COVID-19, informality and employability
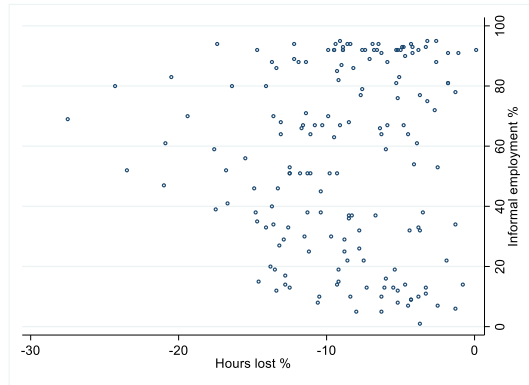
Juan Chacaltana, Julio Pérez and Sergio Quispe

7th Regulating for Decent Work Conference

06 July 2021
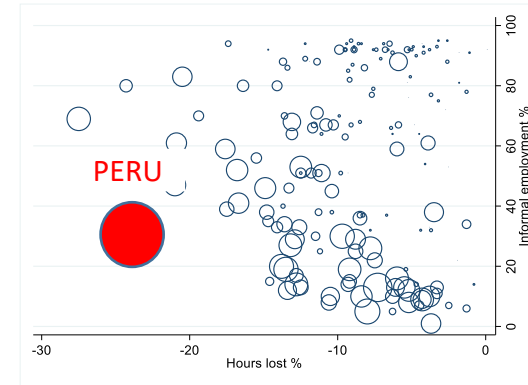
Motivation

World 2020. Hour lost and informality

World 2020. Hours lost and informality weighted by deaths per million

Informality as an adjustment variable?

1. General LM effects

PERU: excess deaths

Peru: Daily deaths from all causes, as of June 30, 2021
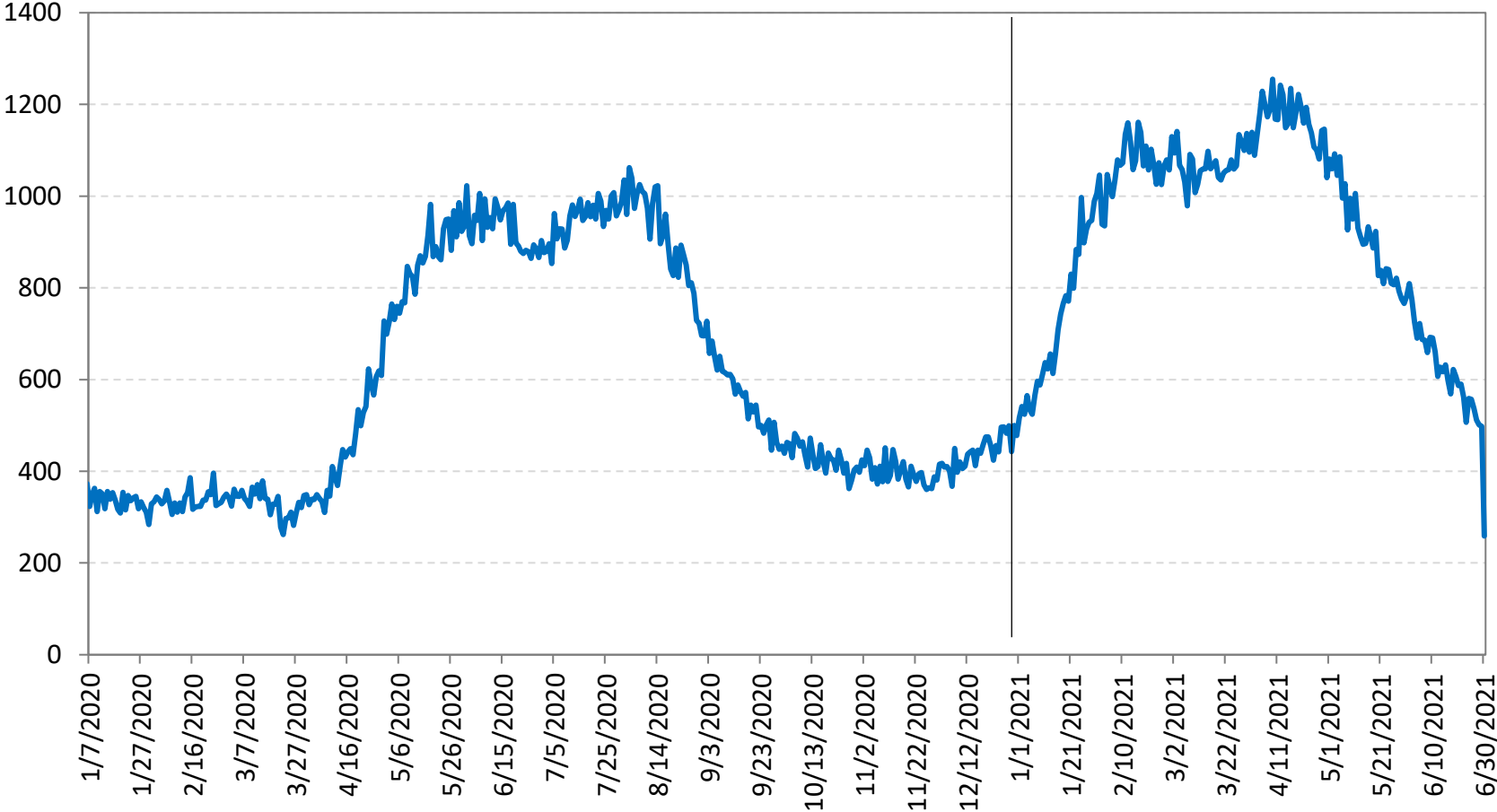
The effect on the labour market

Peru: Evolution of employment (millions of persons)
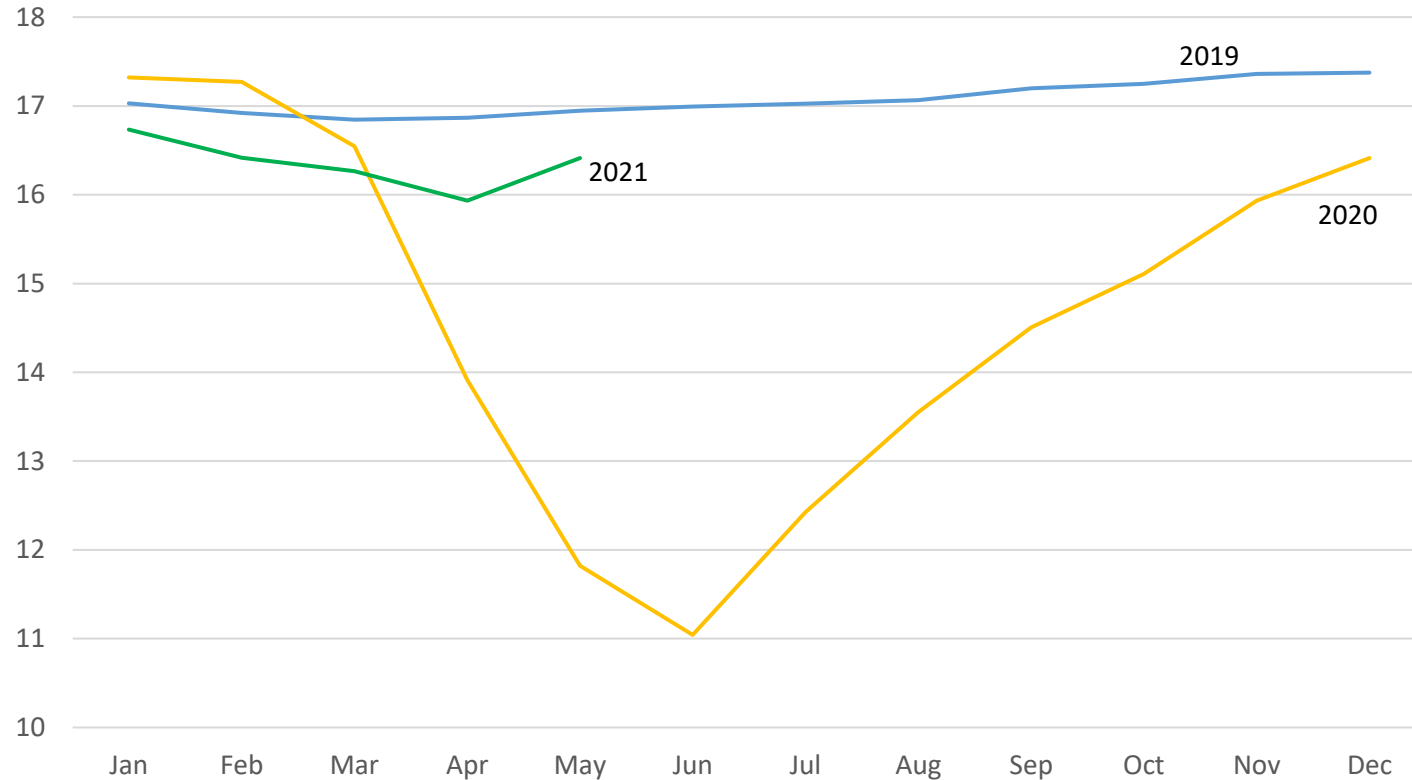
-2.2 million jobs lost in 2020 (-13%)

- 1 million formal
- 1.2 million informal

The adjustment via quantities

A. Unemployment rate %
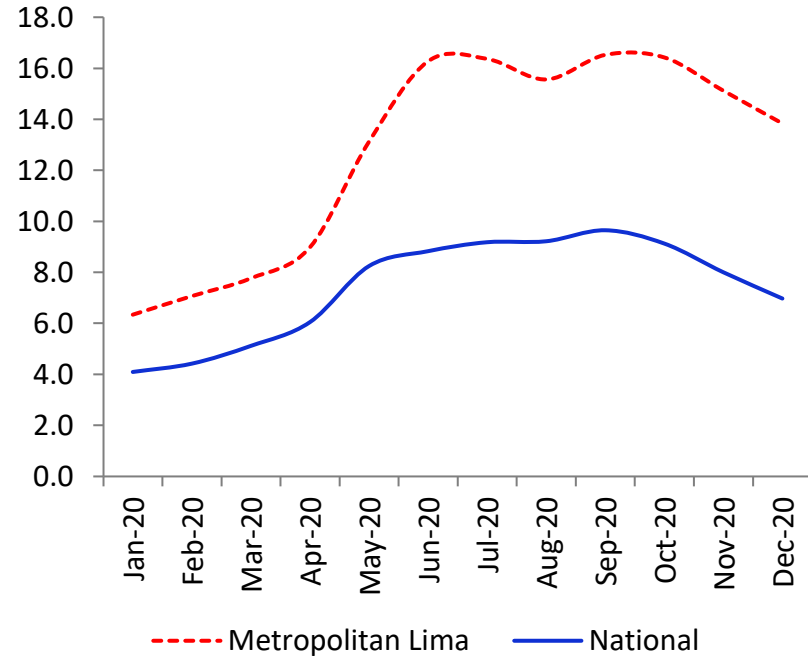
B. Inactivity rate %
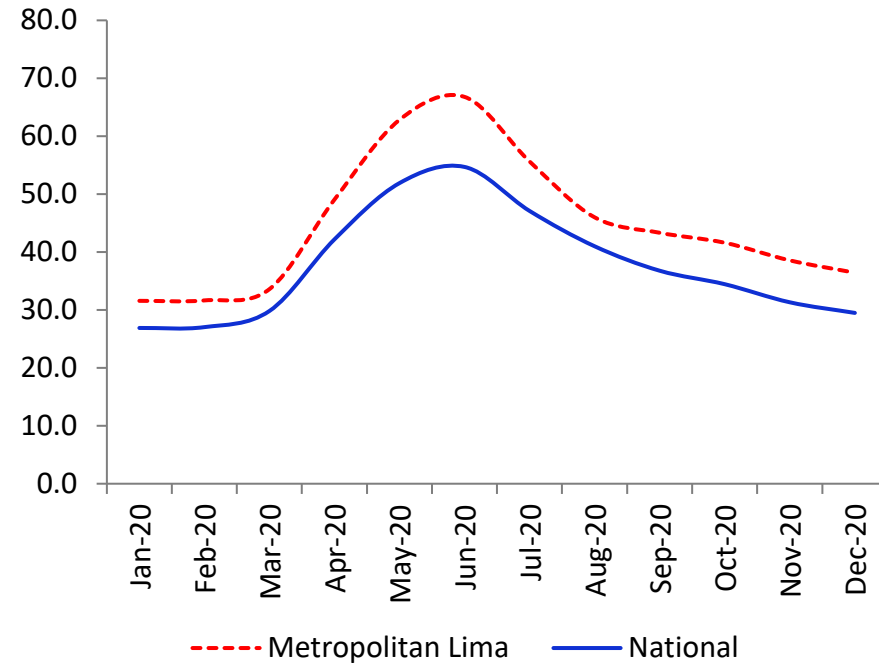
Source: INEI: National : ENAHO; Metro Lima: EPE

The adjustment via quality

Peru: Informal employment, 2007 - 2020 (%)

Source: INEI-ENAHO

Metropolitan Lima: Evolution of informality, 2020

Annual variations (wrt same month in 2019)

Note: Informal refers to workers without ESSALUD insurance or private health insurance.

Shift - share analysis

Peru

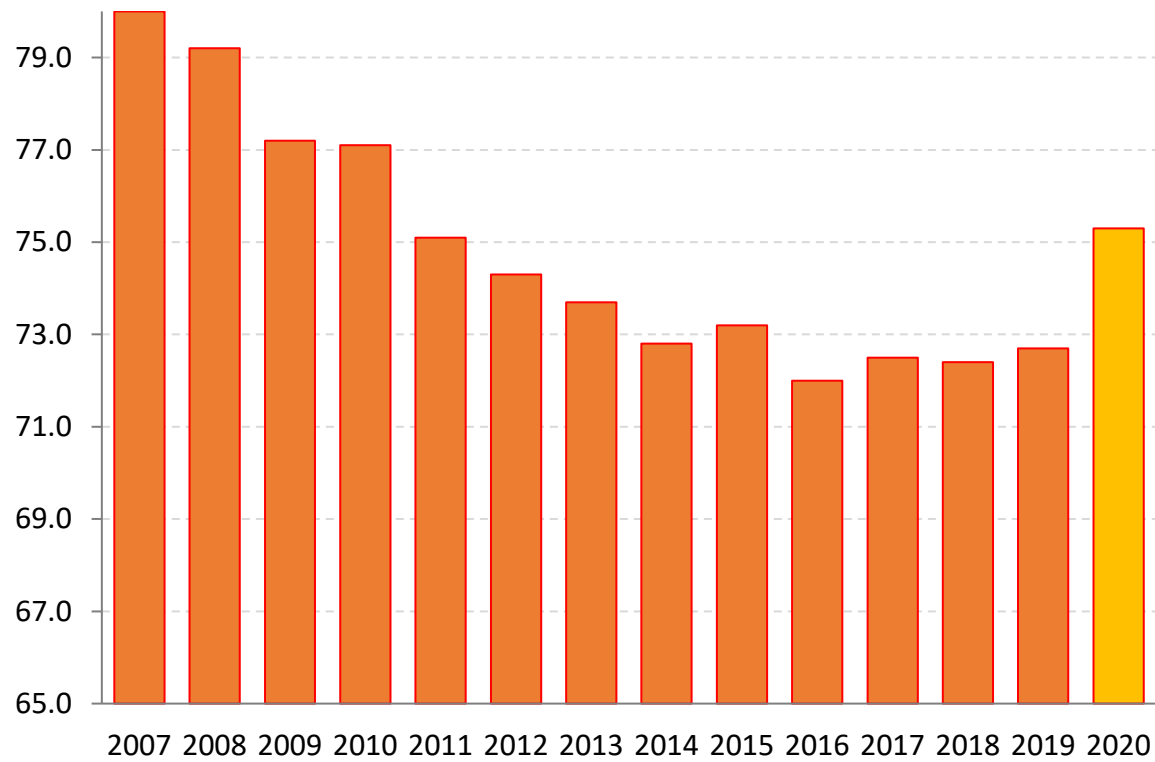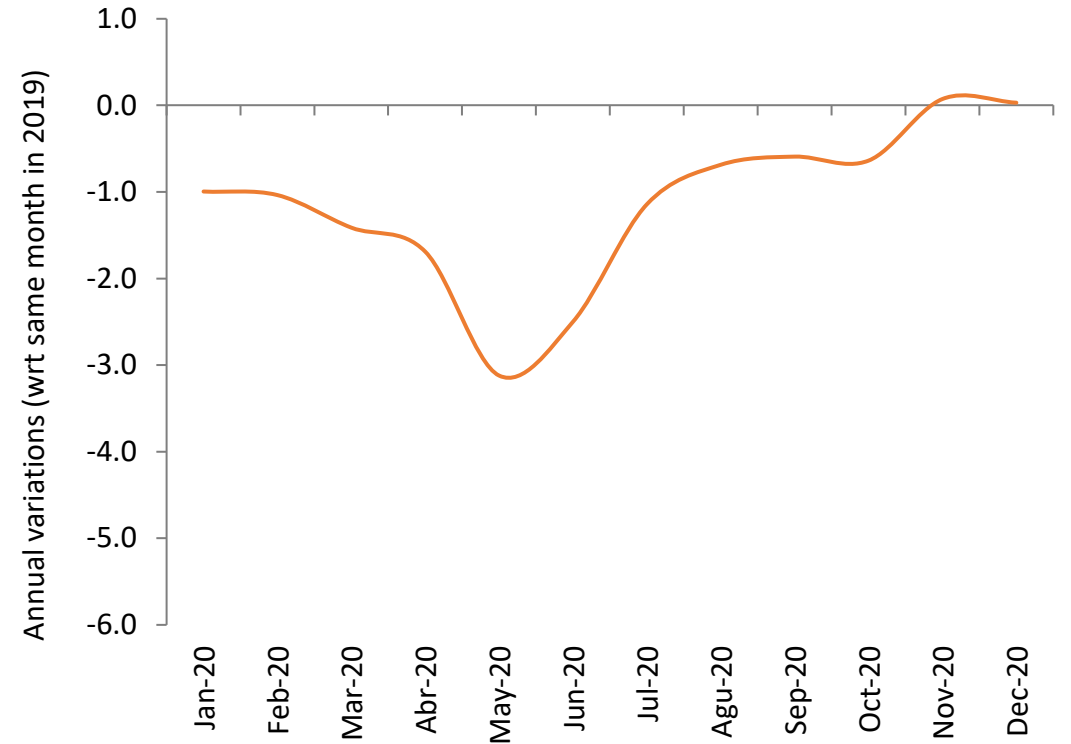|	Informality rate		Employment composition		Relative decomposicion		
	Q2-2019	Q2-2020	Q2-2019	Q2-2020	Within	Between	Total
Agriculture	95.8	97.7	22.0	41.3	0.4	18.8	19.2
Fishing	86.5	91.8	0.6	0.4	0.0	-0.2	-0.2
Mining	40.7	21.4	1.0	0.8	-0.2	0.0	-0.2
Manufacture	60.7	54.4	8.7	6.7	-0.6	-1.1	-1.7
Contruction	82.7	77.9	5.5	3.2	-0.3	-1.8	-2.1
Commerce	69.3	69.3	18.8	14.4	0.0	-3.0	-3.0
Transport&com	80.9	73.6	8.4	6.8	-0.6	-1.2	-1.8
Services	51.9	36.2	35.0	26.6	-5.5	-3.1	-8.5
Total	69.8	71.5	100.0	100.0	-6.7	8.3	1.7
	Q4-2019	Q4-2020	Q4-2019	Q4-2020	Within	Between	Total
Agriculture	95.9	95.6	23.0	26.3	-0.1	3.1	3.0
Fishing	86.1	90.6	0.4	0.4	0.0	0.0	0.1
Mining	40.9	53.5	1.2	1.3	0.2	0.0	0.2
Manufacture	64.0	64.3	8.6	8.8	0.0	0.2	0.2
Contruction	77.4	84.7	6.2	6.7	0.4	0.5	0.9
Commerce	71.3	75.7	19.3	20.0	0.9	0.5	1.4
Transport&com	81.2	79.8	7.8	7.2	-0.1	-0.5	-0.6
Services	53.9	50.1	33.6	29.3	-1.3	-2.1	-3.4
Total	71.4	73.1	100.0	100.0	0.0	1.7	1.7

Metropolitan Lima

	Informality rate		Employment composition		Relative decomposicion		
	Q2-2019	Q2-2020	Q2-2019	Q2-2020	Within	Between	Total
Manufacture	32.0	21.8	13.3	10.6	-1.4	-0.6	-1.9
Commerce	36.0	33.6	19.9	23.2	-0.5	1.1	0.6
Restaurants& Hotels	40.6	23.6	7.8	2.9	-1.3	-1.2	-2.5
Transport & Com	46.2	40.5	10.7	10.8	-0.6	0.1	-0.6
Services to firms	24.6	20.5	13.1	14.5	-0.5	0.3	-0.2
Other services	28.2	16.7	35.2	38.0	-4.0	0.5	-3.6
Total	32.6	24.5	100.0	100.0	-8.3	0.2	-8.2
	Q4-2019	Q4-2020	Q4-2019	Q4-2020	Within	Between	Total
Manufacture	29.6	32.5	13.7	14.3	0.4	0.2	0.6
Commerce	34.1	35.7	20.2	23.5	0.3	1.2	1.5
Restaurants& Hotels	32.8	33.3	7.6	6.7	0.0	-0.3	-0.3
Transport & Com	42.7	38.7	10.6	10.7	-0.4	0.0	-0.4
Services to firms	21.8	24.6	13.2	13.1	0.4	0.0	0.4
Other services	25.5	22.6	34.7	31.7	-1.0	-0.7	-1.7
Total	29.7	29.8	100.0	100.0	-0.3	0.4	0.1

2. Formal/informal transitions and the probability of being employed

PERU: Annual transitions

- Every year
  - ¾ remain in the same state
  - ¼ change.

- Main flows
  - Informal – Inactive
  - Inactive – informal
  - Formal – informal
  - Informal- formal

Note: Informal employment is calculated based on the ILO methodology, which includes those workers who worked in productive units that do not have a RUC registered with SUNAT or those wage earners who do not have social benefits such as health insurance paid by the employer.
Source: INEI, ENAHO panel.

Peru: Annual transitions in status in the labour market, including formality and informality, 2015-2019 (%)

	2015-2016	2016-2017	2017-2018	2018-2019
Total (same state + transition)	100.0	100.0	100.0	100.0
Same state	74.5	74.7	73.6	75.6
Formal-formal	14.3	15.1	14.5	16.0
Informal-informal	39.4	39.6	39.1	41.3
Unemployed-unemployed	0.4	0.2	0.0	0.3
Inactive-inactive	20.4	19.8	19.9	17.9
Transition	25.5	25.3	26.4	24.4
To formality	5.2	4.1	5.7	4.1
Informal to formal	3.6	3.0	4.1	3.0
Inactive to formal	1.1	0.7	1.2	0.9
Unemployed to formal	0.4	0.4	0.5	0.3
To informality	10.6	10.4	10.6	11.5
Formal to informal	2.7	2.8	3.2	3.1
Inactive to informal	7.3	6.8	6.7	7.2
Unemployed to informal	0.5	0.8	0.7	1.2
To inactivity	7.6	9.1	7.6	6.4
Informal to inactive	6.0	6.9	5.9	4.8
Formal to inactive	0.9	1.1	1.0	0.9
Unemployed to inactive	0.7	1.1	0.7	0.7
To unemployment	2.1	1.8	2.4	2.4
Informal to unemployed	1.0	0.5	1.0	0.7
Formal to unemployed	0.2	0.4	0.4	0.2
Inactive to unemployed	0.9	0.8	1.0	1.5

METRO LIMA: quarterly transitions

- Inter annual comparison
  - Same quarter in 2020 wrt to same quarter in 2019
  - Each quarter 2/3 in the same status. 1/3 changes.

- Quarter 2 (lockdown)
  - 46% changed status
  - Transition to inactivity increased from 12% to 35.5%
  - The largest flow : from informality

- Post lockdown (Q3 and Q4)
  - Higher transitions to unemployment
  - Higher formal - informal transitions
  - Lower informal – formal transitions

Metropolitan Lima: Activity condition transitions by quarter during 2020 (%)

	2020 (Q1)	2020 (Q2)	2020 (Q3)	2020 (Q4)
Total (same state + transition)	100.0	100.0	100.0	100.0
Same state	66.9	53.6	66.7	65.7
Formal-formal	19.4	13.3	15.8	17.4
Informal-informal	23.4	10.3	21.9	22.3
Unemployed-unemployed	1.0	0.6	1.4	1.0
Inactive-inactive	23.2	29.3	27.7	24.9
In transition	33.1	46.4	33.3	34.3
To formality	7.5	2.8	4.1	4.7
Informal to formal	4.2	1.6	2.6	2.7
Inactive to formal	2.3	0.8	1.0	1.4
Unemployed to formal	1.0	0.4	0.5	0.6
To informality	9.5	3.5	9.1	10.2
Formal to informal	3.0	2.2	6.1	4.5
Inactive to informal	4.9	1.0	2.3	4.3
Unemployed to informal	1.6	0.3	0.7	1.4
To inactivity	12.0	35.5	12.7	11.8
Informal to inactive	7.0	21.7	7.4	6.8
Formal to inactive	3.2	10.5	4.1	3.9
Unemployed to inactive	1.8	3.3	1.2	1.1
To unemployment	4.2	4.7	7.4	7.5
Informal to unemployed	1.2	2.5	3.2	2.8
Formal to unemployed	1.2	1.1	1.7	2.6
Inactive to unemployed	1.8	1.1	2.4	2.2

Note: Informal refers to workers without ESSALUD insurance or private health insurance.
Source: INEI. Own elaboration based on EPE

Metro Lima: Probit model by quarter, 2020

|	Status: Occupied				Status: Occupied formal				Status: Occupied informal			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Female	-0.337***	-0.191***	-0.336***	-0.366***	-0.121	-0.176**	-0.149*	-0.17**	-0.227***	-0.124*	-0.219***	-0.253***
	(0.054)	(0.05)	(0.055)	(0.049)	(0.063)	(0.066)	(0.061)	(0.059)	(0.054)	(0.058)	(0.052)	(0.050)
14-24 years (base)	-	-	-	-	-	-	-	-	-	-	-	-
25-29 years	0.332**	0.326***	0.302***	0.403***	0.244*	0.204	0.177	0.21	0.189	0.312**	0.269**	0.306***
	(0.104)	(0.086)	(0.093)	(0.088)	(0.120)	(0.125)	(0.121)	(0.107)	(0.100)	(0.098)	(0.097)	(0.092)
30-39 years	0.465***	0.344***	0.609***	0.435***	0.411***	0.223	0.371**	0.198*	0.135	0.271**	0.334***	0.286***
	(0.095)	(0.083)	(0.081)	(0.079)	(0.093)	(0.116)	(0.122)	(0.094)	(0.092)	(0.098)	(0.085)	(0.085)
40-49 years	0.505***	0.405***	0.478***	0.383***	0.408***	0.357**	0.33**	0.181	0.177	0.272**	0.236**	0.249**
	(0.090)	(0.083)	(0.085)	(0.081)	(0.102)	(0.121)	(0.121)	(0.102)	(0.093)	(0.095)	(0.090)	(0.088)
50-59 years	0.344***	0.371***	0.045	0.257**	0.306**	0.206	0.383**	0.236*	0.12	0.314***	-0.219*	0.103
	(0.094)	(0.086)	(0.094)	(0.082)	(0.103)	(0.116)	(0.122)	(0.101)	(0.093)	(0.091)	(0.097)	(0.086)
60 a más years	-0.196*	-0.411***	-0.46***	-0.587***	0.262**	-0.217	0.027	-0.205	-0.445***	-0.519***	-0.6***	-0.567***
	(0.088)	(0.098)	(0.100)	(0.083)	(0.098)	(0.132)	(0.121)	(0.105)	(0.096)	(0.116)	(0.116)	(0.089)
Primary (base)	-	-	-	-	-	-	-	-	-	-	-	-
Secondary	0.138	-0.017	0.08	0.137	0.259**	0.099	0.328*	0.322**	-0.052	-0.077	-0.043	0.036
	(0.073)	(0.082)	(0.077)	(0.070)	(0.098)	(0.156)	(0.135)	(0.114)	(0.073)	(0.091)	(0.079)	(0.073)
Tertiary (non-univ)	0.346***	0.291**	0.324***	0.281***	0.697***	0.496**	0.7***	0.839***	-0.164	0.029	-0.052	-0.18*
	(0.104)	(0.096)	(0.098)	(0.084)	(0.113)	(0.165)	(0.147)	(0.123)	(0.102)	(0.111)	(0.108)	(0.087)
Tertiary (Univ.)	0.297***	0.574***	0.309**	0.212**	0.817***	0.808***	0.849***	0.856***	-0.361***	0.075	-0.235*	-0.299***
	(0.089)	(0.097)	(0.098)	(0.079)	(0.101)	(0.165)	(0.149)	(0.118)	(0.094)	(0.114)	(0.098)	(0.089)
Formal in 2019 (base)	-	-	-	-	-	-	-	-	-	-	-	-
Informal in 2019	-0.174*	-0.501***	-0.265***	-0.105	-1.667***	-1.541***	-1.506***	-1.586***	1.616***	0.882***	1.056***	1.35***
	(0.074)	(0.057)	(0.066)	(0.057)	(0.072)	(0.077)	(0.082)	(0.069)	(0.077)	(0.076)	(0.066)	(0.061)
No occupied in 2019	-1.448***	-1.414***	-1.706***	-1.255***	-1.742***	-1.668***	-1.676***	-1.638***	0.353***	-0.154	-0.471***	0.153*
	(0.072)	(0.070)	(0.077)	(0.058)	(0.070)	(0.093)	(0.093)	(0.073)	(0.081)	(0.096)	(0.080)	(0.071)
Head of household	0.108	0.144*	0.196**	0.238***	0.103	-0.022	0.051	0.097	-0.002	0.213***	0.143*	0.139**
	(0.067)	(0.056)	(0.064)	(0.054)	(0.072)	(0.070)	(0.066)	(0.059)	(0.062)	(0.065)	(0.065)	(0.052)
Constant	0.825***	-0.33	0.43***	0.467***	-0.167	-0.609**	-0.602***	-0.433**	-0.896***	-1.69***	-0.782***	-0.942***
	(0.114)	(0.171)	(0.134)	(0.100)	(0.124)	(0.228)	(0.188)	(0.150)	(0.133)	(0.223)	(0.134)	(0.114)
Observations	4,543	5,774	5,646	4,871	4,543	5,774	5,646	4,871	4,543	5,774	5,646	4,871
Pseudo R²	0.291	0.2231	0.339	0.266	0.351	0.358	0.343	0.353	0.261	0.164	0.259	0.233

Note: Standard errors in parentheses. Significant *** p<0.001; ** p<0.01; * p<0.05 . Formal employment refers to workers affiliated with ESSALUD or private health insurance.
Source: INEI. Own elaboration based on EPE, panel data.

# Metropolitan Lima: Estimated probabilities of being employed by quarter, 2020 (Probit models)

- Adjustment process
  - The probability of having an informal job falls more rapidly in Q2 but it recovers also more rapidly
  - The probaility of having a formal job falls more slowly but it recovers also more slowly
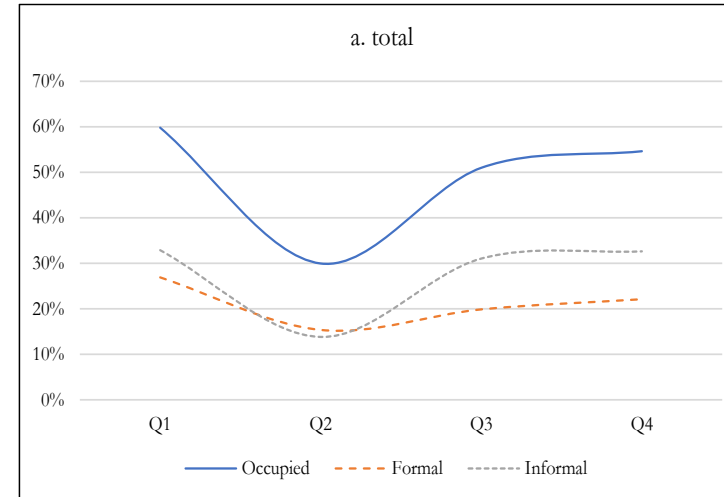
- Scars?
  - In the hardest hit groups (youth, women, less educated)
  - In the capacity of the economy to generate formal jobs
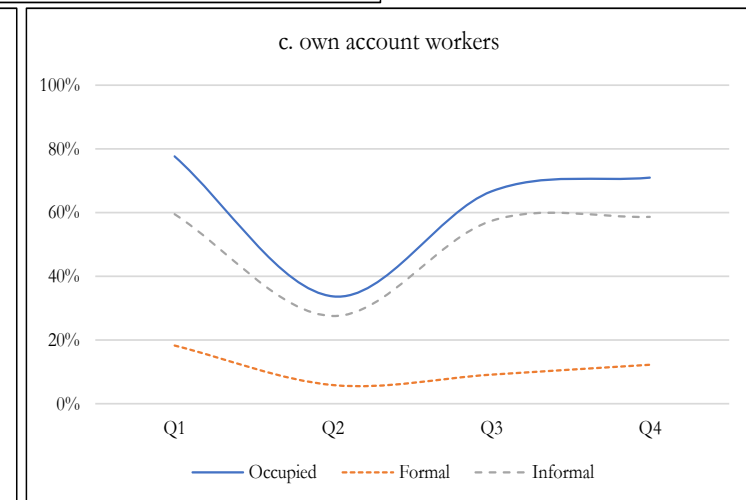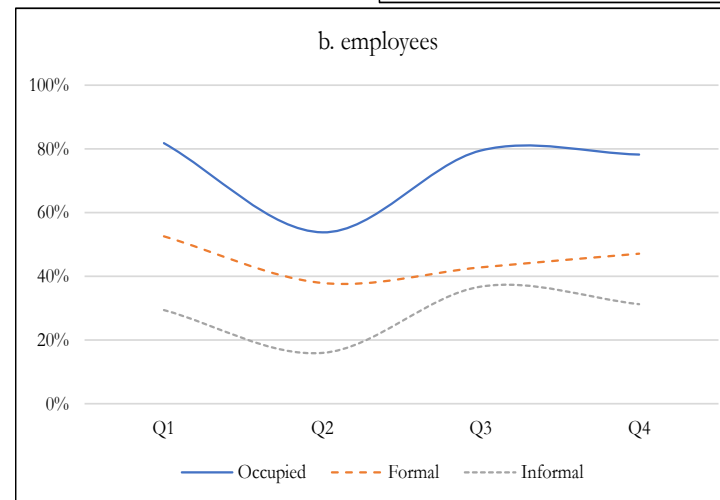
Note: Pooled data regression. Formal refers to workers affiliated with ESSALUD or private health insurance. All probabilities are significant at the 1% level.
Source: INEI. Own calculations based on a panel from EPE.

Conclusions

- Most transitions occurred between employment and inactivity and in particular between informality and inactivity.
    - the transition from employment to inactivity could not be offset with a transition from inactivity to employment since labour supply restrictions applied.
    - No recomposition effect allowed?

- Informal employment more affected during the lockdown, but also recovered more rapidly post lockdown.
    - Resilience or need?

- Overall probabilities of transition to informality increased and overall probabilities of transition to formality decreased.
    - Effects on specific groups
    - Effects on the structure of the labour market, in particular its capacity to generate formal jobs, due to the fall in economic activity but also to the observed sectorial reallocations of labour
    - This would take more time to recover unless specific policies are implemented.