

# Egalitarian Gender Attitudes Within Relations and Their Impact on Fertility

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In recent years, a rebound in fertility has been observed in industrialised countries, see e.g. Myrskylä et al. (2009). Related to these findings, Arpino et al. (2013) report a U-shaped relationship between gender egalitarianism and fertility: Fertility is high if egalitarianism is either hardly adopted or widely spread, but low in between. Esping-Andersen and Billari (2012) try to explain these fertility patterns by the degree of acceptance of gender equality and related policy measures. Their approach has recently been formalized by Feichtinger et al. (2013) who study the dynamics of a population consisting of two groups, namely the traditionalists and the egalitarians. In the present paper we extend the work by Feichtinger et al. (2013) and model a two-sex population that is composed of egalitarian/traditional males and females to explain the phenomenon of a U-shaped fertility development.

According to gender equity theory, very low fertility results if gender equity is quite diverse within family oriented institutions and individually oriented institutions, see, e.g. McDonald (2013). We implement these empirical findings by assuming that fertility is lowest when an egalitarian female (who pursues a career outside the home) marries a traditional male (who does not share in the housework). For all other combinations (a traditional female being married to a traditional or egalitarian male or an egalitarian female being married to a traditional male) fertility levels are assumed to be higher. Initially when everyone is traditional, the birth rate will be high. Then, as diffusion “converts” some traditionalists into egalitarians, the egalitarian woman’s fertility rate will be low because their spouse will most likely be traditional. That reduces the overall fertility rate. However, over time as the proportion of eligible males who are egalitarian increases, the egalitarian women’s fertility rates increases, and the population-wide fertility rates increase as well. Figure 2, where we plot the population-wide fertility rate over time as well as the number of egalitarian and traditional females

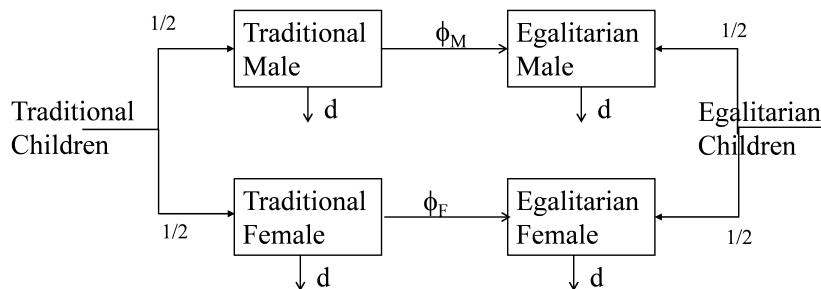


Figure 1: Flow diagram;  $d$  denotes the death rate,  $\phi_M$  the speed of diffusion between traditional and egalitarian males and  $\phi_F$  the speed of diffusion between traditional and egalitarian females

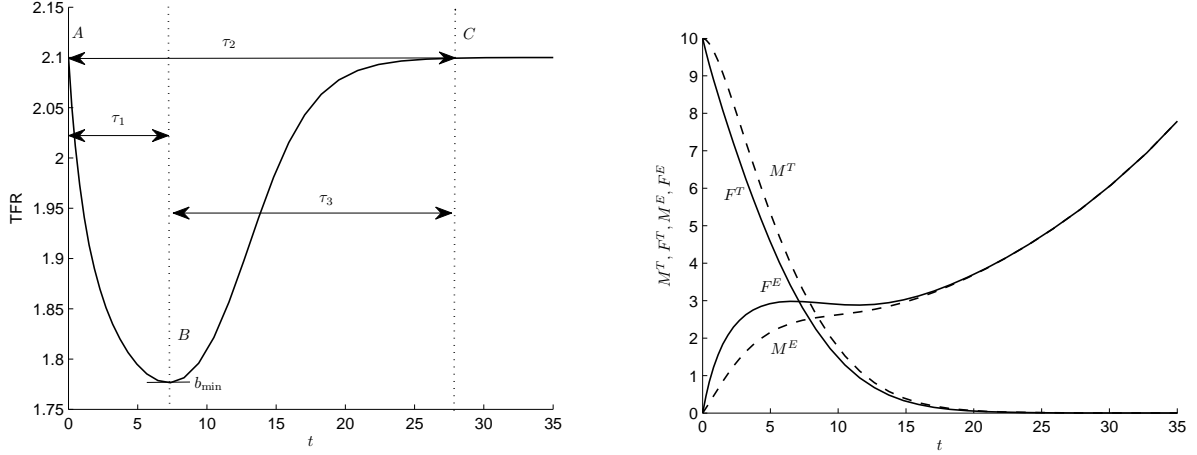


Figure 2: U-shaped development of fertility and corresponding time path

and males, shows an example for such a development.

To obtain these dynamics we build up a system of four dynamic equations that represent the following four subgroups of the population: the number of traditional males,  $M^T$ , the number of traditional females,  $F^T$ , the number of egalitarian males,  $M^E$ , and the number of egalitarian females  $F^E$  (see Figure 1). For simplicity and to gain first insights about the impact of different birth rates of alternative couple formations and diffusion rates of egalitarian norms, we assume that people pick their spouses randomly and that children adopt the lifestyle of their parents. If one of the parents is egalitarian and the other one traditional, the children are equally likely to be either egalitarian or traditional. There is no gender selection, so boys and girls are equally common. Each time unit a certain fraction of traditionalist males and females adopts the egalitarian lifestyle.

Assuming an initial population consisting only of traditionalists, we show as illustrated in Figure 3 that the extend of the percentual drop of fertility depends on the diffusion of egalitarian norms for males and females. If egalitarian family values spread slowly, the decline of fertility will be rather small since the traditional lifestyle continues to dominate society. If the speed of diffusion is large, egalitarianism prevails in the long run. Then, the decline of fertility increases in the difference between males and females in the timing of the adoption of egalitarianism. In particular, if men are slower to adopt an egalitarian lifestyle than women, fertility will drop most since in the traditional phase couples consisting of an egalitarian woman and a traditional man will be very common.

The timing of the recovery of the overall birth rate also crucially depends on the speed of diffusion of egalitarian values: Fertility will recover sooner if the adoption of the egalitarian lifestyle either happens very slowly or rather fast. The reason for this is that in case of a low adoption speed, the fertility decline will not be very large, and in case of a high adoption speed the phase of transition, where fertility suffers most, is rather short since the family where both partners are egalitarian rather quickly becomes the dominating family model. For an intermediate speed of the diffusion of egalitarian values the impact of a lower birth rate of a couple with an egalitarian female and a traditional male is most severe.

Our model offers several possibilities for improvement: By means of the given model we are able to

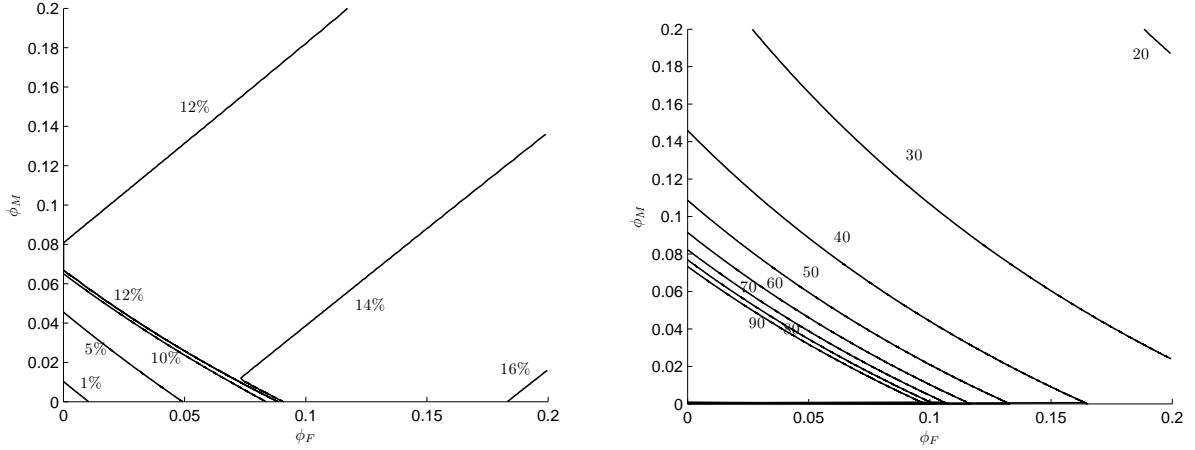


Figure 3: Maximum percentual decline between initial and minimum fertility rate (left panel) and time  $\tau_2$  until fertility rate reaches its final level (right panel)

study the impact of selective coupling and mating preferences with respect to attitudes towards gender egalitarianism on fertility. Furthermore, studies have shown that girls and boys might be influenced differently by their mothers' and fathers' attitudes towards gender equity. Our model can be applied to study these different intergenerational transmissions of egalitarian values by gender of the child. Furthermore, we can study the impact of sex-specific abortions, which might deliver interesting insights for countries in which there are strong preferences towards male offspring.

## References

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