

GENDER DISPARITIES IN THE LABOUR MARKET? EXAMINING THE COVID-19 PANDEMIC IN ALBERTA[†]

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SUMMARY

The initial wave of the COVID-19 pandemic generated large labour market disparities between men and women; however, in Alberta these differences did not persist beyond summer 2020. Instead, the pandemic continues to persistently and negatively affect the labour market patterns of parents with young children, regardless of the parent's gender. This finding should guide policy-makers when planning for the province's economic recovery.

Using data from Alberta up to and including the December 2020 release of the Labour Force Survey, we do not find evidence that the "she-cession" continued into Alberta's second round of health restriction measures. Instead, we find that school transitions to virtual learning, daycare closures, and parents opting for online learning resulted in profound and persistent effects on workers with young children compared to workers without children.

Recovery plans focusing solely on gender may be therefore insufficient for addressing the effects that different groups have experienced during the pandemic. Policy-makers should target policies towards both mothers and fathers with young children. Moreover, new policies should be aimed at supporting parents so that they do not face additional stress over how they

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will pay their bills and feed their families if they lose their jobs or must reduce their hours to stay home to care for their children.

The Canada Recovery Caregiving Benefit (CRCB) should remain in place until all threats of school and child-care facility closures are past. Alberta has received approximately \$144 million in direct CRCB subsidies, but the weekly amount of \$500 per recipient is less than minimum wage in a full-time job, meaning parents still may be unable to pay bills and meet their families' needs. The province should top up the CRCB for lower- or single-income parents.

Employment Insurance benefits should be made available to parents who quit their jobs to take care of their children as a direct result of public health measures. As well, those parents with young children who receive welfare payments should not be required to search for jobs while public health measures remain in place.

The Alberta government needs to work together with the federal government to provide adequate support to daycare centres and schools to cover the added pandemic-related costs. Alberta received \$87 million in federal funding to help with those costs and has itself contributed \$17.8 million to extra health and safety measures in daycare centres. This is money well spent, for when parents feel their children are in a safe place, they will not keep them at home and jeopardize or lose their own employment.

However, the end of the pandemic will not mean an abrupt end to its effects on the labour market. Even though this paper finds no differences in the situations of employed men and women, the latter may experience more labour market friction in the long run, due to missed opportunities for on-the-job training and work experience. One benefit that can come out of the labour market disruptions caused by the pandemic is a renewed focus on addressing pre-pandemic inequities between men and women with children. From this perspective, Alberta should celebrate and embrace the recent federal commitment to a Canada-wide early learning and child care plan.

INTRODUCTION

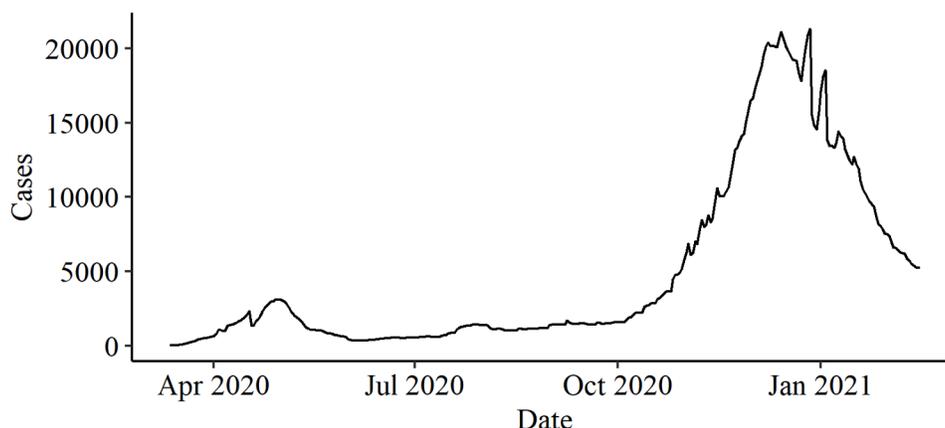
On March 5, 2020, Alberta reported its first case of the novel coronavirus disease (COVID-19). Shortly after, the government took extensive measures to “flatten the epidemic curve” and contain the virus’s spread: schools closed to face-to-face learning and daycares closed completely on March 15, a state of public health emergency was declared on March 17 and the closure of non-essential businesses and services was mandated on March 27. The impacts of these social-distancing efforts on Alberta’s labour market were large and immediate. In a year-over-year comparison, data from April 2020 show that employment in Alberta declined by 15.5 per cent, while the unemployment rate increased to 13.4 per cent (Alberta Treasury Board and Finance 2020).

As the government started to relax public health restrictions over the summer months, Alberta’s labour market showed promising signs of recovery (Business Council of Alberta 2020). However, when the option for in-person K-12 school returned in September 2020, upwards of 30 per cent of students chose the online learning option, depending on school district, as parents expressed concern about their children’s safety (Bench 2021). By mid-September 2020, COVID-19 cases began to rise again, with Alberta’s cases reaching new daily record highs throughout fall 2020 (see Figure 1). The virus’s re-emergence resulted in K-12 students, teachers and staff having to isolate as exposure to the virus in schools led to another round of comprehensive social-distancing restrictions. A second state of public health emergency was declared on November 24,¹ and on November 30, in-person classes were moved fully online for grades 7-12 province-wide. On December 8, additional restrictions were imposed until January 12, 2021, including: i) the prohibition of all indoor and outdoor social gatherings, including limiting in-home contact to household members only; ii) mandatory working from home when physical presence was not required; iii) mandatory closure of restaurants/bars/cafes, entertainment businesses and personal and wellness services; and iv) all K-12 students returning to online learning for the first week of school in January.² Similar to the first round of social-distancing measures, such substantial restrictions were likely accompanied by major changes to Alberta’s labour market, including reduced working hours, increased unemployment or complete non-participation in the labour force altogether.

¹ For additional details on the restrictions imposed by Alberta’s government in November, see Cameron-Blake (2021) and Pearson (2020).

² See CBC News (2020) for further details.

Figure 1: Number of Active COVID-19 Cases in Alberta, March 12, 2020–February 15, 2021



Source: Government of Canada Public Health Infobase, 2020–2021. Tabulations by authors.

While research has demonstrated that Canada’s nation-wide economic shutdowns had the largest adverse impact on low-wage workers in the first wave of the virus (Koebel and Pohler 2020; Lemieux et al. 2020; Statistics Canada 2020a), researchers and policy-makers in Canada have been particularly concerned about the potential gendered effects of the crisis (Alon et al. 2020; Montenovolo et al. 2020; Qian and Fuller 2020; Stevenson 2020).³ Using data from March 2020 across Canada, several reports have shown that declines in employment were much larger for women than for men (Lemieux et al. 2020; Statistics Canada 2020a). Within Alberta specifically, a report from the Business Council of Alberta (2020) similarly shows that the province’s first round of business closures in March 2020 had much larger negative impacts on the labour market outcomes of women than men.

Compared to previous recessions, several factors unique to the COVID-19 economic crisis explain why the shutdowns may have exacerbated gender-based disparities in the labour market. First, the mandatory shutdown of non-essential businesses disproportionately impacted industries that employ a relatively greater share of women than men (Alon et al. 2020). Second, school and child-care closures meant that parents had to provide child care in the home. Because women in Canada tend to take on a greater share of unpaid work in the household (Moysen and Burlock 2018), the sudden need for at-home child care during working hours may have also disproportionately reduced the ability of mothers to stay at (or return to) work.⁴ Note that if this is the main mechanism driving gender labour market disparities during the pandemic, then as schools and child-care centres reopen, more women can return to work and the aforementioned gender disparities should disappear (at least for parents).

³ For example, in a February 2021 press release for the Feminist Response and Recovery Fund, the government of Canada emphasized that “the COVID-19 pandemic has magnified systemic and longstanding inequalities, with women and girls disproportionately affected by the crisis” (Women and Gender Equality Canada 2021). The federal government expressed similar concerns about an asymmetric economic recovery for women in the 2020 Fall Economic Update (Department of Finance 2020).

⁴ Even if a parent’s work is amenable to working from home, the need to provide child care does not necessarily mean that pre-crisis hours of work (or even employment) were maintained.

Evidence suggests that, in Alberta, the gendered labour market effects identified early in the pandemic have not persisted. A report by the Business Council of Alberta (2020) shows that, over the summer months, as the government reduced restrictions, the employment of men and women recovered at similar rates.⁵ The divergence in the gendered effects of the pandemic between March and August has led to ongoing disputes in Alberta’s legislature about how to best design an economic recovery plan for the province. The opposition party has cited the difficulty of managing parenting duties and work during the pandemic, as well as pre-crisis affordability of child care in the province, as reasons for a gender-oriented economic recovery plan. In contrast, the ruling United Conservative Party (UCP) has argued in line with the Business Council of Alberta report that women have recovered as well as men, and therefore a gender-focused plan is unwarranted.⁶

At Canada’s federal level, evidence that the crisis created gendered differentials in employment outcomes early on prompted the government to define the economic consequences of the pandemic as a “she-cession.”⁷ And while the federal government has advocated for gender-based policies in its economic recovery package, Alberta’s provincial government has not yet put forth a similar initiative. As these policy debates ensue, and the COVID-19 pandemic continues to upend Alberta’s economy, there is a strong need to better understand the potential crisis-driven gender disparities in the labour market at the provincial level.

There are two main reasons that the evidence presented by the Business Council of Alberta (2020) is insufficient for both examining the possibility of the pandemic’s gendered effects and determining which types of policies should be included in an economic recovery plan. First, the analysis ignores the intersection of gender with parental status. Because child-care provision is one of the main theoretical mechanisms behind greater reduced female employment during the crisis, what matters most for drawing informed conclusions is a comparison of mothers and fathers, not women and men more generally. Second, it is possible that the province may have experienced a second divergence in the labour market outcomes of men and women like that in March because of the: i) large number of students opting for online learning in September 2020; ii) subsequent round of class- and school-specific shifts to online learning throughout the fall; iii) shifts to online learning for all students in Grade 7 at the end of November; and iv) targeted mandatory business shutdowns in December. These second-wave closures could therefore result in a K-shaped recovery, which may further exacerbate already large labour market disparities between women and men, even as the province begins to recover.

⁵ The Business Council of Alberta report also shows that women aged 55+, as well as women aged 20–24, did not experience the same recovery as men, or the key 25–54 demographic group more generally.

⁶ This debate took place in the second sitting of the fall 2020 Alberta legislature between Minister of Culture, Multiculturalism and Status of Women Leela Aheer and Opposition member Rakhi Pancholi.

⁷ For further information on the federal government’s Fall Economic Statement, readers are referred to the Department of Finance (2020).

In this paper, we explore labour market trends in Alberta between March 2020 and December 2020 to determine whether gender-specific economic recovery policies are needed at the provincial level. More specifically, we explore whether and to what extent the pandemic produced differential labour market effects on women and men (with and without children) and whether these groups have recovered at similar rates. We are particularly interested in labour market outcomes during Alberta's second wave, as policy-makers have yet to consider this.

Using the public-use Labour Force Survey (LFS) microdata files, we focus on two main outcomes: employment and hours worked. While we confirm large gender differentials in the first wave of the pandemic, during the second wave we find no evidence that women were impacted more adversely than men. Interestingly, we find that the crisis had persistently large, negative and statistically significant impacts on parents — both mothers and fathers — with young children in the household. Our results suggest that, during the second wave, men with young children have lost more hours of work than their female counterparts. However, when we investigate cumulative losses, we find that women with young children have experienced the largest reductions in hours worked over the entire course of the pandemic. Our results therefore do not point to evidence of a she-cession in Alberta. Instead, they suggest that the COVID-19 pandemic is a crisis of parental care, and that, among parents, the shutdowns did not reduce the labour supply of mothers more than fathers. We conclude with a discussion of policy implications.

DATA: THE LABOUR FORCE SURVEY

For our main results, we use Statistics Canada's LFS public-use microdata files from 2019 and 2020. The LFS is Canada's preeminent source for monthly data on the labour market. Each month, respondents are asked about their labour market behaviour in a given reference week, which usually includes the 15th day of the month. Survey respondents are drawn from the nationwide non-institutionalized population that is 15 years of age and older. The LFS uses a six-month rotating panel design: participating households are followed for six consecutive months, after which they are dropped from the sample. The public-use LFS files do not allow researchers to link individuals across time; as such, we treat the LFS as a repeated cross-section. Our analyses use data from Alberta only.

We separately examine changes in labour force statistics for each month since the start of the pandemic (i.e., March 2020 to December 2020), which allows us to determine how trends have changed. We exclude individuals who have never worked ($n = 13,228$), as well as unpaid family workers ($n = 258$). In addition, we also exclude individuals who are not employed and who last worked more than a year ago ($n = 51,471$). In this sense, our sample is selected such that we examine respondents who were somewhat attached to the labour market before the pandemic. We do this to isolate the pandemic's impact on the labour market since those who were not attached to the labour market prior to the economic shutdowns are less likely to be impacted by them (acknowledging that their job search might have been). In doing so, however, it is important to note that we omit small groups of individuals (in particular, youth who have not started working)

who may experience scarring effects from the pandemic in the long run. We are less concerned about this, as the focus of this paper is on the immediate or short-run impact of the COVID-19 economic shutdowns in Alberta.

Our main outcomes of interest include a dichotomous measure of whether an individual is employed and at work, a dichotomous measure of whether an individual is employed and absent from work and a continuous measure of an individual's total actual weekly hours of formal, paid work at all jobs (we emphasize formal and paid since this measure does not capture unpaid work that takes place in the household). We use respondents' actual hours worked rather than their usual hours worked since Koebel and Pohler (2020) show that the latter were not impacted by the pandemic. To ensure that unemployed individuals and labour market non-participants are included in our hours-worked estimates, and to get a sense of the overall impact of the pandemic on hours worked at the extensive margin, we simply set actual hours worked to zero for all individuals who fall into these categories. In addition, we examine hours worked exclusively among those who retained employment (either at work or absent from work) to get a sense of the labour market impacts of the pandemic at the intensive margin. We also provide results examining labour force participation and part-time employment. The former statistic allows us to determine the extent to which the economic shutdowns have pushed Alberta residents out of the labour market entirely, while the latter measure allows us to examine whether the composition of employment has shifted away from full-time work.

In this paper, we are particularly interested in identifying whether the COVID-19 pandemic had a differential impact on labour market outcomes across various socio-demographic groups. Given paramount concerns about the gendered impacts of the pandemic in the media and among policy-makers, we first examine labour market trends across men and women. In addition, because many Canadians faced the added burden of home-based child care during the crisis, we also look across parent status, as well as the intersection of gender and parental status. For simplicity, we define parents as those whose youngest child is less than 13 years of age. We note that, due to limitations of the LFS questionnaire, we are unable to identify other socio-demographic groups that may have been disproportionately impacted by the pandemic.⁸ More specifically, we are unable to examine labour market trends across Indigenous, Black and other racial groups, gender identity or LGBTQ+ status.

DESCRIPTIVE STATISTICS

Table 1 displays descriptive statistics for our sample of respondents from Alberta in 2019 and 2020.⁹ Panel A contains summary statistics for employed respondents (either absent from or at work) only, while panel B contains summary statistics for all LFS respondents (i.e., employed, unemployed and not in the labour force). Examining panel B, there is a clear reduction in both employment (at work) and average total actual hours

⁸ Statistics Canada (2020b) focuses on the impact of COVID-19 on immigrants and visible minorities.

⁹ Note that the employment rate and labour force participation rate are higher than the real employment and labour force participation rate in Alberta because of the sample selection described above.

worked (all jobs) between the two years. Overall, labour force participation declined by two percentage points, while part-time employment remained the same at 18 per cent. Average wages increased slightly between the two years; this is likely because job losses have been heavily concentrated in low-wage jobs so that the wages among individuals who remained employed throughout the pandemic are, on average, higher.

In terms of the socio-demographic characteristics of our sample, there are no remarkable differences between the pre- and post-pandemic years. In both years, almost half of our sample is comprised of women. About 19 per cent of respondents work in the public sector and roughly 25 per cent are covered by a collective agreement. The majority of LFS respondents: i) are married; ii) are non-students; and iii) do not have any children residing in the household. Of those with children, the presence of a child under the age of six is the most common, followed by children aged six to 12. Finally, there is a relatively even distribution of ages in our sample, though there are very few respondents who are older than 65.

Table 1: Descriptive Statistics, 2019 and 2020

| | 2019 | 2020 |
|--|------------------|------------------|
| Panel A: Employed Respondents (absent or at work) | | |
| Average total actual hours worked (all jobs) | 33.90 (17.44) | 32.29 (18.16) |
| Part-time employment | .18 (.38) | .18 (.39) |
| Average hourly wage (\$) | 31.39 (15.66) | 32.89 (16.10) |
| Average job tenure (months) | 82.21 (78.03) | 86.80 (77.75) |
| Public | .19 (.39) | .20 (.40) |
| Union | .25 (.43) | .26 (.44) |
| N | 80,308 | 64,772 |
| Panel B: All Respondents | | |
| Average total actual hours worked (all jobs) | 30.42 (19.46) | 27.15 (20.42) |
| Employed, at work | .82 (.38) | .75 (.44) |
| Employed, absent from work | .07 (.26) | .09 (.29) |
| Labour force participation | .94 (.24) | .92 (.28) |
| Female | .46 (.50) | .46 (.50) |
| Married* (ref: single) | .63 (.48) | .64 (.48) |
| Children | | |
| None | .63 (.48) | .61 (.49) |

| | | |
|----------------------|--------------|--------------|
| Youngest child < 6 | .14 (.35) | .15 (.36) |
| Youngest child 6-12 | .11 (.32) | .11 (.32) |
| Youngest child 13-17 | .06 (.24) | .06 (.25) |
| Youngest child 18-24 | .05 (.23) | .06 (.24) |
| Low education** | .30 (.46) | .29 (.45) |
| Student | | |
| Non-student | .92 (.27) | .92 (.28) |
| Full-time | .06 (.24) | .06 (.24) |
| Part-time | .02 (.14) | .02 (.14) |
| Immigrant | .24 (.43) | .23 (.42) |
| Age Group | | |
| Age 15-19 | .14 (.35) | .14 (.34) |
| Age 25-34 | .23 (.42) | .23 (.42) |
| Age 35-44 | .23 (.42) | .24 (.43) |
| Age 45-54 | .19 (.39) | .19 (.39) |
| Age 55-64 | .15 (.36) | .16 (.36) |
| Age 65+ | .05 (.22) | .05 (.21) |
| N | 89,644 | 76,697 |

Notes: Summary statistics are computed with LFS survey weights. Unweighted sample sizes reported. * Married includes common-law relationships. ** Low education includes individuals who have secondary education or less. Proportions may not sum to one due to rounding. Sample excludes: i) unpaid family workers; ii) respondents who have never worked; and iii) respondents who are not employed and who last worked more than a year ago.

Source: Canadian Labour Force Survey, public-use microdata files, 2019-2020. Tabulations by authors.

It is clear in Table 1 that survey response declined substantially over the course of the pandemic. Overall, between 2019 and 2020 there is a reduction of 12,947 respondents. While this may be potentially problematic if those still responding to the LFS are more (or less) likely to be employed during the pandemic than those who are not responding, Table 1 suggests that the use of survey weights adequately corrects for the possibility of a non-representative sample due to non-random attrition.

In Table 2, we present data on changes in employment rates, labour force participation rates, average weekly hours worked and the share of employment in part-time occupations across several different demographics of interest. Note that in order to

reflect pre- and post-COVID-19 samples over the same seasonal period, these statistics include all data between March and December in 2019 and 2020.

Across gender, age, parental status, education and geography, declines in the Alberta labour market due to the COVID-19 economic crisis have been wide-ranging. The raw differentials we present in Table 2 suggest that, overall, the following groups have experienced especially large labour market consequences during the pandemic: i) women; ii) individuals under the age of 30; iii) individuals with less than a bachelor's degree; iv) and residents of Edmonton.¹⁰ Across the four labour market statistics presented, the largest reductions are seen in employment rates. We do not observe movements of a similar magnitude for labour force participation. This suggests that many individuals shifted into unemployment rather than complete non-participation; that is, many respondents may have been temporarily laid off or were still searching for work despite heavy losses in employment. Furthermore, the reduction in labour market hours worked is shown to be uniform across all demographics. Table 2 also indicates that the 15-29-year-old cohort experienced a slight increase in part-time employment during the pandemic.

Table 2: Changes in Labour Market Statistics between 2019 and 2020, March-December

| | Employment Rate | | | Labour Force Participation Rate | | | Average Weekly Hours Worked | | | Part-Time Employment | | |
|-----------------------------|-----------------|----------------|----------------|---------------------------------|----------------|---------------|-----------------------------|----------------|---------------|----------------------|----------------|---------------|
| | 2019 | 2020 | Diff. | 2019 | 2020 | Diff. | 2019 | 2020 | Diff. | 2019 | 2020 | Diff. |
| Men (15-29) | 83.3 (37.3) | 74.0 (43.9) | -9.3 (0.8) | 89.2 (31.0) | 86.7 (34.0) | -2.5 (0.6) | 29.0 (20.4) | 23.5 (20.7) | -5.5 (0.4) | 21.0 (40.7) | 23.9 (42.6) | +2.9 (0.9) |
| Men (30-54) | 94.2 (23.4) | 89.9 (30.2) | -4.3 (0.3) | 98.2 (13.1) | 97.2 (16.4) | -1.0 (0.1) | 37.3 (18.9) | 33.8 (20.7) | -3.5 (0.3) | 4.9 (21.5) | 5.5 (22.8) | +0.6 (0.3) |
| Women (15-29) | 84.9 (35.8) | 72.5 (44.7) | -12.4 (0.8) | 89.6 (30.5) | 84.4 (36.3) | -5.2 (0.7) | 23.7 (17.4) | 18.4 (17.8) | -5.3 (0.4) | 34.8 (47.6) | 37.0 (48.2) | +2.2 (1.1) |
| Women (30-54) | 93.6 (23.9) | 87.5 (33.0) | -6.1 (0.3) | 96.3 (18.9) | 93.9 (24.0) | -2.4 (0.3) | 28.6 (17.3) | 25.4 (18.7) | -3.2 (0.2) | 21.0 (40.7) | 21.1 (40.8) | +0.1 (0.5) |
| Parents (Child <13, Men) | 95.4 (20.9) | 91.4 (28.1) | -4.0 (0.5) | 98.7 (11.2) | 97.6 (15.4) | -1.1 (0.2) | 38.0 (18.6) | 34.2 (20.3) | -3.8 (0.4) | 3.9 (19.2) | 5.1 (22.0) | +1.2 (0.4) |
| Parents (Child <13, Women) | 92.2 (26.8) | 86.7 (34.0) | -5.5 (0.6) | 94.7 (22.5) | 92.7 (26.0) | -2.0 (0.5) | 24.8 (17.8) | 21.9 (18.8) | -2.9 (0.4) | 27.8 (44.8) | 26.6 (44.2) | -1.2 (0.9) |
| Parents (Child >=13, Men) | 95.2 (21.4) | 90.6 (29.2) | -4.6 (0.7) | 98.1 (13.5) | 96.4 (18.5) | -1.7 (0.4) | 37.7 (18.8) | 33.5 (20.9) | -4.2 (0.6) | 4.0 (19.7) | 5.8 (23.3) | +1.8 (0.7) |
| Parents (Child >=13, Women) | 95.3 | 89.1 | -6.2 | 97.1 | 94.3 | -2.8 | 30.1 | 26.6 | -3.5 | 22.6 | 22.0 | -0.6 |

¹⁰ In fact, deteriorating economic conditions in Edmonton led the city to the highest unemployment rate in the nation (Johnson 2020).

| | | | | | | | | | | | | |
|-------------------|--------|--------|-------|--------|--------|-------|--------|--------|-------|--------|--------|-------|
| | (21.1) | (31.1) | (0.7) | (16.8) | (23.1) | (0.6) | (16.6) | (18.0) | (0.5) | (41.9) | (41.4) | (1.2) |
| Bachelor's Degree | 92.8 | 88.5 | -4.3 | 95.4 | 94.3 | -1.1 | 31.1 | 29.1 | -2.0 | 15.7 | 15.1 | -0.6 |
| | (26.0) | (31.9) | (0.4) | (20.9) | (22.8) | (0.3) | (18.4) | (19.1) | (0.2) | (36.4) | (35.8) | (0.5) |
| No Bachelor's | 89.0 | 81.0 | -8.0 | 93.5 | 90.3 | -3.2 | 30.2 | 25.8 | -4.4 | 19.0 | 19.6 | +0.6 |
| | (31.9) | (38.6) | (0.3) | (25.0) | (29.3) | (0.2) | (19.9) | (20.9) | (0.2) | (39.2) | (39.7) | (0.3) |
| Calgary | 90.2 | 83.9 | -6.3 | 94.2 | 92.4 | -1.8 | 30.1 | 26.7 | -3.4 | 17.8 | 16.8 | -1.0 |
| | (29.6) | (36.8) | (0.4) | (23.3) | (26.4) | (0.3) | (18.6) | (19.6) | (0.2) | (38.2) | (37.4) | (0.5) |
| Edmonton | 90.2 | 82.8 | -7.4 | 94.6 | 91.3 | -3.3 | 30.2 | 26.2 | -4.0 | 17.2 | 18.3 | +1.1 |
| | (29.7) | (37.7) | (0.4) | (22.7) | (28.1) | (0.3) | (18.6) | (20.2) | (0.2) | (37.7) | (38.6) | (0.5) |
| Other Alberta | 89.3 | 82.9 | -6.4 | 93.2 | 90.6 | -2.6 | 31.1 | 26.9 | -4.2 | 18.7 | 18.9 | +0.2 |
| | (30.9) | (37.7) | (0.4) | (25.1) | (29.2) | (0.3) | (21.4) | (20.5) | (0.2) | (38.0) | (39.1) | (0.4) |

Notes: Labour market statistics are computed with LFS survey weights. Sample excludes: i) unpaid family workers; ii) respondents who have never worked; and iii) respondents who are not employed and who last worked more than a year ago. For the "2019" and "2020" columns, the parentheses denote the standard deviation, while the difference column reports the robust standard error. All estimates are rounded to one decimal place. From March 2019 to December 2019, we draw from a total sample of 73,941 unweighted survey respondents. Over the same period in 2020, our sample size is reduced to 62,615 individuals.

Source: Canadian Labour Force Survey, public-use microdata files, 2019–2020. Tabulations by authors.

While these descriptive statistics give some insight into the labour market impacts of the COVID-19 pandemic in Alberta, they are far from conclusive. To conduct a statistically rigorous analysis of the crisis, in the next section we present the regression framework that we use to measure whether the pandemic's impact has trended differently across time and socio-demographic groups and whether those differences exhibit statistical significance.

METHODOLOGY

EMPIRICAL APPROACH

We use a difference-in-difference approach to investigate the impact of the COVID-19 pandemic on labour supply in Alberta. For each group of interest, we compare labour force statistics from February 2020 to each of the post-COVID-19 months in 2020. We use February as our comparison month since it captures the most recent state of Canada's labour market before the onset of the crisis. To account for normal seasonal fluctuations in the labour market, we also use data from 2019. Using March and weekly hours worked as an example, to obtain the impact of the COVID-19 pandemic, we first take the difference between average hours worked in February 2020 and March 2020. We then take the difference between average hours worked in February 2019 and March 2019. Finally, we take the difference of these two results to obtain the pandemic's effect on hours worked. We repeat these computations for each month in 2020 up to and including December.

We emphasize that while we do not claim to present causal estimates in this paper, given the exogeneity of the government-enforced health restrictions, we are confident that our approach isolates the impact of the crisis. Importantly, we present average

estimates that capture the total pandemic effect. For each individual, there were potentially many different ways that public health restrictions could have impacted labour market outcomes, including: i) direct job loss due to business closures; ii) reductions in work due to greater at-home child-care needs; iii) potential behavioural responses to the various crisis income-support programs the federal government introduced; and iv) falling ill with COVID-19. Due to limitations of the LFS data, we are unable to distinguish between these different mechanisms and so our estimates should be interpreted as a total pandemic effect.

ESTIMATION

To obtain the labour market effects of the COVID-19 crisis, we estimate a double-difference regression shown in equation (1) below:

$$(1) \quad Y_{imt} = \alpha + \sum_{m=1}^{11} \delta_m \text{COVIDMonth}_m * \text{COVIDYear}_t + \sum_{m=1}^{11} \beta_m \text{COVIDMonth}_m + \theta \text{COVIDYear}_t + \gamma \mathbf{X}_{imt} + \varepsilon_{imt}$$

The outcome variable Y_{imt} captures one of the following labour market statistics: employment (at work), employment (absent from work), actual hours worked, participation or part-time employment status for individual i in month m and year t . COVIDMonth_m is an indicator for whether a respondent is observed in a month after the start of the pandemic (i.e., March/April/May/etc.; note that February is excluded as the reference month), while COVIDYear_t is a dichotomous variable capturing whether a respondent is observed in the crisis year (i.e., 2020=1; 2019=0). Therefore, $\text{COVIDMonth}_m * \text{COVIDYear}_t$ is an interaction term indicating that a respondent is observed in one of the post-COVID-19 months in 2020, so that δ_m represents the monthly labour supply effects of the COVID-19 pandemic.

To examine the impact of the crisis across different groups, equation (1) is estimated separately for men and women, as well as for parents and non-parents (i.e., individuals whose youngest child is younger than 13). We also estimate equation (1) separately for fathers and mothers to determine whether the effects of the pandemic were moderated by the interaction between gender and parental status. Finally, we compare labour market effects across the age of the youngest child in the household to determine whether having a relatively young child intensifies negative employment effects. The vector \mathbf{X}_{imt} includes a number of control variables that vary depending on the groups in the estimation sample but in general include: gender, an indicator for the presence of a child under 13, marital status, age (in five-year age groups) and highest level of educational attainment. We specify which control variables have been used in a particular regression in the notes of each figure.

Because we are particularly interested in the differential impact of the pandemic across different groups, we also estimate a triple-difference regression that allows us to examine whether any of the labour market differences we observe between two groups are statistically different. For example, the difference between men and women is estimated by equation (2):

$$(2) \quad Y_{imt} = \alpha + \sum_{m=1}^{11} \delta_m Female_i * COVIDMonth_m * COVIDYear_t + \sum_{m=1}^{11} \gamma_m Female_i * COVIDMonth_m + \pi Female_i * COVIDYear_t + \sum_{m=1}^{11} \eta_m COVIDMonth_m * COVIDYear_t + \mu Female_i + \sum_{m=1}^{11} \beta_m COVIDMonth_m + \theta COVIDYear_t + \gamma X_{imt} + \varepsilon_{imt}$$

The variables in equation (2) are identical to those in equation (1), except for the addition of *Female_i*, which is an indicator for whether individual *i* is a woman (i.e., female=1; male=0). The differential impact of the pandemic on the labour supply of men and women in each month of 2020 is therefore represented by δ_m . A negative, significant coefficient on this term would suggest that women experienced greater losses in employment or hours worked than men. For our other groups of interest (i.e., parents with young children, fathers and mothers), we simply replace *Female_i* with a dichotomous variable that equals one if the respondent belongs to the given group.

To ensure that our results are representative of Alberta's population, we use LFS sample weights in all analyses.¹¹ For the hours-worked outcome, we use ordinary least squares (OLS) to estimate equations (1) and (2), noting that respondents with zero hours worked remain in the full sample.¹² In contrast, for the binary employment, participation and part-time status outcomes, we use a linear probability model (LPM).¹³

EMPIRICAL RESULTS

GENDER-BASED DIFFERENTIALS: HAS COVID-19 GENERATED A SHE-CESSION?

We begin our analysis by investigating the extent to which men and women experienced different labour market changes during the COVID-19 pandemic. This differential is an important starting point, given that various federal and provincial policy-makers have emphasized the need for a gender-based economic recovery plan.

While the gendered labour market effects early in the pandemic have already been well documented in Alberta (Business Council of Alberta 2020), recall that the province experienced its greatest increase in COVID-19 cases in the fall, which subsequently led to a second state of emergency and another round of non-essential business closures. The question remains as to how these gendered trends have evolved in the latter half of 2020. Figure 2 plots the results of the employment regressions estimated using equation (1) and equation (2) for men and women. To be clear, the black squares represent the difference in employment between men and women, while the light grey diamonds/circles indicate the group-specific estimate. The vertical bars denote the 95 per cent confidence intervals computed using robust standard errors. The panel on the left-hand side of Figure 2 presents estimates for the likelihood of being employed and

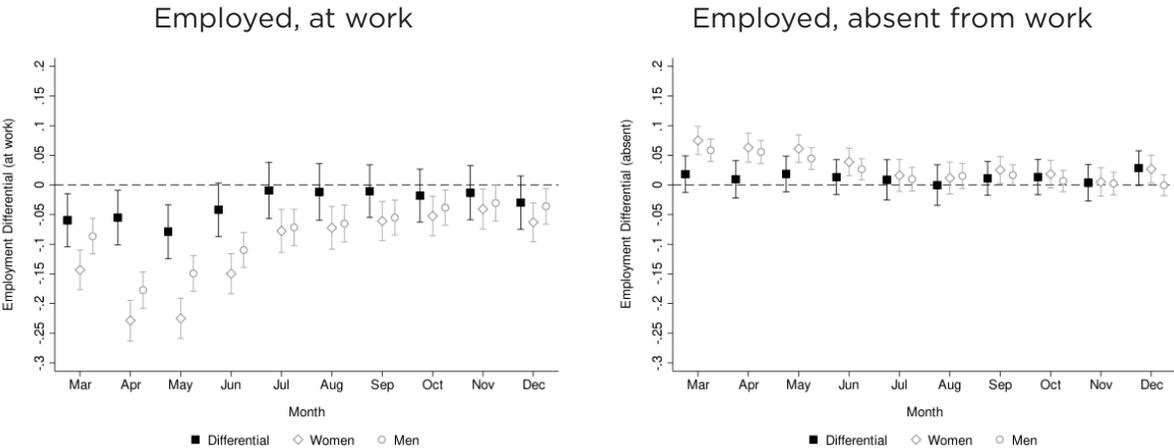
¹¹ The average unweighted monthly sample size consists of 6,931 individuals.

¹² We also estimate the hours-worked outcome with and without those with zero hours of work and find similar overall results.

¹³ We use the LPM for simplicity in interpretation. There are, however, drawbacks to this approach, including the linearity assumption, and the possibility that the fitted values may fall outside of the [0,1] interval. Since most of the modelled probabilities are not at the extremes, the LPM fits similarly to a logistic model.

at work while the panel on the right-hand side of Figure 2 presents estimates for the likelihood of being employed and absent from work.

Figure 2: Double- and Triple-difference Estimates of the Effect of the COVID-19 Pandemic on Employment by Gender, 2019–2020

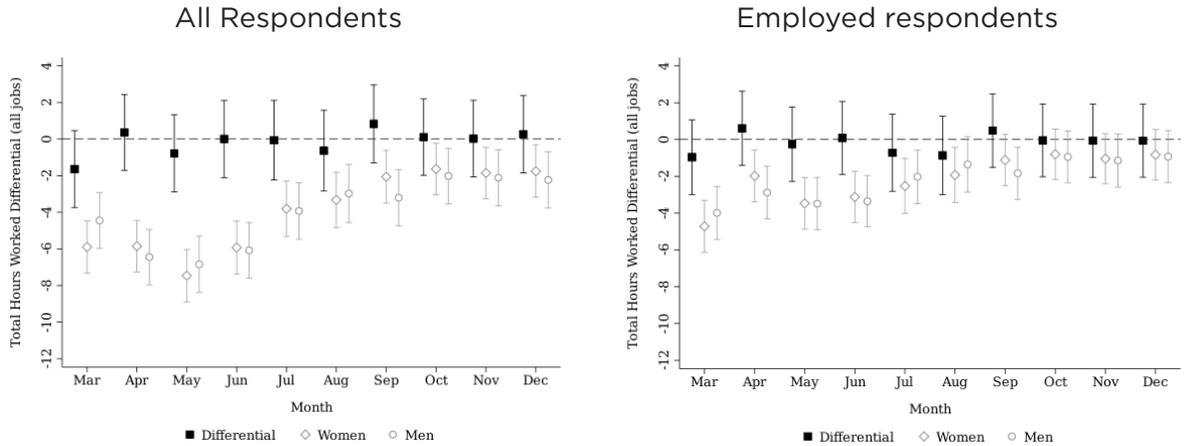


Notes: Figure 2 displays the regression results for each month of the pandemic estimated using equations 1 and 2. The dependent variable in the left panel is an indicator for employed and at work, while the dependent variable in the right panel is an indicator for employed and absent from work. The vertical bars denote the 95 per cent confidence intervals computed using robust standard errors. The black squares represent the difference in employment between men and separately for women and men. Controls include: a dichotomous variable equal to one if the respondent is married or in a common-law relationship, the age of the respondent (in five-year age groups), the respondent’s highest level of educational attainment and a dichotomous variable equal to one if the respondent’s youngest child is under 13. Sample excludes: i) unpaid family workers; ii) respondents who have never worked; and iii) respondents who are not employed and who last worked more than a year ago.

Source: Canadian Labour Force Survey, public-use microdata files, 2019–2020. Tabulations by authors.

The left panel of Figure 2 confirms that women in Alberta experienced a disproportionate decline in employment relative to men in the first three months of the pandemic. The difference in the likelihood of employment (at work) between men and women is around five percentage points between March and June. These differences are significant at the five per cent level. However, the estimated gender differential converges to zero during the summer months and remains at a similar level through the fall and into December. Apart from December 2020, there are no statistically or economically significant differences between men and women in terms of the likelihood of being employed but absent from work during any month of the pandemic. Interestingly, our results suggest that Alberta’s second wave did not reproduce the large gender differentials that were observed in the beginning of the crisis. Instead, Figure 2 indicates that between July and December 2020, men and women have faced an almost identical decline (or gain) in employment — around six percentage points below pre-crisis levels.

Figure 3: Double- and Triple-difference Estimates of the Effect of the COVID-19 Pandemic on Actual Hours Worked by Gender, 2019-2020



Notes: Figure 3 displays the regression results for each month of the pandemic estimated using equations 1 and 2. The dependent variable is a continuous measure of hours worked. The left panel contains estimates for the entire sample of LFS respondents (i.e., employed at work, employed absent from work, unemployed and not in the labour force), while the right panel contains estimates for employed respondents (at or absent from work). The vertical bars denote the 95 percent confidence intervals computed using robust standard errors. The black squares represent the difference in hours worked between men and women (equation 2). The light grey diamonds/circles indicate the group-specific estimate (equation 1 estimated separately for women and men). Controls include: a dichotomous variable equal to one if the respondent is married or in a common-law relationship, the age of the respondent (in five-year age groups), the respondent’s highest level of educational attainment and a dichotomous variable equal to one if the respondent’s youngest child is under 13. Sample excludes: i) unpaid family workers; ii) respondents who have never worked; and iii) respondents who are not employed and who last worked more than a year ago.

Source: Canadian Labour Force Survey, public-use microdata files, 2019-2020. Tabulations by authors.

Although we observe a convergence in employment levels in the second half of 2020, labour market disparities between men and women may still exist if their actual hours worked are differentially reduced relative to pre-crisis levels. To investigate this, we plot the estimates for hours worked in Figure 3 for all LFS respondents (left panel) and only those who remained employed (right panel). Our results suggest that, early in the pandemic, both men and women experienced profound declines in weekly actual hours worked at all jobs. For example, in May, actual hours worked declined by seven to eight hours on average for the entire sample of LFS respondents. Among those who were employed, the pandemic generated a significant reduction in hours worked of about four hours per week, on average. However, like the employment estimates, there is some gradual recovery over the course of the summer and fall months. We do not find any compelling evidence that there are statistically different reductions in hours worked between men and women in either group of respondents.

In the appendix, we report our analysis investigating labour market participation and part-time status. Trends in labour force participation are like the employment estimates shown in Figure 2. For part-time employment, we find that women were slightly less likely to be employed in part-time jobs, while men were more likely to be employed on a part-time basis. In most months, this difference is statistically significant, and could be an indication that men were under-employed during the pandemic, even though we find no difference in hours worked.

In summary, we do not find evidence that the she-cession continued into Alberta's second round of economic shutdowns. While this suggests that the province may not need a gender-based recovery plan,¹⁴ it does not rule out the possibility that policy intervention is warranted among other groups. Indeed, because school closures to face-to-face learning and daycare closures have had profound effects on workers with young children, we investigate this group next.

PARENT STATUS DIFFERENTIALS: DO YOUNG CHILDREN POSE UNIQUE LABOUR MARKET CHALLENGES?

The pandemic has presented a unique set of challenges to parents in Alberta, many of whom have had to balance their time between child care, parental supervision and formal and informal work activities amid two province-wide states of emergency. School closures to face-to-face learning and daycare closures ultimately result in trade-offs between child care and paid employment. In turn, these trade-offs may generate adverse employment consequences for parents simply because a child is present in the household. This trade-off is likely to be especially large among people with younger children who require more attention and supervision (Montenovo et al. 2020).

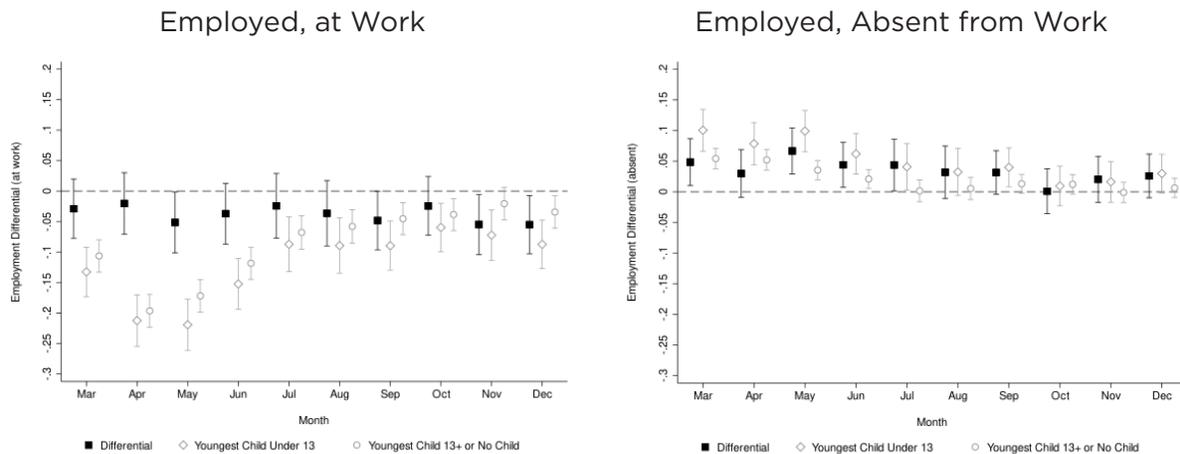
In Figure 4, we compare the employment status of respondents whose youngest child is under 13 to those whose youngest child is 13 or older and those who have no child in the household. We focus on parents with children under 13 as we believe that this age captures the point at which the trade-off between working in the labour market and providing child care is likely the strongest.

Figure 4 shows that, between March and August, there are similar declines in the likelihood of being employed and at work among individuals with young children and individuals with older or no children. During the fall months, these gaps widen — particularly in November and December — suggesting that the school closures to face-to-face learning associated with Alberta's second round of social distancing measures were likely more detrimental to employment than the shutdown of non-essential businesses. The right-side panel of Figure 4 reveals further evidence that parents with young children have been especially impacted by the government's social distancing measures: there are large, substantial differences between parents and non-parents in terms of absences from work among those who remained employed. In March, May, June and July, individuals with children under 13 were significantly more likely to be absent from work than those with older or no children in the household. During the fall months, these gaps are no longer statistically significant, but individuals with young children remain somewhat more likely to be absent from work than non-parents.

¹⁴

Note that there are important gendered differences in labour market outcomes that existed prior to the pandemic which may require policy attention. These pre-crisis differences are distinct from the disparities that we are investigating in this paper (i.e., those generated by the pandemic).

Figure 4: Double- and Triple-difference Estimates of the Effect of the COVID-19 Pandemic on Employment by Presence/Age of Youngest Child, 2019–2020



Notes: Figure 4 displays the regression results for each month of the pandemic estimated using equations 1 and 2. The dependent variable in the left panel is an indicator for employed and at work, while the dependent variable in the right panel is an indicator for employed and absent from work. The vertical bars denote the 95 per cent confidence intervals computed using robust standard errors. The black squares represent the difference in employment between respondents whose youngest child is under 13 and respondents: i) whose youngest child is 13 or older; or ii) who have no children at all (equation 2). The light grey diamonds/circles indicate the group-specific estimate (equation 1 estimated separately for these groups). Controls include: a dichotomous variable equal to one if the respondent is married or in a common-law relationship, the age of the respondent (in five-year age groups), the respondent’s highest level of educational attainment and a dichotomous variable equal to one if the respondent is female. Sample excludes: i) unpaid family workers; ii) respondents who have never worked; and iii) respondents who are not employed and who last worked more than a year ago.

Source: Canadian Labour Force Survey, public-use microdata files, 2019–2020. Tabulations by authors.

There are two main reasons why parents’ employment may have continued to trend downward during the second wave of Alberta’s pandemic. First, between September and December 2020, many parents may have elected to use online learning or to provide home-schooling for their children rather than risk the uncertainties associated with a return to the classroom.¹⁵ Second, in October 2020, the federal government introduced the Canada Recovery Caregiving Benefit (CRCB). The CRCB provides \$500 weekly payments to households that have had to reduce formal paid employment hours to provide child care.¹⁶ The availability of this income support coincides with the downward trends observed in Figure 4, suggesting that the CRCB may have also

¹⁵ Indeed, relative to 2019, the coronavirus has led to a near doubling of enrolment in provincial home-based schooling (Edwardson 2020) — an option which is eligible for funding from the Alberta government. The ability to receive such funding may impact the labour market decisions of parents differently than non-parents (or parents with older children).

¹⁶ To be eligible for the CRCB, parents must have experienced a 50 per cent reduction in weekly working hours because of a need to care for a child under 12. The CRCB is also available to individuals who have reduced their hours worked due to care for another family member who may have been affected by school, daycare or other care facilities closing. Eligibility also extends to individuals providing care for a child who is at a high risk of contracting the COVID-19 virus.

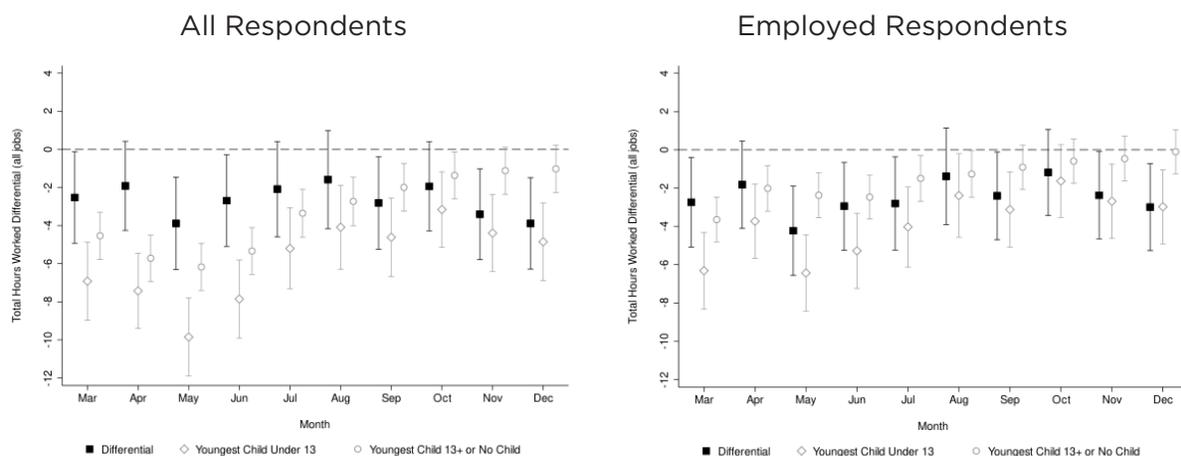
incentivized more parents to stay home with their children.¹⁷ We elaborate on the significance of this program later in the policy discussion section but emphasize here that the CRCB is under-used in Alberta relative to other provinces.

The findings presented in Figure 4 suggest that, even among parents who have maintained employment, there may be a substantial reallocation of hours away from the labour market towards home production.¹⁸ We investigate this in Figure 5, which shows that the stable differentials in employment observed early in the pandemic mask relatively large declines in hours worked among parents with young children. Subjugated to closures of child-care centres and schools to face-to-face learning, the challenges this group of workers experienced are considerably different from the rest of the population as parental activities effectively reduce the amount of time available to do other things like formal, paid work in the labour market (i.e., constrained optimization). In most of the months in Figure 5, many of the differentials exhibit statistical significance and are typically in the range of two to four fewer hours worked per week for parents relative to non-parents. Specific to parents of young children, the change in hours worked relative to pre-COVID-19 levels was nearly 10 hours less per week on average in May at the extensive margin (left panel). During the summer and fall months, this number reduced slightly to about six hours less on average in December.

¹⁷ It is important to note that data related to take-up of the CRCB show a large gender gap in the rate of CRCB applications per individuals in the labour force. It appears from the data that a portion of this gender gap is being driven by the fact that there has been low take-up of the CRCB by single parents, the majority of whom are women. While maintaining labour market attachment can be viewed as a positive, it is possible that this outcome is masking a real struggle to provide for their family while managing increased caregiving and parental supervision responsibilities. To the extent that this is due to the low amount of support under the CRCB, policy-makers should be concerned about this struggle. We were unable to explore this hypothesis due to the minute sample size of single parents in the LFS since the pandemic hit, but it is worthwhile for policy-makers to consider a top-up to the CRCB for single parents.

¹⁸ Recall that in our full sample, we set actual hours worked to zero for respondents who are unemployed or out of the labour force. Figure 5 shows that the hours differentials by parental status are robust among those who are still working and those who are not.

Figure 5: Double- and Triple-difference Estimates of the Effect of the COVID-19 Pandemic on Actual Hours Worked by Presence/Age of Youngest Child, 2019–2020



Notes: Figure 5 displays the regression results for each month of the pandemic estimated using equations 1 and 2. The dependent variable is a continuous measure of hours worked. The left panel contains estimates for the entire sample of LFS respondents (i.e., employed at work, employed absent from work, unemployed and not in the labour force), while the right panel contains estimates for employed respondents (at or absent from work). The vertical bars denote the 95 per cent confidence intervals computed using robust standard errors. The black squares represent the difference in employment between respondents whose youngest child is under 13 and respondents: i) whose youngest child is 13 or older; or ii) who have no children at all (equation 2). The light grey diamonds/circles indicate the group-specific estimate (equation 1 estimated separately for these groups). Controls include: a dichotomous variable equal to one if the respondent is married or in a common-law relationship, the age of the respondent (in five-year age groups), the respondent’s highest level of educational attainment and a dichotomous variable equal to one if the respondent is female. Sample excludes: i) unpaid family workers; ii) respondents who have never worked; and iii) respondents who are not employed and who last worked more than a year ago.

Source: Canadian Labour Force Survey, public-use microdata files, 2019–2020. Tabulations by authors.

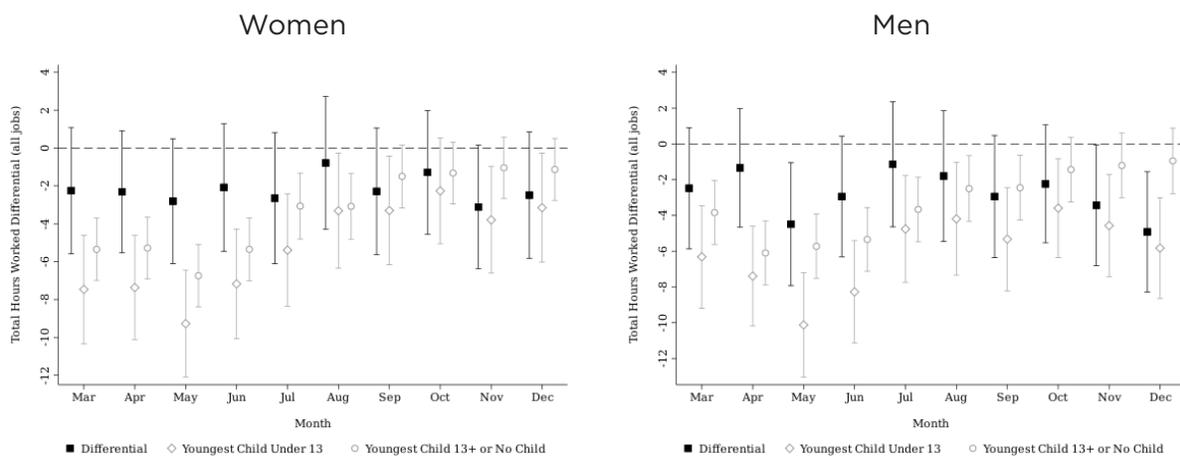
The relatively greater loss in hours worked for parents with young children still leaves room for a potential gendered effect of the pandemic given that women tend to spend relatively more time on home production and child care than men (Moyser and Burlock 2018). Are mothers bearing the brunt of increased home production duties? We turn to this question next.

EXAMINING DIFFERENTIALS BETWEEN MOTHERS AND FATHERS: WHO IS MAKING A BIGGER TRADE-OFF?

We start this section by noting that any documented differences in hours worked between men and women should be interpreted with the following caveat: if women with children worked fewer hours relative to men before the pandemic, then they ultimately had fewer hours to give up during the pandemic. In other words, if the pandemic generates a larger negative effect for fathers at the intensive margin, this may simply be because men with children had more hours available to lose given the pre-pandemic status quo in Alberta. We explore whether and how differences in pre-pandemic labour market participation impact the interpretation of our results at the end of this section.

Figure 6 shows the change in hours worked between 2019 and 2020 for respondents with young and older/no children, separately for men and women. During the second wave, there is an evident downward trend in working hours for both men and women with young children. While these trends are similar for both genders, there is a much greater decline in hours worked for men, particularly in November and December when the Alberta government introduced the second round of school closures to face-to-face learning for children in grades 7 to 12. This is suggestive of more equitable sharing of parental duties and perhaps provides evidence that the pandemic may be shifting attitudes about the role of men in household work. This is consistent with other research in the U.K. showing that the pandemic has produced a substantial increase in the share of home responsibilities that men hold (Alon et al. 2020; Chung et al. 2020; Shafer et al. 2020). Finally, all the point estimates are consistently below zero for both women and men with young children.¹⁹ However, the difference in the reduction of working hours between these two groups is only statistically significant for men in May and the last two months of 2020.

Figure 6: Double- and Triple-difference Estimates of the Effect of the COVID-19 Pandemic on Actual Hours Worked by Gender and Presence/Age of Youngest child, 2019–2020



Notes: Figure 6 displays the regression results for each month of the pandemic estimated using equations 1 and 2. The sample includes all LFS respondents (i.e., employed at work, employed absent from work, unemployed and not in the labour force). The dependent variable is a continuous measure of hours worked. The left panel contains estimates for women, while the right panel contains estimates for men. The vertical bars denote the 95 per cent confidence intervals computed using robust standard errors. The black squares represent the difference in employment between respondents whose youngest child is under 13 and respondents: i) whose youngest child is 13 or older; or ii) who have no children at all (equation 2). The light grey diamonds/circles indicate the group-specific estimate (equation 1 estimated separately for these groups). Controls include: a dichotomous variable equal to one if the respondent is married or in a common-law relationship, the age of the respondent (in five-year age groups) and the respondent's highest level of educational attainment. Sample excludes: i) unpaid family workers; ii) respondents who have never worked; and iii) respondents who are not employed and who last worked more than a year ago.

Source: Canadian Labour Force Survey, public-use microdata files, 2019–2020. Tabulations by authors.

¹⁹

Note that conditioning the data in this way leads to smaller sample sizes and therefore a reduction in the precision of our estimates. While this is potentially concerning, there is little variability across the (separately) estimated months, which should provide readers with additional reassurance in our results.

A recurring theme in the data on labour market hours is the concept of persistence or the tendency for shocks, such as the COVID-19 pandemic, to have long-run effects that dissipate slowly. Because we observe steady reductions in working hours for parents of young children throughout the pandemic, persistence may be particularly concerning for this group. Cumulatively, this means that lower working hours will build up, leading to the potential for even greater differences between parents with young children and individuals with older or no children in the medium run.

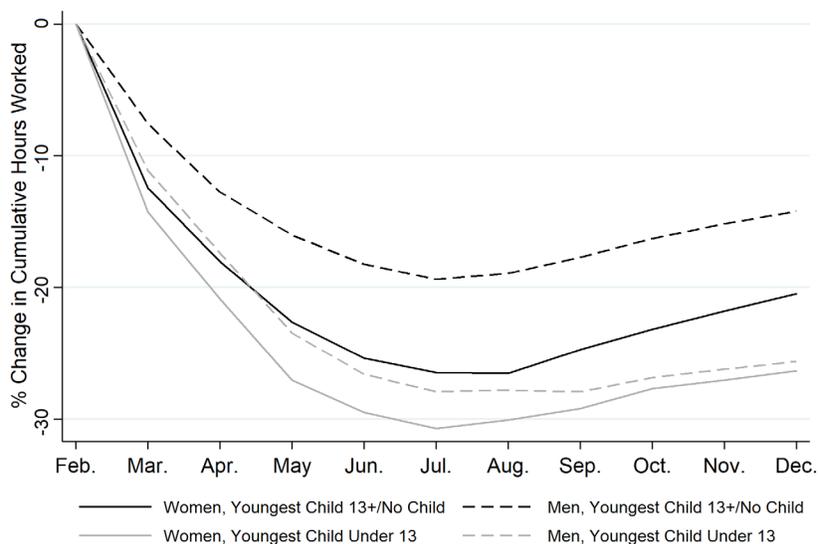
For example, a full-time parent working three hours less per week (relative to an individual without a child under 13) would accumulate an excess loss of 120 hours between March and December — the equivalent of three full-time weeks — attributed to the pandemic effect alone. We examine this empirically in Figure 7, where we illustrate the loss of aggregate cumulative hours relative to 2019, noting that the difference in February is normalized to zero.²⁰

Across all groups, the cumulative effect of the pandemic was most severe in the summer months, after which some momentum in the labour market levelled out the differences relative to 2019. Nonetheless, by December, all gender-parent pairings saw large reductions in total hours worked. Figure 7 suggests that parents of young children (as highlighted by the grey lines) experienced the most profound reductions in hours worked, and that men and women experienced nearly the same cumulative losses by the end of 2020. At 14 per cent, men without young children lost the smallest percent of hours relative to 2019, while women with young children saw the largest declines by the end of 2020 — 26 per cent below their 2019 level. However, also note that by December 2020, the cumulative losses among men and women with young children were roughly at the same level. Given the large gaps between these two groups through the spring and summer months, this suggests that changes in hours worked among men in the second wave were substantial enough that they resulted in roughly the same cumulative losses by the end of December 2020.

²⁰

More specifically, we gather the cumulative sum of total hours worked by parental status and gender from February to December in 2019 and 2020. Then, we normalize these values such that the February amount is set to be 100 in both years. Finally, we take the log difference between 2020 and 2019.

Figure 7: Per Cent Change in Cumulative Labour Market Hours Lost Compared to 2019 by Gender and Presence/Age of Youngest Child



Notes: Figure 7 displays the per cent change in cumulative labour market hours lost over the course of the pandemic relative to 2019 by gender and presence/age of youngest child. We separately examine the following four sub-samples: i) women whose youngest child is under 13; ii) women whose youngest child is 13 or older or who have no child at all; iii) men whose youngest child is under 13; and iv) men whose youngest child is 13 or older or who have no child at all. Sample excludes: i) unpaid family workers; ii) respondents who have never worked; and iii) respondents who are not employed and who last worked more than a year ago.

Source: Canadian Labour Force Survey, public-use microdata files, 2019-2020. Tabulations by authors.

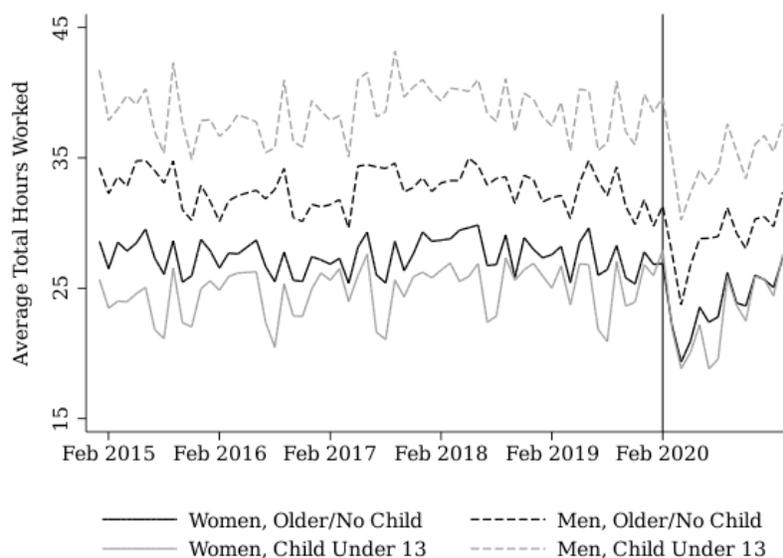
Given our finding that the second half of the COVID-19 crisis in Alberta has particularly impacted the hours worked by men with young children, it is important to distinguish between what can be classified as a pandemic effect and any normal economic disparities that existed before the COVID-19 crisis. For example, Alberta has the highest proportion of stay-at-home parents across Canada (Statistics Canada 2018). Although Statistics Canada (2018) does not disaggregate this statistic by gender, this likely also means that Alberta has the highest proportion of stay-at-home mothers. Relative to men, this suggests that women with children likely had fewer hours to lose when businesses and schools/daycares started to close throughout the province in March 2020. This, in turn, may explain the smaller reductions in hours worked among women with children in the second wave of Alberta's pandemic compared to their male counterparts (i.e., they may have maxed out reductions in working hours). In other words, these results may simply reflect pre-pandemic gender inequality in Alberta's labour market.

In Figure 8, we display the monthly historical trends in average hours worked between 2015 and 2020 by gender and parent status. It is clear that, before the pandemic, men with young children consistently worked the highest average weekly hours. In contrast, women with young children tended to work about 10 to 15 hours less than men with young children. The large gap between these two groups suggests that the division of household labour is still heavily placed on women. Importantly, Figure 8 further confirms that part of the reason we are observing large negative impacts on the hours worked by men with young children may be because they had more to lose in the first place.

PARENTAL STATUS DIFFERENTIALS BY AGE OF YOUNGEST CHILD: DOES HAVING A CHILD UNDER THE AGE OF SIX EXACERBATE LABOUR MARKET DIFFERENCES?

As a final consideration, we examine labour market differences between parents whose youngest child is aged zero to five compared to parents whose youngest child is aged six to 12.²¹ We compare parents with differently aged children since a child aged zero to five likely requires more attention from parents than older children; moreover, a child of this age is likely to be enrolled in daycare, while a child aged six to 12 is likely affiliated with Alberta's formal schooling system. We present these comparisons in Figure 9. The left panel shows differences between parents with a child under six with all others, while the right panel plots the differences between those with a child aged six to 12 and respondents with older or no children.

Figure 8: Trends in Average Hours Worked by Gender and Presence/Age of Youngest Child, 2015-2020



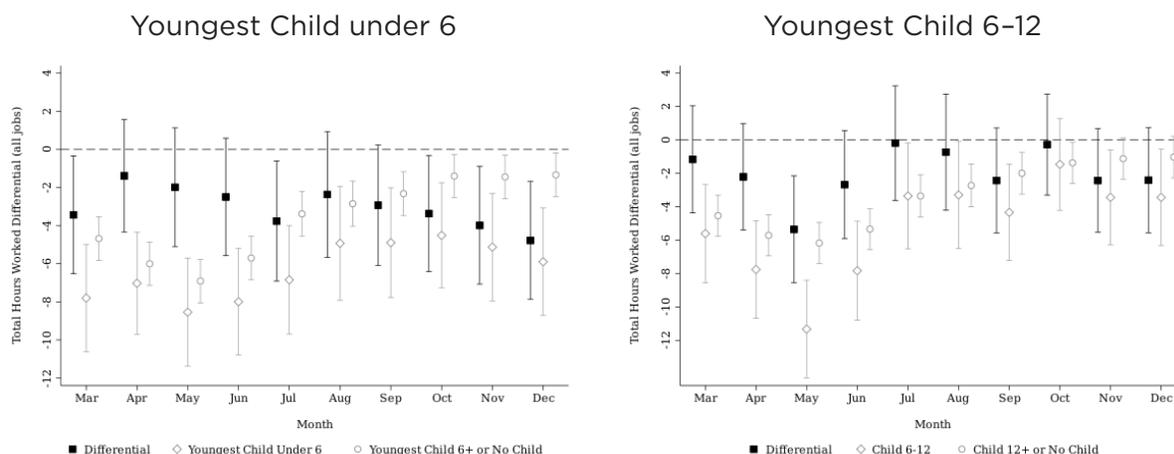
Notes: Figure 8 displays the trends in average hours worked by gender and presence/age of youngest child. The sample includes all LFS respondents (i.e., employed at work, employed absent from work, unemployed and not in the labour force). We separately examine the following four sub-samples: i) women whose youngest child is under 13; ii) women whose youngest child is 13 or older or who have no child at all; iii) men whose youngest child is under 13; and iv) men whose youngest child is 13 or older or who have no child at all. Sample excludes: i) unpaid family workers; ii) respondents who have never worked; and iii) respondents who are not employed and who last worked more than a year ago.

Source: Canadian Labour Force Survey, public-use microdata files, 2015-2020. Tabulations by authors.

²¹

In the public-use version of the LFS data, the age of the youngest children is presented in this categorical format, and it is the lowest level demographic information that we have about parental status.

Figure 9: Double- and Triple-difference Estimates of the Effect of the COVID-19 Pandemic on Actual Hours Worked by Age of Youngest Child, 2019–2020



Notes: Figure 9 displays the regression results for each month of the pandemic estimated using equations 1 and 2. The dependent variable is a continuous measure of hours worked. In both panels, the sample includes all LFS respondents (i.e., employed at work, employed absent from work, unemployed and not in the labour force). The left panel compares respondents whose youngest child is under six to either those whose youngest child is older than six or to those with no child at all, while the right panel compares respondents whose youngest child is between six and 12 to either those whose youngest child is older than 12 or to those with no child at all. The vertical bars denote the 95 per cent confidence intervals computed using robust standard errors. The black squares represent the difference in hours worked between respondents with young children to respondents either with a relatively older child or no child at all (equation 2), while the light grey diamonds/circles indicate the group-specific estimate (equation 1 estimated separately for these groups). Controls include: a dichotomous variable equal to one if the respondent is married or in a common-law relationship, the age of the respondent (in five-year age groups), the respondent’s highest level of educational attainment and a dichotomous variable equal to one if the respondent is female. Sample excludes: i) unpaid family workers; ii) respondents who have never worked; and iii) respondents who are not employed and who last worked more than a year ago.

Source: Canadian Labour Force Survey, public-use microdata files, 2019–2020. Tabulations by authors.

Although both groups have at times experienced significant losses in labour market hours, we gather from Figure 9 that reductions in hours worked have been greater among parents with children under six. In normal times, children under six tend to require significantly more care than older children, which is estimated to be an excess 33 per cent more hours among married parents (Alon et al. 2020). Given that the COVID-19 pandemic has led to closures of daycare centres and schools — and that parents may, more generally, fear sending their children outside of the home during a public health crisis — it is likely that parents with children under six have had to reallocate a large portion of labour market hours into child care. Our results in Figure 7 indicate that this finding likely has additional implications cumulatively, where the compounding effect of lost hours has likely continued to persist.

POLICY DISCUSSION AND CONCLUDING REMARKS

In this paper, we examined several different labour force statistics to understand the impact of the COVID-19 pandemic across different socio-demographic groups in Alberta. We show that initial large differences in labour market outcomes between men and women dissipated over the summer and fall months and that there is no evidence of a she-cession in Alberta’s second wave. Our most striking result is significantly

large differences in employment and actual hours worked between parents and non-parents — regardless of gender. These findings suggest that recovery plans which disproportionately focus on gender may be insufficient for addressing the complex labour market dynamics different groups have experienced throughout the pandemic. Rather than focus exclusively on gender, we propose that policy-makers target policies towards both mothers and fathers with young children. Moreover, given that vaccine distribution means that some sense of normalcy seems within reach, we believe that policies seeking to address labour market frictions in Alberta should be targeted and temporary in nature. We discuss complementary policy alternatives in turn.²²

First, we propose that the CRCB should be administered until there is no further threat of school closures to face-to-face learning or daycare closures or limits on in-home child-care providers (this will likely be when the province is fully vaccinated). In our view, parents should not have to face additional burdens of stress associated with how they will pay their bills or feed their families in the event that they must leave employment or reduce their hours of work to care for a young child. The availability of a guaranteed child-care benefit is a reassuring safety net for parents who currently face a high degree of uncertainty in their day-to-day lives. As of January 10, 2021, Alberta has received \$144 million in direct subsidies through the CRCB program — this is the third highest per capita expenditure among the Canadian provinces.²³ Moreover, data from the Canada Revenue Agency (2021) show that nearly 70 per cent of the beneficiaries in Alberta have been women, suggesting that, despite our findings that men with young children have experienced larger declines in hours worked than women, the latter group may still be taking on a disproportionate amount of child-care responsibilities in the home.

One shortcoming of the federal CRCB program is that the benefit is uniform across the country. In effect, regions with lower costs of living ultimately benefit from greater purchasing power. Moreover, the weekly CRCB of \$500 amounts to less than a full-time minimum-wage job in Alberta. As such, although the CRCB provides a floor for parents, it may be much lower than their employment income and insufficient for paying bills and meeting basic needs. We also propose that a provincial top-up of the CRCB, geared towards lower- or single-income parents would be a cost-effective and targeted way to help ease the pandemic-driven trade-offs that are unique to parents.

Second, the province of Alberta should continue to co-operate with the federal government to provide support to child-care centres and schools so that they are able to provide adequate protection to children and their families. For example, Alberta has received \$87 million in funding to help licensed child-care centres cover increased costs related to the pandemic (Ramsay 2020). Alberta itself has allocated \$17.8 million towards additional health and safety measures in child-care centres (Mertz 2020), and

²² Note that our policy recommendations do not attempt to address pre-pandemic differences in employment between men and women with children. We specifically focus on policies to address the multitude of problems created by the government's public health restrictions. We hope to revisit policy ideas to address pre-pandemic differences once the labour market has returned to normal.

²³ This is according to data from the Canada Revenue Agency (2021) and tabulations made by the authors from Statistics Canada Table 17-10-0009-01.

has similarly pledged to provide “enhanced health and safety measures” in the K-12 schooling system (Government of Alberta 2020). Although controversial, the Alberta government also ended a pilot program in July 2020 that provided \$25 a day child care to families with young children (Hudes 2020), instead directing additional funds into the Child Care Subsidy (Buschmann et al. 2020). These types of investments improve the likelihood that schools and daycares can remain open to face-to-face learning, while also providing ease of mind to parents who may be uncomfortable sending their children outside of the home for school or daycare during a public health pandemic. Ensuring a safe environment for children, in turn, allows parents to maintain employment and their working hours. Furthermore, affordable options for child care may be necessary more than ever as parents — in particular, low-income parents — may be cash-strapped due to lack of employment income throughout 2020. From this perspective, Alberta should ensure that it works closely with the federal government, following its commitment to early childhood education that was laid out in Budget 2021 to put in place an affordable, accessible and high-quality early childhood education and child-care program in the province (Department of Finance Canada 2021).

Third, the Alberta government should ensure there is sufficient employment protection for parents. Women and men with children should not face employment penalties for reducing working hours or leaving the labour market to care for children during the pandemic, nor once they are able to return to the labour market. Relatedly, the government should ensure that families with young children who rely on the social assistance system do not lose this crucial form of income support by ceasing job search requirements during the pandemic — particularly if more widespread lockdowns must be introduced.

Fourth, while Employment Insurance (EI) falls under federal jurisdiction, Alberta may consider lobbying for a few temporary changes that would be especially beneficial for parents. For instance, extending employment insurance to workers who voluntarily leave employment to assume home production duties because of the government’s social distancing measures would be a natural extension to assist in the transition back to a normal labour market.

Fifth, we must emphasize that the analysis conducted in this study describes the short-run effect of the COVID-19 pandemic on Alberta’s labour market. For example, we are unable to determine the extent to which the large cumulative reductions in hours worked that we document in Figure 7 will impact long-run outcomes for parents — and mothers especially. When the province is eventually able to return to normalcy, there will likely still be lingering effects from the pandemic on the labour market outcomes of the various socio-demographic groups examined in this article. Moreover, it is important to note that, even though we show that employment has converged between men and women, because the latter group faced a larger decline in employment early on in the pandemic, in the longer run, women may experience more labour market frictions due to missed on-the-job training and other work experience opportunities — a concept known as scarring.²⁴ Future research must examine whether the pandemic produced

²⁴

These long-run benefits and costs are further described in Stevenson (2020) and Alon et al. (2020).

differential long-run effects on labour market outcomes for the groups studied in this paper. Such research will also better serve a discussion of long-run policy implications that are beyond the scope of our study and likely help to address labour market differences that existed between men and women before the COVID-19 pandemic.

Finally, our policy recommendations are intended to address the disparities in the labour market created by the pandemic only. That is, we examine pandemic effects — we are not analyzing or commenting on the pre-pandemic status quo. Given substantial pre-pandemic labour market differences between men and women with and without children (see Figure 8), it is worth considering whether the status quo is acceptable and what policy options may help facilitate greater female labour force participation. This is not within the scope of our paper, but we raise it as an important consideration for future research.

We end on a hopeful note. Our paper provides preliminary evidence that Alberta fathers may have taken on a greater share of child care and other household responsibilities during the pandemic. This is consistent with a report from the U.K., which provides descriptive evidence that fathers spent more time providing child care and performing other unpaid household work than they did before the pandemic (Chung et al. 2020). Using a sample of Canadian parents, Shafer et al. (2020) similarly find that fathers increased their participation in housework and child care during the COVID-19 shutdowns. Finally, in the U.S., Alon et al. (2020) have also documented this change, and further note that, in effect, the pandemic may erode traditional social norms that propagate the uneven distribution of labour in the household.

Together, these studies suggest that the pandemic may generate long-run benefits for both women and men. Women may see reduced household responsibilities if men continue to take on a greater share of parenting duties. In contrast, many men are now recognizing the benefits of spending more time with their children (Lamont 2021). These changes may be everlasting if the pandemic has made firms more willing to provide flexible work arrangements in terms of both when and where work is completed. Indeed, if these trends continue, there may be greater improvements in the future labour market participation of women with young children who disproportionately shouldered the burden of home production well before the COVID-19 era.

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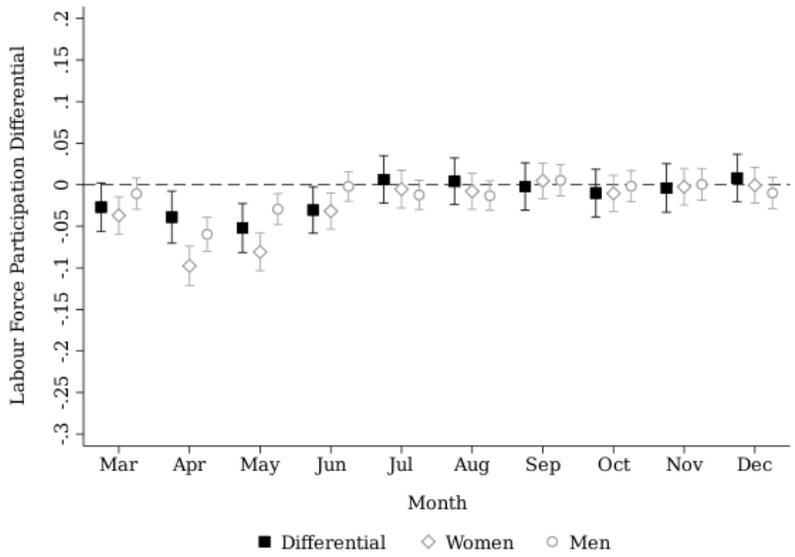
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APPENDIX

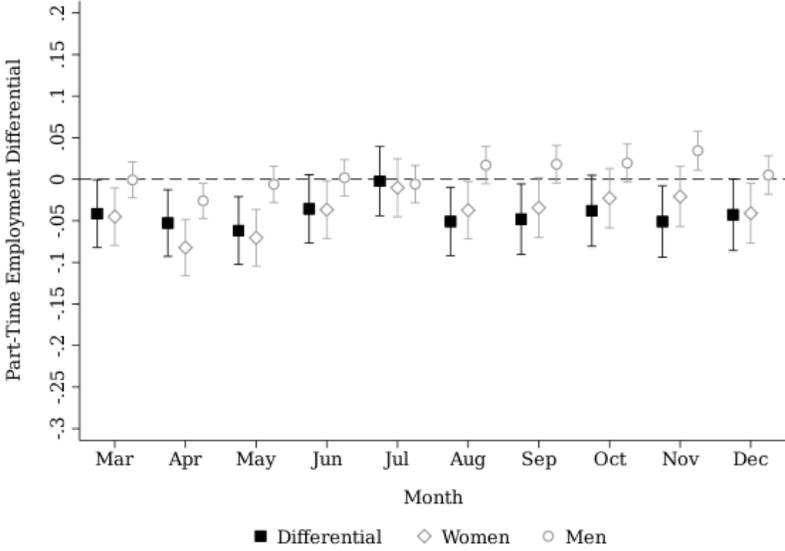
Figure A.1: Double- and Triple-difference Estimates of the Effect of the COVID-19 Pandemic on Labour Force Participation by Gender, 2019–2020



Notes: Figure A.1 displays the regression results for each month of the pandemic estimated using equations 1 and 2. The dependent variable is an indicator for labour force participation. The vertical bars denote the 95 per cent confidence intervals computed using robust standard errors. The black squares represent the difference in labour force participation between men and women (equation 2). The light grey diamonds/circles indicate the group-specific estimate (equation 1 estimated separately for women and men). Controls include: a dichotomous variable equal to one if the respondent is married or in a common-law relationship, the age of the respondent (in five-year age groups), the respondent’s highest level of educational attainment and a dichotomous variable equal to one if the respondent’s youngest child is under 13. Sample excludes: i) unpaid family workers; ii) respondents who have never worked; and iii) respondents who are not attached to the labour market.

Source: Canadian Labour Force Survey, public-use microdata files, 2019–2020. Tabulations by authors.

Figure A.2: Double- and Triple-difference Estimates of the Effect of the COVID-19 Pandemic on Part-time Employment by Gender, 2019-2020



Notes: Figure A.2 displays the regression results for each month of the pandemic estimated using equations 1 and 2. The dependent variable is an indicator for part-time employment. The vertical bars denote the 95 per cent confidence intervals computed using robust standard errors. The black squares represent the difference in part-time employment between men and women (equation 2). The light grey diamonds/circles indicate the group-specific estimate (equation 1 estimated separately for women and men). Controls include: a dichotomous variable equal to one if the respondent is married or in a common-law relationship, the age of the respondent (in five-year age groups), the respondent's highest level of educational attainment and a dichotomous variable equal to one if the respondent's youngest child is under 13. Sample excludes: i) unpaid family workers; ii) respondents who have never worked; and iii) respondents who are not attached to the labour market.

Source: Canadian Labour Force Survey, public-use microdata files, 2019-2020. Tabulations by authors.

ADDENDUM

COVID-19 AND ITS IMPACT ON ALBERTA'S LABOUR MARKET: PARENTS ARE BEARING THE BRUNT

John Baker, Kourtney Koebel, and Lindsay M. Tedds

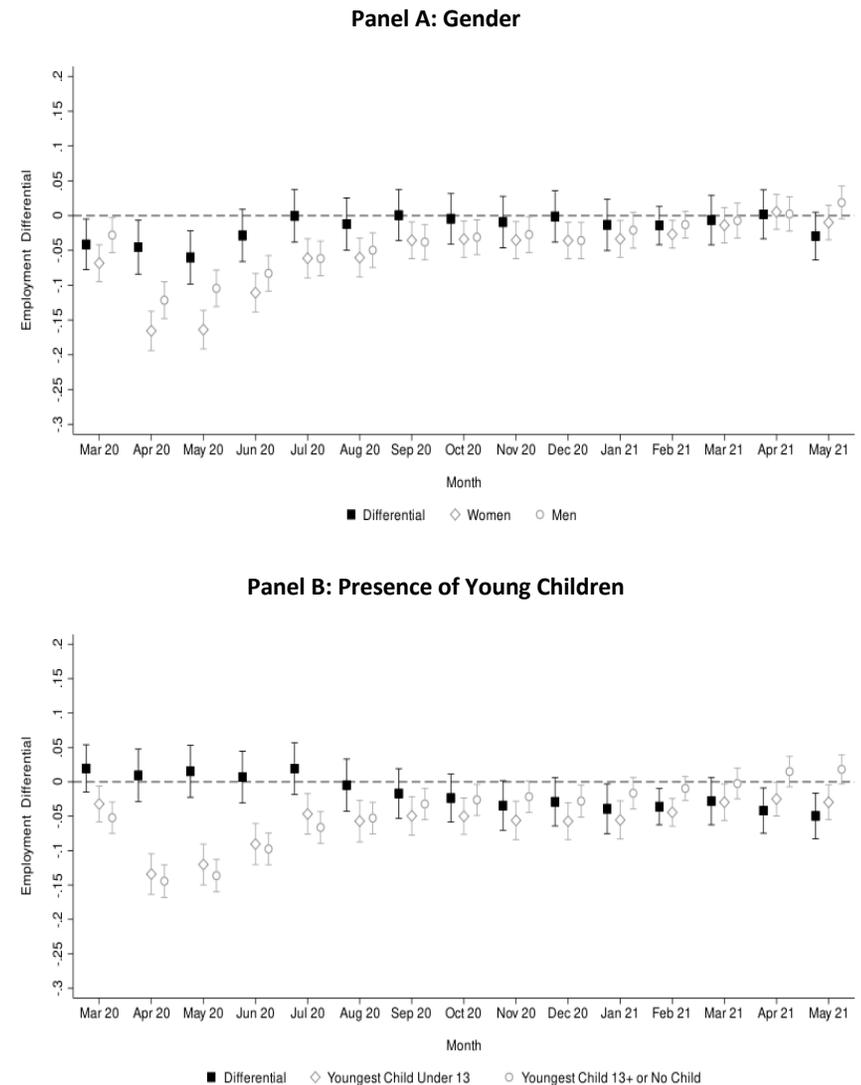
Since March 2020, the COVID-19 Pandemic has significantly disrupted Alberta's labour market. While signs of recovery began during summer 2020, following the first wave, the disruptions of the second and third wave point to a K-shaped recovery. While many have discussed large gender-disparities in the labour market, the real disparities in Alberta are between parents of young children and parents without young children. The third wave has hit women with young children the hardest.

Using data for Alberta up to and including the December 2020 release of the Labour Force Survey (LFS), Baker, Koebel, and Tedds (2021) provide detailed evidence regarding COVID-19 and the labour market outcomes of Albertans. Using a difference-in-difference framework that focuses precisely on the impact of the pandemic, we show that while there were large gender differentials in the first wave of the pandemic, with women having larger and more sustained labour market impacts than men, these disparities disappear by summer 2020 and do not reappear in the second wave. Instead, we find that the second wave had persistently large and negative impact on parents, regardless of gender of the parent, with children under 13.

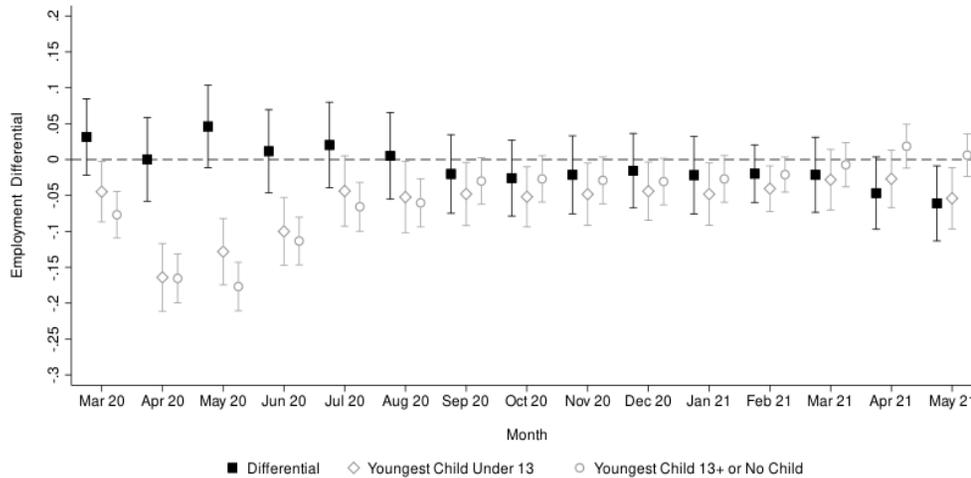
In this trends piece we update our work to include data for Alberta up to and including the May 2021 release of the Labour Force Survey. This data accounts for the third, and more severe, wave of COVID-19 cases. We report trends for employment, but similar trends appear for labour force participation and hours worked. Three important results emerge, shown in Figure 1. In all figures, the black squares represent the difference in employment between the included subgroups, while the light grey diamonds and circles indicate the group specific estimate. The vertical bars denote the 95 per cent confidence intervals computed using robust standard errors.

First, using proper statistical techniques, the gender impact of the first wave was not repeated in the second wave and is also not present in the third wave. This is shown in Panel A of Figure 1. Second, the gap between parents of children under 13 and those without widens in fall 2020 and the gap becomes more severe in the third wave (Panel B). Third, while the second wave hit parents, regardless of gender, very hard, the third wave saw large emerging disparities not only between mother's of young children compared to mothers without, but also between mothers and fathers of young children. The employment gains of fathers has stagnated, while mother's employment has been on a downward trend since March 2021 (Panels C and D).

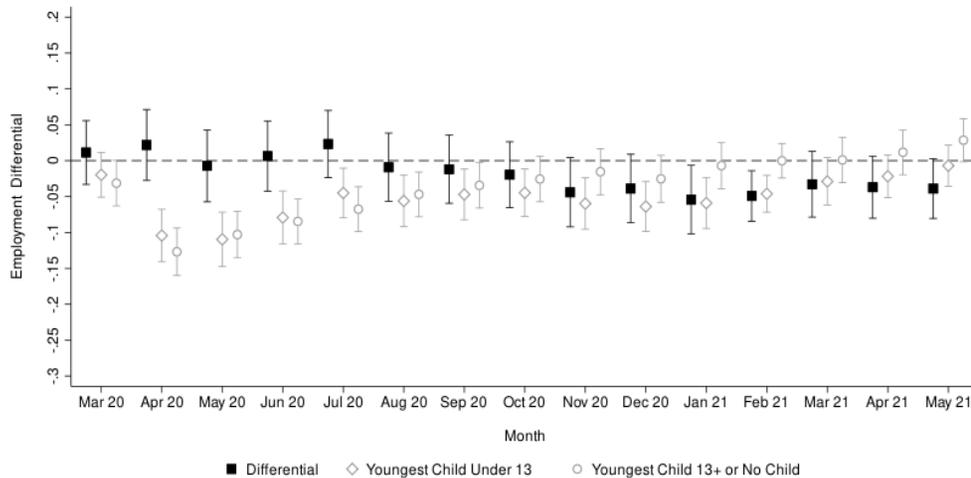
Figure 1: Double and Triple-Difference Estimates of COVID-19 on Employment



Panel C: Women with Young Children



Panel D: Men with Young Children



The ongoing COVID-19 pandemic continues to hurt the labour market outcomes of parents with young children and the third wave saw the effect hit mother's of young children harder than any other group. This suggests that policies need to be targeted towards parents, particularly mothers. In the short-term, policymakers in Alberta need to focus on ensuring that schools and daycares stay open, which can only happen when community spread is controlled. In the long-term, Alberta must integrate early learning and childhood education into its economy recovery plan.

Echoing the policy recommendations made by Baker, Koebel, and Tedds (2021), the ongoing need for the federal Canada Recovery and Caregiving Benefit (CRCB) cannot be understated. However, the CRCB is insufficient to replace the income of working parents, especially lower-income mothers. The Alberta government should implement a provincial top up to this benefit as a cost-effective and targeted way to ease the burden that is unique to parents.

Alberta also needs to ensure that there are sufficient employment protections for parents and mothers, specifically. Working parents are facing impossible and binding constraints as the pandemic unfolds and they need employment protection to ensure that they are able to maintain their attachment to the labour market attachment as they are forced to make difficult choices under these conditions.

Finally, these results reinforce the integration of the labour market and the economy, and vital role that access to high-quality, affordable, education, particularly early learning education, and child care plays in economic resiliency. It is high time that Alberta prioritizes Early Learning Education as an economic strategy for both recovery from the pandemic and the long-term resiliency of its economy. From this perspective, Alberta should celebrate and embrace the recent federal commitment to a Canada-wide Early Learning and Child Care plan.

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