising benefit, but those who would have received it suffer from the abolishment. Indeed, Geyer et al. (2014) find a positive employment effect for low income mothers in phase 2 and Bergemann and Riphahn (2011) find that these mothers return to work quicker.

For phase 3 the reform does not induce any direct changes in financial incentives. Nevertheless, there may be dynamic effects: first, those who benefit from the reform and receive high payments in phase 1 may decide to stay at home longer as they did not have to live on their savings in the first year. Second, if the reform positively affects the probability of having a further child quickly as Raute (2014) finds, this is likely to lead to a lower employment rate in phase 3. In contrast to these predictions, KS find a positive employment effect for phase 3 and explain it by a so-called "anchor" effect which defines the societally preferred point in time when to return back to work after giving birth to a child. While mothers with an unlimited employment contract are eligible for unpaid

parental leave of three years, many women go back to work earlier, but in the early 2000s social norms seem not to have indicated when exactly to return to work. The old social norm of going back to work only when the youngest child has entered kindergarten seems to have lost validity in the early 2000s. KS argue that the new parental benefit involves a natural point in time to return to work: the month in which benefit eligibility expires. Thus, if the arguments suggesting negative employment effects in phase 3 are relevant, they are dominated by the positive effect induced by social norms.

Investigating the differential effects of this reform on native and immigrant mothers, we can learn something on the particular reaction of migrant mothers on financial incentives and on changes in social norms.

5.2.1 The Empirical Approach

Our empirical approach closely follows KS. They use a sample of mothers that give birth to a child three months before and after the introduction of the reform in January 2007. KS explain why parents who have a child shortly before or after January, 1 2007 may be considered as randomly assigned to the treatment group of those being eligible for the new parental benefit and to the control group of those not eligible. The reform passed parliament in September 2006, but already in May 2006 well informed individuals may according to KS have known that the reform was likely to come. In May it was still too late to postpone conception to become eligible for the benefit. Nevertheless, a concern could be that there exist parents who, just because of the reform, decide to conceive a child. If this decision is taken in May, such additional children will be born in February and might distort the quasi random assignment of the treatment and control group. But it seems very unlikely that parents decide to have a child due to being potentially eligible for a benefit that is not yet in place.

Table 4 compares the means of the observed characteristics in the control and treatment group. It provides evidence that control and treatment group do not differ systematically. Table 5 replicates

the main estimation of KS. Children in the treatment group are on average a little bit younger. This is reasonable because they are born in a later year (2007 instead of 2006). To control for these differences we include the childage in months in terms of the variables *childage* and *childage*² in our regressions. The results are qualitatively similar as in their Table 2 and are in line with their interpretations. But the size of the coefficients is somewhat different. This is likely due to a different definition of employment ¹¹. In both specifications, we find a significant negative effect for phase 1 and a significant positive effect for phase 3. In phase 1, treated mothers have on average a 5.6 percentage points lower employment probability (column (2)). This negative effect turns positive for mothers in phase 3. Including several control variables we find that post-reform mothers are on average 3.1 percentage points more likely to work than pre-reform mothers (compare to column (6)).

To investigate whether the reform effect differs for the immigrants, we add an immigrant dummy variable as well as an interaction term between the immigrant dummy and the treatment dummy to our regression.

5.2.2 Results

Table 6 provides the employment effects of the reform allowing for differential effects between native and immigrant women. As in the specification shown in Table 5 the reform has a negative employment effect for natives in phase 1 and a positive employment effect in phase 3. As expected, the coefficient of the immigrant dummy has a strong negative effect on the employment probability. The interaction term *Mother2007*Immigrant* is not significant in phase 1 and 2, so we can not reject the hypothesis that immigrants and natives react to the reform in the same way. This is in particular interesting for phase 1 in which the change in financial incentives leads to a lower employment probability for natives and immigrants. Thus, we do not find evidence for Hypothesis

¹¹We define employment as being employed (*erwerbstätig*). In case, individuals are employed but have actual weekly working hours of zero, we check whether the reason for these zero actual working hours is maternity protection or parental leave. If this is the case we do not define these women as employed. Since we are interested in the point in time at which mothers return back to work after giving birth to a child, it is crucial to make this differentiation.

III (p.9) that suggests that more generous transfers in phase 1 have a bigger effect on the natives. The shortening of the eligibility period of the parental benefit might be more relevant for immigrants (Hypothesis IV on p.9) but we can not see any employment effects for neither natives nor migrants in phase 2.

For phase 3, the interaction term *Mother2007*Immigrant* is significant indicating that immigrants do not react or react less to the "anchor" effect when to return back to work after childbirth induced by the reform. Results thus indicate that on average there is no medium-run positive reform effect for immigrant mothers. A potential positive reform effect through a change in the point in time when mothers return back to work does not dominate potential negative employment effects induced through being able to afford to stay at home longer or due to having an additional child for these mothers. Thus, our results provide some support for Hypothesis V on p.10 which states that natives are more likely to enjoy medium-run positive employment effects induced by a change in the potential parental benefit reform. Table 7 provides the estimates for immigrants from EEA and non-EEA countries of origin. The main employment effects of the parental benefit reform for Phase 1 and 3 stay unchanged. Another incentive to return to work in phase 3 could be to accumulate labor income that counts for a potential claim of parental benefits for an additional child. We plan on analyzing this in the next version of this paper.

In sum, our results are compatible with the view that immigrant mothers do not react differently to financial incentives than native mothers, but that they are less affected by changes in behavior when to go back to work after giving birth to a child. They may follow firmer social norms which are not as easily altered. The lack of orientation when to return to work may not have existed for them. Or immigrants may be less influenced by the public opinion.

We only find significant employment effects of the parental benefit reform on the natives. This result is similar to what we concluded for the reform on extended public child care. These results might be explained by a lower share of mothers being indifferent to entering the labor market among the immigrants (compare to Hypothesis I on page 8).

6 Conclusion

The paper provides an analysis of the employment effects induced by family policies on immigrant mothers. Two reforms from the 2000s that are targeted to increase the employment rates of mothers with pre-school children are analyzed.

First, we find large differences in employment rates among mothers from immigrant families. Immigrant mothers from Non-European countries of origin as well as first generation immigrants show low employment rates. In contrast, immigrants from European countries of origin are more likely to be employed.

Second, extended public child care has a larger effect on native mothers compared to immigrant mothers. However, the response in employment rates of European immigrant mothers does not differ significantly from the response of the native-born mothers. They seem to benefit from the reform in a similar way as do the natives.

Third, immigrant mothers do not react differently towards financial incentives induced in the short run by a parental benefit reform. However, a behavioral change when to return back to work after childbirth that affect native mothers' employment positively seem to not influence immigrants' employment rates.

In conclusion, employment effects induced by family related policies differ for immigrant and native mothers. While extended public child care increases immigrant mothers' employment rates, positive medium run employment effects of the parental benefit reform can only be detected for the natives.

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Table 1: Summary statistics on employment and mothers characteristics

	(1)	(2)	(3)	(4)
	Native-born	First Generation	EEA	Non-EEA
Age	34.81	32.97	33.95	32.70
No. of children	1.80	2.03	1.76	2.13
Age youngest child (month)	44.34	42.88	43.62	42.69
Married	0.80	0.88	0.84	0.89
Single mother	0.15	0.11	0.13	0.11
Low education	0.12	0.42	0.23	0.51
Medium education	0.70	0.44	0.55	0.38
High education	0.18	0.14	0.22	0.11
Employed	0.51	0.34	0.43	0.29
Household Income	2972.53	2340.07	2769.61	2176.55
Individual net income	840.66	523.18	694.18	453.27
Observations	138605	47627	11046	33077

Sample: West German mothers with pre-school children aged 20-49 years

Source: Own calculations based on Research Data Centers of the Federal Statistical Office and the Statistical Offices of the Länder, Microcensus, 2006-2012.

Table 2: Summary of family policy reforms

	Implementation	Who is affected?	Description	
			Pre	Post
Reform I: Extension of child care	mid 2000s	Parents of children aged 0-36 months	a) Drastic increase of available child care slots.	9.8 slots* (2006) 22.3 slots* (2012)
Reform II: Parental benefits	2007	Parents of children aged 0-24 months	a) Increase in benefit for parents with high pre-birth income b) Range of benefit c) Shortening of the maximum eligibility period	Two options: 450 Euros for 12 months or 300 Euros for 24 months. 300-450 Euro per month 24 months Replacement of 67% of pre-birth income. 300-1800 Euro per month 14 months**

*per 100 children in the same age group in West Germany.

**The maximum eligibility period of the new parental benefit is 14 months if both parents make use of the parental benefit. If only one parent applies for the parental benefit, he or she has access to transfers for 12 months.

Table 3: Child Care Reform: Regression on Employment - West

Dep. variable employment	(1)	(2)	(3)	(4)	(5)	(6)
U3-Quota	0.0046** (0.0020)	0.0041** (0.0019)	0.0045** (0.0019)	0.0043** (0.0019)	0.0049** (0.0019)	0.0046** (0.0019)
Immigrant			-0.1696*** (0.0175)	-0.0770*** (0.0170)		
U3*Immigrant			-0.0017 (0.0011)	-0.0027*** (0.0010)		
EEA					-0.0759** (0.0308)	-0.0500* (0.0296)
U3*EEA					-0.0005 (0.0018)	-0.0009 (0.0016)
Non-EEA					-0.1925*** (0.0166)	-0.0866*** (0.0166)
U3*Non-EEA					-0.0031*** (0.0011)	-0.0039*** (0.0010)
Mother's characteristics	no	yes	no	yes	no	yes
Year dummies	yes	yes	yes	yes	yes	yes
County dummies	yes	yes	yes	yes	yes	yes
N	25449	25449	25449	25449	25449	25449
R-sq	0.027	0.103	0.056	0.112	0.063	0.114

The U3-Quota refers to children aged 0-2 enrolled in daycare per 100 children in the same age group. Mother's characteristics include age, age sq., education, family status, number of children. Standard errors are clustered on the county level. $p < 0.10$ * $p < 0.05$ ** $p < 0.01$ ***. Sample: West German mothers with 25-36 months old children. Source: Own calculations based on German Microcensus, 2006-12 see Table 1.

Table 4: Covariate balancing parental benefits

	Control Mother06	Treatment Mother07	Diff.	Std. error	p-value
Age at birth	30.1009	29.9790	0.1220	0.1233	0.3226
Low education	0.2120	0.2249	-0.0129	0.0090	0.1532
Medium education	0.6102	0.6058	0.0043	0.0107	0.6844
High education	0.1779	0.1693	0.0086	0.0083	0.3007
Single mother	0.1223	0.1135	0.0088	0.0071	0.2118
Married	0.8355	0.8210	0.0145	0.0083	0.0792
No. of older siblings	0.7658	0.7911	-0.0253	0.0214	0.2369
Observations	4048	4318			

Sample: West German mothers with 7-59 months old children. Mother06 are mothers with children born 10-12/2006 and Mother07 refers to mothers with children born 01-03/2007.

Source: Own calculations based on German Microcensus, 2006-12 see Table 1.

Table 5: Employment effects of parental benefit reform

Dependent variable: employment	Phase 1		Phase 2		Phase 3	
	(1) 7-14 m.	(2) 7-14 m.	(3) 15-24 m.	(4) 15-24 m.	(5) 25-59 m.	(6) 25-59 m.
Mother 2007	-0.0570*** (0.0215)	-0.0562*** (0.0211)	-0.0154 (0.0282)	-0.0145 (0.0267)	0.0220* (0.0129)	0.0313*** (0.0124)
Childage	-0.1157** (0.0512)	-0.1229** (0.0502)	-0.0874 (0.0774)	-0.0939 (0.0731)	0.0172*** (0.0060)	0.0177*** (0.0058)
Childage sq.	0.0067*** (0.0025)	0.0070*** (0.0024)	0.0024 (0.0020)	0.0024 (0.0019)	-0.0002** (0.0001)	-0.0002** (0.0001)
Low education		-0.1124*** (0.0229)		-0.2134*** (0.0299)		-0.2449*** (0.0157)
High education		0.0694** (0.0328)		0.1000** (0.0412)		0.0460*** (0.0177)
Age mother		-0.0217 (0.0187)		0.0359* (0.0194)		0.0179* (0.0096)
Age mother sq.		0.0005 (0.0003)		-0.0005 (0.0003)		-0.0001 (0.0002)
Single mother		-0.0512 (0.0355)		-0.0803** (0.0382)		0.0455** (0.0184)
No. older siblings		-0.0316*** (0.0111)		-0.0604*** (0.0119)		-0.0398*** (0.0064)
N	1351	1351	1107	1107	5908	5908
R-sq	0.028	0.086	0.002	0.121	0.008	0.093

Mother 2007 refers to mothers with children born 01-03/2007. Standard errors in parentheses. $p < 0.10$ * $p < 0.05$ ** $p < 0.01$ ***. Sample: West German mothers with 7-59 months old children. Source: Own calculations based on German Microcensus, 2006-12 see Table 1.

Table 6: Employment effects of parental benefit reform - Immigrants

Dependent variable: employment	Phase 1		Phase 2		Phase 3	
	(1) 7-14 m.	(2) 7-14 m.	(3) 15-24 m.	(4) 15-24 m.	(5) 25-59 m.	(6) 25-59 m.
Mother 2007	-0.0698*** (0.0263)	-0.0737*** (0.0258)	0.0032 (0.0350)	-0.0017 (0.0333)	0.0390** (0.0153)	0.0459*** (0.0149)
Childage	-0.1184** (0.0505)	-0.1229** (0.0498)	-0.0795 (0.0752)	-0.0858 (0.0722)	0.0175*** (0.0059)	0.0178*** (0.0058)
Childage sq.	0.0068*** (0.0025)	0.0070*** (0.0024)	0.0021 (0.0019)	0.0022 (0.0018)	-0.0002** (0.0001)	-0.0002** (0.0001)
Immigrant	-0.1347*** (0.0328)	-0.0907*** (0.0325)	-0.2347*** (0.0393)	-0.1563*** (0.0404)	-0.1698*** (0.0196)	-0.0813*** (0.0198)
Mother07*Immigrant	0.0507 (0.0435)	0.0649 (0.0423)	-0.0329 (0.0529)	-0.0228 (0.0526)	-0.0593** (0.0271)	-0.0546** (0.0264)
Low education		-0.0918*** (0.0237)		-0.1737*** (0.0305)		-0.2040*** (0.0165)
High education		0.0758** (0.0331)		0.0949** (0.0404)		0.0510*** (0.0177)
Age		-0.0198 (0.0189)		0.0374* (0.0193)		0.0228** (0.0096)
Age sq.		0.0005 (0.0003)		-0.0005* (0.0003)		-0.0002 (0.0002)
Single mother		-0.0504 (0.0357)		-0.0949** (0.0384)		0.0336* (0.0184)
No. older siblings		-0.0317*** (0.0109)		-0.0467*** (0.0119)		-0.0331*** (0.0064)
N	1351	1351	1107	1107	5908	5908
R-sq	0.043	0.099	0.062	0.149	0.042	0.102

Mother 2007 refers to mothers with children born 01-03/2007. Standard errors in parentheses. $p < 0.10$ * $p < 0.05$ ** $p < 0.01$ ***. Sample: West German mothers with 7-59 months old children. State dummies included. Source: Own calculations based on German Microcensus, 2006-12 see Table 1.

Table 7: Employment effects of parental benefit reform - EEA and Non-EEA

Dependent variable: employment	Phase 1		Phase 2		Phase 3	
	(1) 7-14 m.	(2) 7-14 m.	(3) 15-24 m.	(4) 15-24 m.	(5) 25-59 m.	(6) 25-59 m.
Mother 2007	-0.0620** (0.0267)	-0.0670** (0.0262)	0.0028 (0.0358)	-0.0067 (0.0343)	0.0439*** (0.0156)	0.0478*** (0.0151)
Childage	-0.1161** (0.0505)	-0.1223** (0.0501)	-0.066 (0.0748)	-0.0808 (0.0721)	0.0180*** (0.0059)	0.0181*** (0.0058)
Childage sq.	0.0067*** (0.0025)	0.0070*** (0.0024)	0.0018 (0.0019)	0.0021 (0.0018)	-0.0002** (0.0001)	-0.0002** (0.0001)
EEA	0.0004 (0.0609)	0.0017 (0.0591)	-0.1664** (0.0696)	-0.1646** (0.0710)	-0.0897*** (0.0345)	-0.0704** (0.0342)
Mother07*EEA	-0.0246 (0.0870)	0.0022 (0.0854)	0.0464 (0.1020)	0.0554 (0.1021)	-0.0857* (0.0501)	-0.0709 (0.0494)
Non-EEA	-0.1756*** (0.0329)	-0.1139*** (0.0339)	-0.2543*** (0.0413)	-0.1542*** (0.0428)	-0.2075*** (0.0211)	-0.0966*** (0.0217)
Mother07*Non-EEA	0.0585 (0.0433)	0.0656 (0.0435)	-0.048 (0.0543)	-0.0304 (0.0537)	-0.0448 (0.0287)	-0.0449 (0.0280)
Low education		-0.0866*** (0.0238)		-0.1640*** (0.0308)		-0.1996*** (0.0167)
High education		0.0682** (0.0327)		0.0958** (0.0405)		0.0483*** (0.0176)
Age		-0.0217 (0.0191)		0.0378* (0.0193)		0.0228** (0.0096)
Age sq.		0.0005 (0.0003)		-0.0006* (0.0003)		-0.0002 (0.0002)
Single mother		-0.0637* (0.0358)		-0.0945** (0.0379)		0.0297 (0.0185)
No. older siblings		-0.0281** (0.0112)		-0.0488*** (0.0121)		-0.0335*** (0.0064)
N	1351	1351	1107	1107	5908	5908
R-sq	0.05	0.093	0.069	0.143	0.049	0.103

Mother_2007 refers to mothers with children born 01-03/2007. Standard errors in parentheses. p<0.10 * p<0.05 ** p<0.01 ***. Sample: West German mothers with 7-59 months old children. State dummies included. Source: Own calculations based on German Microcensus, 2006-12 see Table 1.

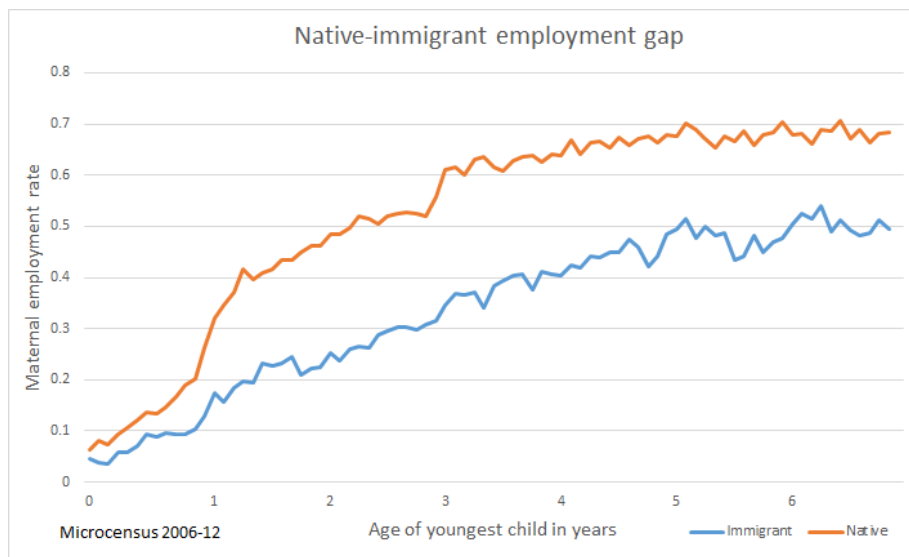


Figure 1: Employment of native and immigrant women in Germany