

Postpartum Job Loss: Transitory Effect on Mothers, Long-run Damage to Children

BY Barton Willage and Alexander Willén

DISCUSSION PAPER

NHH



Institutt for samfunnsøkonomi
Department of Economics

SAM 22/2020

ISSN: 0804-6824

November 2020

This series consists of papers with limited circulation, intended to stimulate discussion.

Postpartum Job Loss:
Transitory Effect on Mothers, Long-run Damage to Children

By Barton Willage and Alexander Willén*

November 2020

Abstract

The first year after childbirth involves dramatic changes to parents' lives and is crucial for children's development. Using plausibly exogenous job loss from mass layoffs, we study the effect of labor shocks on mothers and children. Mothers displaced in the postpartum year experience significantly larger effects than mothers displaced in non-birth years. No such effects are present among fathers. Additionally, we find long-lasting harm to children's educational outcomes. These effects do not extend to children who experience maternal job loss later in life nor to children who experience paternal job loss. Examining potential mechanisms suggest effects are driven by maternal stress.

JEL CODES: I20, I24, J13, J16, J24

KEYWORDS: Job Loss, Maternal Labor Supply, Education, Early Childhood, Fertility

WORD COUNT: 5993

* Willage: Department of Economics, Louisiana State University (e-mail: bwillage@lsu.edu).
Willén: Department of Economics, Norwegian School of Economics (e-mail: alexander.willen@nhh.no). This project received financial support from the Research Council of Norway through its Centers of Excellence Scheme, FAIR project no. 262675. We thank Michelle Marcus, Todd Jones, Orgul Ozturk and Kjell Salvanes as well as seminar participants at Montana State University, Indiana University, the LSU-Tulane Applied Micro Conference, and the Norwegian School of Economics.

1. Introduction

Having a child causes dramatic lifestyle changes, and many mothers experience mental and physical distress in the first postpartum year. At the same time, a child's first year is a major determinant of future health, cognition, and wellbeing (Komisar 2017). Specifically, by the end of the first year, children have developed a number of fundamental socioemotional skills, made several important cognitive advancements, and developed key physical abilities. To help parents and protect children during this vital period, most countries have developed extensive maternal protection and family policies. These policies range from maternity leave and maternal job protections to cash benefits and medical care.

Despite the substantial number of welfare policies targeting parents and children in the first postpartum year, mothers and infants are not immune to adverse shocks. For example, mothers can still face non-discriminatory job termination, and this can have important implications for the wellbeing of both mothers and children. First, adverse labor shocks jeopardize the economic security and labor market trajectory of workers. These shocks may be particularly damaging when caring for an infant due to significantly higher job search constraints. In addition, these shocks generate negative health behaviors (Black et al. 2015) and reduce subjective well-being (Song 2018). Such psychological effects may be larger among individuals who must balance job loss with childrearing. Second, adverse maternal labor shocks may translate into long-lasting effects on child cognition and wellbeing. These effects may be negative due to reduced household resources and increased maternal stress. However, effects may also be positive, as job displacement enables the mother to spend more time at home, potentially increasing the non-financial investment in the child.

Using plausibly exogenous job loss from mass layoffs and establishment closures in Norway, this paper provides novel evidence on the causal effect of adverse labor market shocks in the first postpartum year on mothers and children. To perform our analysis, we use Norwegian register data to identify all mothers who gave birth in the years 1998-2006. We then follow these mothers three years before and four years after childbirth. Using an event study approach, we compare changes in labor market outcomes among mothers who experienced an involuntary displacement in the first postpartum year relative to mothers who did not experience an involuntary displacement in the first postpartum year. We repeat this exercise for women who lost their jobs

in non-birth years to examine if displacement in the first postpartum year is particularly detrimental.

Having identified the labor market effects of job displacement in the first postpartum year on mothers, we examine the long-run impact on children as measured by educational performance in grades 5 and 10; 10 and 15 years after the shock took place.¹ We compare outcomes of children whose mothers were subject to involuntary job loss in the first postpartum year to outcomes of children whose mothers were not subject to involuntary job loss in the first postpartum year. The assumption underlying this analysis is that there is no selection into treatment based on characteristics that are also correlated with our outcome measures. To this end, we perform a balance test and demonstrate that treated and non-treated children are balanced on birth, maternal, and paternal characteristics. We also show that the results are robust to altering the sample, including additional fixed effects, and using more conservative standard errors.

To understand whether the effects on children are restricted to maternal job loss in the first postpartum year, we analyze the impact of maternal job loss at other ages. To understand if the effects are similar among boys and girls, we examine heterogeneity by the gender of the child. This exercise is particularly interesting as prior literature suggests that households allocate resources to children differently based on the child's gender (Thomas 1994), and that parental labor market shocks later in life may differentially affect sons and daughters (Tanndal and Päällysaho 2020).

To investigate potential mechanisms underlying the effect of postpartum job loss on children, we examine how displacement impacts family formation, fertility, spousal labor supply, and mobility. This enables us to develop a better understanding of the implications of adverse postpartum labor market shocks on mothers and children and the channels through which they may operate.

Our analysis generates five key results. First, involuntary job loss leads to significant and persistent adverse labor market effects, both for new mothers and for women who lose their jobs in non-birth years. Second, mothers who are displaced in the first postpartum year experience significantly larger negative employment and income effects. Third, no such differential effects

¹ While it would be interesting to examine these children's labor market outcomes, data limitations prevent us from doing so. However, there is a strong correlation between 10th grade GPA and adult employment and earnings, such that GPA is a useful proxy for understanding how maternal job loss likely affects children long-run outcomes.

are found among fathers; job loss during the first postpartum year is only disproportionately harmful to mothers. Fourth, the large negative effects on mothers in the first postpartum year are transitory and converge to the non-birth year effect after three years. Finally, the transitory shocks on mothers have significant and long-lasting negative effects on children's educational performance and human capital development. Specifically, a child whose mother was involuntarily displaced in the first postpartum year score 1.5 percentile ranks lower on national tests in fifth grade, and has a grade point average (GPA) that is ten percent of a standard deviation lower at the end of compulsory school (10th grade). Children whose fathers lost their jobs in the first postpartum year experienced smaller or no such negative educational effects, suggesting that the effects we identify are not driven by the temporary reduction in household income.

In terms of mechanisms, we rule out family structure, fertility, spousal labor market outcomes, and municipality environment, as potential pathways between maternal job loss and longer-run effects on children. Our analysis on paternal job loss also suggests that the effects on children do not operate through a reduction in household income. Based on these results, as well as the recent literature showing that adverse labor shocks increase stress-induced health behaviors (Black et al. 2015) and decrease subjective well-being (Song 2018), we speculate that the effects we identify operate through stress-induced changes in the relationship between mother and child. This is consistent with recent research on the relationship between in-utero exposure to maternal stress and offspring cognition (Aizer et al. 2016).

This paper makes several contributions to the literature. First, while an extensive literature documents long-lasting employment effects from involuntary job loss (e.g., Huttunen et al. 2011; Del Bono et al. 2012; Huttunen et al. 2018), we are the first to examine such effects in the postpartum year. Given the amount of resources dedicated toward maternal protection – in part to shield mothers from such adverse labor shocks – this is an important finding for the development of maternal welfare policies. In addition, new mothers face greater search frictions, and understanding if these constraints inhibit effective job matches not only in the short-run, but also in the long-run, is important.²

² In addition to the complications associated with applying to new jobs while caring for an infant, there are other reasons new mothers may face greater search constraints. For example, new mothers tend to work closer to home and have a preference for shorter commutes, suggesting there might be fewer viable job options for new mothers (Bütikofer et al. 2020).

Second, there is a burgeoning literature on the effect of parental job loss on children (e.g., Oreopoulos et al. 2008; Rege et al. 2011; Hilger 2016; Huttunen et al. 2019; Mörk et al. 2020; Tanndal and Päälylyaho 2020).³ The results from this literature are mixed, with some finding significant negative effects while others fail to identify a relationship between parental job loss and child outcomes. Our contribution to this literature is to examine parental job loss during the first year of the child’s life, a period filled with developmental milestones imperative for the child’s health and wellbeing. We also extend our analysis to examine heterogeneous effects on children as a function of the child’s age during maternal job displacement; we show these adverse shocks are significantly more damaging when they occur during the child’s first year.⁴ This helps reconcile some of the differences in the effects that have been identified in this literature.

Third, there is a large and growing literature on drivers of gender inequality (e.g., Blau and Kahn 2017) as well as on child penalties and “mommy gaps” (e.g., Angelov et al. 2016; Kleven et al. 2018; Kleven et al. 2019; Andresen et al. 2020). Our results are not only consistent with this literature, but also allude to a previously undocumented source of gender differences in labor market outcomes: adverse shocks after childbirth.

2. Background

2.1 Maternal Protection and Family Policies

Norway has a generous welfare system with universal healthcare, comprehensive social insurance, and free education through college. Welfare policies targeting parents and children play a central role in this system. One goal of these policies is to shield parents from adverse shocks that could hurt children and jeopardize parents’ careers.⁵ Examples include parental leave, monthly child allowances, subsidized childcare, and protection against discriminatory employment practices. Specifically, employers are prohibited from dismissing parents for taking parental leave, and parents are entitled to a comparable job when returning from parental leave.

Paid parental leave is available to anyone who worked in Norway for at least six of the ten months before childbirth and whose earnings during this period exceeded a minimum amount (approximately \$12,500 in 2010). The leave period is 49 weeks with 100 percent wage replacement

³ See Mörk et al. (2020) for a detailed discussion on these studies.

⁴ There is an interesting literature examining the impact of in-utero shocks on child development (e.g., Black et al. 2016; Aizer et al. 2016). Our paper is distinct from this literature, however, as the shocks we study occur in the first postpartum year.

⁵ See for example the *international labor standard instruments on maternity protection* established at the Maternity Protection Convention 2000 (No. 183).

or 59 weeks with 80 percent replacement.⁶ While parental leave benefits are subject to a benefit cap, this cap is generous. For example, in 2010, only 7 percent of mothers earned more than the \$75,000 cap (Dahl et al. 2016). Among mothers for whom the benefit cap is binding, most employers supplement benefits to ensure 100 percent coverage (Dahl et al. 2016).

2.2 Job Displacement

Norway has strong employment protections and generous unemployment benefits (Johnsen et al. 2020). During mass layoffs, there is no strict rule determining the order workers are laid off. However, seniority is a strong norm and is institutionalized in union agreements, such that firms are encouraged to lay off less senior workers first as long as they are otherwise identical. In practice, it is difficult to verify the “identical” condition, and the seniority rule is often non-binding (Dodini et al. 2020). Employment contracts require three months’ notice of termination (Huttunen et al. 2011).⁷

Unemployment benefits are available to individuals whose work hours are cut by at least 50 percent and meet a minimum pre-termination income requirement. The replacement rate is approximately 62.4 percent of lost wages. The standard entitlement period is 104 weeks. This is much greater than in the U.S., where the standard entitlement period is 26 weeks, and the standard replacement rate is 50 percent (CBPP 2020).

Involuntary job loss during parental leave does not impact parental leave benefits, because parental leave benefits are based on employment in the ten months before childbirth. However, when benefits expire, displaced parents need to find new jobs. This could have substantial effects on mothers and children. First, mothers have limited time to search for jobs while caring for a newborn, such that employment probability, match quality, and career trajectory may be affected. Further, adverse labor shocks generate negative health behaviors (Black et al. 2015) and reduce subjective well-being (Song 2018). These effects may be larger among individuals who balance job loss with childrearing. Second, a potential drop in household income in combination with increased maternal stress may negatively influence the cognitive development of the child. At the same time, job displacement enables the mother to spend more time at home, potentially increasing

⁶ Funded through taxes and provided by the state.

⁷ Norwegian law allows establishments to terminate employers with less than five years of tenure with only one month’s notice. However, most contracts, even for short-tenured individuals, have a three-month notice requirement (Huttunen et al. 2011).

the non-financial investment in children. In theory, the effect of maternal job loss on the child is therefore ambiguous.

3. Data and Method

3.1 Data

Our primary data come from linked employer-employee registers covering all Norwegian residents aged 16 through 74 between 1995 and 2010. These data contain information on every individual's workplace and hours worked. The data further contain unique establishment codes that allow us to identify every worker's employer and examine whether establishments downsize or close each year. Following the prior literature, we define a mass layoff as the establishment reducing employment by more than 30 percent from one year to another, and we exclude establishments with fewer than 10 employees to avoid false mass layoffs (Huttunen et al. 2018).

The main strength of our data is that we can link individuals across different longitudinal micro-level data registers through unique individual identifiers. This allows us to combine the employer-employee data with the family, education, tax and earnings, and social welfare registers. Consequently, we can construct an extensive panel covering the universe of Norwegian residents and much of their demographic, education, labor, and family information.

Another strength of our data is the ability to identify both children and spouses through unique family identifiers, allowing us to identify any compensating employment behavior of spouses and longer-run impacts on children's education. The family identifiers further enable us to obtain information on year and month of birth such that we can directly identify when mothers have children.

We focus on two sets of outcomes: the mother's labor market outcomes (employment and earnings) and the child's educational performance (national tests in fifth grade and GPA in tenth grade). To understand the channels through which any effects operate, we study potential spousal labor market responses (employment and earnings) as well as family formation, mobility, and fertility decisions.⁸ This enables us to develop a comprehensive understanding of the potential implications of adverse labor market shocks in the postpartum year, and through which channels these effects may operate.

⁸ Earnings is pre-tax income net of government transfers, and includes regular labor income as well as income from self-employment.

3.2 Sample Construction

To obtain plausibly exogenous variation in labor market shocks, we follow prior literature and focus on involuntary job displacements caused by establishment closures and mass layoffs. We define a mass layoff as occurring if an establishment reduces employment by more than 30 percent from one year to the next.⁹

We construct our sample by first identifying all women who gave birth between 1998 and 2006. We denote the year of childbirth as b (base year). We then identify which mothers were subject to establishment closures and mass layoffs in the first postpartum year, and which mothers were not. The main empirical strategy is to compare those who were involuntarily displaced from their job to those who were not.

We restrict the sample to fulltime workers between the ages of 25 and 50 in the year of childbirth. To ensure that our control and treatment groups are as similar as possible, we also restrict the sample to individuals who have worked in the three years leading up to childbirth. Thus, both the control and the treatment group consist of fulltime workers with a stable employment history. This is similar to the sample restrictions used in previous papers (e.g., Huttunen et al. 2018). However, as we will show, results are robust to relaxing this restriction.

Appendix Table A1 provides summary statistics for the displaced and non-displaced mothers in both the birth year and the non-birth year samples. While our estimation approach does not require that the groups are balanced on observable characteristics, it is interesting to note that all four groups display similar levels of market income and spousal labor market behavior (note that \$1 = 9.2 NOK).¹⁰ With respect to marital status and family size, individuals in the non-birth year sample are more likely to be divorced and have more children.

3.3 Estimating Equation

Having identified our sample, we follow these mothers from three years before to four years after childbirth. We estimate the following model:

$$y_{ibt} = \alpha + \sum_{t=-3}^4 [\pi_t(Treat_i)] + \gamma_t + \lambda_{ib} + \varepsilon_{ibt} \quad (1)$$

⁹ Around 5 percent of individuals within a given municipality and industry are involuntarily displaced each year.

¹⁰ <https://www.xe.com/currencyconverter/convert/?Amount=1&From=USD&To=NOK>

where y_{ibt} is a labor market outcome for individual i at relative time t with a child born in base year b . Relative time t is relative to the base year b , so that children are born when $t = 0$. $Treat_i$ is a binary variable taking the value of one if the individual was involuntarily displaced in base year b and relative time 0, and zero otherwise. The π_t coefficients trace out relative pre-treatment trends as well as time-varying treatment effects. In practice, we omit π_{-1} such that all estimates are relative to the year prior to job displacement. Equation (1) also controls for relative time (γ_t) and base year-by-individual (λ_{ib}) fixed effects.¹¹ The relative time fixed effects control for systematic differences across time that may be correlated with both displacement and the outcomes of interest. The base year-by-individual fixed effects control for time-invariant differences in observed and unobserved characteristics across individuals that may be correlated with displacement and the outcomes of interest. Standard errors are clustered at the individual level.

The parameters of interest in Equation (1) are π_1 to π_4 , which trace the labor market effect of job loss across time. To compare the effect of job loss in the first postpartum year to the effect of job loss not in the first postpartum year, we also estimate Equation (1) on individuals displaced in non-birth years.

After having identified the impact of job loss in the first postpartum year on maternal labor market outcomes, we proceed to study the impact on children. We examine the educational performance of children whose mothers were subject to involuntary job loss in the first postpartum year, and compare that to children whose mothers were not subject to involuntary job loss in the first postpartum year:

$$y_{jb} = \alpha + \beta_1 Treat_j + \rho_b + \varepsilon_{ib} \quad (2)$$

where y_{jb} is the outcome for child j born in base year b . $Treat_j$ is a binary variable taking the value of one if the child's mother was involuntarily displaced in base year b , and zero otherwise. Equation (2) also controls for base year fixed effects (ρ_b). These fixed effects control for systematic differences across base years that may be correlated with both displacement and educational performance. Standard errors are clustered at the mother level. To compare the effect

¹¹ In practice, base year-by-individual fixed effects are the same as child fixed effects. By including base year and relative year, we are also controlling for calendar year.

of job loss in the first postpartum year to the effect of job loss not concurrent with childbirth, we also estimate Equation (2) on children whose mothers were displaced in non-birth years.

The assumption underlying the estimation of Equation (2) is that there is no selection into treatment based on characteristics that also are correlated with the outcomes we consider. While this assumption is similar to that underlying the estimation of Equation (1), educational outcomes are only observed once for each child and we can therefore not examine pre-trends to provide support for this assumption. Instead, we perform a balance test in which we estimate Equation (2) on a rich set of maternal (employment, income, marital status, number of children, age), spousal (employment and income) and birth (gender, Apgar score, and birth weight) characteristics. In addition, we perform a set of robustness checks in which we include additional fixed effects, impose stricter sample restrictions, and cluster the standard errors at more conservative levels.

4. Main Results

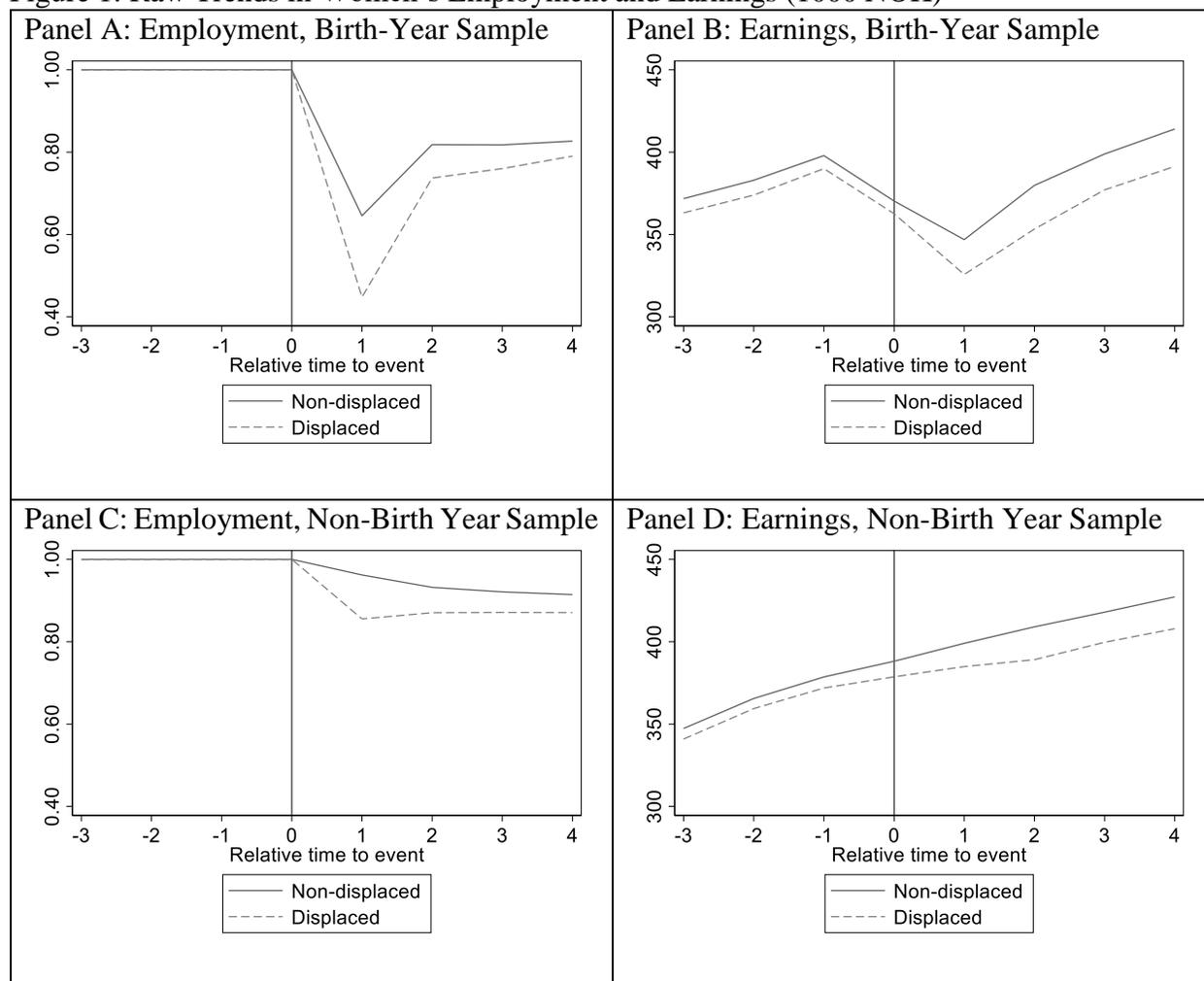
4.1 Maternal Labor Market Effects

Figure 1 provides preliminary evidence on the effect of job loss during the first postpartum year, plotting raw trends in employment (Panel A) and earnings (Panel B) among mothers who gave birth and experienced an involuntary displacement in the base year relative to mothers who gave birth but did not experience an involuntary displacement in the base year.

Several observations emerge from these figures. First, both groups trend similarly prior to the childbirth, supporting the identifying assumptions underlying our estimation method. While the parallel trend for employment follows mechanically from our sample selection, this is not the case for market income. Second, both groups of mothers experience negative labor market effects at the time of childbirth. This is consistent with the literature on the motherhood penalty identified in multiple countries (e.g. Kleven et al. 2019; Andresen et al. 2020). Third, mothers who gave birth and experienced an involuntary displacement in the base year experience significantly larger employment and income effects than mothers who gave birth to a child but did not experience an involuntary displacement; job loss harms labor market outcomes.

To compare the effect of job loss in the first postpartum year to the effect of job loss in other years, Panels C and D of Figure 1 reproduce these raw trends for women displaced in non-birth years compared to non-displaced women. Mothers who are displaced in the first postpartum year experience significantly larger employment and income effects than women who are displaced in non-birth years.

Figure 1: Raw Trends in Women’s Employment and Earnings (1000 NOK)



Notes: Authors’ estimation based on Norwegian register data between 1995 and 2010 using the sample described in Section 3.1. The figure shows raw trends in outcomes among mothers who had a child and were displaced in the first postpartum year (dashed lines) and mothers who had a child but were not displaced in the first postpartum year (solid lines).

To formally examine the relationship between childbirth, job loss, and maternal labor supply, Figure 2 plots point estimates obtained from estimation of Equation (1) for both the birth year sample as well as the non-birth year sample. The results closely mirror the raw trends in Figure 1. First, involuntary displacement leads to significant and persistent negative labor market effects both among mothers who experienced a job loss in the first postpartum year and among women who experienced a job loss in non-birth years. Second, mothers who are displaced in the first postpartum year experience larger employment and income effects than women who are

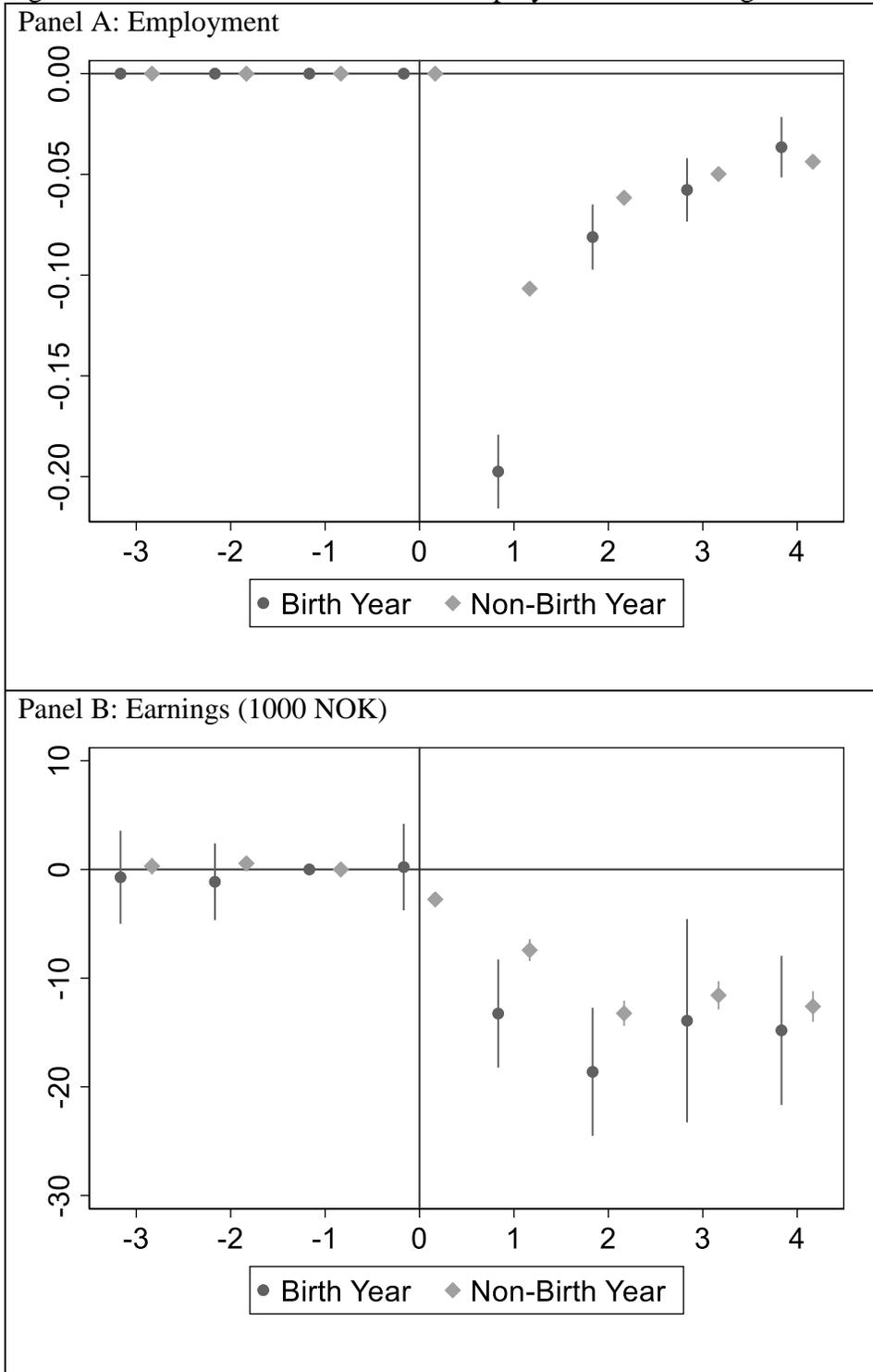
displaced in non-birth years. These differences are statistically significant and economically meaningful. For example, the negative income effect in the first year after displacement is 80 percent larger in the birth year sample than in the non-birth year sample, and 40 percent larger in the second year after displacement. Third, the disproportionate effects on mothers in the first postpartum year are transitory and converge to the effect in the non-birth year sample after three years.¹² This suggests that while childbirth may prevent mothers from returning to the labor force in the short-run, this does not appear to have a differential long-run impact.¹³ These results are robust to relaxing the requirement that individuals must have been full-time employed in the three years leading up to childbirth; Appendix Figure A3 demonstrates that the results are very similar when only requiring one and two years of pre-displacement work history. One potential explanation for the transitory nature of these effects could be that Norway offers heavily subsidized childcare to all children beginning at age one. The maximum monthly price is currently \$350 and low-income families are eligible for additional subsidies. Around 80 percent of one-year-olds attend childcare, potentially freeing up time for mothers to search for employment (SSB 2020).

To examine if the disproportionate labor market effects of job loss after childbirth extend to fathers, Appendix Figure A1 plots results from estimating Equation (1) for father's labor market participation in both the birth year sample and the non-birth year sample. While involuntary displacement leads to significant and persistent labor market damage among men in both samples, fathers displaced in the postpartum year do not experience significantly larger employment effects than men displaced in non-birth years. This suggests that job loss during the first postpartum year is only disproportionately harmful to mothers. Given the tendency of mothers to serve as primary caregivers, this might be expected. Specifically, data from the U.S. time-use survey suggest that mothers provide approximately two-thirds of all childcare and housework (Livingston and Parker 2019). Thus, childcare likely represents a bigger obstacle to post-displacement labor market outcomes among mothers than fathers.

¹² In Appendix Figure A2 we sequentially drop one base year or industry to show that the effects are not driven by particular years or industries.

¹³ We find no differential effect on UI take-up across the two groups. This indicates that the income and employment effects are not driven by extensive margin effects (leaving the labor force).

Figure 2: Event Studies for Women's Employment and Earnings



Notes: Dots are point estimates, lines are 95% confidence intervals. Standard errors clustered at mother level. Estimating equation: $y_{ibt} = \alpha + \sum_{t=-3}^4 [\pi_t(Treat_i)] + \gamma_t + \lambda_{ib} + \varepsilon_{ibt}$, where y_{ibt} is a labor market outcome, $Treat_i$ is a binary variable for involuntarily displacement at $t = 0$, π_t time-varying treatment effect in year t , (π_{-1} omitted so estimates are relative $t = -1$). Controls also include relative time (γ_t) and base/birth year-by-individual (λ_{ib}) fixed effects.

4.2 Child Educational Effects

The results in Section 4.1 show that involuntary job displacements disproportionately hurt mothers who are laid off in the first postpartum year, albeit only for a transitory period of three years. This may have important implications for the child's cognitive development. Specifically, labor market shocks reduce the financial resources of the household, increase maternal stress, and potentially affect the relationship between mothers and children. However, job displacement could also mean more time at home for mothers and increased non-financial investment in children. The effect of maternal job loss on child outcomes is therefore ambiguous.

To examine the impact of postpartum job loss on children, we examine the educational performance of children whose mothers were subject to involuntary job loss in the first postpartum year, and compare that to the educational performance of children whose mothers were not displaced in the first postpartum year. These results are shown in Panel A of Table 1, both with respect to national standardized tests in grade 5 as well as GPA in grade 10. Grade 10 represents the final year of compulsory school in Norway, and the grades obtained in this year are used to apply to high school.¹⁴ While it would be of great interest to examine these children's labor market outcomes as well, data limitations prevent us from doing so.¹⁵ However, there is a strong correlation between 10th grade GPA and later-in-life employment and earnings, such that GPA is a useful proxy for understanding how postpartum job loss may affect children's long-run outcomes. For example, using Norwegian register data, we find that a one standard deviation increase in 10th grade GPA is associated with an increase in annual market income of approximately 18,000 NOK (\approx \$2,000).

Panel A of Table 1 shows that the transitory effect on mothers has significant and long-lasting negative effects on children's educational performance and human capital accumulation. Specifically, a child whose mother was involuntarily displaced in the first postpartum year scores 1.5 percentile ranks lower on national tests in fifth grade, and have a compulsory school GPA that is 10 percent of a standard deviation lower. The magnitude of the GPA effect is relatively substantial, and falls within the range of effects that have been estimated from other family and school interventions. For example, Dahl and Lochner (2012) finds that a \$1,000 increase in family

¹⁴ High school is optional and includes 13 distinct education programs. High school applicants rank three programs in their county. Students are admitted based on grade 10 GPA.

¹⁵ Specifically, the displacements we examine take place in 1995 through 2006, and our data end in 2017. The oldest children in our sample are 23 years old in 2017, and labor market outcomes at this age are not representative of lifetime labor market outcomes.

income raise test scores by 6 percent of a standard deviation, and Krueger and Whitmore (2001) finds that assignment to a small class (13-17 students) as opposed to a regular class (22-25 students) increases student achievement by 20 percent of a standard deviation.

Panels B and C of Table 1 show that the effects on children are primarily driven by girls. This is a novel finding, suggesting that job displacement in the first postpartum year may be particularly detrimental to gender equality and the closing of the gender wage gap. We speculate that this differential effect across sons and daughters may be driven by mothers engaging and interacting with daughters differently than with sons (e.g., Godoy et al. 2006), and that maternal stress therefore may impact the relationship with sons and daughters differently. We also note that this result is in line with some of the existing research on parental job loss among teenagers (e.g., Tanndal and Päällysaho 2020).

Table 1: Postpartum Maternal Job Loss Effects on Child Education Outcomes

	5th Grade English	5th Grade Math	5th Grade Norwegian	10th Grade GPA
Panel A: Boys and Girls Pooled				
Maternal Job Loss	-0.015*** (0.006)	-0.015*** (0.005)	-0.015*** (0.005)	-0.064*** (0.022)
Mean	0.524	0.544	0.535	4.446
Observations	55639	62959	62161	22359
Panel B: Girls Only				
Maternal Job Loss	-0.020*** (0.008)	-0.019*** (0.007)	-0.023*** (0.007)	-0.065** (0.028)
Mean	0.514	0.524	0.553	4.680
Observations	27550	31041	30775	10980
Panel C: Boys Only				
Maternal Job Loss	-0.009 (0.008)	-0.009 (0.008)	-0.007 (0.007)	-0.050* (0.030)
Mean	0.533	0.564	0.517	4.220
Observations	28089	31918	31386	11379

Notes: Standard errors in parentheses, clustered at mother level. Estimating equation: $y_{jb} = \alpha + \beta_1 Treat_j + \rho_b + \varepsilon_{ib}$, where y_{jb} is an education outcome, $Treat_j$ is a binary variable for child's maternal involuntarily displacement, and ρ_b is base/birth year fixed effects. * denotes significance at the 10 percent level, ** denotes significance at the 5 percent level and *** denotes significance at the 1 percent level.

To understand whether the effects of job loss during the first postpartum year on child development are restricted to mothers, or extend to father as well, Appendix Table A2 provides results from estimating Equation (2) using fathers rather than mothers. The results are smaller in

magnitude and largely not statistically significant, indicating that the detrimental childhood effects of parental job loss in the first postpartum year are primarily driven by maternal job loss. This is consistent with mothers serving as primary caregivers and playing a more important role in early childhood development (e.g., Livingston and Parker 2019). It further suggests that the persistent effects on children are unlikely to operate through a loss in household income, as fathers earn more on average, and we would expect to find larger effects from paternal job loss than from maternal job loss.

Table 2: Maternal Job Loss Effects on Child Education Outcomes, by Child Age

	5th Grade English	5th Grade Math	5th Grade Norwegian	10th Grade GPA
Panel A: Postpartum Job Loss (Main Results)				
Maternal Job Loss	-0.015*** (0.006)	-0.015*** (0.005)	-0.015*** (0.005)	-0.064*** (0.022)
Mean	0.524	0.544	0.535	4.446
Observations	55639	62959	62161	22359
Panel B: Job Loss in 2nd and 3rd Year				
Maternal Job Loss	0.005 (0.008)	-0.008 (0.007)	-0.002 (0.007)	-0.055** (0.028)
Mean	0.524	0.544	0.535	4.446
Observations	32610	37125	36647	14085
Panel C: Job Loss in 4th and 5th Year				
Maternal Job Loss	0.013 (0.011)	-0.004 (0.010)	-0.002 (0.010)	-0.053 (0.040)
Mean	0.524	0.544	0.535	4.446
Observations	21789	24634	24313	8869

Notes: Standard errors in parentheses, clustered at mother level. Estimating equation: $y_{jb} = \alpha + \beta_1 Treat_j + \rho_b + \varepsilon_{ib}$, where y_{jb} is an education outcome, $Treat_j$ is a binary variable for child's maternal involuntarily displacement, and ρ_b is base/birth year fixed effects. * denotes significance at the 10 percent level, ** denotes significance at the 5 percent level and *** denotes significance at the 1 percent level.

Finally, to understand whether the effects on child development are restricted to maternal job loss in the first postpartum year, or if these effects are also present among children who experience maternal job loss at older ages, Table 2 provides results from estimating Equation (2) using maternal job loss in the first postpartum year (Panel A), second to third postpartum year (Panel B), and fourth to fifth postpartum year (Panel C), as treatment variables. The effects of maternal job loss are particularly detrimental during the first postpartum year, though we are not always able to

rule out equality of effects.¹⁶ This suggestive evidence is consistent with the first postpartum year representing a particularly important period in children’s development. This is also consistent with the existing research on the effects of parental job loss on child outcomes (e.g., Page et al. 2008; Rege et al. 2011; Hilger 2016; Huttunen et al. 2019; Mörk et al. 2020), which has struggled to identify statistically significant effects on parental job loss among older children.

The assumption underlying our analysis is that there is no selection into treatment based on characteristics that also are correlated with the outcomes we consider. To examine this in detail, we perform a balance test in which we estimate Equation (2) on a large set of baseline maternal (employment, market income, marital status, number of children), spousal (employed and market income) and birth (gender, Apgar score, and birth weight) characteristics. In addition, we perform a series of robustness checks in which we include municipality-by-year fixed effects, impose stricter sample restrictions, and cluster the standard errors at a more conservative level. Results from the balance test are shown in Appendix Table A3, and results from all other exercises are shown in Appendix Table A4. These results provide strong support for our identifying assumption. Specifically, treated and non-treated children are balanced on birth, maternal, and paternal characteristics, and the effects are robust to altering the sample, including additional fixed effects, and using more conservative standard errors.

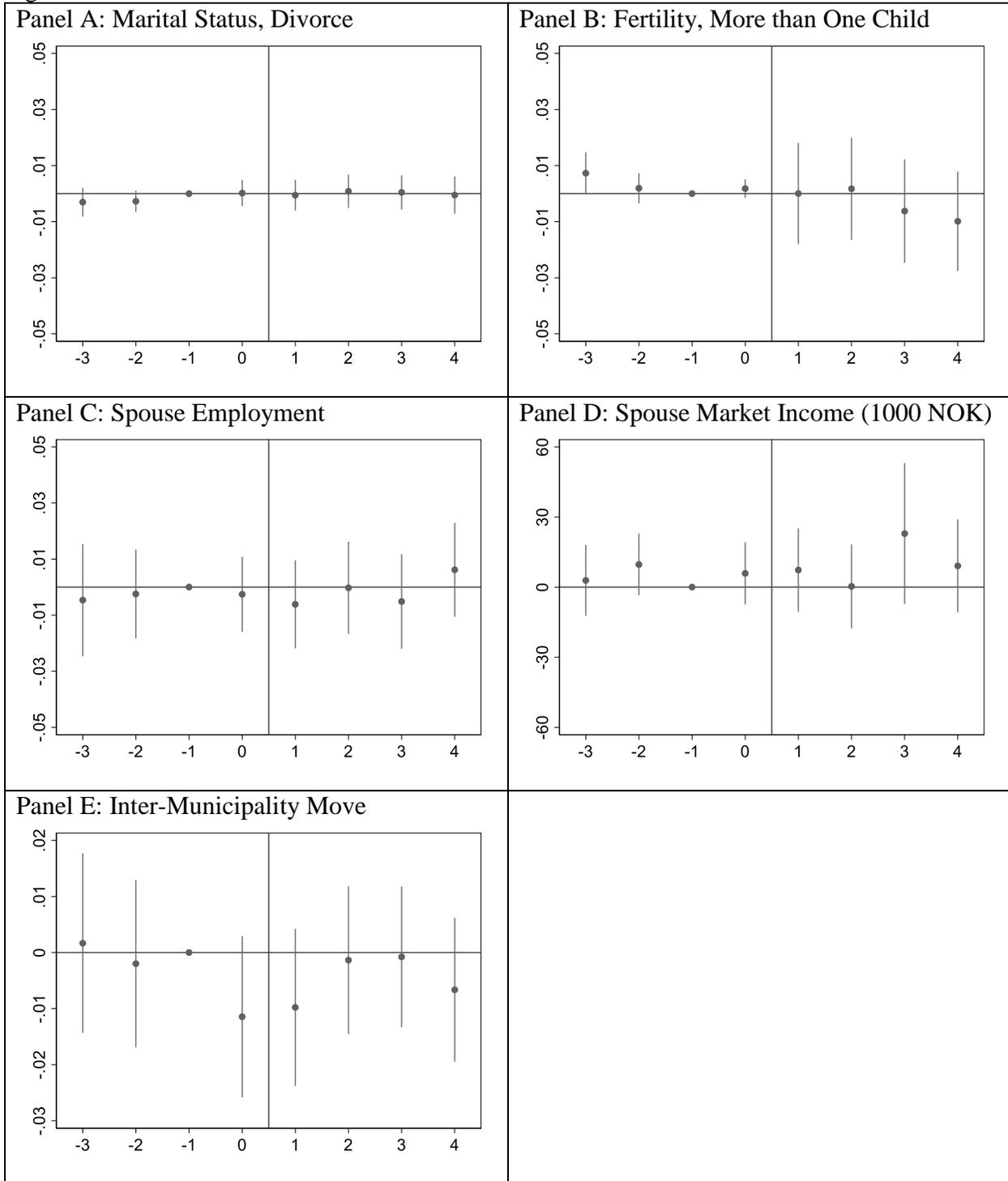
5. Mechanisms

To better understand the channels through which our effects operate, we analyze family formation, fertility, spousal labor market responses, and mobility. Figure 3 plots the results from this exercise. Job loss in the first postpartum year does not induce a higher divorce rate (Panel A), impact fertility (Panel B), incentivize the spouse to engage in additional labor market activities (Panels C and D), or lead the family to move to a different area (Panel E). In terms of understanding the impact of maternal job loss on child development, Figure 3 indicate that we can rule out these potential mechanisms.¹⁷

¹⁶ We pool the second and third, and the fourth and fifth postpartum year, to obtain sample sizes that are comparable to our main sample. The reduction in sample size at older ages is due to the sample being restricted to births and job losses during 1998-2006. Thus, for births that happen late in this window, we cannot observe potential job losses two-to-four years later and they are not in the older-age analysis. We have also estimated the effect of parental job loss in the first year of life for only those who have data for job loss in year 3 through 4. Panel D of Appendix Table A4 shows that the main results are unaffected by this restriction.

¹⁷ Our fertility results differ from Huttunen et al. (2016) which finds that job loss reduce fertility. However, our setting is very different, focusing on new mums rather than women in general.

Figure 3: Event Studies for Potential Mechanisms



Notes: Dots are point estimates, lines are 95% confidence intervals. Standard errors clustered at mother level. Estimating equation: $y_{ibt} = \alpha + \sum_{t=-3}^4 [\pi_t(Treat_i)] + \gamma_t + \lambda_{ib} + \varepsilon_{ibt}$, where y_{ibt} is a potential mechanism, $Treat_i$ is a binary variable for involuntarily displacement at $t = 0$, π_t is time-varying treatment effect in year t , (π_{-1} omitted so estimates are relative $t = -1$). Controls also include relative time (γ_t) and base/birth year-by-individual (λ_{ib}) fixed effects.

Combined with the results in Section 4 which suggest that the long-run effects on children are not driven by changes in household income (as we would expect larger effects from paternal job loss than from maternal job loss in that case), this indicates that the effects likely operate through unobserved changes in the relationship between mothers and children following involuntary displacement, possibly due to increased stress.

6. Conclusion

This paper provides novel evidence on the effect of labor market shocks in the first postpartum year on mothers and children. To isolate exogenous variation in job displacements, we follow prior literature and focus on involuntary job loss due to establishment closures and mass layoffs.

We find that mothers who are displaced in the postpartum year experience significantly larger employment and income effects than women who are displaced in non-birth years. However, this differential effect is temporary and converges to the effect in the non-birth year sample after three years. Despite the transitory nature of the maternal labor market effects, we find significant and lasting harm to children's educational performance and human capital development. In terms of mechanisms, none of the effects we identify appear to operate through changes in family structure, fertility, mobility, or spousal labor market outcomes. Further, the effects do not appear to flow through a reduction in household income as the effect of paternal job loss on children is largely not statistically significant nor economically meaningful. This suggests that the effects we identify operate through stress-induced changes in the relationship between mothers and children. This is consistent with recent research on the relationship between in-utero exposure to stress and offspring cognition (Aizer et al. 2016).

In terms of policy implications, our results show that the effects on maternal labor supply are transitory and converge to the non-birth year sample after three years, and that the adverse effect on the long-term educational performance of children likely operate through stress-induced changes in the relationship between mothers and children. To mute the negative impact on children, it is therefore not a question of providing additional job skills to the displaced mothers. Rather, it is a question of facilitating the search process such that the transitory effects can be shortened and the period of heightened stress minimized. We mention three potential policies. First, minimize the stress associated with job displacement through programs that expand job

search assistance to new mothers. Second, increase job protections for new mothers and exempt this group from seniority rules. Third, actively incentivize employers to hire this group of workers to ensure that the period of heightened stress is minimized.

References

Aizer, Anna, Laura Stroud, and Stephen Buka (2016). "Maternal stress and child outcomes: Evidence from siblings." *Journal of Human Resources* 51.3: 523-555.

Andresen, Martin Eckhoff, and Emily Nix (2019). "What causes the child penalty? Evidence from same sex couples and policy reforms." SSB Discussion Paper No. 902.

Angelov, Nikolay, Per Johansson, and Erica Lindahl (2016). "Parenthood and the gender gap in pay." *Journal of Labor Economics* 34.3: 545-579.

Black, Sandra E., Paul J. Devereux, and Kjell G. Salvanes (2015). "Losing heart? The effect of job displacement on health." *ILR Review* 68.4: 833-861.

Black, Sandra E., Paul J. Devereux, and Kjell G. Salvanes (2016). "Does grief transfer across generations? Bereavements during pregnancy and child outcomes." *American Economic Journal: Applied Economics* 8.1: 193-223.

Blau, Francine D., and Lawrence M. Kahn (2017). "The gender wage gap: Extent, trends, and explanations." *Journal of Economic Literature* 55.3: 789-865.

Bütikofer, Aline, René Karadakic, and Alexander Willén (2020). "Parenthood and the Gender Gap in Commuting." Norwegian School of Economics, Unpublished manuscript

CBPP. "Policy Basics: Unemployment Insurance." (2020). Retrieved from <https://www.cbpp.org/research/economy/policy-basics-unemployment-insurance>. Accessed 13 October 2020.

Dahl, Gordon B. and Lance Lochner (2012). "The impact of family income on child achievement: Evidence from the earned income tax credit" *American Economic Review* 102.5: 1927-56

Dahl, Gordon B., Katrine Løken, Magne Mogstad, and Kari Salvanes (2016). "What is the case for paid maternity leave?" *Review of Economics and Statistics* 98.4: 655-670.

Doodini, Sam, Michael Lovenheim, Kjell Salvanes, and Alexander Willén (2020). "Monopsony, Skills, and Labor Market Concentration." CEPR Discussion Paper No. 15412.

Hilger, Nathaniel (2016). "Parental job loss and children's long-term outcomes: evidence from 7 million fathers' layoffs." *American Economic Journal: Applied Economics* 8.3: 247-83.

Huttunen, Kristiina, Jarle Møen, and Kjell G. Salvanes (2011). "How destructive is creative destruction? Effects of job loss on job mobility, withdrawal and income." *Journal of the European Economic Association* 9.2: 840-870

Huttunen, Kristiina, and Jenni Kellokumpu (2016). "The effect of job displacement on couples' fertility decisions." *Journal of Labor Economics* 34.2: 403-442.

Huttunen, Kristiina, Jarle Møen, and Kjell G. Salvanes (2018). "Job loss and regional mobility." *Journal of Labor Economics* 36.2: 479-509.

- Huttunen, Kristiina, and Krista Riukula (2019). "Parental Job Loss and Children's Careers." IZA Discussion Paper No. 12788.
- Kleven, Henrik, Camille Landais, and Jakob Sjøgaard (2018). "Children and gender inequality: evidence from Denmark." *American Economic Journal: Applied Economics* 11.4: 181-209
- Kleven, Henrik, Camille Landais, Johanna Posch, Andreas Steinhauer, and Josef Zweimüller (2019). "Child penalties across countries: Evidence and explanations." *AEA Papers and Proceedings* Vol. 109: 122-126.
- Komisar, Erica (2017). *Being There: Why Prioritizing Motherhood in the First Three Years Matters* (New York, Penguin).
- Krueger, Alan and Diane Whitmore (2001). "The Effect of Attending a Small Class in the Early Grades on College-Test Taking and Middle School Test Results: Evidence from Project STAR." *The Economic Journal* 111: 1–28.
- Livingston, Gretchen, and Kim Parker (2019). "8 facts about American dads." Pew Research Center. Retrieved from <https://www.pewresearch.org/fact-tank/2019/06/12/fathers-day-facts>.
- Mörk, Eva, Anna Sjögren, and Helena Svaleryd (2020). Consequences of parental job loss on the family environment and on human capital formation – Evidence from workplace closures. *Labour Economics* (forthcoming).
- Oreopoulos, Philip, Marianne Page, and Ann Huff Stevens (2008). "The intergenerational effects of worker displacement." *Journal of Labor Economics* 26.3: 455-483.
- Rege, Mari, Kjetil Telle, and Mark Votruba (2011). "Parental job loss and children's school performance." *The Review of Economic Studies* 78.4: 1462-1489.
- Song, Younghwan (2018). "Job displacement and subjective well-being: findings from the American Time Use Survey Well-Being Modules." *Journal for Labour Market Research* 52.1: 13.
- SSB (2020). Kindergartens. Retrieved from <https://www.ssb.no/en/barnehager/>. Accessed on October 20, 2020.
- Tanndal, Julia, and Miika Päällysaho (2020). "Family-level stress and children's educational choice: evidence from parent layoffs." Stockholm University, Unpublished Manuscript.
- Del Bono, Emilia, Andrea Weber, and Rudolf Winter-Ebmer (2012). "Clash of career and family: Fertility decisions after job displacement." *Journal of the European Economic Association* 10.4: 659-683.

Appendix

Table A1: Summary Statistics at Relative Time Negative One

	Birth Year Sample		Non-Birth Year Sample	
	Displaced	Non-Displaced	Displaced	Non-Displaced
Panel A: Mother Characteristics				
Employed	1.00 (.)	1.00 (.)	1.00 (.)	1.00 (.)
Market Income	389.99 (176.58)	397.89 (152.04)	371.90 (154.89)	378.61 (147.02)
Partner Employed	0.86 (0.35)	0.87 (0.34)	0.83 (0.38)	0.83 (0.37)
Partner Market Income	494.73 (304.05)	500.55 (1155.03)	477.40 (345.71)	483.82 (419.94)
Divorced	0.046 (0.207)	0.040 (0.197)	0.121 (0.326)	0.113 (0.316)
More Than One Child	0.16 (0.37)	0.17 (0.37)	0.66 (0.48)	0.69 (0.46)
Panel B: Children Characteristics				
5th Grade English	0.51 (0.28)	0.52 (0.29)		
5th Grade Math	0.53 (0.29)	0.54 (0.28)		
5th Grade Norwegian	0.52 (0.28)	0.54 (0.28)		
10th Grade GPA	4.38 (0.76)	4.45 (0.73)		

Notes: Authors' estimation based on Norwegian register data from 1995 through 2010. All tests scores have been converted to national percentile rankings. Market income is measured in 1000 NOK. Standard deviations are provided in parentheses.

Table A2: Paternal Job Loss Effects on Child Education Outcomes

	5th Grade English	5th Grade Math	5th Grade Norwegian	10th Grade GPA
Maternal Job Loss	0.010** (0.004)	-0.003 (0.004)	-0.000 (0.004)	-0.010 (0.014)
Mean	0.506	0.515	0.503	4.347
Observations	100591	114714	113143	43495

Notes: Standard errors in parentheses, clustered at the father level. Estimating equation: $y_{jb} = \alpha + \beta_1 Treat_j + \rho_b + \varepsilon_{ib}$, where y_{jb} education outcome, $Treat_j$ binary variable for child's paternal involuntarily displacement, and ρ_b is base/birth year fixed effects. * denotes significance at the 10 percent level, ** denotes significance at the 5 percent level and *** denotes significance at the 1 percent level.

Table A3: Balance Test

	Employed	Market income (1000 NOK)	Partner employed	Partner income (1000 NOK)	Divorced	More than one child	Age at birth	Child female	APGAR 5 minute score	Birth weight (grams)
Maternal Job Loss	0.000 (.)	-3.812 (3.094)	-0.012 (0.007)	0.012 (7.028)	0.004 (0.004)	-0.004 (0.007)	-0.116* (0.069)	0.008 (0.009)	-0.014 (0.015)	15.679 (10.779)
Mean	1.000	397.483	0.869	500.252	0.041	0.166	30.841	0.490	9.383	3554.208
Observations	65872	65871	46959	53233	65872	65872	65872	65872	65723	65800

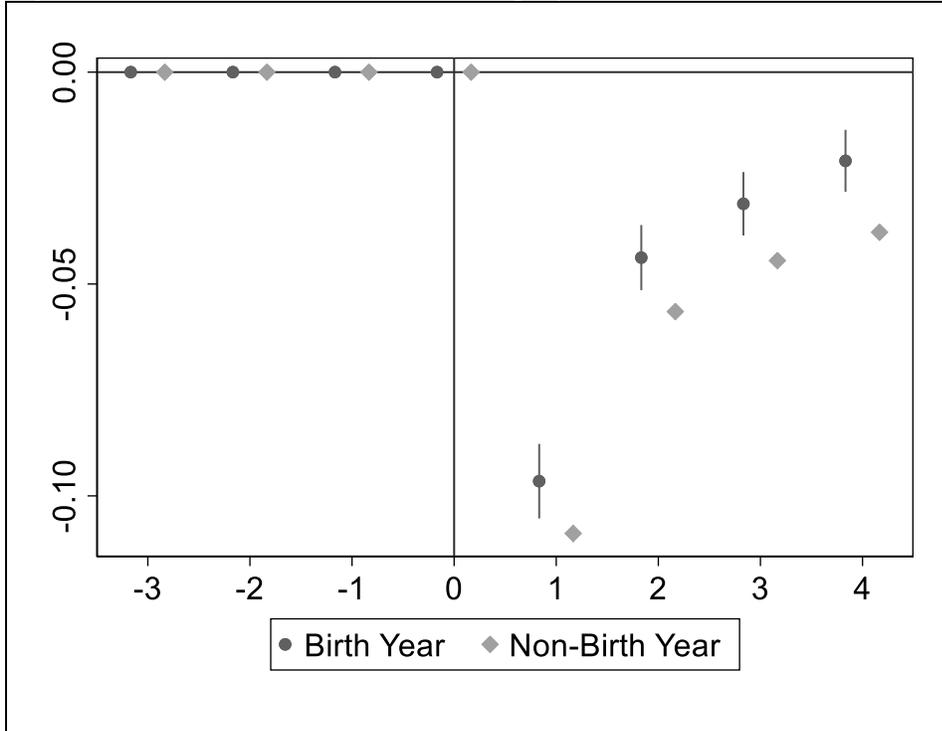
Notes: Table shows point estimates obtained from estimating Equation (2) on a set of outcomes in the year prior to child birth. Estimating equation: $y_{jb} = \alpha + \beta_1 Treat_j + \rho_b + \varepsilon_{ib}$. Standard errors are clustered at the mother level.

Table A4: Robustness (clustering SE, more FE, common sample), Boys and Girls Pooled

	5th Grade English	5th Grade Math	5th Grade Norwegian	10th Grade GPA
Panel A: Main Estimate				
Maternal Job Loss	-0.015*** (0.006)	-0.015*** (0.005)	-0.015*** (0.005)	-0.064*** (0.022)
Mean	0.524	0.544	0.535	4.446
Observations	55639	62959	62161	22359
Panel B: Cluster Standard Errors as Municipality				
Maternal Job Loss	-0.015** (0.006)	-0.015*** (0.006)	-0.015*** (0.006)	-0.064*** (0.023)
Mean	0.524	0.544	0.535	4.446
Observations	55639	62959	62161	22359
Panel C: Municipality-by-Year FE				
Maternal Job Loss	-0.018*** (0.006)	-0.017*** (0.005)	-0.016*** (0.005)	-0.073*** (0.022)
Mean	0.524	0.544	0.535	4.446
Observations	55639	62959	62161	22359
Panel D: Common Sample				
Maternal Job Loss	-0.020*** (0.006)	-0.019*** (0.005)	-0.017*** (0.005)	-0.087*** (0.022)
Mean	0.528	0.547	0.536	4.462
Observations	24524	27810	27447	10236

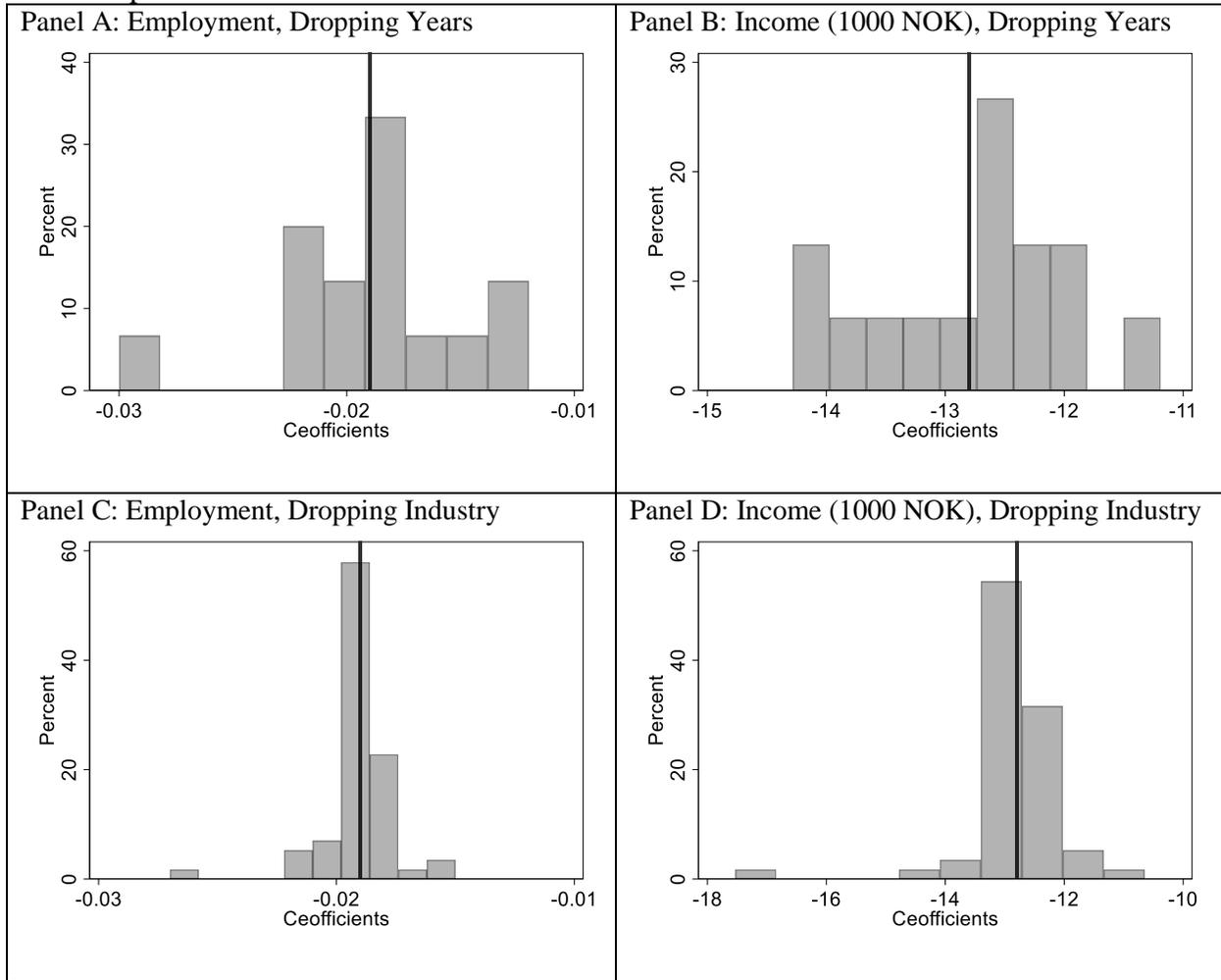
Notes: Standard errors in parentheses, clustered at mother level. Estimating equation: $y_{jb} = \alpha + \beta_1 Treat_j + \rho_b + \varepsilon_{ib}$, where y_{jb} is an education outcome, $Treat_j$ is a binary variable for child's maternal involuntarily displacement, and ρ_b is base/birth year fixed effects. Panel A reproduces the main estimates shown in Table 1 in the manuscript. Panel B provides results when standard errors are clustered on the municipality level instead of the mother level. Panel C shows results when municipality-by-year fixed effects are included. Panel D shows the effect when we constrain the sample to estimate the effect of parental job loss in the first year of life for only those who have data for job loss in year 3 through 4 * denotes significance at the 10 percent level, ** denotes significance at the 5 percent level and *** denotes significance at the 1 percent level.

Figure A1: Event Studies for Men's Employment



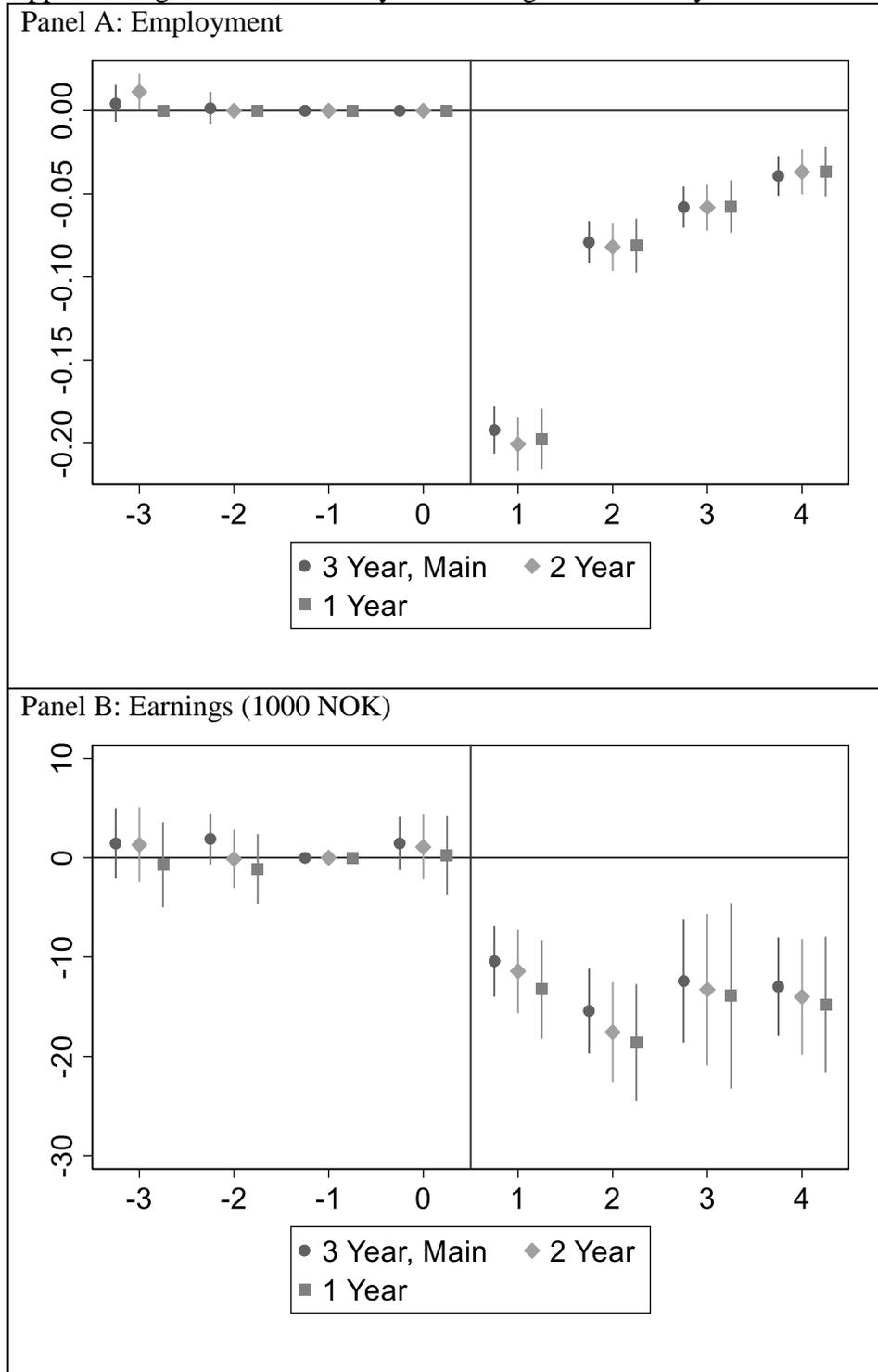
Notes: Dots are point estimates, lines are 95% confidence intervals. Standard errors clustered at father level. Estimating equation: $y_{ibt} = \alpha + \sum_{t=-3}^4 [\pi_t(Treat_i)] + \gamma_t + \lambda_{ib} + \varepsilon_{ibt}$, where y_{ibt} is a labor market outcome, $Treat_i$ binary variable for involuntarily displacement at $t = 0$, π_t time-varying treatment effect in year t , (π_{-1} omitted so estimates are relative $t = -1$). Controls also include relative time (γ_t) and base/birth year-by-individual (λ_{ib}) fixed effects.

Figure A2: Difference-in-Differences Sensitivity of Dropping One Industry or One Year, Birth Year Sample



Notes: Histogram of difference-in-differences estimates, where each industry or year is dropped one at a time. Vertical line is the point estimate when all industries or years are used. Estimating equation: $y_{ibt} = \alpha + \beta_{DID}(Treat_i \times Post_t) + \delta Treat_i + \tau Post_t + \varepsilon_{ibt}$, where y_{ibt} is a labor market outcome, $Treat_i$ binary variable for involuntarily displacement at $t = 0$, $Post_t$ binary variable for after child birth. β_{DID} is the coefficient of interested, and the distribution of leave-one-out β_{DID} is plotted above.

Appendix Figure A3: Sensitivity to Relaxing Work History Restriction



Notes: Dots are point estimates, lines are 95% confidence intervals. Standard errors clustered at mother level. Estimating equation: $y_{ibt} = \alpha + \sum_{t=-3}^4 [\pi_t(Treat_i)] + \gamma_t + \lambda_{ib} + \varepsilon_{ibt}$, where y_{ibt} is a labor market outcome, $Treat_i$ is a binary variable for involuntarily displacement at $t = 0$, π_t time-varying treatment effect in year t , (π_{-1} omitted so estimates are relative $t = -1$). Controls also include relative time (γ_t) and base/birth year-by-individual (λ_{ib}) fixed effects.

Issued in the series Discussion Papers 2019

2019

- 01/19 January, **Aline Bütikofer**, Christopher Cronin, Meghan Skira, "Employment Effects of Healthcare Policy: Evidence from the 2007 FDA Black Box Warning on Antidepressants"
- 02/19 February, **Ingar Haaland** and Cristopher Roth "Beliefs About Racial Discrimination and Support for Pro-Black Policies "
- 03/19 February, **Astrid Kunze** and Xingfei Liu, "Universal Childcare for the Youngest and the Maternal Labour Supply"
- 04/19 February, **Ingvild Almas, Alexander W. Cappelen, Bertil Tungodden.** "Cutthroat capitalism versus cuddly socialism: Are Americans more meritocratic and efficiency-seeking than Scandinavians?"
- 05/19 February, **Chang Koo Chi**, Kyoung Jin Choi. "Performance Measurement in Agency Models"
- 06/19 March, **Alexander W. Cappelen, Ranveig Falch** and **Bertil Tungodden.** "The Boy Crisis: Experimental Evidence on the Acceptance of Males Falling Behind"
- 07/19 March, Frode Skjeret, **Frode Steen** and **Timothy G.A Wyndham.** "Paywalls and the demand for online news"
- 08/19 April, **Ola. H. Grytten** and Viktoriia Koilo. "The Financial Instability Hypothesis and the Financial Crisis in Eastern European Emerging Economies"
- 09/19 April, **Alexander W. Cappelen**, Johanna Mollerstrom, Bjørn-Atle Reme and **Bertil Tungodden.** "A Meritocratic Origin of Egalitarian Behavior"
- 10/19 April, **Fanny Landaud.** "From Employment to Engagement? Stable Jobs, Temporary Jobs, and Cohabiting Relationships"
- 11/19 May, **Ola Honningdal Grytten** and Viktoriia Koilo. "Evidence of the Environmental Kuznets Curve in Emerging Eastern European Economies"

- 12/19 June, Rune Midjord, Tomás Rodríguez Barraquer, and **Justin Valasek**. “Robust Information Aggregation Through Voting”
- 13/19 June, Eva M. Berger, **Henning Hermes**, Guenther Koenig, Felix Schmidt, and Daniel Schunk. “Self-regulation Training and Job Search Behavior: A Natural Field Experiment Within an Active Labor Market Program”
- 14/19 June, **Henning Hermes**, Martin Huschens, Franz Rothlauf and Daniel Schunk. “Motivating Low-Achievers—Relative Performance Feedback in Primary Schools”
- 15/19 August, Viktoriia Koilo and Ola **Honningdal Grytten**. “The Blue Maritime Cluster Crisis Financial Instability and Supply Chain Management Effects”
- 16/19 September, Jonas Andersson, **Fred Schroyen** and Gaute Torsvik. “The impact of international tax information exchange agreements on the use of tax amnesty: evidence from Norway”
- 17/19 September, Ingrid Kristine Folgerø, **Torfinn Harding** and Benjamin S. Westby. “Going Fast or Going Green? Evidence from Environmental Speed Limits in Norway”
- 18/19 September. Julie Riise, Barton Willage and **Alexander Willén**. “Can Female Doctors Cure the Gender STEMM Gap? Evidence from Randomly Assigned General Practitioners”
- 19/19 September, **Aline Bütikofer**, **Katrine V. Løken** and **Alexander Willén**. “Building Bridges and Widening Gaps: Efficiency Gains and Equity Concerns of Labor Market Expansions”
- 20/19 September, Richard Friberg, **Frode Steen** and **Simen A. Ulsaker**. “Hump-shaped cross-price effects and the extensive margin in cross-border shopping”
- 21/19 July, Mai Nguyen-Ones, and **Frode Steen**. “Market Power in Retail Gasoline Markets”
- 22/19 October, Tunç Durmaz and **Fred Schroyen**. “Evaluating Carbon Capture and Storage in a Climate Model with Endogenous Technical Change”

23/19 November, **Henning Hermes** and Daniel Schunk. "If You Could Read My Mind – An Experimental Beauty-Contest Game With Children"

24/19 December, **Vincent Somville**. "Having a Daughter Reduces Male Violence Against a Partner"

2020

01/20 January, **Laura Khoury**, Clément Brébion and Simon Briole. "Entitled to Leave: the impact of Unemployment Insurance Eligibility on Employment Duration and Job Quality"

02/20 January, Thomas Buser, **Alexander Cappelen**, Uri Gneezy, Moshe Hoffman and **Bertil Tungodden**. "Competitiveness, gender and handedness: a large-sample intercultural study"

03/20 February, **Patrick Bennett**, Chiara Ravetti and Po Yin Wong. "Losing in a Boom: Long-term Consequences of a Local Economic Shock for Female Labour Market Outcomes"

04/20 April, **Øivind A. Nilsen**. "The Labor Market in Norway: 2000-2018"

05/20 April, **Simen A. Ulsaker**. "Exclusionary contracts and incentives to innovate"

06/20 May, **Alexander W. Cappelen**, **Ranveig Falch**, **Erik Ø. Sørensen** and **Bertil Tungodden**. "Solidarity and Fairness in Times of Crisis"

07/20 May, Gozde Corekcioglu, Marco Francesconi and **Astrid Kunze**. "Do Generous Parental Leave Policies Help Top Female Earners?"

08/20 June, **Ola Honningdal Grytten**. "Weber revisited: A literature review on the possible Link between Protestantism, Entrepreneurship and Economic Growth"

09/20 June, Eva M. Berger , Ernst Fehr, **Henning Hermes** , Daniel Schunk and Kirsten Winkel. "The Impact of Working Memory Training on Children's Cognitive and Noncognitive Skills"

10/20 June, **Ola Honningdal Grytten**. "Two centuries of economic growth: Norwegian GDP 1816-2020"

- 11/20 July, **Ola Honningdal Grytten**, Magnus Lindmark and Kjell Bjørn Minde. "Energy Intensity and the Environmental Kuznets Curve"
- 12/20 August, **Ola Honningdal Grytten**. "Puritan Motivation for Serial Entrepreneurship: The Haugean Example"
- 13/20 August, Julian Johnsen, Hyejin Ku and **Kjell G. Salvanes**. "Competition and Career Advancement: The Hidden Costs of Paid Leave"
- 14/20 August, Patrick Bennett, Richard Blundell and **Kjell G. Salvanes**. "A Second Chance? Labor Market Returns to Adult Education Using School Reforms"
- 15/20 August, Paul Brandily, Clément Brébion, Simon Briole and **Laura Khoury**. "A Poorly Understood Disease? The Unequal Distribution of Excess Mortality Due to COVID-19 Across French Municipalities"
- 16/20 September, **Ingvild Almås**, **Vincent Somville** and Lore Vandewalle. "The Effect of Gender-Targeted Transfers: Experimental Evidence From India"
- 17/20 September, **Ola Honningdal Grytten**. "The Wealth of a Nation: Norway's Road to Prosperity"
- 18/20 September, Asbjørn G. Andersen, Simon Franklin, Tigabu Getahun, Andreas Kotsadam, **Vincent Somville** and Espen Villanger. "Does Wealth Reduce Support for Redistribution? Evidence from an Ethiopian Housing Lottery"
- 19/20 September, **Ingvild Almås**, Lars Ivar Berge, **Kjetil Bjorvatn**, **Vincent Somville** and **Bertil Tungodden**. "Adverse selection into competition: Evidence from a large-scale field experiment in Tanzania"
- 20/20 September, Julian Vedeler Johnsen, Kjell Vaage and **Alexander Willén**. "Interactions in Public Policies: Spousal Responses and Program Spillovers of Welfare Reforms"
- 21/20 October, **Aline Bütikofer**, Rita Ginja, **Fanny Landaud** and **Katrine Løken**. "School Selectivity, Peers, and Mental Health"
- 22/20 November, Barton Willage and **Alexander Willén**. "Postpartum Job Loss: Transitory Effect on Mothers, Long-run Damage to Children"



NHH



NORGES HANDELSHØYSKOLE
Norwegian School of Economics

Helleveien 30
NO-5045 Bergen
Norway

T +47 55 95 90 00
E nhh.postmottak@nhh.no
W www.nhh.no

