The impact of Covid-19 on women's labour market outcomes: Evidence from the MENA region

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Objectives:

1- What is the impact of Covid-19 on women's labour market outcomes?

2- How did school closures affect mothers' decision to supply their labour?

3- Did employers show specific preference for single or childfree women over child-carers during the pandemic?

Motivation and background:
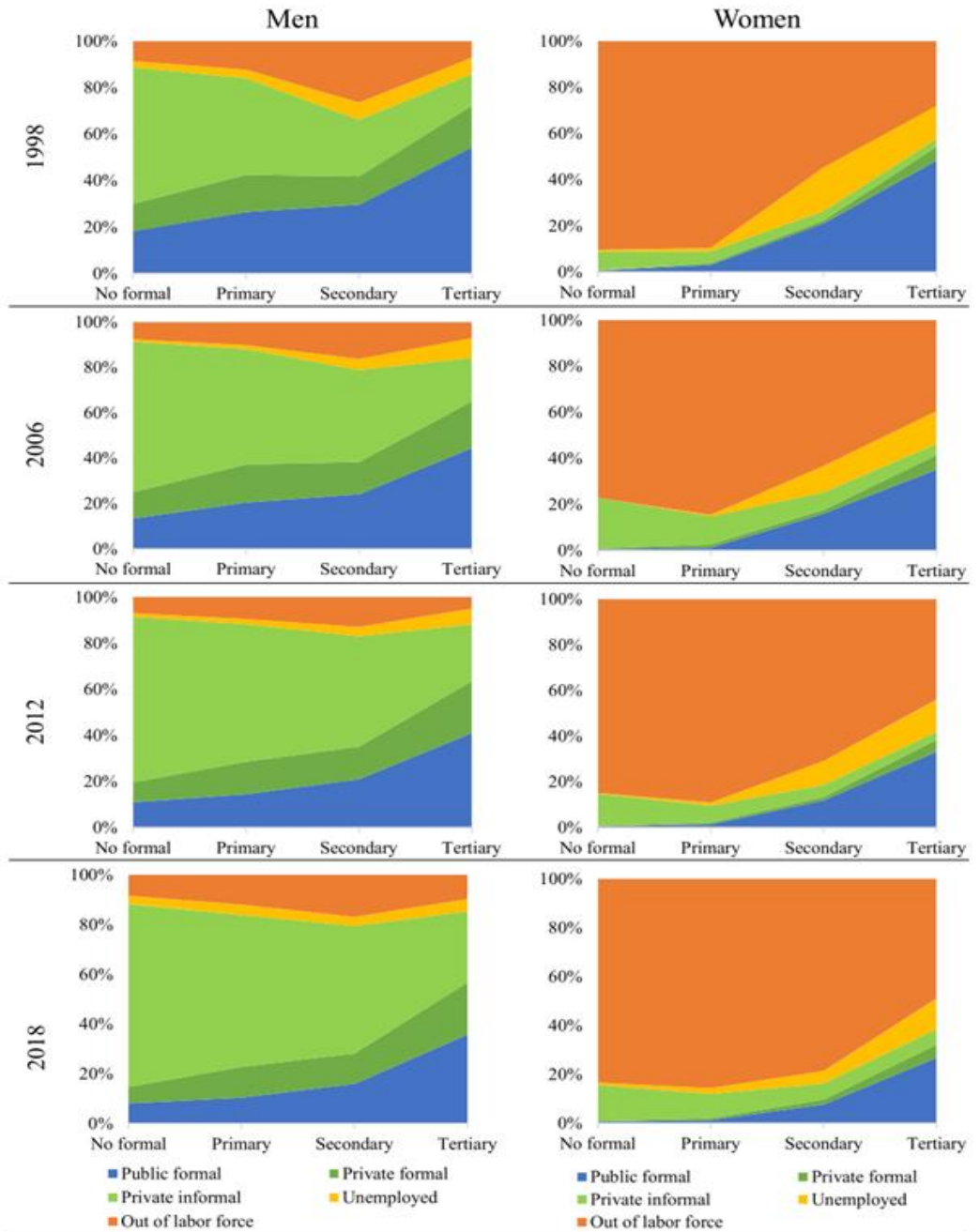
Motivation and background:

- Three underlying factors can explain women's decision to work in the MENA region:

  - Economics needs (Assaad, Krafft and Selwaness 2017a, Selwaness and Krafft 2021)

  - Values (Bursztyn, González and Yanagizawa-Drott 2020; Gauri, Rahman and Sen 2019)

  - Opportunities (Assaad et al. 2020; Assaad, Krafft and Yassin 2020)

Motivation and background:

Pre-pandemic Social norms → Social and Labour market changes by the pandemic → Effect on women's labour market outcomes

Empirical Evidence : What do we know so far?

- International empirical evidence provides controversial insights about the changes brought by the pandemic:

  - Lockdown-induced household reallocation of tasks (Sevilla and Smith 2020; Del Boca et al. 2020; Bujard et al. 2020; Steinbach 2020; Mangiavacchi et al. 2020).

  - Mothers have to take long spells of unpaid leave or unemployment for the provision of childcare (Heggeness 2020).

  - Employers' adopting more flexible work schedules and telecommuting options (Alon et al. 2020).

Empirical Evidence: What do we know so far?

- Existing evidence in the MENA region:

    - Increased violence against women in Jordan (Abufaraj et al. 2021)

    - The share of jobs that can be performed remotely is low in sectors that employ women (Alazzawi 2021).

    - Women with children were not more likely to exit work during the pandemic or during school closures (Krafft et al 2022)

Data: Description

- Data source: the COVID-19 MENA Monitor Household Survey (CMMHH) released by the ERF, with 5 waves starting from October 2020.

- Unbalanced panel of 6,136 women surveyed at least once between fives waves in Morocco, Tunisia, Egypt and Jordan.

- Depending on data availability, the effective sample size changes substantially, across regression models:
  - 14,700 observations for the evaluation of women's inactivity.
  - 2,200 observations for the variables reflecting losses in labour market outcomes

- Women's pre-COVID-19 labour market status recorded through retrospective questions.

Data: Independent Variables

Inactivity situation (pre and during covid)

Extensive Margin

- Remaining Unemployed, but looking for a job
- Remaining out of the labour force

Activity situation (pre and during covid)

Extensive Margin

- Temporarily laid-off
- Permanently laid off

Intensive Margin

- Reduction in working hours
- Pay cut
- Wage delay

## Activity situation (during covid)

Intensive Margin

- Net monthly wage

Empirical Strategy:

$$E(Y_{ijt})$$
$$= F(\beta_0 + \beta_1 children_{ijt} + \beta_2 school\ closure_t + \beta_3 school\ closure_t * children_{ijt}$$
$$+ \beta_4 married_{ijt} + \beta_5 Z_{ijt} + \alpha_j)$$

- Here $E(Y_{ijt})$ denotes a woman's labour market outcome reported by a woman i living in a subnational region j

- β_1 : The labour-market effect of having children, either through labour-supply choices of female employees, or the staffing assignments by their employers

- β_2 : COVID-regime effects (specifically school closure)

- β_3 : Relevance of Covid-19 regime for child-caring women (β_3).

- β_4 : The marriage effect proxies women's other household caretaking burden.

- β_5: education level, potential work experience (age less than 16), and rural residence status.

School closure
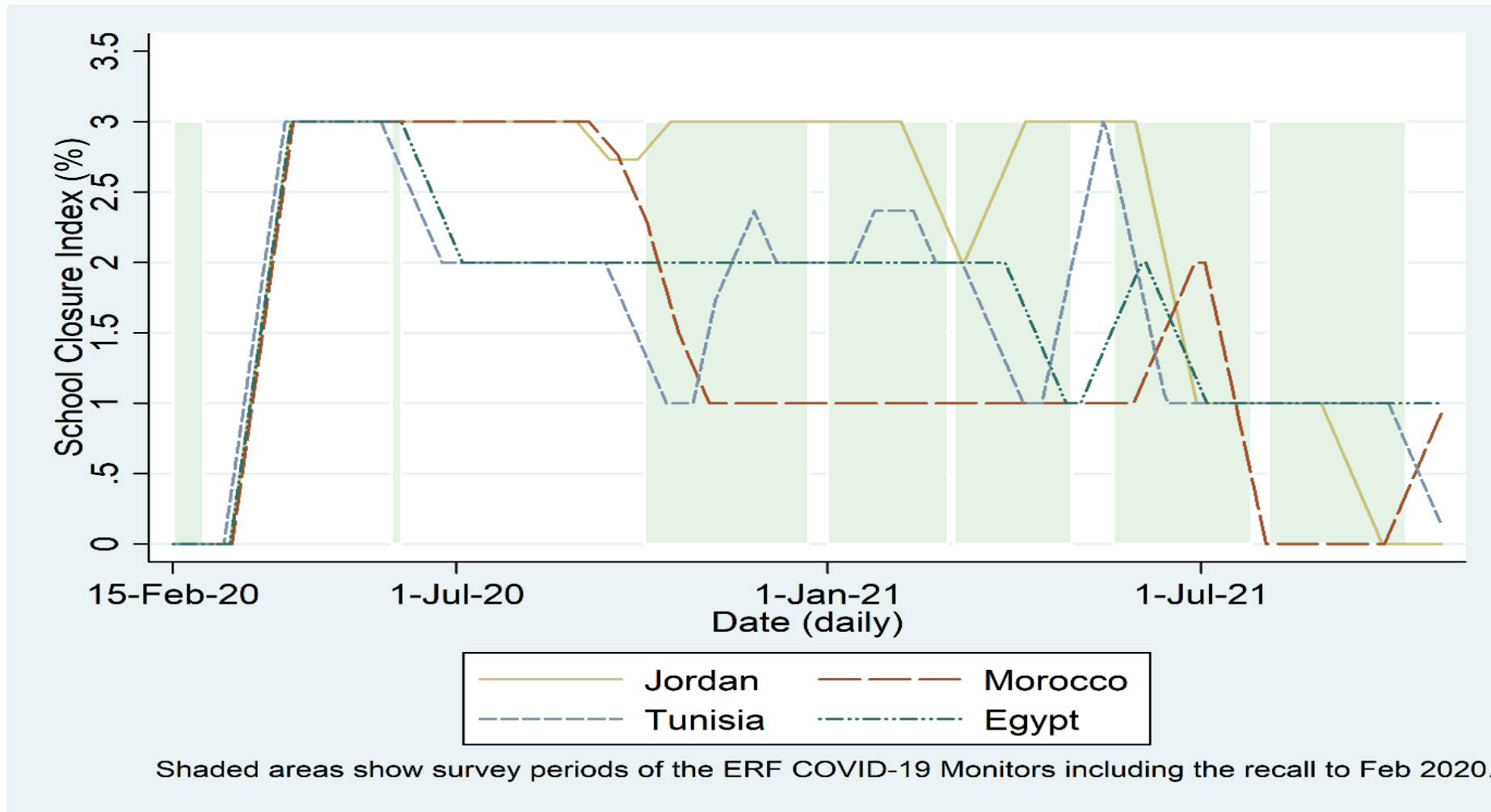
Source: Authors' Source: Authors' calculations using data from the Oxford COVID-19 Government Response Tracker. Shaded areas show survey periods of CMMHH waves 1–5, including the recall period of February 2020.

Preliminary Results

	Static employment outcomes		
	Compensation	Economic (in)activity	
	(OLS coefs.)	(Probit marginal effects)	
	(1)	(2)	(3)
	Log(wage)	Unemployed	OLF
# children	0.038	-0.044**	0.038***
	(0.066)	(0.021)	(0.014)
School closure index	-0.166	-0.156**	0.340***
	(0.201)	(0.073)	(0.052)
Children × school closure index	0.026	0.087***	-0.093***
	(0.101)	(0.032)	(0.021)
Basic education	0.198	-0.064	-0.040
	(0.189)	(0.041)	(0.030)
Secondary education	0.476***	-0.101***	-0.084***
	(0.155)	(0.036)	(0.027)
Higher education	0.851***	-0.274***	-0.307***
	(0.163)	(0.037)	(0.027)
Age – 16	0.018***	-0.008***	0.003***
	(0.004)	(0.001)	(0.001)
Rural	-0.242**	0.039	-0.053**
	(0.112)	(0.032)	(0.023)
Married	-0.195	0.028	0.112***
	(0.133)	(0.029)	(0.021)
Countries & Regions	Y***	Y***	Y***
Constant	4.939***		
	(0.229)		
Observations	1,788	5,920	10,221
Chi-squared	1,060.1***	149.1***	411.8***
Pseudo R-squared	0.339	0.067	0.101

Preliminary Results

	Losses in labour market outcomes in past 60 days				
	(Probit marginal effects)			(Ordered probit marg. eff.)	
	(4)	(5)	(6)	(7)	(8)
	Lost/delayed pay	Suspended	Terminated	Lost <25% hours	Lost 25+% hours
# children	-0.039	-0.004	0.013	**0.021***	**0.040***
	(0.024)	(0.024)	(0.016)	-0.007	-0.015
School closure index	0.057	0.059	0.017	**0.139***	**0.268***
	(0.095)	(0.091)	(0.061)	-0.024	-0.052
Children × school closure index	0.047	0.027	-0.024	**-0.026****	**-0.050****
	(0.039)	(0.038)	(0.024)	(0.011)	(0.023)
Basic education	**0.130****	**-0.103****	-0.036	0.011	0.02
	(0.059)	(0.052)	(0.046)	(0.018)	(0.032)
Secondary education	**0.083***	**-0.123****	**-0.079****	0.019	0.036
	(0.049)	(0.048)	(0.038)	(0.016)	(0.029)
Higher education	0.038	**-0.200****	**-0.108****	0.01	0.018
	(0.046)	(0.042)	(0.039)	(0.015)	(0.027)
Age – 16	**-0.003***	**-0.007****	**-0.004****	0	0.001
	(0.002)	(0.001)	(0.001)	0	(0.001)
Rural	-0.025	-0.018	0	-0.01	-0.019
	(0.041)	(0.03)	(0.027)	(0.013)	(0.025)
Married	-0.019	-0.019	-0.023	0.005	0.01
	(0.034)	(0.026)	(0.019)	(0.01)	(0.02)
Countries & Regions	Y***	Y***	Y***	Y***	Y***
Constant					
Observations	2,230	2,230	2,190	2,388	
Chi-squared	90.3***	175.7***	65.1***	129.0***	
Pseudo R-squared	0.1	0.182	0.104	0.037	

Preliminary Results

	Multinomial logit marginal effects			
	(9)	(10)	(11)	(12)
	Lost/delayed pay	Lost Hours	Suspended	Terminated
# children	-0.006	0.008	0	0.001
	(0.018)	(0.022)	(0.021)	(0.015)
School closure index	0.02	**0.068****	0.02	-0.025
	(0.032)	(0.034)	(0.032)	(0.026)
Children × school closure index	-0.001	-0.02	0.021	0.006
	(0.028)	(0.031)	(0.034)	(0.021)
Basic education	**0.107****	0.04	**-0.121*****	-0.022
	(0.043)	(0.055)	(0.047)	(0.046)
Secondary education	**0.072*****	0.055	**-0.100****	**-0.068***
	(0.028)	(0.039)	(0.047)	(0.038)
Higher education	**0.104*****	**0.071***	**-0.172*****	**-0.093****
	(0.026)	(0.039)	(0.041)	(0.038)
Age – 16	0.001	**0.003****	**-0.006*****	**-0.004*****
	(0.001)	(0.001)	(0.001)	(0.001)
Married	-0.013	0.01	0.013	-0.016
	(0.024)	(0.025)	(0.025)	(0.02)
Countries & Regions	Y***	Y***	Y***	Y***
Constant				
Observations	2,351			
Chi-squared	3,362.8***			
Pseudo R-squared	0.14			

Alternative specification

$$E(Y_{ijt}) = F(\beta_0 + \beta_1 married_{ijt} + \beta_2 kids\ lt6yo_{ijt} + \beta_3 schoolkids_{ijt} + \beta_4 stringency_t + \sum_{q=1,2,3} \beta_{4+q}(school\ closure = q)_t + \beta_8 school\ closure_t * kids\ lt6yo_{ijt} + \beta_9 school\ closure_t * schoolkids_{ijt} + \beta_{10} Z_{ijt} + \alpha_j)$$

- $kids\ lt6yo$: number of children under 6 years old

- $stringency$: a composite measure of regulatory response regime based on nine response indicators including school closure, workplace closure and travel bans

Preliminary Results

Alternative OLS and probit regressions, with more covariates

	OLS (Coefs.)	Probit models (Marginal effects)						
	Compensation	Economic (in)activity		Losses in labour market outcomes in past 60 days				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				Lost/delayed	Lost 1-25%	Lost 25+%		
	Log(wage)	Unemployed	OLF	pay	hours	hours	Suspended	Terminated
# children under 6	0.306**	-0.008	0.034	0.057	0.008	0.016	0.016	0.030
	(0.128)	(0.047)	(0.033)	(0.051)	(0.015)	(0.031)	(0.045)	(0.027)
# children in school	-0.086	-0.034	0.031	-0.082**	0.006	0.011	-0.021	0.007
	(0.119)	(0.031)	(0.021)	(0.037)	(0.010)	(0.021)	(0.037)	(0.023)
Stringency index	0.875	-0.426***	0.176	-0.313*	-0.091	-0.184	-0.255	-0.080
	(0.832)	(0.158)	(0.119)	(0.184)	(0.059)	(0.120)	(0.167)	(0.120)
School closure = 1	-0.371	-0.213	0.184	0.214***	0.076***	0.060***	-0.025	0.077**
	(0.253)	(0.187)	(0.194)	(0.053)	(0.017)	(0.017)	(0.215)	(0.032)
School closure = 2	-0.423	-0.219	0.212	0.265***	0.111***	0.111***	0.015	0.058**
	(0.285)	(0.190)	(0.196)	(0.051)	(0.016)	(0.018)	(0.220)	(0.029)
School closure = 3	-0.667*	-0.231	0.382*	0.246***	0.179***	0.383***	0.062	0.123**
	(0.351)	(0.196)	(0.200)	(0.081)	(0.020)	(0.061)	(0.235)	(0.051)
Children <6 × school closure	-0.031	0.003	-0.016	-0.031	-0.005	-0.009	-0.002	0.000
	(0.065)	(0.022)	(0.016)	(0.026)	(0.007)	(0.014)	(0.023)	(0.013)
School children × school closure	0.053	0.024	-0.025**	0.047**	-0.000	-0.000	0.013	-0.016
	(0.058)	(0.015)	(0.010)	(0.018)	(0.005)	(0.011)	(0.019)	(0.011)
Countries & Regions	Y***	Y***	Y***	Y***	Y***	Y***	Y***	Y***
Constant	4.949***							
	(0.641)							
Observations	1,646	5,390	9,330	2,049	2,207		2,049	2,009
Chi-squared	2,316.1***	159.9***	408.0***	110.7***	552.7***		163.7***	82.1***
Pseudo R-squared	0.339	0.076	0.106	0.117	0.047		0.180	0.136

Conclusion:

- The pandemic highlighted how women in the middle east may still be considered mainly as a secondary income earners in the household, and that the household's economic needs may be an important explanatory factor determining their participation.

- Demand side does not penalized women for having children (but still could be due to Self-selection!)

- However, our results do not hold for additional specifications.

Research Limitations

- Benchmark models do not identify separately the supply-side choices by female employees, the demand-side staffing actions by their employers, and the role that COVID-19 restrictions play on both sides.
  - Structural two-equation model, but due to our data limitations weaker robustness properties.

- Worker-level fixed effects was not feasible, because they absorbed too much variation from the models.

- Estimating regressions by country separately made the results noisier due to the smaller country-specific sample sizes.

- No control for the pre-covid status because recall questions.

- Data on the hh chores and childcare

Thank you.

Descriptive Statistics:

	Jordan		Morocco		Tunisia		Egypt	
	childfree	childcaring	childfree	childcaring	childfree	childcaring	childfree	childcaring
OLF (0/1)	0.459	0.477	0.437	0.544	0.320	0.313	0.627	0.468
Unemployed (0/1)	0.696	0.620	0.592	0.540	0.520	0.601	0.411	0.625
Personal net mnth. wage	407	401	2307	2859	1100	1432	2057	2120
Terminated (0/1)	0.125	0.051	0.023	0.112	0.128	0.081	0.128	0.076
Suspended (0/1)	0.053	0.052	0.125	0.218	0.305	0.235	0.201	0.226
Lost hours	0.129	0.322	0.161	0.222	0.222	0.260	0.983	0.583
LostPay	0.228	0.196	0.144	0.110	0.458	0.361	0.282	0.278
stringency	0.670	0.672	0.710	0.709	0.632	0.639	0.761	0.577
schoolclose	2.397	2.395	1.124	1.095	1.653	1.663	2.645	1.867
married	0.496	0.743	0.318	0.636	0.384	0.766	0.172	0.818
hhsize	3	6	5	6	3	5	4	5
# Children under 6	0	0.808	0	0.684	0	0.585	0	0.804
# Children in school	0	1.774	0	1.680	0	1.578	0	1.546
age	21	18	23	19	22	20	20	17