



John Rand | 30 November 2017, Pretoria

## **Southern Africa – Towards Inclusive Economic Growth (SA-TIED)**

Work stream 1:

Enterprise development for job creation and growth

# Team

**UNU-WIDER:** John Rand, Carol Newman

**NATIONAL TREASURY:** Duncan Pieterse

# Brief summary of WS1

- Understanding the opportunities and constraints to private sector development and productivity growth is key for the design of effective policies for job creation and economic growth more broadly.
- Deeper understanding of the functioning (economic complexity) of the private sector in SA and the mechanisms through which government private sector policies affect firm-level productivity and job creation.
- Overall objectives:
  - Update and expand the tax administrative and other micro-data available in South Africa for use by researchers.
  - Engage in, and support, policy relevant academic research that use these data sources.
  - Communicate the findings of the research to all stakeholders including the academic community, policy makers and civil society.
  - Build capacity within South Africa in the management and use of large micro-datasets for microeconomic research.

# WS1: Topics and expected outcomes

## Topics:

1. Changing the Burden of Taxation  
Lead: John Rand
2. The Effects of Innovator Mobility  
Lead: Carol Newman
3. Banks, the Allocation of Credit and Productivity  
Lead: Carol Newman
4. Spatial Mapping of Economic Activity  
Lead: Duncan Pieterse

## Expected Outcomes:

- 15 commissioned papers
- Two author's workshops
- One policy dialogue
- 15 policy briefs
- A suite of firm-level databases
- Increased capacity within NT and SARS for management of databases and engagement in research using tax administrative and micro data

# Capacity building of stakeholders and Communications and policy-bridging

- WS1 carried out in collaboration between UNU-WIDER researchers and NT staff (with a focus on junior staff)
  - Co-authorship of papers.
- WS1 accommodate three 6-month internships at NT.
  - RAs for the work stream leads.
- WS1 includes two open calls for papers.
  - Special consideration to junior and early-career researchers.
- PSA (post-doc) recruited to manage the SARS data
  - Work closely with researchers at NT to ensure that technical skills and knowledge become embodied institutionally at NT.
- WS1 incorporates two PhD candidates registered at a University in South Africa.
  - The PhD candidates will have the opportunity to spend time at either the UoC or TCD.
- WS1 author's workshops (target audience - technical staff of government institutions and the research community).
- WS1 policy dialogue (target audience - policy makers and civil society)
- WS1 working papers will be accompanied by a policy brief
- WS1 outputs will be posted to the SA-TIED website.



# Example: Learner and R&D incentives

- What is the impact of firm-level training initiatives on worker productivity and remuneration?
- Worker specific versus firm/task specific skills premium?

## Previous empirical studies

- Konings and Vanormelingen (RESTAT, 2015):
  - Increasing the proportion of trained workers in a firm leads to higher firm-level productivity.
  - Also leads to higher wages for workers this increase does not off-set the dynamic productivity gains to the firm.
- Levitt et al (JPE, 2013): Case study - Learning-by-doing in a large automobile assembly plant.
  - Most knowledge is not retained by workers - knowledge is embodied in the plant itself rather than the workers.
  - Suggest that firms should themselves invest in labor training (no externalities).
- Results very sector and context dependent – traditional versus innovation sectors

# Background/Model considerations

- Acemoglu and Pischke model: Labor mobility - employers willing to pay for training - workers outside options.
- Workers may themselves have to pay for training, if labor mobility and outside options are high.
- Employers still willing to pay if they have private information on their employees' abilities relative to other firms thereby creating ex post monopsony power (Acemoglu and Pischke, QJE, 1998, EJ, 1999a, JPE, 1999b)

## Should we intervene/subsidize training programs?

- Optimal design of incentives would ideally take into account whether it is **workers** or **firms** that eventually benefit most from the training.
- **Externalities:** Incentive policies may be seen as optimal if positive societal externalities (difficult to internalize by both firms and workers) are present.

# Data

- South Africa
- Tax administrative data - Focus on manufacturing firms
- 2009-2014
- Match the South African Corporate Income Tax (CIT) data PAYE tax data records – matched employer-employee data.
- Implies that we have information on each worker in each firm and we can map their mobility between firms from year to year.
- Allows us to identify workers that switch between firms - isolate those that switch from firms where they are exposed to incentives into firms where they are not.



# What WS1 will do

- Explore the impact of firm-level training initiatives on worker productivity and remuneration.
- Aim to understand whether exposure to incentives leads to new knowledge becoming embodied in the workers themselves.
- More specifically: Identification by comparing wages of workers that switch away from firms where they were exposed to the training to the wages of workers in the firm that they move to where they have not availed of the incentives (controlling for assortative matching - Abowd et al. (Econometrica, 1999)).
- To our knowledge this specific element (externality) of training programs have not been analyzed in the literature before (and at least not in South Africa 😊).

# Data overview

| Year  | % firms with switcher from firm with LI | % firms with no LI with switcher from firm with LI | % firms with switcher from firm with RDI | % firms with no RDI with switcher from firm with RDI |
|-------|---|--|--|--|
| 2009  | 4.92                                    | 4.92   | 3.83                                     | 3.28   |
| 2010  | 13.16                                   | 12.25  | 6.33                                     | 5.65   |
| 2011  | 18.34                                   | 17.24  | 8.55                                     | 7.77   |
| 2012  | 19.16                                   | 17.83  | 8.81                                     | 8.06   |
| 2013  | 20.79                                   | 19.37  | 8.58                                     | 8.09   |
| 2014  | 16.29                                   | 15.15  | 5.91                                     | 5.59   |
| Total | 17.63                                   | 16.45  | 7.72                                     | 7.11   |

**Main message:** A large proportion of workers are switching from firms where they have been exposed to the incentive into firms that do not have incentives.

**Idea:** Controlling for worker + firm characteristics + assortative matching; if these switchers experience a wage premium relative to other workers in the firm that they switch into, this provides evidence that the technology embodied in the incentives stays with the worker.

# Timeline

| Date/Month    | Activity/Output   |
|---------------|---|
| November 2017 | Recruitment of PSA  |
| November 2017 | Recruitment of intern for year 1  |
| November 2017 | Design and issue of first open call for papers                              |
| December 2017 | Decision on successful proposals for first open call for papers             |
| August 2018   | First draft of papers for topics 1 and 2                                    |
| August 2018   | First draft of papers from first open call                                  |
| August 2018   | Author's workshop   |
| November 2018 | Recruitment of intern for year 2  |
| November 2018 | Design and issue of second open call for papers                             |
| December 2018 | Decision on successful proposals for second open call                       |
| June 2019     | Final version of papers from topics 1 and 2                                 |
| June 2019     | Final version of papers from first open call                                |
| August 2019   | First draft of papers for topics 3 and 4                                    |
| August 2019   | First draft of papers from second open call                                 |
| August 2019   | Author's workshop   |
| October 2019  | Policy briefs from topics 1 and 2 and first open call for papers            |
| November 2019 | Recruitment of intern for year 3  |
| June 2020     | Final version of papers from topics 3 and 4 and second open call for papers |
| October 2020  | Policy briefs from topics 2 and 3 and second open call for papers           |
| November 2020 | Policy dialogue   |