

The Single Motherhood Penalty at Midlife: The Role of Marital Status for Mothers' Careers in Sweden, 1905-2015

Maria Stanfors & Gabriel Brea-Martinez

Centre for Economic Demography @ Lund University, Sweden

Background: Single mothers have historically constituted most single parents, and they continue to face economic and social disadvantages compared to partnered mothers across the Western world. These disadvantages have implications not only for the well-being of mothers themselves but also for their children's futures (Bird & Rieker, 2008; Garfinkel & McLanahan 1986; Mattingly & Bianchi 2003; McKeever & Wolfinger 2012; McLanahan 2004; Wolfinger & McKeever 2025). The extent of disadvantage, however, varies by context, depending on the generosity of state support, labor market conditions, and the compatibility of work and family life (Nieuwenhuis & Maldonado 2018).

The economic disadvantages of single mothers can be explained by the pooling of resources within couples that strengthen women's position even if men continue to be the primary wage-earner in most heterosexual marriages in dual-earner societies like Sweden and the US. Another explanation for the relative disadvantage of single mothers relates to human capital differences (i.e., single mothers have lower qualifications in terms of education or occupation, and less job experience, than married mothers). A third explanation relates to selection and unobserved heterogeneity among women that generate differences both in the work and family domains. If selection is at play, unmeasured factors produce differences by marital status, and the same individuals would have been poor even if they had not become single mothers. Though the 20th century brought about many changes in the lives of families (e.g., increased female labor force participation), the importance of two-parent homes grew (rather than decreased) with implications for the lives of both adults and children. Thus, single mothers' vulnerability and ability to independently provide for children continued to be an issue of public concern.

The broader theoretical and empirical context for our study is the well-documented gender wage gap and its connection to family responsibilities. Women have historically earned less than men, a pattern explained by differences in occupational sorting, human capital accumulation, and labor force attachment. For much of the twentieth century, women's lower earnings were strongly shaped by family responsibilities: women often left the labor force upon marriage or childbearing, interrupting careers and limiting earnings potential (Becker 1985; Goldin 1990; Mincer & Polachek 1974). While gender gaps in human capital have narrowed considerably, occupational segregation persists, and women continue to shoulder the bulk of unpaid work and caregiving responsibilities. As recent scholarship emphasizes, much of the remaining gender earnings gap stems from a "child penalty" that disproportionately affects women in that mothers earn less than childless women (Kleven et al. 2019, 2023). These gendered processes produce persistent inequalities within families, with unmarried mothers facing economic disadvantages due to the absence of a partner's earnings and shared care.

Few studies have explicitly examined how marital status shapes mothers' economic outcomes over the long run. Yet marital status is a central dimension of family life. Existing research often focuses on short-term impacts around childbearing and seldom investigates whether unmarried mothers catch up or fall further behind later in life. Moreover, few studies adopt a historical perspective to assess whether family-related penalties and premia have deep roots or whether they have changed in step with broader societal transformations, such as the decline of gender specialization, rising female labor force participation, and the expansion of welfare states. Our study fills these gaps by analyzing long-term trajectories of income and career attainment for mothers of different marital states across a century.

This paper (aim and contribution): In this study, we study mothers in Sweden, 1905–2015, focusing on the role of marital status in shaping income and career trajectories across the life course and in midlife. Using individual-level longitudinal data, we investigate the role of marital status for mothers' careers and whether there have been penalties or premia associated with single motherhood (distinguishing between the never married, divorced, and widowed) relative to marriage, how large they were, and whether they changed as family life, gender roles, and the welfare state evolved. We make three contributions: we distinguish between family and individual income, thereby clarifying the effects of income pooling and specialization in marriage versus mothers' own labor market earnings. Second, we assess outcomes across both the short-term and midlife stages, evaluating whether disadvantages

persisted or diminished later in life. Third, we provide a long-term perspective, spanning a period of profound demographic and societal transformation.

Data and methods: Our data combine the Scanian Economic and Demographic Database (1905–1967) with national registers from Statistics Sweden (1968–2015). These sources contain detailed longitudinal information on income, occupation, education, marital status, and childbearing for residents in southern Sweden. The analytic sample includes all women aged 20–49 with at least one child under 18 who ever lived in the study area. We apply OLS, fixed effects (FE), and entropy balancing (EB) methods to estimate associations between marital status and economic outcomes, adjusting for selection.

We conducted three analyses to examine the relationship between marital status, income, and career development among mothers. Our focus was on penalties associated with single motherhood across the life course and at midlife, and whether these penalties changed over the twentieth century. We also assessed whether the timing of marriage and motherhood affected single motherhood penalties. First, we analyzed the association between marital status and mothers’ income over the life course, using log equivalized family income (1905–2015) and log individual income (1947–2015). We estimated linear regression models, including a two-way fixed-effects specification:

$$\ln(y_{it}) = \alpha + \beta \text{MaritalStatus}_{it} + \gamma' x_{it} + \eta_t + \nu_i + \varepsilon_{it}(1)$$

where y_{it} is labor-related income (inflation-adjusted to 1980 SEK) for individual i in year t ; x_{it} is a vector of control variables (age, age², period, origin and residence, SES, number of children, age at first birth, and whether unmarried at first birth); η_t and ν_i denote year and individual fixed effects, respectively. We sequentially introduced controls to assess how each adjustment influenced the gross association between marital status and income. The fixed-effects model identifies within-individual changes, thereby reducing bias from cross-sectional differences, though it remains observational and not fully causal. Interaction models tested whether associations between marital status and income varied across historical periods. To assess economic outcomes at midlife (ages 40–49), we applied linear probability and OLS models to estimate disadvantages linked to unmarried motherhood. To further isolate these effects, we used entropy balancing (EB) to construct comparable groups of unmarried (never married, widowed, or divorced) and married mothers. EB reweights observations to balance covariate distributions across groups, effectively mimicking randomization (Caliendo & Kopeinig, 2008; Hainmueller, 2012; Hainmueller & Xu, 2013; Shiba & Kawahara, 2021). This approach reduces imbalance (“entropy discrepancy”) and enhances comparability, yielding more credible estimates of treatment effects in observational data. Using the EB-weighted sample, we estimated the Average Treatment Effect (ATE), representing the mean difference in outcomes between unmarried, widowed, or divorced mothers and their married counterparts.

Results: The link between marital status and motherhood changed during the 20th century. It is often argued that marriage and childbearing in Sweden were separated in the 1970s, which implied an increase in single motherhood related to rising non-marital cohabitation rather than to abandonment or separation. Figure 1 shows that single motherhood started to increase in the late 1960s. The increase was strongest among the never married. As divorce increased, the share of single mothers due to separation also increased. Figure 1 illustrates shifts in the composition of mothers in Sweden 1905–2015 and indicates the relative importance of marriage and different routes into single motherhood. There was an increase in married mothers until the mid-1950s. Marriage was the dominant state for motherhood until it started to decline in the late 1960s, however it increased again in the early 2000s. The percentage of single, i.e., never married, mothers has increased steadily since the late 1960s, surpassing 30% in 2015.

Our multivariate findings highlight both continuity and change in the economic lives of mothers. Across the period studied, married mothers consistently had higher equivalized family income than single mothers, reflecting the benefits of pooled household resources and specialization within marriage. Penalties for single mothers were substantial, ranging from 40–60% lower family income than their married counterparts, and peaked in 1968–1989, when married mothers’ labor supply increased and families benefitted from dual earners. These gaps diminished but did not disappear in 1990–2015. In contrast, individual income patterns reveal that single mothers historically earned more than married mothers, particularly in the mid-twentieth century when marriage constrained women’s labor supply.

EB estimates show that in 1947–1989, unmarried and previously married mothers had significantly higher (>30%) individual income at midlife than married mothers, though this gap reversed after 1990 when married mothers attained higher individual incomes. EB estimates also show significant gaps in family income to the disadvantage of single mothers throughout the period studied. FE models and EB analyses show that unmeasured as well as measured differences between mothers of different marital states are important for understanding income differentials.

At midlife (ages 40–49), we find fewer differences in occupational and educational attainment according to marital status. There is some evidence that single mothers, especially those unmarried at first birth, were less likely to obtain higher education, suggesting trade-offs between early childbearing and career development. However, differences in occupational attainment were limited, and when single mothers earned more, this reflected the necessity of labor force participation rather than career advancement. Indeed, our results show that single mothers were not necessarily in lower-status occupations, but their jobs often provided less favorable conditions and opportunities for advancement, leading to lower earnings within the same occupational categories.

Conclusion: Overall, results show that single mothers' disadvantage lays primarily in family income, rooted in the absence of pooled household resources. Individual earnings trajectories varied with labor force norms and policy. Historically, the necessity to work gave single mothers higher personal incomes, but this advantage disappeared as married mothers increasingly entered the labor market from the 1970s onwards. Despite broad social progress, family income penalties for single mothers endured across the 20th and early 21st centuries, underscoring the persistent economic significance of marriage.

These findings have implications for both research and policy. They demonstrate that marital status remains a key axis of inequality among mothers, even in Sweden, a context characterized by strong gender equality norms and generous welfare provision. Although women's roles have transformed, the disadvantages of single mothers persist due to structural features of family economies. The enduring family income penalties highlight the importance of pooled resources for well-being and raise challenges for designing policies that ensure security for single-parent households. By taking a century-long perspective, our study contributes to understanding the historical roots of family-related income gaps, how they shifted with societal transformation, and their ongoing relevance for debates on gender, family, and inequality.

References (selected)

- Bird, C. E. & Rieker, P. P. (2008). *Gender and Health: The Effects of Constrained Choices and Social Policies*. Cambridge University Press.
- Craig, L. (2005). The Money or the Care: A Comparison of Couple and Sole Parent Households' Time Allocation to Work and Children. *Australian Journal of Social Issues*, 40: 521-40.
- Garfinkel, I. & McLanahan, S. (1986). *Single mothers and their children: A new American dilemma*. The Urban Institute Press.
- Kleven H., et al. (2019). Child penalties across countries: Evidence and explanations. *American Economic Association*, 109: 122-126.
- Kleven, H., et al. (2023). The child penalty atlas. Working Paper 31649. National Bureau of Economic Research.
- McLanahan, S. (2004). Diverging Destinies: How Children Are Faring under the Second Demographic Transition. *Demography*, 41: 607-27.
- Mincer, J. & Polachek, S. (1974). Family investments in human capital: earnings of women. *Journal of Political Economy*, 82: 576-608.
- Nieuwenhuis, R. & Maldonado, L. (Eds.) (2018). *The triple bind of single-parent families: Resources, employment and policies to improve wellbeing*. Policy Press.
- Vernon, V. (2010). Marriage: for love, for money...and for time? *Review of Economics of the Household*, 8: 433-57.
- Waite, L. J. & Gallagher, M. (2000). *The Case for Marriage: Why Married People are Happier, Healthier, and Better Off Financially*. Doubleday.
- Wolfinger, N. & McKeever, M. (2025). *Thanks for Nothing. The Economics of Single Motherhood since 1980*. Oxford University Press.

Figure 1. Composition of mothers according to marital status 1905-2015.

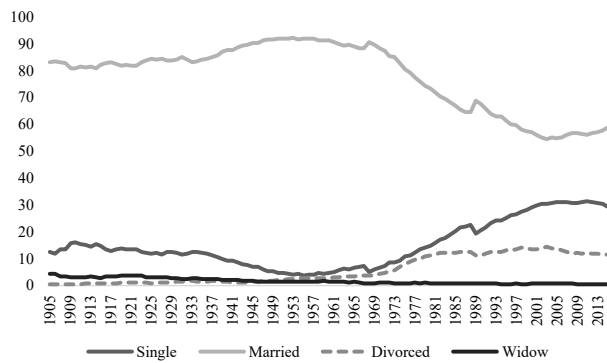


Figure 2. Differences in i) log equivalized family income and ii) log individual income according to marital status among mothers (with at least one child under 18) aged 20-49 in the SEDD, 1905-2015. Marginal effects based on FE interaction models (marital status and period).

