Firm responses to the pandemic crisis: sticky capabilites and widespread restructuring

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Growth Welfare Innovation Productivity

Outline

1 Context and research questions

Z Dataset







Italy is growing like never before! Ursula von der Leyen, 19 of December, 2021

> Macroeconomic statistics should tell a story of a V-shaped and fast recovery from the pandemic, at least this was the initial perception (Sharma et al., 2021).

■ Expectations of a V-shaped recovery at the macroeconomic level are prevalent (Caracciolo et al., 2021).

 But, potential long-lasting impacts on the industrial system are still hidden, mainly due to the absence of firm-level evidence in terms of economic performance, exits and closures.

The existing literature

- The literature has partially addressed firm-level effects of the COVID-19 making use of selected questionnaires, mainly conducted in real-time to monitor the status of the system.
- Other evidence relies on sectoral level dynamics, the dynamics of vacancies and employment rates.
- However, a systematic picture on how firms behaved during the COVID-19 crisis and their future prospects is still absent.

This paper

- How Italian firms have reacted to the COVID-19 crisis in terms of actions and responses put in place?
 - Which reorganizational and strategic choices have been adopted?
- How their pre-existing capabilities structure has mediated responses to the crisis?
 - Did their pre-crisis aNributes influence their in-crisis responses?

Meta (theoretical) questions - Capability Based Theory of the Firms How do firms *behave* in normal times? How do they *behave* in pandemic times? How to operationalize these questions?

Integrated firm-level dataset - ISTAT

FRAME SBS - Business register

Indagine Multiscopo del Censimento Permanente delle Imprese (IMCPI/2019 - unique wave)

Situazione e ProspeEive delle Imprese nell'Emergenza Sanitaria COVID-19 (SPIESC-19/2020 - two waves)

IMCPI/2019 - unique wave

A sample of about 280 thousand firms with 3 or more engaged persons, representing a universe of over 1 million units, corresponding to the 24.0% of total Italian firms, which, however, accounts for 84.4% of national value added, employs 76.7% of workers (12.7 millions) and 91.3% of employees.

Nine macro-sections (2016-2018)

- 1) Ownership, control, management; 2) Human resources; 3) Relations between companies and other organizations;
- 4) Market; 5) Technology, digitalisation and new professions; 6) Finance;
- 7) Production internationalisation; 8) New trajectories of development; 9)
 Environmental sustainability, social responsibility and workplace security.

SPIESC-19 (2020) - two waves (II wave - November 2020)

It is based on a sub-sample of the IMCPI. It covers a sample of over 90 thousand companies with at least 3 persons engaged.

Six macro-sections (June - October 2020)

- 1) Impact of COVID-19; 2) Precautionary procedures and countering COVID-19 spread; 3) Human Resources management and policies;
- 4) Finance; 5) Digitalization and Technology; 6) Effects, critical issues and strategic orientations.

destions under scrutiny - SPIESC-19 (2020)

Selection out of 25 questions:

Section 3 From June 2020 to date, what human resource management measures has the firm taken as a result of the COVID-19 emergency?

Section 4 From June 2020 to date, what instruments has the firm used to meet the liquidity needs caused by the COVID-19 emergency?

Section 6 What e ects do you expect the COVID-19 emergency to have on the firm up until June 2021?

Section 6 For which reasons?

Section 6 What strategies has the company already adopted or is considering to adopt up to June 2021?

Section 6 For which reasons?

Methodology - Multilevel analysis

1 Factor analysis on the IMCPI

 \Rightarrow Three factors characterizing different sets of technological and organizational capabilities

- ✓ Cluster analysis IMPCI and FRAME-SBS ⇒ Four clusters of firms, from less to more complex ones
- Analysis of co-occurrences IMCPI
 - \Rightarrow Identification of the bundle of practices characterizing firm clusters (pre-crisis)
- Analysis of co-occurrences SPIESC-19
 ⇒ Identification of the bundle of practices characterizing firm clusters (in pandemic crisis)

Factors and cluster of firms in pre-crisis

Table: Firm clusters and organisational-strategic profiles (units with at least 10 workers).

Organisational-strategic profiles						
		Technological- organisational capabilities	Managerial strategies	Relations		
Cl_1	Essential	14,2	69,8	62,5		
Cl_1	Managerial	25,6	75,5	64,5		
Cl_3	Interdependent	36,3	73,1	64,3		
Cl_4	Complex	49,4	65,8	61,5		
	Total	27,4	72,4	63,6		

Characteristics of firm clusters - Units with at least 10 employees - Pre-pandemic times

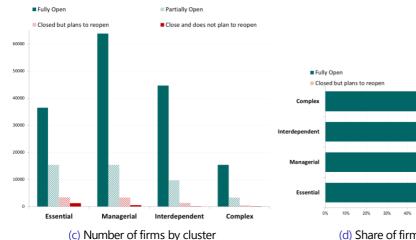




(a) Share of firms, workers and total value added by firm cluster

(b) Wage and productivity levels by firm cluster

Distribution by firm cluster and closure/openness status - Units with at least 10 employees - Pandemic times



(d) Share of firms by cluster

Partially Open

Close and does not plan to reopen

100%

Co-occurrences of firms' strategies in the Essential Cluster -Pre-pandemic and Pandemic times

> HR: data sharing Ownership capital increases HR: network security Inclear vision No strateg Products and services diversification HR: Cyber security Activity not affected by Covid-19 emergency No Process safety policy No current or planned strategy No required expertise to adopt a strategy Low Investment rates Difficulty in raising financial resources Staff qualification and suitability Hard reorganising production **Increase domestic activity** Difficulty in defining a strategy **HR: Connectivity and Communications** Firing No HR management measures Protection of personal data and privacy Substantial employee reduction **Price competitiveness Reduced working hours**

(e) Pre-pandemic times

(f) Pandemic times

Co-occurrences of firms' strategies in the Managerial Cluster -Pre-pandemic and Pandemic times

No Workplace safety policy No R&D investments No R&D investments No cyber security No innovation projects Promotion of estrema caliborations Low Investment rates Defensive strategies in local markets Products and services diversification Increase domestic activity No personnel practices No Attract talent strategy Access to New Market Strategy Localization strategy

(g) Pre-pandemic times

Use of alternative financing instruments No future strategy Hard reorganising production No HR management measures Difficulty in defining a strategy Activity not affected by Covid-19 emergency No current strategy Radical change in activity type

(h) Pandemic times

Co-occurrences of firms' strategies in the Interdependent Cluster -Pre-pandemic and Pandemic times

development relationships Cyber security R&D investments 3D Printing Computer skills Design Internationalization investments Marketing, sales and post-sales services ***Project Scheduling Software Logistics HR retraining Relational sk Work organization

(i) Pre-pandemic times

Increased extra-EU export Extended product exports Accelerated digital transformation Smart working Additional training

(j) Pandemic times

Co-occurrences of firms' strategies in the Complex Cluster -Pre-pandemic and Pandemic times

Arrande camper Hills Partonella for 16f development Partonel

(k) Pre-pandemic times

Charge in acquired least Reduced external demand Squart working Hirring Press & will commercial page renganization Press & will commercial page renganization Press & will commercial page renganization Desynet planeat hing Logistic performance improvement Capital increases from external financiers Industry 4.0 business models Market in superlay impring under due to increase cells Accelerated digital transformation Increased extra-EU export Capital increase from external financiers Increased extra-EU export Not effects, business as usual Market in superlay impring under due to increase Press in superlay impring the due to increase Market in superlay impring under due to increase Increased extra-EU export No effects, business as usual Market infrase, mercas indical to ind 8 mergeny Market infrase, mercas indical to indical 8 mergeny Market infrase, mercas indical to indical 8 mergeny Market infrase, mercas indical to indical 8 mergeny Market infrase infrase

(I) Pandemic times

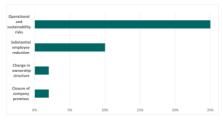
Restructuring processes

- Operational and sustainability risks
- Substantial employee reduction
- Change in ownership structure
- Closure of company premises

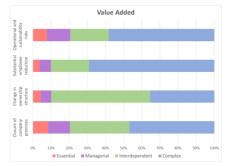
	Operational and	Closure of	Substantial	Change in
		company premises		
Operational and sustainability risks	53734	2584	14297	1781
Closure of	2584	4094	1283	372
company premises				
Substantial emp. reduction	14297	1283	22493	1349
Change in ownership structure	1781	372	1349	4829

Table: Co-occurrences of replies on corporate crises.

Restructuring processes - Distribution of positive answers

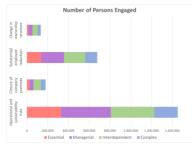


(m) Distribution of positive answers

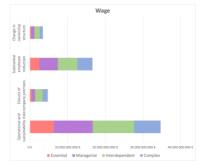


(n) Distribution of value added by firm cluster

Restructuring processes - Number of persons and wage involved

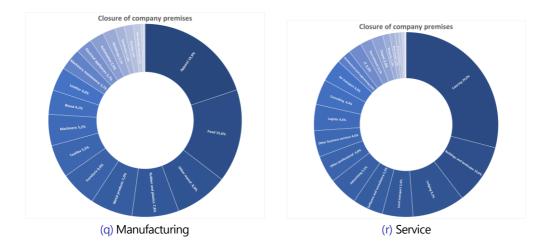


(o) Number of persons engaged



(p) Total wages

Restructuring processes - Distribution by sector - closure of company premises



Evidence of a widespread restructuring process

No cleansing?

 \Rightarrow The pandemic crisis is also impinging on more advanced and structured business activities, belonging to the Interdependent and Complex clusters.

Long lasting crisis/Hysteresis?

 \Rightarrow Expectations of a fast and **V**-shaped recovery are hardly conceivable, whenever accounting for the unfolding of the micro-level effects.

Wrap up

- This paper is meant to address the status of the Italian productive system in the wake of the most severe crisis economies are facing since WWII.
- We rely on the combination of two high quality level dataset informing about firm behavioural traits (Costa et al., 2021)
 - The IMCPI (2019), collected information on organizational capabilities, practices, aNitudes toward innovation, business models and strategies during the period 2016-2018, in so called usual times
 - The SPIESC-19 (2020) was able to monitor firm responses to the pandemic crisis, collecting information in the period June - October 2020.
 - The sample design of the two questionnaires was as such that the second is defined as a subset of the first, therefore allowing complete comparability.

BoNom lines

Sticky capabilities:

 \Rightarrow There is strong stickiness and (adaptive) persistence between the behavioural aNitudes of the firms in their "business as usual" and "emergency" status

Widespread restructuring:

 \Rightarrow The pandemic-induced crisis will hardly represent an opportunity to reshape the industrial structure toward a high-productivity path since diverse, from more to less intense forms of corporate risks are at work and such risks are not only targeting low-productivity, Essential firms.

Where to find our papers

- "Firm responses to the pandemic crisis: sticky capabilites and widespread restructuring": <u>http://www.lem.sssup.it/WPLem/files/2021-48.pdf</u>
- "From organizational capabilities to corporate performances: at the roots of productivity slowdown": <u>http://www.lem.sssup.it/WPLem/files/2021-21.pdf</u>