

## **Family processes and inequality - trends in couple income inequality at transition to parenthood in Sweden**

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#### **Short abstract**

Family change is central to understanding recent patterns in household income inequality. While prior research has focused on changes in family structure and inequality, recent work emphasizes that shifts in the economic organization of families over the life course plays an important role too. Extending this line of work, we study how changes in the effects of parenthood on women's and men's earnings are contributing to increasing couples' economic similarity and to household income inequality. Using Swedish register data from 1986 to 2012, we analyze all couples who had a first child between the years 1978 to 2012, observing this population up to eight years after the entrance to parenthood. Preliminary results reveal a small increase overall in income equality between partners over this time period in Sweden. Underlying this small increase are two opposite trends: deepening inequality between partners after couples enter parenthood, but a greater rebound in equality as careers progress.

## **Extended abstract**

There is a growing body of scholarship analyzing how family processes contribute to household economic inequality. Studies have found that both in the US and Sweden the growing share of single-headed households has contributed to the increase in economic inequality across households (Western, Bloome, and Percheski 2008; McCall and Percheski 2010; McLanahan and Percheski 2008; Robling and Pareliussen 2017). This is because patterns of income pooling within households have the potential to exacerbate or offset economic inequalities generated in the labor market (Schwartz 2010). Family processes can offset economic inequalities if they lead to low-income people being more likely to live in households with multiple earners than high-income people, for instance. Nowadays, however, a number of family processes are pointing in the opposite direction, raising the possibility that family processes exacerbate rather than ameliorate inequality. Research finds, for instance, that the likelihood of events like divorce or singlehood (not marrying) is higher among low-income people (Härkönen & Dronkers 2006; Perelli-Harris et al. 2010). Patterns of assortative mating are also pointing in the dis-equalizing direction, with a higher frequency of couples with both higher education degrees and high earnings potential (Henz and Sundström 2001, Esping-Andersen 2007, Dribe and Nystedt 2013). Moreover, unlike the past where women's employment was secondary and more likely among low-income households, nowadays women in high-income households are as likely if not more likely to remain employed (Boertien and Permyer 2019). Taken together, a number of family developments have the potential to exacerbate household income inequality.

Existing research has focused more on processes that shape family composition and structure but less on processes that shape the economic dynamics within families. The first generation of research focused on shifts in household size composition and the growing

relevance of single-headed households. In the US, Western et al (2008) used a log income variance decomposition and showed that the higher proportion of single-headed households was a major driver of rising inequality among households with children. A number of other articles have used DiNardo's re-weighting decomposition and concluded that similar patterns also drive increases in inequality in other countries, including Sweden (Robling and Pareliussen 2017; Cancian and Reed 1999; Cancian, Danziger, and Gottschalk 1993; Sudo 2017). A second generation of research has focused on the couples within households and examined the relationship between assortative mating and inequality. With educational expansion increasing the share of couples with both higher-education degrees, the core hypothesis of this literature was to link these patterns of couple formation to increasing inequality, but most studies failed to find evidence for such a relationship (Breen and Salazar 2011; Eika, Mogstad, and Zafar 2014; Hryshko, Juhn, and McCue 2015; Kremer 1997; Western, Bloome, and Percheski 2008; Torche 2010; Boertien and Permanyer 2019; Sudo 2017; but see Fernandez, Guner, and Knowles 2001; Greenwood et al. 2014). These studies found either that assortative mating patterns were not sufficiently strong or, in the case that the patterns were strong, that their connection to economic inequality was tiny at best. Unlike educational homogamy, studies on couples' economic homogamy do find that it substantially shapes economic inequality across households (Schwartz 2010). The discrepancy in results between studies focusing on couples' education similarity and studies focusing on couples' economic similarity suggests that processes determining earnings and labor supply decisions are crucial (Breen and Salazar 2010). As Greenwood et al (2014) show, high levels of educational homogamy fail to leave any imprint on economic inequality when women's levels of labor force participation are low.

In order to better understand the processes that shape labor supply decisions, in particular women's, research needs to turn to the study of economic processes within families (and away from its focus on processes shaping composition). Understanding why and when women's labor supply increases or declines and how it affects women's earnings trajectory is crucial to understand patterns of couples' earnings similarity. It is well known that childbirth is a central family and life-course event that dramatically shapes women's labor supply (Sanchez and Thompson 1997), and yet we know little about how it impacts couples' economic similarity or household economic inequality. The only study looking at how economic processes within families shape spouses' economic homogeneity and inequality focuses only on marriage and uses data from the US 10/29/2019 7:38:00 AM. This study finds that spouses' economic homogeneity at the beginning of marriage/union have barely changed since the 1940s, and that it is changes in how spouses' economic homogeneity evolves *during* marriage that have increased the overall spouses' economic homogeneity and contributed to increased inequality. These results are consistent with the idea that parenthood can play a major role in shifting spouses' economic homogeneity during marriage, but studies thus far have not examined this hypothesis.

### **Parenthood and women's and men's earnings: the case of Sweden**

Trends in income inequality have been extensively studied both in comparative and national work. In the case of Sweden there has been concern that the economic crisis that hit Sweden in the early 1990s caused increased income inequality between households. However, the immediate effect of the crisis was moderate (Jäntti and Björklund 2011). Sweden and the other Nordic countries still have lower income inequality than the US, for example, even if there has been a shift over time (Aaberge et al., 2002). Nevertheless, the income inequality between

households has increased since the 1980s, after two decades of decreased inequality. It seems that no single explanation is the cause of this shift as less progressive tax reforms, an increase in more single individuals and other changes in household structure, as well as changes in the labor market are all at play (Robling and Pareliussen 2017). Couple income homogeneity also has had an effect (OECD 2011), but such an effect over the couple life course has not been disentangled.

Research finds that parenthood is a crucial event shaping couples' gender division of household labor, and thus women's and men's earnings in both the short and long run. Women's earnings typically take a hit at parenthood in Sweden; estimates find that women's share of couple's earnings drop by 20% during the first year of parenthood (Nylin, Musick, Billingley, Duvander and Evertsson 2019). Men's earnings have typically either remained unaffected or even benefited from parenthood. Some studies report fatherhood bonuses, though the causal effect is contested (Killewald 2012). In Sweden, men's earnings are also starting to decline at parenthood in recent cohorts, though these declines are much smaller than the decline in women's earnings (Nylin et al., 2019).

One reason for the change in men's earnings pattern is increased parental leave use as today a large majority of fathers use some leave during the first years. During the eligible period (preschool years), 9 out of 10 fathers use parental leave, and almost 8 out of 10 do so in the first two years. Fathers' leave increased primarily when the reserve months for fathers were introduced and also extended in 1995, 2002 and 2016 (Duvander and Johansson 2012). The leave length is also increasing for fathers; on average they use about three months today, while mothers use almost a year of leave (see [www.forsakringskassan.se](http://www.forsakringskassan.se)). As the leave system is very flexible and paid and unpaid leave can be mixed (Duvander and Viklund 2014), it may be that labor supply is not changing as much as one would assume from the provided benefit (Karimi,

Lindahl and Skogman Thoursie 2012). One interpretation is that while reserve months for men may increase their leave, later labor supply may compensate for such exits, and that women are extending their unpaid leave as women's possibilities to use paid leave is decreasing. Indeed both women's and men's income developments are positive after the first period as parents. Women's contribution to couples' income is remarkably stable both over period (Nylin et al 2019) and cohorts (Boschini, Håkanson, Rosén and Sjögren 2011). Nevertheless, for specific groups we may find a different family formation pattern with effects that are period specific. Family formation at different economic periods may have varying effects, where women who entered parenthood at the period of high unemployment in the 1990s were more likely to end up as single parents and be economically vulnerable, an effect that mainly applies to women with low chances of further education or employment (Engdahl, Godard, Nordström-Skans, 2018). In general the 1990s was a period of education expansion and delayed first births in Sweden, but did not result in larger shares of permanently childless individuals (see scb.se).

Earlier Swedish studies have used a number of different income measures, such as disposable income where both the tax system, transfers and income from capital is included (see for example Jäntti and Björklund 2011), life time income (Björklund et al 1995), and both earnings and wage as well as with different selections of participation in the labor market (Angelov et al 2016, Nylin et al 2019, Boschini et al 2011) with different illustrative purposes. It is for example shown that income for capital is today the main reason for gender income inequality in Sweden among population in working ages (Finance Ministry 2018). We are here interested in inequality related to the life changing event of parenthood and whether this transition has a changed meaning for gendered income development over time. We are also interested in how couple income homogamy varies in the pre- and post-birth periods. Earlier

studies indicate large changes in income at birth for both women and men from a relatively (but not completely) equal income in couples, and then recuperation of different speeds for women and men in hypergamous, homogamous and hypogamous couples (Nylin et al 2019). It seems clear that income development in couples with different characteristics have different trajectories (Dribe and Nystedt 2013), but so far the pre and post birth development have not been disentangled.

## Data

We use data from a compilation of Swedish registers that provide information to match partners who are married or have a joint child. This resource also provides demographic and annual labor earnings information. We selected all individuals in the population of Sweden who were matched to a partner with whom they had a joint biological or adopted child and created a panel data set where we follow the couple from two years before the birth to eight years after. We observe couples between 1986 and 2012. In each year observed, we have the same composition of couples in relation to their parenthood trajectory: we observe couples in every year that vary from being two years away from having a child to having a child up to eight years old. Couples are censored when they separate or when any partner migrates or dies. Our earnings measure is derived from pre-tax income from work and excludes any transfers from the state such as parental leave benefits.

## Preliminary results

We first observe whether couples' income has become more similar over time for those who are about to enter parenthood or have recently entered parenthood. Figure 1 shows an erratic development of income similarity over our time period, and a trend line that indicates a modest positive development. The correlation between partners' incomes was around 0.2 before the 1990s, declined sporadically during the economic crisis of the early 1990s to as low as 0.15, recovered and declined again in the early 2000s. By 2009, income correlation reached 0.25 and did not decline below that point again in our time series.

Fig. 1 Income correlation within couples (cross-sectional), 1983-2012

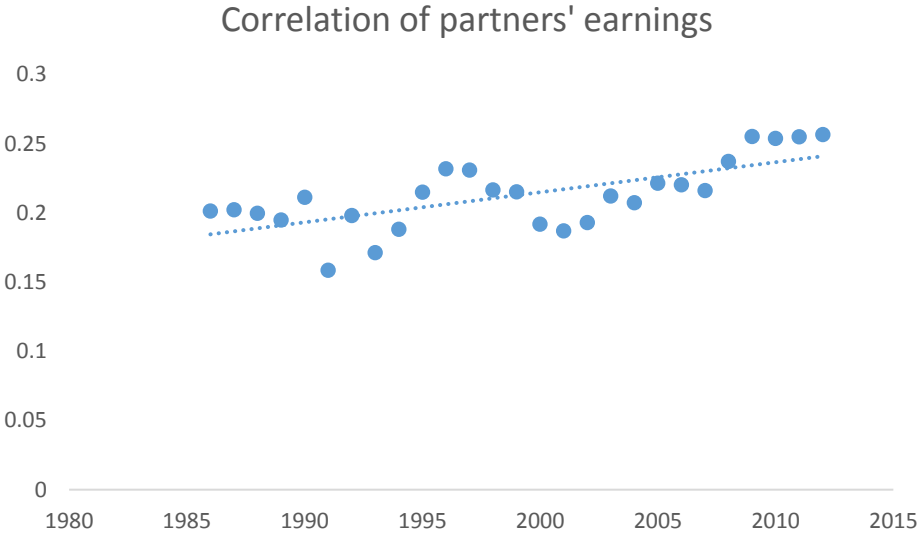
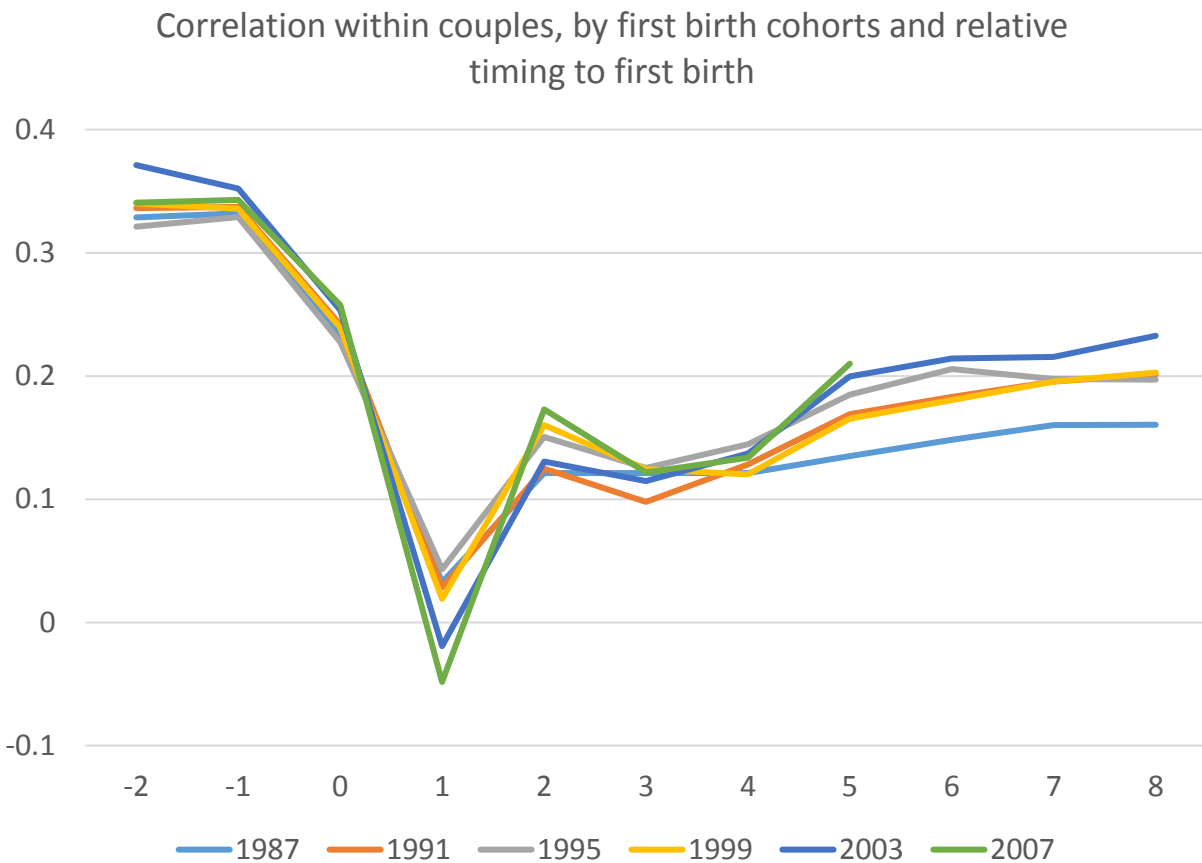


Figure 2 displays how constant income inequality is across the family formation stage of couples' life course. In particular focus is whether change is more predominant before entering parenthood, after entering parenthood or later in the trajectory. Before entering parenthood, no consistent trend in income correlation can be observed over first birth cohorts. Two trends are worth noting, however: first, income correlation declined dramatically the year after entering



parenthood and this decline has deepened over time. Second, recovery in income equality appears to be strengthening in later first birth cohorts.

Fig. 2 Income correlation within couples (cross-sectional) over the first birth duration



Analyses in process:

Computing the coefficient of variation (ineq between couples) over the first birth duration, and by stacking first birth cohorts, we can observe counterfactual trends: which components change the trend the most if we alter them? Does shifting earnings correlations before entering parenthood, at parenthood or in the recovery stage play a larger role? Or those before the first birth cohort we consider?

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