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Essays in Applied and Labor Economics

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This thesis consists of three chapters. First and second chapter include original research papers with the focus of health behavior and refugee migration. In the context of a high-income developing country, Turkey, I provide new insights for the established policy discussions in the literature. Then, third chapter reviews the literature and perspectives on the determinants of attitude formation towards migration policy and migrants. This chapter extends the discussion in Chapter 2 and aims at understanding the reasons of recent global trends in anti-migration attitudes.

In Chapter 1, I investigate the effects of education on the early investments of mothers in their children aged between 0-5. Exploiting a compulsory schooling reform, I document the causal effects of education on young mothers' health investments during pregnancy and postnatal period. Results suggest that there are positive effects on the use of health care services, while no effects on breastfeeding or vaccination take-ups. These results can be put into context through newly implemented Health Transformation Program in the country. I show that educated mothers use new services more and empowerment effects of the education have a role in the service use. This study gives important policy lessons to improve mothers' health care use and early child conditions in developing countries.

In Chapter 2, I investigate the effects of refugee inflow on the voting behavior of natives. 3.6 million Syrian refugee is a source of public and political discussion in Turkey. I use a novel data provided by a telecommunication company, focus on pre and post refugee inflow elections and investigate the vote share of the party announced "open-door" policy. Analysis suggests that although refugees and natives are culturally closer than the Western country contexts, small negative effects documented are likely be driven by non-economic/cultural reasons. These findings bring a new perspective to understand why anti-immigrant sentiments are easy to use and manipulate.

Lastly, in Chapter 3 to understand the reasons of the rise in anti-immigrant rhetoric in developed countries, I review perspectives and the literature on natives' attitude formation towards migrants. This chapter argues the implications of resistance against migrants for refugees and addresses the need of further research in refugee outcomes, integration and attitudes towards them.

Effects of Maternal Education on Early Non-Monetary Investments in Child Development

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Abstract

This paper investigates the effects of education on the early investments of mothers in their young children exploiting a compulsory schooling reform in Turkey. I adopt a regression discontinuity design and document that education significantly affects mothers' prenatal health investments and some postnatal health behavior. However, there is no evidence on the effects of maternal education on breastfeeding duration or compliance with the universal vaccination program. Then, I show that education leads mothers to spend time with their children at home and outside. These findings suggest that increases in maternal education in a developing country have the potential to reduce inequalities at birth.

JEL Classification: I12, I25, I26, J13

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1 Introduction

Evidence on the long lasting impacts of early life conditions is growing in economics literature.[1] In early years, parenting is the most important input in child development: Heckman (2011) argues that parenting matters to foster skills of children and the true measure of child poverty and advantage is the quality of parenting a child receives, not just the money available to the household. The early period is critical, because children accumulate health capital and cognitive skills which are important in the school success. If children are neglected or coming from disadvantaged backgrounds they start lagging behind their peers, then achievement gap widens in the following years and finally materializes in adult outcomes.

One possible solution to limit the persistence of early disadvantage across generations is designing policies that target disadvantaged families and aiming at improving conditions of children in these households. However, these kind of policies tend to be limited in scope because of high implementation costs. On the other hand, one of the well-known universal policies is compulsory schooling reforms. They have been implemented in many countries all around the world to increase the schooling levels of citizens and designed to access each school aged children. If additional education gained through compulsory schooling has causal effect on the future parental behavior, then these reforms make much more than to increase the human capital of certain cohorts, because they create positive spillovers on the off-springs as well. Given the importance of parental investments in children in the early life, this aspect of additional education worths to investigate.

In this paper, I investigate the effects of education on early non-monetary investments of mothers in their young children exploiting the variation in education induced by 1997 Compulsory Schooling Reform in Turkey. I adopt a regression discontinuity design which is regarded more credible than other quasi-experimental strategies (Lee and Lemieux 2010) and even sometimes identify impact estimates that share the same validity as randomized experiments (Lee 2008). I focus on non-monetary investments, because they may help disadvantaged families to compensate the lack of monetary investments in child development and I focus on pre and postnatal health investments of mothers who have children ages between 0 and 5. Lastly, I use nationally representative high quality data which collects the most recent information on maternal inputs and carry out an accurate analysis of early maternal investments in young children in a novel developing country context.

Before the policy, schooling system was 5+3+3 years in Turkey and only the first 5 years was compulsory. Through the policy, compulsory education was extended to 8 years. In

[1] For a detailed survey of the topic see Almond and Currie(2011)

1997, just before the policy implementation, the enrolment rate to secondary education was 52 percent (World Bank, 2018) and mostly girls were dropping out school after completing 5 years of primary education. Therefore, this new policy led to a significant increase in their educational attainment, especially in rural areas (Kırdar et. al. 2016). In my estimation sample, I find a 16 ppt increase in the probability of completing 8 years of education (39 percent over mean). Although girls who attended the new compulsory years appeared 3 years later in the marriage market,[2] their fertility catches up quickly and around the pivotal cohort I do not observe any differences in fertility behavior, i.e age at first birth, number of children and number of children under 5 are smooth across cohorts. Moreover, there is no policy effect on labor force participation. I also rule out any policy effect on child characteristics that would have an effect on maternal inputs. All of these findings help me to clearly interpret the causal estimates I get for the effect of education on early maternal inputs.

Education is a strong indicator of social status and extensive research documents that higher education and social status is correlated with better parenting. Education may affect parental behavior through several ways. First, it is argued in Becker and Lewis (1973) that as women get more educated they shift their preferences of child services in the household from quantity to quality of children. Similar to this point, staying longer in school may increase the value of children's human capital in parent's utility function by making them aware of higher returns of schooling for their children. Then, from an economic perspective we may regard better parental practices or higher parental effort as an investment that requires effort today, but returns are realized later. Therefore, returns are discounted in lifetime utility maximization of parents and education may change the discount rate, that is to say it may increase patience of parents. Moreover, higher wage rate as a result of education may increase parental inputs due to an income effect in the household. One should also consider that higher wage rate might lead to a substitution effect between hours of work and parenting. Lastly, intrahousehold resource allocation literature suggests that increased bargaining power of women has positive impact on resources devoted for children (Doss 2013), therefore empowerment effects of education may also change mother's parenting behavior in the household by affecting her bargaining power.

As a result of the analysis, I document remarkable increases of mothers' pre and postnatal health investments in their babies. I show that receiving at least 8 years of education leads mothers to start antenatal visit 1.7 months earlier, make 5.5 more antenatal visits and these

[2]In Turkey marriage and childbirth are in order, childbirth out of wedlock is rare. Black et. al. (2008) suggest the incarceration effect of compulsory schooling on teenage births and Kırdar et. al. (2018) find evidence for this in Turkish case.

effects are as large as 1 standard deviation of respective outcomes. I also document huge increase on the probability of giving C-section birth. Then, I investigate mother's post natal health investments and parental behavior and show that probability that baby will have a post natal check increases by 22 ppt (24 percent over mean), mother's probability of spending time with child at home increases by 23 ppt (25 percent over mean) and outside 37 ppt (48 percent over mean). I find no statistically significant effects on breastfeeding duration or the probability of compliance with all doses of children's vaccine.

Although huge literature on returns to education showed the wide range of non-pecuniary benefits of education, none of them clearly focused on how early parental investments or behavior are affected by education.[3] Studies closely related to this paper focused only on the effects of education on child mortality, birth weight and some child health measures. These may be regarded as prenatal maternal investments which are good for both mothers' own health and babies' health, but it is hard to reach a clear conclusion about early maternal inputs in babies. In these studies, although results are mixed for developed countries (Currie and Moretti 2003, McCrary and Royer 2011, Lindeboom et. al. 2009) there are positive effects of education on early child health outcomes in developing countries (Breirova and Duflo 2004, Chou et. al. 2010 and Gunes 2015).

Other related studies uncover whether intergenerational education correlations between parents and children are causal or not. For example, Black et. al. (2005) used compulsory schooling reforms in Norway to instrument parental education and concluded that high correlation between parents and children education are mostly due to selection and not causation, Holmlund et. al. (2011) reaches the same conclusion in Sweden. However, studies that used the intermediate child outcomes to assess the intergenerational education transmission, such as Oreopulos et. al. (2006) and Chavelier (2004) showed a decrease in the probability of grade repetition of children and Carneiro et. al. (2013) showed an improvement on the test scores. In sum, although previous studies found improvements in child health and in some measures of child education as a result of increased parental education, they did not attempt to understand the role of parental behavior or investments on these observed results.

Lastly, this study also relates to the broad literature of parenting and brings evidence from a novel context. Studies in sociology and developmental psychology showed that higher socioeconomic status is correlated with better parental practices and evidence is from developed countries.[4] In economics, studies that focus parental non-monetary investments typically analyze time investment and use data from developed countries (Guryan et. al.

[3]For a discussion of the topic see Oreopulos and Salvanes (2011)

[4]See Bradley and Crown (2002) for a detailed survey

2008, Price 2008). Again, considering time as an important maternal input, scholars investigated the effects of early maternal employment on child development (Blau and Grossberg 1992, Ruhm 2000, James-Burdumy 2005). Other couple of interesting studies investigated the effect of socioeconomic disadvantage on parenting style (Cobb-Clark et. al. 2016) and the effect of beliefs on parental inputs (Boneva and Rauh 2017). First study suggests that socioeconomic disadvantage is linked to parenting style and human development through the constraints that it places on cognitive capacity and the second argues that parental investments and child development in disadvantaged families are constrained by beliefs. Then studies in developing country contexts documented whether there is differential treatment between boys and girls in investments (Jayachandran and Kuziemko 2011, Barcellos et. al. 2014, Hafeez and Domeque 2017). The evidence presented in this paper complements previous related papers by looking at dimensions of parental behaviour and early investments in young (0-5) offsprings that have not previously investigated with high quality survey data. Moreover, findings of this paper have implications with regards to the policy discussions of Attanasio (2015). He argues that a well designed policy should have a good understanding of mechanisms that drives its impacts. I explore possible mechanisms that drive the effect in this setting and come up two important explanations for the observed effects which may help the design of effective policies in similar developing country contexts.

The paper is structured as follows. In section 2, I provide background information about early child health in Turkey and compulsory schooling reform. Section 3 presents the data used in this study, while Section 4 describes the empirical strategy, Section 5 documents the results, lastly Section 6 concludes.

2 Background

2.1 Early Child Health in Turkey

In 2016 infant mortality rate (per 1000 births) was 9,7 and under 5 mortality rate was 11,9 in Turkey. These numbers are close to WHO European Region average and far lower than the average of upper-middle income countries (Ministry of Health 2017). Turkey decreased its infant mortality and under 5 mortality rates from very high levels to its current level.[5] Health Transformation Program launched in 2002 in Turkey and it is the main reason of this achievement. One component of the program was the Family Medicine System which was introduced in 2003. Through this system a family physician is assigned to each family and these doctors examine children periodically, vaccinate them and train mothers about

[5]Such as infant mortality and under 5 mortality rates (per 1000 births) were 39.2 and 74.2 in 1990; 31.9 and 55.6 in 2000 (World Bank Database).

child healthcare (Ministry of Health 2009). Moreover, community health centres located in districts give free-of-charge logistic support to vaccination campaigns, mother and child care services in accordance with the program identified by the Ministry of Health in the country.

These primary health services are provided for free to each citizen since 2006. If mothers are in contact with their family physicians, they can get related information about better practices for the child health. Although child health services are easily accessible,there is a decline in the take up rate of later doses of vaccines. There is also a gap in the vaccination coverage between urban and rural areas and heterogeneity across regions in terms of take up rate. New vaccines are added to the universal program during the study period (2003 -2013), but I use the fixed ones in my analysis. Doses of vaccines and their timings are following: Hepatitus B 1 is given immediately after the birth; BCG and DPT 1 in the second month; DPT 2 and Hepatitus B 2 are in the fourth month; DPT 3, Hepatitus B 3 and Polio 1 are in the sixth month; Measles is in the twelveth month and Polio 2 is in the eighteenth month.[6] 1993 Demographics and Health Survey documents that among 12-23 month old babies BCG take up was 87 percent, completion of 3 doses of DPT was 76 percent and the rate that took all the required vaccines (BCG, 3 doses DPT, 3 doses Polio and Measles) was 59 percent. This amount was 76 percent in the west of the country and 40 percent in the east of the country; 74 percent in urban and 50 percent in rural areas. Trends in vaccination coverage suggests improvement of take up in rural and east part of the country and decline in coverage gap. 2013 DHS shows that among babies between 15-26 months BCG take up rate was 94 percent and completion of 3 doses of DPT was 83 percent and the rate of babies that took all the required vaccines was 68 percent. This amount was 76 percent in west, 67 percent in east of country; 76 percent in urban and 64 percent in rural areas.

Breastfeeding is almost universal in Turkey and differences in the length of breastfeeding across groups has been minimized through time.[7] Although in the past low educated mothers and mothers residing in the east part of the country were breastfeeding long (it was the traditional way of feeding the baby) as mothers' awareness about the health benefits of nursing babies increased, the duration converged across groups. Lastly, even though Turkish mothers breastfeed long, exclusive breastfeeding is not yet in the desirable length.

The recent Health Transformation Program improved both quality and accessibility of

[6]BCG protects against tuberculosis, DPT protects against diphtheria, pertussis and tetanus

[7]In 1993 DHS, mean duration of breastfeeding was 13 months and exclusive breastfeeding was 1.5 months (95 percent of babies was ever breastfed). Mothers in West breastfeed 8 months on average while in East 17 months and mothers who have no education breastfeed 15 months while mothers who completed secondary education (8 years) breastfeed 8 months. Then the recent 2013 DHS shows that mean duration of breastfeeding is 16 months and exclusive breastfeeding is 2.7 months (96 percent of babies are ever breastfeed). Mothers in West breastfeed 17 months on average, while in East 16 months and mothers who have no education breastfeed 17 months, while mothers who completed higher education breastfeed 16 months.

prenatal maternal care. Family doctors also examine pregnant women and give necessary advice for healthy pregnancy period and direct them to secondary health institutions to make them have the required tests timely. However, one negative consequence of Health Transformation Program could be fastly growing cesarean rates due to increased availability of health services. In 2002 cesarean sections was 21 percent among all births, it jumped to 48 percent in 2012 and it was 53 percent in 2016. We also see that while antenatal care coverage (at least one visit during pregnancy) was 70 percent in 2002, it jumped to 99 percent in 2016 (Ministry of Health 2017). Lastly, Health Transformation Program helps to put into context the magnitude of the education effects in health use variables and I will further discuss in the identification strategy section why it is unlikely that this reform may be a confounder in the analysis.

2.2 Compulsory Schooling Reform

In the summer of 1997 the duration of compulsory education was extended to eight years in Turkey. In the 5+3+3 system, the first five years was compulsory elementary school, three years of middle and three years of high school were optional to attend. The new policy combined the first two tiers of education system as the new primary education (ilkogretim) and this resulted in eight years of compulsory schooling. When the policy came into force in the summer of 1997, students who finished grade 4 and lower grades were bound to the new rule and had to stay three more years in school. School starting age is six in Turkey and this implies that cohorts potentially affected by the policy was born in January 1987 and after.

The extension of compulsory schooling in Turkey required huge education investments to accommodate new students. Kırdar et. al. (2016) report that prior to the reform share of The Turkish Ministry of National Education (MONE) in the budget was 15 percent after it moved up to 37.34 percent. The increase in the number of 6th grade students in urban areas after three years of the reform was 13 percent and in rural areas 20 percent. Moreover, they mention two strategies followed by MONE which are constructing boarding schools and bussing children to schools to ensure that the policy is implemented all around the country efficiently. Therefore, thanks to huge efforts of MONE this policy implemented successfully within a short time period and without any deterioration in the education quality.

3 Data and Descriptive Statistics

This paper uses the most recent waves of Turkish Demographic and Health Survey. Surveys were conducted in 2013 and 2008 by Hacettepe University Institute of Population Studies. The data contains nationally representative sample of women aged between 15-49. De-

mographic and Health Survey (DHS) is a well known program implemented in developing countries all around the world. In Turkish version the content is similar, such as there are detailed information about women's fertility histories, family planning methods used, child health and women's status in the family.

The mothers sample of this study is a subsample of ever married women and this is a relatively young group of mothers. The questions about child health investments are asked to women who gave birth at most 5 years prior to survey year. As a consequence of the survey structure, relying on the 2013 and 2008 waves, I can observe parental inputs to the births of women given between 2003 and 2013. Another constraint coming from survey design is that women were asked about their investments in their last child, but these constraints help to get the most accurate information on maternal inputs. In Table 1, summary statistics of the pooled mothers sample are reported. Average mother age is 26, years of schooling is 6.5 and grade 8 completion rate is 41 percent, so these mothers are not only young but also have quite low educational attainment. The age of the last child (at the time of survey) is around 2 and parity of women in the sample is 2, this also indicates the birth order of the last child.

Among parental health investments the first measure is the duration of breastfeeding, its mean is around 12 months in the sample. This seems quite long, but it is reasonable in Turkish context because only 19 percent of mothers are participating to the labor force. Then mothers are asked whether their children have a vaccination card or not.[8] There is again a restriction on vaccination sample, women who gave birth at most three years before the survey year are included. Information from mothers' self-reports and health card is combined to construct indicators of the take-up of each dose of vaccines. In the sample, 93 percent of children has a vaccination card which means that they received at least one dose of vaccine. Mean child age is 2 in the sample, for most of the children vaccination period is about to end as parents are not following vaccination schedule strictly the aim of the health personnel is to ensure that parents complete all the doses until the first birthday of child. Having babies still in the vaccination age is a detail accounted by the empirical strategy which will be discussed in the next section. Hepatitus B 1 is the most widely taken vaccine in the sample with the mean of 96 percent, then Hepatitus B 2 is taken with 90 percent and means of other vaccines change between 88 percent to 53 percent. While children are more likely to get the first doses of vaccines for later doses dropout is an issue.

Another parental behavior that I will investigate is spending time with children. Mothers are asked who spends time with children at house and outside of house. Possible answers

[8]Vaccination card is given to the child in the community health centre when it gets the first dose of vaccine. The card is used to keep track of the doses taken by children, each dose is recorded with its date to the card as child takes them.

are mother, father, and other people (girl child, boy child, woman's mother, husband's mother, nobody etc). We see that 92 percent of mothers spend time with children at home themselves, while 75 percent spends time at outside of the house. These variables indicate whether mother devote time for children or not but do not tell what are the activities carried out (reading to child or going to museums etc), still we can expect that mother child interaction happens in this time.

After investigating early parental behavior, I look at prenatal maternal health care use. Antenatal care is essential for a healthy pregnancy period and initial health of newborn. In the sample, mean number of antenatal visits are 8 and mothers on average started to the antenatal care at the second month of pregnancy. Another variable is whether the last birth of mother was a C-section and its mean is 40 percent. Turkey is one of the countries that has highest cesarean rates in the world and mothers sample in this study reflects this fact. Lastly, whether baby had a postnatal check in a health institution is asked to mothers and 90 percent of babies had a check within two months of birth.

4 Empirical Strategy

This paper aims at assessing the causal effect of maternal education on early maternal investments in their children, but OLS estimates are likely to be biased for many reasons. First, unobserved ability and discount factor of mothers may both be correlated with their educational attainment and investments in their children, also unobserved components of parental background (i.e. alturism) may determine both the education level of mothers and their parental tastes or behavior. To solve this problem, I will use a regression discontinuity design and compare the educational attainment and maternal inputs of women who were affected by the education reform with those of women who were not affected. I have the date of births in month year combination, the identifying assumption in the regression discontinuity setting is that cohorts born one month apart do not show any systematic difference in terms of observed and unobserved characteristics other than being exposed to policy or not.[9] As it is the case in all compulsory schooling policies compliance to policy is not perfect, besides there can be lags in the policy implementation and some families may send children to school later than age 6. These factors lead fuzziness in the treatment status of mothers at the cutoff and Hahn et al. (2001) show that fuzzy regression discontinuity is equivalent to a two-stage least squares estimation.

I implement the identification strategy in two ways. I estimate the intention-to-treat and

[9]Similar identification strategy can be seen in McCrary and Royer (2011), Erten and Keskin (2018), Aydemir and Kırdar (2017)

causal effect of education both parametrically and non-parametrically following Cattaneo et al. (2014). For parametric estimates, I use 2SLS estimator and define the instrument for mother education as exposure to the education reform: the instrument is a dummy equal to 1 if mothers born in January 1987 and after. The first stage equation for the educational attainment is as follows:

$$education_i = \alpha_0 + \alpha_1 D_i + f(x_i) + u_i$$

$Education_i$ is either standing for years of schooling received or a dummy variable indicates whether individual i received 8 years of education or not. D_i is the dummy variable for the policy exposure and x_i is the running variable (date of birth) and $f(x_i)$ models the relationship between date of birth and educational attainment. Then, the second stage equation is:

$$p_i = \beta_0 + \beta_1 education_i + f(x_i) + v_i$$

P_i is the measure of parental input considered. I estimate separate set of regression for each of the following outcomes: the doses of vaccines, duration of breastfeeding, maternal health care use and maternal time activity with child. In instrumental variable estimation, critical assumption for unbiased identification of parameter of interest is that the effect of compulsory schooling reform on parental input takes place only through its effect on change in maternal education. The assumption is not verifiable but regarded as a reasonable assumption in the case of compulsory schooling reforms in the literature.

The aim of the empirical strategy is to capture the jump in maternal inputs at the cutoff. Therefore, as commonly done (Lee and Lemieux 2010) I take 96 months (8 year) on each sides of discontinuity at most and narrow down the window to 72 (6 year) and 48 months (4 year) on each side in turn. $f(x_i)$ takes both linear and quadratic functional form and I allow the time trend to be different before and after the policy by adding a policy trend interaction term to $f(x_i)$ in the estimation procedure. The main estimation does not include control variables, I also check the robustness of my findings using potential confounders in Turkish context, i.e. dummy for rural residence, month of birth fixed effects, region of residence and childhood region of residence fixed effects and dummy for interview language is not Turkish similarly in Erten and Keskin (2018). Then, in the non parametric estimation optimal data driven bandwidths are chosen and estimation is carried out through point estimation methods following Cattaneo et. al. (2014).

4.1 Preliminary Checks

Before presenting the findings, I provide some evidence that support the internal validity of the identification strategy. Specifically, I start with usual checks of regression discontinuity

design: checking the continuity of the density of the running variable and checking the continuity of predetermined covariates. Then, I check some policy effects that may threat the causal interpretation: effect on sample selection; effects on fertility and labor market participation of mothers, effects on child characteristics. Checks for the validity of RD successfully holds and I rule out policy effects on critical variables. Therefore, the analysis in this section supports the causal interpretation of the results discussed in the next section. I now illustrate them in turn.

First, I check the continuity of the density of the running variable using the Cattaneo et. al. (2017) density test. It suggests that forcing variable is continuous at the cutoff ($T = -0.256$ $P > |T|$ 0.797) which is also evident in Figure 1. In this setting policy assignment is based on date of birth, although the manipulation of treatment status is not likely, I rule out any possibility of sorting around cutoff with this test.

Then, I investigate the continuity of the pre-determined covariates at the cutoff. This investigation shows the plausibility of identifying assumption. I used region of residence at age 12 and some family covariates such as whether women's parents are relatives or not, women's mother's mother tongue is Turkish or not and women's mother ever attended to school or not. These variables also show the background characteristics of young mothers sample. Figure 2 and Figure 3 suggest that there is no significant jump at the cutoff.

I also check whether there is a policy effect on the probability of giving birth 5 years prior to survey and ending up in the mothers sample. Such an imbalance between treated and untreated cohorts may lead the identification strategy to be invalid as it may imply different composition of mothers in terms of both observed and unobserved characteristics. Using 2013 TDHS all women sample and pooled sample of ever married women I check this possibility. Estimation results in Table 2 suggest no policy effect on ending up in the sample.

Then, I investigate the possible effects of policy on fertility and labor market outcomes of women. These factors are important determinants of maternal inputs, for example age of motherhood may have an independent effect on parental inputs or birth order effects in parental investments are well documented in the literature. If I do not control for such variables, the parameter of interest will be the combination of all policy effects and this lead to difficulties in interpretation.[10] The same argument is true for labor force participation as well. If additional education gained through compulsory schooling policy leads mothers to participate in labor market, then the opportunity cost of parental time changes for treated and non treated mothers. Therefore, shutting down these channels suggests that main es-

[10]McCrary and Royer (2011) discuss that school entry policies are unique in the sense that they do not affect the probability of having children and age at motherhood, so their estimates are not confounded by these effects in the regression discontinuity setting in which they exploit school entry policies in the US.

timation results are likely to show direct effect of education on maternal inputs. Table 3 and Table 4 document estimation results for the policy effects on fertility and labor market outcomes. We do not observe any significant policy effect on the number of children under 5, parity and age at first birth of mothers. Neither there is effect on ever participating to the labor market or currently participating. One characterizing feature of Turkish labor market is very low participation of women and given the structure of labor market institutions, no effect is not surprising. These findings suggest that results which will be documented in the next section are reflecting the direct effect of education on maternal inputs.

Finally, I check the child characteristics that mother is investing in. Any difference in terms of child characteristics may also be a confounder in this analysis. One key characteristics is child age, because mothers have children at ages between 0 and 5 and some of the dependent variables are sensitive to child age (breastfeeding and vaccination). Table 5 shows the estimation results for these variables, importantly child age (in month) is smooth around cutoff. There is a small birth weight effect which is not precisely estimated and in terms of magnitude it is 10 percent of standard deviation. This could be the result of better maternal prenatal care that will be documented in the results section and it is not necessarily a confounder as the effect of birth weight on parental investments is not clear. Interestingly, there is a suggestive evidence for child gender imbalance at the cutoff, treated mothers have 5 to 10 ppt more boy child. As long as there is no sex selective abortion, child gender should be random. I document that this is not a threat to identification as the following analysis does not suggest selective abortion of treated mothers. Estimation results in Table 6 show that treated mothers have 2 ppt less induced abortions which explains the child sex disparity at the cutoff (implies more abortions of non treated mothers). To understand the motivation behind induced abortion is whether to have a balanced child composition, I focus on the total number of boy children of these women. This investigation reveals that gender disparity fades away at the cutoff and we can be confident that motivation behind abortions is achieving balanced child composition. I conclude that this is not a threat to identification because the investigation does not imply any behavioral response of treated mothers with regards to child sex, i.e if I documented that treated mothers had more abortions and effect is fading away when I use total number of boy child this would be problematic.

5 Results

5.1 Policy Effects on Schooling

First, I document the policy effects on schooling of mothers. I consider two different measures of educational attainment, one is the years of schooling received the other is the binary

variable indicating whether mother got at least 8 years of education or not. Panel A of Table 7 shows the results choosing 48 and 96 month estimation bandwidths in the full sample and also using linear and quadratic control functions for estimation.[11] The policy effect on years of schooling is around 0.6 to 0.8 years increase and on grade 8 completion is around 17 to 20 ppt increase. In the 48 month sample second order polynomial overfits to data and it is not possible to detect the jump at the cutoff. One reason for the second order polynomial underestimates the policy effect in the small sample is the uncertainty in the treatment status of individuals born in 1986.[12] Mothers who were born in the last months of 1986 are likely to be treated if they started to school at age 7 [13], that's why to see the effect of that uncertainty of treatment status on estimates of educational attainment, I implement the "Donut Hole" approach suggested by Cattaneo et. al. (2018) by dropping the last six months of 1986 and first six month of 1987 and rerun the estimations. Panel B of Table 7 shows results, in this sample policy effect on years of schooling is approximately 1 to 1.5 years and on grade 8 completion 23 to 27 ppt increases. Analysis confirms the possibility of treated cohorts of 1986 and I conclude that the policy effect on years of schooling is at least 0.8 years and grade 8 achievement is 17 ppt increase.

In the remainder of the paper, I will continue to the analysis with the full sample and use the grade 8 as the educational attainment variable, because the F-statistics of regressions with that variable is far higher than years of education variable and the concerns related to weak instruments are less of an issue. A similar choice is also made by Dincer et. al (2014) and Dursun and Cesur (2016) for the same reason.

5.2 Effects of Education on Early Maternal Inputs

Table 8 shows parametric estimation results for the prenatal health care use outcomes. Estimation results suggest that as a result of 17 ppt increase in the share of mothers who complete grade 8, number of antenatal visits increase by 6 (approximately 1 st deviation) and timing of first visit is 2 months earlier (1.3 st deviation). There is also huge effect on the rate of C-section births between 40 ppt to 55 ppt which is as big as the sample mean. This suggests that education is not necessarily leading the optimal health behavior as it is

[11] Quadratic function in wide estimation bandwidth is used for further robustness check, all parameters already survive using the linear fit in wide bandwidth

[12] Considering the general rule of school starting age in Turkey (children 72 months old by the end of the calendar year are eligible to start elementary schooling in the corresponding fall semester), I determined the cutoff point (first treated is January 1987) and we see the same cutoff date of birth in recently published studies such as Aydemir and Kırdar (2017), Erten and Keskin (2018) and Dursun and Cesur (2016), but Dincer et. al. (2014) take 1986 treated as well, though it was not fully treated by the policy.

[13] Parents are likely to send children to school who will complete 72 months after or just before academic year begins in the next academic year

known that C-section is not recommended practice in terms of mother's health also in the medical literature negative consequences on child health is discussed (Blustein and Liu 2015; Deneux-Tharaux et. al. 2006).

Then, Table 9 documents estimation results on the postnatal health behavior and time activity of mothers. First, there are positive effects of education on whether baby had postnatal check within two months after birth, which is 23 ppt (25 percent over mean) increase and negative effect in smoking as a 27 ppt (140 percent over mean) decline. Investigation also suggests that education leads mothers to devote time for their babies at home and outside. Effects are approximately 22 ppt (23 percent compared to mean) and 40 ppt (53 percent compared to mean) increase. I also investigate the effects of education on the duration of breastfeeding and children's taking the doses of vaccines which are in the universal program.[14] Although estimations in Table 10 and Table 11 suggest positive correlation between maternal education and doses of vaccines, there is no education effect as a result of IV estimation.

As a robustness check first I implement the "Donut hole" approach to see the sensitivity of results to the observations at the cutoff dropping the last six months of 1986 and the first six months of 1987 from the sample. Estimation results in Appendix B, Table 13 and Table 14 suggest that effects in antenatal visits, C-section births and spending time outside and inside with child survive. In Appendix C I show the robustness of results while using large set of control variables that control for community level factors and mothers' childhood environment. Estimation results in Table 15 and Table 16 suggest similar education effects on the health care use and parenting outcomes. Then, I also explore the robustness of the parametric estimation to the use of the non-parametric methods described by Calanico et. al. (2014). Estimation results in Appendix D Table 17 and Table 18 suggest that overall non parametric estimation generates point estimates close to parametric results. Especially first stage results are quite robust in each estimation.

5.3 Heterogeneous Effects

This section provides some additional information about the extent to which the effects documented in previous sections are heterogeneous in the population. A particularly interesting dimension of heterogeneity is along the area of residence. Indeed, the availability of health services may differ across areas and increased access to these services may be a potential mediator through which the additional effect of education materializes. I divide the sample between rural and urban residence and check whether the effect is higher in urban places

[14] In **Appendix A** Figure 4 shows policy effects on outcome variables visually

where the intensity of community health centres and hospitals are higher. Table 12 documents the results. As we expected all the effects related to health care use are driven by urban population and only the spending time with child outside is bigger in rural sample which may be suggesting greater empowerment effect for women in rural areas.

Then to further understand the nature of the effects, I divide the sample between East and Non-East residents. The East part of Turkey has the strongest gender inequality and it is the place where women empowerment is the lowest in the country. In this region staying three years longer in school is likely to translate into bigger empowerment effects for women. First of all, difference in the first stage effects between East and Non-East gives the idea about unequal gender roles in East, share of compliers to policy is much lower there. Analysis reveals that all the health care use effects, except the probability of giving a C-section birth are driven by the sample of mothers who lives in East. Lack of effect in C-section births also helps to understand the extent of the empowerment effect. It seems that additional education led this women to use basic health services more, but choosing the practice of birth is still not a possibility for them like in the other parts of Turkey.

I also divide the sample according to the birth order of the last child that the maternal input is observed. I use only first and second birth order children leaving the higher birth orders out. We see that effects related to health care use are concentrated in first birth order children. Summaries suggest that these mothers are more educated and younger than women with two children. Time use with child outside is higher for mothers with two children, again a bigger empowerment effect could be the underlying reason for this group of mothers. To conclude, findings of these analysis are suggesting that effects are concentrated in urban areas, East Turkey and in one child households. Therefore, I argue that documented results are driven by differential use of newly available services by mothers and difference in take up is strongly related to empowerment effect of education. Moreover education affects the behavior of first time mothers more. All these aspects of results emphasize policy relevant points for similar context with Turkey.

This analysis also makes an intriguing aspect of findings clear. If mothers are using health services more for antenatal and postnatal care, why there is no effect on vaccination take ups as well? The limited effect of vaccination is likely due to high coverage rates in urban areas. As mentioned in Section 2 vaccination coverage has been virtually the same between 1993 to 2013 in urban areas which is 75 percent. This suggests that in the urban setting 75 percent take up rate is maximum to achieve in the country with current program. Therefore, findings in this study address the necessity of more targeted policies to increase vaccination coverage rate, because mothers who do not vaccinate their babies may have much more radical ideas about the necessity of vaccines for the health of baby.

5.4 Discussion

The main finding that higher education increases parental care is in line with Currie and Moretti (2003). They investigate the effect of maternal education on birth weight in the US using the availability of colleges in women's county at age 17 as an instrumental variable. In addition to the effect on baby's birth weight they also show more antenatal visits and lower probability of smoking of mothers. Although their compliers are in the higher part of the education distribution, this paper shows that similar effects can be observed for individuals located at the bottom of the education distribution. Taken together, these findings suggest that additional education might be effective in triggering changes in health behaviour of mothers at all education levels.

Then, documenting the effect of education on maternal time investments is in line with literature (Guryan et. al. 2008). Del Bono et. al. (2014) exemplifies how effective maternal time investments could be in early years. Their benchmark estimates suggest that one unit increase (which corresponds to an increase of one standard deviation) in the educational time factor at age 3 increases cognitive achievement significantly at that age by 0.13 of a standard deviation and a unit increase in the recreational time factor increases verbal skills by 0.07 of a standard deviation at age 3.

Lastly, what could be the reason of huge increase in C-section birth rates when the other desirable health investments are observed? Because more educated mothers are using the antenatal health services provided to them more, they may be choosing C-section as well without reaching all the relevant information and related health consequences while making the decision. For example, in a recent study for England, Amaral-Garcia et. al. (2017) investigate the relationship between internet access and prevalence of C-section births. They show that internet access increases the probability of C-section births especially for the first time mothers, this result implies that inaccurate information in the internet has the role for choice of C-section. Similar explanation may be one reason here.[15] Moreover, we can find information in the DHS data to better understand whether increase in C-section birth is demand or supply driven. Using the information on place of delivery, estimation results in Table 19 show that there is no education effect on the place of delivery which are either in home, public hospital or private hospital. This finding may help to rule out a demand driven C-section effect.[16] Rather heterogeneous effects analysis in Table 20 reveals that C-section births are predominantly given in private hospitals. This may support the idea of supply

[15] In the mothers sample used for this study correlation between internet use and grade 8 completion is 0.429 (0.015), IV effect is lower and less precise 0.201 (0.134)

[16] If it was a demand driven increase we would expect an increase in the probability of choosing private hospitals, where having a C-section is easier

driven effect on C-section births. For example, physicians in private hospitals may be more inclined to carry out C-sections than normal birth and advise it to women, then education may lead mothers to end up having C-section births more in private hospital.[17] This investigation helps to reduce concerns about huge increase of C-section births as mothers' choice and suggest that also health care suppliers or physicians had a role to promote it.

Moreover, mother empowerment as the driver of the differential use of health care is quite consistent with the previous studies in Turkish context. Gulesci and Meyersson (2016) documents greater decision rights of women over marriage and contraception and higher household durable consumption. Dinçer et. al. (2014) show increase in the knowledge of ovulation cycle and higher contraception use of women. Kırdar et. al. (2018) documents negative effects of policy on teenage fertility. Lastly, Erten and Keskin (2018) documents empowerment effects of education through labor market channel in their sample, but they also document higher probability of psychological violence and financial control of husband within household.

6 Conclusion

In this paper, I investigate the effects of maternal education on early health investments in children during pregnancy and early life, using variation in maternal education induced by a compulsory schooling reform in Turkey and compare the investments of mothers who were affected by the policy with those of mothers who were not.

Overall, findings suggest that in a developing country increased maternal education led to increases in the early health investments in children in the form of earlier start of antenatal health care (1.7 month) and more frequent visits (6 more visits), then in the postnatal period higher probability of baby's having a postnatal check and lower probability of mother's smoking. The remarkably big effects in health care use can be put into context through recently available services in the country which are part of Health Transformation Program introduced in 2002. Heterogeneous effects analysis suggest that differential take up of services by low and highly educated mothers is likely to drive the large education effects on investments together with the empowerment effect of education. However, I do not show any effect on the duration of breastfeeding and doses of vaccines in the universal program which are reasonable when we consider that in Turkey mothers are breastfeeding long (mean in the sample is 12 months), universal vaccination program is working well and coverage is stable for years in urban areas. Then, I show that education leads mothers to devote time

[17] Usually the doctor who follows pregnant women during pregnancy carries out the practice of birth, this is especially the case in private hospitals, therefore it is likely that after the process of antenatal visits higher educated mothers end up having C-section in private hospitals.

to their children in a critical period for time investments.

To sum up, these findings suggest that increasing maternal education can improve maternal inputs in children in early years, a key period for their cognitive and non-cognitive development. One important point to keep in mind when interpreting the results of this paper is that I focus on the case study of a developing country where new health services launched. Higher take-up of these services by more educated women seems to be an important mediator of the documented effects. Through this aspect, the case study of Turkey may inspire other developing countries while designing policies that aims at increasing parental health inputs in early child development.

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Table 1: Summary Statistics

Panel A: Parental Investments			
	Mean	SD	Obs
Breastfeeding (months)	11.77	8.32	3890
Health Card	0.93	0.23	2885
Bcg	0.88	0.32	2868
Dpt1	0.88	0.31	2838
Dpt2	0.79	0.40	2773
Dpt3	0.69	0.45	2773
Polio1	0.76	0.42	2838
Polio2	0.53	0.49	2783
Measles	0.58	0.49	2839
Hepatitus B 1	0.96	0.17	2837
Hepatitus B 2	0.90	0.29	2773
Hepatitus B 3	0.68	0.46	2773
Spending Time w Child at Home	0.92	0.26	3908
Spending Time w Child Outside	0.75	0.43	3806
Panel B: Health Care Use			
	Mean	SD	Obs
Baby Postnatal Check	0.90	0.29	3905
Birth C-Section	0.40	0.49	3905
Antenatal Visits	8.31	5.84	3897
Time of First Antenatal Visit	2.09	1.53	3357
Panel C: Mother and Child Characteristics			
	Mean	SD	Obs
Age	26.31	3.86	3912
Schooling	6.47	4.09	3912
Grade 8	0.41	0.49	3912
Number of Children under 5	1.31	0.54	3912
Parity	2.06	1.21	3912
Age at First Birth	21.17	3.45	3912
Ever Worked	0.49	0.50	3912
Currently Working	0.19	0.39	3912
Child Age (Months)	23.62	15.99	3912
Child Birthweight	3197.29	652.59	3533
Child Sex (Male)	0.52	0.49	3912

Note: Mothers sample is the subsample of ever married women who were given at least one birth between 2003 to 2013 and descriptive statistics are given for the cohorts 1979-1994 in the pooled mothers sample of 2008 and 2013 TDHS. Information from mothers' self-reports and health card is combined to construct indicators of the take-up of each dose of each vaccine

Figure 1: Cattaneo et. al. (2017) Density Test

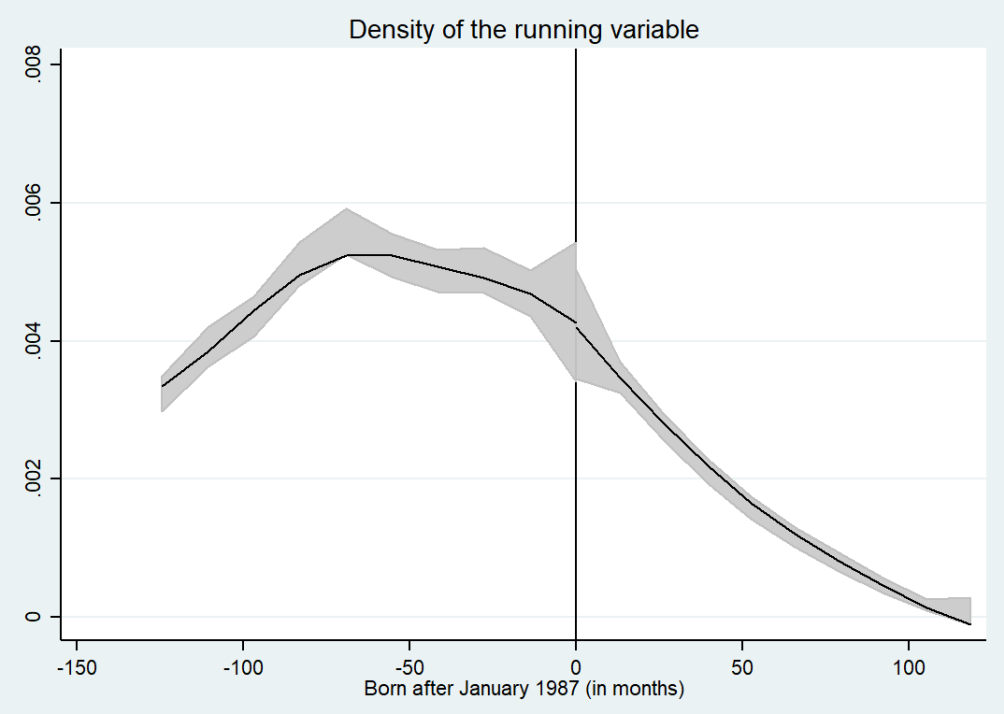
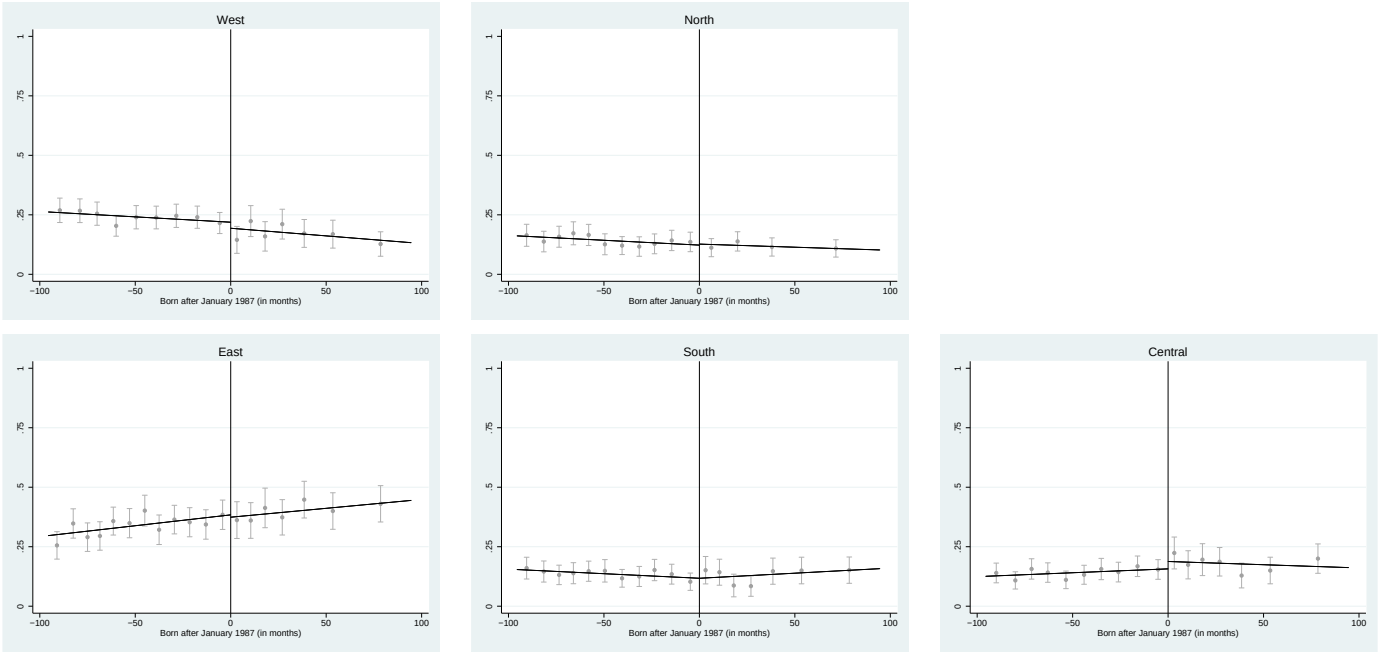
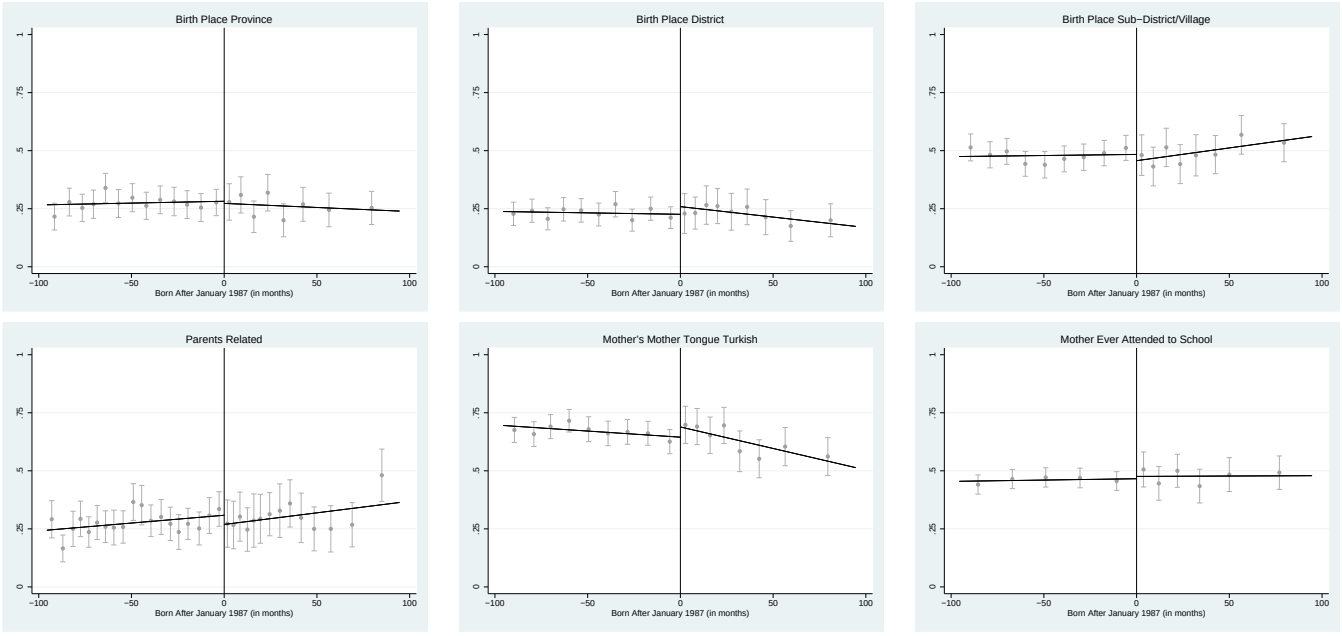


Figure 2: Region of Residence at 12



Note: Plots are constructed using quantile spaced binning: each bin contains equal number of observation within treatment groups and shows the unconditional mean with 95 percent confidence interval, further details of the method are explained in Calanico et. al. (2015). 96 month window on both sides of the cutoff is used and linear polynomial function estimated with uniform kernel is fit to the data. Data comes from the pooled sample of women who given at least one birth in five year period before TDHS 2008 and 2013 (covers last births of women 2003-2013 period). Running variable is date of birth (month year) of mothers and centered around January 1987.

Figure 3: Family Covariates



Note: Plots are constructed using quantile spaced binning: each bin contains equal number of observation within treatment groups and shows the unconditional mean with 95 percent confidence interval, further details of the method are explained in Calanico et. al. (2015). 96 month window on both sides of the cutoff is used and linear polynomial function estimated with uniform kernel is fit to the data. Data comes from the pooled sample of women who given at least one birth in five year period before TDHS 2008 and 2013 (covers last births of women 2003-2013 period). Running variable is date of birth (month year) of mothers and centered around January 1987.

Table 2: Policy Effect on Sample Selection

	48 Month Sample		72 Month Sample		96 Month Sample	
	(1)	(2)	(3)	(4)	(5)	(6)
2013 TDHS All Women Sample						
Policy	0.009	(0.033)	-0.004	-0.010	-0.002	-0.005
	(0.038)	(0.055)	(0.032)	(0.047)	(0.027)	(0.041)
Order of Polynomial	Linear	Quadratic	Linear	Quadratic	Linear	Quadratic
Number of Obs	2323	2323	3508	3508	4654	4654
Pooled Ever Married Women Sample						
Policy	0.021	0.083*	-0.003	0.038	-0.020	0.032
	(0.032)	(0.045)	(0.027)	(0.037)	(0.024)	(0.035)
Order of Polynomial	Linear	Quadratic	Linear	Quadratic	Linear	Quadratic
Number of Obs	3111	3111	4554	4554	5865	5865

Note: First set of estimation in Table 2 uses 2013 TDHS All Women Sample and dependent variable is probability of giving birth at most five year prior to survey. 48, 72 and 96 month windows are used for estimation, linear and quadratic functions of running variable (date birth) put to the model and trend is allowed to change before and after the cutoff. Standard errors are clustered in cohort, month year combination of birth, level. Second set of estimation in the 2008 and 2013 Pooled Ever Married Sample and dependent variable is probability of giving birth at most five year prior to survey. Estimation is carried out following the same steps as before.

Table 3: Policy Effects on Fertility Outcomes

	48 Month Sample		72 Month Sample		96 Month Sample	
	(1)	(2)	(3)	(4)	(5)	(6)
Number of Births in the last 5 years						
Policy	0.047	-0.013	0.042	0.017	0.046	0.022
	(0.060)	(0.093)	(0.048)	(0.075)	(0.044)	(0.067)
Parity						
Policy	0.056	-0.030	0.091	-0.004	0.107	0.034
	(0.086)	(0.139)	(0.070)	(0.112)	(0.065)	(0.099)
Age at first birth						
Policy	-0.0008	0.133	-0.052	0.058	-0.061	-0.024
	(0.246)	(0.349)	(0.206)	(0.295)	(0.188)	(0.269)
Order of Polynomial	Linear	Quadratic	Linear	Quadratic	Linear	Quadratic
Number of Obs	2202	2202	3141	3141	3912	3912

Note: Data comes from the subsample of 2013 and 2008 TDHS Ever Married Women Sample: women who gave at leat one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013. Mothers' fertility outcomes are investigated following the previous estimation procedures.

Table 4: Policy Effect on Labor Force Participation

	48 Month Sample		72 Month Sample		96 Month Sample	
	(1)	(2)	(3)	(4)	(5)	(6)
Ever worked						
Policy	0.002	-0.024	0.025	-0.0007	0.027	0.010
	(0.032)	(0.040)	(0.029)	(0.035)	(0.026)	(0.033)
Currently working						
Policy	0.018	0.062	0.031	0.034	0.021	0.040
	(0.027)	(0.039)	(0.022)	(0.034)	(0.020)	(0.031)
Order of Polynomial	Linear	Quadratic	Linear	Quadratic	Linear	Quadratic
Number of Obs	2202	2202	3141	3141	3912	3912

Note: For both tables above data comes from a subsample of 2013 and 2008 TDHS Ever Married Women Sample: women who gave at least one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013.48, 72 and 96 month windows are used for estimation, linear and quadratic functions of running variable (date birth) put to the model and trend is allowed to change before and after the cutoff. Standard errors are clustered in cohort, month year combination of birth, level.

Table 5: Policy Effect on Child Characteristics

	48 Month Sample		72 Month Sample		96 Month Sample	
	(1)	(2)	(3)	(4)	(5)	(6)
Child age (months)						
Policy	-0.087	-0.584	-1.331	0.296	-1.343	-0.648
	(1.313)	(-2.072)	(1.098)	(1.610)	(0.999)	(1.406)
Birth weight						
Policy	70.924	151.599*	47.643	110.495	38.278	95.147
	(54.091)	(80.160)	(43.715)	(67.296)	(39.452)	(57.963)
Sex (Male)						
Policy	0.099**	0.094	0.058	0.109*	0.031	0.090*
	(0.045)	(0.065)	(0.038)	(0.055)	(0.035)	(0.050)
Order of Polynomial	Linear	Quadratic	Linear	Quadratic	Linear	Quadratic
Number of Obs	2202	2202	3141	3141	3912	3912

Note: For both tables above data comes from a subsample of 2013 and 2008 TDHS Ever Married Women Sample: women who gave at least one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013.48, 72 and 96 month windows are used for estimation, linear and quadratic functions of running variable (date birth) put to the model and trend is allowed to change before and after the cutoff. Standard errors are clustered in cohort, month year combination of birth, level.

Table 6: Policy Effect on Abortions

	48 Month Sample		72 Month Sample		96 Month Sample		Mean
	(1)	(2)	(3)	(4)	(5)	(6)	(st. Dev.)
Spontaneous Abortion							0.181
							(0.385)
Policy	-0.087	-0.584	0.025	0.013	0.032	0.014	
	(1.313)	(-2.072)	(0.026)	(0.038)	(0.024)	(0.034)	
Induced Abortion							0.059
							(0.235)
Policy	-0.025**	-0.031*	-0.019*	-0.024	-0.018*	-0.022*	
	(0.012)	(0.018)	(0.011)	(0.015)	(0.009)	(0.013)	
Total Number of Boy Child							1.057
							(0.920)
Policy	0.091	-0.022	0.087*	0.029	0.072	0.046	
	(0.058)	(0.071)	(0.052)	(0.066)	(0.048)	(0.060)	
Order of Polynomial	Linear	Quadratic	Linear	Quadratic	Linear	Quadratic	
Number of Obs	2202	2202	3141	3141	3912	3912	

Note: Data comes from 2013 and 2008 TDHS. Women who gave at least one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013. 48, 72 and 96 month windows are used for estimation, linear and quadratic functions of running variable (date birth) put to the model and trend is allowed to change before and after the cutoff. Standard errors are clustered in cohort, month year combination of birth, level.

Table 7: Policy Effect on Schooling

	Panel A: Full Sample							
	Years of Schooling				Grade 8			
	48 Month Sample		96 Month Sample		48 Month Sample		96 Month Sample	
Policy	0.648***	0.304	0.664***	0.824**	0.169***	0.072	0.201***	0.178***
	(0.326)	(0.489)	(0.255)	(0.367)	(0.034)	(0.045)	(0.029)	(0.037)
F stats.	3.81	2.37	6.91	5.06	50.59	33.21	68.80	42.50
Order of Polynomial	First	Second	First	Second	First	Second	First	Second
Number of Obs	2202	2202	3912	3912	2202	2202	3912	3912
	Panel B: Donut Hole Approach							
	Years of Schooling				Grade 8			
	48 Month Sample		96 Month Sample		48 Month Sample		96 Month Sample	
Policy	1.139***	1.429*	0.841***	1.561***	0.239***	0.127	0.237***	0.271***
	(0.405)	(0.783)	(0.287)	(0.462)	(0.048)	(0.090)	(0.034)	(0.055)
F stats.	4.57	3.13	8.70	7.35	48.02	31.37	67.73	41.83
Order of Polynomial	First	Second	First	Second	First	Second	First	Second
Number of Obs	1892	1892	3602	3602	1892	1892	3602	3602

Note: Data comes from 2013 and 2008 TDHS. Women who gave at least one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013. 96 and 48 months are taken on both sides of cutoff for estimation. In Panel A full sample is used while in Panel B cohorts have fuzzy treatment status (6month before, 6 month after cutoff) are dropped. Linear and quadratic function of running variable is used in estimation and it is allowed to change before and after the cutoff. Standard errors are clustered in cohort, month year, level.

Table 8: Effects of Education on Prenatal Health Care Use

	ANTENATAL VISITS		TIME OF FIRST VISIT		BIRTH C-SECTION	
	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample
OLS	3.404***	3.679***	-0.864***	-0.830***	0.218***	0.227***
	(0.237)	(0.197)	(0.065)	(0.048)	(0.020)	(0.016)
2SLS	5.612**	6.662**	-1.739*	-2.381**	0.567***	0.389*
	(2.788)	(2.879)	(0.936)	(0.979)	(0.212)	(0.212)
Reduced Form	0.963*	1.197**	-0.285*	-0.411***	0.095**	0.068
	(0.491)	(0.534)	(0.144)	(0.153)	(0.040)	(0.042)
First Stage	0.171***	0.179***	0.164***	0.172***	0.168***	0.176***
	(0.034)	(0.037)	(0.037)	(0.040)	(0.034)	(0.037)
F Statistics	25.30	22.77	19.37	18.06	24.16	21.67
Order of Polynomial	First	Second	First	Second	First	Second
Mean	8.253	8.313	2.138	2.099	0.385	0.402
	(5.759)	(5.843)	(1.156)	(1.535)	(0.486)	(0.490)
Obs	2195	3897	1902	3357	2199	3905

Note: Data comes from 2013 and 2008 TDHS. Women who gave at least one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013. 96 and 48 months are taken on both sides of cutoff for estimation. Linear function of running variable is used in 48 month sample and quadratic function of running variable is used in 96 month sample and it is allowed to change before and after the cutoff. Standard errors are clustered in cohort, month year, level. First stage results give the policy effect on the probability of receiving at least 8 years of education.

Table 9: Effect of Education on Postnatal Health Behavior and Time Activity

	BABY POSTNATAL CHECK		**SMOKING**	
	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample
OLS	0.107***	0.109***	0.027	0.044***
	(0.012)	(0.008)	(0.017)	(0.013)
2SLS	0.227*	0.257*	-0.270*	-0.238
	(0.128)	(0.135)	(0.161)	(0.164)
Reduced Form	0.038*	0.045**	-0.046*	-0.043
	(0.019)	(0.021)	(0.025)	(0.027)
First Stage	0.168***	0.176***	0.171***	0.180***
	(0.034)	(0.038)	(0.034)	(0.037)
F Statistics	24.11	21.63	24.97	22.77
Order of Polynomial	First	Second	First	Second
Mean	0.904	0.904	0.191	0.198
	(0.293)	(0.293)	(0.393)	(0.399)
Obs	2199	3905	2200	3910
	SPEND TIME AT HOME		**SPEND TIME OUTSIDE**	
OLS	-0.001	-0.004	0.050***	0.047***
	(0.013)	(0.010)	(0.020)	(0.015)
2SLS	0.234*	0.214	0.370*	0.496***
	(0.136)	(0.138)	(0.191)	(0.204)
Reduced Form	0.039*	0.038*	0.061**	0.087***
	(0.020)	(0.022)	(0.030)	(0.033)
First Stage	0.169***	0.179***	0.165***	0.176***
	(0.034)	(0.037)	(0.034)	(0.037)
F Statistics	24.38	22.32	23.32	21.78
Order of Polynomial	First	Second	First	Second
Mean	0.929	0.927	0.760	0.750
	(0.255)	(0.260)	(0.426)	(0.432)
Obs	2198	3908	2137	3806

Note: Data comes from 2013 and 2008 TDHS. Women who gave at least one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013. 96 and 48 months are taken on both sides of cutoff for estimation. Linear function of running variable is used in 48 month sample and quadratic function of running variable is used in 96 month sample and it is allowed to change before and after the cutoff. Standard errors are clustered in cohort, month year, level. First stage results give the policy effect on the probability of receiving at least 8 years of education.

Table 10: Effect of Education on Breastfeeding and Vaccination

	BREASTFEEDING		Health Card		BCG	
	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample
OLS	-0.571	-0.513*	0.046***	0.043***	0.033**	0.038***
	(0.350)	(0.271)	(0.012)	(0.009)	(0.014)	(0.011)
2SLS	2.126	0.340	0.076	0.142	-0.328	-0.320
	(3.673)	(3.852)	(0.152)	(0.161)	(0.243)	(0.251)
Reduced Form	0.350	0.059	0.012	0.023	-0.050	-0.051
	(0.626)	(0.679)	(0.023)	(0.025)	(0.031)	(0.033)
First Stage	0.164***	0.174***	0.158***	0.166***	0.154***	0.161***
	(0.034)	(0.038)	(0.042)	(0.046)	(0.042)	(0.046)
F Statistics	23.01	21.01	14.14	13.04	13.56	12.27
Order of Polynomial	First	Second	First	Second	First	Second
Observations	2191	3890	1690	2885	1680	2868
	DPT1		DPT2		DPT3	
	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample
OLS	0.040***	0.035***	0.048**	0.053***	0.042*	0.054***
	(0.014)	(0.010)	(0.019)	(0.014)	(0.023)	(0.017)
2SLS	0.008	-0.083	-0.023	-0.155	-0.162	-0.353
	(0.178)	(0.197)	(0.248)	(0.273)	(0.277)	(0.301)
Reduced Form	0.001	-0.013	-0.003	-0.025	0.025	-0.057
	(0.027)	(0.029)	(0.039)	(0.041)	(0.042)	(0.044)
First Stage	0.152***	0.159***	0.158***	0.163***	0.158***	0.163***
	(0.041)	(0.045)	(0.041)	(0.045)	(0.041)	(0.045)
F Statistics	13.40	12.06	14.53	12.80	14.53	12.80
Order of Polynomial	First	Second	First	Second	First	Second
Observations	1667	2838	1627	2773	1627	2773

Note: Data comes from 2013 and 2008 TDHS. Women who gave at least one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013. 96 and 48 months are taken on both sides of cutoff for estimation. Linear function of running variable is used in 48 month sample and quadratic function of running variable is used in 96 month sample and it is allowed to change before and after the cutoff. Standard errors are clustered in cohort, month year, level. First stage results give the policy effect on the probability of receiving at least 8 years of education.

Table 11: Effect of Education on Vaccination (cont.)

	HEPATITUS1		HEPATITUS2		HEPATITUS3	
	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample
OLS	0.031***	0.028***	0.053***	0.047***	0.060***	0.070***
	(0.009)	(0.007)	(0.014)	(0.010)	(0.022)	(0.018)
2SLS	0.022	0.096	-0.079	-0.107	-0.354	-0.579*
	(0.092)	(0.089)	(0.186)	(0.195)	(0.262)	(0.304)
Reduced Form	0.003	0.015	-0.012	-0.017	-0.056	-0.093**
	(0.014)	(0.014)	(0.028)	(0.029)	(0.038)	(0.041)
First Stage	0.152	0.159***	0.160***	0.161***	0.160***	0.161***
	(0.041)	(0.045)	(0.041)	(0.045)	(0.041)	(0.045)
F Statistics	13.62	12.47	14.94	12.68	14.94	12.68
Order of Polynomial	First	Second	First	Second	First	Second
Observations	1662	2837	1622	2773	1622	2773
	POLIO1		POLIO2		MEASLES	
	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample
OLS	0.019	0.031**	0.012	0.026	0.029	0.043**
	(0.019)	(0.014)	(0.025)	(0.019)	(0.023)	(0.019)
2SLS	-0.040	-0.086	0.117	0.174	0.019	-0.053
	(0.270)	(0.278)	(0.261)	(0.259)	(0.297)	(0.311)
Reduced Form	-0.006	-0.014	0.018	0.028	0.002	-0.008
	0.042	(0.044)	(0.041)	(0.042)	(0.042)	(0.046)
First Stage	0.155***	0.161***	0.158***	0.164***	0.141***	0.151***
	(0.042)	(0.047)	(0.042)	(0.046)	(0.043)	(0.047)
F Statistics	13.16	11.64	14.18	12.63	10.71	10.01
Order of Polynomial	First	Second	First	Second	First	Second
Observations	1663	2838	1626	2783	1661	2839

Note: Data comes from 2013 and 2008 TDHS. Women who gave at least one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013. 96 and 48 months are taken on both sides of cutoff for estimation. Linear function of running variable is used in 48 month sample and quadratic function of running variable is used in 96 month sample and it is allowed to change before and after the cutoff. Standard errors are clustered in cohort, month year, level. First stage results give the policy effect on the probability of receiving at least 8 years of education.

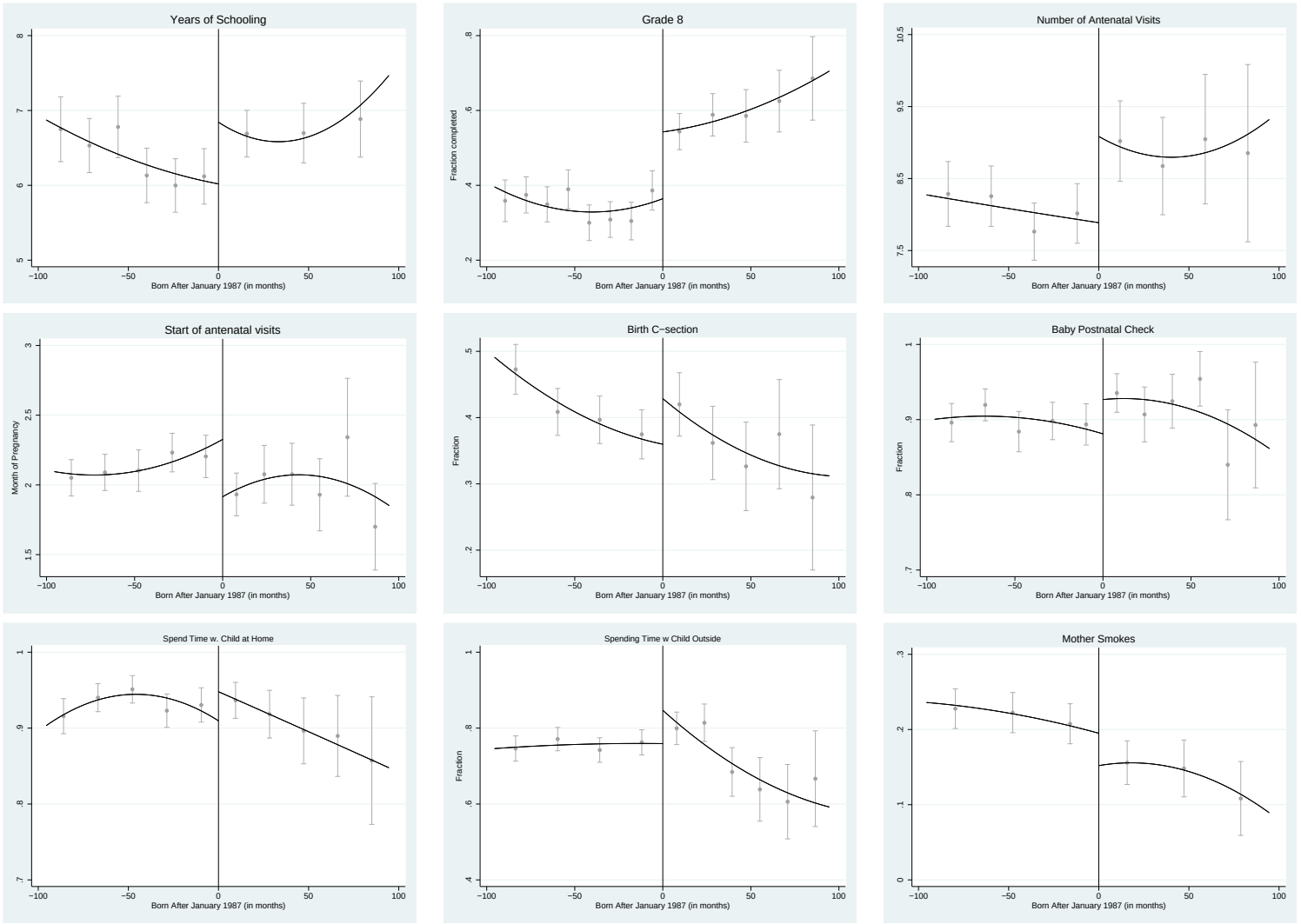
Table 12: Heterogenous Effects

		Pooled	Urban	Rural	East	Non East	Birth order1	Birth order 2
Baby postnatal check	mean	0.906	0.930	0.843	0.809	0.962	0.944	0.902
		(0.291)	(0.254)	(0.363)	(0.392)	(0.190)	(0.229)	(0.296)
	reduced	**0.047*** **	**0.065*** **	**0.000**	**0.084** **	**0.022**	**0.037**	**0.071** **
		(0.018)	(0.021)	(0.044)	(0.042)	(0.015)	(0.027)	(0.031)
	2SLS	0.236**	0.352***	0.000	0.570	0.098	0.176	0.272**
		(0.094)	(0.127)	(0.191)	(0.358)	0.072	(0.137)	(0.128)
	first stage	**0.201*** **	**0.186*** **	**0.232*** **	**0.148*** **	**0.224*** **	**0.214*** **	**0.263*** **
		(0.031)	(0.036)	(0.064)	(0.053)	(0.038)	(0.047)	(0.059)
	F Stat.	40.73	26.95	12.92	7.77	33.78	20	19
	N	3135	2259	876	1152	1983	1299	1150
Number of antenatal visits	mean	8.299	9.128	6.162	6.567	9.302	9.602	7.898
		(5.809)	(5.754)	(5.393)	(6.567)	(5.423)	(5.632)	(5.668)
	reduced	**1.060** **	**1.374** **	**0.048**	**1.562** **	**0.690**	**1.545** **	**1.115**
		(0.445)	(0.562)	(0.699)	(0.677)	(0.570)	(0.668)	(0.763)
	2SLS	5.218**	7.217**	0.210	10.593**	3.027	7.187***	4.166
		(2.116)	(2.996)	(3.005)	(5.334)	(2.399)	(2.953)	(2.962)
Time of first visit	mean	2.120	1.903	2.692	2.586	1.866	1.862	2.120
		(1.561)	(1.369)	(1.863)	(1.827)	(1.329)	(1.304)	(1.566)
	reduced	**-0.302** **	**-0.212***	**-0.409**	**-0.573** **	**-0.158**	**-0.323** **	**-0.157**
		(0.119)	(0.122)	(0.286)	(0.242)	(0.101)	(0.147)	(0.191)
	2SLS	-1.529**	-1.218**	-1.668	-3.706*	-0.710	-1.482**	-0.654
		(0.634)	(0.749)	(1.071)	(2.010)	(0.456)	(0.717)	(0.755)
C-section	mean	0.389	0.431	0.282	0.253	0.469	0.453	0.390
		(0.487)	(0.495)	(0.450)	(0.434)	(0.499)	(0.498)	(0.488)
	reduced	**0.060** **	**0.078** **	**0.007**	**0.008**	**0.083***	**0.066**	**0.084**
		(0.034)	(0.039)	(0.054)	(0.048)	(0.042)	(0.049)	(0.060)
	2SLS	0.299*	0.420**	0.033	0.059	0.374**	0.310	0.319
		(0.153)	(0.202)	(0.228)	(0.319)	(0.179)	(0.217)	(0.212)
Smoke	mean	0.194	0.222	0.122	0.187	0.198	0.198	0.190
		(0.395)	(0.416)	(0.328)	(0.390)	(0.198)	(0.399)	(0.392)
	reduced	**-0.037***	**-0.045**	**-0.029**	**-0.018**	**-0.049***	**-0.088** **	**0.013**
		(0.020)	(0.028)	(0.037)	(0.044)	(0.027)	(0.035)	(0.046)
	2SLS	-0.182*	-0.241	-0.127	-0.120	-0.222*	-0.410**	0.048
		(0.106)	(0.156)	(0.164)	(0.296)	(0.126)	(0.193)	(0.170)
Spend time inside	mean	0.930	0.939	0.907	0.923	0.934	0.907	0.949
		(0.253)	(0.237)	(0.289)	(0.265)	(0.246)	(0.290)	(0.219)
	reduced	**0.019**	**0.012**	**0.028**	**0.065** **	**-0.008**	**0.027**	**0.011**
		(0.018)	0.019	(0.032)	0.027	(0.025)	(0.027)	(0.029)
	2SLS	0.097	0.131	0.125	0.433	-0.037	0.131	0.041
		(0.093)	(0.131)	(0.144)	(0.271)	(0.114)	(0.131)	(0.112)
Spend time outside	mean	0.754	0.780	0.684	0.687	0.791	0.750	0.773
		(0.430)	(0.413)	(0.465)	(0.463)	(0.405)	(0.432)	(0.418)
	reduced	**0.091*** **	**0.068** **	**0.131** **	**0.116** **	**0.068** **	**0.069***	**0.129*** **
		(0.027)	(0.029)	(0.054)	(0.052)	(0.034)	(0.040)	(0.045)
	2SLS	0.452***	0.365**	0.558**	0.730*	0.0321**	0.323*	0.474***
		(0.143)	(0.166)	(0.263)	(0.398)	(0.159)	(0.195)	(0.185)

Note:Data comes from 2013 and 2008 TDHS. Women who gave at least one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013. 72 months are taken on both sides of cutoff and linear function of running variable is used for estimation. Standard errors are clustered in cohort, month year, level. First stage results give the policy effect on the probability of receiving at least 8 years of education.

Appendix A

Figure 4: Graphical RD



Note: Plots are constructed using evenly spaced binning: non-overlapping intervals that partition the entire support of the running variable, all of the same length within each treatment assignment status and shows the unconditional mean with 95 percent confidence interval, further details of the method are explained in Calanico et. al. (2015). 96 month window on both sides of the cutoff is used and quadratic polynomial function estimated with uniform kernel is fit to the data. Data comes from the pooled sample of women who given at least one birth in five year period before TDHS 2008 and 2013 (covers last births of women 2003-2013 period). Running variable is date of birth (month year) of mothers and centered around January 1987.

Appendix B

Table 13: Donut Hole Approach (Prenatal Health Care Use)

	ANTENATAL VISITS		TIME of FIRST VISIT		BIRTH C-SECTION	
	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample
OLS	3.456***	3.732***	-0.866***	-0.828***	0.217***	0.227***
	(0.249)	(0.202)	(0.067)	(0.049)	(0.023)	(0.017)
2SLS	7.290**	8.710***	-0.419	-1.084	0.718***	0.529**
	(3.219)	(3.406)	(0.800)	(0.840)	(0.226)	(0.219)
Reduced Form	1.759**	2.355***	-0.096	-0.279	0.171***	0.142**
	(0.723)	(0.840)	(0.186)	(0.220)	(0.059)	(0.065)
First Stage	0.241***	0.270***	0.230***	0.257***	0.239***	0.268***
	(0.048)	(0.055)	(0.054)	(0.062)	(0.048)	(0.055)
F Statistics	24.80	23.35	17.90	17.21	24.62	23.17
Mean	8.198	8.289	2.140	2.089	0.385	0.403
	(5.660)	(5.800)	(1.550)	(1.526)	(0.486)	(0.490)
Order of Polynomial	First	Second	First	Second	First	Second
Observations	1886	3588	1634	3089	1889	3595

Note: Data comes from 2013 and 2008 TDHS. Women who gave at least one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013. Last six months of 1986 and first six months of 1987 are dropped from sample. 96 and 48 months are taken on both sides of cutoff for estimation. Linear function of running variable is used in 48 month sample and quadratic function of running variable is used in 96 month sample and it is allowed to change before and after the cutoff. Standard errors are clustered in cohort, month year, level. First stage results give the policy effect on the probability of receiving at least 8 years of education.

Table 14: Donut Hole Approach (Postnatal Behavior)

	BABY POSTNATAL CHECK		SMOKING		SPEND TIME HOME		SPEND TIME OUTSIDE	
	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample
OLS	0.101***	0.105***	0.045**	0.052***	-0.006	-0.008	0.064***	0.055***
	(0.012)	(0.008)	(0.018)	(0.013)	(0.015)	(0.010)	(0.021)	(0.016)
2SLS	0.147	0.175	-0.136	-0.020	0.218	0.176	0.385*	0.551***
	(0.112)	(0.115)	(0.149)	(0.042)	(0.138)	(0.135)	(0.202)	(0.211)
Reduced Form	0.006	-0.047	-0.032	0.039	0.051*	0.047	0.088*	0.145***
	(0.015)	(0.031)	(0.036)	(0.039)	(0.029)	(0.033)	(0.046)	(0.053)
First Stage	0.239***	0.268***	0.240***	0.272***	0.237***	0.269***	0.229***	0.178***
	(0.048)	(0.055)	(0.048)	(0.055)	(0.048)	(0.056)	(0.048)	(0.037)
F Statistics	24.56	23.07	24.20	23.72	23.75	22.92	22.12	22.06
Mean	0.905	0.904	0.194	0.200	0.928	0.926	0.755	0.746
	(0.292)	(0.293)	(0.395)	(0.400)	(0.257)	(0.261)	(0.429)	(0.434)
Order of Polynomial	First	Second	First	Second	First	Second	First	Second
Observations	1889	3912	1891	3601	1889	3599	1839	3508

Note: Data comes from 2013 and 2008 TDHS. Women who gave at least one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013. Last six months of 1986 and first six months of 1987 are dropped from sample. 96 and 48 months are taken on both sides of cutoff for estimation. Linear function of running variable is used in 48 month sample and quadratic function of running variable is used in 96 month sample and it is allowed to change before and after the cutoff. Standard errors are clustered in cohort, month year, level. First stage results give the policy effect on the probability of receiving at least 8 years of education.

Appendix C

Table 15: Estimation with Control Variables (Prenatal Health Care Use)

	ANTENATAL VISITS		TIME OF FIRST VISIT		BIRTH C-SECTION	
	48month	96 month	48month	96 month	48month	96 month
OLS	2.502***	2.779***	-0.659***	-0.622***	0.158***	0.165***
	(0.224)	(0.197)	(0.066)	(0.048)	(0.021)	(0.016)
2SLS	7.901***	8.281***	-1.452*	-2.401**	0.631***	0.423*
	(3.037)	(3.018)	(0.877)	(1.046)	(0.231)	(0.232)
Reduced Form	1.240***	1.340***	-0.224*	-0.381**	0.096**	0.066*
	(0.408)	(0.429)	(0.127)	(0.151)	(0.039)	(0.039)
First Stage	0.156***	0.161***	0.154***	0.158***	0.153***	0.157***
	(0.030)	(0.034)	(0.034)	(0.038)	(0.030)	(0.034)
F Statistics	27.18	22.06	20.18	16.57	25.51	20.69
Order of Polynomial	First	Second	First	Second	First	Second
Mean	8.253	8.313	2.138	2.099	0.385	0.402
	(5.759)	(5.843)	(1.156)	(1.535)	(0.486)	(0.490)
Observations	2195	3897	1902	3357	2199	3905

Note: Data comes from 2013 and 2008 TDHS. Women who gave at least one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013. 96 and 48 months are taken on both sides of cutoff for estimation. Linear function of running variable is used in 48 month sample, quadratic function of running variable is used in 96 month sample and it is allowed to change before and after the cutoff. Control variables dummy for rural residence, month of birth fixed effects, region of residence and childhood region of residence fixed effects and dummy for interview language is not Turkish are used. Standard errors are clustered in cohort, month year, level. First stage results give the policy effect on the probability of receiving at least 8 years of education.

Table 16: Estimation with Control Variables (Postnatal Behavior)

	BABY POSTNATAL CHECK		SMOKING		SPEND TIME AT HOME		SPEND TIME OUT	
	48month	96 month	48month	96 month	48month	96 month	48month	96 month
OLS	0.063***	0.158***	0.015	0.028**	-0.008	-0.012	0.017	0.009
	(0.011)	(0.034)	(0.017)	(0.013)	(0.013)	(0.010)	(0.021)	(0.015)
2SLS	0.185	0.267*	-0.269	-0.260	0.270*	0.241	0.377*	0.547**
	(0.141)	(0.161)	(0.168)	(0.187)	(0.158)	(0.158)	(0.227)	(0.246)
Reduced Form	0.028	0.041*	-0.041*	-0.042	0.041*	0.038*	0.054*	0.083***
	(0.021)	(0.023)	(0.025)	(0.028)	(0.021)	(0.022)	(0.029)	(0.031)
First Stage	0.154***	0.158***	0.155***	0.161***	0.154***	0.161***	0.143***	0.153***
	(0.030)	(0.034)	(0.030)	(0.034)	(0.030)	(0.034)	(0.031)	(0.035)
F Statistics	25.64	20.87	25.91	21.54	25.79	21.38	21.33	18.90
Order of Polynomial	First	Second	First	Second	First	Second	First	Second
Mean	0.904	0.904	0.191	0.198	0.929	0.927	0.760	0.750
	(0.293)	(0.293)	(0.393)	(0.399)	(0.255)	(0.260)	(0.426)	(0.432)
Observations	2174	3905	2200	3910	2198	3908	2137	3908

Note: Data comes from 2013 and 2008 TDHS. Women who gave at least one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013. 96 and 48 months are taken on both sides of cutoff for estimation. Linear function of running variable is used in 48 month sample, quadratic function of running variable is used in 96 month sample and it is allowed to change before and after the cutoff. Control variables dummy for rural residence, month of birth fixed effects, region of residence and childhood region of residence fixed effects and dummy for interview language is not Turkish are used. Standard errors are clustered in cohort, month year, level. First stage results give the policy effect on the probability of receiving at least 8 years of education.

Appendix D

Table 17: Non Parametric Estimation (Prenatal Health Care Use)

		BIRTH C_SECTION	ANTENATAL VISITS	TIME OF FIRST VISIT
Fuzzy RD (2SLS)	(conventional)	0.261	5.839**	-1.548***
		(0.218)	(2.866)	(0.641)
	(bias corrected)	0.386*	7.318***	-2.167***
		(0.218)	(2.866)	(0.641)
	(robust b.c.)	0.386	7.318***	-2.167***
		(0.278)	(3.656)	(0.879)
First Stage		0.163***	0.176***	0.178***
		(0.037)	(0.037)	(0.036)
robust p value		0.002	0.001	0.001
Reduced Form		0.042	1.028**	-0.276***
		(0.036)	(0.503)	(0.110)
Bandwidth for	Local Polynomial	28.53 15.16	34.64 13.52	38.24 17.11
Bandwidth for	Bias	83.80 36.07	81.83 33.63	82.21 35.63
Number of Obs.		1141	1289	1262

Note:Non parametric estimations are carried out using procedures developed in Calanico et. al. (2014). Estimations are given for polynomial order of 0 and the optimal bandwidths (h) which differ on both sides of the cutoff is used, different bandwidths are chosen for bias estimation (b) as well and triangular kernel is used. Fuzzy RD estimates are given in three methods: conventional (bias is ignored in coefficient and st error estimation), bias corrected (conventional point estimate is corrected taking into account bias and standard error is estimated using the variance covariance matrix in conventional method), robust bias corrected (bias corrected point estimator is used and new variance matrix (robust) generated for the st error estimation). First step results are given with conventional estimator and robust p value. Lastly, reduced form estimates are reported only with conventional estimates. The data is pooled sample of women given at least one birth in the five year period before TDHS 2008 and 2013 (births of women 2003-2013 period). Running variable is date of birth (month year) of mothers.

Table 18: Post Natal Health Behavior and Time Activity

		BABY POSTNATAL CHECK	SMOKE	SPEND TIME HOME	SPEND TIME OUT
Fuzzy RD (2SLS)	(conventional)	0.215*	-0.244	0.136	0.236
		(0.118)	(0.150)	(0.095)	(0.171)
	(bias corrected)	0.286***	-0.252*	0.208**	0.238
		(0.118)	(0.150)	(0.095)	(0.171)
	(robust b.c.)	0.286	-0.252	0.208*	0.238
		(0.151)	(0.197)	(0.123)	(0.227)
First Stage		0.174***	0.175***	0.179***	0.189***
		(0.037)	(0.034)	(0.036)	(0.038)
robust p value		0.001	0.001	0.000	0.001
Reduced Form		0.037*	-0.042*	0.024	0.044
		(0.020)	(0.025)	(0.016)	(0.031)
Bandwidth for	Local Polynomial	35.68 14.01	30.10 19.86	61.85 30.53	51.93 12.24
Bandwidth for	Bias	83.06 35.24	78.40 40.79	115.04 48.86	113.84 26.35
Number of Obs.		1333	1262	2374	1701

Note:Non parametric estimations are carried out using procedures developed in Calanico et. al. (2014). Estimations are given for polynomial order of 0 and the optimal bandwidths (h) which differ on both sides of the cutoff is used, different bandwidths are chosen for bias estimation (b) as well and triangular kernel is used. Fuzzy RD estimates are given in three methods: conventional (bias is ignored in coefficient and st error estimation), bias corrected (conventional point estimate is corrected taking into account bias and standard error is estimated using the variance covariance matrix in conventional method), robust bias corrected (bias corrected point estimator is used and new variance matrix (robust) generated for the st error estimation). First step results are given with conventional estimator and robust p value. Lastly, reduced form estimates are reported only with conventional estimates. The data is pooled sample of women given at least one birth in the five year period before TDHS 2008 and 2013 (births of women 2003-2013 period). Running variable is date of birth (month year) of mothers.

Appendix E

Table 19: Effect of Education on Place of Delivery

	BIRTH GIVEN in					
	HOME		PUBLIC HOSPITAL		PRIVATE HOSPITAL	
	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample	48 Month Sample	96 Month Sample
OLS	-0.075***	-0.075***	-0.112***	-0.122***	0.190***	0.200***
	(0.008)	(0.006)	(0.019)	(0.015)	(0.017)	(0.014)
2SLS	0.037	-0.004	0.126	0.220	-0.093	-0.170
	(0.092)	(0.015)	(0.226)	(0.236)	(0.224)	(0.230)
Reduced Form	0.006	-0.034	0.021	0.039	-0.015	-0.030
	(0.015)	(0.062)	(0.037)	(0.039)	(0.037)	(0.038)
First Stage	0.169***	0.178***	0.169***	0.178***	0.169***	0.178***
	(0.034)	(0.037)	(0.034)	(0.037)	(0.034)	(0.037)
F Statistics	24.20	22.06	24.20	22.06	24.20	22.06
Mean	0.053	0.054	0.695	0.685	(0.241)	0.248
	(0.224)	(0.226)	(0.460)	(0.464)	(0.427)	(0.432)
Order of Polynomial	First	Second	First	Second	First	Second
Observations	2202	3912	2202	3912	2202	3912

Note:Data comes from 2013 and 2008 TDHS. Women who gave at least one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013. 72 months are taken on both sides of cutoff and linear function of running variable is used for estimation. Standard errors are clustered in cohort, month year, level. First stage results give the policy effect on the probability of receiving at least 8 years of education.

Table 20: Heterogenous C-section Effects

		Birth Given in	
	Pooled Sample	Public Hospital	Private Hospital
	72 Months Sample	72 Months Sample	72 Months Sample
OLS	0.222***	0.167***	0.136***
	(0.017)	(0.021)	(0.038)
Reduced Form	0.060*	0.035	0.140**
	(0.034)	(0.041)	(0.070)
2SLS	0.299*	0.160	0.977*
	(0.153)	(0.177)	(0.507)
First Stage	0.202***	0.222***	0.143**
	(0.031)	(0.035)	(0.058)
F Statistics	41.11	40.32	6.08
Mean	0.389	0.348	0.599
	(0.487)	(0.476)	(0.490)
Order of Polynomial	First	First	First
Observations	3137	2169	769

Note:Data comes from 2013 and 2008 TDHS. Women who gave at least one birth before survey years are included to mothers sample, i.e. women given birth between 2003-2013. 72 months are taken on both sides of cutoff and linear function of running variable is used for estimation. Standard errors are clustered in cohort, month year, level. First stage results give the policy effect on the probability of receiving at least 8 years of education.

Effects of Refugee Inflow on Voting Behavior of Natives: Application of Mobile Phone Use Data

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Abstract

This paper investigates the effects of refugee inflow on the voting behavior of natives. I employ difference in differences strategy to identify the voter reaction against the sudden inflow of Syrian refugees to Turkey and use a unique data provided by Turk Telecom to proxy natives' refugee exposure. Mobile phone data tracks the mobility of refugees throughout the year and allows to construct refugee exposure measures across small geographical areas. I show small drop in the government party vote share that announced "open door" policy for refugees. Further, there is evidence of the heterogeneity in reaction based on the socioeconomic development levels of refugee receiving areas.

Keywords: Social integration, Attitudes towards refugees, Voting behavior in Turkey

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1 Introduction

The start of Syrian civil conflict in 2011 led millions of Syrians to leave their country and flee to safer destinations. As of 2019, 5.6 million registered Syrian refugee are living in neighboring countries and Turkey is hosting the majority of them.[1] According to Turkish Ministry of Internal Affairs Migration Department, the number of registered Syrians are 3.6 million in the country and they don't live in camps rather they spread all over provinces.[2] Although Syrians are in the temporary protection status, it is not obvious whether will they go back to Syria in the near future. Therefore, the integration of Syrians into Turkish society is a necessity, but this is a challenge for many reasons. First of all, internal politics is quite polarized between pro-refugee and anti-refugee parties and the polarization of politics is likely to affect public opinion about refugees.[3] Also, media coverage of refugees is often negative, i.e. distributional or welfare effects of refugees are covered often.[4] Moreover, such a big flow of people from one country to another is likely to affect labor market, goods and housing prices in hosting country. Economists have long been interested in these consequences of migration and some of them documented the adverse economic effects for natives (Card 2001, Dustman et. al. 2005, Borjas et. al. 1996). Last issue is about recently rising wave of populism and xenophobia all around the world. Turkey is likely be affected by increased anti-immigrant rhetoric in Europe and the US.[5]

In this paper, using the novel data provided by Turk Telecom Data for Refugees (D4R) Challenge, I document Turkish voters' reaction against Syrian refugee inflow. This study makes contribution to the growing literature on the political consequences of migration focusing on Turkish voters' behavior, out of a Western country context. Benefiting from the advantages of the Call Detail Record (CDR) dataset, which gives the details of refugee and native Turk Telecom users' phone call activities, I construct new and accurate measures of refugee distribution, activity and mobility in hosting places. This allows me to have a detailed analysis of natives' refugee exposure and their voting reaction. Different types of refugee presence lead to different way of exposure of natives and reaction is heavily dependent on the way of exposure to refugees; for example, residency-based exposure may increase

[1]The latest statistics about Syrian refugees can be obtained from UNHCR website :https://data2.unhcr.org/en/situations/syria

[2]The latest official number of refugees registered in each city and total number can be obtained from :www.goc.gov.tr

[3]A recent study show all the dimensions of political polarization in Turkey. Political party supporters are hesitant to socialize with the most distant party's supporters and they have the feeling of superiority:Report of the study

[4]There are a lot of false claims about services benefited by Syrian refugees like receiving monthly salaries, entering universities without exam, having free housing or voting in elections:one example of related news

[5]For example, European refugee crisis in 2015 increased the controversy about Syrians in Turkey more.

concerns about compositional amenities as mentioned in Card et. al. (2012) or sudden seasonal exposure to refugees may lead natives to feel threatened and increase the level of xenophobia. Furthermore, this novel data allows me to construct refugee exposure of natives at a much finer level than official data provided by Turkish authorities. Geographically disaggregated data helps to capture voter heterogeneity across Turkey and allows me to focus on regional sub-samples to investigate the possible mechanisms driving the observed effects.

To identify the voter reaction against Syrian refugee inflow, I implement a difference in differences strategy and focus on voting outcomes in pre and post refugee inflow elections in years 2007, 2011 and 2018. As the outcome variable I use the vote share of the political party, Justice and Development Party, that announced "open door" policy for refugees. Justice and Development Party (JDP) has been the leading party in Turkey since 2002. It constitutes the one-party government and there are opposition parties in the parliament. Two-sided political structure, government and oppositions, has led polarization in politics and 3.6 million Syrians in the country is one important political discussion. After Syrian conflict got severe, JDP government announced an "open door" policy for Syrian refugees and huge number of refugees entered into country. Proponents of government argues that accepting Syrians was a humanitarian duty, on the other hand opposition argues that Syrians are a heavy burden for the country. After worsening economic situation in Europe, discontent about migrants increased and populist movements that exploited anti-migrant sentiments increased their support (Guiso et. al. 2018). Focusing on the case of Turkey, I will provide evidence whether anti-refugee or migrant sentiments arise everywhere and investigate the effect of 3.6 million Syrian refugees in voters' preference and changing support of leading JDP party that announced an "open door" policy for refugees.

The case study of Turkey differs from previous studies in many respects. First, refugee migration is not voluntary like economically motivated migration. The literature studies extensively the effects of economically motivated migration. Secondly, Syrian refugees are culturally close to Turkish natives different from the migration experience of developed countries, and evidence suggests that cultural dissimilarity is an important driver of anti-immigrant sentiments in Europe (Dustman and Preston, 2007). Lastly, migration flows have been from developing countries to developed countries and Turkey is an emigration country that did not have any migrant issue before. Therefore, revealing the effect of a sudden refugee inflow is another peculiar aspect of this study instead of a long-term exposure to migrants.

Results of this paper suggest that there is small drop in leading party support all over Turkey, both refugee presence over the year and visibility proxied through mobility (propensity to change location in an area) variable have independent negative effects on government

party support. One standard deviation increase in presence and mobility explain 10% of drop in leading party support from 2011 to 2018. Although, this is smaller than the effect sizes documented in studies which investigate the changing ethnic composition and increase of the right-wing party support in Europe, still addresses a considerable discontent in natives and this is driven by non-economic factors. First of all, consistently with the previous findings, I document that increased mobility/visibility leads voters to switch nationalist party. Then, heterogeneity analysis reveals that effects are concentrated in more secular and modernized part (Aegean and Mediterranean) in which natives may have concerns on the effects of refugees on their secular and modernized way of living, also in culturally homogeneous and conservative part of country (North and Central) in which natives are less likely be tolerant towards "others". As opposed to negative reaction of natives in these parts, in the most industrialized and culturally diverse part there is positive effects of refugees on government party support which is consistent with the theory of contact (Allport, 1954) . Lastly, I also show that there is no refugee effect on economic activity along hosting places, this strengthens non-economic reasons as the driver of the negative reaction.

The paper is structured as following. Section 2 reviews the literature, Section 3 gives background information about Turkish politics and refugee situation in Turkey. In section 4, I explain the data sources I used and how I constructed explanatory variables. Section 5 describes the empirical strategy and Section 6 documents the results, lastly conclusion follows.

2 Literature Review

Several cross country studies investigate the determinants of attitudes towards migration policy and migrants in developed countries. Findings and discussions in these studies help to uncover mechanisms that drive native reaction against refugee inflow. These studies test the importance of two set of factors behind the attitude formation: economic and non-economic (cultural) factors. First group of studies confirmed that natives' concerns of labor market competition and migrants' use of welfare benefits affect migration policy preferences (Scheve and Slaughter 2001, Mayda 2006, Dustman and Preston 2005, Huber and Oberdabernik 2016). Other studies emphasized the importance of non-economic or cultural factors behind attitude formation such as national and identity concerns (Card et. al. 2012, Hainmueller and Hiscox 2007). Lastly, contextual and sociotropic explanations are widely tested by sociologists and political scientists (Citrin et. al. 1997, Schneider 2008, Hopkins 2010).

Studies closely related with this paper can be grouped under two categories. First group investigates the effect of immigration on the voting for far right parties in Europe. Most

of these studies investigate reactions against economically motivated migrants. The main explanatory variable is the ethnic composition of migrant receiving places and findings suggest sizeable positive effects in the anti-immigrant party vote shares. They suggest much bigger effects of economically motivated migrants on the rise of far right votes than I will document for the refugee inflow case in Turkey. For Austria, Halla et. al. (2012) show that one standard deviation increase in the share of immigrants leads to one quarter of a standard deviation increase in the far-right party votes and the immigration of low and medium skilled workers drive the impact. In Otto and Steinhardt (2014) effect size explains roughly a quarter of the increase in the anti-immigration party vote in districts of Hamburg. Their results support the hypothesis that non-economic determinants and welfare state considerations are important in shaping individual attitudes towards migration. Then, Barone et. al. (2016) for Italy document that one standard deviation increase in immigration rate entails increase in the dependent variable amounting to about 1/3 of its standard deviation. Cultural diversity, competition in the labor market and for public services and political competition are the most relevant channels for the observed effects. Dustman et. al. (2019) document that 1 ppt increase in refugee share leads to increase in anti-immigrant party vote by 1.23 ppt and 1.98 ppt increase in parliamentary and municipality elections in Denmark and effects are heterogeneous according to municipality types: bigger response in less urban municipalities, urban municipalities with high unemployment and the opposite reaction in municipalities with population above the 95th size percentile. One recent study for England, Becker and Fetzer (2017) show that after the accession of 8 East European countries to EU in 2004, places that received large numbers of migrants from Eastern Europe saw small, but statistically significant increases in the vote shares for the UK Independence Party (UKIP) in elections to the European Parliament. Their measure of EU accession shock captures a mixture of economic factors as well as mechanisms that have been highlighted in political science literature. Lastly, some studies revealed different aspects of attitude formation and voter reaction. For example, both Mendelez and Cutillas (2014) and Brunner and Kuhn(2014) for Spain and Switzerland document the heterogeneity of response in attitude based on the cultural similarity of migrants.

Second group of related studies focused on the voting behavior or anti migrant sentiments after 2015 refugee crisis. They consist of studies from different countries and address different native reactions under different ways of exposure to refugees. For Italy, Bratti et.al. (2017) shows that in 2016 referendum anti-government votes and turnout rate were higher in municipalities close to a municipality that has a refugee hosting center. Authors argue that their result is consistent with the fact that the main opposition parties exploited the anti-immigration sentiments that were mounting in the population in a non-political voting. In

France, Vertier and Viskanic (2017) show that the relocation of refugees from a major refugee camp to hosting places in municipalities leads to decline in the vote share of right party in presidential election of 2017. This finding is consistent with the contact hypothesis of Allport (1954) i.e. interaction between ethnic groups leads to more understanding and harmony, so natives react positively to newcomers. Then, in the islands of Greece Hangartner et. al. (2019) find that direct exposure to refugee arrivals induces sizeable and lasting increases in natives' hostility toward refugee, immigrant and Muslim minorities; support for restrictive asylum and immigration policies; and political engagement to effect such exclusionary policies. Authors argue that there were neither economic nor cultural effects of refugee crisis in the islands, but the fear and sense of threat lead people to develop anti-migrant attitudes. For Austria, Steinmayr (2018) shows that hosting refugees in a municipality dampens the positive overall trend in support for the Freedom Party (extreme right) by 3.45 percentage points. However, the exposure to a large number of refugees passing through border municipalities on their way to Germany increased the Freedom Party vote share by 2.7 percentage points in these municipalities. Therefore, this study shows that two types of exposure lead to two different kinds of voting response, i.e the predictions of contact and conflict hypothesis.

Lastly, Altındağ and Kaushal (2020) also investigate the effects of Syrian refugees on the individual political preferences in Turkey between 2012-2016. They use monthly conducted cross-sectional surveys for political opinions and 3 election results in the study period. Their analysis with 3 election results in city level does not suggest any effect of refugees on voting, while analysis with opinion surveys in individual level suggest that 1 ppt increase in refugee share leads 0.72 ppt decline in JDP support and the self-reported voting preference in the election suggests 0.18 ppt decline in the JDP votes. In the city level election outcomes analysis, they have substantially low number of observations compared to individual level analysis carried out using monthly surveys (N=243 vs N=149,746) and it is likely that they fail to detect any effect due to the small sample size. Moreover, their analysis with real election outcomes is more aggregate level than the analysis in this paper (city vs district level), so they cannot capture the heterogeneity in refugee exposure and voter behavior as accurate as I do.

This paper complements previous studies in many ways. First, Call Details Record (CDR) data is used for the first time in the literature and my measure of refugee exposure is the sum of the number of different phone users throughout the year in a district, in contrast to all other data used in the literature which is static or one-time snapshot of refugee/migrant locations. Count of refugee phone users is highly correlated with the number of refugees registered in each city (provided by government) [6], it also captures the change of location of

[6]Correlation coefficient for the count of refugee phone users in city level and number of registered refugees

refugees and proxies natives' refugee exposure and contact better than existing data sources. Taking the benefit of the data, I also investigate the independent effect of mobility/visibility of refugees on native reaction. Different than Altındağ and Kaushal (2020) who carries out their election analysis in city level, my analysis is in finer district level. Geographically disaggregated data helps to capture voter heterogeneity in election outcomes and mobile phone use data helps to proxy refugee exposure in real life. These two factors allow to capture the voter reaction against refugee exposure successfully across Turkey. Secondly, Turkey has unique political setting and this study gives evidence from a new context for the attitude formation towards refugees. Investigating voter reaction in a context out of west helps to understand whether anti-foreigner sentiments are easy to use everywhere and manipulate voter behavior.

3 Background

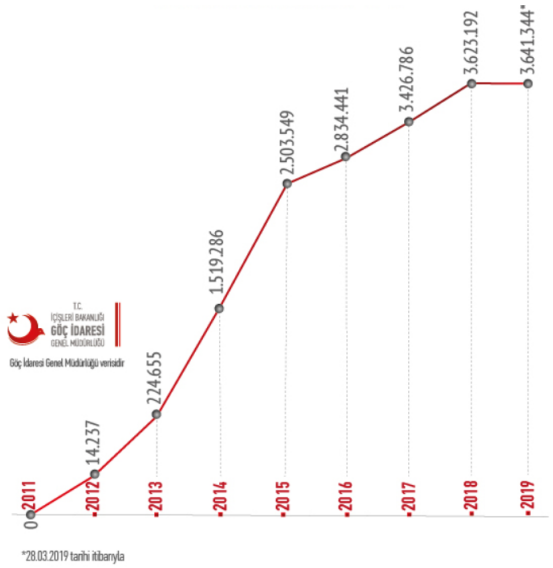
3.1 Background on Syrian Refugee Inflow

Pro-democracy demonstrations started in the spring of 2011 all over Syria and turned into a civil war at the end of the year. Millions of Syrians had to flee when the civil conflict increased its intensity. In the end of 2011 Syrian flow started to neighbouring countries and continued as a surge of people leaving Syria for their safety. Figure 1 shows the refugee inflow since the end of 2011 to Turkey. Within a short period of time the number of Syrians in the country reached to 3.6 million.

There is no restriction on refugee mobility in the country and as of 2019 majority of refugees live out of camps. As of August 2019 only 2% of refugee population resides in camps.[7] In the early years of inflow refugees mostly preferred to stay in the South of the country and as they understood that there was no hope for conflict to end soon, they spread all over Turkey (Tumen, 2018). In the Figure 2, according to official statistics ten city that has highest refugee population are given. Figure shows that biggest refugee population is in Istanbul and in major cities of South such as Sanlurfa, Gaziantep and Hatay. I will show in the next section, these areas are denoted by highest presence also relying on the measure I built, but they are not those with the highest mobility.

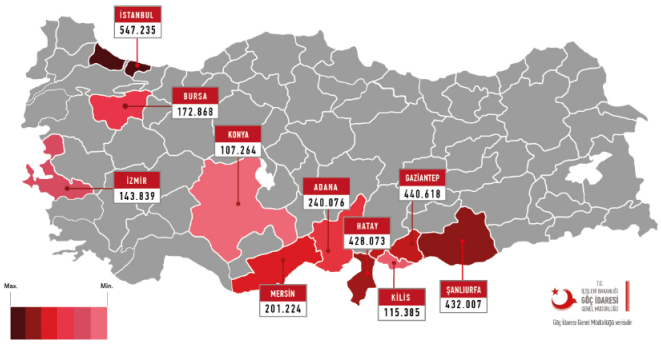
in each city is 0.832. Moreover, correlation between number of native calls and population in district level is 0.771.

[7] https://en.goc.gov.tr/temporary-protection27



Source: Ministry of Interior Directorate General of Migration Management

Figure 1: Number of Syrians under Temporary Protection over Years



Source:Ministry of Interior Directorate General of Migration Management

Figure 2: Distribution of Syrians under Temporary Protection over Top 10 Cities

3.2 Background on Turkish Politics

Since Turkish Republic transformed to multi-party system in 1945, country went through turbulent times in politics and election results led to the formation of coalition governments. After the millennium, president Recep Tayyip Erdogan's newly founded Justice and Development Party (JDP) has secured the majority of votes in each election it entered and formed one party government. Figure 3 shows the average vote share JDP gained in district level through years. In Turkish politics it is the first party that could sustain majority of votes for this long.

Today, there are 4 major political parties in Turkey: leading Justice and Development Party (JDP) is a central right party which has Islamist roots, Republican People's Party (CHP) is the central left and secularist party, Nationalist Movement Party (MHP) is the extreme right on the political spectrum and People's Democratic Party (HDP) is socialist

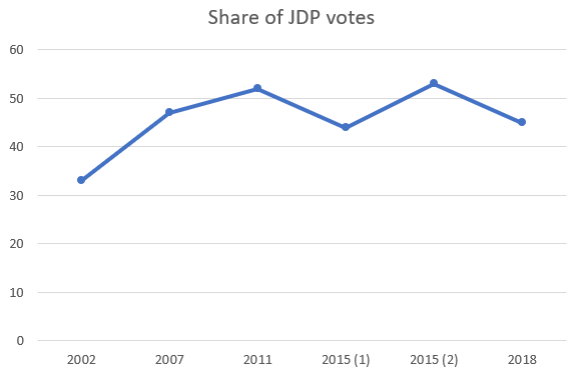


Figure 3: Share of JDP support through years

and has pro-Kurdish values. All these parties have seats in the parliament and latter three function as opposition parties. The JDP government announced an open door policy for refugees, it is the main responsible of this policy, so I investigate the effect of refugee inflow on the change in JDP support and analyse whether the decreased support of JDP after 2011, visible in Figure 3, is due to refugee presence or what portion of the drop in votes is due to refugee presence.

Another important remark about political setting is that Turkey transformed from parliamentary democracy to presidential democracy with the constitution change referendum in April 2017. While in the parliamentary system executive branch of the state takes its legitimacy from legislation branch (parliament), in the presidential system legislation and execution are two separate branches. The first election of presidential system is carried out in 2018. Under the new system, voters vote for both the president of country (executive branch) and political parties for seats in the parliament (legislation branch) in the same day, while in the parliamentary system there was one election for the seats in the parliament. Although in two systems how the executive and legislation branches of the state function differently, political party voting that determines parliament members is the same task for voters, therefore elections in 2011 and 2018 are quite comparable.

4 Data

The analysis is based on data coming from two sources: Data for Refugees (D4R) Challenge of Turk Telecom and Turkish Statistical Institute. Refugee exposure variables in districts are constructed using the data provided by Turk Telecom D4R Challenge. Election results in district level are obtained from the web database of TUIK and district or city level control variables are also collected from TUIK web database.[8] Now, I will describe the characteristics

[8]For the web database of Turkish Statistical Institute, one can visit: Turkish Statistical Institute

of data and variables I used in turn.

4.1 D4R Dataset

Turk Telecom initiated a non-profit project called "Data for Refugees (D4R) Challenge" to improve the conditions and livelihoods of Syrian refugees in Turkey by allowing researchers from different fields from all over the world to bid in the challenge for the best research proposal that utilizes the "Call Details Record (CDR)" of mobile phone users. The CDR of Turk Telecom compromises of Syrian refugees and native users, it is provided for the year 2017 and great care on anonymity has been taken into account to offset any ethical issues that may arise.[9]

D4R data is shared as three different datasets. The first dataset (Dataset 1) gives the antenna-to-antenna traffic for each cell tower through the year. The second dataset (Dataset 2) gives the randomly chosen Syrian refugee and native users' phone call details for a 15-day period, for each 15-day period a new sample of refugee and native users are drawn among the user base of Turk Telecom. This dataset helps to investigate the mobility patterns of refugees, as it shows all antennas used for incoming and outgoing calls by a user. Lastly, the third dataset (Dataset 3) is in the same format with Dataset 2, but call details are given for the same users throughout a year and with lower spatial resolution.[10]

Using this data, I aim at constructing distinct measures to proxy natives' refugee exposure. The first one is the baseline refugee exposure measure that counts the number of different refugees in a place throughout the year and it helps to compare results with the literature. Secondly, taking the benefit of the data I construct a measure that proxies refugee visibility through mobility. For a given number of refugee, varying levels of mobility (propensity to move across different places in an area) changes natives' exposure to refugees, i.e. higher mobility for a given number of refugee may substantially increase the exposure. In the literature, we see that studies commonly use a measure that gives the ethnic composition of an area obtained by dividing the number of refugees over the native population and it is constructed through census or migrant registration records and so far only the effect of ethnic enclaves (concentration) is discussed in native reaction, i.e. whether it makes natives to react more or less when refugees are concentrated in an area. On the other hand, in this study natives' real refugee exposure is proxied throughout the year and one different aspect of natives' refugee exposure is directly taken into account by constructing mobility variable which shows the propensity of refugees to change location in an area and be more visible.

[9]For more information, challenge website: http://d4r.turktelekom.com.tr/

[10]Salah et. al. (2018) describe the details and format of each dataset also give information about the challenge.

Through one time location data, revealing these aspects is not possible, but mobile phone use data shows the number of refugees in a place on the daily basis and in the user level it shows change of location by giving cell towers they did and received calls, these make possible to proxy natives' refugee exposure better than the literature.

To construct "Baseline Refugee Exposure Measure" I use Dataset 1 and Dataset 2. Dataset 1 gives the total number of refugee and native calls throughout the year. To obtain the count of different users I divide number of calls to average call per user in a place (obtained from Dataset 2). Finally, I take the ratio of refugee phone users over native phone users. Baseline refugee exposure measure counts each different refugee users in a district throughout the year, which suggest two sources of variation in the refugee count. In a district, there is usual residents (stock), while refugees pass through a district for the purpose of work, shopping, seasonal labor or visiting relatives increases the count as well (flow). In other words, this measure counts refugees in each different area that they go and refugee count in a place is the combination of residency, economic activity, movement along the city and travel across cities etc. All different types of refugee presence may lead to different way of exposure and reaction of natives to refugees; for example, residency-based exposure may increase concerns about compositional amenities as mentioned in Card et. al. (2012). Sudden seasonal exposure of refugees may lead natives to feel threatened and increase the level of xenophobia. One point to emphasize is that estimation with baseline measure gives a general idea about native reaction to refugee presence or it reflects the final effect of refugees in a place without addressing any specific mechanism.

I construct "Mobility Measure" using Dataset 2. First, I construct mobility coefficient for each refugee user by taking the ratio of number of different antenna used to total calls of user. Then, I obtain an area level mobility score by averaging the mobility coefficient (# of different antenna/total call) of each different refugee user counted in the area. Mobility score of areas tells whether refugees are likely to move around different places once they are in that area or likely to settle in a certain place. Mobility is a factor that increases the visibility of refugees. This measure helps to disentangle the native reaction due to higher visibility of refugees, thus informs us a specific mechanism for the reaction. Lastly, I expect that when the mobility of refugees increase in an area, natives are likely to react negatively.

Before showing the distribution of key explanatory variables, giving information about the administrative and geographical units of Turkey could be useful. I choose the possible smallest unit which is districts (i) as the level of analysis. For the purpose of analysis disaggregate levels are useful to keep the voter heterogeneity and heterogeneity in refugee exposure across areas. There are 957 districts in Turkey and they grouped in 81 cities/provinces (j).[11]

[11] Analysis in this paper is based on the district formation before the law of December 2012 which estab-

Then there are 12 Nuts-1 regions (k), made up by various cities and 7 geographical regions (l) which are bigger than Nuts-1 areas.[12]

Figure 4 and 5 show the geographic variability of two exposure variables. First measure proxies overall refugee presence or activity in a district, while the second shows the tendency of refugees to move around in the district, ex-ante there is no obvious reason that two are highly correlated. For the first measure, we know from official statistics that refugee presence is higher in South of Turkey and in Istanbul, so we may expect to see the same pattern in the distribution of it.

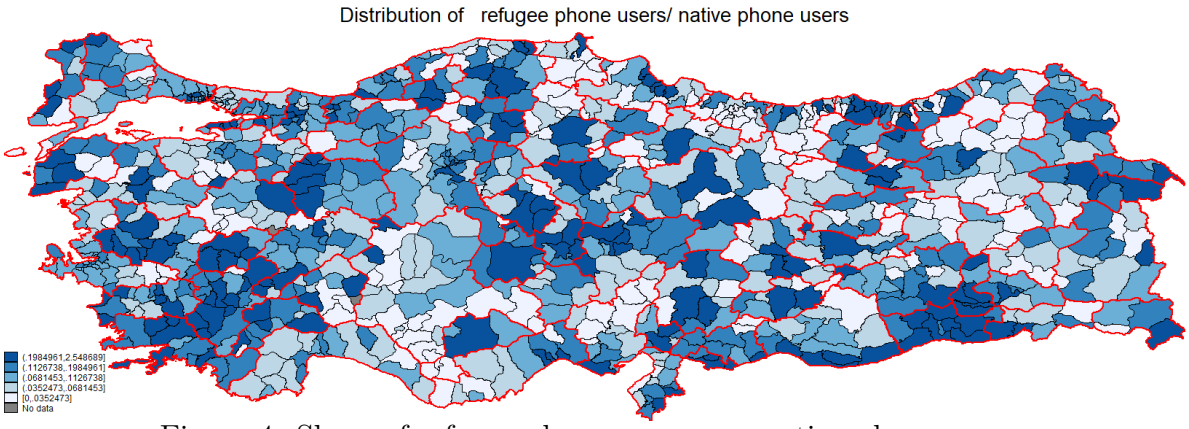


Figure 4: Share of refugee phone users over native phone users

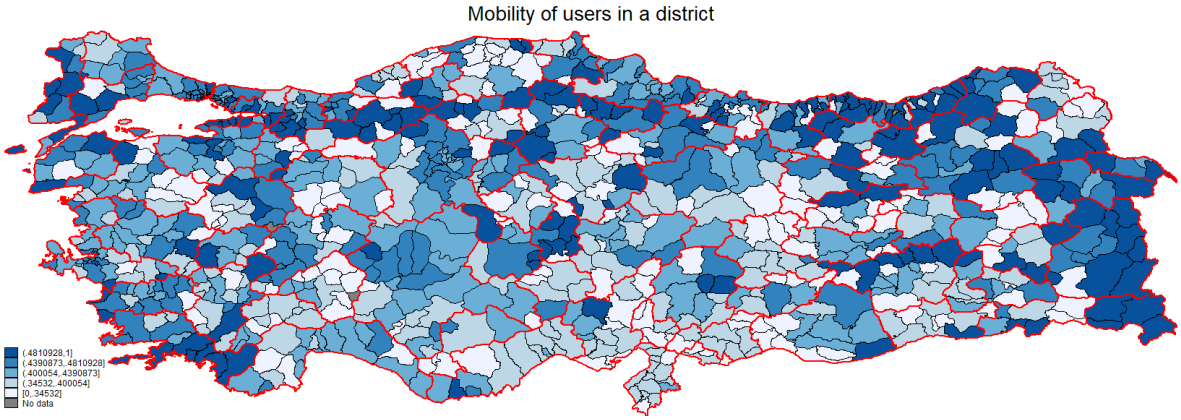


Figure 5: Distribution of mobility of refugee users

In Figure 4 we see that refugee presence is quite heterogeneous all over Turkey. Red lines show city borders and even within cities heterogeneity persist. As expected, in the South East refugee share is high, also in the western part of South. Mean of the refugee phone user share all around Turkey is 0.142 with a standard deviation of 0.203. Then, in

lished new districts

[12]Geographical regions in Turkey are Marmara, Black Sea, North East Anatolia, Central Anatolia, Aegean, Mediterranean and South East Anatolia.

Figure 5 the distribution of mobility variable is given. The mobility measure is normalized: values closer to one denote situations in which all calls were made using different antenna and values closer to zero denote situations in which user used the same antenna frequently. From the map we notice that variability of this measure is lower and in the South there is lower mobility while in the North and in Istanbul there is higher mobility of refugees. The mean of this variable is 0.419 with standard deviation of 0.093. If we compare Figure 4 and Figure 5 we see that two variables are not showing the same distribution (as we predicted before) and the baseline variable has higher variability than the mobility.

4.2 Election Outcomes

Figure 6 shows the distribution of change in JDP vote share from 2011 to 2018 across districts.[13] Mean of this variable is -0.067 with a standard deviation of 0.059. In the map, except the dark blue all shades reflect a drop in JDP vote share in 2018. Moreover, I will also investigate the effect on turnout rate between two elections. Figure 7 shows the distribution of the change in turnout. The mean of this variable is 0.012 with the standard deviation of 0.027. Darker shades represent an increase in turnout rate while fair shades represent drop between two elections.

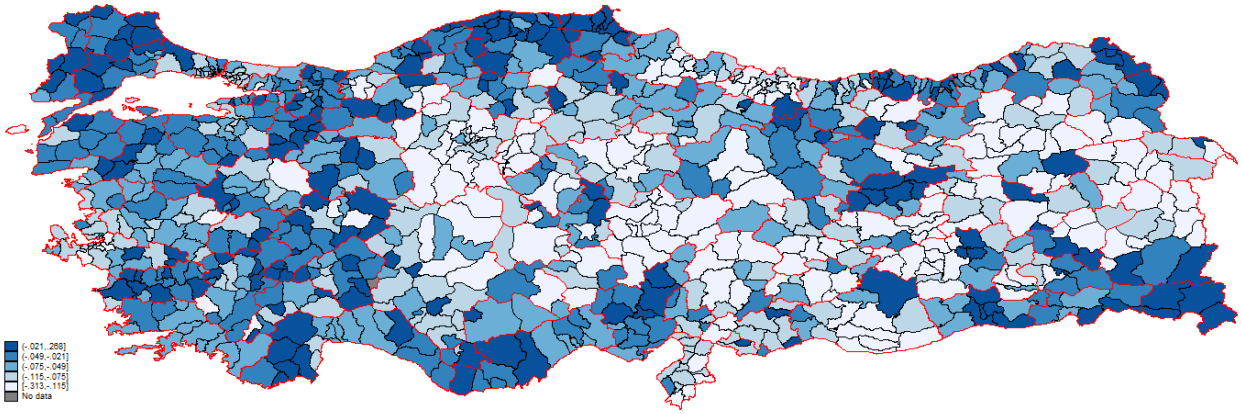


Figure 6: Change in JDP vote share between 2011 and 2018 elections

[13] Variable is $Vote_{2018} - Vote_{2011}$. I will explain the reason behind the choice of dependent variable in detail in the Identification Strategy part

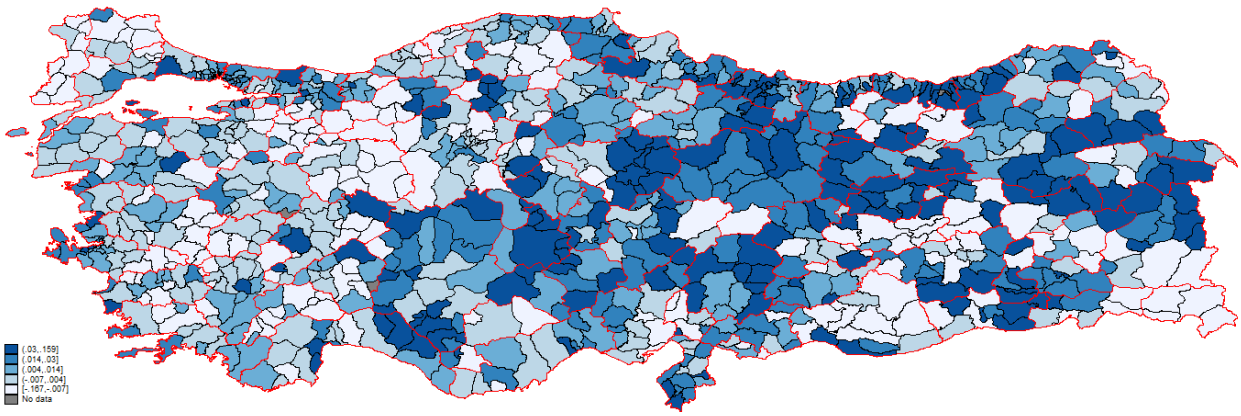


Figure 7: Change in turnout rate between 2011 and 2018 elections

5 Identification Strategy

To assess the effect of refugee inflow on natives' voting behavior I will rely on the differences in natives' voting decision over time in two political elections held in 2018 and 2011 and exploit the variability in the intensity of refugee presence across districts. I will use the following empirical specification:

$$Vote_{ijt} = \alpha_i + \alpha_{jt} + \beta_t 1(\tau = t) * refugee\_exp_i + \beta_2 X_{ijt} + \varepsilon_{ijt} \quad (1)$$

Voting in district i of city j at time t is the function of district fixed effect (α_i), city time effects (α_{jt}) that flexibly capture time effects across cities as suggested by Stephens and Yang (2014), refugee exposure in district i, time varying characteristics of the population such as age, education distribution, population density and inflation rate (X_{ijt}). Refugee exposure variable comes from the data of 2017, that is why I use this term with a time indicator variable in Equation 1. In that sense refugee exposure variable coming from mobile phone data is serving as a group variable to define the treatment intensity as in the usual difference in differences strategy. Using 2011 and 2018 elections helps me to take into account differences of districts that are stable over time. I get the following equation when I take the difference of two periods: [14]

$$\Delta Vote_{ij1} = \gamma + \alpha_{j1} - \alpha_{j0} + \beta_1[1(\tau = 1) - 1(\tau = 0)] * refugee\_exp_{ij} + \Delta X_{ij1}\beta_2 + \varepsilon_{ij1} - \varepsilon_{ij0} \quad (2)$$

Refugee migration started in 2012, I impute refugee activity as zero in 2011 which is also evident in Figure 1. The parameter of interest, β_1, in Equation 2 shows the effect of change in the refugee activity from 2011 to 2018 on the level of voting outcome from 2011 to 2018 across the districts of Turkey. The specification above corresponds to a difference in differences

[14] For periods 0= 2011, 1=2018 & $\Delta Vote_{ij1} = Vote_{ij1} - Vote_{ij0}$

estimation with continuous treatment intensity, i.e $[1(\tau = 1) - 1(\tau = 0)] * refugee\_exp_{ij}$ corresponds to the post treatment interaction in usual difference in differences. However, the endogenous refugee settlement problem may not be fully accounted. It is a general concern that refugees or migrants are likely to settle in places where they are welcomed or have better economic conditions and this leads to the under estimation of effects (Dustman and Preston 2001; Becker and Fetzer 2017). Although taking the first difference helps to remove time invariant district characteristics which are correlated with refugee settlement and activity, still there can be time varying factors which are omitted and correlated with refugee activity or presence in districts. But, I check the evolution of votes in pre-refugee inflow period and show that there is no pre-existing differences across treatment areas which alleviates the concerns of endogenous settlement.

6 Results

6.1 Main Result

For the estimation I pool the data of 2007, 2011 and 2018 elections and use the Equation 1. The model specification I consider takes 2007 as the reference period, β_{2011} gives the placebo difference in difference estimate, i.e. the change in vote share between two periods with no-refugees, and β_{2018} gives the change of votes from 2007 to 2018 across treatment areas. To get the parameter of interest, I clear previous period effect by taking the difference of β_{2018} and β_{2011} which exactly gives the effect of change in the refugee presence across treatment areas from 2011 to 2018. In the estimation standard errors are clustered at district level. I use population, education distribution and inflation variables in a time varying manner while other controls are added as time invariant.[15]

Table 1 reports the estimates of Equation 1. Each column reports the results of a separate regression where the outcome is government party (JDP) vote share, but the key control variable changes across specifications. The specification in column (1) focuses on the voting reaction to the presence of refugees proxied with the count of refugee phone users over count of native phone users (baseline treatment) in a district. The specification in column (2) looks at the influence of refugee mobility on voting behavior. The last column in the table aims at disentangling the effects of these two variables by including both baseline treatment and mobility as regressors. Model estimation with baseline refugee exposure variable shows the general effect of refugee presence and activity in a district without suggesting any specific

[15]The model selection for controls is as following: in the model where all controls are time varying I tested the statistical significance of the coefficients of the same control in time, the ones are statistically significant are put as time varying

mechanisms. Studies in the literature generally suggest negative voter reaction against migrant presence. Estimation with baseline refugee exposure variable is useful to understand the overall level of reaction against refugees and helps to make a comparison with the findings in the literature. Then, to reveal the effect of a specific aspect of refugee exposure on voting behavior, I investigate the mobility behavior of refugee users. For example, in the literature Alesina et. al. (2019) documents stronger negative effects on natives' redistribution preferences when there is segregation of migrants in geographical areas. In the similar sense, mobility of refugees, the tendency of wandering around, affects natives' refugee exposure levels for a given share of refugee users in a district. If refugees are highly mobile and wander around, this will increase their visibility, so I expect a negative voter reaction. Lastly estimation in column (3) includes both baseline refugee treatment and mobility to disentangle the effect of two measures and to understand whether two are independent or overall effects in column (1) are through the mobility of refugees.

The first estimate in column (1) is the placebo difference in difference estimate and it is insignificant which suggest that there is no pre-existing differences in the vote change of JDP from 2007 to 2011 across treatment areas. Second estimate in column (1) suggests that 1 ppt increase in refugee share leads to 0.028 ppt decline in government party (JDP) support from 2007 to 2018. Then, I obtain the parameter of interest by taking the difference of β_{2018} and β_{2011}. The difference of two estimates is -0.021 and it is statistically significant, so I find that 1 ppt increase in refugee share leads JDP votes to decline by 0.021 ppt all over Turkey.

The placebo difference in difference estimate is insignificant again in column (2). Second estimate in column (2) suggests that 1 ppt increase in refugee mobility leads to 0.046 ppt decline in government party (JDP) support from 2007 to 2018. Then, I obtain the parameter of interest by taking the difference of β_{2018} and β_{2011}. The difference of two estimates is -0.040 and it is statistically significant, so I find that 1 ppt increase in refugee mobility leads JDP votes to decline by 0.040 ppt all over Turkey. One point to notice is that this estimate is bigger than the previous one and it confirms the fact that natives react more when refugees are more visible.

Lastly in column (3), where I use baseline and mobility variables together both placebo difference in difference estimates are insignificant. Then, the parameter of interests suggest that when the mobility of refugees is controlled 1 ppt increase in refugee share leads JDP support to decline by 0.017 ppt, similarly when the share of refugee users is controlled, 1 ppt increase in mobility of users leads 0.035 ppt decline in JDP votes. Estimate of baseline treatment variable declines from -0.021 to -0.017 from column (1) to column (3) and estimate of mobility variable declines from -0.040 to -0.035 from column (2) to column (3). This suggests that there is small correlation between mobility and baseline refugee exposure

measures. The reason for small correlation between mobility and baseline could be the lack of movement of refugees across districts, because count increases with each different refugee user in a district. In other words, if very highly mobile refugees don't visit different districts this leads that two variables are uncorrelated and two measures have independent effects on voting behavior.

To conclude, estimation results suggest small decline in government party support due to refugee presence and mobility across Turkey. Based on the estimation results in the 3rd column if refugee share increases one standard deviation, this leads JDP votes to decline by 0.34 ppt which accounts 5 percent of decline of JDP votes from 2011 to 2018 (5.8 percent of its st. deviation) and one standard deviation increase in mobility of refugees leads 0.31 ppt decline which accounts 4.7 percent of the vote decline of JDP votes from 2011 to 2018 (5.3 percent of its st. deviation). Effect sizes are quite small compared to studies investigate the rise of far right party votes in Europe. For example, if I compare the effect sizes, in Otto and Steinhardt (2014), as a result of one standard deviation increase in foreigner share their estimate explains almost 60 percent of anti-immigrant party vote increase, while my estimates explain around 5 to 10 percent of government party vote decline and as a result of 1 st. deviation increase in foreigner share Barone et. al. (2016) show that their estimate explains 33 percent of st. deviation of outcome while in this paper again 5 to 10 percent of st. deviation is explained.

I investigate further election outcomes to understand whether refugee inflow leads voters to switch to other parties. For example, right party preferences are correlated with anti-immigration attitudes in many studies (Facchini and Mayda 2008; ORourke and Sinnott, 2006; Hainmueller and Hiscox 2007) and we may expect voters to vote for nationalist party more after refugee inflow. I re-run the estimation in column (3) of Table 1 with other election outcomes. Estimation results are given in Table 2, I start with checking the change in turnout rate to see whether refugee inflow makes people more likely to vote, but estimates suggest no significant effect on turnout. Then, there is no effect of baseline refugee exposure measure on vote change of any party, but as we expected increase in refugee mobility leads nationalist party votes to increase by 0.038. This increase is also consistent with the fact that mobility variable is related to the visibility of refugees and when refugees are more mobile it is likely to increase the negative feelings of natives.

6.2 Heterogeneity Analysis

The literature documents two important determinants of anti-migration attitudes: economic effects of migration or perceived economic threats by natives and non-economic or cultural concerns of natives (Barone et. al. 2016; Mayda 2005; Markaki and Longhi 2012). Therefore,

sub-samples divided based on socio-economic development level of districts helps to interpret results in the light of previous findings.

Turkey has a wide area in the East-West direction and socioeconomic development level increases in the East-West direction as well. To inform the reader better, Table 3 documents economic and social development outcomes in regional subsamples. First point to notice that East is the least economically developed, sparsely populated area and it has the lowest educational outcomes, especially for women, and has the highest negative migration speed. North and Central is moderately developed part and West and Mediterranean is the most industrialized and highly populated part of the country.

I will estimate the Equation 1 in regional sub-samples controlling for both baseline and mobility variables that proxy refugee exposure in districts. Based on economic explanations of attitude formation, I expect the biggest reaction in East, moderate reaction in North and Central and lowest in West and Mediterranean, because labor market competition or concerns of natives will be highest/lowest in the least/most developed area. As for the cultural reasons hypothesis, it is hard to predict the pattern easily, there might be many factors related to this point. For example, the most secular or modernized places, i.e Aegean in the West, could see increased Syrian refugees as a threat to their lifestyle or the culturally most homogeneous places might have lower tolerance levels against the refugees, i.e. North and Central. Also, in East majority of voters are ethnically Kurdish and survey evidence suggest that they are more tolerant to Syrians than ethnic Turkish backgrounds.[16]. For the heterogeneity analysis I use East, North and Central sub-samples and in the West&South I investigate Marmara separately as it is the most industrialized and culturally heterogeneous part of Turkey due to internal migration.

Estimation results in sub-samples suggest that economic factors are not the main mechanism, rather non-economic reasons explain the observed patterns well. Results are given in Table 4. First point to notice that there is no refugee effect in East, which helps to rule out the economic reasons as the main driver of the reaction against refugee inflow. In sub-samples North&Central and Aegean&Mediterranean, negative reaction against refugee presence is concentrated. 1 ppt increase in refugee share leads 0.04 ppt decline in JDP votes in North&Central and 0.063 ppt decline in Aegean&Mediterranean. Although placebo difference in difference estimate is borderline significant in Aegean&Mediterranean subsample, β_{2011b}=-0.031, the parameter of interest, $\beta_{2018b} - \beta_{2011b}$=-0.063, is much higher than placebo difference in difference estimate. In terms of magnitude one standard deviation increase in refugee share in North&Central leads 0.64 ppt decline which amounts to 8.8 percent of JDP

[16]Konda 2016, Attitudes towards Syrians. For example while 56% of Turkish people disagree to the statement "I think we are culturally similar to Syrians" 43% of Kurdish people disagree

vote decline from 2011 to 2018. Then in Aegean&Mediterranean one standard deviation increase in refugee share leads 0.94 ppt decline that amounts to 17 percent of JDP vote decline from 2011 to 2018. On the other hand, in Marmara 1 ppt increase in refuge share leads JDP votes to increase by 0.067 ppt. This finding is surprising given the aggregate drop of JDP support from 2011 to 2018, but it suggests that contact with refugees might have led to the decline of bias of natives and resulted in harmony between groups similar to the findings in Vertier and Viskanic (2017) and Steinmayr (2018). Also, Dustman et. al. (2019) show the similar pattern across rural and urban municipalities in Denmark. In urban municipalities (population is above 95th percentile of the distribution) there is decline in right party votes, while there is increase in the rest of the municipalities as result of higher refugee share. Lastly, we see that increased refugee mobility and visibility leads to drop in JDP support in North&Central subsample. 1 ppt increase in refugee mobility leads JDP votes to decline by 0.058 ppt. This finding can be explained through low cultural diversity and tolerance level in North&Central. As we see from Table 3 , this region has given migration to other regions, rather than receiving internal migrants, so it is culturally homogeneous. This finding also address a non-economic reason behind attitude formation. All in all, any of the findings suggests the economic reasons behind attitude formation. First, I document that negative reaction against refugee presence is concentrated in economically developed areas of country, one has modernized cultural values (Aegean&Mediterranean) and the other is culturally homogeneous (North&Central). Then reaction against mobility is in the North&Central as well. Further there is evidence for the contact hypothesis (Allport, 1954) in Marmara, as there is positive reaction against refugee inflow.

6.3 Discussion

Heterogeneity analysis in the previous section addressed non-economic reasons behind the negative reaction against refugee inflow and revealed one context in which refugees are welcomed and exposure led to positive native reaction which is consistent with the contact hypothesis (Allport 1954). To understand the underlying mechanism much better or support the evidence of cultural reasons stronger, I investigate the economic effects of refugee inflow. In a recent study, Tabellini (2019) shows positive effects of migrants on natives' employment in the US, still immigration leads to hostile political reactions. I will investigate the effects of refugees on Gdp per capita to see the economic activity effects of refugees. If they led to positive economic effects through increased demand of goods and services, there can be an increase in production and this might alleviate negative reaction of natives. On the other hand, higher economic activity of refugees in an area may lead to higher economic competition and decrease the Gdp as refugees can not work formally. These economic effects

may reinforce or reduce native reaction.

I investigate the effect of refugees on Gdp per capita in East, North&Central and West&Med sub-samples. Gdp data is given in city level, there are substantially less observation, so I cannot have Marmara seperately in this analysis. I use Equation 1 with region year fixed effects and cluster standard errors in city level. The dependent variable is standardized and results are given in Table 5. Estimation results do not suggest any significant effects of refugee presence or mobility on economic activity in hosting places. This allows me to understand that non-economic factors led to the reaction when there is no economic effects of refugees in hosting places, so this rules out the possibility of interaction between two explanations which is different than the point stressed by recent studies focus on the rise of populism in Western countries. They argue that through increased globalization, economic losers reacted in a sociotropic way and anti-immigrant sentiments gained power (Guiso et.al. 2018, Colantone and Stanig, 2017)

7 Conclusion

Syrian civil war is the severest humanitarian crisis of the 21st century. Millions of Syrian people left their homes by seeking safer environments. Now, Turkey is hosting the biggest refugee population in the world and refugees are in the middle of controversy in the country. "When will they go back, will they be granted for citizenship or will they vote?" These are some of the frequently asked questions. As Turkey did not have any previous experience on such a big flow of migration, what comes next is a big challenge both in social and political dimensions.

In this study, taking the benefit of a novel dataset provided by Turk Teleceom, I constructed various refugee exposure measures of natives across small election units of Turkey which is normally not possible through official data sources. I used difference in differences empirical strategy, focused on pre and post refugee inflow elections and investigated the vote share of government party (JDP) that announced an "open door" policy for refugees.

Results of this paper suggest that there is small drop in leading party support all over Turkey, both refugee presence and mobility have independent negative effects on government party support. One standard deviation increase in presence and mobility explain 10% of drop in leading party support from 2011 to 2018. Although, this is smaller than the effect sizes documented in studies which investigate the effect of changing ethnic composition on the right-wing party support in Europe, still addresses a considerable discontent in natives and this is driven by non-economic factors. First of all, consistently with the previous findings I document that increased mobility or visibility leads voters to switch to nationalist

party. Then, heterogeneity analysis reveal that effects are concentrated in more secular and modernized part (Aegean and Mediterranean) in which natives may have concerns on the effects of refugees on their secular and modernized way of living, also in culturally homogeneous and conservative part of country (North and Central) in which natives are less likely be tolerant towards "others". As opposed to negative reaction of natives in these parts, in the most industrialized and culturally diverse part there is positive effects of refugees on government party support which is consistent with the theory of contact. Lastly, I also show that there is no refugee effect on economic activity along hosting places, this strengthens non-economic reasons as the driver of the negative reaction.

All in all, these findings are suggesting that exposure to refugees in daily life leads natives to develop negative attitudes towards refugees in a high income developing country. Even in a context where natives and refugees are culturally close, nationalistic and cultural concerns of natives arise and this brings a new perspective to understand the rising power of anti-migration agenda parties in Western countries. Further, results are showing the need of a clear communication of politicians in Turkey with voters about the future of Syrian refugees. If integration of Syrians cannot be achieved successfully, as a result of long-term exposure to refugees there might be bigger discontent.

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Table 1: Effect of Refugee Presence and Mobility on Voting

	(1)	(2)	(3)
2011*refugee_share (β_{2011b})	-0.007		-0.008
	(0.010)		(0.010)
2018*refugee_share (β_{2018b})	-0.028*		-0.025*
	(0.015)		(0.015)
2011*mobility (β_{2011m})		-0.005	-0.003
		(0.022)	(0.023)
2018*mobility (β_{2018m})		-0.046	-0.039
		(0.031)	(0.031)
mean (sd)			
jdp		0.486 (0.157)	
$\triangle jdp_{2018-2011}$		-0.067 (0.059)	
treatment	0.142 (0.203)	0.419 (0.093)	
Number of obs	2817	2763	2763
$\beta_{2018b} - \beta_{2011b}$	-0.021**		-0.017*
	(0.009)		(0.009)
$\beta_{2018m} - \beta_{2011m}$		-0.040*	-0.035*
		(0.020)	(0.020)

Note: Table reports the OLS estimation results for Equation 1, dependent variable is JDP vote share. Refugee exposure measures are constructed by using D4R Challenge Data: Dataset 1 and Dataset 2. Demographic controls are population for district, age distribution of population in district level, education distribution in city level. Population density in city level. Economic control is inflation rate in city level. Standard errors are clustered in district level. The last two row gives the statistical test for the difference of given parameters after each regression.

Table 2: Refugee Effect on Other Election Outcomes

	Turnout	Chp (Secularist)	Mhp (Nationalist)	Rest
2011*refugee_share (β_{2011b})	0.002	0.001	0.009	-0.003
	(0.006)	(0.008)	(0.007)	(0.011)
2018*refugee_share (β_{2018b})	0.009	0.001	0.020*	0.003
	(0.007)	(0.009)	(0.012)	(0.016)
2011*mobility (β_{2011m})	-0.013	-0.014	0.010	0.007
	(0.017)	(0.022)	(0.013)	(0.022)
2018*mobility (β_{2018m})	-0.025	-0.010	0.049*	0.000
	(0.018)	(0.023)	(0.025)	(0.023)
mean (sd)				
outcome	0.866 (0.049)	0.193 (0.137)	0.134 (0.075)	0.185 (0.159)
Number of obs	2763	2763	2763	2763
$\beta_{2018b} - \beta_{2011b}$	0.007	-0.000	0.010	0.007
	(0.005)	(0.006)	(0.009)	(0.009)
$\beta_{2018m} - \beta_{2011m}$	-0.012	0.003	0.038*	-0.007
	(0.010)	(0.014)	(0.020)	(0.019)

Note: Table reports the OLS estimation results for Equation 1, dependent variable is given at the beginning of each column. Refugee exposure measures are constructed by using D4R Challenge Data: Dataset 1 and Dataset 2. Demographic controls are population for district, age distribution of population in district level, education distribution in city level. Population density in city level. Economic control is inflation rate in city level. Standard errors are clustered in district level. The last two row gives the statistical test for the difference of given parameters after each regression.

Table 3: Regional Characteristics in 2011 (city averages)

	WEST&MED	NORTH&CENTRAL	EAST
GDP per capita (tl)	19159	14859	9788
Electricity per person (KWh)	3240	1937	1158
Industry electricity per person(KWh)	1829	824	358
Population	2487826	922426	695426
Population density (per km$\hat{2}$)	375	76	60
Share of urban population	72%	66%	60%
Share of illiterate	3.6%	5.8%	9.2%
Women share of illiterate	6%	9.5%	15.4%
Men share of illiterate	1.2%	2%	3.3%
Share of high school	21.9%	21.2%	18.6%
Share of university	10%	9.1%	6.9%
Net migration speed 2008 (per 1000)	4.547	-3.615	-12.829
Net migration speed 2009 (per 1000)	1.842	-0.388	-11.041
Net migration speed 2010 (per 1000)	1.572	-7.608	-8.338
Net migration speed 2011 (per 1000)	1.412	-5.789	-9.938
Number of Districts	383	365	203
Number of Provinces	27	31	23

Note: West and Mediterranean includes geographical regions Marmara, Aegean and Mediterranean. North and Central includes regions Black Sea and Central Anatolia. East includes regions South East Anatolia and North East Anatolia. Numbers are means in city level.

Table 4: Heterogeneity Analysis in Sub-Samples

	WEST and SOUTH		NORTH&CENT	EAST
	Marmara	Aegean &Mediter		
2011*refugee_share (β_{2011b})	-0.015	-0.031*	-0.013	0.011
	(0.032)	(0.018)	(0.013)	(0.019)
2018*refugee_share (β_{2018b})	0.052	-0.094***	-0.053**	0.006
	(0.042)	(0.026)	(0.021)	(0.024)
2011*mobility (β_{2011m})	0.011	-0.036	-0.015	0.042
	(0.037)	(0.041)	(0.020)	(0.071)
2018*mobility (β_{2018m})	-0.013	-0.024	-0.074**	0.055
	(0.055)	(0.061)	(0.033)	(0.084)
mean (sd)				
refugee share	0.125 (0.098)	0.149 (0.152)	0.125 (0.162)	0.178 (0.334)
mobility	0.445 (0.068)	0.402 (0.066)	0.420 (0.070)	0.404 (0.106)
jdp	0.431 (0.126)	0.414 (0.131)	0.562 (0.116)	0.467 (0.204)
$\triangle jdp_{2018-2011}$	-0.044 (0.038)	-0.055 (0.043)	-0.072 (0.057	-0.088 (0.079)
Number of obs	449	672	1061	581
$\beta_{2018b} - \beta_{2011b}$	0.067**	-0.063**	-0.040***	-0.005
	(0.031)	(0.018)	(0.013)	(0.016)
$\beta_{2018m} - \beta_{2011m}$	-0.028	0.012	-0.058**	0.012
	(0.040)	(0.046)	(0.026)	(0.052)

Note: Table reports the OLS estimation results for Equation 1 in regional sub-samples, dependent variable is JDP vote share. Refugee exposure measures are constructed by using D4R Challenge Data: Dataset 1 and Dataset 2. Demographic controls are population for district, age distribution of population in district level, education distribution in city level. Population density in city level. Economic control is inflation rate in city level. Standard errors are clustered in district level. The last two row gives the statistical test for the difference of given parameters after each regression.

Table 5: Refugee Effect on Gdp per capita

	POOLED	WEST&MED	NORTH&CENT	EAST
2011*refugee_share (β_{2011b})	0.055	0.537	0.488	-0.283
	(0.083)	(0.383)	(0.625)	(0.348)
2018*refugee_share (β_{2018b})	0.109	1.098***	-0.279	0.588*
	(0.206)	(0.348)	(1.457)	(0.313)
2011*mobility (β_{2011m})	-0.146	0.564	-0.306	-1.647*
	(0.275)	(0.968)	(0.534)	(0.861)
2018*mobility (β_{2011m})	-0.576	-0.389	0.683	-1.029
	(0.618)	(1.866)	(1.230)	(1.627)
mean (sd)				
Gdp per capita	0 (1)	0.432 (1.161)	-0.001 (0.883)	-0.505 (0.658)
Number of obs	243	81	93	69
$\beta_{2018b} - \beta_{2011b}$	0.054	0.560	-0.767	0.872
	(0.170)	(0.457)	(1.327)	(0.633)
$\beta_{2018m} - \beta_{2011m}$	-0.429	-0.953	0.990	0.617
	(0.502)	(1.298)	(1.086)	(1.028)

Note: Table reports the OLS estimation results for Equation 1, dependent variable is standardized Gdp per capita. Analysis in city evel as the dependent variable is in that level. Refugee exposure measures are constructed by using D4R Challenge Data: Dataset 1 and Dataset 2. Demographic controls are population for city, age distribution of population, education distribution in city level. Population density in city level. Economic control is inflation rate in city level. Standard errors are clustered in city level. The last two row gives the statistical test for the difference of given parameters after each regression.

Migration and Forced Displacement: Challenges in the 21st Century

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Abstract

This paper reviews perspectives and the literature on natives' attitude formation towards migration policy and migrants. Increased deglobalization wave in the last decade gave rise to anti-immigrant rhetoric in developed countries. Although it is believed that the globalization discontent was higher among "economic losers", the investigation of the literature suggests richer perspective to understand the recent phenomena. Moreover, worsening attitudes towards migrants turned into resistance against refugee inflows. I discuss the implications of rising negative sentiments for the refugee migration as well and show that in Turkish context, the biggest refugee hosting country, the same segments of population oppose refugee migration as in the labor migration case.

Keywords: Attitudes towards migration, rising populism, migration policy, attitudes towards refugees

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Introduction

Increased anti-migration rhetoric is the biggest advocate of restrictive migration and asylum policies in the 21st century. However restricting migration too much is a sub-optimal strategy globally. Clement (2011) argues that gains from reducing emigration barriers are likely to be enormous, measured in tens of trillions of dollars. In this chapter, I will discuss the determinants of attitudes towards migration policy and migrants focusing on studies that investigate the native attitudes mainly in Europe and United States during 1990s, 2000s and 2010s. The aim is observing the persistent correlates of attitudes, understanding the evolution of trend in attitudes and their reasons to analyze and tackle today's migration policy challenges better.

I will lay this study in 4 sections. First, in a brief background I will explain the drivers and history of international migration and political economy concerns related to migration policy. Then, I will focus on the rising deglobalization wave which increased the volume of anti-migration rhetoric in recent years. In the third section, I will review studies on the determinants of attitude formation towards migration to understand the underlying reasons of the recent phenomena. In the fourth section I will narrow down the focus to the issue of forced displacement and in the context of Turkey, the biggest refugee hosting country in the world, I will focus on the attitudes towards refugees on which there is scant evidence. Lastly, I will conclude with the discussion of possible directions of research and issues related to policy making.

1 Background

From the neoclassical economics perspective the reason of migration is the productivity differences of labor across globe. Utility maximizing agents choose to go to high productivity areas in order to have higher lifetime earnings (Sjaastad, 1962; Borjas, 1989). Additionally, population growth dynamics lead a difference in the labor supply growth across countries and this leads to a flow from excess labor supply countries to low labor supply countries (Zimmerman 1995; Hanson and McIntosh 2016). These two factors address to the labor flow from underdeveloped countries to developed ones, namely migration from South to North.

Looking at the migration history of the world, Bauer et. al. (2000) categorize the migrant receiving countries as following: **traditional immigration countries** (Australia, Canada, New Zealand and the U.S.), **immigration countries with either postcolonial immigration or active recruitment** (Austria, Germany, the Netherlands, Sweden, Norway and the UK) and the **new immigration countries** (Italy, Ireland and Spain). Immigrant flows

started in the 19th century to traditional immigration countries and migrant population had important role in the growth and development process of these countries. Zimmerman (1995) states that migration to European countries started after World War II. They received displaced people due to war (Germany) or migrants from past colonies (Great Britain, France, Belgium and Netherlands). After mid 1950s and during 1960s due to strong economic performance, European countries opened their door to immigrants to reduce labor shortages. After 1988 immigration to Western Europe has been shaped by the inflow of asylum seekers and refugees who were coming from Eastern Europe. Zimmerman (1995) continues to argue that new immigration countries, Ireland, Italy and Spain, have historically been emigration countries and they first experienced a positive net immigration after 1970. During 90s they have received a large number of immigrants out of European Union. All in all, we understand that world migration is shaped by labor shortages, escape from conflict and movement to prosperous colonizing countries. In the 60 year period after World War II considerable human mobility took place and in migration countries migrant population consists 10 to 20 percent of population today.[1]

One observation about the trend in anti-migration or restrictive migration policy attitudes of natives is that negative attitudes are parallel with the growth of migrant population in countries. As immigrant rate increases, migration starts to be a countrywide problem and it is politicized. Pietsch (2015) gives the example of Spain, where a rapid increase in the number of migrants since the beginning of the 21st century have happened. When Spain received increased number of migrants from neighboring poor countries in the 1980s and 1990s, this did not lead to high levels of racial prejudice and anti-immigrant attitudes, because at that time immigration was not politicized (Boeri, Hanson & McCormick 2002). However, by 2010, widespread anti-immigrant sentiment was reported, as the migrant population had risen from 2 to 12 percent of the population in the first decade of the 21st century (Boswell & Geddes 2011: 5).

Hix and Noury (2007) argue that economic interests and political opinions are in conflict in Europe on the issue of immigration. There is an aging population in the continent, so it is hard to sustain the balance of public finance with the growing burden of public pension and growing service sector is generating jobs that resident workers are hesitant to take. Although Europe needs more migrants in economic terms, individuals tend to form attitudes towards migrants based on self-perceived threats that I will discuss in the third section. These preferences are not peculiar only to Europe, around the world it is a general tendency in

[1]World Bank international migrant stock statistics shows that in Australia 28%, Austria 17%, Belgium 12%, Canada 21%, Denmark 10%, France 12% , Germany 15%, Italy 9.6%, Spain 12%, UK 13% and US 14% of population are migrants as of 2015. For more numbers https://data.worldbank.org/indicator/SM.POP.TOTL.ZS

migrant hosting countries. Hatton (2007) argues that although in the last 60 years there was considerable amount of liberalization of international trade, international migration remains the least globalized and for this reason gains to liberalization are likely to be largest.

Facchini and Mayda (2008) argue that restrictive migration policies are the key explanation for limited migration flows observed in the globalized world where imbalances across countries that will induce migration well persist. The reason of restrictive migration polices is related to the efficiency gains of migration in the receiving country that has effects on the distribution of income which creates winners and losers within the country. Therefore, political economy factors based on income distribution effects are the key determinants of observed migration policy outcomes according to economic theory. The empirical investigation in the rest of their paper confirms that migration outcomes across destination countries are correlated with the attitude of median voter in each country and this suggests that policy makers take public opinion into account when they formulate migration policy.

2 Deglobalization Wave in the Last Decade

Although labor migration has always been subject to resistance in developed countries, when the critics of globalization increased their volume after the global financial crisis of 2008 this is accompanied by even higher opposition against migrants. Three incidences confirming the increased opposition are the presidency campaign of Trump and his success in the US; Brexit voting and success of leave campaign in the UK and 2015 Syrian refugee crisis in Europe. Globalization is reflected more in the trade of goods and finance, but populist deglobalization advocates also blamed migrants for current problems in their countries and this allowed them to increase their support. Inglehart and Norris (2016) defines the principles of 21st century populists as following: "They favor monoculturalism over multiculturalism, national self-interest over international cooperation and development aid, closed borders over the free flow of people, ideas, labor and capital, traditionalism over progressive and liberal social values." In short, they are against the international order emerged after 1990.

Inglehart and Norris (2016) explain why populists gained support with two arguments. First is economic insecurity perspective which addresses the substantial changes transforming the workplace and society in post-industrial economies. Secondly, cultural backlash thesis argues that support is due to a retro reaction by once-predominant sectors of population to progressive value change.[2] Their empirical analysis using European Social Survey data

[2]Post-materialist values which replaced traditional values are tolerance for the expression of diverse forms of sexuality, same-sex marriage; more secular values, habits and ethical norms; open-mindedness towards migrants, refugees, foreigners and multicultural diversity of lifestyles, foods and cosmopolitan support for international cooperation, humanitarian assistance and multilateral agencies like European Union.

suggests evidence in favor of the cultural backlash thesis. More specifically cultural backlash refers to the reaction of old and less educated segments of society against progressive cultural values that has emerged in the aftermath of World War II, especially among young and college educated groups.

On the other hand, Colantone and Stanig (2018) claim that the demand for economic nationalism is the key factor behind the success of radical right in Western Europe. In their empirical analysis Chinese import shock provides an exogenous source of variation in economic performance across regions of Europe and they document that divergence of performance across regions leads to higher support for far right in economically lagging areas. The main message of their empirical investigation is that globalization might not be sustainable in the long run in the absence of redistribution policies aimed at compensating the "losers" of globalization, such as losers from import competition. Guiso et. al. (2018) also argues that economic insecurity is the key driver of populism in Europe. They show that there is a large total effect of economic insecurity on the demand for populism: once turnout effects are considered economic insecurity drives consensus to populist policies directly and through indirect negative effects on trust for politics and attitudes towards immigrants. They also argue that cultural attitudes are an important channel through which economic insecurity affects populist support, instead of being an independent cause.

Colantone and Stanig (2017) show that globalization by means of Chinese import shock is a key determinant of Brexit vote as well. They argue that voters respond to import shock in a sociotropic way which means that individuals tend to react to the general economic situation of their region regardless of their specific condition. Interestingly, neither overall stocks nor inflows of immigrants are related with higher support for leave option in a region. However, individual attitudes towards immigrants are systematically worsened by the import shock, while attitudes are not related in a clear way to the actual extent of immigration in a region. They argue that worsened attitudes towards immigration largely reflects economic distress driven by import competition. The polarization of internal politics due to Chinese import shock is also documented for the US. Autor et. al. (2016) argue that growing import competition has contributed to the shift to right in political beliefs of US adults and in 2008 and 2016 presidential elections trade shocks differentially increased the vote share of Republican candidate.

All in all, studies in this section focus on cultural and economic aspects of globalization which has led to substantial changes in societies. What I want to draw attention is the interaction between economic and cultural factors in generating a reaction against globalization. For example, studies cited above suggest that import competition or economic insecurity affect cultural attitudes as well and leads to the strengthening of deglobalization rhetoric

as such voters oppose all values of globalized world, i.e. multiculturalism, refugee rights or international cooperation. We understand that increased economic distress in individual level declined the tolerance level of people and populist rhetoric which is very sharp and suggesting immediate or radical solutions attracted voters in many countries. Poutvaara and Steindhardt (2018) show that bitter people, who think that they have not gotten what they deserve in life, vote more for extreme right and they are more concerned about immigration.

3 Determinants of Attitudes towards Migration

Although the story of globalization discontent of the last decade put the focus to economic losers, this could be a more complicated reaction triggered by other factors as well. To make sense of how globalization discontent led to increase in anti-migrant attitudes or why populists used anti-migrant rhetoric to increase their support and understand the timing of these reactions, I will review the earlier literature. The investigation of natives' attitude formation towards migration and cross-country differences in attitudes have been a lively research area. Sociologists, political scientists and economists have made contributions to this area by testing theories in their disciplines. Although this sometimes has led to the discussion of which field or theory predicts better, cross-country empirical investigation revealed empirical regularities on the correlates of pro-immigration attitudes which would be helpful in the policy making process.

Before starting, there are some examples of the well documented patterns in previous studies: age is negatively correlated with pro-immigration attitudes while education is positively correlated, women are less pro-immigrant than men, right ideology supporters are less pro-immigrant and religious people are more pro-immigrant. The challenge is understanding the main reasons of these patterns to reduce the negative feelings of natives through correct policies. For example, education is positively correlated with pro-immigration attitudes and the main reason for this finding could be either more educated people are more skilled and face with lower labor market competition or education increases the utility from diversity or increase the tolerance level. This ambiguity may guide the policy making process wrongly, as one implies distributional policies to address the losers of immigration flow and the other implies more long-term perspective to increase the tolerance level of citizens and change their negative perceptions about immigrants.

3.1 Economic Theory Perspective on Attitudes

This group of studies aim at understanding whether economic factors have a role in attitude formation. Therefore, they try to establish the link between economic theory and observed

policy preferences. The primary interest has been to understand the relationship between individuals' skill levels or labor market position and immigration attitudes; the role of welfare state concerns of natives on immigration attitudes. Overall, these studies confirm that labor market competition and welfare concerns have significant effects on attitude formation even when large set of non-economic factors are controlled.

Two early studies investigate the labor market related concerns and they confirm the predictions of the factor proportions analysis model and Heckscher-Ohlin model. The first study is Scheve and Slaughter (2001) for the United States, using the data of 1992, 1994 and 1996 National Election Study survey, they test the relationship between skills, wages and immigration policy preferences. Their assumption is U.S. citizens think that current immigrant inflows increase the relative supply of less-skilled workers and they hypothesize that economic determinants of an individual's immigration policy preference depend on how the immigration induced increase in the supply of unskilled workers in the US labor market affects individual's factor income. In their empirical analysis skills are proxied with education or occupation wage. Results suggest that less skilled individuals prefer more restrictionist policies, this link holds conditional on a large set of non-economic determinants and stronger in the sample of respondents in the labor force which also helps to rule out the possibility that education proxies tolerance instead of skills. These findings imply that individuals think the U.S. economy absorbs immigrant inflows at least partly by changing wages. Secondly, Mayda (2006) also investigates whether economic considerations are relevant in the attitude formation towards immigration policy. Her analysis covers developing and developed countries and she uses data of 1995 International Social Survey Program (ISSP) and 1995-1997 World Values Survey (WVS). Open economy models, Heckscher-Ohlin and the factor-proportions-analysis predict that immigration attitudes depend on the change in factor prices after the change in relative factor supplies due to immigration. Assuming that skilled and unskilled labor are complements, skilled individuals should favor immigration if natives are more skilled than immigrants because immigration reduces the supply of skilled to unskilled and increases the skilled wage. In the empirical analysis, she shows that cross-country pattern in the correlation between skill and immigration attitudes is consistent with the labor market predictions of factor endowment model and H-O without factor price insensitivity.[3] Also, her results are robust to the inclusion of non-economic factors and she concludes that the view of a world in which only noneconomic factors shape attitudes toward foreigners is not correct. Another study revisits the issue of labor market competition between natives and migrants. Ortega and Polavieja (2012) use more sophisticated measures of the degree of exposure to

[3]For the details of the theoretical models, Heckscher-Ohlin and factor-proportions-analysis, one can refer to the paper, Mayda(2006)

competition than previously done. In addition to education, they focus on the protection derived from (self-assessed) investments in job-specific human capital and from specialization in occupations that are (objectively) intensive in communication tasks. Their analysis with 2004-2005 European Social Survey suggest that working in jobs that require high levels of specific human capital leads to relatively more pro-immigration attitudes, although this effect is only found for respondents with more than 12 years of schooling. Also, the degree of manual (communicational) intensity of workers' occupations has a negative (positive) effect on their pro-immigration views. Overall their results suggest a large role for skill-based labor market competition in determining individual attitudes towards immigration.

Another economic reason that natives might consider in attitude formation is the welfare dependence of immigrants. Huber and Oberdabernik (2016) investigate the effect of the relative welfare dependence of immigrants on attitudes toward further immigration of different groups of the population in a pooled cross-section of 24 European countries for 2004 - 2010 period. Their theoretical framework considers two mechanisms by which a government can adjust its budget in response to increased immigration. The first mechanism is the tax adjustment, benefits are exogenously fixed, and the tax rate is endogenously determined. Alternatively, under benefit adjustment, taxes are exogenous, and benefits are determined. Their model predicts that in the case of tax adjustment net contributors to the state budget (i.e. highly educated, high-income workers) will oppose immigration whenever immigrants are more likely to depend on transfers from the welfare state, but favor it if immigrants are less likely to depend on transfers. On the other hand, if additional benefit claims are adjusted by lower transfers to natives, unskilled, low-income natives are more strongly affected. They will therefore oppose immigration whenever more immigrants than natives receive benefits but favor it otherwise. Before Huber and Oberdabernik (2016), some studies test the implications of these hypothesis under the assumption that immigrants are net recipients of benefits from the welfare state due to data limitations on immigrants' real welfare dependency (Hanson et al. (2007), Hainmueller and Hiscox (2010), Facchini and Mayda (2008, 2009, 2012), Dustmann and Preston (2007) and Mayda (2006)). But it is not clear whether the perception of the effects of immigration on natives' welfare benefits or rather the actual situation regarding immigrants' receipt of welfare benefits drive the results in these studies. To overcome this problem, Huber and Oberdabernik (2016) use immigrants' real welfare dependency rate and results suggest that the social security channel is relevant for natives' attitudes. Immigration attitudes are (very robustly) more positively influenced by education and (slightly less robustly) more negatively by age when benefit take-up rates among immigrants are higher relative to natives. This suggests that these native groups fear that further immigration could reduce the benefits they receive. In addition, they also find

compelling evidence that the labor market channel is of high relevance for natives' attitudes toward immigration. As predicted by theory, less educated natives are more likely to be opposed to immigration than more educated ones in countries in which immigrants are on average less educated than natives.

Overall, studies test the implications of economic models to understand the role of individual economic circumstances on attitude formation confirm the economic theory predictions and emphasize the role of personal economic circumstances. That is why majority of studies in economics literature have the tendency to analyze the rising deglobalization attitudes from micro or individual level perspectives and they end up with arguments such as "economic losers" of globalization led to the increased opposition towards migration.

3.2 Non-economic or Contextual Perspectives

In this section I will review studies from economics, sociology and political science literatures. Studies in this group are diverse and it is not possible to cover everything, but my aim is to see as many perspectives as possible in attitude formation. For this aim, I cover the following group of studies and perspectives. Firstly, some studies are critical on the economic interpretation of demographic variables, i.e. age and education, rather they attribute non-economic meaning to these variables (Hainmueller and Hiscox 2007). Then other studies argue that instead of personal economic conditions, perception of general economic situation affects attitudes towards immigration (Citrin et. al. 1997; Gang et. al. 2013). Others try to measure the relative importance of economic and non-economic factors and show that non-economic factors are more important (Card et. al. 2012). Some studies explicitly take into consideration of the ethnic/cultural characteristics of immigrant population and shows the dependence of attitudes on the ethnicity of immigrants (Dustman and Preston 2007; Bridges and Mateut 2014). Then in sociology ethnic competition or ethnic threat theories explain the attitude formation (Schneider 2007). Lastly, in political science refinements of ethnic threat theory and test of other macro contextual factors can be found (Hopkins 2010; Young et.al 2018). General message we get from these studies is that cultural or ethnic threat concerns and negative perceptions about economic situation or migrant effects on economy are main factors in attitude formation instead of realized (real) economic effects in individual level. Individual economic factors might explain very small part of attitudes as negatively affected parts of the population are very small i.e. small part of native workers compete with migrants in the labor market.

Hainmueller and Hiscox (2007) oppose the conclusion reached by previous studies which suggest that education is a skill measure and labor market competition leads to less educated (skilled) individuals to oppose strongly to (unskilled) migrants. They argue that this is a

misinterpretation of the available evidence and reexamine attitudes toward immigration using 2003 European Social Survey data. Their results indicate that in contrast to predictions based on the conventional arguments of labor-market competition, which anticipate that individuals will oppose immigration of workers with similar skills to their own, but support immigration of workers with different skill levels, people with higher education levels are more likely to favor immigration regardless of where the immigrants come from and their likely skill attributes. Across Europe, higher education means more support for all types of immigrants. This is true for alternative measures of education in all twenty-two European countries. The findings thus suggest that, contrary to the conventional wisdom, the connection between the educational or skill attributes of individuals and their views about immigration appears to have very little to do with fears about labor-market competition. They argue that anti-immigration sentiments appear to be far more powerfully associated with cultural values that have more to do with conceptions of national identity than they do with concerns about personal economic circumstances.

In another study, Citrin et. al. (1997) try to understand whether personal economic conditions or perceptions about national economy guide the preferences in the US. For this aim they consider the influences of individual's financial resources, perceived economic prospects, labor market situation and fiscal concerns in order to provide a more comprehensive test of the "economic" model of opinions about immigration. They show that pessimism about the national economy, beliefs about the negative consequences of immigration for jobs and taxes, and relatively "cool" feelings toward Hispanics and Asians are the statistically significant predictors of support for reducing the level of immigration and delaying benefits for those admitted. In short, they do not show any clear evidence in favor of personal economic circumstances. For Europe, Gang et. al. (2013) using Eurobarometer survey series show a sharp increase in the negative attitudes of European citizens towards foreigners between 1988 and 2003, but a noticeable reversal of this trend between 2003 and 2008. They relate this trend to general economic conditions in Europe at the first look, i.e. slowdown in growth and rising unemployment during 1980s and 1990s and the generalized booming economy of 2000s in Europe. Then, empirical analysis concludes that while rising racial prejudice accounts for a substantial portion of the trend in anti-foreigner sentiment, economic conditions also matter, with economic strain leading to more negative attitudes. At the same time, educational attainment is shown to be a strong antidote to anti-foreigner attitudes as they show that the negative effect of education on anti-foreigner sentiments grows through time. In line with the conclusion of Citrin et. al. (1997), Gang et. al. (2013) discuss that instead of personal economic conditions, general economic conditions might have higher role in the attitude formation given the evidence on the impact of immigrants on European labor

markets is inconclusive (findings suggest often small effects of immigration on employment). Therefore, the debate on the economic effects of immigration may not be directly relevant to the formation of attitudes, instead perceptions about how immigrants affect the economy that are not necessarily based on reality matters.

In another attempt Card et. al. (2012) investigate the relative importance of economic and compositional concerns in natives' attitude formation. They argue that immigration does not just affect wages and taxes, it also changes the composition of the local population, threatening the "compositional amenities" that natives derive from their neighborhoods, schools, and workplaces. They use a simple latent factor model together with the data of 21 countries from the 2002 European Social Survey and measure the relative importance of economic and compositional concerns in driving opinions about immigration policy. They find that compositional concerns are 2-5 times more important in explaining variation in individual attitudes toward immigration policy than concerns over wages and taxes. Likewise, most of the difference in opinion between more and less educated respondents is attributable to heightened compositional concerns among people with lower education.

Dustman and Preston (2007) show that natives' negative attitudes are higher when immigrants are culturally distant. In their study, they distinguish between three channels that determine attitudes to further immigration: labor market concerns, welfare concerns, and racial or cultural concerns. They do the distinction between culturally close and different immigrants and use 7 waves of British Social Attitude Survey (1983 to 1990). Their descriptive results by country of origin of immigrants suggest that opposition to further immigration increases with ethnic and cultural distance. Their further analysis in which they try to separate 3 channels confirm the findings in previous studies on economic reasons, they argue that welfare concerns are much important then labor market concerns and all these economic effects are stronger when the cultural distance of immigrant group is bigger. Bridges and Mateut (2014) argue that relative importance of any factor in attitude formation, either economic or non-economic, depends on the race/ethnicity of arriving immigrants and on the size and nature of immigrant population. They analyze the effect of the size of immigrant population on attitudes towards immigration using European Social Survey (2002-2004-2006) and they aim at disentangling the effects of contact and economic competition with immigrants. Their analysis suggests that more exposure to immigrants appears to reduce opposition towards the arrival of different race/ethnicity immigrants but has little effect on attitudes towards the arrival of those of the same race or ethnicity. Then, they show a positive association between the proxy for labor market competition and a restrictive immigration policy. However, race/ethnicity has an important role to play again. Natives appear to regard immigrants of the same race or ethnicity as representing a greater "threat"

to their labor market opportunities than those of a different race or ethnicity. Finally, they show that public finance considerations are also important in shaping attitudes towards immigration, but mainly towards those of a different race/ethnicity. Immigrants of different race/ethnicity to the native population appear to be perceived as being more likely to make use of public funds than immigrants of the same race/ethnicity. All in all, this paper show that both economic and non-economic factors play a role in attitude formation, but the importance of these factors is depending on the race/ethnicity of migrants.

Schneider (2007) focuses on the attitude formation through the lens of ethnic threat theory by distinguishing economic and cultural aspects of perceived threat. To test ethnic threat theory usually out-group size in an area is used as the explanatory variable, but she aims at differentiating the economic interpretation of ethnic competition theory from a cultural interpretation, involving conflict over values in contrast to material resources. Therefore, she uses two different measures of outgroup size to gain a less ambiguous interpretation of group size effects: one measure reflecting social and economic competition, another measure reflecting cultural distance. Her results suggest a curvilinear effect of the proportion of non-western immigrants on a countries' average level of individually perceived ethnic threat. In contrast, there is no evidence for an effect of the percentage of low-educated immigrants. Thus, the cultural interpretation of ethnic competition theory is supported, whereas the economic interpretation is not.

Hopkins (2010) proposes an alternative theory departing from the ethnic threat theory as the empirical evidence is quite inconclusive in testing it. He puts forward the politicized places hypothesis to explain how and when local demographics influence attitudes and local politics. His hypothesis argues that when communities are undergoing sudden demographic changes and when salient national rhetoric politicizes that demographic change, people's views turn anti-immigrant. In other conditions local demographics might go largely unnoticed or remain depoliticized. Previous theories have not focused on variation over time in attitudes, most of the times anti-migrant rhetoric is clustered in time and this theory is better at explaining when will hostility towards immigrants be strong. Young et. al. (2018) analyze the attitudes from both individual and contextual perspective. They argue that attitudes toward immigrants are reflection not only of individuals' beliefs and their immediate social circumstances, but also the cultural, economic and human security circumstances of nation states within which individuals' attitude formation takes shape (Soysal, 1994). The framework that they use includes the position and experience of individuals, as well as the features of the nation-states in which individuals are embedded, along three contextual dimensions (socioeconomic, sociocultural, and human security concerns) to be able to explain the wide international and intranational variation in attitudes toward immi-

gration. Using several waves of World Values Survey and including low-income countries to the analysis their results do not support the hypothesis of negative economic contexts (i.e. low per capita national income, high economic inequality, high unemployment fosters high levels of anti-immigration sentiment). Secondly, the macro-level socio-cultural predictors had unexpected effects: an increase in the percentage of immigrants is associated with a decrease in restrictionist attitudes, supporting contact theories. Finally, there is consistent support for the hypothesis that threats to public safety are associated with high levels of anti-immigration sentiment. This finding suggests that the public safety or human security dimension should be added alongside economic and socio-cultural factors to conceptual frameworks of the roots of anti-immigration sentiment. In contrast to the mixed findings for macro-level economic and socio-cultural predictors, terrorist events operate as "big events" and demonstrate a consistent association with restrictionist immigration attitudes. The formulation of public perceptions and attitudes toward immigrants appear to follow a pattern where racialized media cues frame immigrants as scapegoats in the public eye.

Although studies cited in this section are various in their arguments and conclusions, they help to understand today's rising populist movements and anti-immigrant rhetoric from macro and contextual approaches. They emphasize the attitude formation due to perceived economic reasons, cultural concerns or ethnic threat. If we think of the relevance of these points with the recently rising anti-migration rhetoric, we may argue that all these aspects of attitude formation are open to manipulation, worsen with fear, might be affected by global environment and be contagious easily, therefore explain the great deal of success of populist politics in developed countries.

Compared to economic theory perspectives covered in the previous part, these studies have richer perspective to make sense of attitudes. Testing the implications of economic theory is useful, but in policy design more should be known for the specific context. Such as the conclusion reached by Mateut (2014) which argues that relative importance of any factor in attitude formation, either economic or non-economic, depends on the race/ethnicity of arriving immigrants and the size and nature of immigrant population is an important point to consider. To conclude, economic explanations help to detect some target groups and suggests redistribution policies to compensate economic losers, at the same time natives' attitude formation is a nation-wide and psychological process, therefore to understand the nature of reaction non-economic or contextual factors should not be dismissed.

4 Refugee Migration

Around the world there are 26 million refugees and 3.5 million asylum seekers[4] and global anti-migrant rhetoric is likely to worsen their prospects in hosting countries. During 2015 Syrian refugee crisis, heightened opposition towards refugees in Europe emerged and given the increased support of anti-migrant political parties in many countries, investigation of attitudes towards refugees are more important than ever. In this section, I will briefly document the literature on refugee migration and turn my focus to Turkey, country that hosts the biggest refugee population in the world, to analyze native attitudes towards refugees. My aim is both to compare findings with the previous section, especially in terms of demographic correlates, and understand the possible reasons of resistance against refugees in the light of theoretical approaches I reviewed.

Refugees are different than economically motivated migrants in the sense that they make the decision of moving to another country under very extreme circumstances such as war, persecution and environmental disasters. The difference in selection process compared to economic migrants have direct implication on the integration capabilities and labor market prospects of refugees in the host country. Further, natives' attitude formation process towards refugees could be quite different, such as humanitarian reasons may discount some negative feelings, while some characteristics of refugee population, i.e. ethnic distance to native population, low labor market attachment and success, might accelerate other negative concerns. Therefore, it is hard to predict the nature of native attitudes towards refugees or whether anti-refugee sentiment is higher/lower than anti-migrant sentiments in a country.

The literature that investigate refugee integration, outcomes and natives attitude formation is quite limited. Among a few studies, Fasani et. al. (2017) document that labor market outcomes for refugees are consistently worse than those for other comparable migrants. Refugees are 11.6 percent less likely to have a job and 22.1 percent more likely to be unemployed than migrants with similar characteristics. Moreover, their income, occupational quality and labor market participation are also relatively weaker. This gap persists until about 10 years after immigration. Meidert and Rapp (2019) investigates the public attitudes towards refugees in Germany distinguishing between political, war and economic refugees. They use ALLBUS 2016 survey and show that attitudes towards war and political refugees are slightly more negative than towards European Union immigrants, while economic refugees perceived quite negatively and less deserving.[5] Then Bansak et. al. (2016)

[4] As of February 2020, one can check UNHCR website for the most updated numbers: https://www.unhcr.org/figures-at-a-glance.html

[5] Authors argue that economic refugee term put forward by a right wing party. The party fuelled the idea that most of the asylum seekers do not run from persecution or war in their countries, instead economic

conducted a conjoint experiment asking 18,000 eligible voters in fifteen European countries to evaluate 180,000 profiles of asylum-seekers that randomly varied on nine attributes. Asylum-seekers who have higher employability, have more consistent asylum testimonies and severe vulnerabilities, and are Christian rather than Muslim receive the greatest public support. These results suggest that public preferences over asylum-seekers are shaped by sociotropic evaluations of their potential economic contributions, humanitarian concerns about the deservingness of their claims, and anti-Muslim bias. These preferences are similar across respondents of different age, education, income, and political ideology, and across the surveyed countries. This public consensus on what types of asylum-seekers to accept has important implications for theory and policy.

4.1 Attitudes towards Refugees in Turkey

Syrian civil conflict has led millions of Syrians to displace internally or flee to safer countries. Now, Turkey is hosting the biggest refugee population in the world and refugees are in the middle of controversy as in the European countries. Refugee integration is challenging in Turkey, because the country did not have experience on such a big migrant inflow and negative refugee sentiments among citizens is widespread with the effect of global environment.

To reveal attitudes towards Syrian refugees in Turkey, I will use the survey conducted by Konda research and consultancy company in February 2016. They carried face-to-face interviews with 2649 respondents in 27 provinces.[6] There are plenty of questions to understand different aspects of attitudes and perceptions. First, I will show summaries of attitude variables, then through probit estimation I will document the correlates of attitudes, understand which group of people are more welcoming, then try to make connections with perspectives on attitude formation in the previous section, also comment on similarities and differences of findings with literature on attitudes towards economic migrants.

First attitude variable informs whether people support or oppose the open door policy announced by Justice and Development Party government.[7] I use the question which states that "It is a responsibility for our government to accept Syrian refugees due to our history and geography". Answers are coded as strongly disagree, disagree, partially disagree, partially agree, agree and strongly agree. In Table 5, pro open-door variable refers to people who (strongly) agree and we see that 40 percent of respondents are supporting the open-door

hardships make them to come.

[6] https://konda.com.tr/en/rapor/perception-on-syrian-asylum-seekers/

[7] Justice and Development Party (JDP) has been the leading party in Turkey since 2002. It constitutes the one-party government and there are opposition parties in the parliament. After Syrian conflict got severe, JDP government announced an "open door" policy for Syrian refugees and huge number of refugees entered into country. Proponents of government argues that accepting Syrians was a humanitarian duty, on the other hand opposition argues that Syrians are a heavy burden for the country.

policy (28 percent (strongly) disagree to the statement). Then, no more Syrian variable shows the mean who (strongly) agree to the statement that "From now on any Syrian should be accepted into country". Almost 49 percent of people agree to this statement. We can infer that although Turkish people tend to think that accepting refugees was a necessity, majority of them agree that no more refugees should be accepted. [8]

When we investigate natives' perceptions and concerns about refugee effects on economy, security and culture, we see that natives are quite concerned in these respects. Table 6 shows that 58 percent of respondents think that refugees harm the economy, 61 percent thinks that there are fewer jobs because of Syrians and almost 60 percent agrees that cities are less secure because of Syrians. Last column suggests that 55 percent thinks that Syrians are culturally different. These summaries reveal that as well as economic and security threats, cultural concerns might have a role in attitudes among Turkish population which is culturally closer to refugee population than Europe.

Next, in Table 7 the investigation of native opinions on which rights should be given to refugees reveal a considerable opposition for refugees to have work permit, residence permit and receiving education in Arabic. 41 percent agree that working permit should not be given to refugees and 49 percent thinks that residence permit should not be given to refugees and 39 percent agrees not to give Arabic education to refugee children in schools. These may suggest that Turkish people prefer Syrian refugees not to have legal status or rights and leave the country in a near future.

Lastly, I document the summaries of natives' exclusionary attitudes in Table 8. Numbers suggest that natives have high preference to separate themselves from Syrians in their daily lives. 42 percent of natives don't want to live in the same neighborhood with Syrians or work in the same place or their children to go to the same school. 59 percent doesn't want to live in the same building and 86 percent doesn't want to have a Syrian in their family.

Next, to understand independent effects and statistical significance of demographic characteristics in attitudes towards refugees, I estimate probit models for each attitude variable. In the estimation low education, young age, low income, in the labor force (working), Turkish, male, supporting a political party other than JDP are reference categories and marginal effects are given in tables. Also, to control for contextual factors, I control for wide regions that respondent lives: West (Marmara and Aegean) and Mediterranean; North and Central (Black Sea and Central Anatolia) are added while East (North and South East) is the reference category.[9]

[8] As of February 2016, number of refugees were approximately 2.6 million and now current number is 3.6 million.

[9] East is geographically and culturally closets to Syria, Arabic ethnicity Turkish citizens are living there as well.

Estimation results with attitudes towards open door policy and accepting further refugees are given in Table 1. Common findings in both estimations are higher education, being Kurdish and supporting JDP are positively correlated with pro-refugee attitudes. In the first column middle age and old age are more favorable of open door policy than young (Pro open door policy question includes the national pride/responsibility aspect as well, positive correlation with age could be reflecting this). Residents in North&Central opposes more than East. Then, in the second column high income people agree less with the statement that no more Syrians should be accepted than low income people. Women agree more than men to the statement. People living in West and Mediterranean agree more than residents of East. Higher education is more welcoming for refugees is consistent with the previous findings that more educated are more accepting and tolerant towards migrants. Kurdish people more welcoming as well and this suggests that for the majority group, Turkish, ethnic threat is a bigger concern. Also, JDP supporters are more favourable of refugees, this shows that Syrian refugee issue is politicized in the country.

Table 1: Probit Estimation: Support for Open Door Policy

	Pro open door	No more Syrian
middle education	0.047 (0.026)*	-0.060 (0.026)**
high education	0.112 (0.034)***	-0.117 (0.035)***
middle age (29-43)	0.063 (0.033)*	0.018 (0.033)
old age (44+)	0.151 (0.035)***	0.034 (0.036)
high income	-0.000 (0.023)	-0.050 (0.023)**
retired/housewife	-0.041 (0.028)	-0.033 (0.028)
student	0.056 (0.045)	-0.058 (0.046)
unemployed	-0.009 (0.050)	0.078 (0.051)
kurdish	0.072 (0.034)***	-0.051 (0.035)
female	-0.018 (0.024)	0.058 (0.024)**
jdp	0.130 (0.021)***	-0.163 (0.021)***
west&med	-0.046 (0.033)	0.068 (0.033)**
north&central	-0.070 (0.036)*	0.045 (0.037)
Number of obs	2355	2368

Note: Data comes from Konda 2016, Perceptions of Syrian Asylum Seekers survey. In the table marginal effects of probit estimation(when other variables are at their means) with robust standard errors are given. Pro open door variable indicates that respondents (strongly) agree to the statement that it is a responsibility for our government to accept Syrian refugees due to our history and geography. Then no more Syrian variable indicates that respondents (strongly) agree to the statement that from now on no Syrian should be accepted.

In Table 2, estimation results of native concern variables are given. The main message of this table is that concerns related to economic effects are bigger in low income and low

education groups. In the first column, high income people agree less to the statement that refugees harm economy than low income people, this suggests that low income people could be more concerned about welfare costs of refugees than high income people. Women agree more than men to the statement about economic harm. In the second column, high education people agree less that "There are fewer jobs because of Syrians" than low education people. This directly addresses lower labor market competition between high education people and refugees emphasized in the literature (Scheve and Slaughter 2001; Mayda 2006). High income people agree less to the fewer job statement. Again, it is consistent that low income people are more likely to compete for the low paying jobs with Syrian refugees. Then in the third column high education and high income people agree less to the statement about lower security because of Syrians, this could be due to living in segregated areas. Kurdish people and JDP supporters tend to agree less as well. But women agree more than men to the statement about security. The last statement is about cultural difference with refugees. Old people agree less to the statement that Syrians are culturally different than young people. Kurdish people and JDP supporters agree less. Residents of both regions agree more to the cultural difference statement than East which is expected because South East is on the border of Syria and culturally closest to refugees. One point to notice that women in each concern/perception variable shows significantly negative perceptions than men. All in all these findings confirm that both labor market competition and welfare state concerns in attitude formation alongside the political aspect of the Syrian refugee inflow and cultural threat concerns of Turkish majority are relevant factors.

Next, Table 3 documents the estimation results of native opinion on which rights should be given to refugees. In the first column high education people agree less that work permit should not be given to refugees which is again consistent with the labor market competition idea. Also unemployed people agree more to this statement compared to working people. In the second column we see that middle education people agree more to the statement that residence permit should not be given to refugees, this probably reflects the cultural threat perceptions of middle educated people (modernity is always a cultural concern in Turkey). Unemployed agree more to this statement compared to working people. In the third column high income people agree more that Arabic education should not be given to children at schools compared to low income people. This response could be reflecting the cultural difference between high and low income people. While low income people have the concerns on economic effects of refugees, high income people have concerns on culture and lifestyle effects of refugees. For each variable again JDP supporters and Kurdish people agree less to the statements of not giving rights to refugees. Lastly, among the regional variables, West&Mediterranean, North&Central residents agree less not giving rights to refugees

Table 2: Probit Estimation: Native Concerns related to Syrian Refugees

	Economic harm	Fewer jobs	Less security	Culturally different
middle education	-0.038 (0.026)	-0.036 (0.025)	-0.016 (0.025)	0.024 (0.026)
high education	-0.042 (0.034)	-0.096 (0.033)***	-0.060 (0.034)*	-0.001 (0.034)
middle age (29-43)	-0.016 (0.033)	-0.009 (0.032)	0.006 (0.033)	-0.046 (0.033)
old age (44+)	0.028 (0.035)	0.024 (0.035)	0.001 (0.035)	-0.081 (0.036)**
high income	-0.040 (0.023)*	-0.023 (0.023)*	-0.039 (0.023)*	0.027 (0.023)
retired/housewife	-0.037 (0.028)	0.023 (0.028)	0.017 (0.028)	0.007 (0.028)
student	-0.061 (0.046)	0.036 (0.045)	-0.045 (0.045)	0.014 (0.046)
unemployed	-0.033 (0.049)	0.042 (0.050)	0.015 (0.049)	-0.038 (0.050)
kurdish	-0.049 (0.034)	0.036 (0.034)	-0.137 (0.034)***	-0.123 (0.034)***
female	0.046 (0.024)*	0.014 (0.024)	0.049 (0.024)**	0.044 (0.024)*
jdp	-0.185 (0.021)***	-0.183 (0.021)***	-0.167 (0.021)***	-0.136 (0.021)***
west&med	0.120 (0.032)***	0.074 (0.032)**	-0.048 (0.033)	0.101 (0.033)***
north&central	-0.001 (0.036)	-0.053 (0.036)	-0.095 (0.037)**	0.125 (0.037)***
Number of obs	2382	2365	2369	2361

Note: Data comes from Konda 2016, Perceptions of Syrian Asylum Seekers survey. In the table marginal effects of probit estimation(when other variables are at their means) with robust standard errors are given. Economic harm indicates that respondents (strongly) agree that refugees harm economy. Fewer job indicates that respondents (strongly) agree that there are fewer jobs because of refugees.Less security indicates that respondents (strongly) agree that there is lower security in cities because of refugees. Culturally different indicates that respondents (strongly) agree that Syrians are culturally different.

compared to East. We understand that residents of East don't want refugees to have legal rights or long-term prospects in the country, although they were accepting open-door policy more than other regions. This addresses the divergence between policy preferences of natives residing in different regions about the future of refugees.

Lastly, Table 4 documents estimation results with exclusionary attitudes variables. In the first column, we see that middle and high educated people agree less to the statement that "No Syrian in the same neighborhood, workplace or school", but unemployed agree more than working people. Moreover, people in East prefers segregation more than other regions although they are culturally closer with refugees. In the second column, education is negatively correlated with exclusionary attitudes related to living in the same building or having Syrian friends. Retired and unemployed agree more to that statement than working people. Lastly in the third column middle educated people agree more that no Syrian in the family than low educated people, but high education agree less. Old age agrees less to that statement compared to young and unemployed agree more again. All in all, high education is a factor correlated with less exclusionary attitudes that is in line with literature. Among the labor market categories unemployed show higher exclusionary behavior.

Table 3: Probit Estimation: Native Opinion on which Rights Should be Given to Refugees

	No work permit	No residence permit	No education in Arabic
middle education	0.024 (0.026)	0.052 (0.026)**	0.040 (0.025)
high education	-0.058 (0.034)*	-0.030 (0.034)	-0.047 (0.033)
middle age (29-43)	0.032 (0.033)	0.037 (0.034)	-0.049 (0.032)
old age (44+)	0.029 (0.035)	0.033 (0.036)	-0.057 (0.035)
high income	-0.031 (0.023)	-0.034 (0.023)	0.039 (0.023)*
retired/housewife	-0.012 (0.028)	0.016 (0.029)	-0.022 (0.028)
student	-0.184 (0.047)***	-0.117 (0.047)**	-0.088 (0.044)**
unemployed	0.097 (0.049)**	0.100 (0.050)**	0.045 (0.048)
kurdish	-0.202 (0.035)***	-0.204 (0.035)***	-0.281 (0.037)***
female	-0.032 (0.024)	-0.028 (0.024)	0.001 (0.024)
jdp	-0.160 (0.021)***	-0.128 (0.021)***	-0.073 (0.021)***
west&med	-0.244 (0.033)***	-0.210 (0.034)***	-0.162 (0.033)***
north&central	-0.267 (0.038)***	-0.239 (0.038)***	-0.086 (0.036)**
Number of obs	2371	2364	2364

Note: Data comes from Konda 2016, Perceptions of Syrian Asylum Seekers survey. In the table marginal effects of probit estimation(when other variables are at their means) with robust standard errors are given. No work permit indicates that respondents (strongly) agree that work permit should not be given to refugees. No residence permit indicates that respondents (strongly) agree that residence permit should not be given to refugees. No Arabic education indicates that respondents (strongly) agree that refugee children should not receive education in Arabic at schools.

Table 4: Probit Estimation: Exclusionary Attitudes of Natives

	No Syrians in Neighborhood	No Syrians in Building	No Syrians in Family
middle education	-0.052 (0.026)**	-0.049 (0.026)**	0.046 (0.018)**
high education	-0.084 (0.034)**	-0.099 (0.034)**	-0.015 (0.022)**
middle age (29-43)	0.003 (0.033)	-0.008 (0.033)	-0.031 (0.023)
old age (44+)	0.030 (0.036)	-0.049 (0.035)	-0.050 (0.025)**
high income	0.025 (0.023)	0.002 (0.023)	-0.014 (0.015)
retired/housewife	0.033 (0.028)	0.060 (0.028)**	0.027 (0.019)
student	-0.042 (0.046)	-0.049 (0.045)	-0.058 (0.030)*
unemployed	0.108 (0.050)**	0.080 (0.051)**	0.036 (0.035)**
kurdish	-0.209 (0.037)***	-0.231 (0.035)***	-0.134 (0.020)***
female	0.001 (0.024)	0.008 (0.024)	0.020 (0.016)
jdp	-0.163 (0.021)***	-0.142 (0.021)***	-0.016 (0.014)
west&med	-0.052 (0.033)***	-0.034 (0.033)	-0.057 (0.021)***
north&central	-0.097 (0.037)***	-0.037 (0.037)	-0.026 (0.025)
Number of obs	2364	2356	2346

Note: Data comes from Konda 2016, Perceptions of Syrian Asylum Seekers survey. In the table marginal effects of probit estimation(when other variables are at their means) with robust standard errors are given.

To sum, probit results suggested that education is always correlated with positive attitudes due to less economic competition and more tolerance. Low income people are more opposed as refugee presence might lead to more labor competition and lower welfare benefits for them. Kurdish people are more welcoming than Turkish people, this suggests that cultural or identity concerns are higher for Turkish people. Jdp supporters are always more positive about refugees, they accept refugees easier due to their political affiliations and this reflects the political aspect of the issue. Female are very biased in their perceptions of refugees which could be because of the fear of unknown or less contact with refugees than men in daily life. Lastly, unemployed show more exclusionary attitudes and oppose more for giving rights to refugees which could be due to scapegoating refugees for their own problems. These results are quite parallel with the arguments in previous section on the attitudes towards economic migrants. Although Turkish people tend to agree that open door policy was necessary, they don't discount humanitarian reasons in attitude formation towards Syrians. We see bigger opposition in low education, low income segments of population towards refugees which is well documented in migrant receiving Western countries.

5 Future Research and Open Issues

All in all, literature review in this paper suggests that the underlying reason behind recent years' deglobalization movement and accompanied rise in anti-migrant sentiments is economic strain and higher perceived threat as a result of cultural transformation in societies, therefore in some segments of population these factors led to the denial of all values of globalized world. To understand and conceptualize rising populism better or see the chain of reactions in each part of the world and reveal spillovers from one country to another, an empirical analysis covering both the US and Europe might say more than we know today. Moreover, leaning solely on economic perspectives are inadequate to explain recent phenomena and attitudes in general, in empirical analysis relevant non-economic or contextual variables should be included as well.

Further, rising anti-immigration rhetoric is likely to worsen attitudes towards refugees and there should be more research on attitudes towards refugees, refugee outcomes and refugee integration. Research in this area is quite scant as it is hard to get data about refugee outcomes and integration. Much effort should be done in this direction.

My investigation of attitudes towards refugees in Turkey suggested that the same segments of population are likely to oppose refugees as in the case of economically motivated migrants. Low education and low income people have higher negative feelings towards refugees. Moreover refugee issue is a highly politicized topic in Turkey and political party affiliation

has a role in attitudes. Lastly, Turkish majority has higher negative attitudes than Kurdish minority towards refugees, which is suggesting that ethnic and cultural concerns have a role as well. To improve this analysis one can use cross-country data and investigate the attitudes towards refugees. Lastly, implications and effects of the native opposition against immigration on the asylum policies of countries should also be investigated especially for European and traditional immigration countries.

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Appendix: Summaries of Attitude Variables

Table 5: Support for Open Door Policy

	Group size	**Pro open door**	**No more Syrian**
low education	0.507	0.403	0.527
middle education	0.326	0.393	0.470
high education	0.165	0.433	0.409
young (18-28)	0.239	0.367	0.438
middle (29-43)	0.352	0.385	0.490
old age (44+)	0.408	0.442	0.519
low income	0.631	0.405	0.516
high income	0.369	0.402	0.450
working	0.427	0.415	0.476
retired/housewife	0.426	0.398	0.512
turkish	0.817	0.406	0.494
kurdish	0.122	0.432	0.467
male	0.528	0.425	0.467
female	0.472	0.380	0.514
jdp	0.442	0.468	0.421
other than jdp	0.558	0.353	0.551
All	**2649**	**0.404**	**0.489**

Note: Data comes from Konda 2016, Perceptions of Syrian Asylum Seekers survey. Pro open door variable indicates that respondents (strongly) agree to the statement that it is a responsibility for our government to accept Syrian refugees due to our history and geography. Then no more Syrian variable indicates that respondents (strongly) agree to the statement that from now on no Syrian should be accepted.

Table 6: Native Perception/Concerns related to Refugees

	Group size	**Econ. harm**	**Fewer jobs**	**Less security**	**Culturally diff.**
low education	0.507	0.592	0.636	0.610	0.516
middle education	0.326	0.570	0.612	0.601	0.595
high education	0.165	0.582	0.532	0.548	0.599
young (18-28)	0.239	0.547	0.602	0.570	0.603
middle (29-43)	0.352	0.573	0.587	0.597	0.551
old age (44+)	0.408	0.608	0.636	0.610	0.531
low income	0.631	0.592	0.629	0.618	0.530
high income	0.369	0.568	0.583	0.563	0.590
working	0.427	0.589	0.585	0.578	0.547
retired/housewife	0.426	0.593	0.634	0.627	0.548
turkish	0.817	0.581	0.600	0.602	0.566
kurdish	0.122	0.548	0.673	0.548	0.445
male	0.528	0.571	0.598	0.569	0.530
female	0.472	0.595	0.625	0.626	0.582
jdp	0.442	0.484	0.514	0.517	0.477
other than jdp	0.558	0.661	0.687	0.659	0.616
All	**2649**	**0.582**	**0.611**	**0.596**	**0.555**

Note: Data comes from Konda 2016, Perceptions of Syrian Asylum Seekers survey. Economic harm indicates that respondents (strongly) agree that refugees harm economy. Fewer job indicates that respondents (strongly) agree that there are fewer jobs because of refugees.Less security indicates that respondents (strongly) agree that there is lower security in cities because of refugees. Culturally different indicates that respondents (strongly) agree that Syrians are culturally different.

Table 7: Native Opinion on which Rights Should be Given to Refugees

	Group size	**No work permit**	**No residence permit**	**No Arabic educ**
low education	0.507	0.424	0.489	0.361
middle education	0.326	0.433	0.519	0.447
high education	0.165	0.354	0.437	0.378
young (18-28)	0.239	0.367	0.446	0.426
middle (29-43)	0.352	0.433	0.506	0.387
old age (44+)	0.408	0.429	0.501	0.376
low income	0.631	0.437	0.510	0.377
high income	0.369	0.383	0.460	0.412
working	0.427	0.434	0.492	0.401
retired/housewife	0.426	0.420	0.503	0.373
turkish	0.817	0.413	0.496	0.420
kurdish	0.122	0.385	0.433	0.242
male	0.528	0.430	0.500	0.396
female	0.472	0.398	0.477	0.386
jdp	0.442	0.348	0.435	0.361
other than jdp	0.558	0.468	0.532	0.415
All	**2649**	**0.415**	**0.490**	**0.391**

Note: Data comes from Konda 2016, Perceptions of Syrian Asylum Seekers survey. No work permit indicates that respondents (strongly) agree that work permit should not be given to refugees. No residence permit indicates that respondents (strongly) agree that residence permit should not be given to refugees. No Arabic education indicates that respondents (strongly) agree that refugee children should not receive education in Arabic at schools.

Table 8: Exclusionary Attitudes of Natives

	Group size	**No Syrians in Neighborhood**	**No Syrians in Building**	**No Syrians in Family**
low education	0.507	0.449	0.616	0.852
middle education	0.326	0.416	0.581	0.895
high education	0.165	0.395	0.546	0.831
young (18-28)	0.239	0.380	0.563	0.875
middle (29-43)	0.352	0.421	0.604	0.867
old age (44+)	0.408	0.464	0.600	0.852
low income	0.631	0.426	0.595	0.869
high income	0.369	0.433	0.588	0.851
working	0.427	0.411	0.566	0.846
retired/housewife	0.426	0.458	0.630	0.878
turkish	0.817	0.443	0.608	0.879
kurdish	0.122	0.310	0.451	0.756
male	0.528	0.418	0.571	0.847
female	0.472	0.440	0.616	0.880
jdp	0.442	0.353	0.535	0.863
other than jdp	0.558	0.489	0.638	0.862
All	**2649**	**0.429**	**0.592**	**0.862**

Note: Data comes from Konda 2016, Perceptions of Syrian Asylum Seekers survey.