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**Working Paper**

## Strategic self-employment and family formation

Working Paper Series, No. 20

**Provided in Cooperation with:**

Canadian Labour Economics Forum (CLEF), University of Waterloo

*Suggested Citation:* Lloyd, Neil (2020) : Strategic self-employment and family formation, Working Paper Series, No. 20, University of Waterloo, Canadian Labour Economics Forum (CLEF), Waterloo

This Version is available at:

<https://hdl.handle.net/10419/215771>

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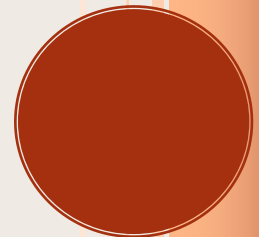
Canadian Labour Economics Forum

*WORKING PAPER SERIES*

# Strategic Self-employment and Family Formation

Neil Lloyd (VSE-UBC)

Conference Volume CLEF – 2020, WP # 20



## Strategic Self-employment and Family Formation\*

[EXTENDED ABSTRACT]

\*Submission to Canadian Labour Economics Forum, 10 January 2020

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The recent literature has highlighted the lasting impact of family formation for a woman's labour force participation and earnings (Angelov et al., 2016; Kleven et al., 2019a). Even twenty years after a woman's first child is born she is significantly less likely to participate in the labour market, while men show no evidence of a short- or long-run parent penalty on either the earnings or participation dimension. Kleven et al. (2009a, 2009b) argue that family formation explains what is left of the gender wage gap once you account for human capital differences, and differences in the shape and size of the parent penalty appear to be highly correlated with regional gender norms.

These recent studies have been made possible through increased access to large administrative panel datasets. In this paper I provide similar evidence for Canada using the Longitudinal Administrative Dataset (1983-2016). Using information on the age of the seven youngest children in the family I identify the year that a woman has her first child and estimate changes in labour market outcomes in relation to this event. After corroborating the findings of Kleven et al. (2009a) I shift focus to the choice between wage- and self-employment (see Figure 1). This shift is motivated in the following way. The recent literature has emphasized "flexibility" as a key barrier to female participation in the labour market after childbirth (Goldin, 2014; Goldin & Katz, 2016). Kleven et al. (2019a) show that women select into more flexible forms of employment and even switch to 'family friendly' firms. Certainly, one would expect self-employment to demonstrate the same qualities given a self-employed worker's ability to more freely allocate their working hours and location. Indeed, I show that there is an increase female self-employment of ~3 %-points following initial childbirth; an over 50% increase from pre-childbirth levels (see Figure 2).

However, the flexibility advantage is inconsistent with the fact that female self-employment rates lag their male counterparts, at all stages in the lifecycle. In addition, the self-employment literature has long recognized the strong connection between observed female and (male) spousal self-employment within a married household, complicating a gendered comparison of self-employment or business ownership (even entrepreneurship; Clain, 2000; Hundley, 2000; Georgellis & Wall, 2005). There exists a debate as to whether female self-employment is merely an extension of male self-employment, and whether the motivations - profit versus flexibility - substantially differ (Sairdakis et al., 2014). Indeed, I show it is only women married to self-employed men who demonstrate an increase self-employment after child-birth. Conditional on paternal self-employment, maternal self-employment increases by ~10 %-points during the 10 years after initial childbirth in Canada (see Figure 3). For women married to wage-employed men there is no significant increase in self-employment associated with childbirth.

I find that paternal self-employment is itself related to childbirth (see Figure 2). In contrast to the existing literature which finds little to no evidence that men adjust their labour supply with family formation I find

strong evidence of switching between wage and self-employment *around* child-birth for men in Canada.<sup>1</sup> This switching begins before child-birth, while maternal selection into self-employment is *delayed* till after childbirth. The discontinuity observed for women can be rationalized by the employment insurance structure in Canada.<sup>2</sup> The increase in male self-employment is proportional to the increase female self-employment across regions in Canada (not shown here). The pattern suggests that families coordinate their labour supply decisions and that there may be childcare advantages to joint self-employment. It also suggests that these advantages may not be available to individually self-employed women, or that women face significant barriers to entry in the self-employed labour market.

There are other policy incentives to consider. Primarily, the incentive under an individual tax structure to split income (Schuetze, 2006; Kleven and Waseem, 2013; Bauer et al., 2015). It is certainly true that households where the male spouse is self-employed demonstrate a more equal – even symmetric – relative income distribution with bunching at 50:50 income ratio; especially after childbirth (see Figure 4). I show in accordance with Zinovyeva & Tverdostup (2018) that this bunching explains the discontinuity in the relative income distribution at 0.5 (Bertrand et al., 2015; Doumbia & Grousse, 2019). This is because in Canada – as in any other individual tax jurisdictions - there are potential tax savings to doing so; bringing into question the real nature of the self-employment labour supply decision I have thus far proposed. Given that my identification of an individual's self-employment status is based on their filing of self-employment income it is possible that the observed pattern simply resembles an accounting phenomenon. Here are a few responses to this concern.

- These patterns are consistent with joint self-employment responses in the Labour Force Survey when compared across family size.
- Both parents' decisions cannot be an accounting phenomenon. Hence, if it is believed that the observed maternal self-employment income is fake income-splitting and the mothers remain inactive it remains significant that fathers are selecting into self-employment for this tax windfall.
- While selection into self-employment may or may not resemble a real labour supply shift, selection out of the wage-paying sector does, and the extent to which marriage to a self-employed spouse increases the likelihood that a woman will select out of the wage-paying sector after child-birth matters.
- I find evidence to suggest that the self-employment induced by childbirth is value adding and does not simply reflect a splitting of the father's pre-child-birth income (*not shown here*).
- Evidence on the intensive labour supply decisions from the Survey of Labour and Income Dynamics (SLID) suggests that the increase in self-employment associated with *family size* is also associated with an increase in hours worked (over self-employed women, married to wage-employed men). It is also associated with an increase in spousal industry and occupation matching, that is not observed in households where the male spouse is wage-employed (*not shown here*).

Questioning the nature of this observed joint self-employment is also different to asking whether income splitting incentivizes these coordinated decisions. That is, income splitting may be the incentive for a very real phenomenon. An asymmetric shock to income – such as childbirth – that increases the within household earning disparity will also increase the potential savings from income splitting under a progressive tax

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<sup>1</sup> It remains the case in Canada that there is no overall employment effect, just a switching between wage and self-employment.

<sup>2</sup> Until 2006 introduction of QPIP in Quebec, and 2011 in the rest of Canada the self-employment income was uninsurable and therefore self-employed workers could not claim maternity benefits. Even in 2011, the self-employed must volunteer to make employment insurance contributions, and in the event of childbirth prove a loss of income.

structure. In this paper I use a simulated instrument research design to show that households respond symmetrically to changes in these tax savings around childbirth. While men respond to these savings before childbirth, women are only sensitive to them after the event, suggesting that EI benefits likely exceed the value of these savings (see Figure 5). The identifying variation in the instrument arises from provincial and federal tax changes to the income tax structure, as well as the CPP reform in the 1990s. The magnitude of the elasticity is sufficient to explain the rise in joint self-employment during the 1990s when the value to income splitting increased but is too small to explain the overall level of joint-self employment (see Figure 6). Since the 2000 federal income tax reform these savings have declined substantially while family related joint-self-employment remains high.<sup>3</sup> In fact, I find evidence to suggest that the trend is increasing, but has shifted towards incorporated self-employment for which joint behaviour may be harder to identify in surveys such as the LFS.<sup>4</sup>

In the paper I develop a simple model to rationalize the interaction between income splitting and other family policies. I focus on EI benefits (replacement rate and coverage), job-protected leave, and the cost of childcare. Using the provincial variation in these policies over the past three decades I am then able to relate the predictions of this simple model to the regional and intertemporal variation I observe in Canada. Indeed, this strategic self-employment behaviour is highest in Alberta which is consistent with the fact that during the 1990s Alberta had the lowest job-protected leave of 17 weeks, and some of the highest benefits to income splitting.

Quebec – and to a lesser extent the Atlantic provinces – is the only province which does not demonstrate this strategic behaviour. This could relate to the expansion of childcare support after 1997, the flatter tax structure which generates less income splitting savings, or the expansion of job protected leave to a full year as early as 1991. However, it could also relate to the higher share of common-law couples, who are not protected by alimony or property right laws as in other provinces (Goussé & Leturcq, 2018). I am yet to incorporate these legal elements into my model but do find that common-law couples outside of Quebec are also unlikely to enter joint self-employment around childbirth.

In explaining regional differences in the size and shape of the parent penalty the current literature has found a strong correlation with gender norms (Kleven et al., 2019b). As does the literature concerning the ‘bread winner’ hypothesis (Bertrand et al., 2015). While the regional variation I find in this paper is certainly consistent with such patterns in Canada, it also mirrors key policy differences across the country. This paper therefore offers a novel lens through which to examine the role of policy incentives in determining labour supply decisions at the point of family formation. It highlights the fact that men will, and do, adjust their labour supply around childbirth, by switching into self-employed roles with the intention of joint self-employment after childbirth. This decision highlights two important points. The lack of male adjustment to childbirth could be the outcome of constrained employee contracts and a corner solution within the household, as men appear willing to select out of such contracts to gain flexibility through self-employment. Second, the flexibility benefits of self-employment (as they pertain to childcare) require household coordination and are therefore not available to individually self-employed mothers. This latter point may change as the nature of self-employed ventures adjusts to changing, and more flexible, online marketplaces.

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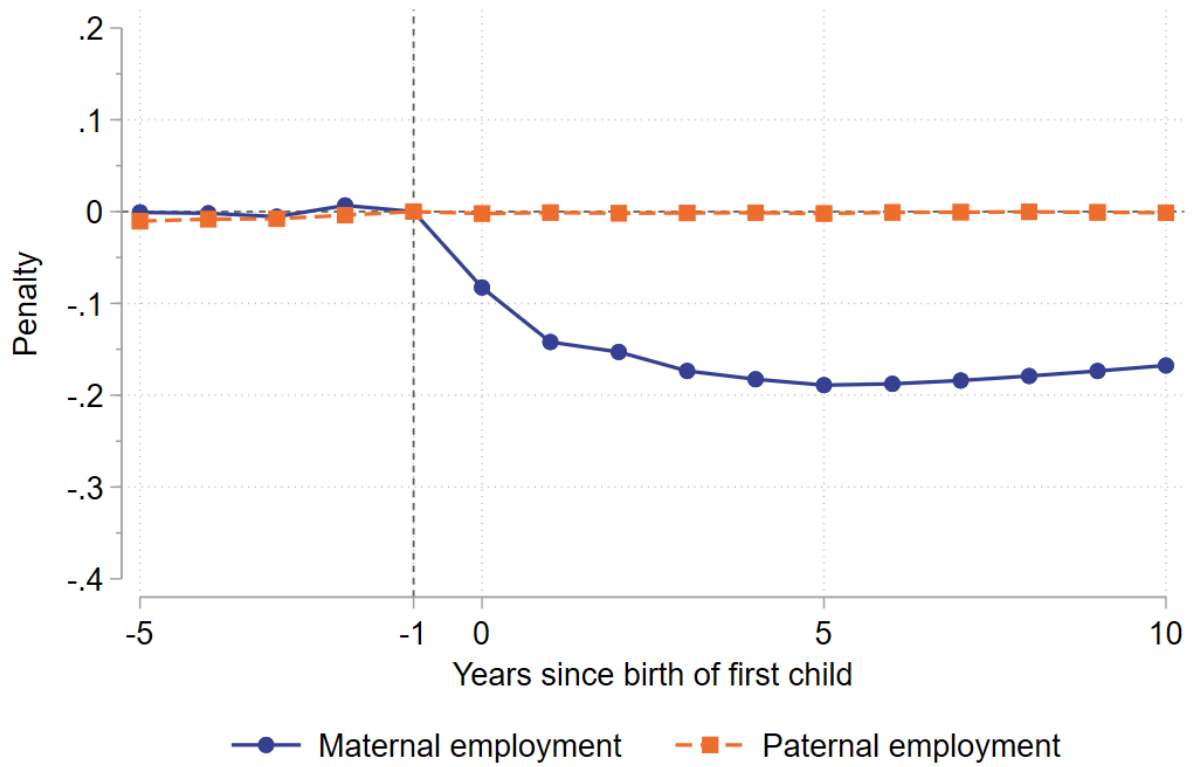
<sup>3</sup> This corresponds to a rise in incorporated self-employment as corporate tax rates have fallen. From the perspective of income-splitting an important advantage to incorporation is the CPP exemption of dividend receipts.

<sup>4</sup> A secondary earner worker who works for an incorporated firm connected to a spouse may be paid a wage and identify as an employee, even if they are made a share holder.

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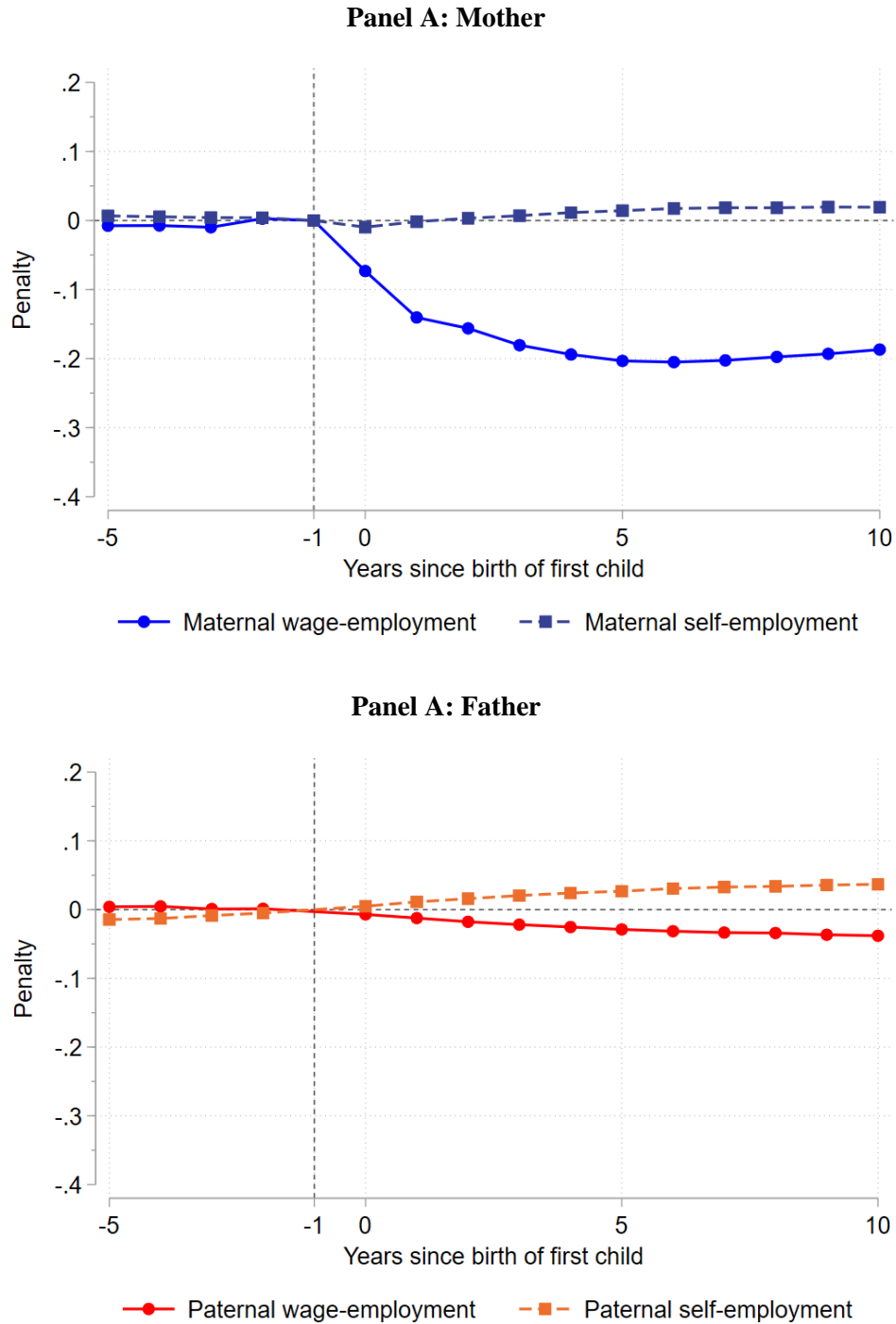
## LIST OF FIGURES



**Figure 1:** Maternal and Paternal Employment Participation Penalty: Total Employment

**Details:** Graph plots the event-time coefficients from an event study design (ESD), rescaled by the predicted value of the outcome variable under the counterfactual of no childbirth. The ESD model is a simple linear probability model including event-time dummies, age dummies, and year dummies (as in Kleven et al., 2019a). Confidence intervals are not shown as they are too small to plot.

**Data source:** LAD (1990-2016), all women observed at least 2 years prior to initial childbirth.



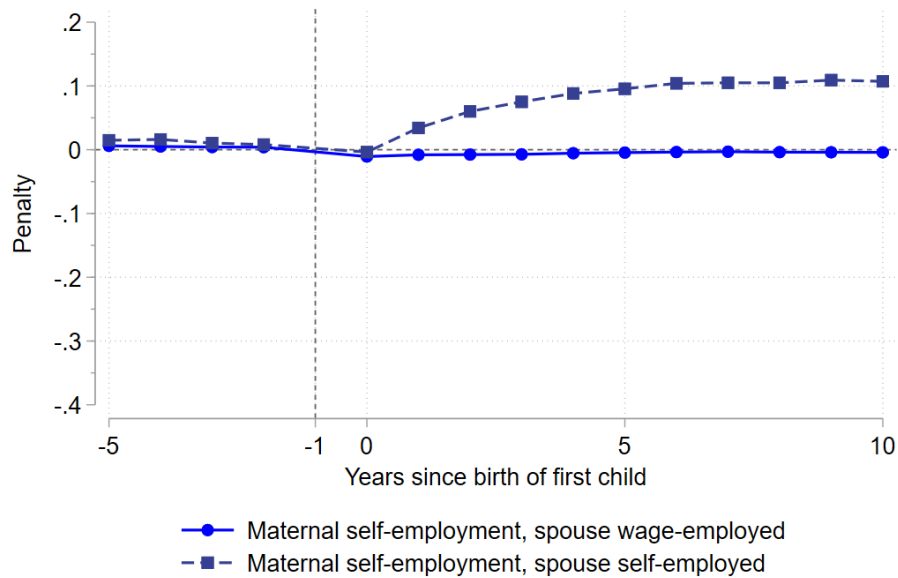
**Figure 2:** Decomposition of parental decision into wage-employment and self-employment

**Details:** Graph plots the event-time coefficients from an event study design (ESD), rescaled by the predicted value of the outcome variable under the counterfactual of no childbirth. In both instances (wage- and self-employment outcome) the counterfactual is total employment. The ESD model is a simple linear probability model including event-time dummies, age dummies, and year dummies (as in Kleven et al., 2019a). Confidence intervals are not shown as they are too small to plot.

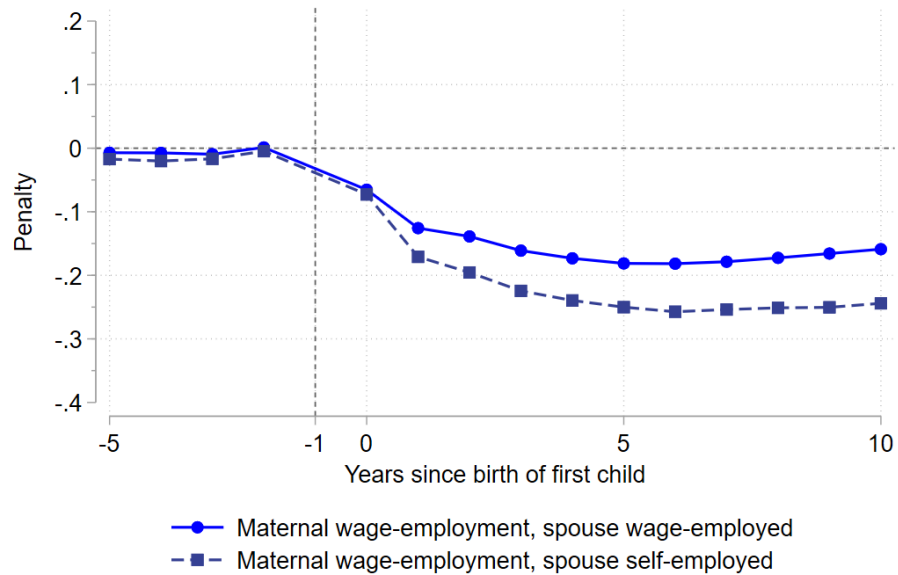
**Data source:** LAD (1990-2016), all women observed at least 2 years prior to initial childbirth.



### Panel A: Wage-employment



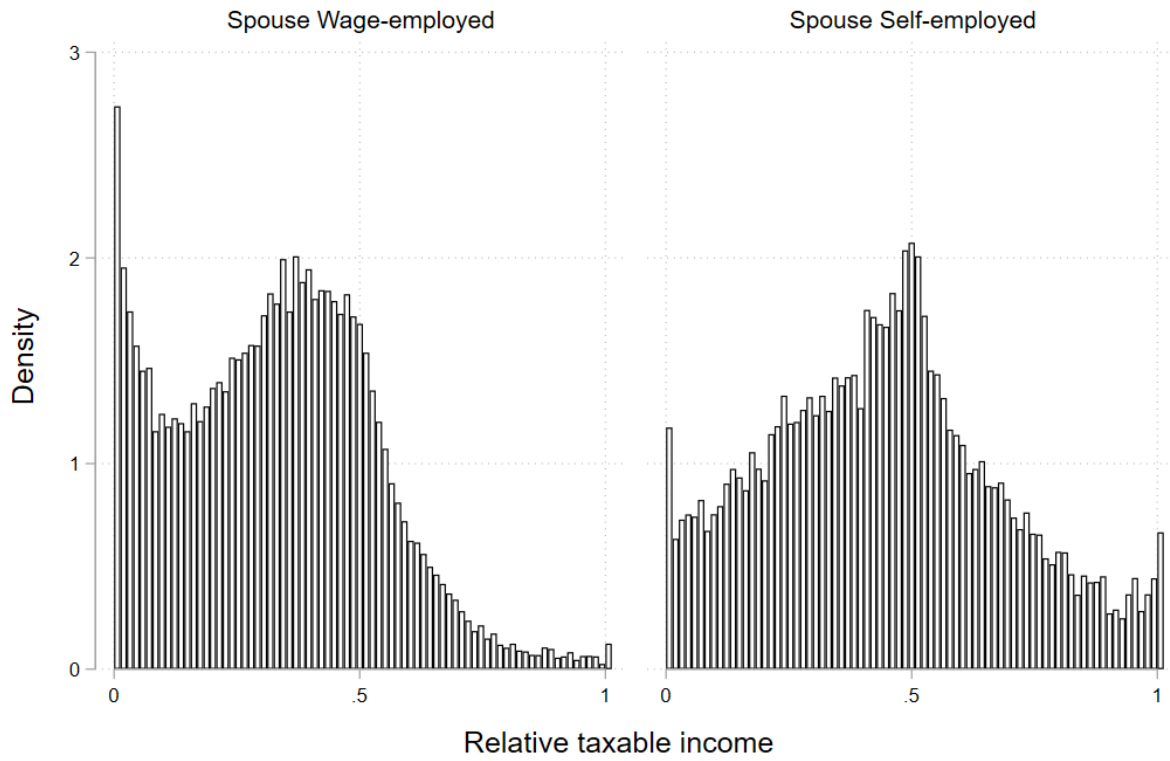
### Panel B: Wage-employment



**Figure 3:** Maternal decision by status of spouse

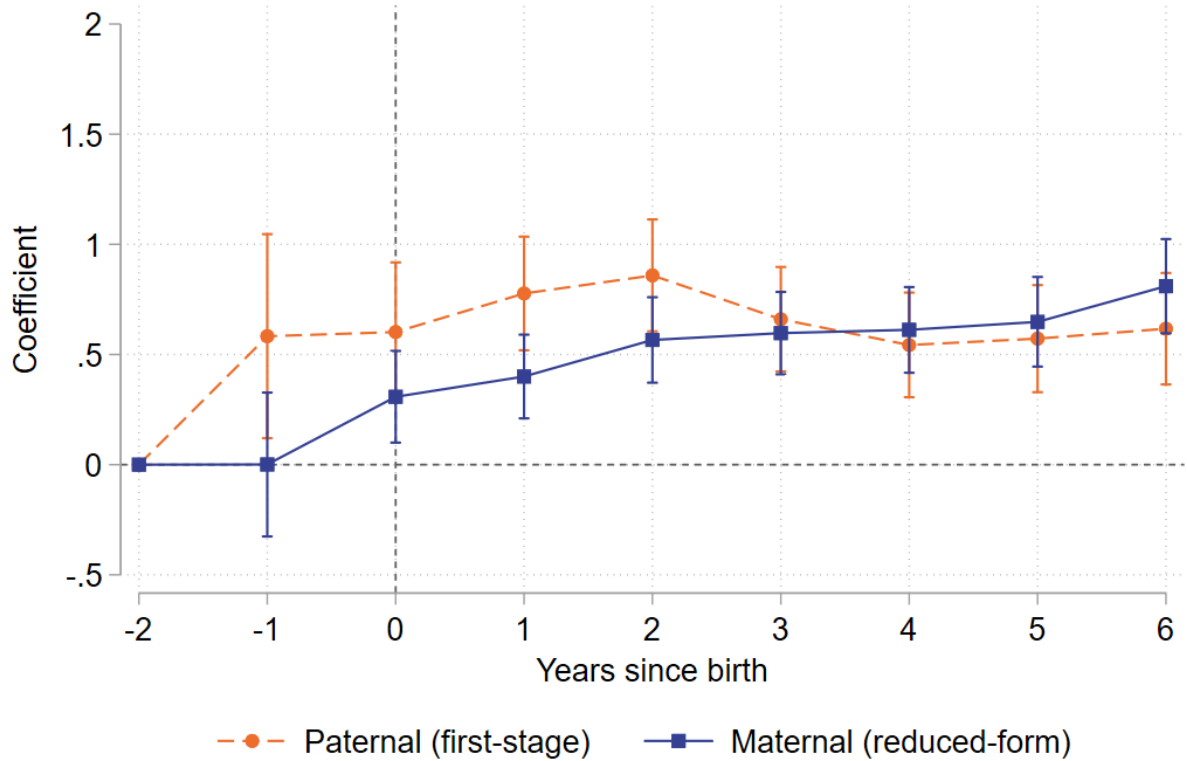
**Details:** Graph plots the event-time coefficients from an event study design (ESD), rescaled by the predicted value of the outcome variable under the counterfactual of no childbirth. The ESD model is a simple linear probability model including event-time dummies, age dummies, and year dummies (as in Kleven et al., 2019a). Confidence intervals are not shown as they are too small to plot.

**Data source:** LAD (1990-2016), all women observed at least 2 years prior to initial childbirth.



**Figure 4:** Histogram of within couple relative taxable income: women aged 25-44 with children.

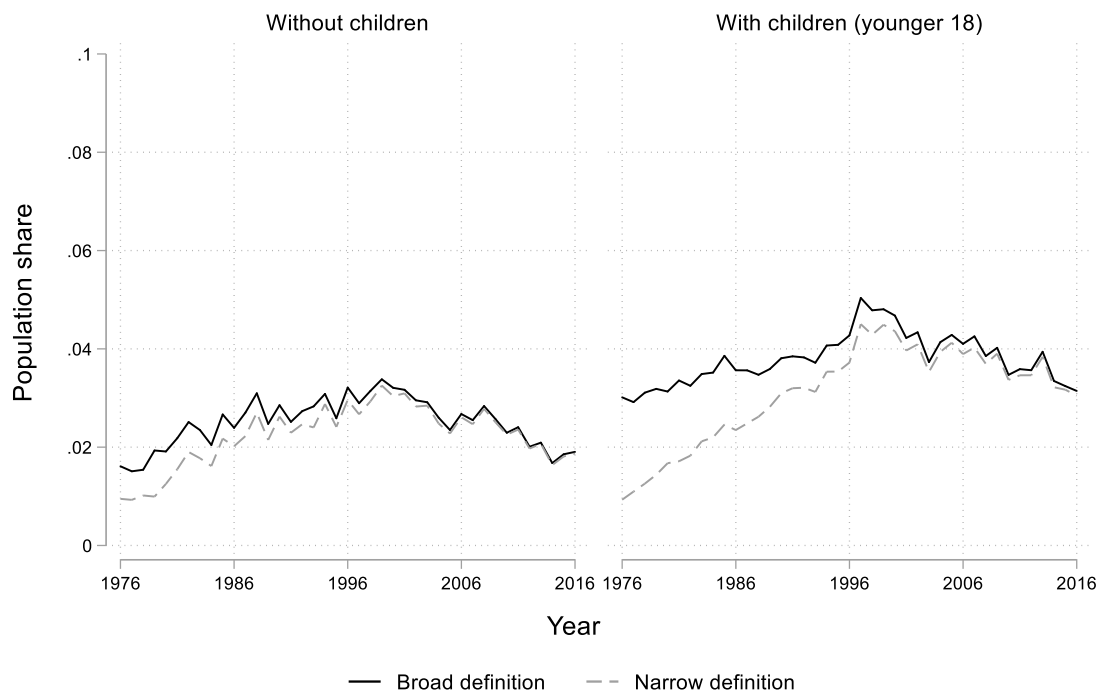
**Data source:** Survey of Labour and Income Dynamics (SLID, 1996-2011) and Canadian Income Survey (CIS, 2012-2016)



**Figure 5:** Elasticity with respect to simulated income splitting instrument.

**Details:** Graph plots the coefficients from the simulated instrument estimated by event-time. The model is a simple linear probability model where the outcome is either maternal or paternal self-employment. The sample includes only couples where both individuals are wage-employed in the base period (event-time = -2). The instrument measures the predicted savings from income splitting (proportional change in after tax income) given the couple's expected income path under the realized tax structure. In addition, the model includes the same measure under a counterfactual tax structure: that of the base period. It is therefore only the variation between the contemporaneous and base period tax structure, as it pertains to income splitting, that identifies these elasticities. The reported confidence intervals represent 99% confidence clustered at the individual level. Future versions will include bootstrapped SE's.

**Data source:** LAD (1990-2016), all women observed at least 2 years prior to initial childbirth.



**Figure 6:** Joint self-employment amongst married women aged 25-44 with and without children.

**Details:** Joint self-employment is defined as an instance of a married couple where both report their class of employment as self-employed. Narrow definition includes only instances where the woman identifies as self-employed, while the broader definition includes instances of “helping without pay”. It is evident that the broader definition shows a much more stable ‘family gap’ trend.

**Data source:** Labour Force Survey (LFS, 1976-2016)