Turkey has been going through fertility decline since the mid 20th century. The total period fertility rate of Turkey has declined from about 6 in 1950s to just above the replacement level according to the results of Turkey Demographic and Health Survey 2003. However it is known that period measures of fertility are influenced by changes in the timing of fertility, in other words by *tempo* changes. It is highly possible that period fertility measures of Turkey are not exceptional in this aspect, although literature regarding these distortions is widely focused on developed countries mostly of Europe.

The period fertility measure, Total Fertility Rate (TFR) is the sum of age specific fertility rates, calculated by births in a year from a certain age group of women divided by the number of women in that age group. This indicator is a quantum measure that is subject to tempo distortions. A tempo distortion is defined as an undesirable inflation or deflation of a period quantum or tempo indicator of a life-cycle event that results from a rise or fall in the mean age at which the event occurs. The tempo distortion in the TFR is caused by the changes in the mean ages of childbearing, i.e. postponement of childbearing leads to depressed vales of TFR.

Bongaarts and Feeney have proposed an adjustment procedure to correct TFR for tempo distortions using changes in the mean ages at childbearing by birth order, to calculate an adjusted TFR that reflects the level of fertility that would have been observed in the absence of changes in timing. The adjustment procedure is straightforward. For each birth order, the mean ages at childbearing at the beginning and end of a specific time period is calculated, and their difference is used to adjust the TFR value for the TFR value calculated from this specific time period. Although this is the original suggestion by Bongaarts and Feeney, Bongaarts has applied this adjustment on survey data from several developing countries using a procedure that is slightly different. For a country with two respective surveys available, one in year n and another in year n+x, Bongaarts has calculated order specific mean ages at childbearing for the two periods (n-x, n) and (n, n+x) and has used their differences to adjust the TFR value for the period (n-x, n). Lesthaeghe and Willems have also used a similar approach in their study concerning Europe. However, unlike Bongaarts, they have adjusted the TFR value for the period (n, n+x) instead of (n-x, n).

This study aims to try to reveal the tempo effects in recent period fertility in Turkey by using the Bongaarts and Feeney adjustment. Since a vital registration system to provide necessary data is not available in Turkey, the adjustment is applied on data from three successive demographic surveys, the Turkey Demographic and Health Surveys of 1993, 1998 and 2003, and employing Lesthaeghe and Willems' approach of the adjustment while doing so. Thus, data from 1993 and 1998 allow the calculation of an adjusted TFR for 1998, and data from 1998 and 2003 allow it for that of 2003.

All three Turkey Demographic and Health Surveys have questionnaires for both households (where all members in the household are listed) and ever married women. 1998 TDHS has an additional never married women's questionnaire, and 2003 TDHS has a seperate module for never married women in the household questionnaire. The three surveys provide comparable data sets.

Another aim of the study is to calculate tempo effects for different subgroups of women based on different variables: Type of residence as rural or urban, region as west, north, central, south or east, migration status as urban/rural native, urban to rural or rural to urban migrant, mother tongue as Turkish or Kurdish and education in three categories. By carrying out calculations according to different subgroups the study aims to find out whether tempo effects differ with respect to different subgroups and to see which are more likely to be responsible for them.

The variables are chosen according to certain criteria, the most determinant being the availability in all three surveys. Additionally, since 1993 TDHS does not have a questionnaire or a seperate module on never married women, it is necessary to use a factor while calculating TFR in order to expand the exposure of women in the denominator from ever married women of reproductive ages to all women of reproductive ages. Not all variables allow this calculation, only those available for both ever married women and members of households do. The chosen variables are expected to reflect differences between subgroups of women with different socio-economic or cultural characteristics.

Preliminary findings suggest that there exists increases in mean ages at childbearing and thus significant tempo distortions, proving a tempo approach necessary for Turkey.

Although results differ for 1998 TDHS and 2003 TDHS, in general, tempo effects seem to be substantial for Kurdish, rural and less educated women.