



Evaluating the Aggregate Effects of Tax and Benefit Reforms

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Slovak Economic Association Meeting
Bratislava, 21-22 September 2018

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What is the paper about?

1. Evaluating the impact of abandoning the flat tax regime on (un)employment, wages and aggregate income in Slovakia
2. Introducing a novel way of **linking behavioural microsimulation with dynamic macroeconomic frameworks**

Outline

I. The method

- in the broader context of the incomplete markets (heterogeneous agent) literature
- in the context of the microsimulation-CGE literature

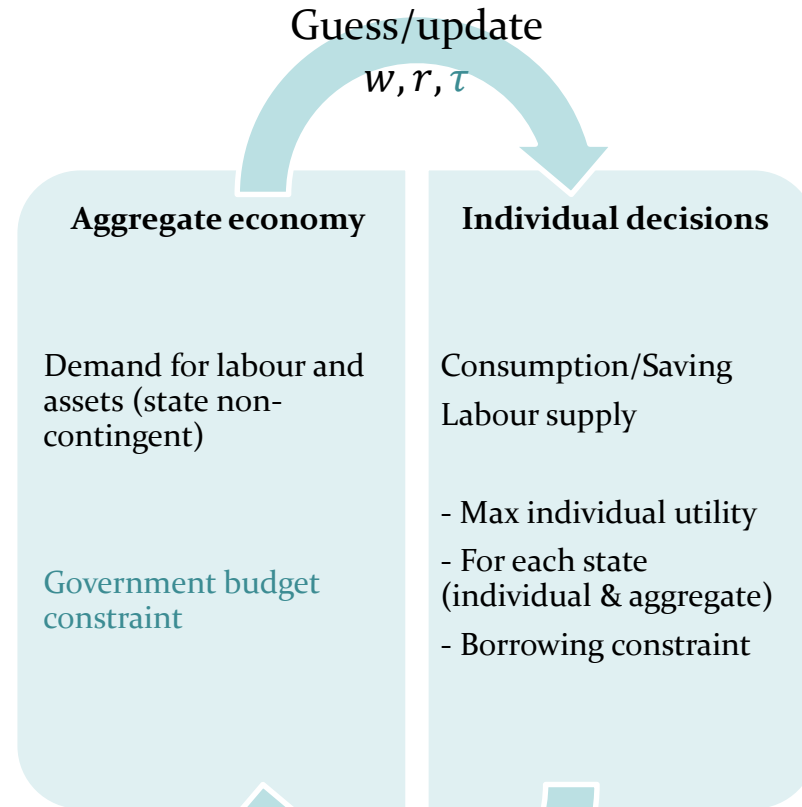
II. Application to hypothetical tax reforms in Slovakia

- Reversal to the pre-2004 tax system
- A “Piketty-style” system with high marginal rates for top earners

Part I

THE METHOD

Standard het-agent models



e.g. Diaz-Gimenez and Pijoan-Mas (2006), Holter et al. (2015)

- Obtain individual **decision rules** (approximated)
- Add **uncertainty**
- **Aggregate** to get supply of labour and assets and tax revenues or gov spending

Why do we need something else?

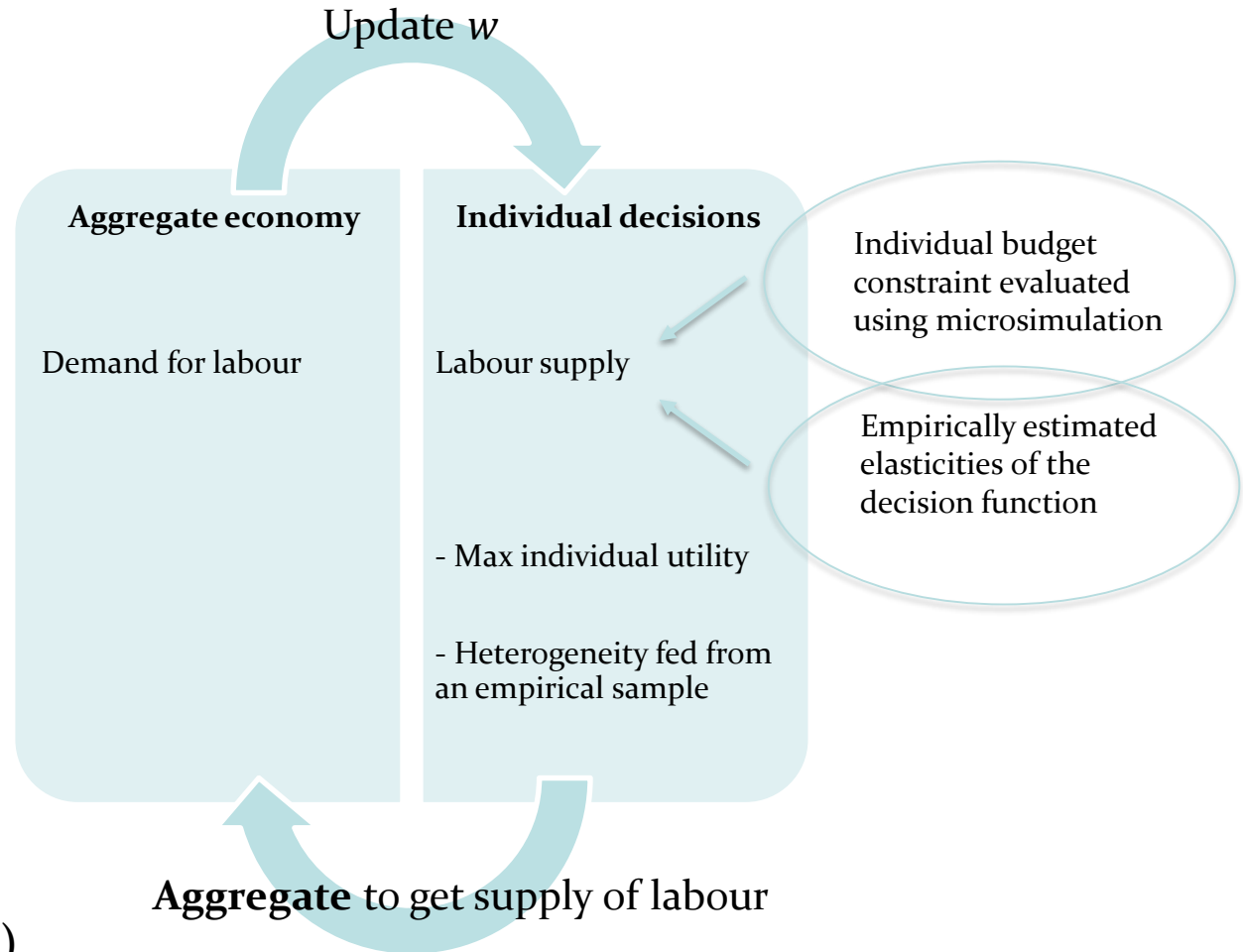
Evaluating realistic policy measures on a regular basis requires a tool that

- Captures national policy environment in **fine detail**
- Generates outcomes that provide a **good match with administrative data on aggregate in detailed categories**
- Evaluates the potential importance of **general equilibrium feedback effects at various time horizons** with relative ease

CGE-linked microsimulation

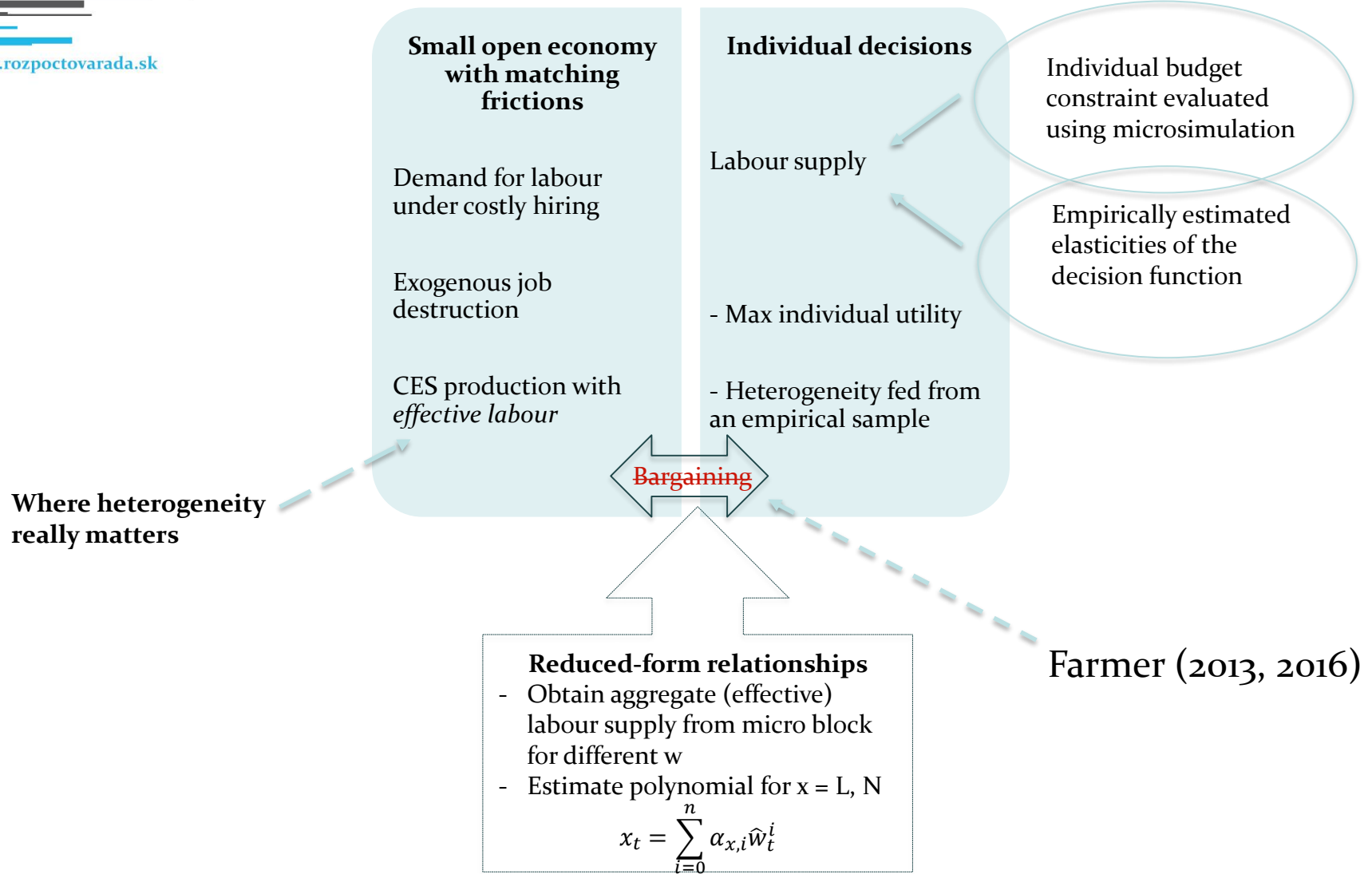
- Comes in different forms but has traditionally been **static**
 - Top-down (Bourguignon et al., 2005)
 - Bottom-up (Magnani and Mercenier, 2009)
 - Top-down/bottom-up (Savard, 2003)
- Barrios et al. (2017) an exception
 - EUROMOD microsimulation tool linked to QUEST (DSGE)
 - In the bottom-up tradition: using microsimulation to calibrate elasticities and effective tax rates
- Our approach
 - Origins in the top-down/bottom up tradition

“Top-down/bottom-up”



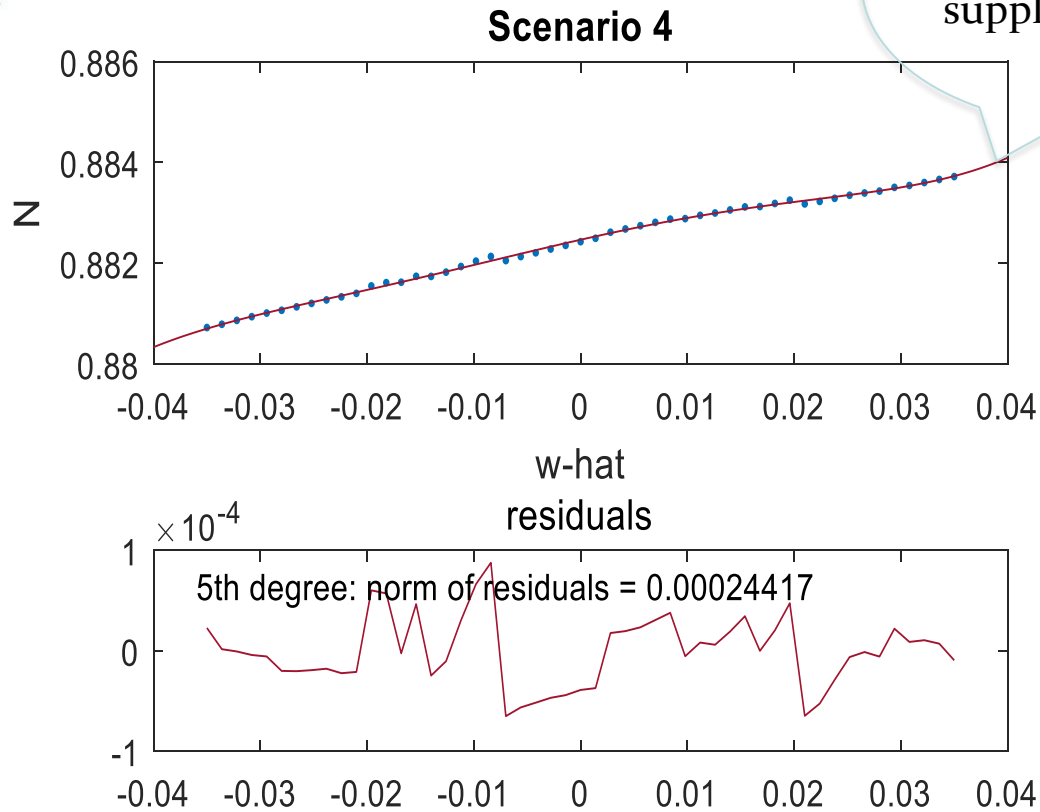
e.g. Benczur et al. (2018)

Our dynamic model



Reduced-form relationship (example)

Aggregate labour
supply schedule



Part II

APPLICATION

Hypothetical scenarios

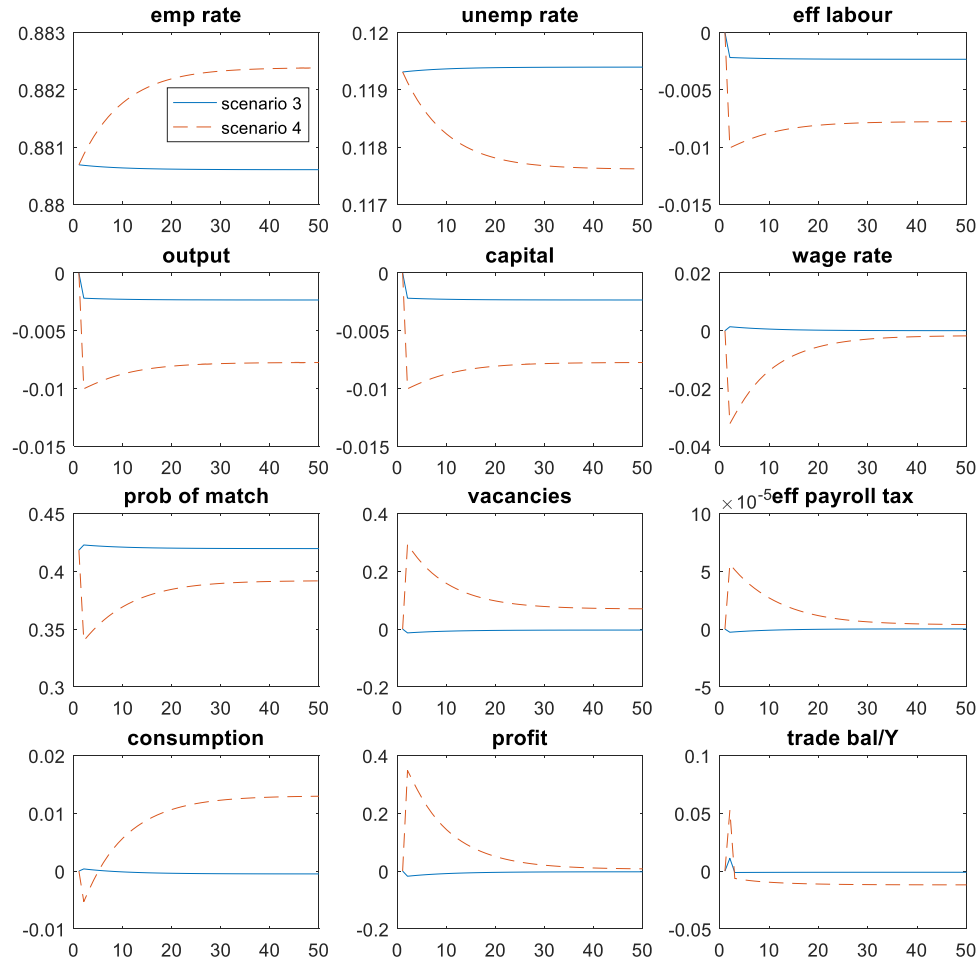
Scenario 3: Reversal back to pre-2004 tax system

- Five tax brackets with rates 10, 20, 28, 35 and 38 percent
- Thresholds updated by average nominal wage between 2003-2013
- Cancellation of the child tax credit
- Reduction in the basic tax allowance by 22 percent

Scenario 4: “Piketty-style” system

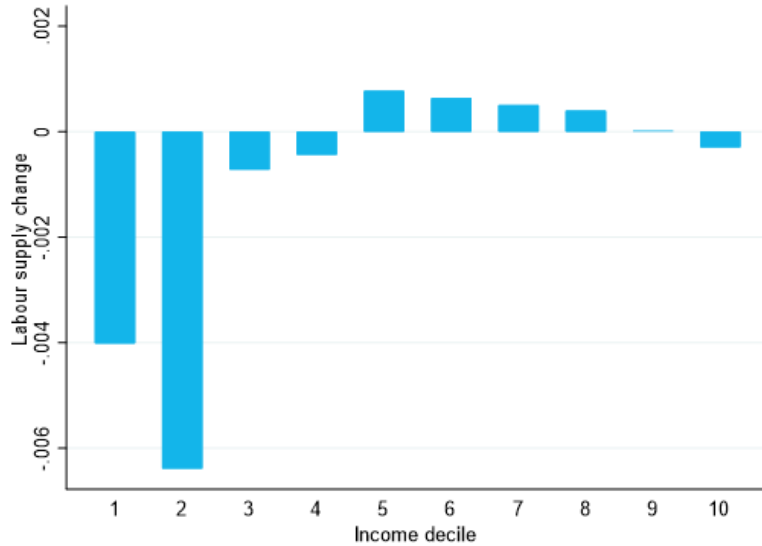
- Similar to Scenario 3
- Instead of the cuts in credits and allowances, *ceteris paribus* revenue neutrality ensured through higher tax rates
- Tax rates: 10, 30, 52, 55 and 60 percent.

Macro IRFs

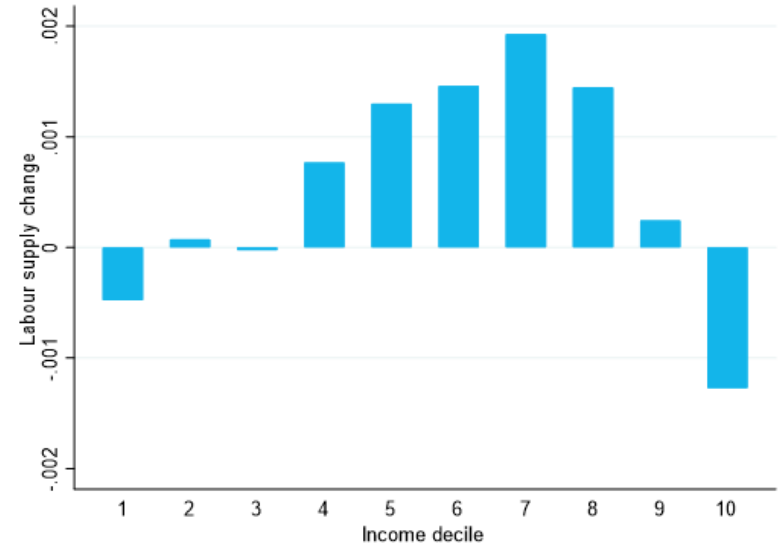


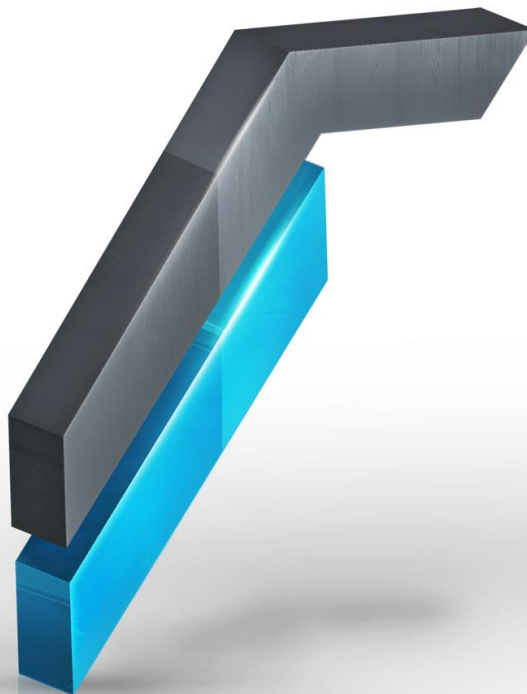
Long-run labour supply response

Scenario 3



Scenario 4





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Thank you for your attention