Answer to referee 1

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

INTRODUCTION AND LITERATURE REVIEW

1. The first comment has to do with the fact that the introduction presents subsidising childcare or grandmothers' time as the only two viable options. However, in many cases the latter is not quite an alternative because of the unavailability of a grandmother.

I agree with the referee that one cannot rely exclusively on granny subsidies to raise married mothers' labour force participation and fertility. In the real world, the possibility of subsidizing grandmothers' childcare should be considered as a complementary policy to current subsidies. This is now clearly stated on page 3 in the new version of the paper. In the paper, the treatment of these policies is obviously presented in a separate way to highlight the effects of each of them.

2. The second comment refers to the need of discussing the literature on parental leave for fathers.

I also agree with the referee in the sense that there are other policies that may be use for the same aim, such us increased paternity leave for fathers, and that this type of policy should have been mentioned. In the new version of the paper I briefly refer to the results found in the recent empirical literature concerning the effects of this policy (see footnote 3 on page 1). I

3. The third comment has to do with the need of explaining further why studying this policy is worth studying.

In the new version of the paper (see page 3) I recognize that the granny leave policy may not be the panacea because of the difficulties in implementing it on a large scale (due to death, illness, geographical distance, other caring duties,…). In any case, I think that it is worth exploring it because it may serve as a complementary policy to current subsidies for formal childcare. All the more so since many grandmothers, particularly in Southern European countries are, in fact, devoting their time to care for their grandchildren and, consequently, experiencing a reduction in their future pension if they retire earlier to do so, while others may be willing to take this opportunity if some incentives were provided. As Rupert and Zanella (2018) claim every employed family member who is a potential source of childcare may benefit from a temporary leave for childcare duties.

Note that in the previous version of the paper, these considerations were to some extent discussed in Section 4. I agree with the referee in the sense that they should be emphasized right away in the Introduction.

4. The fourth comment is related to the mechanism by which fertility should be affected by these policies.

I agree with the referee in the sense that, in the previous version of the paper, an explanation of the economic mechanisms that link childcare subsidies (for formal or informal care) to maternal employment and fertility were absent in the Introduction. This discussion was delayed until the beginning of Section 4 (see the paragraph in italics below):

"Neoclassical models of female labour market supply and fertility behaviour (Becker, 1965) point to the fact that the presence of children affects labour market and household production decisions. Children raise the opportunity cost of working and lower the effective market wage through the cost of childcare. The theory suggests that measures to help reconcile work and family life will prove beneficial to increase female labour supply and fertility".

In the new version of the paper I have included this paragraph in the Introduction and I have also introduced the following sentence (see below in italics) to explain why granny leaves should affect both, mother employment and fertility in a positive way:

"This policy, by freeing up the time mothers need to care for their children and by simultaneously reducing childcare costs, could positively affect both married mothers' employment and fertility".

In addition, in the related literature I provide references of studies that find a positive relationship between devoting more resources to subsidise formal childcare and maternal employment and fertility, and also to the effects of grandmother availability.

MODEL AND CALIBRATION

5. The fifth comment has to do with the fact that men work all their disposable time and with whether this is a too strong assumption. The referee also asks whether the consideration of utility at the household level would change the results.

The assumption that men work all their disposable time is in the case of Spain quite realistic. According to data from the Spanish Statistical office, more than 93% of salaried men work fulltime during the reference period. This prevalence is even higher among married men.

Regarding the question on whether the results would change if utility were to be considered at the household level, the answer is that it would not. The reason is that women are the only decision-making agents in the model and they take into account not only her wage and taxable income, but also that of their partners (see the budget the constraints) to make decisions regarding participation in the labour market and fertility.

6. The sixth comment refers to the fact that some parameters, such us T, should be better explain.

I have rewritten some parts of the modelling section so that it is easier to follow. In particular, a more detailed description is provided when parameter T is first presented.

7. In the seventh comment the referee asks to better explain the role of parameter subgr in the equations. The referee also notes that the cost of regular childcare (pr2tr2) is missing in the budget constrain of V2g.

Concerning parameter *subgr,* it does not appear in the budget constraint of mothers because this is just an outlay of the government that goes directly to grandmothers, and does not have any further implication apart from increasing public expenditure that must be financed by higher taxes.

On the other hand, the referee is totally right and I really appreciate that the referee has made me aware of a mistake in the V2g equation. As the referee pointed out (*pr2tr2*) is missing. Fortunately, this was only an oversight in the paper. The code is perfectly fine and results do not change.

8. The referee ask about the relevance of other types of childcare bought on the market since Table 3 only provides data for childcare centers and grandmothers.

According to the EU-SILC data used in the paper, only 2.82% of children aged 0-5 years are regularly cared for by nannies (2.65% in the case of children 0-2 and 2.93% in the case of children 3-5). Since the paper is about comparing formal childcare at childcare facilities versus informal childcare by grandmothers, and the magnitude of children cared for by nannies is quite small, I decided to keep tables as simple as possible and I only added a comment in the text mentioning the magnitude of childcare provided by nannies.

9. The referee ask about the calibration exercise, whether this is the usual way to do it.

The answer is yes. This is the way these macro models are typically calibrated in the related literature. Some parameters have some empirical counterparts that are very clear, others are taken from well-known empirical studies, and the rest are typically obtained by using the method of moments.

POLICY EXPERIMENTS

10. The referee finds this section too long and dispersive.

I agree with the referee. I have rewritten the section completely trying to organize it in a better way, emphasizing only the results shown in Tables 10 and 11 and dropping everything that was not essential. I have used footnotes for the explanations related to the policy functions shown in the Appendix because they are of second order importance. I think these explanations in the main text were making the text very difficult to follow. The main message is now presented in the main text.

In addition, following the suggestion of the referee, I have changed the presentation of the policy functions matrices in the Appendix so that they look more "friendly" and are easier to understand.

11. The referee asks to discuss in more detail the sentence about the progressivity in Section 5.

I have changed the word "progressivity" for the words "inequality and "distributional effects" because I think the word "progressivity" was not properly used here. What I meant by the word "progressivity" is the type of policies that concern distributional

issues, in particular, those that aim at reducing inequality. In the context of the policies presented in the article, childcare subsidies for children aged 2 years or younger are found to reduce inequality because they mainly increase the labour force participation of women without tertiary education. That is, childcare subsidies improve more the labour market opportunities of women at the bottom of the skill distribution.

12. The referee asks to rationalize the robustness section, better describing why this is relevant, and stating clearly the differences.

It goes without saying that the only purpose of this section is to show the robustness of the policies implemented in Section 4. One should not consider these policy experiments as a proposal on what to do, but just to corroborate the relevance of current policies. In any case, I have rewritten this section to highlight the main points and to clearly state the differences with respect to other scenarios.

MINOR COMMENTS:

13. Number equations.

This has been done.

14. Notation. Change sigma.

I have not changed this notation because the model used in the paper is a version of the model described in García-Morán and Kuehn. I think that, for the interested reader, it may be better to keep to the same notation to avoid misunderstandings.

15. Rephrase too many quotations.

This has been done.

16. Make better reference to the tables in the appendix in page 24 and elsewhere.

This has been done.

17. Tables should be numbered and be self-explanatory.

Following the suggestion, I have changed the presentation of the policy functions matrices in the Appendix so that they are more "friendly" and easier to understand. For the sake of brevity I have only presented those that are needed to follow the explanations provided in the text. The rest can be provided upon request.

Sincerely,

Victoria Osuna