

Weather Shock and Labor Supply in South Africa Analysis of Heterogeneous Gender Effects

MOTIVATION

- Labor supply adjustment could be an important strategy to mitigate the economic cost of weather shocks such as droughts and floods in countries where some populations do not have access to assets needed to adapt to climate change.
- Labor market participation is not gender-neutral because of social norms : unpaid domestic and care work

RESEARCH QUESTIONS

- What are the gender effects of labor supply response to drought shocks?
- How do gender-related social norms affect labor allocation in response to drought shocks?

METHODOLOGY & DATA

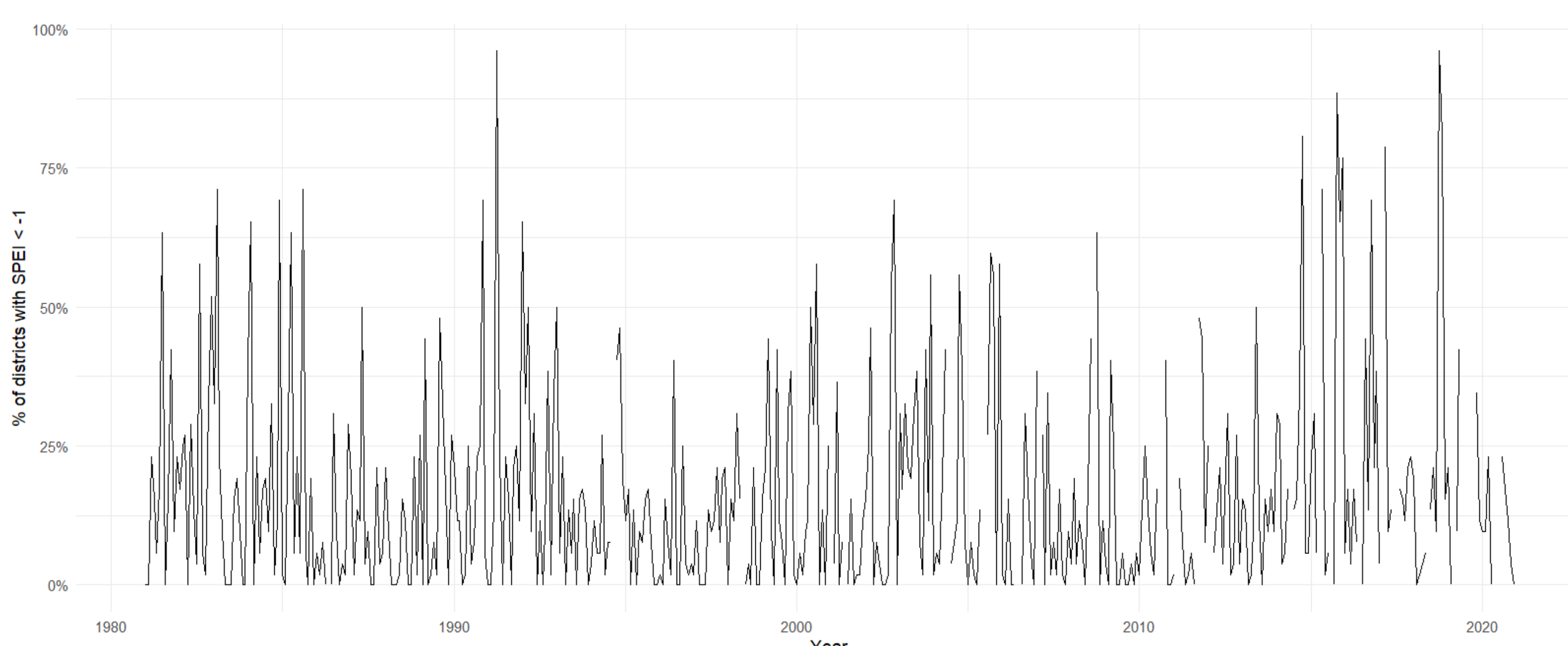
Econometric Model : Two-Ways Fixed Effects (TWFE)

Household survey : National Income Dynamics Study (NIDS)

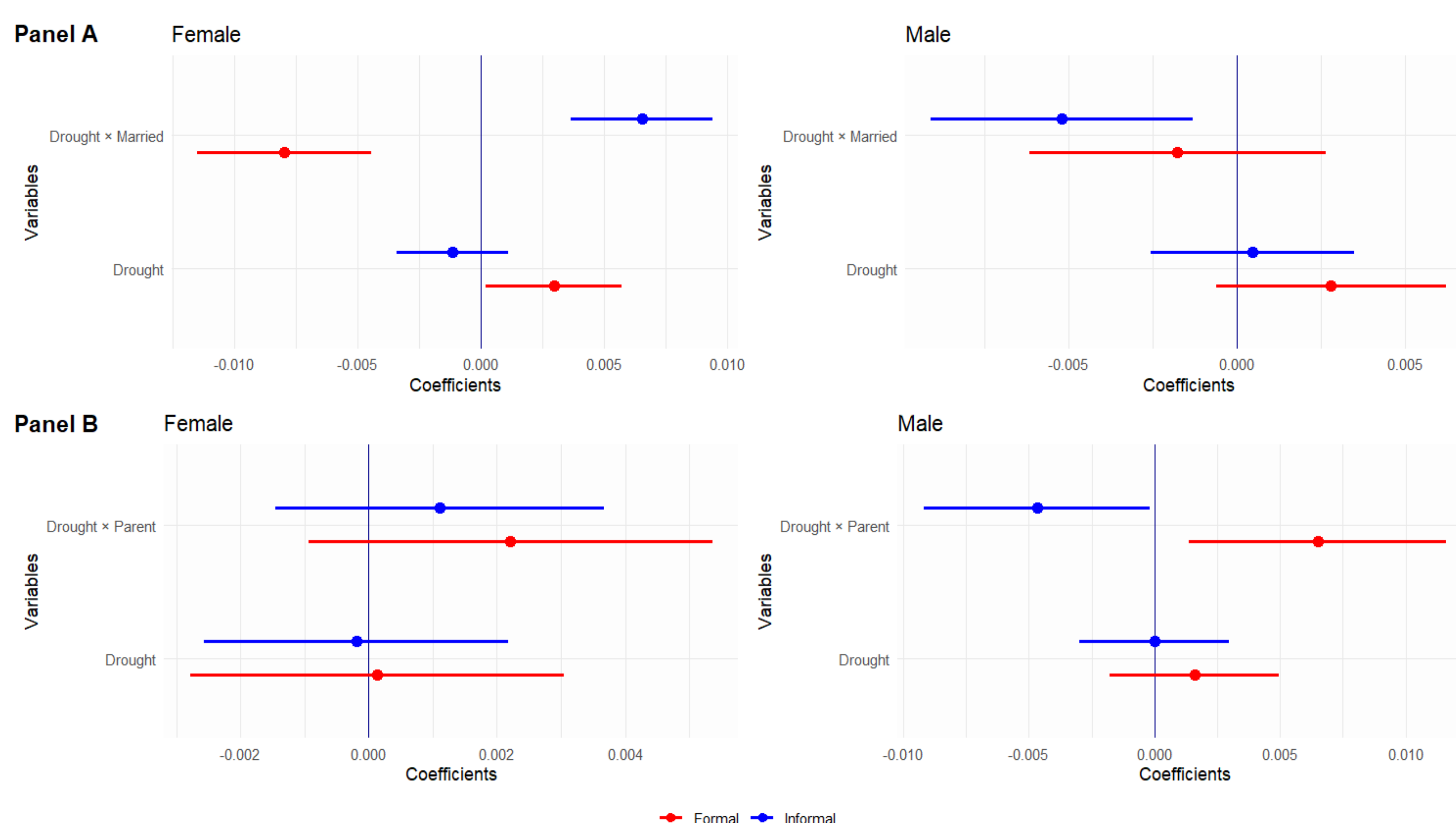
- Sample : 28,000 respondents in 7,300 households
- Period : 2008 – 2017 (5 waves)
- Working Age Population : 15-64
- Intensive margin : Average hours worked per week
- Extensive margin : Labor Force Participation

Climatic data : High-Resolution Standardized Precipitation Evapotranspiration Index 1 (HR-SPEI)

- Sources: Monthly precipitation from Climate Hazards Group InfraRed Precipitation with Station (CHIRPS) & Potential evaporation from the Global Land Evaporation Amsterdam Model (GLEAM)
- Spatial resolution : 0.05 degree
- Drought_{dm} = $\sum_{t=-12}^m D_{dm}$
Drought_{dm} measures the number of drought month in a district in the 12 months prior to NIDS surveys
- D_{dm} designates a drought month in a district ($D_{dm} = 1$ if HR-SPEI < - 1)



Drought Risk Exposure using SPEI 1



Heterogeneous effects of social factors costs on types of employment

KEY RESULTS

In response to drought shocks

- The probability of being in the labor force increases, with a gender-differentiated sectoral effect.
- Married women are more likely to work in the service and informal sectors, but less likely to work in formal and industrial sectors
- Lack access to sanitation reduces the likelihood of women being in the labor force.

SUPERVISORS

Hélène Maisonnave (EDEHN – Université Le Havre Normandie, Partnership for Economy Policy (PEP)),
Jean-Marc Montaud (TREE UMR 6031 – Université de Pau)

AUTHOR

Ibrahim KABORE (EDEHN – Université Le Havre Normandie, Climate Economics Chair)

CONTACT

Ibrahim.kabore@univ-lehavre.fr