Informal freelancers in the time of COVID-19: insights from a digital matching platform in Mozambique

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Key points

- More vulnerable households hardest hit by COVID-19, with limited formal shock-absorbers in low income contexts

- In Mozambique, consumption poverty may have increased by 10pp due to pandemic

- Here, we focus on how the crisis has affected supply and demand for informal manual freelancers in Mozambique

- Use proprietary data from the *Biscate* labour market matching platform

- We find this (admittedly, niche) market has been resilient and may well have supported adjustment to shock

Agenda

(1) Context

COVID-19 and the labour market

- COVID-19 not just an economy-wide negative demand shock

- Complex effects on both demand- and supply-sides of labour market

- Widespread evidence of changes to *composition* of demand and the *mode of delivery* of products & services

- Examples:
  - Shift to online food purchases as cases increase (Taiwan)
  - Boom in home improvement / DIY segments across high-income countries
  - In South Africa, Kandua.com recorded a 750% increase in number of job requests comparing March 2021 to April 2020

COVID-19 and informal labour services

Across countries, many labour services supplied informally –
i.e., as cash-in-hand, task-specific activities such as car repairs.

Important in low-income urban settings (Rizzo et al., 2015)

How might COVID-19 affect these markets?

| | Direction of impact | |
Channel	Supply-side	Demand-side
Fear of infection	$-$	$-$
Formal business restrictions	?	?
Reduced mobility	?	$+$
Income loss	$+$	?

Net effect = ultimately an empirical question!

(2) Biscate

Biscate.co.mz matching platform

biscate .CO.MZ '777'

Pesquisa   Conta   Ajuda

Que serviços procuras?

|	
Cabeleireiro (5033)	Canalização (2824)
Carpintaria (2466)	Construção e Reparação (4978)
Costura (1402)	Cozinha (5981)
Electricidade (9530)	Entregas (3207)
Estética (225)	Estofagem (132)
Instalação de TV (1586)	Jardinagem (675)
Manicure (117)	Mecânica (2470)
Pintura (1823)	Reboque (325)
Reparação de AC (1221)	Serralharia (1490)

`Biscate.co.mz` matching platform

Overview:

- Free-to-use platform (supply and demand)
- Covers freelance workers in 18 service categories
- Location-specific – search by administrative district
- Available online and using USSD via Vodacom operator
- 50,000 workers (sellers) and 30,000 unique clients (buyers)

Outcomes of interest:

- Change in active registered workers (log.)
- Task contact rate (% workers / week)
- Task agreement rate (% workers / week)

Trends in primary outcomes over time

(a) Change in workers

(b) Contact rate

(c) Agreement rate

Weeks before/after first case
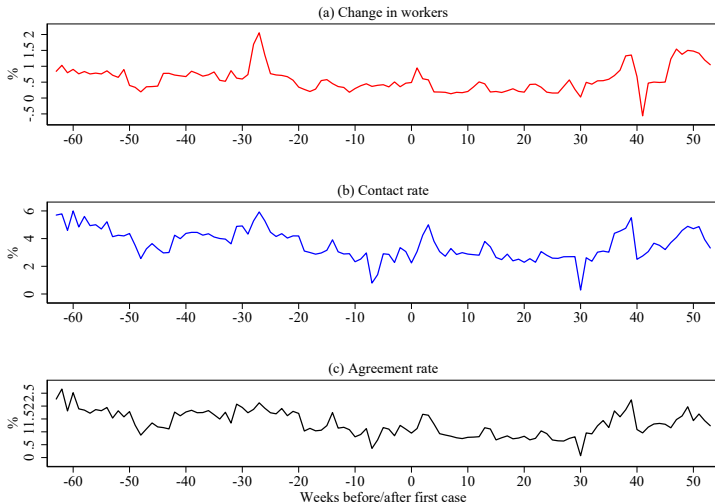
(3) Empirical strategy

Empirical strategy

How did COVID-19 affect demand/supply for *Biscate* services?

Baseline model, aggregated by profession (*i*) and location (*j*):

$$y_{ijt} = \alpha_{ij} + \beta \, \text{Post}_t + \lambda \, \text{Cases}_{it} + \gamma \, \text{Restrictions}_t + \delta \, \text{Mobility}_{it}$$
$$+ \theta \, \text{Income}_{jt} + X'_{ijt}\eta + \text{Year}_{ijt} + \text{Month}_{ijt} + \varepsilon_{ijt}$$

Extend in three directions:

- Add unit-specific trends (linear and quadratic)

- Remove unit-specific pre-trends (e.g., Kleven, 2014)

- Event study (for net effect + dynamics)

Trends in key COVID-19 factors
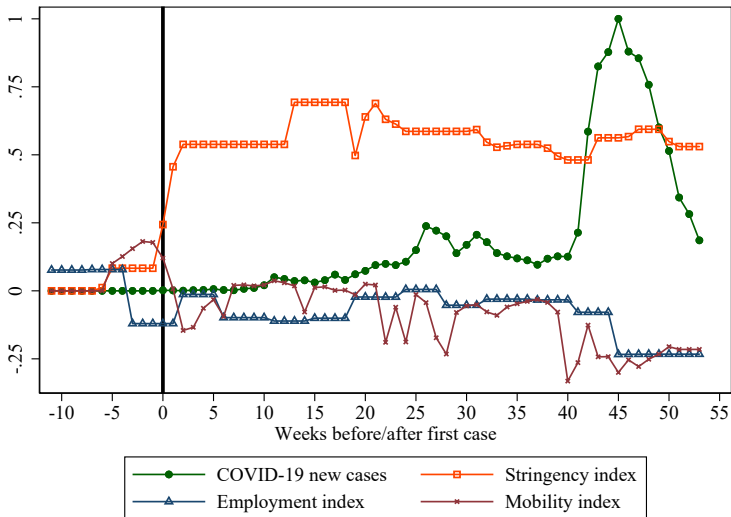
(4) Results

Results by province and profession

	(1) Δ Workers			(2) Contact rate			(3) Agreement rate		
	(a)	(b)	(c)	(a)	(b)	(c)	(a)	(b)	(c)
Baseline model:									
COVID-19 period	0.62**	0.42	0.47	1.37	1.63	1.33	0.76	0.82	0.70
	(0.30)	(0.28)	(0.32)	(1.31)	(1.36)	(1.15)	(0.50)	(0.52)	(0.44)
New cases (roll av.)	-0.05	-0.12**	-0.18***	-0.29***	-0.22***	-0.22**	-0.08**	-0.06*	-0.06
	(0.03)	(0.05)	(0.06)	(0.08)	(0.08)	(0.10)	(0.04)	(0.03)	(0.04)
Stringency index	-1.75***	-1.76***	-1.51***	-0.64	-0.63	-0.98	-1.03	-1.02	-1.18
	(0.60)	(0.53)	(0.57)	(2.45)	(2.52)	(2.22)	(0.95)	(0.98)	(0.86)
Mobility index	-0.63*	-0.47	-0.67*	-0.64	-0.79	-0.61	-0.11	-0.17	-0.07
	(0.36)	(0.36)	(0.40)	(1.42)	(1.44)	(1.47)	(0.60)	(0.60)	(0.61)
Employment index	-1.05***	-1.33***	-1.28***	-2.69***	-2.40***	-3.20***	-0.86**	-0.78***	-1.17***
	(0.33)	(0.38)	(0.34)	(0.72)	(0.71)	(0.82)	(0.27)	(0.27)	(0.32)
Obs.	22,670	22,670	22,670	22,670	22,670	22,670	22,670	22,670	22,670
RMSE	1.06	1.04	1.02	3.18	3.13	3.11	1.32	1.31	1.29
Prior de-trending:									
COVID-19 period	0.62**	0.63**	0.50*	1.37	1.73	1.80	0.76	0.89	0.96
	(0.30)	(0.30)	(0.26)	(1.31)	(1.44)	(1.48)	(0.50)	(0.55)	(0.58)
New cases (roll av.)	-0.05	-0.05	-0.04	-0.29***	-0.14*	-0.14*	-0.08**	-0.02	-0.00
	(0.03)	(0.03)	(0.04)	(0.08)	(0.08)	(0.08)	(0.04)	(0.04)	(0.03)
Stringency index	-1.75***	-1.77***	-1.87***	-0.64	-0.55	-0.53	-1.03	-1.00	-1.02
	(0.60)	(0.59)	(0.52)	(2.45)	(2.64)	(2.69)	(0.95)	(1.02)	(1.07)
Mobility index	-0.63*	-0.64*	-0.73*	-0.64	-1.08	-1.22	-0.11	-0.28	-0.37
	(0.36)	(0.36)	(0.37)	(1.42)	(1.46)	(1.47)	(0.60)	(0.61)	(0.62)
Employment index	-1.05***	-1.06***	-1.40***	-2.69***	-2.10***	-2.20***	-0.86***	-0.65**	-0.63**
	(0.33)	(0.33)	(0.32)	(0.72)	(0.70)	(0.70)	(0.27)	(0.27)	(0.27)
Obs.	22,670	22,670	22,670	22,670	22,670	22,670	22,670	22,670	22,670
RMSE	1.06	1.07	1.22	3.18	3.16	3.33	1.32	1.32	1.44
Trend	None	Linear	Quad.	None	Linear	Quad.	None	Linear	Quad.

Event study for: △ workers
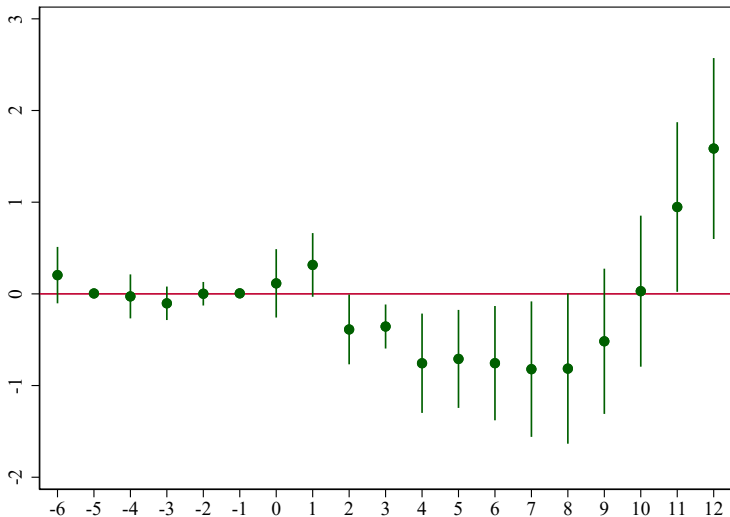
Event study for: agreement rate
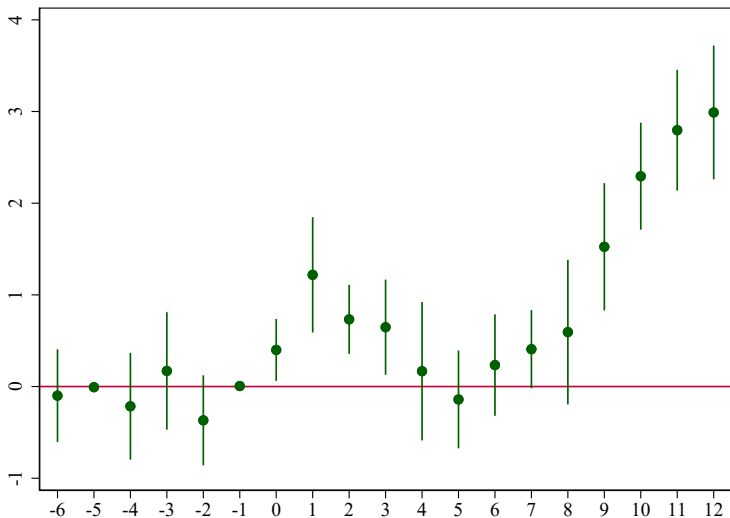
(5) Conclusion

Conclusion

- Consistent with *a priori* ambiguous impact of pandemic, we find a varied set of responses $(+$ and $-)$, operating through multiple channels

- Worsening general employment outcomes appear to have pushed workers onto *Biscate* and stimulated demand

- Overall, zero net effect on growth of registered workers; but large increase in demand for services (flexible / cheaper)

- *Biscate* platform is not representative of Mozambican labour market, even in urban areas

- Digital matching platforms can help labour markets adjust to shocks, even in low-income settings with low internet use