CompNet and MICROPROD:

Objectives and interactions

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Business School
Chairman of CompNet

IWH - Halle
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Outline

1. Why the micro perspective
2. CompNet dataset: stylised facts
3. CompNet: mandate, organisation
4. Interaction
5. Conclusions
The rationale of firm-level perspective

- Firm performance distribution is **very disperse** and **asymmetric**
- Most firms are around an “average” LOW performance,
- and **only a few** which are **very productive** in the “right-tail” of the distribution (the so called “happy few”)

**Evolution of labor productivity distribution in France**
Manufacturing sector - firms with 20+ employees

**Why do economists care about firm heterogeneity?**

Because they want resources (capital and labour) reallocated from low to high productive firms, to increase the economy aggregate performance

➔ assessing this heterogeneity is also critical for **monetary policy**
The micro-founded Competitiveness Research Network (CompNet) dataset

✓ We use existing (no new surveys) firm-level data, mostly from business registers, to construct a wide set of relevant business indicators (productivity, costs, employment..)

✓ Common codes to aggregate indicators at industry, macro-sector and country level in order to solve confidentiality issues

✓ Common methodology to harmonize the resulting set of indicators across countries in terms of measures definition, treatment of outliers, deflators (based on Eurostat sectorial value added) and PPPs.
1. Our aim is to **create a Minimum Common Set of indicators which are also cross-country comparable**

2. At the Center, our Secretariat which manages the data collection, **does not see** the raw firm level data (confidentiality is ensured), but sector averages

3. In addition, however, we have

   ➔ the **full distribution** for the (more than 70) critical business variables we collect

   ➔ most notably, the database includes more than **300** joint distributions linking different firms’ characteristics
Five broad categories of variables are available (for 60 sectors)

<table>
<thead>
<tr>
<th>Productivity and allocative efficiency</th>
<th>Financial</th>
<th>Trade</th>
<th>Competition</th>
<th>Labour</th>
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<tbody>
<tr>
<td>Labor productivity</td>
<td>Investment Ratio</td>
<td>% permanet exp.</td>
<td>Weighted PCM</td>
<td>% firms that increase/decrease employment productivity or ULC between t and t+3</td>
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<td>TFP</td>
<td>RoA</td>
<td>% sporadic exp.</td>
<td>Sector-specific mark-ups</td>
<td>Characteristics of growing and shrinking firms</td>
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<tr>
<td>ULC</td>
<td>Cash holdings</td>
<td>Export value</td>
<td>Export value added</td>
<td>Share of High-growth firms</td>
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<td>LC per employee</td>
<td>Leverage</td>
<td>Productivity premium of exporters</td>
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<td>Firm size</td>
<td>Financing gap</td>
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<td>Capital intensity</td>
<td>Collateral</td>
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<td>Static Allocative Efficiency</td>
<td>Equity to Debt</td>
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<td>Dynamic Allocative Efficiency</td>
<td>Cash flow</td>
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<td>Implicit interest rate</td>
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<td>Trade Credit/Debt</td>
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<td>Debt burden</td>
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<td>Credit constraint index</td>
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Example type of question: Are low productive firms in a country-sector characterized by higher credit constraints?
The 6th vintage of the CompNet Dataset (2018)

- **Time period:**
  - 1999 – 2015 (added 2 years)

- **Data coverage:**
  - (up to) **90% in firms**
  - (up to) **86% in employees**

- **Geographical coverage:**
  - 19 EU countries
  - and two other in pipeline (CH,TU)

- **Data collection:**
  - Richer set of **variables**
  - More efficient **codes**

- **Data are available:**
  - **on line** for CompNet members
  - **upon request** for others
Some examples of the results for Europe
Do distressed firms have a sizeable economic impact?

Sectors with a higher share of distressed firms show significantly lower investment ratios and job creation rates.

Sector investment and share of distressed firms
(median investment of the 2-digit industry and share of distressed firms)

Source: 6th vintage of CompNet, full sample.
Notes: Firms with interest payments higher than operating profits for 3 consecutive years, conditional on positive profits. Countries included: BE, CZ, FI, HU, IT, LT, PT, RO, SP, SE. Binscatter controlling for country FE.
Most productive firms are not credit-constrained

**Share of credit constrained firms by deciles of labor productivity**

ICC index estimated within CompNet

**Least productive**

**Most productive**

Stylized facts 2: How happy are the happy few?

Performance premia of exporting firms over domestic firms in the same 2-digit industry
(Dummy coefficient for exporting firms after controlling for country and time FE)

- The chart shows the coefficient of a dummy for exporting firms relative to non-exporting firms in the same sector.
- Exporting firms are significantly larger, employ more skilled labor and are more productive.
- We have data for 60 sectors and 18 countries, which can be useful for benchmarking.

Sources: 6th vintage, CompNet, full sample
Notes: The chart shows the coefficients of the export dummy, indicating whether the firm is exporter or not, from OLS regressions where the dependent variable is the log of the performance indicators, controlling for country, time and sector dummies. Countries included are HR, FI, FR, HU, IT, RO, SI and SE.
CompNet organization and mandate in brief
CompNet mandate

1. CompNet was born in 2012 as an initiative of the European system of Central Banks with a double mandate:

   1. Provide a forum for research on productivity/competitiveness related matters

   2. Provide top standard indicators on productivity drivers, which are firm-level based.

2. Since early 2017, CompNet is a self-managed Network financed by the ECB together with major European institutions (EC-Grow, EC-EcFin, EIB, EBRD), and academic institutions (IWH-Halle and Tinbergen).

3. Data providers include, in addition to several National Central banks, an increasing number of Statistical institutes

   ➔ This allow to pursue the objective of improving quality of the dataset and its cross country comparability
Meet the CompNet Team

Steering Committee

Eric Bartelsman  Aurelija Proškutė  Ralph De Haas  Filippo Di Mauro  Ettore Dorrucci  Reint Gropp

Francisco Caballero  Mary Tovsak Pleterski  Debora Revoltella  Martin Suster  Sébastien Roux

CompNet  The Competitiveness Research Network

www.comp-net.org
Meet the CompNet Team

Advisory Board

Ufuk Akcigit
Carlo Altomonte
Eric Bartelsman
Marco Buti
Vitor Constancio
Jan De Loeker
William Maloney
Marc Melitz
Gianmarco Ottaviano
Sergei Guriev
Chad Syverson
Meet the CompNet Team

Executive Committee

Filippo Di Mauro
Ettore Dorrucci
Steffen Muller

Research Team

Richard Brauer
Matthias Mertens
Roberta Serafini
Meet the CompNet Team

Secretariat

- Peter Haug
- Marco Christophori
- Marta Colombo
- Marco Lo Faso
- Laura Köngeter
- Johannes Amlung
- Jonathan Deist
CompNet latest achievements and plans

- **Enlargement** of the Network:
  - More data providers (INSEE (France), Swiss Statistical institute, Central Bank of Turkey, Irish Statistical institute)
- Improvement of the **codes**
- Active in **research** …
  - over **40 ongoing research projects** based on CompNet data
  - **25 Working Papers** since 2016
  - **31 refereed journal articles** from members of the CompNet network
  - New IWH-CompNet Discussion Paper Series
- … and in **policy**
  - **European Commission: 9 Country Reports 2019** (Belgium, Germany, Croatia, France, Italy, Lithuania, Netherlands, Romania, Finland)
  - **VOX EU, February 2019, on 6th Vintage**
  - **ECB 2018 Non-Euro Area Surveillance Report**
CompNet – 2019/2020

TIMELINE AND MILESTONES

Annual Conference with IMF-EIB

2nd Data Provider Forum-Halle

Big Data Training Tinbergen (NL)

7th Vintage Data collection starts

Report on the database to be published

1st FINPRO Conference EBRD-London

Thematic Conference Bank of Slovakia-Bratislava

Annual Conference ECB-Frankfurt

8th Vintage Data collection starts

MICROPROD is a research project funded within the framework of the EU Research and Innovation program “Horizon 2020”, comprises research and statistical institutes leading in the field of micro-level productivity research, and is coordinated by the IWH Halle. MICROPROD aims to

- (i) expand and deepen the data and methods available for measuring productivity
- (ii) generate new insights into the causal mechanisms of productivity developments,
- (iii) make them publicly available.
Deepening, widening and harmonizing micro-data availability across the EU.

Improving the quality and comparability of micro-data in Europe.

Providing guidance and recommendation to statistical offices regarding data collection. Promoting why “to go micro” and how this can benefit future research and policy work.
## Respective Specific Objectives

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<th>MICROPRED Work Package 1 (WP1)</th>
<th>CompNet</th>
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<td>• providing an extended micro-database for all the proposed projects within MICROPRED.</td>
<td>• CompNet continues to push the frontier to provide an excellent firm-level based micro-aggregated dataset</td>
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<td>• establishing a guide for the EU for setting up a platform which allows external researchers to use micro data at statistical agencies via remote access or execution.</td>
<td>• Enabling researchers as well as policy advisors to understand underlying dynamics of aggregated trends through the publication of data and dissemination of knowledge (examples: market power, productivity)</td>
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<td>• Promoting newest policy and research results in various Network events (market power and investments, productivity and Finance)</td>
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General Synergies between MICROPROD and CompNet

- MICROPROD can leverage on CompNet member’s expertise in the technical and organizational aspects related to extracting and harmonizing confidential firm-level data from national sources.
- The new data and productivity concepts from MICROPROD will be utilized and tested by, among others, members of CompNet.
- CompNet will benefit from gained insights through the direct introduction of novel indicators and implementation of new methods in the CompNet codes.
- MICROPROD findings will find a natural follow up in CompNet, over and above the three-year duration of the EU-financed project.
### Scope of the two Events

<table>
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<tr>
<th>CompNet Data Provider Forum</th>
<th>MICROPORD Pilot NSI Workshop</th>
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<td>• Improve coding: efficiency, comparability, confidentiality checks</td>
<td>• getting deeper in a number of sets of variables in close cooperation with national statistical institutes</td>
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<td>• Incorporate new indicators relevant for stakeholders (distressed firms, job flows, human capital…)</td>
<td>• ICT use</td>
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<td>• R&amp;D</td>
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<td>• Intangibles</td>
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<td>• Trade Activity</td>
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<td>• Linked Employee-Employer Data</td>
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<td>• Balance Sheet Data</td>
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Both events have similar goals

• Discuss and improve quality and comparability of novel indicators
• High focus on cross-country comparability while being as granular as possible
• Have intensive discussion on potential new and novel indicators which add real value
• Data requirements for MICROPROD are partially in line with the planned data extension for the forthcoming CompNet’s 7th data vintage
CompNet and MICROPROD are by nature deeply interrelated:
The scope of the ultimate respective objectives, as well as the strong overlaps in the driving factors, is shared by both NSIs as well as individual researchers and Institutions involved in the two respective initiatives.
Thanks for your attention

www.comp-net.org
www.microprod.eu