

# The effect of lockdowns on firms

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- We estimate two different econometric models to understand the impact of the first Covid-19 lockdown on diverse bank ratings of firms.
- Both models agree with Covid-19 lockdowns having large negative impact, decreasing after 6 months and after 1 year and half.

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- Timing is crucial ?
- The tricky government interventions

# Essential sectors in Italy

**Table B.1**  
List of Essential Sectors.

ATECO CODE	LABEL
1	Agriculture and animal products
3	Fishing
5	Coal mining
6	Oil and Gas extraction
9.1	Support for oil and gas extraction
10	Food industry
11	Beverage industry
13.96.20	Technical textile and industrial products production
13.95	Textile excluding clothing
14.12.00	Work clothing production
16.24	Wood Packing production
17	Paper production
18	Printing and replication of recorded products
19	Coke and oil related products production
20	Chemicals production
21	Pharmaceuticals products
22.2	Plastic material production
23.13	Hollow glass production
23.19.10	Pharmaceutical and laboratory glass products production
25.21	Metal containers for heating production
25.92	Light metal packing production
26.6	Electromedical equipment production
27.1	Engine, power generators and tools for distribution and control of electricity production

*(continued on next page)*



# Essential workers map

E.D. Porto, P. Naticchioni and V. Scrutinio

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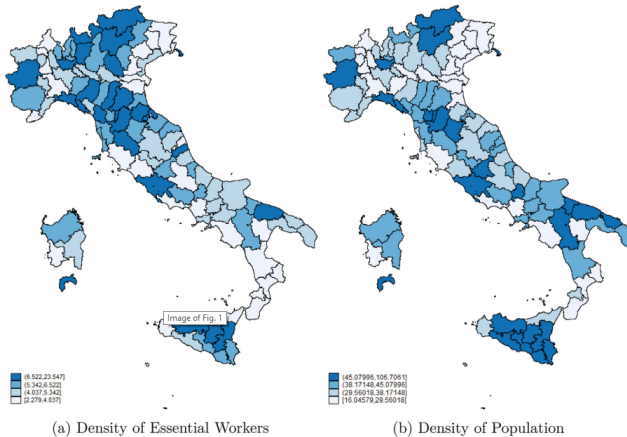
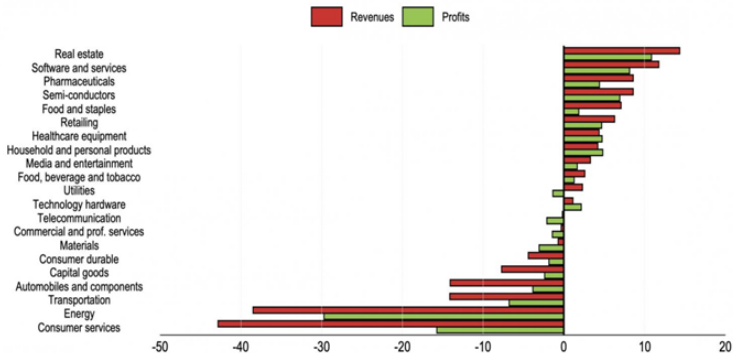


Fig. 1. Density across Provinces. Note: Hundreds of individuals per built square kilometre based on social security administrative and national statistics data.

# Demand differences

**Figure 1** Changes in revenues and profits between FY 2019 and FY 2020, by sector



Note: Profits are measured using earnings before interest, taxes, depreciation and amortisation (EBITDA). Results are reported for the median firm for each indicator and weighted by the firm's asset size in 2019.

Source: S&P Capital IQ; and author's calculations.

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- Data regards monthly banks internal ratings, data from Centrale Rischi of Banca di Italia, loans issued under State guarantees, info about contracts, data on annual accounting figures for some of the firms.
- We merged data accordingly to start analyzing it.

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- There are 6 types of ratings, with two variables for each type: a rating between 0 and 1 (1 best) and a rating between 1 and 12 (1 best).
- We regress change in ratings on this covid variables and some regressors from Centrale Rischio dataset.

# Panel regressions for 2020 and until June 2020

	(1)	(2)
	delta_rating_compl_lead1	delta_rating_compl_lead1
delta_rating_compl	-0.0398** (-3.01)	0.0138 (1.33)
covid3	0.00185 (0.40)	-0.0836*** (-16.80)
high_sales	-0.00488 (-1.21)	-0.00311 (-0.73)
high_profit	0.00543 (1.46)	-0.00140 (-0.36)
IND_UTI_x	-0.000146 (-1.60)	-0.0000963 (-1.18)
IND_UTI_x1	0.000319*** (3.49)	0.000244** (2.98)
ess_sect	-0.00132 (-0.32)	-0.0587*** (-11.21)
_cons	-0.0114* (-2.43)	0.0764*** (13.07)
<i>N</i>	5947	2887

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# Panel ordered logit regressions for 2020 and until June 2020 for three ratings

	(1)	(2)	(3)	(4)	(5)	(6)
	delta_rat_INV_lead	delta_rat_INV_lead	delta_rat_INV_CR_lead	delta_rat_INV_CR_lead	delta_rat_INV_dim_lead	delta_rat_INV_dim_lead
main						
covid3	-0.177** (-2.61)	-0.496*** (-5.71)	-0.435*** (-4.71)	-0.254*** (-3.52)	-0.175 (-1.72)	-0.353*** (-4.27)
high_sales	-0.0994 (-1.53)	-0.101 (-1.06)	0.0923 (0.91)	-0.0325 (-0.47)	0.0887 (0.75)	-0.0227 (-0.28)
high_profit	0.0242 (0.40)	-0.0826 (-0.93)	-0.0301 (-0.32)	0.0368 (0.58)	-0.00491 (-0.05)	0.0536 (0.74)
IND_UTI_x	0.00262** (2.93)	0.00256 (1.96)	0.000175 (0.13)	0.000686 (0.73)	0.00212 (1.34)	0.00194 (1.75)
NUME_RICH_PRIMA_INFORMAZIONE1	-0.113* (-2.25)	-0.175* (-2.42)	-0.124 (-1.63)	-0.0692 (-1.31)	-0.143 (-1.72)	-0.186** (-3.11)
PERC_IMPAGATO1	0.0129*** (6.02)	0.0140*** (4.72)	0.0159*** (5.27)	0.0202*** (9.62)	0.0102** (2.77)	0.00752** (2.84)
PERC_IMPAGATO	-0.0131*** (-6.18)	-0.0181*** (-6.45)	-0.0325*** (-11.63)	-0.0289*** (-14.05)	-0.0102** (-3.25)	-0.00835** (-3.25)
NUME_ENTI_SEGALANTI1					0.0248 (1.86)	0.0218* (2.34)
sigma2_u						
_cons	2.02e-33 (0.00)	2.45e-33 (0.00)	7.14e-35 (0.00)	2.22e-34 (0.00)	1.77e-34 (0.00)	9.64e-36 (0.00)
N	5947	2887	2845	5836	2097	4406

t statistics in parentheses

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# Panel regressions until June 2020, December 2020 and January 2022

	(1)	(2)	(3)
	delta_rating_compl_lead1	delta_rating_compl_lead1	delta_rating_compl_lead1
delta_rating_compl	0.0104* (2.41)	-0.0329*** (-9.39)	-0.0449*** (-11.76)
covid	-0.0864*** (-46.15)	-0.0197*** (-17.47)	0.00395** (3.25)
IND_UTI_x	-0.000129*** (-3.90)	-0.0000748** (-2.87)	-0.000106*** (-4.08)
IND_UTI_x1	0.000162*** (5.28)	0.0000327 (1.40)	-0.0000294 (-1.21)
_cons	0.0863*** (33.12)	0.0272*** (13.56)	0.0102*** (5.69)
<i>N</i>	16405	33384	71123

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# Panel ordered logit for total rating at June 2020, December 2020 and January 2022

	(1)	(2)	(3)
	delta_rat_INV_lead	delta_rat_INV_lead	delta_rat_INV_lead
delta_rat_INV_lead			
covid	-0.983*** (-25.20)	-0.366*** (-12.45)	0.0685** (2.82)
IND_UTI_x	0.000947** (2.77)	0.000903** (3.23)	0.000181 (0.83)
NUME_RICH_PRIMA_INFORMAZIONE1	-0.0688 (-1.48)	-0.0139 (-0.38)	0.0272 (1.18)
PERC_IMPAGATO1	0.00837*** (4.42)	0.0123*** (8.57)	0.0106*** (9.20)
PERC_IMPAGATO	-0.0172*** (-9.70)	-0.0180*** (-12.25)	-0.0114*** (-10.02)
sigma2_u			
_cons	1.51e-33 (0.00)	4.31e-35 (0.00)	1.82e-35 (0.00)
N	16405	33384	71123

*t* statistics in parentheses

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# Panel ordered logit for CR rating at June 2020, December 2020 and January 2022

	(1)	(2)	(3)
	delta_rat_INV_CR_lead	delta_rat_INV_CR_lead	delta_rat_INV_CR_lead
delta_rat_INV_CR_lead			
covid	-0.830*** (-18.82)	-0.413*** (-12.07)	0.0255 (0.85)
IND_UTI_x	0.00134*** (3.53)	0.000830** (2.68)	-0.000493 (-1.86)
NUME_RICH_PRIMA_INFORMAZIONE1	-0.160** (-2.98)	-0.0943* (-2.25)	-0.0500 (-1.78)
PERC_IMPAGATO1	0.0108*** (5.39)	0.0186*** (13.07)	0.0208*** (18.26)
PERC_IMPAGATO	-0.0324*** (-18.00)	-0.0363*** (-25.42)	-0.0305*** (-28.15)
<i>N</i>	16082	32790	69824

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# Panel ordered logit for dimensional rating at June 2020, December 2020 and January 2022

	(1)	(2)	(3)
	delta_rat_INV_dim_lead	delta_rat_INV_dim_lead	delta_rat_INV_dim_lead
delta_rat_INV_dim_lead			
covid	-1.337*** (-28.69)	-0.529*** (-15.17)	-0.239*** (-8.12)
IND_UTI_x	0.00424*** (7.62)	0.00330*** (7.39)	0.000800** (2.60)
NUME_RICH_PRIMA_INFORMAZIONE1	-0.208*** (-3.85)	-0.213*** (-4.85)	-0.107*** (-3.73)
NUME_ENTI_SEGNALANTI1	-0.0254** (-3.08)	-0.0118 (-1.73)	0.0125** (2.72)
PERC_IMPAGATO1	0.00422 (1.83)	0.00326 (1.69)	0.00192 (1.29)
PERC_IMPAGATO	-0.0137*** (-6.64)	-0.0110*** (-5.99)	-0.00410** (-2.80)
<i>N</i>	13194	27415	60286

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# Future steps

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- Using the rest of data on guarantees, single bank-client contracts and household data.

Thank you!