The covid-19 crisis and children's economic situation in Spain

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Abstract: I study the short-term effects of the covid-19 crisis on children's economic situation. Spain was hit hard by the first wave of the pandemic and went through a strict nationwide lockdown that lasted from March 14 until June 21 of 2020. I use labor force survey data and follow a difference-in differences strategy. I analyze the change in parental labor market outcomes between the first and the second quarter of 2020, using 2019 as a control year. I find a significant increase in the fraction of children living in households where neither parent is employed. I document that about 10% of both mothers and fathers were affected by furloughs, while about 4% of mothers and 2% of fathers lost their jobs. I also find that children living with two highly educated parents were essentially unaffected in terms of parental employment, while children living with a single mother or with immigrant or low-educated parents experienced significant and large negative effects on parental labor market outcomes.

Keywords: covid-19, children, Spain, labor market.

JEL codes: J13, J21

1. Introduction

I study the short-term effects of the covid-19 crisis on children's economic situation. Spain was hit hard by the first wave of the pandemic, and went through a strict nationwide lockdown that lasted from March 14 until June 21 of 2020. I use labor force survey data and follow a difference-in differences strategy to analyze the change in parental labor market outcomes between the first and the second quarter of 2020, using 2019 as the control year.

I find a significant increase in the fraction of children under 16 living in households where neither parent was employed. I document that about 10% of both mothers and fathers were affected by furloughs, while about 4% of mothers and 2% of fathers lost their jobs. I also find that children living with two highly educated parents were essentially unaffected in terms of parental employment, while children living with a single mother or with immigrant or low-educated parents experienced significant and large negative effects on parental labor market outcomes.

This paper contributes to a very recent literature that has been trying to document the short-term effects of the covid-19 pandemic on labor market outcomes and family well-being in different countries. Alon et al. (2020) use pre-crisis data to discuss its potential impact on gender equality in the labor market (in the US). Short-term labor market effects have been shown by Adams-Prassl et al. (2020) for Germany, the US and the UK, and von Gaudecker et al. (2020) for The Netherlands, among others. Del Boca et al. (2020) study labor market outcomes for women in Italy, and Hupkau and Victoria (2020) and Hupkau and Petrongolo (2020) focus on gender inequality in the labor market in Spain and the UK, respectively.

Regarding other aspects of family life and well-being, Adams-Prassl et al. (2020) and Etheridge and Spantig (2020) document effects on mental health in the US and the UK, while Farré et al. (2020) and Biroli et al. (2020) look at time allocation within families in Spain, Italy, the US and the UK. Sevilla and Smith (2020) study childcare time in the UK, and Fuchs-Schündeln et al. (2020) and Ma et al. (2020) look at the impact of school closures on parents' labor supply in Germany and China.

We contribute to this recent literature by using standard, high-quality labor force survey data and a simple difference-in-differences strategy to understand the short-term effects of the pandemic on the economic situation of households with children (in Spain).

The remainder of the paper is organized as follows. Section 2 describes the institutional setting, with attention to the dates of the lockdown in Spain in the Spring of 2020. Section 3 introduces the empirical strategy, while section 4 describes the data. Section 5 presents the results, and section 6 concludes.

2. Institutional setting

Spain was hit early and hard by the covid-19, leading to one of the strictest lockdowns in Europe. On March 9th, the government announced that effective Wednesday March 11th, all classes at all educational levels would be cancelled in the region of Madrid, affecting more than 1.5 million students. By Thursday, March 12th, the closing of schools was extended to all of Spain. On March 14th it was announced that effective in 24 hours, Spain would enter "state of alarm". The state of alarm entailed a nationwide lockdown, banning all trips that were not of absolutely necessity. Residents were ordered to stay home except to buy food or medicine, go to work, go to the hospital, or other emergencies.

While work outside the home was still allowed, those who could were asked to work from home, and lockdown restrictions also mandated the temporary closure of non-essential shops and businesses. On March 17, the Spanish government announced a support package of roughly 20% of GDP, including measures to help workers and companies affected by the lockdown. This package included the streamlining of temporary dismissal files (known as *ERTEs*), which I will refer to as furloughs.

By March 28th, just 2 weeks after the state of alarm was announced, the Spanish government had officially banned all non-essential economic activity. After these initial moves, the state of alarm was extended repeatedly, with the confinement conditions

essentially unchanged. From March 15th through early May, Spain remained under the strictest lockdown in Europe.

Some easing of conditions began at the very end of April and beginning of May. Notably, on April 13 some workers in selected sectors, such as construction and industry, who could not work from home but were not deemed essential sectors, were allowed to return to work. On April 26, some restrictions on personal activity were lifted, as children were able to go outside for the first time since the beginning of the confinement period, still only while adhering to strict conditions and hours.

On April 28th, the government announced a plan for easing lockdown restrictions, referred to as "phases". On May 2nd, adults were allowed to go outside to walk and do sports under strict conditions and a set time schedule. By May 11th, some regions were allowed to move to phase 1 of the de-escalation of restrictions. At this point, roughly half of the Spanish population experienced an easing of restrictions, allowing social gatherings of up to 10 people, adhering to social distancing, as well as some businesses opening conditional on safety measures put in place. The state of alarm was finally lifted on June 21, after 97 days of exceptional restrictions.

Thus, the first quarter of 2020 can be thought of as the last one pre-pandemic, except for the last two weeks of March, while the state of alarm and associated lockdown took place during all of the second quarter, except for the last week of June.

3. Empirical strategy

In order to study the impact of the covid-19 lockdown on children's economic circumstances, I follow a difference-in-differences strategy, where I compare the situation of households in the second quarter of 2020 (during the lockdown) to that in the first quarter of 2020 (right before lockdown), and I use the first two quarters of 2019 as a control, to account for seasonality. My unit of observation *i* is the individual child (under age 16). I thus estimate the following equation:

$$(1)\ Y_{it} = \alpha + \beta_1 Q2 + \beta_2 y2020 + \beta_3 Q2{*}y2020 + \gamma X_{it} + \varepsilon_{it},$$

where the main outcome of interest (*Y*) is a measure of the economic situation of the household, which I measure mostly via the employment status of the parents. *Q2* is an indicator for households surveyed in the second quarter (of 2019 or 2020), and *y2020* is a dummy for observations in year 2020 (including both the first and second quarter).

The coefficient of interest is β_3, which captures the average change in the outcome between the first and the second quarter of 2020, above and beyond the difference between the first and the second quarter of 2019. We attribute a significant coefficient to the impact of the pandemic and the ensuing lockdown.

Note that I treat the first quarter of 2020 as "before the crisis". In practice, the last two weeks of March (two weeks out of 13 in the first quarter) were after the declaration of the state of alarm and the beginning of the lockdown (in March 14). In that sense, by including them in the pre-period, we may be under-estimating the total effect of the lockdown, if some employment losses took place before the end of March.

The control variables (*X*) include age and immigrant status of the child, as well as immigrant status and educational attainment of the parents. In some regressions we also control for two indicators capturing whether the father and the mother reside with the child.

4. Data

The analysis is conducted using the Spanish Labor Force Survey (LFS). I use the data for the first and second quarter of 2019 and 2020 and select the sample of children under age 16. The LFS is a national survey conducted on about 65,000 households each quarter. The focus is on the labor market status of adult household members, but detailed information is collected on household composition, which allows us to identify children and the employment situation of their parents when they live with them.

Table 1 displays some descriptive statistics for the main variables, for the four quarters include in the analysis. In my sample, 82% of children live with both their parents, while about 15% live with a single mother. In the 2nd quarter of 2019, 66% of mothers were observed to be

employed, compared with 75% of fathers. There were almost 11% of children living in a household where neither the mother nor the father was employed at the time of the survey.

5. Results

I first study any effects of the lockdown on children's living arrangements. I estimate equation (1) using as a dependent variables an indicator for whether the child was living with both parents, and an indicator for children living with the mother and not with the father (which I call "single mother"). The results are shown in the first two columns of Table 2.

I find no effects of the lockdown on children's living arrangements. First, the coefficient on *Q2* shows no evidence of seasonality for these outcomes. I also find no change between 2019 and 2020 (zero coefficient on *y2020*). Finally, our coefficient of interest (on *Q2*y2020*) is very small and not statistically different from 0 for both outcomes. Thus, the lockdown did not coincide with a change in the fraction of children living with both parents, or with a single mother.

I then study the effect of the crisis on a variable that measures serious economic deprivation in the household: a binary indicator that takes value 1 of neither the (resident) mother nor the (resident) father are employed at the time of the survey. I find a significant 2.2 percentage-point increase in the fraction of children with no resident parent employed in the second quarter of 2020. This represents a 20% increase with respect to the second quarter of 2019 (see Table 1). This is a first indication that the lockdown affected children's economic situation negatively, although the magnitude of the effect seems moderate.

Next, we study the employment effects on mothers and fathers separately. Table 3 reports the results for all households, including those where the mother or the father are not present. In those households, the non-resident parent is coded as not working. Table 4 reports the results for the (82%) subsample of children living with both parents.

I study five labor market outcomes. The first is an indicator for whether the parent worked the week before the survey. The second measures employment status, i.e. it takes value 1 if the parent is working or had a job but was for some reason (such as being on leave) absent at the time

of the interview. I also study the effects on full-time employment, as well as weekly hours worked. Finally, I analyze the impact on the fraction of parents on temporary furlough from their job.

Panel A of Table 3 shows the effects for mothers. I find a 12.6 percentage-point decline in the fraction of mothers who were working at the time of the survey interview (first column). The effect on employment is smaller (4 points), which reflects the increase in furloughs. I find that the lockdown led to a 10 percentage-points rise in furloughs among mothers (last column). I also find a significant reduction in weekly hours worked.

The effects are similar for fathers. They were 10.6 points less likely to be working, 2.4 points less likely hold a job, and 9 points more likely to be on furlough. The employment effects seem slightly larger for mothers.

Table 4 shows the results for the same outcomes, estimated on the subsample of children living with both parents. Again, we find that about 10% of both mothers and fathers were on furlough, and a significant but small fraction had lost their job (a 3-4 percentage-point decline in the proportion employed).

So far we have reported average effects. In Table 5, we estimate equation (1) for different subgroups of households, in an attempt to identify children more affected by the crisis. The outcome variable is now the indicator for no parent employed in the household (as in the last column of Table 2). The first column shows that the prevalence of this measure of severe economic deprivation increased by 1.4 percentage points among children in two-parent households. The effect was much larger (almost 7 points) for children living with a single mother (second-to-last column).

Among children living with both parents, we find the effect to be almost zero in households where both parents have a university education (column 2), while it is larger when neither parent holds a university degree (column 4). The effect is even larger (almost 3 points) when at least one of the parents is an immigrant (born outside of Spain). Finally, we find a very large effect (almost 9 points) in single-mother households where the mother has no university education (last column).

Thus, we find that the effects of the covid-19 crisis on children were highly heterogeneous. Children living with their two university-educated parents were barely affected, while children

with immigrant, low-educated parents, and those living with a single mother, were at a much higher risk of parental job loss and thus economic deprivation.

6. Conclusions

I study the short-term effects of the covid-19 crisis on children's economic situation in Spain, focusing on the impact on parental employment. Spain was hit hard by the first wave of the pandemic, and went through a strict lockdown that lasted from March 14 until June 21 of 2020. I use labor force survey data and follow a difference-in differences strategy. I analyze the change in parental labor market outcomes between the first and the second quarter of 2020, using 2019 as a control year.

I find a significant increase in the fraction of children living in households where neither parent was employed. About 10% of both mothers and fathers were affected by furloughs, while about 4% of mothers and 2% of fathers lost their jobs. I also find that children living with two highly educated parents were essentially unaffected, while children living with a single mother or with immigrant or low-educated parents experienced significant negative effects on parental labor market outcomes.

My results suggest important short-term effects of the pandemic on the economic situation of children living in disadvantaged households. Children's economic situation worsened, especially for those living with a single mother and those with low-educated parents or parents with an immigrant background. Coupled with the closure of schools during the same period, these children may suffer important longer-term consequences from the current crisis. Further research will follow up on those effects, as well as on the effectiveness of public policies in alleviating them.

References

Adams-Prassl, Abi, Teodora Boneva, Marta Golin, and Christopher Rauh (2020) "Inequality in the Impact of the Coronovirus Shock: Evidence from Real Time Surveys" CEPR Discussion Paper 14665.

Adams-Prassl, Abi, Teodora Boneva, Marta Golin, and Christopher Rauh (2020) "The Impact of the Coronavirus Lockdown on Mental Health: Evidence from the US." HCEO Working Paper 2020-030.

Alon, Titan, Matthias Doepke, Jane Olmstead-Rumsey and Michèle Tertilt (2020) "The impact of Covid-19 on gender equality." *Covid Economics, Vetted and Real-Time Papers*, The Centre for Economic Policy Research (CEPR), Issue 4, pp. 62-85.

Biroli, Pietro, Steven Bosworth, Marina Della Giusta, Amalia Di Girolamo, Sylvia Jaworska, and Jeremy Vollen (2020) "Family Life in Lockdown." IZA DP No. 13398.

Del Boca, Daniela, Noemi Oggero, Paola Profeta and Maria Cristina Rossi (2020) "Women's work before and during covid-19." *Covid Economics, Vetted and Real-Time Papers*, The Centre for Economic Policy Research (CEPR), Issue 28, pp.70-90.

Etheridge, Ben and Lisa Spantig (2020) "The Gender Gap in Mental Well-Being During the Covid-19 Outbreak: Evidence from the UK" Institute for Social and Economic Research, ISER Working Paper Series, No. 2020-08.

Farré, Lídia, Yarine Fawaz, Libertad González and Jennifer Graves (2020) "How the COVID-19 Lockdown Affected Gender Inequality in Paid and Unpaid Work in Spain." IZA DP No. 13434.

Fuchs-Schündeln, Nicola, Moritz Kuhn, Michèle Tertilt (2020) "The Short-Run Macro Implications of School and Child-Care Closures." IZA DP No. 13353.

Hupkau, Claudia and Barbara Petrongolo (2020) "Work, care and gender during the Covid-19 crisis" LSE Centre for Economic Performance, CEP Covid-19 analysis, Paper No.002.

Hupkau, Claudia and Carlos Victoria (2020) "Covid-19 y desigualdad de género en España." ESADE Center for Economic Policy and Political Economy, EsadeEcPol Insights No. 8.

Ma, Sen, Zhengyun Sun, Hao Xue (2020) "Childcare Needs and Parents' Labor Supply: Evidence from the COVID-19 Lockdown" Unpublished Manuscript.

Sevilla, Almudena and Sarah Smith (2020) "Baby Steps: The Gender Division of Childcare During the Covid19 Pandemic." CEPR DP No. 14804.

von Gaudecker, Hans-Martin, Radost Holler, Lena Janys, Bettina Siflinger and Christian Zimpelmann (2020) "Labour Supply in the Early Stages of the COVID-19 Pandemic: Empirical Evidence on Hours, Home Office, and Expectations." IZA DP No. 13158.

Tables and figures

Table 1. Descriptive statistics

	T1 2019	T2 2019	T1 2020	T2 2020
% Living with both parents	81.8	81.9	81.6	81.9
% Living with single mother	14.9	14.8	14.9	14.7
% Mother employed	64.9	66.2	66.3	64
% Father employed	74.9	75.2	74.2	72.5
% No resident parent employed	10.9	10.7	11.2	12.8
N	25,505	25,376	23,764	22,403

Note: Spanish Labor Force Survey, 2019 and 2020. The sample includes all children under the age of 16 (unweighted). Mother employed and father employed take value 0 when the child is not living with the respective parent.

Table 2. Changes in living arrangements and parents' employment

	Living w. both parents	Single mother	No parent employed
Q2*2020	0.002	-0.002	0.022***
	(0.005)	(0.005)	(0.004)
2020	-0.001	0.000	0.004
	(0.003)	(0.003)	(0.003)
Q2	0.001	-0.000	-0.002
	(0.003)	(0.003)	(0.002)

Note: The sample includes all children under the age of 16 in the Spanish Labor Force survey of 2019 and 2020 (quarters 1 and 2). Each column reports the results of a separate regression (unweighted OLS). Robust standard errors are reported in parentheses. The dependent variable is in each column header. "No parent employed" takes value 1 if none of the resident parents are employed at the time of the survey. Control variables include age and immigrant status of the child in all columns, while column 3 also includes immigrant status and educational attainment of the parents, as well as dummies for the child living with the mother and with the father. N=97,048.

Table 3. Changes in parents' employment (full sample)

Panel A. Mothers

	Working	Employed	Full-time	Weekly hours	Furlough
Q2*2020	-0.126***	-0.042***	-0.029***	-4.17***	0.099***
	(0.006)	(0.005)	(0.006)	(0.215)	(0.004)
2020	-0.016***	0.010**	0.017***	-0.492***	0.028***
	(0.004)	(0.004)	(0.004)	(0.152)	(0.002)
Q2	0.016***	0.012***	0.012***	0.417***	-0.005**
	(0.004)	(0.004)	(0.004)	(0.149)	(0.002)

Panel B. Fathers

	Working	Employed	Full-time	Weekly hours	Furlough
Q2*2020	-0.106***	-0.024***	-0.025***	-4.82***	0.090***
	(0.005)	(0.004)	(0.004)	(0.208)	(0.003)
2020	-0.036***	-0.008***	-0.005*	-1.78***	0.029***
	(0.003)	(0.003)	(0.003)	(0.141)	(0.002)
Q2	0.005	0.002	0.004	0.076	-0.004**
	(0.003)	(0.002)	(0.003)	(0.134)	(0.002)

Note: The sample includes all children under the age of 16 in the Spanish Labor Force survey of 2019 and 2020 (quarters 1 and 2). Each column reports the results of a separate regression (unweighted OLS). Robust standard errors are reported in parentheses. The dependent variable is in each column header. Mother employed and father employed take value 0 when the child is not living with the respective parent. Control variables include age and immigrant status of the child, immigrant status and educational attainment of the parents, as well as dummies for the child living with the mother and with the father.

Table 4. Changes in parents' employment (children in two-parent households)

Panel A. Mothers

	Working	Employed	Full-time	Weekly hours	Furlough
Q2*2020	-0.125***	-0.039***	-0.026***	-4.01***	0.100***
	(0.007)	(0.006)	(0.007)	(0.241)	(0.004)
2020	-0.015***	0.010**	0.016***	-0.552***	0.029***
	(0.005)	(0.004)	(0.005)	(0.170)	(0.003)
Q2	0.015***	0.011***	0.009**	0.333**	-0.004*
	(0.004)	(0.004)	(0.005)	(0.166)	(0.002)

Panel B. Fathers

	Working	Employed	Full-time	Weekly hours	Furlough
Q2*2020	-0.124***	-0.027***	-0.029***	-5.68***	0.106***
	(0.006)	(0.004)	(0.005)	(0.249)	(0.004)
2020	-0.043***	-0.010***	-0.007**	-2,14***	0.034***
	(0.004)	(0.003)	(0.003)	(0.170)	(0.002)
Q2	0.005	0.002	0.005	0.096	-0.004**
	(0.003)	(0.003)	(0.003)	(0.161)	(0.002)

Table 5. Heterogeneous effects (children with no parent employed in the household)

	All two-parent households	Both parents high educ.	One parent high-educ.	Both parents low-educ.	Immigrant parent(s)	Single mothers	Single mothers, low-educ.
Q2*2020	0.014***	0.006*	0.012***	0.018***	0.028***	0.069***	0.087***
	(0.003)	(0.003)	(0.004)	(0.005)	(0.010)	(0.015)	(0.018)
2020	0.005	-0.008	-0.000	0.008**	0.013*	-0.011	-0.015
	(0.002)	(0.002)	(0.003)	(0.004)	(0.007)	(0.010)	(0.013)
Q2	0.001	-0.001	-0.000	0.002	0.001	-0.017*	-0.023*
	(0.002)	(0.002)	(0.003)	(0.004)	(0.007)	(0.010)	(0.013)
N	79,374	16,380	18,912	44,082	16,416	14,394	10,737