**A pooled time series analysis on the relation between fertility and key fertility-related demographic behavior across space and time**

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Extended abstract

Cross country differentials in period fertility rates are commonly explained by cross country differentials in socio-economic, demographic and institutional settings. Various authors find that in European countries the cross-country correlation between the total fertility rate and key fertility related economic and socio-demographic factors turned from a negative value in the 1970s to a postive value during the 1990s.
Based on pooled time series analysis the literature seems to agree that the change in the cross-country correlation of TFR and FLP, is due to unmeasured country and time heterogeneity with respect to FLP. Empirical findings have revealed substantial differences across countries and time periods in the effects of FLP on TFR. Initial increases in female employment strongly lowers fertility, but continued increases have a progressively less negative effect. The country heterogeneity in the effect of FLP can also be confirmed for different regions as well as for varying welfare and gender regimes.
So far, a similar methodology has not been applied to explain the reversal of the cross-country correlation between fertility and key fertility related demographic behavior. The aim of the current paper is to apply panel data econometrics to disentangle the effect of key fertility related demographic behaviour, measured through some period demographic indicators (MAFB, TFMR, MAFM, TDR,% extra marital births), on fertility across countries and time.
First descriptive findings for a set of 38 European countries indicate that the cross-country correlation between TFR and MAFB (Figure 1) was rather unstable during the 1960s and turned negative from the early 1970s to the mid 1990s. From the mid 1990s onwards the cross-country correlation turned strongly positive, i.e. countries with higher mean ages at first birth also experienced higher TFR. Obviously at the cross-country level postponement of fertility need not imply lower period fertility rates. While the cross-country correlation between TFR and MAFB turned positive during the 90s a similar trend cannot be observed for the TFMR (Figure 2). At the cross country level marriage still seems to be closely positively correlated with fertility, though the trend indicates that the correlation is declining over time. The cross-country correlation of TFR and MAFM (Figure 3) replicates the trend we observed between TFR and MAFB. I.e. starting in the mid 1990s countries with a higher mean age at first marriage do not show up as countries with lower TFR. Again, this finding is interesting since it indicates that postponement of marriage does not necessarily lead to lower TFR at the cross-country level. The cross-country correlation between TFR and TDR (Figure 4) is negative until the early 1990s and positive

thereafter. This finding is interesting in light of the positive correlation we found between TFR and TFMR. While countries with higher first marriage rates have a higher TFR, countries with higher TDR are also countries with a higher level of TFR. A similar reversal of the cross country correlation can be found between the percentage of extramarital births and TFR.
Preliminary panel data analysis indicates that unmeasured country and time heterogeneity in fertility related demographic indicators can explain the change in the cross-country correlation coefficients. Our empirical findings reveal substantial differences across countries and time periods in the effects of these indicators on fertility. Initial increases (decreases in case of TFMR) in those fertility-related demograhic indictors have a progressively less negative effect on fertility. These findings support the conclusion that at least at the macro-level the postponement of key fertility related demographic events will have a declining negative or insignificant impact on fertility; in particular in those countries that have adjusted there social, family and labour market policies accordingly.

Figure 1:

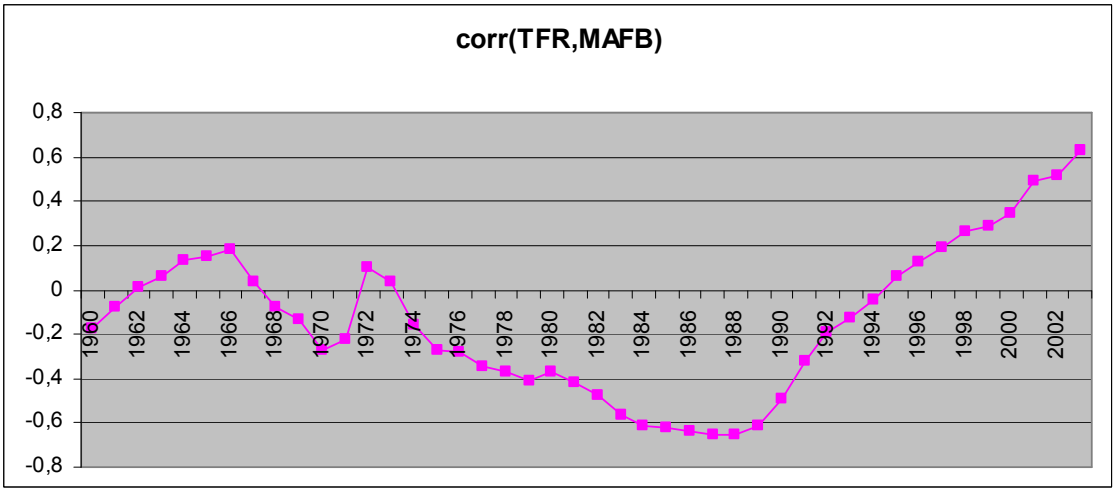


Figure 2:

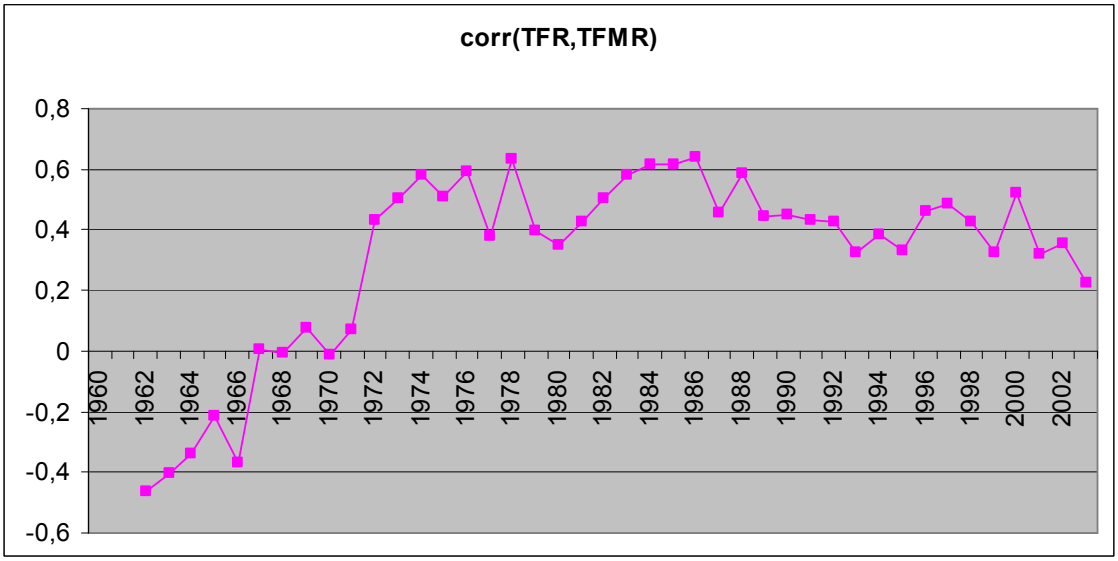

Figure 3:

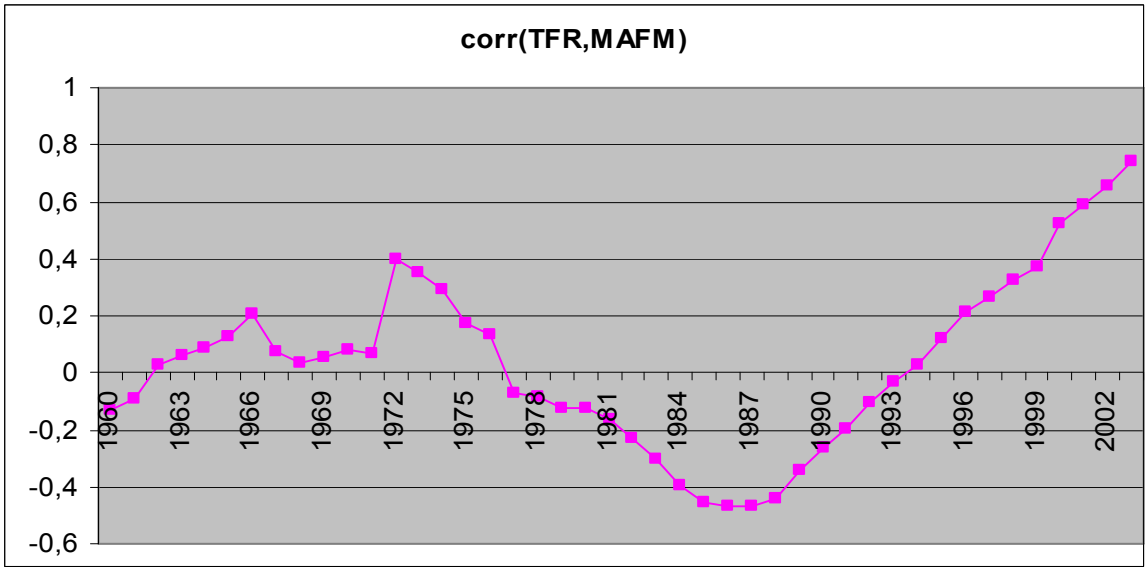


Figure 4:

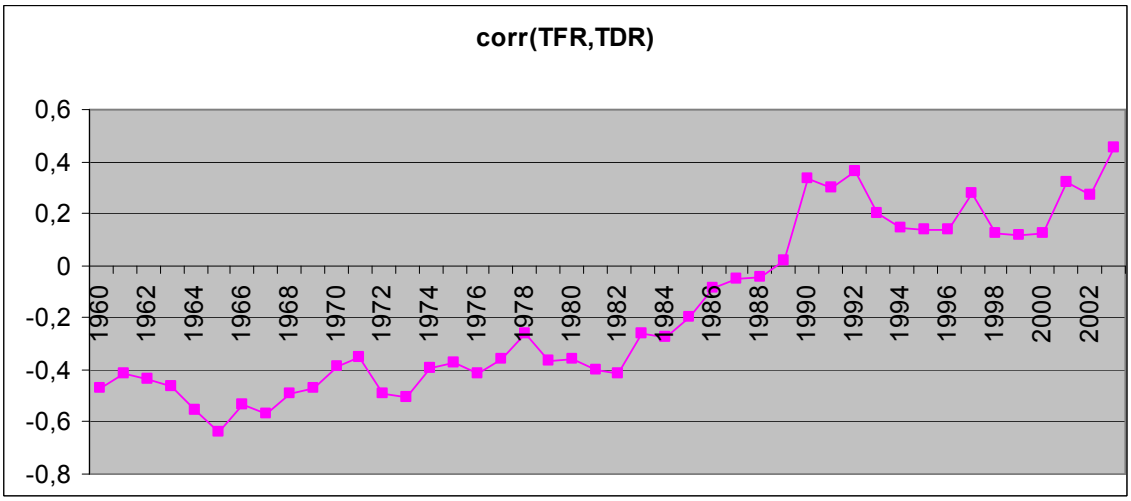


Figure 5: