

## Answer to referee 2

First, let me start by thanking you for your comments. I think that the paper is much better after this revision. In what follows, I rewrite what I interpret as your main comments and then I explain how the new version of the paper incorporates them.

*1. The first comment has to do with the relevance of childcare costs in Spain, which should be discussed more carefully. The referee finds that the claim of high childcare costs in Spain may be a bit overstated and also points to the fact that the studies refereed by the author use older data than used in the paper (2016).*

I completely agree with the referee and I want to express my gratitude for the references and ideas to better motivate this point.

In the Introduction I have mentioned that “net childcare cost” is not higher than the European average by making reference to the studies, OECD (2019) and OECD (2020), suggested by the referee. I have also referred to the “shortage of affordable childcare” instead of “expensive childcare” due to long work schedules in the Spanish economy.

In fact, using the data provided by the EU-SILC module on “Access to services” I have found that more than 40% of households have some trouble to afford childcare services and about 24% declare unmet needs for formal childcare. This data is provided with more detail in the Calibration Section (see Table 3) and this comment is included in the second paragraph in the Introduction to replace the first reason related to the cost of childcare that appeared in the previous version of the paper.

In fact, Del Boca et. al (2009) state: “...the structure of childcare systems varies substantially across EU countries. In all the countries, except the UK and Netherlands, childcare is widely available for children aged 3-5, although hours are low in Spain.”

I really think that the lack of suitable and/or affordable childcare partly explains the prevalence of childcare provided by grandmothers, even for children aged 3 to 5 who benefit from universally provided education (for regular hours).

*2. The second comment has to do with the discussion on the reasons behind the motivations of grandmothers on page 21. The referee suggests an additional reason that may motivate the behavior of grandmothers.*

I completely agree with the referee. I have included this additional reason.

*3. The third comment has to do with the interpretation of the findings and the generalization of the results.*

I agree with the referee. I have introduced this caveat in the Conclusion (see footnote 3).

*4. The fourth comment has to do with a sentence in the Introduction related to the causal effect of expensive childcare on fertility, that may a bit overstated. The referee also asks for the citation of studies that show the causal effect of childcare costs on falling fertility.*

I agree with this comment. I have rephrased the overstated sentence to place the emphasis on the “shortage of affordable childcare” instead of “expensive childcare”.

*“In the case of Spain, the evolution of maternal employment and fertility may have to do with the lower public support as well as with the shortage of affordable childcare driven by the long work hours in the Spanish labour market”.*

As to the citations that justify the relationship between affordable childcare and fertility there some studies referenced in the empirical literature that stress the positive effects of affordable and available formal childcare (see, for instance, Apps and Rees (2004) and Rinfuss et al. (2010)).

Although I agree with the referee in the sense that what matters for the Spanish case is affordability, I feel my duty to provide citations that justify the link between high childcare costs and lower fertility (at least in this letter for the referee given the request). On the theoretical side, Ermisch, (1989) and Cigno, (1991) predict that higher childcare costs will tend to decrease fertility. On the empirical side, Feyfer et al. (2008), in a cross-country analysis of fertility decisions, decompose the effect of public transfers to families into a number of components of cash and in-kind benefits. They find that publicly provided day care has the largest estimated effect, making it the most effective pronatalist policy. This is also consistent with country-specific studies (Del Boca, 2002; Björklund, 2006).

*5. The referee asks the author to devote more sentences to explain the Spanish system for the readers who are not familiar with the differences between the Spanish and the US system.*

I have done this along-side the discussion of the model following the suggestion provided by the referee.

#### *6. Minor comments*

Everything has been done. Regarding the “Related Literature”, I have dropped the odd heading and I have referred to the empirical and the theoretical literature in the main text in the Introduction.

#### **References:**

Björklund, A. (2006) Does family policy affect fertility? *Journal of Population Economics*, 19.

Cigno, A. (1991) *Economics of the Family*, Clarendon Press, Oxford

Del Boca, D. (2002) The effect of child care and part time opportunities on participation and fertility decisions in Italy, *Journal of Population Economics*, 15, 549–73.

Ermisch, J.F. (1989) Purchased childcare, optimal family size and mother’s employment: theory and econometric analysis, *Journal of Population Economics*, 2, 79–102.

Feyfer, J., Sacerdote, B., and Stern, A.D. (2008) Will the stork return to Europe and Japan? Understanding fertility within developed nations, *Journal of Economic Perspectives*, 22, 3–2.

Rinfuss, R. R., Guilkey, D. K., Morgan, S. P., & Kravdal, Ø. (2010). Child-Care Availability and Fertility in Norway. *Population and Development Review*, 36(4), 725–748.

Sincerely,

Victoria Osuna