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The Single Motherhood Penalty as a Gender Penalty.

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The Single Motherhood Penalty as a Gender Penalty[1]

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Luxembourg Income Study (LIS) Working Paper

Abstract

Recent analysis has suggested that poverty rates, and their variation across rich countries, is driven much less by the *prevalence* of certain risks than by the poverty *penalty* attached to the risks. Focusing on single motherhood as a poverty risk, it is claimed the penalty attached to it is specific to the United States. This claim, we show, relies on models that condition on the major mechanisms through which poverty risks are heightened: the risk of non-employment, and of having only a single earner, in the household. Removing these conditions, we find that the poverty penalties associated with single motherhood accounts to a similar degree to the prevalences of single motherhood for variation in poverty rates in rich countries. The penalty averages 16% and is significant in 27 out of 28 countries. At nearly 26%, the penalty in the United States is comparatively high, but not exceptionally so, with 9 out of 28 countries having penalties over 20%. Any comparative analysis of poverty or inequality, we argue, must recognize the joint role of work, welfare and family institutions. In all but the Scandinavian nations, these institutions remain gendered.

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The Single Motherhood Penalty as a Gender Penalty

1 Introduction

In an important and influential article, Brady, Finnigan and Hübgen (2017) (subsequently, BFH), analyze the extent to which poverty in rich democracies is accounted for by four risk factors: single motherhood, low education, unemployment and youth. They disaggregate poverty rates, and their variation across countries, into the *prevalence* of households with the risk factors, and the poverty *penalty* attached to the risks. Analyzing data from the Luxembourg Income Study (LIS), BFH conclude that 'a focus on risks does not provide a convincing explanation of poverty, [and] single motherhood may be the least important of the risks (2017:740).' Instead, they argue, it is variations in the poverty penalties attached to risks that accounts for cross-country differences in the rate of poverty.

Central to the argument in BFH's article and accompanying public commentary is their conclusion that the connection commonly made in policy and in theory between single motherhood and poverty rests on the case of the United States (US) where the penalty to being a single mother is exceptional (Brady, Finnigan, and Hübgen 2018). In most other rich countries, they find that single motherhood comes with little or no heightened poverty risk. This contradicts earlier research that has shown single motherhood to be an important risk factor for poverty across rich countries (Esping-Andersen 2009; McLanahan and Carlson 2001; Rainwater and Smeeding 2004).

BFH use more recent data, and consider poverty for all working-age households, rather than women or children specifically. Their analysis is novel, in that it attempts to estimate poverty penalties to each of the risk factors they consider, net of the penalties of the other three risks. BFH argue that penalties for any single risk should be 'conditional on other

risks and a reasonable set of other potential confounders [...] to guard against conflating the penalty of one risk with another (e.g. the penalty for single motherhood should be net of unemployment, young headship, and low education)' (Brady et al. 2017). While BFH are clear that it is not their intention to distinguish between causal effects and statistical associations, the major problem with their approach is that it confuses mediating and confounding variables.

Penalties should be easy to interpret, because they simply compare mean differences in poverty risks of one group with that of another. Yet, a penalty's value depends entirely on the group it is being compared to. Both general and specialist readers might reasonably presume that a single motherhood penalty is the poverty risk for all single mothers, relative to all couples with children. Never clearly stating their comparison, BFH do little to challenge this presumption. From close attention to their footnotes, and code provided openly online, we see that the main models on which BFH base their conclusions, because of what they control for, in fact compare the poverty risk of *employed* single mothers heading their own household to *single-earner* couples with children and employed single fathers. The resulting penalties speak to only a subset of the population of interest and are not readily interpreted as single motherhood penalties.

Failing to distinguish confounding and mediating variables is a common error in quantitative research, with discrimination between them requiring a precise, theoretically informed, model of the causal processes. In this case, the number of adults employed in a household is a major part of the causal pathway linking single motherhood to poverty. BFH's results indicate that if single motherhood were not associated with an increased risk of non-employment, and if couple families only had one earner in employment, single mother families' poverty risk would not be significantly higher than other families'.[2] This does not mean that single motherhood is an unimportant risk factor for poverty.

[2] We could imagine a hypothetical counterfactual where differences in non-employment risk between single mother and other households were eliminated (for example, through a job guarantee and public childcare), and be interested in how much this closes the gap in poverty rates between household types. However, inferring this from a model controlling for non-employment would require a strong set of

We show that the mechanisms BFH condition on are gendered, and therefore best understood as constitutive of a penalty to single motherhood, a term that denotes a partnership and parenthood status, *and a gender*. We confirm that in the vast majority of couple families with a single earner it is the father who works: BFH's comparison is effectively between families with a single female and a single male earner. We find that, even in countries with significant numbers of single fathers, single fathers do not face the same risk of non-employment as single mothers. As a result, we argue, contrary to their aims, BFH's penalties obscure much of the institutional context for poverty: a *combined* welfare, work, and household context that remains gendered.

It is not our intention to single out BFH for criticism, but instead to use their substantively important and policy-relevant paper as an example of the need for a clear, theoretically justified model even when estimating and interpreting descriptive quantities such as penalties. BFH's paper illustrates a frequent problem in quantitative social science that arises when the estimand is poorly defined (Lundberg, Johnson, and Stewart 2021).

We begin with a note on prevalences, showing, with the case of single motherhood measured by female-household headship, how the operational definition of a group can also obscure important aspects of institutional variation. We then revisit BFH's models for single motherhood penalties, showing how the household employment mechanisms they condition on are gendered, and drastically change their comparisons and therefore estimates of penalties. Continuing with the case of single motherhood and gender, we conclude by discussing the importance for comparative analysis of recognizing the interdependencies between welfare, work and household institutions.

2 Prevalences: Defining Single Mother Households

assumptions (Acharya, Blackwell, and Sen 2016; VanderWeele and Vansteelandt 2009). A penalty under a hypothetical counterfactual where the number of earners in single mother households were raised *up* to that observed in couple households would be undefined because of a lack of common support: single mother households, as defined, cannot be dual-earner households.

BFH measure single mother households as a proportion of all working-age (under-65) households. This departs from most analyses of poverty that weights households by individuals, or by children when they want to show the share of children in single mother households. Such weighting recognizes that individuals, and children specifically, are not evenly distributed across household types. Yet even if we consider exposure to poverty at the household level, BFH's measure of the prevalence of single motherhood is limited to *female-headed* households.

Many studies, we acknowledge, use female headship to identify single mother households; data on mothers living not with a male partner but with one or more other adults is not always available. However, feminist scholars point out that the statistical category of 'head of household' reinforces gendered assumptions about families, and obscures gender inequality (Brückweh 2018; Gammage 1998). Depending on the institutional context, single mothers may or may not live independently as household heads. Therefore, to consider how cross-national variations in institutions affect poverty, it would be advantageous, where possible, to understand how widening the definition of single mother households to include those who are co-resident in other households influences estimated prevalences, and their variation across countries.

Studies of the US show the co-residence of single mothers, most commonly with their parents, has seen a secular upward trend – and is typically a response to poverty (Edin and Shaefer 2015; Pilkauskas and Cross 2018). The scale of co-residence in the US case is also clear in the LIS data: in 2010, one in four American single mothers were not living in independent households. Including co-residing single mother households increases the proportion of single mother headed households in the United States by one-third, from 8.0% to 11.0% of all households (unweighted) where the head was under 65. This degree of increase is not seen in the 15 other countries for which data on co-residence is available (Figure 1). As a result, defining single motherhood by female-headship leads to a meaningful underestimate of the relative prevalence of single motherhood in the United States.

3 Penalties: Comparing Single Mother Households' Poverty Risk

BFH conclude that single motherhood is, in most countries, an unimportant risk for poverty. The model on which they base this conclusion conditions on the two primary mechanisms, identified in the literature, through which single motherhood gives rise to poverty: (i) a reduction in the number of potential earners in the household, and (ii) an increased risk of non-employment at the household level Both mechanisms are gendered: single earners in couples are in the vast majority of cases men, and the risk of household non-employment is connected to single motherhood specifically – we find a far lower non-employment risk for single fathers. The degree to which these gendered mechanisms apply reflects important aspects of the institutional and policy context for poverty that BFH's comparative analysis of penalties aims to study.

First, BFH condition on having only one earner in the household. This restricts the comparison to ***single-earner couples*** and working single fathers. However, households headed by a single mother almost always have just one potential earner – a female earner.[3] In contrast, in all countries now a minority of couples with children have a single-earner – in most cases, a male earner. Our calculations using LIS data for 2010 shows that on average 24% of couples with children has a single earner. The share of single earners among couples with children, furthermore, ranges from 8% in Iceland to 40% in Italy, and is 29% in the US. On average in 81% of single earner couple households with children it was the father who was employed. The proportion ranges from 46% in Sweden to 100% in Japan and is 79% in the US. [4]

Second, BFH condition on whether the household is 'unemployed', measured as having no-one in paid employment. This means that the estimated penalties to single motherhood are the additional poverty risk for single mother headed households ***net of the risk of no***

[3] Non-resident fathers can and in some cases do contribute a proportion of their earnings to the household in the form of child support. A third of single mothers in the US report receiving this in LIS. Any child support income received is, however, included in LIS's measure of income and therefore poverty.
[4] All figures are provided in appendix table A1.

one in the household being employed. However, while *un*employment (actively looking for work) could plausibly reflect cyclical factors independent of single motherhood, *non*-employment includes many other groups, in particular those providing unpaid care full-time. Across rich countries, we confirm in the LIS data that the elevated risk of having no-one in employment in the household is higher for mothers who do not live with a male partner. This reflects the gender, as well as the number, of the adults in the household. With the exception of Finland, we find the employment gap for single fathers relative to couple families is substantially lower than for single mothers (Figure 2). The non-employment penalty for single mothers ranges from about 10 per cent in Norway and Finland to over 30 per cent in the UK and Australia. In the US, the non-employment penalty to single motherhood ranks roughly in the middle of rich countries, at 15.8%.

How does conditioning on these gendered employment mechanisms change the comparison being made, and estimates of poverty penalties? Starting with BFH's models, we re-estimate the single motherhood penalty making three adjustments in turn. In all models, we stay consistent with BFH by adjusting for education (low, middle or high education) and age (<25, 25-34, 35-54), and measuring poverty at below 50% of the country's median income, adjusted for household size. We use LIS wave VIII (2010) where available.[5] Figure 3 visualizes how the single motherhood penalties change, cumulatively, with each adjustment.

Adjustment 1: First, we include a binary variable for being a single father and include in our definition of single mothers those households where single mothers co-reside with other adults. This compares all employed single mother households to *single-earner*

[5] This means updating the data used in BFH's papers for Austria (from 2004 to 2010), for Hungary (from 2005 to 2009) and using 2010 data for the US, unlike BFH who use 2013 data. As in BFH, data is for 2000 for Belgium, 2005 for Sweden and 2008 for Japan. For all other countries data is for 2010. Using the same, or nearest available, year of data meaningfully reduces the coefficient of variation in penalties across countries, from 1.51 to 1.27 (Table 1).
We do not include South Korea in our analysis because the data shows zero single mother households on BFH's definition. Although beyond the scope of this comment, a full reanalysis of BFH's question would consider the robustness of results to year (and to poverty measure) particularly because 2010 data will capture recessionary as well as structural differences between countries. In some countries including the UK, median income fell in 2010 following the 2008-9 recession, which automatically reduced poverty measured relative to median income.

couples with children. Poverty is measured at the household level, so we also control for co-residence, so the inclusion of co-resident single mothers will not drive any differences in penalties. This results in a mean single mother penalty of 5.8%, which is almost identical to that which we get when we replicate BFH's models using consistent years of data (see footnote 4). This adjustment does little to change the pattern of penalties BFH find; it shows statistically significantly higher poverty among working single mother households in 11 out of the 28 countries, and lower poverty in three.

Adjustment 2: Second, we remove controls for having more than one earner in the household. This model still conditions on no-one in the household being employed. The new model compares *working single mothers'* poverty risk to the risk of *all working couples with children* (regardless of the number of adults in work). This results in an average single mother penalty of 10.3% (4.5 percentage points higher than when we replicate BFH's models). The penalty in the US, at 17.6%, is lower than that in Japan or Luxembourg, and slightly above that in the Netherlands (16.3%), Switzerland (14.1%) or Germany (13.3%). Without controls for multiple earners, single motherhood is associated with a significantly higher risk of poverty in 19 out of the 28 countries, and a lower risk of poverty only in the United Kingdom.

Adjustment 3: Third, we remove controls for non-employment. This model compares all single mothers – whether in paid work or not – to all couples with children. The penalty increases to a country average of 16.3% and is positive and significant at the 5% level in 27 of the 28 countries (the exception being Slovakia). The poverty penalty for single mothers in the US – at 25.8% - is comparatively high, but not exceptional. It is only slightly higher than countries including Canada (23.4%), Germany (21.4%) and Australia (20.6%) with 9 of the 28 countries having penalties of over 20%.

BFH conclude that variations in the penalties associated with risk-factors, rather than in the prevalences of risk-factors, are key to understanding cross-country differences in poverty. Single motherhood, they find, is a particularly unimportant risk factor, with variations in single mother penalties being three times greater than variation in

prevalences. Replicating their analysis (Table 1), we show that BFH's conclusion only holds when we condition on household employment. Removing controls for multiple earners, the variation in penalties halves, and the average size of the penalty doubles. Excluding controls for household non-employment reduces the cross-country variation in penalties to a level just below that for prevalence. When employment is recognized as a mediator of poverty risk, and all single mothers are compared to all couple families, variation in prevalence and penalties accounts to similar degrees for cross-country differences in poverty.[6]

4 Policy: Gendered Institutional Regimes

Comparative quantitative analysis continues to be a vital method in social science, and the acclamation BFH's article has received, including the 2018 best article award from the Inequality Poverty and Mobility (IPM) Section of the American Sociological Association, testifies to this. Distinguishing penalties from prevalences, and showing their variation, can highlight the role institutional contexts play in determining the risk associated with any individual or household level factors. Yet, sociology's major contribution to comparative analysis of social welfare has been the concept of a '*regime'*, that captures how state, market, and family institutions operate as a whole system (Esping-Andersen 1990). How useful or valid specific typologies of regimes are, particularly in their capacity to account for demographic and policy change, and the welfare of women and minorities, is the subject of ongoing discussion. However, one advantage of a thinking in terms of 'regimes' is that it recognizes the interdependencies between the social organization of welfare, work, and households.

[6] Inspired by BFH's framework, Laird et al. (2018) consider the role of prevalances and penalities in cross-state variation within the United States for the same four risk factors along with race and nativity (which is consistently measured within the US), without conditioning on the other risk factors. With the exception of unemployment, they find that prevalences account for more of the variation in poverty rates than penalties (on the absolute, supplemental poverty measure). Explicitly comparing the role of market (employment) and social income, they find that on average across US states, taxes and transfers reduce single motherhood poverty penalties by 18 percentage points – much more than they reduce penalties for other risks.

BFH contrast penalties, which they attribute to institutional causes, with prevalences, which they assume do not reflect institutional or policy differences between countries. In the case of single motherhood, as BFH suggest, marginal tax and welfare incentives have been shown to have little effect on prevalence (Ellwood and Jencks 2004; Gregg, Harkness, and Smith 2009). We also note that policies in the US aiming to reduce single motherhood (let alone poverty) through "marriage promotion" – including reducing social protections for single mothers and their children, and stigmatizing them – have been ineffective, if not counterproductive (Schneider 2015; Wood et al. 2014). We strongly sympathize with BFH's (2018) critique of this agenda. Yet, while the share of single mothers in a population may not be responsive to policy, the share of single mothers who are household heads is. In the US case, single mothers' co-residence decreased as Earned Income Tax Credits (EITC) increased (Pilkauskas & Michelmore, 2019). In countries where social payments to single mothers are more generous and less subject to conditions, we might expect to see a greater proportion of single mothers living independently.

Undoubtedly, institutions affect the poverty penalties associated with single motherhood, or other risk factors. But they affect poverty rates in part *through* their effect on employment at the household level. The male breadwinner family is no longer the modal household in any rich country. Single-earner couple families, to which BFH compare employed single mother families, are a small share (across our countries, on average, 11%) of all working-age households. Across rich countries, a majority (on average, over 75%) of couples with children are dual-earner households (table A2). Yet, the degree to which mothers, living with a partner or not, are – or are expected to be – in paid employment varies with the welfare regime (Albelda, Himmelweit, and Humphries 2004; Gornick 2004; Pettit and Hook 2009). Labor and working-hours regulations, family leave, and childcare provisions are all associated with mothers' (relative) employment rate. The level of social welfare and tax credits, and the structure and the conditions attached to those payments, also influence maternal employment rates. With no potential male earner (or caregiver) in the same household, *single* mothers' employment is particularly contingent on such policy (Dickens and Ellwood 2003; Maldonado and

Nieuwenhuis 2015). Single-earner couple families are at heightened risk of poverty – even when that earner is male (Filandri and Struffolino 2019; Kenworthy and Marx 2018). Non-employed single mothers are at a much heightened risk of poverty – even in countries with more generous, and less conditional, welfare provision (Nieuwenhuis and Maldonado 2018; Rainwater and Smeeding 2004). A household poverty penalty conditional on households having a single earner and someone in employment therefore cannot speak to the working-age population in general, or much of the institutional context that affects poverty today.

The gendered nature of this institutional context is visible if we compare single mothers' poverty penalties (relative to couples with children) with single fathers'. BFH note that single father households remain rare. In our samples they account for fewer than 2% of households in all 28 countries, and fewer than 1% in 21). BFH also state that "when estimable, single-father households are not usually significantly different from couple households for poverty" (p.749, footnote 10). We estimate penalties for single fathers for the thirteen countries where the LIS data includes more than 100 households headed by single fathers (Figure 4).[7] Relative to couples with children, without conditioning on employment and single-earners (as adjustment 3 above), we find that single fathers actually faced a statistically significant heightened risk of poverty in nine of the thirteen countries. The average single fatherhood penalty across countries is 6% - half the mean single motherhood penalty for the same countries. In the Nordic countries, the poverty penalty to single motherhood and to single fatherhood is similarly low, at about 5%. In the US however, the increased risk of poverty associated with single fatherhood was 5% but 26% for single motherhood.

We see single motherhood as at the intersection of parenthood and partnership status *with gender*. The penalty attached to this status therefore is better thought of as encompassing gendered employment penalties. When considered in this way, the penalty remains substantial across rich countries. What stands out comparatively is less the case of the US, but rather the example of the Nordic countries with their explicitly gender egalitarian

[7] All sample sizes are provided in appendix table A2.

and child-centered combination of employment, welfare and family policies. In this 2010 data, the UK also stands out for its relatively low penalties, which reflect conscious attempts by the prior Labour governments to bridge the liberal, 'Anglo', and social-democratic institutional models through an expansion of work-family reconciliation policies, and a combination of universal and targeted, unconditional and conditional, social allowances for children (Gregg et al. 2009; Pearce 2005; Waldfogel 2010).

These comparative patterns are important because recognition that gender still structures the risk of poverty is required to design policies that reduce poverty. Feminist scholars have long highlighted the importance of thinking about the policies that organize families and work *together* (Fraser 1994; Gornick and Meyers 2004; Lewis 1997; Orloff 2009). The difference between our and BFH's conclusions in this case points to a general difficulty in interpreting penalties attached to any social group that control for the institutional context that penalizes, and defines, them (Kohler-Hausmann 2019). For example, taking one of the other risks BFH consider, we would expect a substantial part of the risk of poverty associated with young headship relative to other working-age households to work through young adults' increased risk of non-employment, and the prevalence of youth headship to relate to how affordable it is for them to live independently of their parents.

By highlighting the importance of the institutional context to poverty, and the potential for policy to reduce poverty, BFH's paper makes an important contribution. We hope this comment will advance this vital agenda.

References

Acharya, Avidit, Matthew Blackwell, and Maya Sen. 2016. 'Explaining Causal Findings Without Bias: Detecting and Assessing Direct Effects'. *American Political Science Review* 110(3):512–29.

Albelda, Randy Pearl, Susan Himmelweit, and Jane Humphries. 2004. 'Dilemmas of Lone Motherhood: Key Issues for Feminist Economics'. *Feminist Economics* 10(2):1–7.

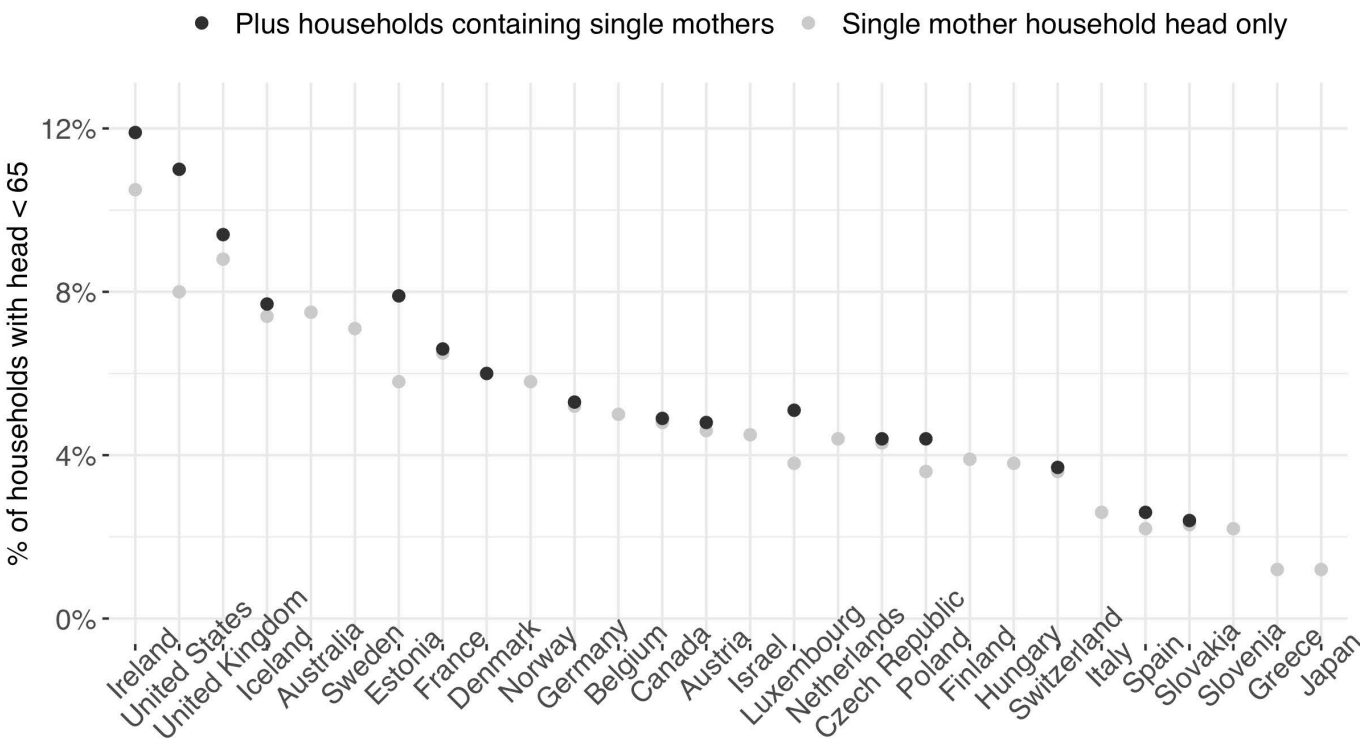
Brady, David, Ryan M. Finnigan, and Sabine Hübgen. 2017. 'Rethinking the Risks of Poverty: A Framework for Analyzing Prevalences and Penalties'. *American Journal of Sociology* 123(3):740–86.

Brady, David, Ryan M. Finnigan, and Sabine Hübgen. 2018. 'Single Mothers Are Not

The Problem'. *The New York Times*, February 10.
Brückweh, Kerstin. 2018. 'The "Head of Household'': A Long Normative History of a Statistical Category in the U.K."' *Administory* 1(1):107–23.
Dickens, Richard and David T. Ellwood. 2003. 'Child Poverty in Britain and the United States'. *The Economic Journal* 113(488):F219–39.
Edin, Kathryn J. and H. Luke Shaefer. 2015. *$2.00 a Day: Living on Almost Nothing in America*. Houghton Mifflin.
Ellwood, David T. and Christopher Jencks. 2004. 'The Uneven Spread of Single-Parent Families: What Do We Know? Where Do We Look for Answers?' Pp. 3–77 in *Social Inequality*, edited by K. Newman. Russell Sage Foundation.
Esping-Andersen, Gøsta. 1990. *The Three Worlds of Welfare Capitalism*. Princeton University Press.
Esping-Andersen, Gøsta. 2009. *The Incomplete Revolution: Adapting to Women's New Roles*. Polity Press.
Filandri, Marianna and Emanuela Struffolino. 2019. 'Individual and Household In-Work Poverty in Europe: Understanding the Role of Labor Market Characteristics'. *European Societies* 21(1):130–57.
Fraser, Nancy. 1994. 'After the Family Wage: Gender Equity and the Welfare State'. *Political Theory* 22(4):591–618.
Gammage, Sarah. 1998. *The Gender Dimension of Household Poverty: Is Headship Still a Useful Concept?* Washington, D.C.
Gornick, Janet C. 2004. 'Women's Economic Outcomes, Gender Inequality and Public Policy: Findings from the Luxembourg Income Study'. *Socio-Economic Review* 2(2):213–38.
Gornick, Janet and Marcia Meyers. 2004. 'More Alike than Different: Revisiting the Long-Term Prospects for Developing "European-Style" Work/Family Policies in the United States'. *Journal of Comparative Policy Analysis: Research and Practice* 6(3):251–73.
Gregg, Paul, Susan Harkness, and Sarah Smith. 2009. 'Welfare Reform and Lone Parents in the UK'. *The Economic Journal* 119(535):F38–65.
Kenworthy, Lane and Ive Marx. 2018. 'In-Work Poverty in the United States'. Pp. 328–44 in *Handbook on In-Work Poverty*, edited by H. Lohmann and I. Marx. Edward Elgar.
Kohler-Hausmann, Issa. 2019. 'Eddie Murphy and the Dangers of Counterfactual Causal Thinking about Detecting Racial Discrimination'. Northwestern University Law Review 113(5):1163–1228.
Laird, Jennifer, Zachary Parolin, Jane Waldfogel, and Christopher Wimer. 2018. "Poor State, Rich State: Understanding the Variability of Poverty Rates across U.S. States." Sociological Science 5:628–52.
Lewis, Jane. 1997. 'Gender and Welfare Regimes: Further Thoughts'. Social Politics 4(2):160–77.
Lundberg, I., Johnson, R., & Stewart, B. M. (2021). What Is Your Estimand? Defining the Target Quantity Connects Statistical Evidence to Theory. American Sociological Review, 86(3), 532–565.
Luxembourg Income Study (LIS). 2010. 'Luxembourg Income Study (LIS) Database Wave VIII'. Retrieved (http://www.lisdatacenter.org).

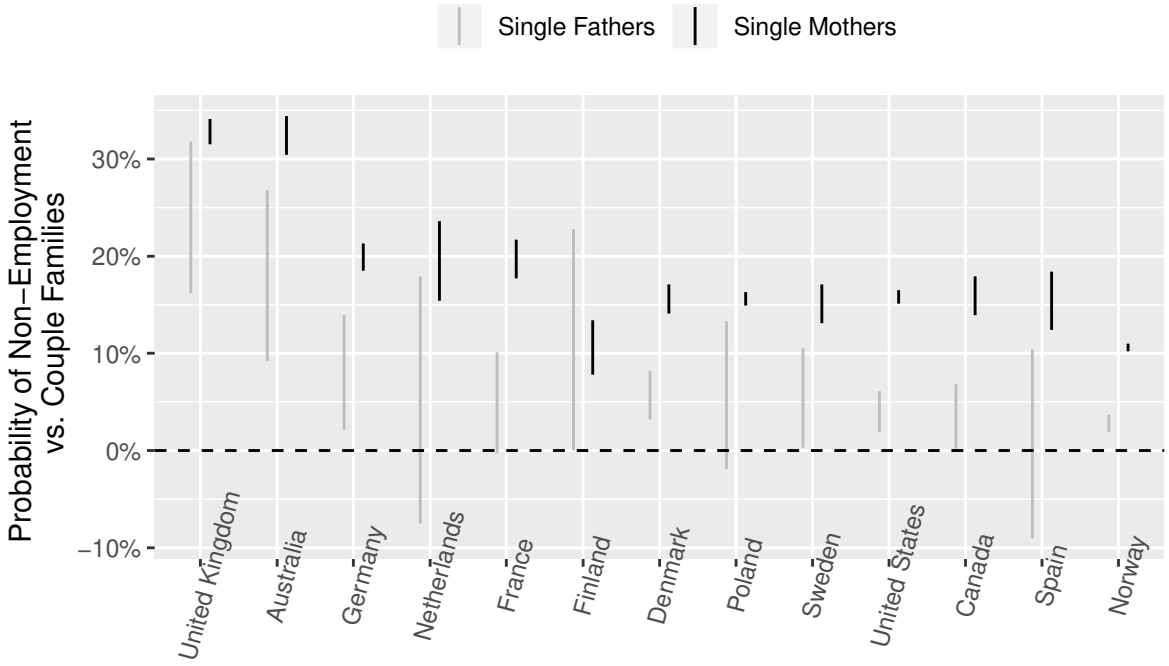
Maldonado, Laurie C. and Rense Nieuwenhuis. 2015. 'Family Policies and Single Parent Poverty in 18 OECD Countries, 1978–2008'. *Community, Work & Family* 18(4):395–415.
McLanahan, Sara and M. J. Carlson. 2001. 'Poverty and Gender in Affluent Nations'. *International Encyclopedia of the Social & Behavioral Sciences* 11894–900.
Nieuwenhuis, Rense and Laurie C. Maldonado. 2018. 'Single-Parent Families and In-Work Poverty'. Pp. 171–92 in *Handbook on In-Work Poverty*, edited by H. Lohmann and I. Marx. Edward Elgar.
Orloff, Ann Shola. 2009. 'Gendering the Comparative Analysis of Welfare States: An Unfinished Agenda'. *Sociological Theory* 27(3):317–43.
Pearce, Nick. 2005. 'New Model Welfare'. *Prospect UK*, May.
Pettit, Becky and Jennifer L. Hook. 2009. *Gendered Tradeoffs: Women, Family, and Workplace Inequality in Twenty-One Countries*. New York: Russell Sage Foundation.
Pilkauskas, Natasha and Christina Cross. 2018. 'Beyond the Nuclear Family: Trends in Children Living in Shared Households'. *Demography* 55(6):2283–97.
Pilkauskas, Natasha and Katherine Michelmore. 2019. 'The Effect of the Earned Income Tax Credit on Housing and Living Arrangements'. *Demography* 56(4):1303–26.
Rainwater, Lee and Timothy M. Smeeding. 2004. 'Single-Parent Poverty, Inequality, and the Welfare State'. in *The Future of the Family*, edited by D. P. Moynihan, T. Smeeding, and L. Rainwater. Russell Sage Foundation.
Schneider, Daniel. 2015. 'Lessons Learned from Non-Marriage Experiments'. *The Future of Children* 25(2):155–78.
VanderWeele, Tyler J. and Stijn Vansteelandt. 2009. 'Conceptual Issues Concerning Mediation, Interventions and Composition'. *Statistics and Its Interface* 2:457–68.
Waldfogel, Jane. 2010. *Britain's War on Poverty*. Russell Sage Foundation.
Wood, Robert G., Quinn Moore, Andrew Clarkwest, and Alexandra Killewald. 2014. 'The Long-Term Effects of Building Strong Families: A Program for Unmarried Parents'. *Journal of Marriage and Family* 76(2):446–63.

Figure 1: Prevalence of Single Mother Headed Households and Households Containing Single Mothers



Notes: Data are for 2010 (LIS wave VIII) with the exception of Sweden (2005), Belgium (2000) and Japan (2008). Information on households containing single mothers is only available for 16 of the 28 countries.

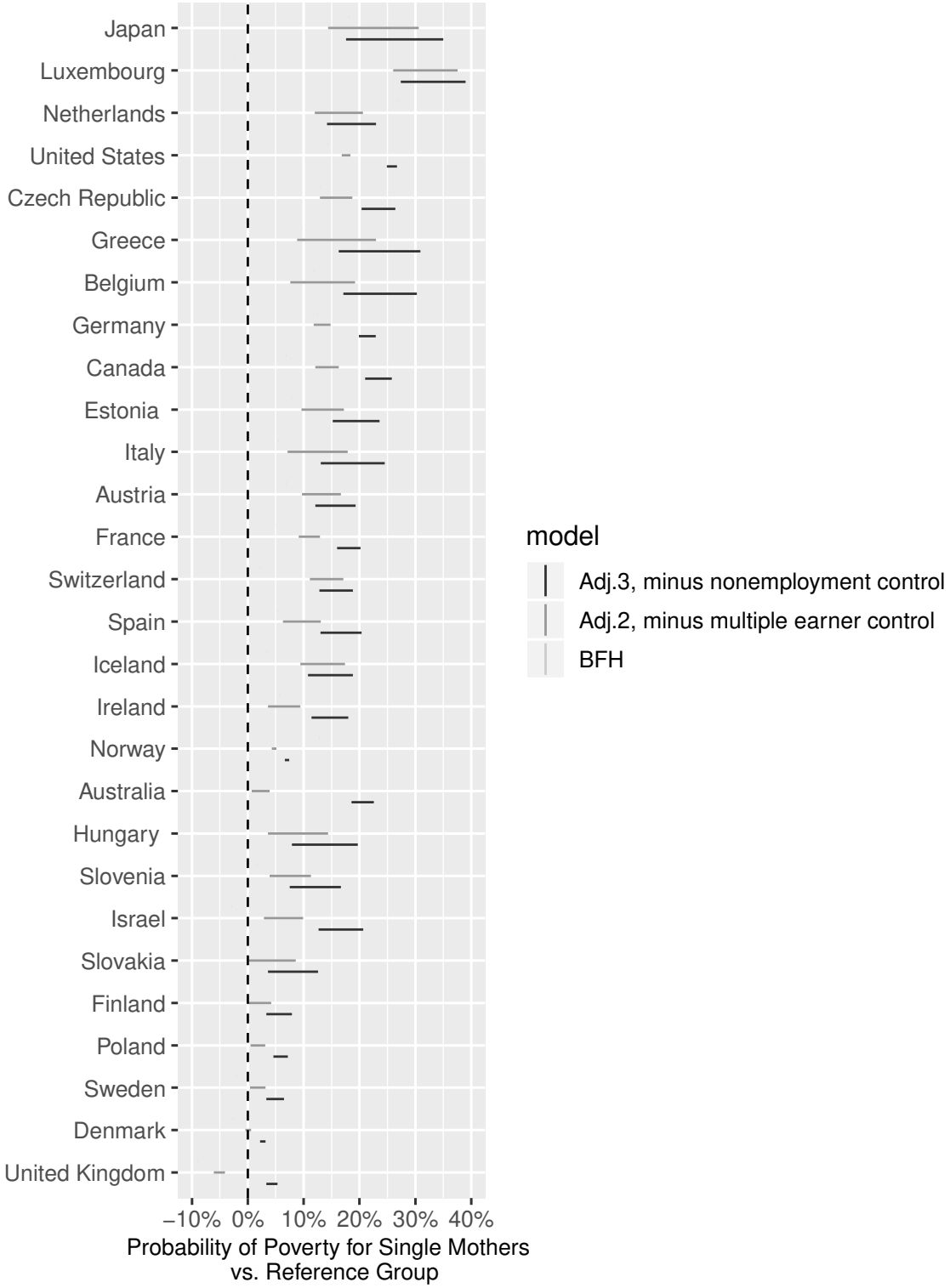
Figure 2: Single Parents' Probability of Non-Employment by Gender



Notes:

1. Estimates shown for the 13 countries where the LIS data provides a sample of at least 100 single fathers. We estimate coefficients for all households with single mothers, but control for whether single parents are co-resident with another head. Confidence intervals are at the 95% level.
2. As in BFH, coefficients are from Linear Probability Models, and models control for household head age (<25, 25-34, 35-54), male and female household head without children, number of children under 17 in household, number of adults over 65 in household, whether household head is low or high educated. The sample includes all households where the head is aged under 65. Samples are weighted using household weights.

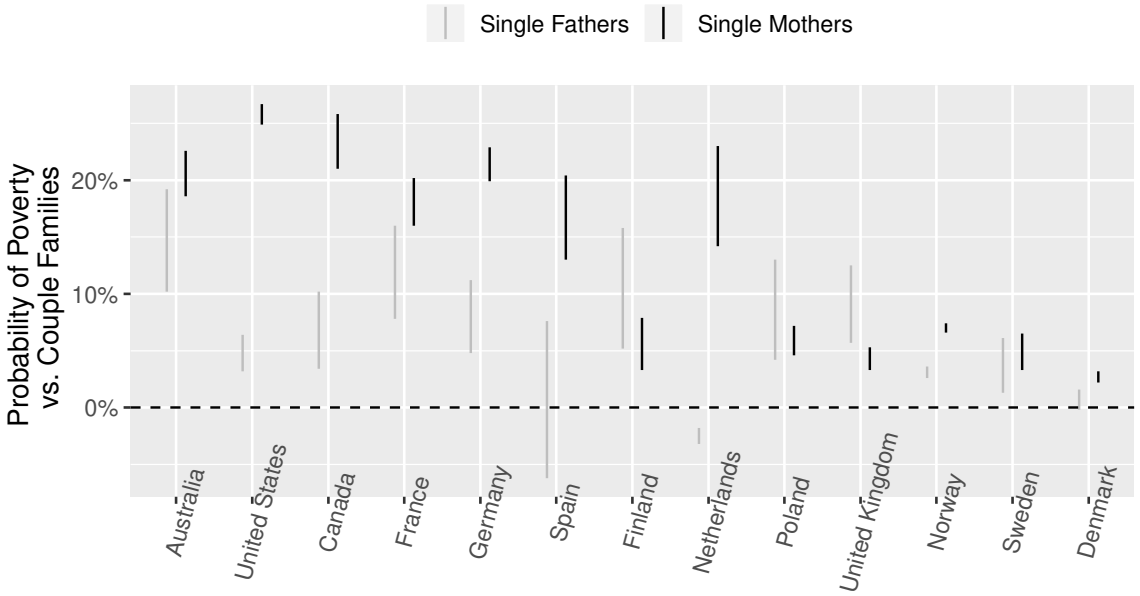
Figure 3: Poverty Penalties to Single Motherhood Under Alternative Specifications



Notes:

1. *BFH* compares employed single mother household heads to single-earner couples with children and single fathers. *Adjustment 2,* minus multiple earners control, compares single mother households with all working couples with children. *Adjustment 3,* minus nonemployment controls compares all single mother households to all couples with children. Our models (2 and 3) also use 2010 data consistently (see footnote 4), and control for having a single mother in the household, single fathers in household, and for whether single parents are household heads: these adjustments alone little alter BFH's estimates (see Table 1). Confidence intervals are at the 95% level. BFH do not provide confidence intervals for their estimates.
2. As in BFH, all coefficients are from Linear Probability Models (LPM), and control for household head age (<25, 25-34, over 54), male and female household head without children, number of children under 17 in household, number of adults over 65 in household, whether household head is low or high educated. The sample includes all households where the head is aged under 65. Samples are weighted using household weights.

Figure 4: Poverty Penalties to Single Parenthood by Gender



Notes:

1. Models compare all single father (and separately, single mother) households to couples with children, for the 13 countries where the LIS data provides a sample of at least 100 single fathers. They control for neither multiple household earners, nor household non-employment, as per adjustment 3. We estimate coefficients for all households with single mothers, but control for whether single parents are co-resident with another head. Confidence intervals are at the 95% level.
2. As in BFH, coefficients are from Linear Probability Models, and models control for household head age (<25, 25-34, 35-54), male and female household head without children, number of children under 17 in household, number of adults over 65 in household, whether household head is low or high educated. The sample includes all households where the head is aged under 65. Samples are weighted using household weights.

Table 1: Coefficients of Variation in Prevalences and Penalties of Single Motherhood, Under Alternative Specifications

	Prevalence of single mother households		Poverty Penalty					Non-employment penalty
	BFH	BFH, with consistent years (2010)	BFH	BFH, with consistent years (2010)	Adjustment 1	Adjustment 2 - multiple earner control	Adjustment 3 - non-employment control	
Comparison	Households headed by a single mother vs. all households with a head aged under 65		Employed single mothers vs. single earner couples with children and single fathers		Employed single mothers vs. single earner couples with children	Employed single mothers vs. all employed couple households with children	All single mothers vs. couples with children	All single mothers vs. couples with children
Mean value	.051	.049	.051	.058	.058	.103	.163	.172
Coefficient of Variation (CV)	.443	.469	1.508	1.272	1.270	.736	.476	.439

Note: The consistent year and subsequent models exclude South Korea, which when run on LIS data shows zero single mothers on BFH's definition. Excluding South Korea from BFH results, using their years of data, makes little difference, giving a mean prevalence of .051 (CV .452) and penalty of .053 (CV 1.434).

APPENDIX

Table A1: Sample Sizes for Household Types

Country	*Single Mothers*	*Single Fathers*	*Total Working Age Sample*
Austria	727	61	11,598
Australia	3,761	394	34,175
Belgium	168	24	4,261
Canada	2,674	680	50,962
Switzerland	692	88	14,121
Czech Republic	898	61	16,772
Denmark	4,281	364	38,331
Germany	9,013	1,281	149,795
Estonia	990	82	11,309
Spain	957	124	28,076
Finland	609	134	20,115
France	4,467	399	35,521
Greece	228	56	11,308
Hungary	134	27	3,580
Ireland	1,114	63	9,015
Israel	888	94	18,147
Iceland	391	66	7,990
Italy	363	25	15,091
Japan	112	19	9,491
Luxembourg	854	71	13,254
Netherlands	939	291	22,058
Norway	24,504	5,643	421,031
Poland	3,985	264	93,240
Sweden	1,359	290	30,373
Slovenia	205	32	10,060
Slovakia	314	25	13,561
United Kingdom	5,582	429	47,126
United States	21,275	3,759	182,673

Table A2: Couple Households with Children by Employment Characteristics

	As a share of working age households				*Share of couples with children that are single earner*	*Share of single earner couples with children with a male earner*
Country	All couples with children	Non-employed couples with children	Single earner couples with children	Multiple earner couples with children		
Austria	0.436	0.004	0.082	0.350	0.188	0.817
Australia	0.460	0.021	0.125	0.315	0.272	0.904
Belgium	0.558	0.024	0.116	0.418	0.208	0.914
Canada	0.431	0.008	0.069	0.354	0.160	0.768
Switzerland	0.455	0.008	0.102	0.344	0.224	0.931
Czech Republic	0.436	0.011	0.141	0.284	0.323	0.929
Denmark	0.479	0.010	0.050	0.419	0.104	0.540
Germany	0.402	0.008	0.088	0.303	0.219	0.841
Estonia	0.412	0.012	0.114	0.278	0.277	0.807
Spain	0.455	0.024	0.152	0.273	0.334	0.776
Finland	0.466	0.009	0.063	0.393	0.135	0.714
France	0.492	0.012	0.105	0.375	0.213	0.771
Greece	0.470	0.013	0.185	0.258	0.394	0.832
Hungary	0.404	0.050	0.108	0.246	0.267	0.722
Ireland	0.528	0.062	0.193	0.273	0.366	0.627
Israel	0.638	0.038	0.206	0.394	0.323	0.762
Iceland	0.527	0.002	0.042	0.480	0.080	0.667
Italy	0.456	0.014	0.180	0.262	0.395	0.928
Japan	0.448	0.002	0.159	0.287	0.355	1.000
Luxembourg	0.507	0.006	0.143	0.357	0.282	0.860
Netherlands	0.482	0.006	0.062	0.414	0.129	0.806
Norway	0.487	0.006	0.043	0.438	0.088	0.674
Poland	0.522	0.036	0.205	0.281	0.393	0.873
Sweden	0.459	0.009	0.056	0.394	0.122	0.464
Slovenia	0.438	0.006	0.078	0.353	0.178	0.667
Slovakia	0.377	0.011	0.088	0.278	0.233	0.852
United Kingdom	0.438	0.028	0.119	0.290	0.272	0.849
United States	0.442	0.010	0.129	0.303	0.292	0.791
Mean	0.468	0.016	0.114	0.336	0.244	0.813