

## Should the Total Fertility Rate still be used in Policy Discussions?

Assessing the appropriateness of the TFR when studying the presumed need for and effectiveness of birth enhancing policies in Europe

*Wolfgang Lutz and Tomáš Sobotka*

In many parts of Europe discussions about the low fertility and the need for governments to do something about it take place on an almost daily basis. Recent trends and international differentials in the total fertility rate (TFR) usually serve as the empirical basis in these discussions, with the TFR commonly interpreted as a cohort measure of the ‘number of children per woman’. This may lead to serious mistakes in argumentation about the presumed effects of family-related policies on fertility. We discuss two examples where this approach may lead to erroneous conclusions:

- (1) A main justification for birth enhancing policies governments lies in filling a presumed gap between ideal family size and actual family size with the latter measured in terms of TFR. When using tempo-adjusted fertility measures or cohort measures this gap shrinks markedly or disappears. The biggest gaps seem to exist for high fertility countries where governments do not see a need for birth enhancing policies (see Table 1).

**Table 1.** Different measures of family size for selected EU countries and different ways to calculate the “gap” between ideal and actual family size.

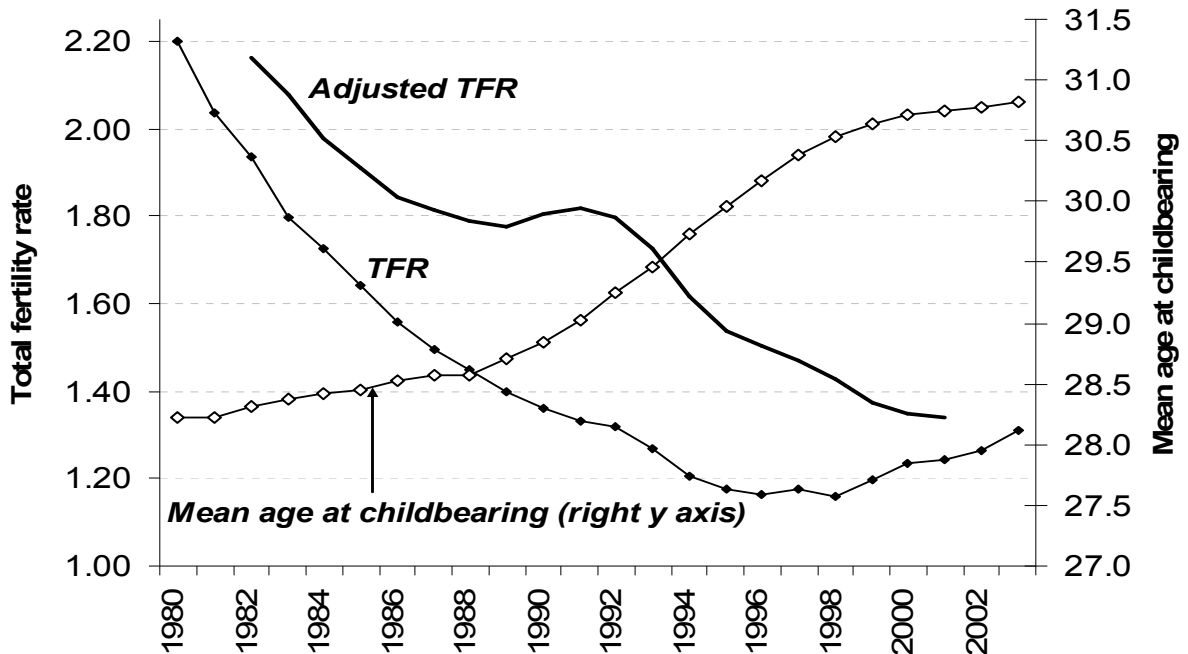
(1) and (2) are based on the Eurobarometer 2006 data for women aged 25-39	(1) Personal ideal family size	(2) Actual + intended family size	(3) <b>Gap 1</b> (1)-(2)	(4) TFR 2004	(5) Tempo adjusted TFR	(6) <b>Gap 2</b> (1)–(5)
Finland	2.61	2.62	<b>-.01</b>	1.80	1.88	<b>.73</b>
France	2.48	2.36	<b>.12</b>	1.91	2.02	<b>.46</b>
UK	2.43	2.38	<b>.05</b>	1.63	1.85	<b>.58</b>
Portugal	2.23	2.06	<b>.17</b>	1.40	1.80	<b>.43</b>
Czech Republic	2.04	1.98	<b>.06</b>	1.22	1.67	<b>.37</b>
Italy	2.02	1.76	<b>.26</b>	1.33	1.41	<b>.61</b>
Romania	1.81	1.71	<b>.10</b>	1.29	1.58	<b>.23</b>
Austria	1.69	1.54	<b>.15</b>	1.42	1.63	<b>.06</b>

Source: Eurobarometer 2006 data; computations by Testa (2006).

- (2) Spain is celebrating a reversal of the declining fertility trend because the TFR recently increased from below 1.2 to 1.4. This in fact mostly reflects an end of the tempo effect (the mean age at childbearing stopped increasing) with a surprisingly limited recovery.

The tempo adjusted TFR (by Bongaarts/Feeney method) actually shows a steep decline until the late 1990s, progressing first in parallel with the decline in the conventional TFR and later continuing for some years even once the TFR stabilised and eventually started increasing slightly after 1995. (see Figure 1)

**Figure 1:** TFR, Tempo-adjusted TFR and Mean Age at childbearing in Spain



The ongoing policy discourse needs to be better informed about the actual meaning of the TFR and demographers should offer a larger variety of period fertility indicators that are more appropriate for the specific issues considered. While micro-level approaches using event-history models can provide one useful alternative for an evaluation of policy effects on fertility (Neyer and Andersson 2007), we believe that there is also a need for a standard set of aggregate indicators of fertility that can easily be compared across countries and over time.

In one respect, the trend in the most simple measure – an absolute number of births – is the most relevant for policies because it is the indicator that directly influences the future age structure and can be readily translated into the planning decisions, for instance, on the provision of schooling. On the other hand, if the issue is to measure behavioral reactions to changing family policies, then different indicators of the “period quantum” seem most appropriate. Such indicators should ideally adjust not only for the age structure of the population, but also for the distortions caused by the shifts in the timing of childbearing (tempo effects). The conventional TFR does not take the latter into account and its usefulness for policy analysis should be seriously questioned.

To present an alternative to this undesirable policy focus on the TFR this paper will also discuss the further development and possible international implementation of a fertility monitoring system termed “Birth Barometer” that has recently been developed for Austria (see Sobotka et al. 2005). This system is based on an indicator based on parity and duration-specific life tables, termed Period Average Parity (PAP), which we consider to be a more

appropriate approach for policy-relevant monitoring than the conventional TFR (the ‘Birth Barometer’ is further briefly described below).

On an example of Austria and several other European countries our contribution discusses potential advantages and drawbacks of the PAP for measuring period fertility, especially in times of rapid fertility changes and following the implementation of different family-related policies. We also discuss other alternative approaches, including age and parity-specific fertility tables.

### **A brief description of the “Birth Barometer” project**

(see more at: <http://www.oeaw.ac.at/vid/barometer/index.html>)

This project of the Vienna Institute of Demography, termed “Birth Barometer” aims to provide continuous monitoring of period fertility rates in Austria. It has two main objectives:

- monitoring recent fertility trends in Austria on a monthly basis
- providing a set of fertility indicators that are less affected by the ongoing change in fertility timing than the commonly used total fertility rates (TFR)

All fertility indicators are computed from the extracts of individual birth records supplied by Statistics Austria. Monthly monitoring of fertility allows the evaluation of most recent fertility trends in conjunction with the relevant information on changes in family policies or various socio-economic indicators. Furthermore, it also complements regular monthly reports on birth statistics that are compiled by Statistics Austria. We compute the ordinary TFR as well as the set of parity-progression ratios, based on birth interval (duration) fertility analysis. A summary indicator of fertility quantum derived from these parity progression ratios is termed the “period average parity” (PAP). Compared to the ordinary TFR, the PAP has two main advantages: it is relatively little affected by the changes in fertility timing and, being an indicator based on parity-specific approach, it is also more consistent with the sequential nature of childbearing and thus approximates more closely the family-building behaviour of real birth cohorts.

### **References:**

Neyer, G. and G. Andersson. 2007. “Consequences of family policies on childbearing behavior: Effects or artifacts?” *MPIDR Working Paper* WP 2007-21, Max Planck Institute for Demographic Research, Rostock.

Sobotka, T., M. Winkler-Dworak, M. R. Testa, W. Lutz, D. Philipov, H. Engelhardt, and R. Gisser. 2005. “Monthly Estimates of the Quantum of Fertility: Towards a Fertility Monitoring System in Austria” *Vienna Yearbook of Population Research* 2005: 109-141.

Available at: [[http://www.oeaw.ac.at/vid/download/Sobotka\\_et\\_al\\_pp.109-141.pdf](http://www.oeaw.ac.at/vid/download/Sobotka_et_al_pp.109-141.pdf)].

Detailed Appendix provides further information on methodology used in computing the Period Average Parity (PAP) and other relevant fertility measures:

[[http://www.oeaw.ac.at/vid/download/Sobotka\\_et\\_al\\_Appendices\\_031005.pdf](http://www.oeaw.ac.at/vid/download/Sobotka_et_al_Appendices_031005.pdf)]

Testa, M. R. 2006. “Childbearing preferences and family issues in Europe”. *Special Eurobarometer* 253/Wave 65.1 - TNS Opinion & Social .