

# How Does the Provision of Childcare Services Affect Mothers' Employment Intentions? Empirical Evidence from a Conjoint Experiment

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## Abstract

Numerous studies have demonstrated that the provision of early childhood education and childcare services (ECEC) is associated with higher women's participation in the labor market. However, many questions about the causal relationship between the supply of childcare and patterns of female employment remain open. In an effort to overcome common endogeneity problems, we conducted a conjoint experiment in Switzerland, which enables us to analyze mothers' employment intentions in different – and even in some hypothetical – contexts. Our results demonstrate that improving the provision of ECEC services does affect mothers' intentions to engage in paid labor. Nevertheless, mothers comprise a heterogeneous group. As expected, ECEC services' effects are limited for mothers with comparatively high levels of employment. In contrast, mothers with low levels of employment are quite reactive to changing policy contexts, especially if external childcare spots for preschoolers become affordable. Notably, elasticity is present not only in the behavior of women with preferences for supplementary, external childcare, but also in that of women with preferences for parental or home-centered childcare. Our study thus highlights childcare policies' potential to change the patterns of female employment in contexts marked by persistent traditional gender roles and limited childcare provision.

**Keywords:** Early Childhood Education and Care Services; Maternal Employment; Childcare Ideals; Liberal-Conservative Family Policy Context; Conjoint Analysis

## Introduction

The expansion of Early Childhood Education and Care (ECEC) services is a central aspect of a social policy strategy that promotes both changes in women's economic and social position and the equalization of children's upbringing (Bakker and Van Vliet, 2021; Ellingsæter et al., 2017; West et al., 2020). As

far as the former is concerned, the existing literature has specifically stressed that expanding the provision of ECEC services contributes to more frequent female employment (Chevalier and Viitanen, 2002; Ferragina, 2019; Hegewisch and Gornick, 2011; Morrissey, 2017; Motiejunaite and Kravchenko, 2008; OECD, 2018; Stadelmann-Steffen, 2011; Vuri, 2016). Women continue to perform the lion's share of unpaid care. Therefore, ECEC services help dismantle mothers' time constraints and provide them with the opportunity to engage in paid labor (Chevalier and Viitanen, 2002; Kangas and Rostgaard, 2007; Sjöberg, 2004). Nevertheless, while providing such opportunities is crucial, many questions about the actual impact of ECEC supply on individuals' labor decisions remain open (Olivetti and Petrongolo, 2017). Do changes in the supply of ECEC services actually affect mothers' intentions to increase their engagement in paid labor?

By providing answers to this question, our paper seeks to offer new insights into the causal effects of ECEC supply on female labor market participation. We thereby depart from the understanding that empirical challenges preclude the cumulation of consistent knowledge about whether childcare supply causally affects mothers' employment decisions. Many studies on the effects of ECEC rely on a comparative macro perspective that highlights the significant degree to which the different context-specific policy designs of childcare provision shape the latter's effects (Boeckmann et al., 2014; Ciccia and Bleijenbergh, 2014; Meyers et al., 1999; Olivetti and Petrongolo, 2017; West et al., 2020). While such studies provide important insights, their macro-comparative design often does not allow them to test the causal effects of childcare provision more explicitly (Olivetti and Petrongolo, 2017).

Problems related to the assessment of policy changes' potential to alter female work patterns also exist in research that uses standard survey questions, which ask people how they would prefer to allocate their time to different spheres of their lives (Craig and Mullan, 2011; Sayer, 2005). Such studies inform us about the determinants of individuals' time allocation. However, they make respondents' answers contingent on the actual contexts they live in. They therefore provide us with little information about what people would prefer to do if they lived in a different context.

Micro-level approaches that evaluate country-specific childcare policy reforms' effects on labor supply only partially resolve these shortcomings (Bauernschuster and Schlotter, 2015; Bettendorf et al., 2015; Givord and Marbot, 2015; Haeck et al., 2015; Havnes and Mogstad, 2011; Nollenberger and Rodríguez-Planas, 2015). While such natural experiments show if and how a particular policy reform affects a specific (group of) individual(s), evaluating policy changes' potential is limited to the content of the actual reform.

To overcome the empirical challenges described above, we conducted a conjoint experiment in Switzerland, which saw respondents face varying policy

constellations, including different designs of ECEC services and configurations of parental leave policies, tax policies, and flexible work arrangements. This setup enables us to analyze parents' intentions to work in varying and even some hypothetical contexts. In accordance with recent studies, we thereby adopt a multidimensional understanding of ECEC provision, which is not limited to the availability of childcare spots, but also encompasses the accessibility and the affordability of such services (McLean et al., 2017; Schober, 2020; West et al., 2020). Moreover, we allow for the possibility that the effect of external childcare supply may not only hinge on specific individual characteristics and preferences, but may also vary based on the broader policy context these individuals are embedded in.

While we cannot expect that employment intentions expressed in a (hypothetical) survey context always translate into actual behavior, we do learn about the elasticity of people's intentions and thus about policy changes' potential to influence women's work patterns. Furthermore, our methodological approach, which asked respondents to consider different policy scenarios, acknowledges that women's employment intentions are influenced by policy configurations - namely, how multiple aspects of childcare policies (McLean et al., 2017; Schober, 2020; West et al., 2020) are combined and embedded in a broader policy context.

We contend that Switzerland presents a very interesting case for analyzing policy changes' potential to influence mothers' employment intentions. From a comparative perspective, Switzerland's family policy can be described as liberal-conservative (Häusermann and Zollinger 2014). On the one hand, this description reflects the persistence of traditional gender-specific family roles in the country. The prevalent Swiss family model is a father employed full time and a mother who either stays at home or works part-time (FSO, 2021a)<sup>1</sup>. The latest figures published by the Swiss Federal Statistical Office (FSO, 2021a) further show that this model does not necessarily correspond to parents' ideal conception. Rather, parents of toddlers most frequently indicate that they would prefer a model where both partners work part-time. However, only around 12 percent of those parents actually live this model (FSO, 2021a). On the other hand, the policy side is characterized by limited public intervention and comparatively low public expenditures for reconciliation policies, especially in the German-speaking cantons. Accordingly, regulations for the provision and funding of external childcare are scarce and childcare coverage is far from universal. Childcare costs are high and provide strong negative employment incentives (Bütler, 2007). In addition, traditional values and attitudes towards mothers' role within the family persist among the Swiss population. Indeed, around 31 percent of women and more than 42 percent of men living in Switzerland agree with the statement that a preschool-age child suffers when his or her mother engages in paid work (FSO, 2021a). Our results therefore provide valuable information about policy changes' potential in other countries with similar conservative values, limited

public intervention in the provision of childcare, and comparable socio-economic conditions (such as Germany or the UK).

In the following, we first discuss the theoretical background of our analysis and formulate hypotheses about why and how changes in ECEC may affect mothers' intentions to increase their engagement in paid labor. The third section describes our methodological approach and the fourth presents and comments on our empirical results. The paper concludes with a summary of our most important findings and a brief discussion of avenues for further research.

### **The effects of ECEC provision on mothers' employment intentions**

Many scholars have discussed the role family policies play in shaping gender relations and the associated assumptions about the social positions of the sexes (see, e.g. Lewis, 1992; O'Connor, 1993; Orloff, 1993, 2010; Pateman, 2006; Sainsbury, 1994). A key argument in this literature is that the reliance on a male-breadwinner model – in which the man engages in a full-time job, while the woman is responsible for the care work and the household duties – has underlain the development of the modern welfare systems across Europe and beyond (Mahon, 2002; Lewis, 2001). This is also reflected in the fact that social policy entitlements traditionally “assumed the existence of a family wage” (Daly, 2010, 104) provided by male employment, and thus targeted the income security of the male breadwinner. In contrast, women were viewed as primarily responsible for the care of dependent family members, especially young children and aging parents.

However, recent decades have seen “a series of farewells to maternalism” (Orloff 2006, 230) within “affluent” welfare democracies. In Orloff's (2006, 230) perspective, many “countries are moving from a ‘maternalist’ policy model, under which mothers were expected to stay home full-time with their children and eschew employment, to a model of ‘employment for all,’ under which women are expected to enter the labor force, as are men”. This shift is visible in the emergence and promotion of different policies that seek to increase women's participation in the labor market by facilitating the reconciliation of family and work duties. Such policies include parental leave schemes and childcare policies, as well as policies regulating work hours and taxation. Among these policies, measures promoting the supply of external childcare for preschool children have been the most salient issue in “academic and political debates on the reconfiguration of paid and unpaid work” (Ciccia and Bleijenbergh, 2014, 53; see also Lewis, 2001; Petitclerc et al., 2017).

The existing scientific evidence shows that ECEC services are crucially related to increased maternal employment (Chevalier and Viitanen, 2002; Ferragina, 2019; Hegewisch and Gornick, 2011; McLean et al., 2017;

Morrissey, 2017; Motiejunaite and Kravchenko, 2008; OECD, 2018; Stadelmann-Steffen, 2011; Stahl and Schober, 2020; Vuri, 2016). The persistence of gender-based labor market inequalities and women's continued performance of the lion's share of unpaid care and household labor make the explanation of these findings quite straightforward: ECEC services (partially) relieve mothers of toddlers of their care activities, thereby leaving them more time to engage in paid labor. Moreover, in line with policy feedback theories (Ellingsæter et al., 2017; Kumlin and Stadelmann-Steffen, 2014), expanding the provision of external childcare does not only enhance opportunity structures by improving mothers' access to care resources. Childcare policies may also produce normative effects and trigger a change in individual and societal attitudes towards gender roles with regards to paid and unpaid work (Ellingsæter et al., 2017; Stadelmann-Steffen and Oehrl, 2017). By outsourcing women's sole responsibility for care-giving to external institutions and promoting mothers' entrance into the labor market, childcare policies also alter traditional work–family relations and undermine patriarchal norms and the cultural imperatives of how labor should be allocated between the genders associated with them (Mahon, 2002; Blofield and Martínez Franzoni, 2015). Making non-parental childcare a (normatively acceptable) option may also generate normative changes at the individual level and promote women's intentions to participate more in the labor market (Stadelmann-Steffen, 2011).

Thus, at its foundation, this literature assumes that the provision of external childcare contributes to more frequent and more intense female employment not only by dismantling existing structural constraints and providing mothers with the opportunity to engage in paid labor, but also by promoting their intentions to do so (Chevalier and Viitanen, 2002; Kangas and Rostgaard, 2007; Sjöberg, 2004).

**H1.** *A more extensive supply of external childcare increases mothers' intended engagement in paid labor.*

However, this general expectation needs to be qualified by the possibility that the effects of external childcare supply may differ across mothers (Brayfield et al., 2001; Ferragina, 2019; Hook and Paek, 2020; Kangas and Rostgaard, 2007; Petitclerc et al., 2017; Stadelmann-Steffen, 2011; Vuri, 2016; Wendt et al., 2011). Initially, we expect that the effects that improving ECEC supply exerts on mothers' intentions to spend more time on paid labor is limited for mothers who already have high levels of employment and, thus, little potential for further increasing the time they spend on paid labor. Improvements in the supply of ECEC services may make their lives easier, but are not likely to have a major effect on their intentions to increase their involvement in paid labor. In contrast, the elasticity to change labor patterns is generally larger

for mothers with relatively low levels of part-time employment, as well as for mothers who are not engaged in paid labor. We therefore formulate the following hypothesis:

**H2.** *The effect that the external supply of childcare exerts on mothers' intended level of paid work differs across mothers contingent on their actual levels of employment.*

**H2.1.** *The effect that the external supply of childcare exerts on mothers' intended level of paid work is weaker for mothers with high levels of employment.*

We expect further differences within the group of mothers with no or with low levels of employment because this group is likely to be quite heterogeneous in its options and preferences. This is because dismantling the constraints related to ECEC provision may be a necessary but not sufficient condition for these mothers' patterns of labor to change. Existing research has shown that childcare policies' impact on mothers' division of labor is very complex and, often, contingent on the economic need to engage in paid labor, as well as on individual norms, attitudes, lifestyle preferences, and childcare ideals. Hakim (2003a, 2003b), for example, argues that the heterogeneity in women's work-lifestyle choices is important and thereby distinguishes between home-centered, work-centered, and adaptive women. Stadelmann-Steffen (2011) finds that work-centered and, especially, adaptive women's participation in the labor market crucially depends on the supply and design of external childcare (Brayfield et al., 2001; Kangas and Rostgaard, 2007; Petitclerc et al., 2017; Wendt et al., 2011). In contrast, mothering may remain an important source of self-identity, satisfaction, and autonomy for women who readily embrace more "traditional" societal norms. External childcare provision may be less decisive in determining these "home centered" (Hakim, 2003a) women's involvement in the labor market.

These considerations and findings lead us to expect that even if the elasticity to change labor patterns exists – namely, for mothers with low levels of employment or no employment whatsoever – improving the supply of ECEC may not necessarily translate into intentions to increase individual engagement in the labor market.

We test this assumption by analyzing whether differences exist within the group of mothers with no or with low levels of employment contingent on their childcare ideals (Kremer, 2006, 2007). In particular, improving the external supply of childcare may change the behavior of those mothers who are actually willing to leave their preschool children with external care providers. More specifically, we expect mothers who do have preferences for external childcare to be more reactive to improvements in ECEC services than mothers who prefer not to use supplementary care. After all, such ECEC policies can enable mothers

to make real choices, which may include being more active in the labor market than they already are. Accordingly, we formulate the following hypothesis:

**H3.** *The effect that the external supply of childcare exerts on mothers' intentions to increase their levels of paid work is moderated by mothers' individual predispositions to use such services. The effects are highest for mothers with low levels of employment and preferences for additional external childcare.*

### Methodology

Our analysis is based on survey data collected in 2017 in the German-speaking part of Switzerland. The survey took the form of a web questionnaire and contained both classic survey questions and a conjoint part. The classic survey part was comprised of socio-demographic questions and questions about respondents' household situations and the way paid and unpaid labor were distributed within their households.

The conjoint part of the survey exposed respondents to varying policy constellations. Survey takers had to indicate their intended amount of paid and care work for each constellation. While some of these combinations reflected the policies in place in Switzerland, others described hypothetical scenarios - namely, more extensive provisions of childcare than those currently in place. Thereby, we adopt a fully randomized conjoint design (Hainmueller et al., 2014): policy constellations were constructed through a random allocation of attribute levels. Respondents were randomly exposed to a total of five different scenarios. Our original sample consists of more than 1,300 individuals in their reproductive years (aged between 25 and 50), living in partnerships. For the analyses, we limited our sample to individuals who participated in the entire survey. More precisely, our analyses are based on a sample of 968 individuals. Multiplied by the five different scenarios, this sample results in a total of 4,840 observations<sup>2</sup>. The size of the dataset makes it possible to estimate the causal effects of all varying attribute combinations and, hence, to assess their relative power in explaining individuals' work intentions.

What did our (hypothetical) policy contexts look like? We included six attributes, three of which describe the design of external childcare supply (for an overview, see Table 1 in the Appendix (A1)).<sup>3</sup> A first attribute has to do with varying degrees of availability of childcare spots (the latter can either be scarce or guaranteed). A second attribute indicates whether the external childcare *is close to the parents' home/workplace* or whether some detour is necessary. A third attribute describes its cost (fully subsidized vs. based on parents' income vs. households have to pay the real cost). Taken together, these three attributes allow us to measure childcare supply as a multidimensional concept and to consider that these services' potential to reshape parents' employment intentions

hinge not only on their availability, but also on their accessibility and affordability (Ciccio and Bleijenbergh, 2014; McLean et al., 2017; Schober, 2020; Stahl and Schober, 2020).<sup>4</sup> Thus, for example, we can expect childcare effects to be particularly strong in contexts where parents can count on guaranteed slots located within a reasonable distance from their homes and/or workplaces. Conversely, logistical challenges may result in situations whereby available ECEC slots remain unused (McLean et al., 2017). In contrast, we expect that childcare supply does not significantly affect adults' employment intentions in contexts where external childcare provisions are scarce. Moreover, parents may only enroll their children in childcare services if such services are affordable (Vuri, 2016).

Unlike standard survey questions, the results of a factorial survey experiment reflect reactions to a particular policy situation (a combination of childcare policies and other factors). Although this experimental design mainly has its advantages with respect to internal rather than external validity, recent studies that apply conjoint analyses have also produced relevant results in terms of the latter. For example, Hainmueller et al. (2015) have shown that stated preference experiments can produce results based on hypothetical decisions that come very close to the electorate's actual voting behavior. Conjoint analyses are also increasingly applied in the social field (Auspurg et al., 2017; Häusermann et al., 2015; Iten et al., 2005; Stadelmann-Steffen and Dermont, 2020).

To test which attributes hinder or boost mothers' intended allocation of time to paid and care work, we rely on the so-called average marginal component effects (AMCEs) that represent the "marginal effect of an attribute averaged over the joint distribution of the remaining attributes" (Hainmueller et al., 2014). We thereby use random intercept models to estimate changes in an attribute's propensity to increase mothers' engagement in paid labor compared to the reference category. Such hierarchical models account for the lack of independence between observations linked to the same respondent (as each respondent successively evaluates several policy scenarios). More substantively, this means that the random intercept captures individual differences in the general propensity to work.

Given our theoretical focus on how ECEC provisions affect the employment intentions of mothers with children up to the age of 4, we mainly report the results for this subgroup of our sample, which consists of 146 individuals (making up a total of 730 observations).<sup>5</sup>

Theoretically, we assumed that the effect of external childcare would differ across mothers. Methodologically, if true, such differences would reflect in group-specific AMCEs, estimated by interactions between the policy attributes and individual-level variables. As we expect that the effects of childcare policies vary across mothers based on the latter's actual engagement in paid labor, we construct a variable that differentiates between mothers who have a high level of employment (21 hours a week or more) and mothers who are either engaged in a



low level of employment (less than 21 hours a week) or who are not engaged in paid labor at all. About 63 percent of the mothers with children up to the age of 4 in our sample belong to the latter group.

In order to account for different ideals of care (Kremer, 2006, 2007) we use a dummy variable that captures whether respondents consider ECEC and other external childcare services a good supplementary care option for preschool children.<sup>6</sup> More precisely, we distinguish mothers who prefer that their children receive care from external services or who do not have any preferences from those who indicated that they do not want any supplementary out-of-home care options. About 54 percent of all mothers with children up to the age of 4 in our sample belong to the latter group.

### Empirical Results

Figure 1 presents the results of the full conjoint model for mothers of children younger than 4 years. At first glance, these results show that women report an increase in the amount of time they intend to devote to paid work contingent on specific policy configurations.<sup>7</sup> Most important, mothers clearly indicate that they would increase the time they spend on paid work if ECEC spots are guaranteed, if the service is free of charge, and if facilities are close to either their homes or their workplaces.<sup>8</sup> These results are in line with our first hypothesis and with existing findings that the provision of external childcare affects mothers' intended participation in the labor market. Especially free and accessible ECEC services therefore have the potential to increase mothers' engagement in paid labor. Such services' close proximity to either mothers' workplaces or residences reduces the logistical challenge of organizing both childcare and employment (McLean et al., 2017) and increases the likelihood that families make use of available childcare slots.

Furthermore, and even though this is not the focus of this paper, these models show that flexible work schedules and work locations increase mothers' intentions to increase their participation in the labor market. In contrast, different tax incentives and parental leave policies seemingly do not affect mothers' labor market intentions. Future research needs to identify the reasons for this lack of significance and clarify whether the wide confidence intervals result from the heterogeneity in mothers' opinions or from the uncertainty associated with policies with which the Swiss population has relatively little familiarity.

We proceed by testing ECEC services' impact on the intended amount of time spent on paid labor for different groups of mothers. The theoretical part justified our assumption that mothers' intentions to increase their engagement in paid labor may be limited for those who already have high levels of employment as their potential for change is rather limited. In contrast, mothers with low levels of employment may have a higher elasticity in changing the amount

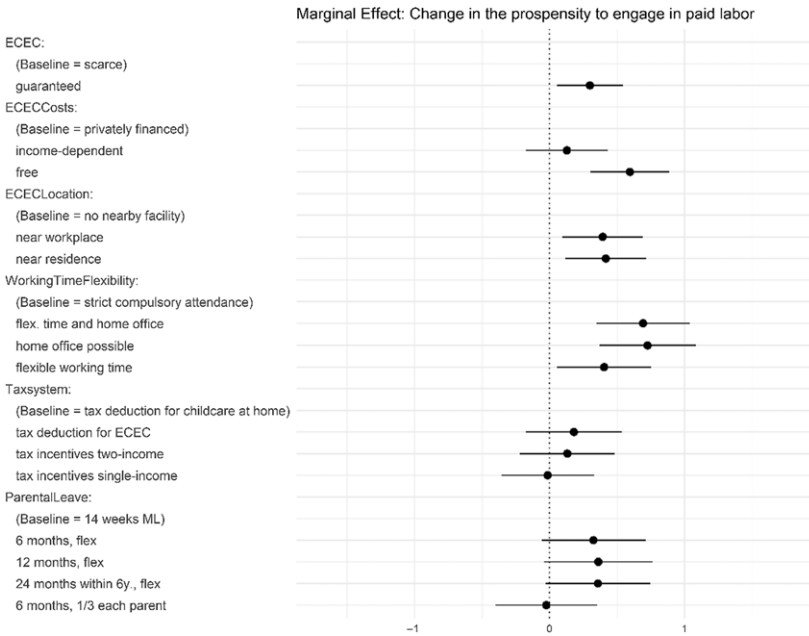


FIGURE 1. ECEC features and changes in mother’s employment intentions  
 Note: Results of the conjoint analyses. Full model for mothers with children up to 4 years.

of time they allocate to paid labor. To test this assumption, we run models that include interactions between our ECEC attributes and the variable that captures mothers’ current levels of employment.<sup>9</sup> The models presented in Figure 2 partially support our assumption about the moderating role of mothers’ actual employment levels.

ECEC structures do have an impact on all mothers’ work intentions regardless of their levels of employment. However, ECEC supply’s effects on the intended level of employment of mothers who are already intensively engaged in paid labor are substantively small. In fact, these mothers generally report that they would increase their levels of employment further if childcare spots were guaranteed. Hence, while these mothers hardly make their participation in paid labor conditional on external childcare structures, they see guaranteed ECEC spots as an opportunity to slightly increase the time they spend on paid work. This finding makes sense in the case of Switzerland, where having children attend ECEC institutions full time (i.e. four or five days a week) is rather uncommon and difficult. Guaranteed spots, therefore, send a signal that more extensive ECEC is not only available but also (more or less) normatively acceptable.

In contrast, guaranteed childcare spots do not seem to affect the level of employment of mothers of toddlers with low levels of employment (including the not employed). However, these mothers’ propensity to increase their

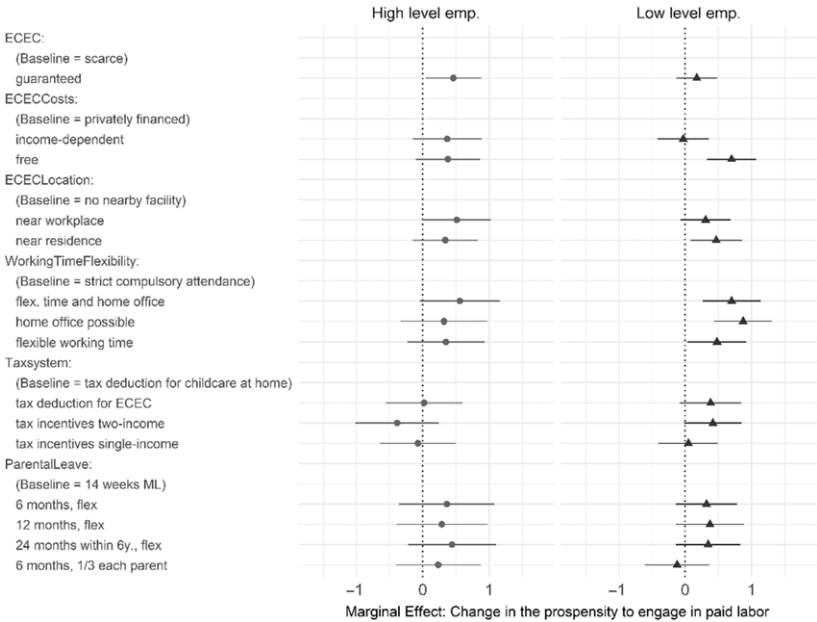


FIGURE 2. The moderating role of mothers’ actual employment level  
 Note: Results of the conjoint analyses for mothers with children up to 4 years by employment level.

engagement in paid labor is quite elastic, contingent on ECEC services’ cost structure. More precisely, these mothers report that they would work longer hours in paid labor if childcare spots were free. This result supports theories that stress that ECEC costs and subsidy structures do create particularly strong incentives to enroll children in childcare services (Vuri, 2016). This is especially true in contexts like Switzerland’s, where the costs of additional ECEC services often exceed mothers’ earning potential (Bütler, 2007).

In addition to their material costs, the location of ECEC services also affects the employment intentions of mothers with low levels of employment. This effect can be interpreted as a further sign that this group of women is particularly “cost-sensitive” in its employment intentions and decisions. When ECEC spots are not close by, the reconciliation of paid work and work at home (i.e. housework and childcare) becomes more complicated (McLean et al., 2017) – “costs” that reduce the “add on” value of increasing mothers’ labor market involvement (Stadelmann-Steffen, 2011).

In sum, the results presented in Figure 2 demonstrate that the way mothers in Switzerland organize their paid work does not simply align with traditional gender norms about women’s labor. Our results for mothers with low levels of employment imply that structural conditions affect the degree to which

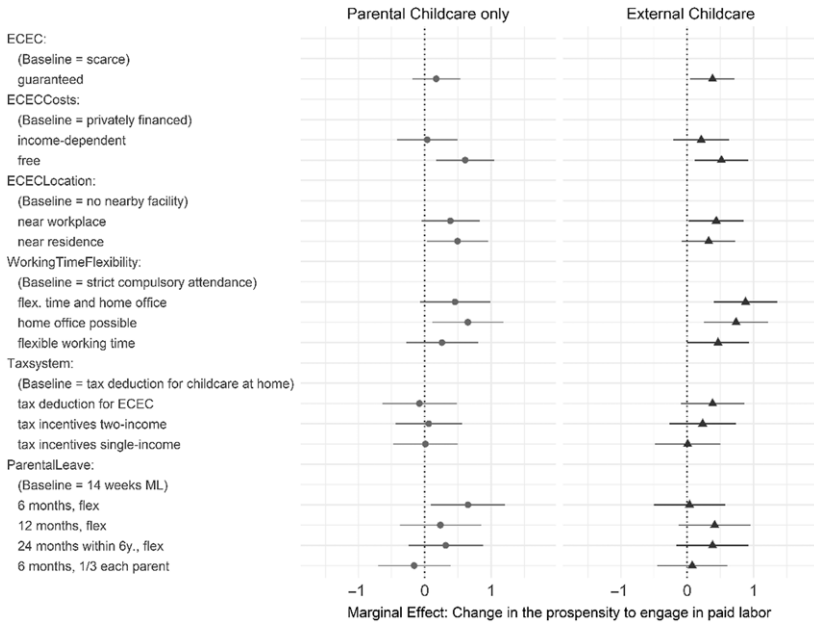


FIGURE 3. The moderating role of childcare preferences among mothers with low levels of employment

*Note:* Results of the conjoint analyses for mothers with children up to 4 years and with low levels of employment.

traditional norms and related preferences translate into (intended) work patterns. To further test this assumption we run additional models including a variable that accounts for mothers’ ideals of care. The results for mothers with low levels of employment (0-21 hours) are presented in Figure 3.

Overall, the patterns of mothers with preferences for parental or home-centered childcare do not greatly differ from those of mothers who prefer external childcare. In particular, varying childcare ideals do not substantially moderate the effects of childcare’s cost structure. The financing of childcare seems to be a decisive factor for the employment intentions of mothers who prefer that their children receive childcare at home, as well, which is quite interesting.

Nevertheless, some heterogeneity does exist in the group of mothers with low levels of employment as far as ECEC availability is concerned. Similar to the intensively employed mothers, mothers with preferences for external childcare report that guaranteed childcare spots could result in greater engagement in paid labor. Conversely, ECEC availability’s lack of a significant effect for the group with low levels of employment (reported above in Figure 2), was obviously produced by mothers who do not want to rely on external childcare services.

These findings highlight the fact that the role early childhood education and care services play in mothers' employment intentions is multifaceted and shaped by the particular circumstances of each woman and household. Several aspects of external childcare provision are relevant to the group of mothers who are not employed or only marginally employed, depending on their childcare ideals. For mothers with preferences for external childcare, the current ECEC structures in Switzerland seem to act as a structural impediment to more intense employment. These mothers exhibit the strongest elasticity in increasing the time they spend in paid labor and would increase their employment if ECEC spots were more readily available and free. Conversely, the availability of ECEC services does not change the intended employment levels of the mothers who prefer home-centered childcare. Only a drastic cost reduction would produce some elasticity in their employment intentions.

### Conclusion

This paper has investigated whether the supply of ECEC services affects mothers' intentions to increase their engagement in paid labor. We departed from the idea that the potential effects of external childcare supply are complex and are not only shaped by individual characteristics, but also hinge on the policy context that childcare supply is embedded in. In practice, this creates endogeneity problems and makes empirically isolating the causal effect of childcare provision challenging. We implemented an experimental survey design (a conjoint analysis) and used data from Switzerland to address these endogeneity issues.

Our results demonstrate that the provision of ECEC services does affect mothers' intentions to increase their engagement in paid labor. However, the conjoint analysis reveals that the group of mothers is heterogeneous contingent on their actual levels of employment. As expected, ECEC effects are quite limited among the mothers with comparatively high levels of employment. In contrast, mothers with low levels of employment are more reactive to a changing policy context, especially if external childcare spots for preschoolers are available at low (material and immaterial) costs. Interestingly, while the supply of ECEC services most strongly affects mothers with preferences for external childcare (unlike those who prefer parental or home-centered childcare), the results imply that women with more traditional childcare preferences and mothers already intensively employed also exhibit some elasticity in their employment intentions. This leads us to the conclusion that the prevalence of marginal employment among mothers in Switzerland is not the exclusive result of traditional gender norms, but also partially stems from and is re-enforced by the limited supply of ECEC services and their high cost.

The present analysis clearly has some limitations. One problem is that the number of observations per subgroups is quite low. Not only does this low

number produce rather broad confidence intervals, but it also limits our ability to carry out more detailed group-specific analyses. As a result, the groups we analyze are still heterogeneous. For example, it would be desirable to account for additional factors, such as mothers' education levels and income, since such differences have proven to be important in shaping mothers' preferences and opportunities for employment (Ferragina, 2019; Hook and Paek, 2020; Neimanns, 2021; Stadelmann-Steffen, 2011). For example, our data do not allow us to discern whether ECEC services promote a shift in mothers' employment intentions because of financial need or because mothers wish to increase their engagement in paid employment (Hakim, 2003a, 2003b; Stadelmann-Steffen, 2011). Overall, this also implies that our estimation of potential policy effects may be rather conservative. Put differently, the fact that we find significant policy effects under these conditions implies that the policy context does influence the intended amount of time mothers spend on paid labor.

A second limitation is that we are not observing actual behavior, but measuring individual responses and stated intentions in a (hypothetical) survey context. Hence, our analysis cannot conclusively indicate how much female employment would increase in Switzerland if external childcare spots were provided for free. We argue that this limitation is a question of interpretation. In fact, what our analysis shows is that expansions in the provision of external childcare have the potential to affect mothers' employment patterns. Our findings demonstrate not only that female work patterns do not strictly reflect mothers' actual intentions, but also that changes in the policy context matter. This is in line with Hakim's (2003b) claim that extensive childcare policies enable mothers to actually choose the degree of their participation in the labor market. Nevertheless, we need to mention that only rather drastic changes in childcare policies – namely, a shift towards a universal supply of external childcare – can be expected to substantially change mothers' employment behavior.

Finally, in terms of future research, our analysis demonstrates that conjoint analysis may be a promising tool to examine the complexities of work-family relations and the role of the policy context. While our study has focused on one specific case – namely, Switzerland, which is a Western European country characterized by persisting traditional gender roles and limited and expensive external childcare provision (Bütler, 2007; Häusermann and Zollinger, 2014; Stadelmann-Steffen and Oehrli, 2017) – more research is needed to determine whether our findings are context specific. On the one hand, a country's general socio-economic conditions and existing policy situation may be important, since they lead to varying reference scenarios based on which the alternatives are evaluated. Similarly, future research may also use the tools proposed in this paper to examine development over time, such as the pandemic's role in shaping the patterns of households' division of labor in different country contexts. On the other hand, gender roles and ideals of both care and work differ across countries,

which may heavily affect their interactions with existing and hypothetical structures. Given the exemplary liberal-conservative family policy context of Switzerland, we argue that the effects presented herein can provide valuable information pertinent to the analysis of other countries with similar conservative values and socio-economic conditions (such as the UK or Germany).

### Competing interests

The authors declare none

### Notes

- 1 Statistics from the FSO further show that, on average, mothers of children under the age of 12 years living in a couple spend around 16 hours per week on paid labor, while the total time they spend on unpaid domestic and family work is approximately 52 hours (FSO, 2021b). Their male counterparts devote more than twice as much time to paid labor: the average hours spend on paid labor by fathers of children under the age of 12 years living in a couple is 35 hours per week. Their time spend on unpaid domestic and household work is about 32 hours (FSO, 2021b).
- 2 In their conjoint experiment on the gender pay gap, Auspurg et al. (2017) address the complexity of such experiments and whether respondents may cope with it. They conclude that there is no evidence that cognitive overload affects the results, even in their experiment, which includes 12 dimensions.
- 3 While we focus on these three attributes in the presented analysis, we also integrated parental/maternal leave (varying schemes ranging from “maternal leave only” to more progressive versions that included a “daddy quota”), flexible work arrangements (varying degrees of flexibility), and the tax system (i.e., how double- and single-earner households are treated under the tax system).
- 4 Recent studies also point to the relevance of childcare services’ quality and opening hours (Schober 2020; Stahl and Schober 2020) – two aspects that we did not include in our analysis. One reason was methodological: We wanted to study childcare policies as an element of a broader policy context (also including other policies and framework conditions), so we had to limit the attributes of childcare policies we examined. Relatedly and more substantively, we argue that both childcare services’ quality and opening hours only become an issue when access to childcare and its affordability are a given. In the Swiss context, these two remain an important issue in the public debate about childcare policies, while childcare’s quality is an issue to a much smaller extent.
- 5 As outlined above, all respondents were exposed to five different scenarios – a procedure that generated 730 observations for the 146 mothers of children up to the age of 4.
- 6 The exact question in the questionnaire is: “Regardless of real use, if you had all available options, what form of supplementary childcare would you prefer for preschoolers?”
- 7 Note that these effects are clearly gendered. As Figure 4 in the Appendix (A2) shows, fathers of children aged 0-4 years do not show any elasticity in their own intended employment behavior related to ECEC service provision or any other policy factor.
- 8 Further analyses conducted by the authors, including interaction terms between the different ECEC dimensions, imply that the different childcare service dimensions mutually reinforce mothers’ intentions to engage in paid labor.

9 The distinction between only two employment groups may conceal important variation in employment levels. We tested a more differentiated 4-category variable in additional analyses not presented here and it produced very similar results. Nevertheless, we prefer to use our binary categorization here due to the low number of cases.

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## Appendix

### A1 – Conjoint attributes and levels

We defined attribute levels based on the existing literature, the current policy context, as well as current political discussions.

Most levels of the *ECEC attributes* describe realistic situations that many parents face in Switzerland. The costs of ECEC services are typically privately financed (especially in the case of medium and higher earners) or income-dependent (in the case of low-income households). Moreover, childcare spots are still rather scarce in many municipalities, come with considerable waiting times, or do not exist at all. Depending on one's place of residence, ECEC services may be available close by but it is also realistic to need considerably longer than 10 minutes to reach them. Hence, given this variety of realistic situations, these attribute levels enable us to study individual work intentions contingent on more extensive but also more restrictive policy configurations than individuals actually experience. Additionally, two attribute levels describe situations that clearly go beyond the current Swiss situation: namely, guaranteed childcare spots and free childcare.

In the *parental leave attributes*, the level “maternal leave only” describes the actual regulation in place at the national level at the time of the survey. Switzerland's rather limited public intervention has been subject to numerous political discussions and initiatives, most of which called for extending the regulation. In particular, people demanded introducing parental leave schemes (including paternal leave schemes (which are already in place in most European countries)). Picking up on such claims, the other attribute levels intend to cover progressive parental leave schemes.

The tax system varies considerably across cantons and its particular aspects and their consequences are rather difficult for the broad population to grasp. Therefore, we opted for rather generic attribute levels, focusing on the type of family model that the tax system would benefit. Taxing schemes' different “orientations” are a recurring issue in Swiss politics (Stadelmann-Steffen and Heidelberger, 2021). Recently, several propositions in parliament and at the ballot have striven to increase tax deductions for external childcare costs, which are notoriously expensive in Switzerland (Bütler, 2007; Stadelmann-Steffen, 2011). Nevertheless, every such proposition has also brought to the fore propositions from conservative politicians to (also) increase tax deductions for children receiving care at home. In this vein, the Swiss People's Party has proposed the introduction of such deductions through a popular initiative, which was rejected at the ballot in 2014.

Working time flexibility stands for the different degrees of flexibility in work times and workplaces. The employers mainly define these.

TABLE 1. The conjoint design: Attributes and levels

Attributes	Levels
ECEC Availability	Guaranteed childcare spot Childcare spots are scarce
ECEC Costs	Free Dependent on income Privately financed
ECEC Distance	Max. 10 minutes from residence Max. 10 minutes from working place No institution close to the living or working place
Parental leave schemes	14 weeks maternity leave 6 months, flexible between parents 12 months, flexible between parents 24 months within 6 years, flexible between parents 6 months, min. 1/3 each parent
Working Time Flexibility	Strict presence Flexible working time Home office is possible Home office is possible and flexible working time
Tax system	Tax deduction for childcare at home Tax reduction for external childcare Tax incentives for double earner households

Source: Prepared by the authors.

## A2 – Father’s employment intentions

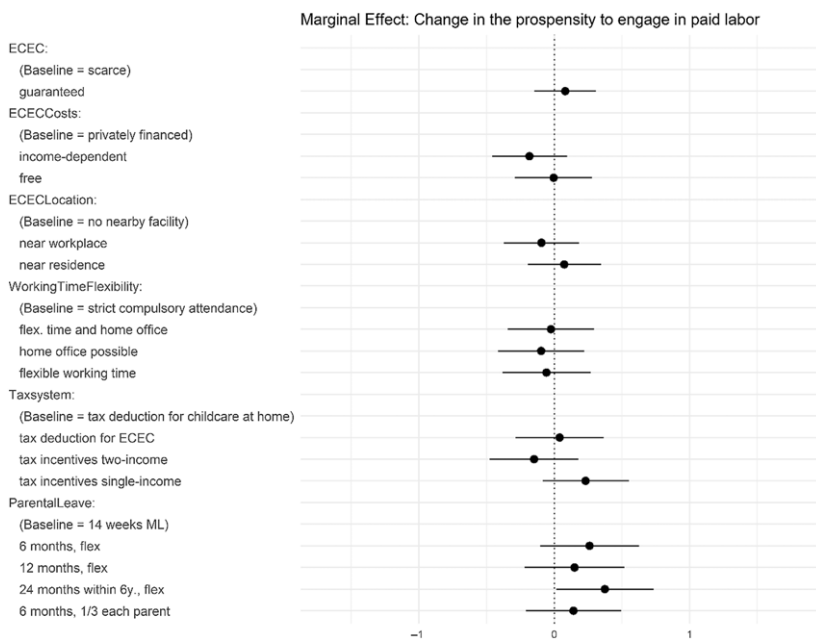


FIGURE 4. Effects of changes in ECEC provision on father’s employment intentions  
 Note: Results of the conjoint analyses. Full models fathers of children up to 4 years. The sub-sample “fathers of children up to 4 years” consists of 171 individuals, i.e. 855 observations.