

Internal Migration and Transition to Second Child: The Case of Turkey

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Introduction

Turkey has experienced a serious fertility decline starting from 1950's. During this process the level of total period fertility, declined from the numbers with 6 or 7 to the replacement level. However the decline was not uniform and simultaneous throughout the country. The onset and pace of fertility decline has been different among various sub-population groups. Among sub-population groups migrants and stayers deserve special attention in terms of their differential fertility behaviours. Migration deserves special attention because it has direct effects on the sex and age structure in the places of origin and destination. It also affects fertility indirectly as an indicator of social, economic and associated changes. For instance migration changes imply other changes, such as occupational changes, that may be associated with fertility decline. Migration also implies a readiness for change, an attitude that also creates fertility reduction. There are some historical justifications to study fertility in connection with internal migration. Because similar to the changes in fertility, starting from 1950s internal migration gathered speed and became one the most important factor influencing population dynamics of Turkey. Changes in fertility and migration occurred simultaneously, they were mutually reinforcing processes.

During last five years total fertility of Turkey declined almost 23 percent, from 2.71 to 2.1 (total fertility rates are own calculations of the author the for single year preceding the survey). The decline especially in some sub-population groups is significant. In rural areas total fertility is still 2.49 children per woman, but in urban areas it is already below replacement at 1.92. Women having secondary complete or higher education and women working with social security are even at the lowest low fertility level, respectively they are 1.23 and 1.28. These fertility rates indicate a turning point for Turkey and make a detailed analysis of the transition to second birth meaningful. ***Therefore in this study it is aimed to analyze the main determinants of the transition to second birth focusing on internal migration.***

In the literature four different hypotheses have been proposed to explain the impact of migration on fertility. The *socialization hypothesis* emphasizes the critical role of the social environment at the childhood place of residence. Values and norms dominant during childhood shape the migrant's behavior in later stages of life. (Goldberg (1959, 1960), Duncan (1965), U.S. Edmonston (1976)). The *adaption hypothesis*, in contrast, assumes that the reproductive behavior of migrants, sooner or later, converge to that of the natives at the current place of residence (Goldstein,1978; Goldstein and

Goldstein, 1981; Martine, 1975; Park and Park, 1976; Macisco et al., 1969; Hendershot, 1976; Hiday, 1978; Lee and Farber, 1982). The *selection hypothesis* also underlines the importance of the childhood environment. According to this view migrants are a specific group of people whose reproductive behaviors are more similar to those of people at destination than at origin (Ribe and Schultz (1980)). Finally, the *disruption hypothesis* suggests that immediately following migration, migrants show particularly low levels of fertility due to the disruptive factors associated with the migration process (Goldstein, 1973; Goldstein and Goldstein, 1982; Bach, 1981). In this paper the relative impact of these four mechanisms on second birth experience of migrants will be studied.

The paper is structured as follows: after a summary of fertility and internal migration in Turkey, within the context of demographic and socio-economic change, I introduce the data set, methodology and construction procedure of the explanatory variables. Thereafter I present and discuss the results and close with some concluding remarks.

Data Source and Methodology

The data source of the study comes from Turkish Demographic and Health Survey, 2003 (TDHS-2003). TDHS-2003 is a nationally representative survey of 10836 households and involved 8075 ever-married women aged 15 to 49.

Since in the study it is aimed to assess the impact of internal migration on second birth risks, construction of migration status variable gains a special importance. In the study information taken from women questionnaire; childhood place of residence, previous place of residence, current (de-jure) place of residence and duration spent in current place of residence were used to construct migration status variable. To avoid anticipatory analysis, migration statutes at the beginning of the observation, that is at the first birth has been taken as a fixed characteristic. The migration status variable included six categories: if the respondent's current place of residence was urban and duration at the current residence has been reported as "always" by the respondent, the woman is categorized as "**urban native**", in the opposite situation if the women's current residence was rural and duration of residence in this place has been reported as "always" the women is put into "**rural native**" category. If the last migration occurred before first birth, migrations status of the women were decided comparing previous place of residence and current place of residence. if the previous place of residence was urban and current place of residence was also urban the woman is put into the "**urban to urban migrant**" category, if the previous place of residence was urban and current place of residence was rural the woman is labelled as "**urban to rural migrant**", if previous place of residence was rural and current place of residence was urban the woman is classified as "**rural to urban migrant**", and if the previous place of residence was rural and current residence was also rural

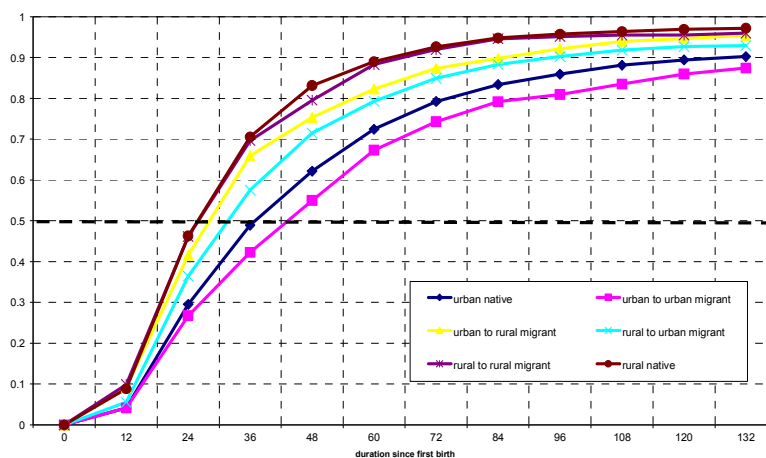
the women is treated as “*rural to rural migrant*”. If last migration were taken place after first birth, in this case childhood place of residence and previous place of residence were compared with the same logic. In case of they are different; women put into relevant migrant category and treated as non-migrant if both childhood and previous place of residences are the same.

In the study multiplicative intensity-regression models (proportional hazard model) are estimated. The start of the process time is the date of birth of first child. The process ends with the second child’s date of birth. It may also end with age 49 or at the date of interview respectively. The baseline hazard (basic time factor) is the duration since the birth of the first child. I use a piece-wise constant model, i.e. the basic time factor is defined as a categorical variable- the risk is constant over each set of time intervals. The other covariates are categorical, too. Our main analysis includes 11 time fixed and 1 time varying covariates. The variables included in the model are: duration since birth of the first child in months, age at first birth, birth cohort, migration status of the women, education of the women, pre-marital working status of the women, ethnicity, religiosity, traditionality, the partner’s educational level, number of siblings and parent’s educational level.

Findings

As an introduction to the data analysis Kaplan-Meier survival curves for the transition to second child by migration status is displayed. Figure 1 provides evidence for differential fertility behaviour by migration status. There is a significant similarity between the survival curves of rural natives and rural to rural migrants and those of urban natives and urban to rural migrant. While the curve of urban to rural migrant is more similar to the pattern at place of destination, rural to urban migrants reflects the pattern of both place of origin and destination apportioning the graph.

Figure 1. Transition to second birth by migration status (Cumulative failure distribution)



Source: author’s own estimation based on TDHS-2003

In the multivariate analysis I estimated multiplicative models by means of step-wise event-history modeling. First, the effect of the women's migration status was analyzed, controlling birth cohorts of the women and age at first birth (Model 1). In a second step, in model 2, we incorporate socio-economic characteristics of women such as educational status and pre-marital working status to our model. Model 3, in a third step, introduced several cultural background variables: ethnicity, religiosity and traditionality. Model 4, in a fourth step, included partner's education. And finally, in a last step, model 5 inserts some social background variables such as parent's education and number of siblings into the analysis.

Table 1: Relative risks of transition to second child in Turkey, TDHS-2003

	Model 1	Model 2	Model 3	Model 4	Model 5
Duration since marriage					
0-12	1	1	1	1	1
12-24	6.25***	6.35***	6.38***	6.39***	6.41***
24-36	6.81***	7.14***	7.27***	7.29***	7.38***
36-48	6.32***	6.83***	7.04***	7.07***	7.20***
48-60	6.32***	6.94***	7.20***	7.23***	7.41***
60-72	5.67***	6.27***	6.53***	6.55***	6.76***
72+	2.40***	2.63***	2.71***	2.72***	2.82***
Migration status at first birth					
urban native	1	1	1	1	1
urban to urban migrant	0.93	0.98	0.98	0.99	0.97
urban to rural migrant	1.49***	1.30***	1.25***	1.23***	1.19***
rural to urban migrant	1.26***	1.08*	1.06*	1.05	1.01
rural to rural migrant	1.60***	1.30***	1.24***	1.21***	1.18***
rural native	1.51***	1.25***	1.19***	1.17***	1.14***
Age at first marriage					
<20	1	1	1	1	1
20-24	0.75***	0.85***	0.86***	0.86***	0.87***
25-29	0.52***	0.63***	0.63***	0.63***	0.63***
30+	0.25***	0.30***	0.30***	0.30***	0.29***
Birth Cohort					
1954-1959	1	1	1	1	1
1960-1964	0.92**	0.95	0.93*	0.93*	0.91**
1965-1969	0.82***	0.86***	0.83***	0.83***	0.82***
1970-1974	0.75***	0.81***	0.77***	0.77***	0.77***
1975-1979	0.63***	0.70***	0.65***	0.65***	0.66***
1980+	0.58***	0.65***	0.57***	0.57***	0.58***
Educational Status					
no education/primary incomplete		1	1	1	1
first level primary		0.66***	0.79***	0.80***	0.83***
second level primary		0.48***	0.61***	0.63***	0.70***
high school and higher		0.42***	0.53***	0.57***	0.65***

Pre-marital working status					
not working	1	1	1	1	
working without social security	0.96	0.96	0.96	0.96	
working with social security	0.87**	0.90	0.90	0.90*	
Ethnicity					
Turkish		1	1	1	
Kurdish	1.41***	1.41***	1.30***		
Other	1.24***	1.24***	1.17***		
Traditionality					
Modern		1	1	1	
Moderate	0.99	0.99	0.99		
Traditional	1.09**	1.09**	1.07**		
Religiosity					
secular		1	1	1	
Moderate	1.24***	1.23***	1.22***		
Religious	1.25***	1.25***	1.25***		
Partner's education					
no education/primary incomplete			1	1	
first level primary			1.06	1.05	
second level primary			0.96	0.96	
high school and higher			0.91	0.95	
Number of siblings					
1-2				1	
3-4				0.99	
5-6				1.20***	
7+				1.32***	
Parent's education					
both educated				1	
father educated mother not				1.19***	
father not mother educated				1.04	
both uneducated				1.24***	
Model Fit					
log likelihood	-7403	-7221	-7161	-7154	-7096
initial likelihood	-8978				

Source: author's estimations based on the TDHS-2003

Notes: (1) Time since first birth is displayed as risks per 1,000 person-months

(2) *** $p \leq 0.01$; ** $0.01 \leq p \leq 0.05$; * $0.05 \leq p \leq 0.10$

(3) Missing values are not shown but were controlled for

Discussion and Conclusion

The paper aimed at analyzing main determinants of transition to second birth focusing on the impact of migration status. A stepwise multiplicative intensity-regression model was estimated to measure the impact of internal migration and other covariates.

We began our multivariate analysis examining differences in fertility behavior of migrants and stayers both in urban and rural settlements. Birth cohorts and relative age at first birth were controlled during this procedure. The results showed that, intensity of the second birth of urban to urban and rural to rural migrants are very close to the intensities of natives. Migration between similar types of settlements creates negligible difference. Intensities of urban to rural and rural to urban migrants are somewhere between the intensities of natives at origin and destination, a bit closer to the risk of natives at destination. In the following models socio-economic and cultural characteristics of the women, partner's and parent's characteristics were controlled step by step. After having controlled socioeconomic characteristics of women such as educational level and pre-marital working status of the women the picture has changed significantly and the difference started to diminish. For instance the difference between rural to urban migrants and urban natives decreased from 26 percent to 8 percent. This drop can be interpreted as an indicator of selectivity effect. The intensities changed much less with the inclusion of other variables, such as religiosity, ethnicity, partner's educational level, number of siblings and parent's educational level, in the subsequent models. That is *it can be concluded that migrants are a selective group distinguished especially by their socio-economic attributes*. In the final model we observed that migrants, independent from their origin, exhibit the level of risk similar to the non-migrants at destination. This result puts socialization hypothesis at secondary, collateral position, regarding the second birth, since socialization hypothesis emphasizes the importance of childhood place of residence. But in Turkish case migrants, independent from their origin, exhibit the level of risk similar to the non-migrants at destination.

The study also shed light to the effect of other factors on fertility. The probability of second birth is highest for women who had first child at younger ages; we couldn't detect an impact of time squeeze for women who had first child in later ages. We observed decreased second birth risk for younger generations. As expected we found an inverse relationship between educational status and second birth risks. Intensity of the second birth does not differ significantly by partner's educational level. Inclusion of partner's educational level to the analysis didn't change the impact of women's educational level. This result can be interpreted as education of women has a strong independent impact on transition to second birth risks. Pre-marital working experience, especially if the woman was working with social security decreases the intensity of second birth. Religious and ethnical

differentiations are also influential on intensity of second birth. Religious and Kurdish women has significantly higher risk of second birth. Social background of the women included in the analysis with two variables. Parent's educational level appeared as an important factor; women whose parent's are uneducated have higher risk of second birth. The risk of having a second child is higher for women who have siblings, in other words women growing in larger families have higher risk of second birth.

To sum up, in this study we have analyzed main determinants of transition to second birth focusing on internal migration. Additionally, we have tested main hypothesis explaining the impact of migration on fertility. *In the case of Turkey we found evidence for selectivity and adaptation hypothesis regarding the second birth.* There is no doubt that collection of migration histories, duration of stay information would provide further insights into the topic.

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