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Single parents competing in a dual-earner society: Leveling the playing field

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# LIS Working Paper Series

No. 825

# Single Parents Competing in a Dual-Earner Society: Leveling the Playing Field

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Luxembourg Income Study (LIS), asbl

## Single parents competing in a dual-earner society: Leveling the playing field

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#### **Abstract**

This study set out to understand the poverty risks of single parents in the context of the rise of the dual-earner household. Data from the LIS database were used to analyze individuals and households from 18 OECD countries in the period 1984 to 2010. There were to main findings. The first is that single parents face higher relative income poverty risks (AROP) in the context of a large share of dual-earner households. This is related to the fact that the rise of dual earners is linked to a higher standard of living in society and therefore a higher poverty threshold that fewer single parents can reach based on a single income. Secondly, this overall pattern varied across institutional contexts: a rise of dual-earner households put single parents at a disadvantage only in the context of low public expenditure on ECEC, and of a lower degree of income replacement policies. Implications for theory and policy are discussed.

#### Introduction

Families in high-income countries have undergone a number of marked changes during the last decades. Two of the most economically impactful changes include on the one hand the rise of women's participation in the labor force and therewith the share of dual-earner families, and on the other hand an increased diversity of family forms. The increase in women's economic activity, often described as part of the gender revolution, has been associated with lower economic inequality in myriad ways, but also with a number of potential economic trade-offs.

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This article examines one such potential trade-off, that relates to the poverty risks of single parents – relative to couples with children – in societies with a large share of dual-earners: how well can they keep up with the incomes garnered by dual-earner couples? And what are the implications for social policy?

First and foremost, the gender revolution has a been a force of economic equality. More women entering the labor market, working longer hours, and in better-paying occupations and positions, has reduced economic differences between women and men substantially (Goldin 2006). Their economic activity also improved women's control over – and access to – household income (Bennett 2013) and eligibility for insurance-based social policy (Lewis 1992). Moreover, the rise of women's employment in the gender revolution has been reflected in women earning larger shares of household income, which has been found associated with lower inequality between households (Lam 1997; Harkness 2013; Nieuwenhuis, Van der Kolk, and Need 2017), and a – albeit small – reduction in relative poverty rates in the working-age population as a whole (Nieuwenhuis et al. 2020).

Yet, in relation to more recent developments, the gender revolution has also been described as "uneven and stalled" (England 2010, 149). In a number of countries, most notably in the United States, women's employment rates have stopped increasing. And, perhaps more importantly for the argument developed here, some groups have benefited more from the gender revolution than others, to the advantage of women with higher levels of education and access to better-paying occupations. This has brought into focus the potential trade-offs in terms of inequality of gender and class in relation to the gender revolution in general, and the institutional context supporting women's employment more specifically (Hook and Li 2020; Pettit and Hook 2009). This literature, however, has paid limited attention to family diversity – including the rising share of single parents.

The income situation of single parents amidst the gender revolution is not immediately evident. On the one hand, the rise of women's earnings has given rise to the number of dual-earner households that will often out-earn single parents with only one income. This can be expected to represent a disadvantage to the (relative) income position of single parents. Yet, the majority

of single parents (a large majority of whom are women) have been in a couple prior to being a single parent (Bernardi, Mortelmans, and Larenza 2018). This would mean that in dual-earner societies, many women will have been working before becoming a single parent, which is beneficial to their employment opportunities after becoming a single parent. Yet, at the same time, it is well documented that the use and benefits of childcare (as a typical dual-earner policy) are socio-economically unequal (Van Lancker 2018), and that many welfare states have reduced income replacement policies – in part to promote further employment growth, and in part as the rise of dual-earner families allowed for such reductions (Dingeldey 2007; Morel, Palier, and Palme 2012; Mertens 2017).

Taken together, there are a lot of unknowns regarding the (relative) income position of single parents in dual-earner societies. There are indications that they may lose out relative to rising numbers of dual-earner families, as well as indications that single parents benefit from the context of a dual-earner society. This study takes a broad perspective, examining the relative income poverty risks among single parents and couples with children in 18 high-income countries as the share of dual-earner households increased in the period from 1984 to 2010. A comparison between single-parent families and couples with children is well-motivated, as both have children and as such potentially are affected in similar ways by the institutional context, while a key difference is that single parents typically will not be able to have two incomes. This study answers two questions: To what extent has the rise of the dual-earner households in high-income OECD countries affected the poverty risks of single parents relative to couples with children? And: To what extent has the protective capacity of work-family reconciliation and income protection policies for single parents been altered by the rise of the share of dual-earner families in society?

# **Theory**

Research on the poverty risks of single parents has identified three types of explanations, that relate to individual, structural, or political causes (Brady 2019; Nieuwenhuis and Maldonado 2018). To theorize the potential influence of the share of dual-earner households, the structural explanations are discussed first, following by individual and political explanations.

Structural explanations of the poverty risks of single parents are conventionally understood as the employment conditions of single parents, such as precarious, part-time or low-wage employment, unemployment, and in-work poverty (Horemans and Marx 2018; Nieuwenhuis and Maldonado 2018a; Gingrich 2008). The defining feature of this type of explanation is that it acknowledges factors beyond the control of individual single parents, such as overall unemployment rates, wage setting practices, or earnings inequality. Here, I expand this defining feature to argue that the income poverty risks of single parents are also to be understood relative to the economic situation of other household types, and in particular relative to the share of dual-earner couples.

Income poverty is typically conceptualized as individuals living in a household that has a total income lower than a specific threshold, and often this threshold is set relative to other household incomes. The reason that household incomes are used, is that household members are assumed to share their incomes and as there are economies of scale at the level of the household. The reason that poverty thresholds in high-income countries such as in the OECD and the EU are set relative to other household incomes in society (for instance relative to the median household income), is based on the principle of social participation: "having too few resources or capabilities to participate fully in a society" (Smeeding 2017, 21; also see: Townsend 2010). Based on such conceptualization of relative income poverty, single-parent households can experience increased risks of poverty even their incomes remain the same, if other households have increased incomes. This represents that the typical standards of living have increased to the point that for some households (the single parents in this example) it becomes more difficult to fully participate in that society. From this, the baseline expectation follows that as the share of dual earners increased, the relative income poverty risks of single parents will increase relative to couples with children (polarization hypothesis). The underlying mechanism pertains to households' capability to have multiple earners. This is straightforward, but nonetheless important to test: The elevated poverty risks of single parents in countries with a high share of dual earners, can be (partially) explained by couples with children being more likely to have multiple earners in the household (*employment hypothesis*).

Individual explanations assert that single parents are more likely to be at risk of poverty, compared to other family types, because single parents are more likely to have a disadvantaged socio-economic background that provides fewer resources. Most prominently, this position was brought forward in the 'diverging destinies' thesis (McLanahan 2004), based on the observation that single parenthood is more common among lower educated parents. Yet, although this educational gradient in single parenthood is observed across many high-income countries, it actually explains only a very small part of their economic disadvantage (Härkönen 2018), and little of trends over time among single parents (Alm, Nelson, and Nieuwenhuis 2020; Zagel, Hübgen, and Nieuwenhuis 2021). However, in the context of the gender revolution and the rise of women's employment, it remains important to test the explanation that the lower level of education among single parents can explain part of their elevated poverty risks compared to other household types, for two reasons. First, with the rise of women's employment and to the benefit of in particular dual-earner couples, homogamy increased: higher educated and people with higher income potential increasingly tend to inter-marry (Kalmijn 1998; Oppenheimer 1994; Van Bavel and Klesment 2017), as a result of which lower educated single parents increasingly have to compete economically with higher educated couples with higher earnings potential. Second, the educational gradient in single parenthood was found to be weakest (or even almost absent) in Southern European countries with low female labour force participation (Härkönen 2018). In other words, in countries in which women's employment is high (and, by extension, where there are likely many dual-earner families), single parents will be disproportionally disadvantaged. The elevated poverty risks of single parents in countries with a high share of dual earners, can (partially) explained by their educational disadvantage relative to couples with children (education hypothesis).

Political explanations of poverty, finally, are based on the degree to which social and public policies help reduce (or, instead, increase) poverty risks for specific groups. Single parents do relatively well in societies with policies that support equality of gender, and equality of class (Cooke 2018; Maldonado and Nieuwenhuis 2018). This means that both work-family reconciliation policies and general income protection policies can be beneficial to single parents. Yet, whether and how their effectiveness for single parents is altered by the presence of a large share of dual-earner families in society, is unknown.

With respect to work-family reconciliation policies, it has been well-documented that for instance public childcare services are more often used by families who are socio-economically better off (Ghysels and Van Lancker 2011; Van Lancker 2018), while other studies demonstrate that the socio-economically vulnerable and single parents are disadvantaged most by the absence of public policies that support the dual-earner model (Korpi, Ferrarini, and Englund 2013; Maldonado and Nieuwenhuis 2015; Zagel and Van Lancker 2022) – among other reasons because families who are better off can compensate for the absence of public policies on the private market. Even though the share of dual earners itself will likely be higher in the context of many dual-earner policies such as early childhood education and care (ECEC), thus potentially increasing the poverty line for single parents, it is still expected that the presence of ECEC services will facilitate single parents in reaching above this poverty line through employment: The poverty risks of single parents are increased less in relation to a larger share of dual earners in the context of more extensive ECEC policies (ECEC hypothesis).

Cash benefits and income protection policies (such as unemployment benefits, social assistance, or more generally minimum income protection) provide a degree of decommodification that is particularly beneficial to single parents (Bradshaw, Keung, and Chzhen 2018). Decommodification refers to the level of income protection for people who are not (currently) employed. Yet, levels of income protection have generally fallen in recent decades, and for instance social assistance levels are below commonly accepted poverty thresholds in most countries (Nelson 2013). Decreasing levels and accessibility of unemployment benefits in Sweden - a notable dual-earner society - were found to have had limited impact on overall levels of poverty, but single parents who did not have a second earner in the household were found to be disproportionally affected with strongly elevated poverty risks (Alm, Nelson, and Nieuwenhuis 2020). To test a generalization of this latter finding it is hypothesized that a lower level of decommodification will be related to higher poverty among singles and single parents particularly in the context of a high share of dual earners (and, thus, a higher poverty threshold). Or otherwise formulated: The poverty risks of single parents are increased less in relation to a larger share of dual earners in the context of more extensive decommodification policies (decommodification hypothesis).

# **Methods**

The hypotheses in this study are tested using data from the Luxembourg Income Study Database (LIS)<sup>2</sup> on individuals and households, and covers (among other concepts) income, family relations, and labor force participation. The data are harmonized to maximize comparability across countries and over time. These data are combined with indicators of the institutional context, and analyzed using two-step multilevel regression.

## Sample

The data cover individuals and households from 18 countries in the period 1984 to 2010. Although more recent years could not be included due to lack of availability of contextual data, this period is sufficient to capture the rise of dual-earner households in many countries. The countries included are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland, the United Kingdom, and the United States. In total, 140 country-years were included. Individuals were selected in the age-range 25-50 to include the working-age population, while excluding most households from which all adult children have moved out.

#### Measurements

The units of observation were individuals, for whom a number of individual- and household level variables were defined:

**At-risk-of-poverty** (**AROP**): A person was considered at-risk-of-poverty when living in a household with a disposable household income (that is, the total income of all household members, after benefits and taxes) below 60% of the national median household income. All household incomes were equivalized for household size using the square root of the number of household members. This definition of at-risk-of-poverty is a measure of relative income

<sup>&</sup>lt;sup>2</sup> Luxembourg Income Study (LIS) Database, http://www.lisdatacenter.org (multiple countries; 2021-2022). Luxembourg: LIS.

poverty, and such relative measures are used in official capacity by the European Commission (Eurostat 2013) and the OECD (e.g. 2015).

**Household type**: An indicator classifying the household in which individuals live, distinguishing between single parents and couples with children. Couples include both married and cohabiting partners. In all household types other adults can also be present. For instance, a single-parent household is headed by a single adult who lives with one or more of their own children. The single parent can be in a relationship, but that person cannot live in the household. Other adults, however, such as siblings or parents of the single parent, can live in the same household (and their possible income is included in the total household income).

**Employment**: at the individual level, it is measured whether a person is currently employed.

**Dual-earner household**: in addition, a variable was constructed to indicate whether an individual lives in a household with an additional earner.

**Education**: measured at the individual level, using a standard ISCED 2011 classification of low (up to lower secondary education, ISCED levels 0, 1, or 2), middle (upper secondary to post-secondary, non-tertiary education, ISCED level 3 or 4), and high (short-cycle tertiary education and above, ISCED levels 5 to 8).

**Control variables**: In addition, control variables were included for gender, age, and age-squared (to account for possible non-linearities).

The data were combined with three variables at the contextual level, that each were measured at the level of the country-year, and are thus time-varying within each country. For ease of interpretation, all contextual variables were standardized to a mean of 0 and a standard deviation of 1.

**Share of dual-earner households**: aggregated from the micro-data, the percentage of households with more than one earner. This aggregation was done of the full sample of the working-age population, and is thus also based on singles and couples without children.

Early childhood education and care (ECEC): Public expenditure on ECEC as percentage of GDP was obtained from the OECD<sup>3</sup>. Although the problems with using expenditure data as a policy indicator are well-known (Clasen and Siegel 2007), these are the only available indicators that proxy ECEC policy while covering a large number of countries over a long period of time.

**Decommodification index**: Obtained from the comparative welfare state dataset (Brady, Huber, and Stephens 2020) (and originating in the comparative welfare entitlements dataset, (Scruggs, Jahn, and Kuitto 2013)), this indicator represents the overall benefit generosity across countries, covering policies that include unemployment benefits and sickness benefits.

To give a sense of how much the share of dual-earner households differs across countries, and has increased within countries over time, Table 1 presents the lowest and highest percentages of dual-earner families observed in each country. Table 2 provides descriptive statistics of the contextual variables (prior to standardization).

<< Table 1 here >>

<< Table 2 here >>

#### Method of Analysis

The data were analyzed using linear probability regression models, which in the case of a binary dependent variable (at-risk-of-poverty) is considered preferable over logit models as it allows to compare estimates across models (Breen, Karlson, and Holm 2018; Mood 2010). To account for the multilevel nesting of individuals in country-years, a two-stage regression technique (Möhring 2021) was used. In the first stage, for each country-year separately, at-risk-of-poverty was regressed on household type (and the control variables) and the estimates were stored as indicators of the poverty risks of the different household types. This was then repeated while controlling for education, and again to also control for the employment variables, to assess how much the poverty risks of different household types relate to the respective controls. Even

<sup>&</sup>lt;sup>3</sup> https://stats.oecd.org/Index.aspx?DataSetCode=SOCX\_AGG

though the employment variables do not account for wages or working hours, it is still reflected whether part-time and low-wage employment is more common among specific groups (or in specific countries or time-periods), as this would lead to weaker correlations between the employment variables and the risk of poverty. In the second stage of the analysis, all estimates from the first stage were combined with the contextual data. The poverty risks of the various household types were then regressed on the contextual variables. The advantage of this two-stage procedure over an integrated mixed-effects regression approach is that it is not biased by the relatively small number of countries in the analysis (Bryan and Jenkins 2016), and it allows for cross-national variation and trends in the relationship between control variables and (in this case) at-risk-of-poverty (Heisig, Schaeffer, and Giesecke 2017). All second-stage regression models include country-fixed effects to account for time-invariant unobserved heterogeneity.

# Results

The baseline results are presented in Table 3, in which at-risk-of-poverty rates are regressed on the interaction between household type and the share of dual-earners in society. Here, the units of observation are country-years, and the three columns represent models in which the estimates of poverty for different household types were created using different micro-level controls. The 'baseline' model only controls for gender and age, and shows that single parents have higher poverty risks than couples with children, and that the poverty risk of single parents is higher in association a larger share of dual-earner households in society. For each standard deviation increase in the share of dual-earner households (about 10 %-points, see Table 2), poverty among single parents increases by 3.69 points. Poverty among couples with children is unrelated to the share of dual earners. This supports the polarization hypothesis.

Next, accounting for levels of education changes very little to the estimates presented in Table 3. Differences in education between single parents and couples with children do not provide a relevant explanation of differences in poverty between single parents and couples with children, nor of how they are affected by the share of dual earners. This falsifies the education hypothesis.

The final model in Table 3 controls for individual's employment status, and whether they live in a dual-earner household themselves. The degree to which poverty among single parents is

higher in association with a larger share of dual earners is now substantially lower (from 3.69 to 1.74). This supports the employment hypothesis: The elevated poverty risks of single parents in countries with a high share of dual earners, can be (partially) explained by couples with children being more likely than single parents to have multiple earners in the household. In other words, while the gender revolution and the rise of dual-earner families has improved equality in a number of ways (see introduction), in terms of relative income poverty single parents have not been able to 'keep up' by increasing their employment at the same rate.

The latter finding raises the question what the potential role of social policy can be. To test this, the models in Table 3 were extended to also include interactions with ECEC policy and an index of decommodification. This involves three-way interactions, that are notoriously difficult to interpret. Therefore, instead of the regression parameters, marginal effects plots are presented.

# << Figure 1 >>

Figure 1 visualizes the marginal effects of the share of dual-earner households on poverty risks among couples with children and single parents, and shows these separately in the context of lower public expenditure on ECEC and higher public expenditure on ECEC. In the context of low public expenditure on ECEC, shown in the panel to the left, an increase in dual earners is associated with an increase in poverty risks among single parents, but not among couples with children. This is highly similar to the results presented in Table 3, based on the dark lines (controlling for employment, as shown by the lighter lines, shows that employment remains the important mechanism why the share of dual earners is related to the poverty among single parents but not among couples with children). Yet, in a context of high public expenditure on ECEC, these associations disappear: in the context of high investments in ECEC, single parents do not fall behind couples with children (in terms of poverty) when dual-earner households are more common. Figure 2, finally, shows that income protection policies (as captured by the decommodification index) also protect single parents against the consequences of a high share of dual earners. Taken together, these findings support both the ECEC hypothesis and the decommodification hypothesis.

## Conclusion

This study set out to understand the economic position of single parents in the context of the rise of dual-earner households. There were to main findings. The first is that single parents face higher relative income poverty risks in the context of a large share of dual-earner households. This is related to the fact that the rise of dual earners is linked to higher standard of living in society and therefore a higher poverty threshold that fewer single parents can reach based on a single income. Secondly, this overall pattern varied across institutional contexts: a rise of dual-earner households put single parents at a disadvantage only in the context of low public expenditure on ECEC, and of a lower degree of income replacement policies.

A broad, country-comparative perspective was particularly suitable to find general associations, to evaluate whether these associations can be generalized to number of high-income countries, and how these associations differ across institutional contexts characterized by (variation in) ECEC and income replacement policies. But what is gained in terms of broad perspective, is lost in terms of details of causal inference. As such, further studies should implement research designs more suitable for detailed causal inferences – likely at a smaller scale in terms of country- and year- coverage, including with longitudinal analyses at the individual- and household level, and more detailed indicators on ECEC policy. Moreover, it should be acknowledged that poverty is multifaceted, and no single indicator will capture each aspect. Relative at-risk-of-poverty (AROP) is a commonly used measure of poverty, that captures the important dimension of poverty of not being able to participate fully in society. Future work using alternative measures of poverty (and deprivation) can shed further light on the complex interplay between the gender revolution, the rise of dual-earner households, and the economic position and living conditions of single parents. Finally, future research can evaluate to what extent the findings presented here also pertain to singles without children: a growing group that also will not be able to have multiple earners in the household.

The findings have important implications for both theory and policy. In terms of theory, poverty among single parents is often explained by their individual background, structural changes in

labor markets, or by their social policy context (Brady 2019). Cross-national comparisons generally show that the individualized explanations have little purchase in explaining single parent poverty, in favor of explanations related to the policy context (Brady, Finnigan, and Hübgen 2017). Differences in the policy context proved to be a more important explanation of poverty among single parents in the context of dual-earner households as well. Moreover, a new and important structural factor was introduced here: the share of dual-earner households in society. This demonstrates that poverty risks are inherently relational (Tomaskovic-Devey and Avent-Holt 2019), and cannot solely be explained by reference to individuals' own socio-economic background, family composition and policy context, but also requires reference to the economic activity and composition of other households in society.

In terms of policy, it has long been identified in the EU and beyond that despite increases in labor force participation rates, and despite active social policy (including ECEC) to support women's employment, poverty rates have hardly – if at all – declined (Vandenbroucke and Vleminckx 2011; Cantillon and Vandenbroucke 2014; Nieuwenhuis et al. 2020). The findings presented here contribute the insight that although a rise in employment will help protect individuals and households against poverty, it also represents a displacement in who benefits from employment, and who is disadvantaged by the increase in employment of others. As such, policies to support both work-family reconciliation and income protection are particularly important in the context of a dual-earner society, to avoid that groups who currently are not – or cannot be – in a dual-earner household fall into poverty.

To conclude, what can this comparative study say about the United States? It has been well documented – in this collection and elsewhere – that single parent poverty is among the highest in the United States (Casey and Maldonado 2012; Nieuwenhuis and Maldonado 2018b; OECD 2011). Positioning the United States in comparative perspective in this study contributed the insight that the relatively high shares of dual-earner families, but without the public support for combining work and family and without adequate income protection, contribute to this country's perfect storm for single parents.

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Table 1: Percentage of dual earner households by country (lowest and highest)

	D ( C1 1	1 1 11	
	Percentage of dual-earner households		
Country	Lowest	Highest	
Australia	59.5	62.3	
Austria	50.9	68.5	
Belgium	44.5	64.2	
Canada	61.1	70.5	
Denmark	62.4	70.8	
Finland	60.5	72.0	
France	42.0	63.3	
Germany	54.6	62.6	
Greece	27.4	55.8	
Ireland	41.5	61.3	
Italy	31.6	51.3	
Netherlands	46.0	69.1	
Norway	62.8	70.9	
Spain	30.8	67.4	
Sweden	54.4	61.6	
Switzerland	41.7	72.7	
United Kingdom	59.3	61.7	
United States	59.3	66.3	

**Table 2: Descriptive statistics contextual variables** 

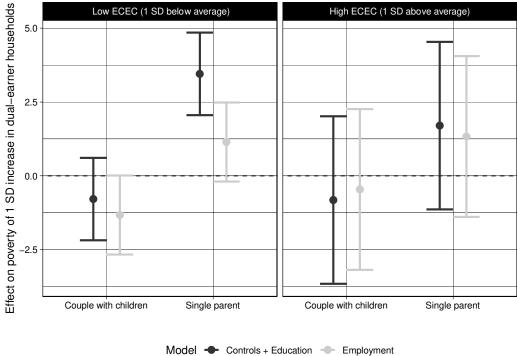
	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Percentage dual-earners	59.2	9.6	27.4	55.4	65.8	72.7
Decommodification index	32.1	6.6	20.8	26.6	36.9	45.8
ECEC	0.5	0.5	0.0	0.2	0.8	1.9

Table 3: At-risk-of-poverty regressed on household type and share of dual-earner households

	Micro-level controls			
	Baseline	Education E	mployment	
Couple with children	10.77***	9.93***	6.25***	
	(2.36)	(2.24)	(2.12)	
Single Parent	29.03***	26.85***	16.51***	
	(2.36)	(2.24)	(2.12)	
Association of share of dual-earner households with poverty among:				
Couple with children	-1.01	-1.07*	-1.17**	
	(0.62)	(0.59)	(0.56)	
Single Parent	3.69***	3.44***	1.74***	
	(0.68)	(0.65)	(0.61)	
$R^2$	0.95	0.94	0.90	
Adjusted R <sup>2</sup>	0.94	0.94	0.89	
Residual Std. Error (df = 259)	5.72	5.43	5.12	
F Statistic (df = 21; 259)	215.49***	201.04***	110.92***	
Note: Estimates based on interaction between household type and share of dual-earner households.		*p<.01**p<.05***p<.01		

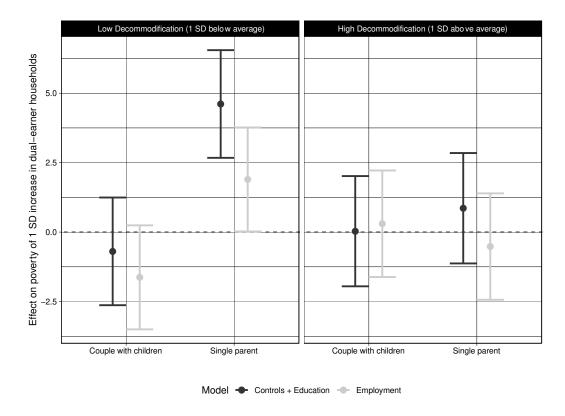
Intercept omitted. Country-fixed effects included.

Figure 1 Marginal effects of dual-earner households on AROP, by household type & **ECEC** 



Note: Point estimate and 95% confidence intervals shown. Controls for gender, age, age squared, country-fixed effects and decommodification.

Figure 2 Marginal effects of dual-earner households on AROP, by household type & decommodification  $\,$ 



Note: Point estimate and 95% confidence intervals shown. Controls for gender, age, age squared, country-fixed effects and ECEC.