



From organisational capabilities to corporate performance: at the roots of productivity slowdown

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Sant'Anna & ISTAT Workshop

**Productivity dynamics of Italian firms: Patterns,
determinants and new challenges in the wake
of the pandemic crisis**

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Aims of the research

- **Empirical identification of organisational capabilities**
- Through large sample of Italian firms from ISTAT:
new, comprehensive set of micro-data including wide-ranging information on **firm structure, behaviour, performance**
(integrating register-based dataset with the permanent business census data)
- From organisational capabilities to economic performance:
identifying a *genotype-phenotype* map of Italian firms

Theoretical framework: the capability-based theory of the firm

(Winter, 1997; Dosi et al., 2008; Dosi & Marengo, 2015; Helfat & Winter, 2011)

Firm

- more/less complex organisation that to reach its objectives sets up a series of routines & heuristics: collection of (*highly idiosyncratic*) technological-organisational capabilities
- constantly-evolving locus of learning and knowledge-generation:
successful innovation \Rightarrow new products / methods of production
- its activities require relational processes with int/external actors & heuristics to set prices

Organisational capability

- manifestation of the ensemble of these procedures & aimed at performing a particular activity in a reliable and minimally satisfactory way
- entails the acquisition of inputs of production
- has specific purpose, e.g. building an artefact (car)

Managerial practices are subjected to the collective knowledge of the organisation

\Rightarrow no «optimal» organisational configurations

\Rightarrow extreme heterogeneity in firm organisation and performance

Identifying capabilities

- Empirical analysis lagged behind in identifying the "quasi-genetic" traits of organisations, also due to lack of adequate micro-data
- Capabilities are the result of the combination of specific routines & heuristics, seldom decomposable into single activity contribution (complementarity)
- Analytical task detecting the forms of these different combinations

Mapping capabilities into performance

- Going beyond standard sources of firm performance (size, access to international mkts, age...)
- Detecting how the *genotype* (how firms do things) reflects into the *phenotype* (how firms perform)

The context: stagnation of productivity

- Stagnation of productivity + increase in productivity dispersion:
Emerging feature of the current phase of capitalism in most OECD countries (Syverson 2016), worsened after 2008 crisis (might get worse after Covid-19)

Italy

- older & deeper issue + higher productivity dispersion (Dosi et al., 2012)
- substantial heterogeneity within the productive system (Calligaris et al., 2016; Codogno, 2009; Daveri e Jona-Lasinio, 2008) ⇒ “**neo-dualism**” in terms of organizational skills, innovation, presence on foreign markets & **firms’ performance**
- co-existence of small group of dynamic firms alongside large group of much less advanced firms: gazelles vs. turtles (Dosi et al., 2012)
the best vs. the rest (Andrews, Criscuolo and Gal, 2016)
- last decade: increased heterogeneity, questioning cleansing effect of crises (Foster et al., 2016) ⇒ if selection is weak, low-productivity firms remain viable increasing the left tail of the distribution (Dosi et al., 2019)

The data sources

Comprehensive dataset integrating two main ISTAT microdata sources:

- **Permanent business census – *Indagine Multiscopo del Censimento Permanente delle Imprese (IMCPI)*** → large multi-purpose survey involving over 200,000 firms with 3+ persons employed (reference universe \cong 1 Mln firms), 2016–2018
Information on firms' strategies about:
 - ✓ **Governance** (ownership, management, belonging to groups)
 - ✓ **Human capital** (investments, skills, competences etc.)
 - ✓ **Inter-enterprise relations** (contracting / subcontracting, partnerships, etc.)
 - ✓ **Competitiveness instruments** (price, quality, innovation, location, network, etc.)
 - ✓ **Technology** (use of ICTs, I4.0 technologies, platforms, etc.)
 - ✓ **Finance** (sources, bank-firm relationship type and conditions, etc.)
 - ✓ **Internationalisation** (international outsourcing, via offshoring or agreement; number and type of counterpart etc.)

- **Frame-SBS** → business register that for all 4.3 million firms operating in Italy reports information on:
 - ✓ **Structure** (size, industry, location, belonging to a group, composition of workforce)
 - ✓ **Performance** (profit-and-loss accounts; international trade)

Combined dataset

Resulting dataset example of the potential of Istat “dualistic approach” to official statistics (integrating administrative & statistical data sources, with consistency between micro & macro results)

- ✓ about 110,000 firms with 10+ persons employed (our target size), representative of a universe of about 215,000 units (51%)
- ✓ 9 million persons employed (54.7% of the total)
- ✓ 557 billion euros of value added (71.4%)
- ✓ 3,700 large enterprises (250+ p.e.), generating 38.5% overall employment and 45% total value added

Empirical analysis

Multivariate, multi-stage analysis:

1. **Capability mapping through factor analysis on IMCPI survey relevant variables**
What practices and combinations of practices result in different underlying capabilities
2. **Cluster analysis (K-means) of firms on the basis of underlying factor distribution**
Taxonomy of firms based on the capability mapping
3. **Characterising performance**
 - i. *Performance outcome of different capability taxa* in terms of labour productivity, employment, value added, wages
 - ii. *Econometric estimation of firm performance* (productivity, employment) on the basis of firm clusters

Result 1 – Three organisational profiles

3 main organisational factors of Italian firms with 10+ p.e. on the basis of their underlying actions, concerning their internal/external, competitive/cooperative choices:

- **1st factor** (46% tot. variance) → **complexity of firm organisational capabilities**
- **2nd factor** (13% tot. variance) → **managerial strategies**
- **3rd factor** (10% tot. variance) → **relational side**, relation-related strategies both internal (workforce-related) & external (inter-firm relationships)

Practices		Main key actions					
1st	Technological-organisational capabilities	Staff training activities (for new recruits, or continuous training and retraining)	Investment in the workers' digital skills	Investments in advanced automation and interconnected machines	Investments in technology, digitalisation, R&D, work organisation	Use of management softwares (ERP, CSM, SCM)	Use of remote management services (cloud)
2nd	Managerial strategies	Product quality as competitive strength	Market power (in setting prices)	Expansion strategies (widening of the product range, extension of activities)			
3rd	Relations	Adoption of good practices for the staff professional development and equal opportunity protection	Adoption of measures for work-family balance (leave, furloughs leave, hourly flexibility)	Articulation of inter-company production relations (contracts, subcontracting, agreements)			

Result 2 – A new taxonomy of Italian firms - I

From the combinations of the three profiles, a four-class taxonomy of firms:

1. **Essential** → very simple organisations: low org. capabilities, medium relations & managerial strategies
2. **Managerial** → relatively simple organisations with the highest managerial strategy factor, strategies are mostly directed outside the firm, both in competitive and co-operative terms
3. **Interdependent** → relatively complex organisations, mainly inclined to activate inter-enterprise relations
4. **Complex** → organisations with *complex* rather than *strategic* behaviours implementing multiple actions & organisational-technological processes to increase the firm's collective know-how

Clusters		Organizational-strategic profiles		
		Technological-organisational capabilities	Managerial strategies	Relations
Cl_1	Essentials	14.2	69.8	62.5
Cl_2	Managerials	25.6	75.5	64.5
Cl_3	Interdependents	36.3	73.1	64.3
Cl_4	Complexes	49.4	65.8	61.5
Total		27.4	72.4	63.6

Result 2 – A new taxonomy of Italian firms - II

(co-occurrences of firms' strategies within the cluster)

Each cluster has peculiar strategies, greater diversification in the number of significant answers as cluster complexity increases

Essential firms



lack of systematic organisational structure & strategic plans, domestic activity, absence or defensive current/future strategic objectives

Managerial firms



few capabilities (low investment, no specific process safety strategy) but external collaborations, access to new markets & data protection, HR

Result 2 – A new taxonomy of Italian firms - III

(co-occurrences of firms' strategies within the cluster)

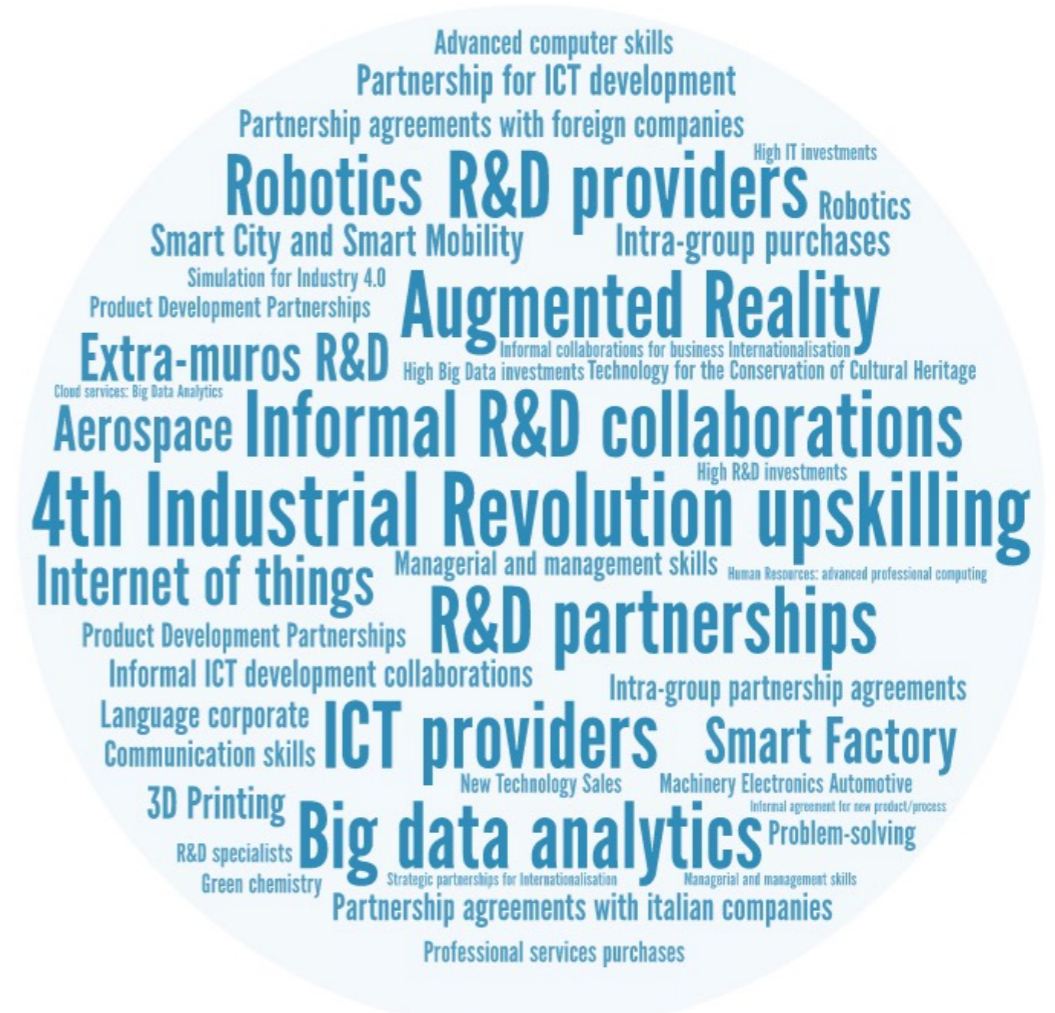
- More nuanced & structured profiles, wide-ranging strategies
- Especially Complex firms answer positively to the majority of the questions
- Emphasis on R&D, innovation and different kinds of investments, workforce training + HR policies

Interdependent firms



suppliers operating on order with active market strategies, relations/partnerships
HR + internationalisation, ICTs & R&D

Complex firms



technological and skill upgrading (4th Industrial Revolution, upskilling, managerial, strategic planning, problem-solving skills)

Results 3 – From the genotype to the phenotype of firms - I

	Firms		Persons employed		Esporters		Value added		Productivity (val add./workers)		Profitability (Ebitda/Turnover)		Average salary (pers. costs/employees)		
	N.	%	N.	%	Average	%	Exp./turn. (average; %)	€ Mln	%	Average (€)	Coeff. of Var.	Average	Coeff. of Var.	Average	Coeff. of Var.
Essential	60,380	28.5	1,282,830	14.4	21.2	10.7	6.5	47,370.0	8.7	36,926	2.1	7.0	149.9	29,403.3	0.7
Managerial	77,040	36.4	2,106,065	23.6	27.3	22.1	10.7	103,816.5	19.2	49,294	1.1	7.4	60.9	34,714.9	0.5
Interdependent	54,267	25.6	2,595,343	29.1	47.8	36.7	15.6	159,340.2	29.4	61,395	1.3	7.9	3.5	40,543.2	0.4
Complex	20,070	9.5	2,947,326	33.0	146.9	48.1	22.0	231,373.3	42.7	78,503	1.4	10.1	35.8	49,655.7	0.5
Total	211,757	100.0	8,931,563	100.0	42.2	25.0	16.7	541,900.0	100.0	60,672	1.2	8.7	73.0	40,434.8	0.5

- Nearly 2/3 of Italian firms with 10+ p.e. are Essential or Managerial, but together generate less than 1/3 of total value added
- Complex firms very few (less than 10%) but account for 42% of total value added
- Higher complexity is associated to a higher propensity to operate internationally
- Productivity of Complex firms twice as that of Basic f. (78K € vs 36K €)
- Large heterogeneity between (but not within) clusters in average salaries

Results 3 – From the genotype to the phenotype of firms - II

- A noteworthy result: *higher complexity in the firm profile may allow smaller enterprises to partially overcome the limits of size*
- **7.3% of small enterprises (over 14,000 firms) are “Complex”**
They:
 - ✓ display a technological / organisational capabilities factor higher than 3 / 4 of medium & large enterprises
 - ✓ have levels of labour productivity higher than those of the largest enterprises belonging to the 3 other clusters
 - ✓ display high profit margins (despite high salary levels), slightly lower than those of medium and large complex firms

Econometric Estimations I: Higher complexity \cong higher productivity

$$\pi_{i,t} = \alpha + Cl_k + X_{i,t} + \gamma + \eta + \epsilon_{i,t} \quad i = 1, \dots, 98574, \quad k = 1, \dots, 4 \quad t = 2018$$

$\pi_{i,t}$ = log labour productivity

Cl_k = cluster

$X_{i,t}$ = firm-level controls (size, schooling & tenure of employees, firm age, profitability, exporting status, belonging to domestic / foreign group / multinational dummies)

γ, η = sectoral, geographical dummies

<i>Dep. Var.: Levels of productivity; Benchmark: Essential firms</i>				
Covariates	All sample	10-49 p.e.	50-249 p.e.	250+ p.e.
Managerials	0.087 ***	0.083 ***	0.094 ***	0.026
Interdependents	0.131 ***	0.124 ***	0.145 ***	0.110 **
Complexes	0.147 ***	0.133 ***	0.192 ***	0.187 ***
<i>Additional firm-level covariates/controls</i>	yes	yes	yes	yes

- **More complex organisational practices associated with higher levels of productivity**
- This effect increases as we move from Managerial to Complex firms [9–15% > Essentials]
- True for overall sample and within SMEs classes
- Among large firms, differential of productivity is significant for Interdependent and Complex

Econometric Estimations II: Higher complexity \cong better dynamics

To avoid simultaneity bias, productivity & employment growth 2018, covariates 2016:

$$\Delta\pi_{i,t} = \alpha + Cl_k + X_{i,t-1} + \gamma + \eta + \epsilon_{i,t} \quad i = 1, \dots, 55992, \quad k = 1, \dots, 4, \quad t = 2016, 2018$$

$$\Delta l_{i,t} = \alpha + Cl_k + X_{i,t-1} + \gamma + \eta + \epsilon_{i,t} \quad i = 1, \dots, 56818, \quad k = 1, \dots, 4 \quad t = 2016, 2018$$

- Interdependent and Complex firms experienced higher **growth of productivity & employment**
- True also for small firms
- For medium and large firms, organisational capabilities accompany **employment growth** rather than productivity

Productivity dynamics (2016-2018); Benchmark: Basics; Covariates at 2016				
Covariates	All sample	10-49 p.e.	50-249 p.e.	250+ p.e.
Managerials	0.019	0.036 **	0.028	0.081
Interdependents	0.033 ***	0.051 ***	0.030	0.110
Complexes	0.042 ***	0.059 ***	0.034	0.137
<i>Additional firm-level covariates/controls</i>	yes	yes	yes	yes

Employment dynamics (workers; 2016-2018); Benchmark: Basics; Covariates at 2016				
Covariates	All sample	10-49 p.e.	50-249 p.e.	250+ p.e.
Managerials	0.093 ***	0.070 ***	0.529 ***	0.804 ***
Interdependents	0.119 ***	0.087 ***	0.589 ***	0.110 ***
Complexes	0.162 ***	0.121 ***	0.621 ***	0.880 ***
<i>Additional firm-level covariates/controls</i>	yes	yes	yes	yes

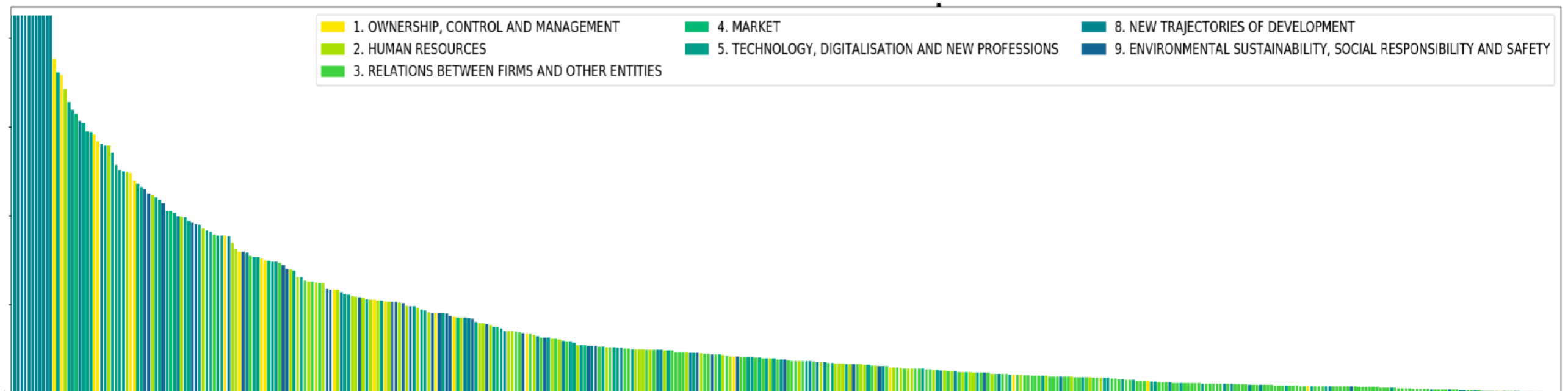
Conclusions, Further Developments & Policy Relevance

- **The firm's technological-organizational knowledge override managerial strategies** in explaining the heterogeneity between firms within the Italian business system
- **Capability taxa *actually* affect firm performance** both in terms of labour productivity & employment growth
- **Going beyond sheer firm size:** complexity is a new lens with respect to size in explaining performance
- **Evidence of neo-dualism:** Managerial are more similar to Essential; Interdependent to Complex firms (especially in terms of value added)
- **Ongoing work:** firms responses in terms of **hiring/firing strategies** during **Covid-19 shock mediated by capability taxa** (Istat survey on the response/impact of the pandemic on Italian firms)

Further Developments – From micro to macro capabilities

Measuring Economic Complexity at the micro-level

- transliteration of the notion of organisational capabilities
- EC synthetic measures of countries' organisational & technological capabilities that captures the quality and breadth of production specialisation
- at the micro-level we observe different patterns of specialisation in production
- BUT when able to directly assess firm capabilities with detailed & innovative data-sets, s.a. the IMCPI we use for Italy, firms are nested into organisational capabilities



- **New frontier 1:** operationalise *firms' EC as explicit measure of their organisational capabilities*, possibly applying EFC metric to nested capability matrix
- **New frontier 2:** empirical "*microfoundation*" of regional EC indexes at the firm level, e.g. for Italy connecting export-based regional fitness measure to underlying micro firm-level capability structure and checking the explanatory power of our 4 clusters

Policy Relevance: an integrated toolkit for industrial policies

- This type of analysis allows to identify the firms and clusters upon which implement *direct vertical industrial policies*
- *Targeting firms responsible for productivity stagnation & designing transition paths for convergence towards “the best” segment*
- *Defining priority in terms of policy action* (i.e., starting from Managerial and Interdependent firms that account for over 1/3 of Italian firms with 10+ employees)
- Even more relevant during the Covid-19 crisis
- Designing *industrial regional policies through EC indicators at the firm-level*



THANK YOU

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Labour productivity linear regression estimation

- * $p < 0:1$; ** $p < 0:05$;
*** $p < 0:01$
- robust standard
errors in parenthesis
- Essential firms are
the benchmark group

Covariates	All sample	Small (10 – 49)	Medium (50 – 249)	Large (> 250)
Cl_2	0.087*** (0.011)	0.083*** (0.012)	0.094*** (0.015)	0.026 (0.046)
Cl_3	0.131*** (0.012)	0.124*** (0.013)	0.145*** (0.015)	0.11** (0.046)
Cl_4	0.147*** (0.016)	0.133*** (0.019)	0.192*** (0.016)	0.187*** (0.047)
<i>size</i>	0.037*** (0.004)	0.106*** (0.008)	0.059*** (0.010)	-0.002 (0.016)
<i>schooling</i>	0.627*** (0.041)	0.567*** (0.044)	1.196*** (0.044)	1.498*** (0.121)
<i>tenure</i>	0.155*** (0.008)	0.156*** (0.009)	0.145*** (0.009)	0.166*** (0.020)
<i>age</i>	0.062*** (0.008)	0.061*** (0.009)	0.064*** (0.007)	0.029* (0.016)
<i>profitability</i>	0.786*** (0.046)	0.786*** (0.054)	0.741*** (0.068)	1.070*** (0.195)
<i>exporting</i>	0.034*** (0.003)	0.035*** (0.003)	0.021*** (0.004)	0.031** (0.013)
<i>domesticBG</i>	0.192*** (0.009)	0.193*** (0.010)	0.109*** (0.009)	0.118*** (0.031)
<i>multinationalBG1</i>	0.452*** (0.030)	0.519*** (0.046)	0.297*** (0.015)	0.226*** (0.035)
<i>multinationalBG2</i>	0.298*** (0.014)	0.32*** (0.021)	0.185*** (0.011)	0.246*** (0.034)
Constant	8.160*** (0.103)	8.117*** (0.112)	6.717*** (0.120)	6.239*** (0.320)
N	98574	76538	18882	3154
R^2	0.492	0.479	0.533	0.641

IMCPI Question Selection Examples

2. HUMAN RESOURCES

- 2.1 Acquisition of new human resources
 - 2.2 Type of human resources acquired
 - X.2.3 Methods of selection of human resources
 - X.2.4 Functional areas where human resources have been acquired
 - 2.5 Most important transversal skills in the selection of human resources
 - X.2.7 Personnel management practices
 - 2.8 Practices to attract and/or retain qualified personnel
 - 2.9 Non-compulsory corporate training activities
 - X.2.10 Type of non-compulsory training
 - X.2.11 Compensation subject to non-compulsory training activities
-

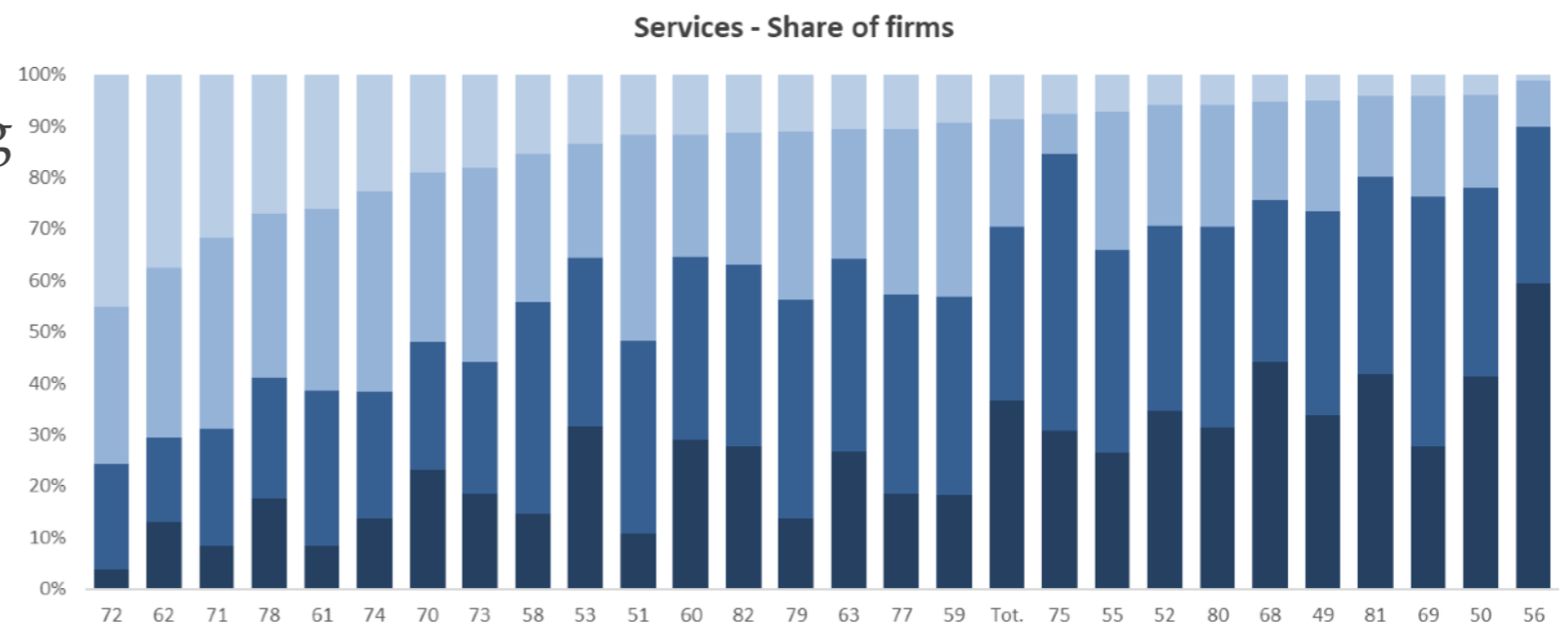
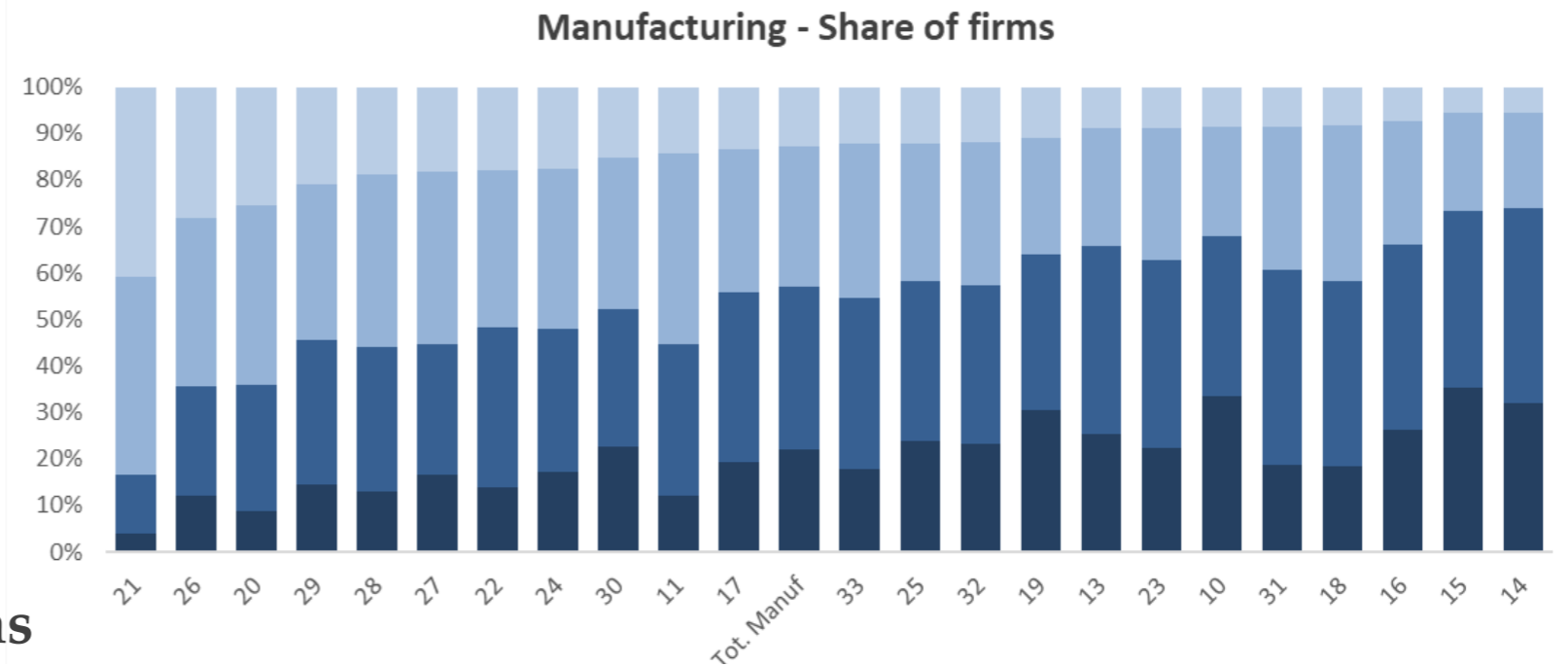
5. TECHNOLOGY, DIGITALISATION AND NEW PROFESSIONS

- 5.1 Innovation activities (internal or through external supplier)
- 5.3 Use of digital platforms
- X.5.7 Use of business management softwares
- X.5.8 Software for business management functions
- X.5.9 Use of cloud services
- X.5.10 Type of cloud services used
- X.5.12 Past and future investments in digital technologies
- X.5.14 Type of training for technology adoption
- X.5.15 Relevant digital skills adequately possessed by personnel
- X.5.16 Future change in the share of personnel dedicated to tasks relevant to digitilisation
- 5.17 Methods to deal with future management consequences

Results 3 – Sectoral distribution of clusters

Manufacturing

- **Basic & Managerial firms** more numerous in traditional manufacturing, e.g. Textiles (13), Apparel (14), Leather (15), Food (16)
- Higher incidence of **Complex firms** in sectors with greater technological content and learning processes, e.g. Pharmaceuticals (21), Electronics (26), Chemistry (20) & scale-intensive industries, e.g. Automotive (29), Machinery (28)



■ Essential
 ■ Managerial
 ■ Interpedependent
 ■ Complex

Services

- Higher incidence of **Essential** and **Managerial firms** in small-size dominated activities, e.g. Food & Beverage services (56), Veterinary (75), Serv. for buildings and landscape (81), Water transport (50)
- **Complex firms** prevail especially in knowledge-intensive services, e.g. R&D (72), Computer programming (62), Engineering (71)

Labour productivity growth linear regression estimation

- * $p < 0:1$; ** $p < 0:05$; *** $p < 0:01$
- robust standard errors in parenthesis
- Essential firms are the benchmark group

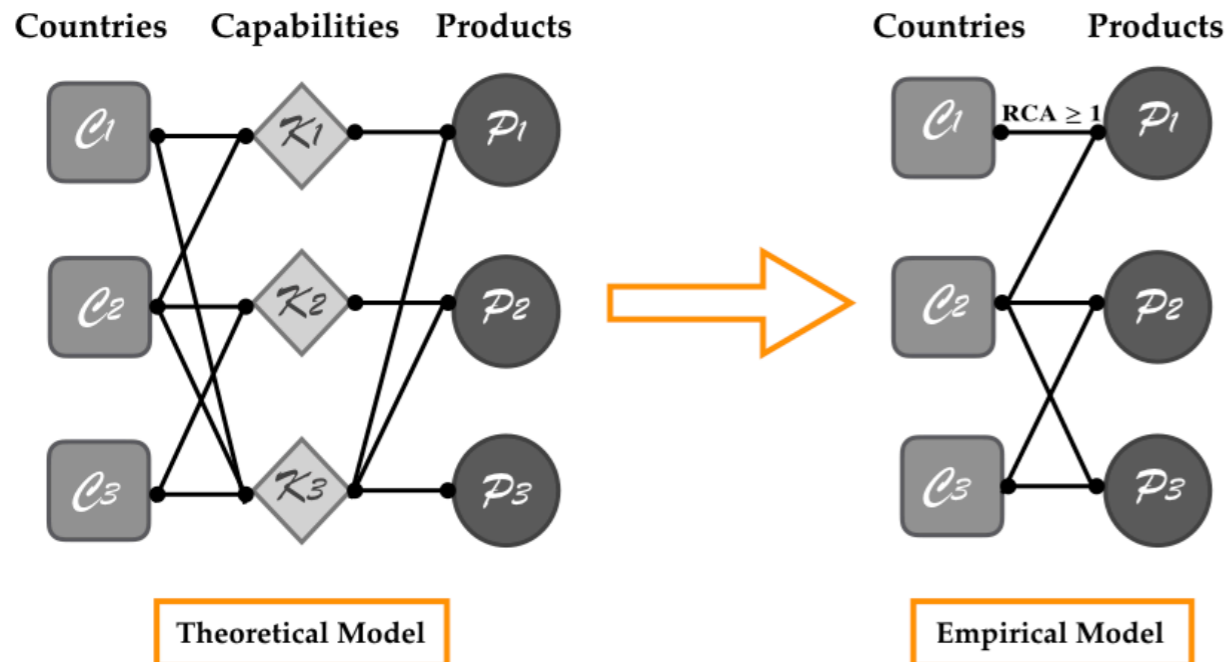
Covariates	All sample	Good Gazelles $\Delta\pi_{i,t} > 0$ $\Delta l_{i,t} > 0$	Small (10 – 49)	Medium (50 – 249)	Large (> 250)
Cl_2	0.019 (0.013)	0.014 (0.01)	0.036** (0.015)	0.028 (0.025)	0.081 (0.11)
Cl_3	0.033*** (0.012)	0.014 (0.009)	0.051*** (0.014)	0.03 (0.024)	0.11 (0.11)
Cl_4	0.042 *** (0.012)	0.007 (0.01)	0.059*** (0.014)	0.034 (0.025)	0.137 (0.112)
$Small_{2016}$	0.066*** (0.015)	-0.032*** (0.012)			
$Medium_{2016}$	0.055*** (0.016)	-0.071*** (0.013)			
$Large_{2016}$	0.044** (0.018)	-0.109*** (0.016)			
$size_{2016}$			-0.017*** (0.007)	0.005 (0.008)	-0.009 (0.011)
$schooling_{2016}$	0.027 (0.028)	0.123*** (0.027)	0.091*** (0.031)	0.06 (0.045)	-0.113 (0.106)
$tenure_{2016}$	-0.009 (0.007)	-0.028*** (0.008)	-0.011 (0.007)	-0.003 (0.009)	0.026 (0.018)
age_{2016}	0.002 (0.005)	0 (0.006)	0 (0.005)	0.002 (0.007)	0.009 (0.013)
$profitability_{2016}$	-1.028*** (0.051)	-0.707*** (0.063)	-0.911*** (0.061)	-0.927*** (0.129)	-0.499** (0.225)
$exporting_{2016}$	-0.004* (0.002)	0.01*** (0.003)	-0.002 (0.002)	0 (0.003)	-0.005 (0.009)
$domesticBG_{2016}$	-0.024*** (0.009)	0.015* (0.008)	-0.017 (0.011)	0.004 (0.009)	-0.03 (0.031)
$multinationalBG1_{2016}$	-0.049*** (0.011)	0.054*** (0.012)	-0.058*** (0.016)	0.014 (0.015)	-0.025 (0.029)
$multinationalBG2_{2016}$	-0.035*** (0.008)	0.035*** (0.009)	-0.015 (0.011)	-0.003 (0.01)	-0.06** (0.030)
Constant	0 (0.073)	0.065 (0.070)	0 (0.080)	-0.055 (0.127)	0.397 (0.306)
N	55992	19997	39103	12433	2300
R^2	0.081	0.12	0.080	0.095	0.067

Employment growth linear regression estimation

- * $p < 0:1$; ** $p < 0:05$;
*** $p < 0:01$
- robust standard
errors in parenthesis
- Essential firms are
the benchmark group

Covariates	All sample	Good Gazelles $\Delta\pi_{i,t} > 0$ $\Delta l_{i,t} > 0$	Small (10 – 49)	Medium (50 – 249)	Large (> 250)
Cl_2	0.093*** (0.010)	0.027** (0.013)	0.07*** (0.009)	0.53*** (0.072)	0.804*** (0.224)
Cl_3	0.119*** (0.010)	0.032*** (0.010)	0.087*** (0.009)	0.589*** (0.072)	0.849*** (0.227)
Cl_4	0.162*** (0.012)	0.057*** (0.013)	0.121*** (0.010)	0.621*** (0.072)	0.88*** (0.224)
$Small_{2016}$	-0.304*** (0.012)	-0.177*** (0.015)			
$Medium_{2016}$	-0.368*** (0.014)	-0.179*** (0.016)			
$Large_{2016}$	-0.375*** (0.018)	-0.195*** (0.018)			
$productivity_{2016}$	0.07*** (0.007)	-0.002 (0.008)	0.062*** (0.006)	0.103*** (0.018)	0.005 (0.041)
$schooling_{2016}$	0.065** (0.026)	0.031 (0.035)	0.045* (0.024)	0.102 (0.066)	0.186 (0.118)
$tenure_{2016}$	-0.062*** (0.006)	-0.085*** (0.007)	-0.032*** (0.005)	-0.08*** (0.016)	-0.045 (0.035)
age_{2016}	-0.01*** (0.004)	-0.018*** (0.005)	-0.019*** (0.003)	0.031*** (0.009)	0.025 (0.019)
$profitability_{2016}$	0.195*** (0.044)	-0.05 (0.058)	0.162*** (0.042)	0.344*** (0.109)	0.519* (0.289)
$exporting_{2016}$	-0.002 (0.002)	0.002 (0.002)	-0.001 (0.001)	-0.006 (0.005)	-0.009 (0.008)
$domesticBG_{2016}$	-0.007 (0.006)	0.02*** (0.007)	-0.014** (0.006)	-0.021 (0.014)	-0.065 (0.073)
$multinationalBG1_{2016}$	-0.039*** (0.012)	0.018** (0.009)	-0.031*** (0.012)	-0.074*** (0.026)	-0.044 (0.052)
$multinationalBG2_{2016}$	-0.029*** (0.009)	0.011* (0.007)	-0.044*** (0.011)	-0.043** (0.018)	-0.033 (0.054)
Constant	-0.538*** (0.104)	0.388*** (0.130)	-0.737*** (0.095)	-1.779*** (0.230)	-1.405*** (0.433)
N	56818	20166	39647	12662	2333
R^2	0.137	0.352	0.056	0.126	0.142

Further Developments – From micro to macro capabilities



Economic Complexity (EC) transliteration of the notion of organisational capabilities

Non-tradable factors of production, broad set of human & physical capital, legal system, institutions that enable an economy to expand into new productions & introduce / adopt new technologies

- EC indexes indirect measures of countries' organisational & technological capabilities
- EC designed to capture the nested structure of the country-exported product network (fittest countries most diversified)

