



CompNet The Competitiveness Research Network

# MULTIMSPROD – TSI 2022

## 2nd Progress Report

June 11, 2023

Deliverable D1.3

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## 1. Introduction

*Content: Brief introduction of TSI project, context and goal of progress report, structure of the report.*

Access to cross-country comparable micro-based data entails many challenges due to confidentiality concerns, different requirements for data access and lastly heterogeneity in data structure. MULTIMSPROD aims to provide national authorities of participating productivity boards with the tools to improve their ability to analyze productivity and economic development and design policy reforms.

This ambitious objective is achieved by providing the beneficiaries with

1. harmonized data (micro-aggregated and cross-country comparable) to conduct policy analysis and produce policy recommendations,
2. the necessary training to ensure that the beneficiaries can fully exploit the potential of the micro-based data infrastructure, and
3. finally with a network to share best practices and common goals.

MULTIMSPROD started in October 2022 for a period of 24 months. Initial participating countries include Germany, France, Slovenia, Slovakia, Portugal and Latvia. After approval of the European Commission or early admission of <sup>th</sup> member of the program.<sup>1</sup>

This report is the second of in total eight quarterly progress reports which have the goal of documenting the current project status, highlighting achievements, and pointing out risks and problems.

The report is structured as follows: Section 2 documents the project progress and describes recent activities (section 2.1) and submitted deliverables (section 2.2). Section 3 describes the efforts and progress made in the implementation of technical assistance in each of the six participating countries. Section 4 provides an outlook and the next milestones and planned steps.

## 2. General Progress Report

*Content: Description of recent activities (i.e., 1<sup>st</sup> workshop, organization of 2<sup>nd</sup> workshop, research projects using CompNet and MDI, expansion of MDI infrastructure ) and their current status.*

The **1<sup>st</sup> workshop** was held in Lisbon on February 24<sup>th</sup> at the premises of the Portuguese statistical office. The workshop included presentations of outlines of research projects to be carried out using the CompNet and MDI data. We explored potentials for collaboration between productivity boards, and productivity boards and the CompNet staff.

A **2<sup>nd</sup> workshop** was held on June 23<sup>rd</sup> at IWH in Halle. Content of the workshop was an update on the ongoing research projects outlined in the 1<sup>st</sup> workshop. Minutes from the workshop, a list of participants, and presentations from the second workshop can be found here: [Workshop Halle 23.06.2023 - OneDrive \(live.com\)](#)

Current research projects using the most recent (9<sup>th</sup>) CompNet data vintage are conducted cooperatively with the productivity boards, or by CompNet staff. The projects cover the following topics:

1. Productivity development and dispersion

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<sup>1</sup> The Austrian Productivity Board has been included in some of the project activities, such as the 1<sup>st</sup> workshop, already before the official approval. The inclusion of the Austrian NPB into the MULTIMSPROD project was therefore without further changes to the project realization.

2. Firm competitiveness
3. Reallocation and business dynamism in times of crises
4. Energy price shocks, energy usage and firm performance
5. Liquidity constraints and SMEs
6. Firm concentration and market power

Whenever possible, the research projects include an analysis of firm performance during the Covid-19 crisis. Parts of the analyses will be made publicly available as deliverable **D3.3 CompNet Productivity Report** the second week of June of 2023.

**Replication files** for the analyses presented at the 1<sup>st</sup> workshop in Lisbon have been made publicly available via github. This repository has been extended with replication files for the analyses conducted in the productivity report and during the 2<sup>nd</sup> workshop. The code base is accessible to all CompNet users including the productivity boards here: [Secretariat-CompNet/Replication-Packages \(github.com\)](https://github.com/Secretariat-CompNet/Replication-Packages)

The **microdata infrastructure (MDI)** setup has progressed significantly. Data access contracts have been signed with the Slovenian NSO (SURSTAT) and the harmonized datasets are prepared by the Portuguese NSO, soon to be followed by the German NSO (Destatis). Besides, the process of data access in cooperation with STAT AT and the Austrian-Micro-Data Center (AMDC) has also been initiated. The Slovakian and Latvian productivity board are exploring options with their respective statistical offices.

There have been general efforts to span the network beyond the participating countries. The data are being setup by the Finnish NSO in cooperation with ETLA. Moreover, we are making efforts to start a collaboration with the UK productivity institute for accessing the UK firm level from ONS.

## 2.1 Deliverables

*Content: listing and description of the completed deliverables so far:*

**D1.1 Project Website** has been submitted. The project website can be accessed via the CompNet website and includes an overview of the project content, information on the project team, data products and training. The news section will provide updates on recent developments. The website can be found here: [CompNet \(comp-net.org\)](https://comp-net.org). All deliverables associated with the TSI can be accessed through this website. The website has now been reviewed by DG-Reform and updated based on recommendations. See Appendix F. NOTE: This website continues to be updated to reflect the ongoing work and deliverables of the TSI Grant.

**D2.1 Quality Report** provides a first comparison of CompNet aggregates for the TSI participating countries against “official” statistics of the Structural Business Statistics published by Eurostat (as well as the OECD). The aim of this report is to make transparent reasons for differences between the CompNet aggregates and official statistics and highlight features of the CompNet data users should be aware of. NOTE: These reports will be extended to additional countries in particular Austria and other non TSI countries.

**D3.1 General training on data handling** has been submitted. It entails self-guided training programs on various levels (beginners, intermediate, soon: advanced) including presentations, data, code, and exercises on the 8<sup>th</sup> vintage CompNet data and is available on the CompNet website. In addition, in-person training on a more advanced level will be designed to match the requirements of the NPBs and their research project once applicable. See Appendix H. NOTE: The Training programs have been updated based on CompNet V9 now available to productivity boards and data users more broadly.

**D2.2 Data access toolkit** has been partly submitted. Data visualizations in the form of a point-and-click tool featuring seven core variables of the CompNet dataset are available on the CompNet website. Expansion of the visualizations are planned in accordance with user needs. See Appendix G. In addition, an easy-to-use dataset is now available called the CompNet reduced dataset. This dataset provides quick access to key CompNet variables (including productivity and employment) in an easy-to-use manner. It is meant as an easy introduction to the more complex CompNet data. NOTE: This is in the process of being updated using CompNet V9 now available to productivity boards.

**D2.4 Replications Packages** are published on github. The repository stores a selection of codes used by the CompNet team to generate descriptive statistics and figures using the CompNet data. Codes were generated using STATA or R. The repository features codes, auxiliary data and respective outputs grouped in subfolders. The replication packages are updated and expanded regularly. NOTE: The replication packages have been updated to reflect ongoing research work with the NPBs and the productivity report.

Two workshops were held:

**D2.5 Workshop 1 (Lisbon)** took place on the 3<sup>rd</sup> of February 2023. Documentation for this workshop can be found here: [Workshop Lisbon 24.02.2023 - OneDrive \(live.com\)](#)

**D2.6 Workshop 2 (Halle)** took place in Halle on June 23<sup>rd</sup>. The workshops brought together participants from the productivity boards, statistical offices and the IWH team. We discussed possible research topics of interest to the productivity boards and showcased related analyses using the CompNet and MDI data. Presentations, minutes, and a participant list are provided as part of his deliverable here: [Workshop Halle 23.06.2023 - OneDrive \(live.com\)](#).

### 3. Country specific progress: Deliverable D2.3.

*Content: Description of the specific situation of the TSI program in each country. Country section cover the following aspects:*

- *Description of the cooperation between NPBs, NSIs, CompNet Team and others (e.g., which of the former we work together, how is cooperation between them etc.)*
- *Summary of all the meetings held*
- *Status of the current MDI set-up/data access*
- *Progress on research ideas projects*
- *Other country-specific circumstances.*

#### 3.1 France

**Collaboration with NPB** The French productivity board is involved in a research project on energy use together with the German PB. The aim of the project is to study the impact of the increase in the energy bill on industrial production, investment and the profit margin of manufacturing companies using both the French and German energy use data available in the MDI database. The research aims to first understand trends in energy efficiency, energy intensity and energy mix over time and across the firm distribution, as well as the elasticity of substitution of energy sources over time. In terms of the latter, we want to understand 1) the susceptibility of firms to energy price shocks and which channels they respond to, and 2) investigate whether there has been a shift towards greener energy sources in electricity production at the firm-level, and compare this to electricity production at the national level. Second, we want to assess the importance of creative destruction for green transition, by comparing the elasticity of substitution between fossil fuels and green energy sources at both the firm- and national-level as to determine if within- or between-firm changes are driving it (i.e. firms

becoming more sustainable in their energy mix or firm exit/entry and/or changes in market shares driving the change). Comparing the two measures can give a sense of the relative importance of the two channels to achieve a sustainable energy mix at the country level.

The NPB is involved in regular meetings to ensure project progress. The work in this project and the related expansion of the MDI database by energy use data will be described in detail in deliverable

**D2.3 Extended MDI.** As part of the project, we added a member of the French productivity board to our data access contract to the French data.

**MDI progress** The MDI database has been expanded by product level data and data on energy usage. Especially the latter dataset will be harmonized and used in the research project on energy use in collaboration with the French and German NPB.

### 3.2 Germany

**Collaboration with NPB** The German NPB is involved in research project on energy use with French PB using the MDI database (see above). The NPB is involved in regular meetings to ensure project progress. The work in this project and the related expansion of the MDI database by energy use data will be described in detail in deliverable **D2.3 Extended MDI.**

**MDI progress** The German statistical office has appointed a person starting June 2023 to assist in the data collection and preparation for the MDI and CompNet. A kick-off meeting was held beginning of June. Current activities include the selection and collection of datasets, and setting up a timeline in cooperation with the NPB.

### 3.3 Latvia

**Collaboration with NPB MDI progress** The Latvian productivity board is in negotiations with the NSO for providing the data and access to the data. CompNet shared the MDI datasets and related metadata to the Central Statistical Bureau of Latvia. Based on this list, the CSB will calculate the costs involved and the Latvian Ministry of Economics will decide on whether to provide financing. The work in this project and the related expansion of the MDI database by energy use data will be described in detail in deliverable **D2.3 Extended MDI.**

### 3.4 Portugal

**Collaboration with NPB** The Portuguese NPB is involved in a joint research project on building the Enterprise Competitiveness Indicator on CompNet data. The indicator is a composite index encompassing several dimensions of firm performance and has already been computed by the Portuguese team in the past on different datasets. The goal is to rank European countries in terms of their firms' competitiveness. Also, the indicator allows to track how competitiveness develops in Europe over time. Last, the project aims to assess the explanatory power of the indicator vis-à-vis conventional measures of external performance, e.g., export market shares. The project is being carried out under supervision of senior staff at the Bank of Portugal. Also, NPB staff communicated to have completed the training.

**MDI progress** The Portuguese statistical office is setting up the MDI database in incremental steps until end of 2023. Business registers, firm performance statistics and technology use surveys will be made available until end of July 2023, data on energy use, product-level statistics and innovation surveys until end of October 2023. Foreign trade and affiliate statistics as well as business demography information will be added until the end of the year. Data access will be either on-site or via remote execution of sent codes. The work in this project and the related expansion of the MDI database by energy use data will be described in detail in deliverable **D2.3 Extended MDI.**

### 3.5 Slovakia

**Collaboration with NPB** The Slovakian productivity board is involved in a joint research project on credit constraints of SMEs. More specifically, the project aims to investigate the role of credit on the development of small and young firms. So far, the analysis includes preliminary descriptive statistics using the micro-aggregated CompNet data, which are presented in the **D3.3 Productivity Report**. A microdata sample has been provided by the NPB to be used in following months. Since February 2023, the NPB and CompNet team have met on a monthly basis.

**MDI progress** The Slovakian productivity board is in negotiations with the Slovakian statistical office for setting up the database and establishing data access. However, the NPB's assessment is that the statistical office cannot provide the data in time, which is why the NPB explores alternative firm-level data sources to construct the MDI database. The CompNet team has sent the list of MDI datasets and variables, and relevant metadata, in order to fit the Slovakian data into the MDI framework. The work in this project and the related expansion of the MDI database by energy use data will be described in detail in deliverable **D2.3 Extended MDI**.

### 3.6 Slovenia

**Collaboration with NPB** The Slovenian NPB is involved in a joint research project on "The Productivity Gap between Frontier & Laggard Firms". Preliminary descriptive analysis has been done using micro-aggregated CompNet data. The short-term output goal is to use CompNet data for a policy brief benchmarking Slovenian frontier and laggard firms against those in the EU and explaining the forces behind productivity convergence in Slovenia. The longer-term goal is to use the MDI data to replicate the analysis at the firm-level and to compare the findings with other EU countries for which MDI is available.

**MDI progress** We have established access to the Slovenian statistical offices' data jointly with the Slovenian productivity board. Data access contracts are signed and the raw datasets are made available to us. Next steps include the harmonization of the Slovenian data to match the MDI blueprint. The work in this project and the related expansion of the MDI database by energy use data will be described in detail in deliverable **D2.3 Extended MDI**.

## 4. Outlook

*Content: Outlook on the next milestones and steps ahead (particular on the horizon until the next progress report)*

**D3.3 CompNet Productivity Report** is close to submission and includes a selection of analyses conducted in collaboration with the productivity boards. Specifically, the report addresses the six identified research areas using the 9<sup>th</sup> vintage CompNet data but also combining it with external data sources such as the OECD Employment Protection Legislation (EPL) database or the World Input-Output Database Environmental Accounts (WIOD). The report poses a guidance to the productivity boards on how to exploit the rich CompNet data and can serve as a basis for further research according to the PBs' needs.

A third workshop (D2.7 Workshop III) is scheduled for February 2024 is yet to be established.

**D2.9 Annual (CompNet) Conference** will be held in Brussels in October of 2023. The program is in process of being finalized.

The MDI setup is under way in most of the participating countries. Once the data access is established, the IWH/CompNet team will harmonize the data in close collaboration with the

respective productivity boards and statistical offices. The efforts will be documented in D2.3 Extended MDI.

**D3.2 Special Training in Policy Application.** Having heard from the NPBs we are now planning a special training on productivity estimation.