DMP title

Project Name FWO Technology And Employment - DMP title
Project Identifier DMP G0B7422N
Grant Title G0B7422N
Principal Investigator / Researcher Stijn Vanormelingen
Description The impact of technological progress, such as advancements in information and communication technology (ICT), robots and artificial intelligence is at the heart of the current policy and academic debate. This project will construct a novel and unique database including firm level measures of both robotics and ICT. By doing so, the project will contribute to the ongoing debate in three different ways. First, we will look at the firm level origins of aggregate employment changes, specifically making a distinction between firms that have been adopting new technologies such as ICT and robotics. Second, we look at the firm level impact of the introduction of new technologies, contrasting the impact of ICT with the impact of robotics on firm level employment. We will also be able to shed the first light on how robot adoption impacts employment through outsourced inputs. Third, we will merge our firm level data on robot and ICT adoption with worker level data and determine the contribution of these technologies on the fortunes of individual workers.
Institution KU Leuven

1. General Information

Name applicant
Stijn Vanormelingen

FWO Project Number & Title
G0B7422N The impact of technological progress on the labor market: micro level evidence.

Affiliation

- KU Leuven

2. Data description

Will you generate/collect new data and/or make use of existing data?

- Reuse existing data

Describe in detail the origin, type and format of the data (per dataset) and its (estimated) volume. This may be easiest in a table (see example) or as a data flow and per WP or objective of the project. If you reuse existing data, specify the source of these data. Distinguish data types (the kind of content) from data formats (the technical format).

Dataset	Origin of Data	Type of Data	File Format	Volume
Firm ICT Data	Administrative Data: data extracted from B2B database at National Bank of Belgium (B2B database itself is proprietary and can not be accessed outside of the NBB)	numerical	.dta (stata database)	500MB
Firm Robot Data	Administrative Data: data extracted from B2B database at National Bank of Belgium (B2B database itself is proprietary and can not be accessed outside of the NBB)	numerical	.dta (stata database)	500MB
Annual Accounts Database	Administrative Data: data on annual accounts of all Belgian firms, either obtained from Belfirst database or from NBB	numerical	.dta	10GB
Employee Level Data	Administrative Data: from social security services. Can not be accessed outside of the premises of the Social Security Office	numerical	?	10GB

3. Legal and ethical issues

Will you use personal data? If so, shortly describe the kind of personal data you will use. Add the reference to your file in KU Leuven's Register of Data Processing for Research and Public Service Purposes (PRET application). Be aware that registering the fact that you process personal data is a legal obligation.

- Yes

We are planning to use employee level data from the Social Security Services. We will file an application in the third year of the project. We will not store this data ourself but can only access it at the premises of the Social Security

Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? If so, add the reference to the formal approval by the relevant ethical review committee(s)

- No

Does your work possibly result in research data with potential for tech transfer and valorisation? Will IP restrictions be claimed for the data you created? If so, for what data and which restrictions will be asserted?

- No

Do existing 3rd party agreements restrict dissemination or exploitation of the data you (re)use? If so, to what data do they relate and what restrictions are in place?

- No

4. Documentation and metadata

What documentation will be provided to enable reuse of the data collected/generated in this project?

We will store all code to go from the raw data (which can be obtained from the NBB or accessed at the NBB) to the results of the papers. A readme file will also be included to show which code needs to be run to obtain which result. This way, a researcher who has access to the data sets can easily replicate our results.

Will a metadata standard be used? If so, describe in detail which standard will be used. If no, state in detail which metadata will be created to make the data easy/easier to find and reuse.

- No

The code together with the readme file will provide the necessary information.

5. Data storage and backup during the FWO project

Where will the data be stored?

The raw datasets will be stored at the servers of the NBB or Social Security Services as they can only accessed over there. Parts of the NBB datasets that can be taken outside of the bank will be stored on personal devices (with online backup)

How is backup of the data provided?

Datasets that can be taken outside of the NBB or Social Security Servers will be stored on personal devices with online backups (either with SugarSync or Dropbox)

Is there currently sufficient storage & backup capacity during the project? If yes, specify concisely. If no or insufficient storage or backup capacities are available then explain how this will be taken care of.

- Yes

There is enough storage capacity on the personal devices and online backup systems.

What are the expected costs for data storage and back up during the project? How will these costs be covered?

SugarSync: around 250€ per year, covered through FWO funding.

Data security: how will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

Passwords on personal devices. (no sensitive data will be stored on the personal devices, these remain at the NBB or Social Security who have their own safety procedures)

6. Data preservation after the FWO project

Which data will be retained for the expected 5 year period after the end of the project? In case only a selection of the data can/will be preserved, clearly state the reasons for this (legal or contractual restrictions, physical preservation issues, ...).

All programs and code will be retained. Datasets that can leave the NBB will also be retained. The NBB is also expected to retain the raw data sets.

Where will the data be archived (= stored for the longer term)?

All programs, code and data sets that can leave the NBB will be stored on the servers of the Faculty of Business and Economics (X-drive)

What are the expected costs for data preservation during the retention period of 5 years? How will the costs be covered?

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7. Data sharing and reuse

Are there any factors restricting or preventing the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)?

- Yes. Specify:

The data were obtained from the NBB/Social Security and can not be shared/accessed beyond the project collaborators

Which data will be made available after the end of the project?

Programs and code. Parts or derivatives of the raw data that can be shared under the NBB data policy (mostly more aggregated data)

Where/how will the data be made available for reuse?

- In an Open Access repository

Code and programs will be shared on KU Leuven RDR. Also data that can be shared under NBB data policy will be shared on KU Leuven RDR

When will the data be made available?

- Upon publication of the research results

Who will be able to access the data and under what conditions?
Everybody can access the code/programs/data

What are the expected costs for data sharing? How will the costs be covered?
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8. Responsibilities

Who will be responsible for data documentation & metadata?
Stijn Vanormelingen

Who will be responsible for data storage & back up during the project?
Stijn Vanormelingen

Who will be responsible for ensuring data preservation and reuse ?
Stijn Vanormelingen

Who bears the end responsibility for updating & implementing this DMP?
The PI bears the end responsibility of updating & implementing this DMP.