



20/05/2019

EUROMOD: Tax-benefit microsimulation for BELMOD

To inspire you (subtitle)

Outline

1. Tax-benefit microsimulation modelling
2. EUROMOD
3. EUROMOD in Belgium

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Microsimulation

= **wide variety of modelling techniques**

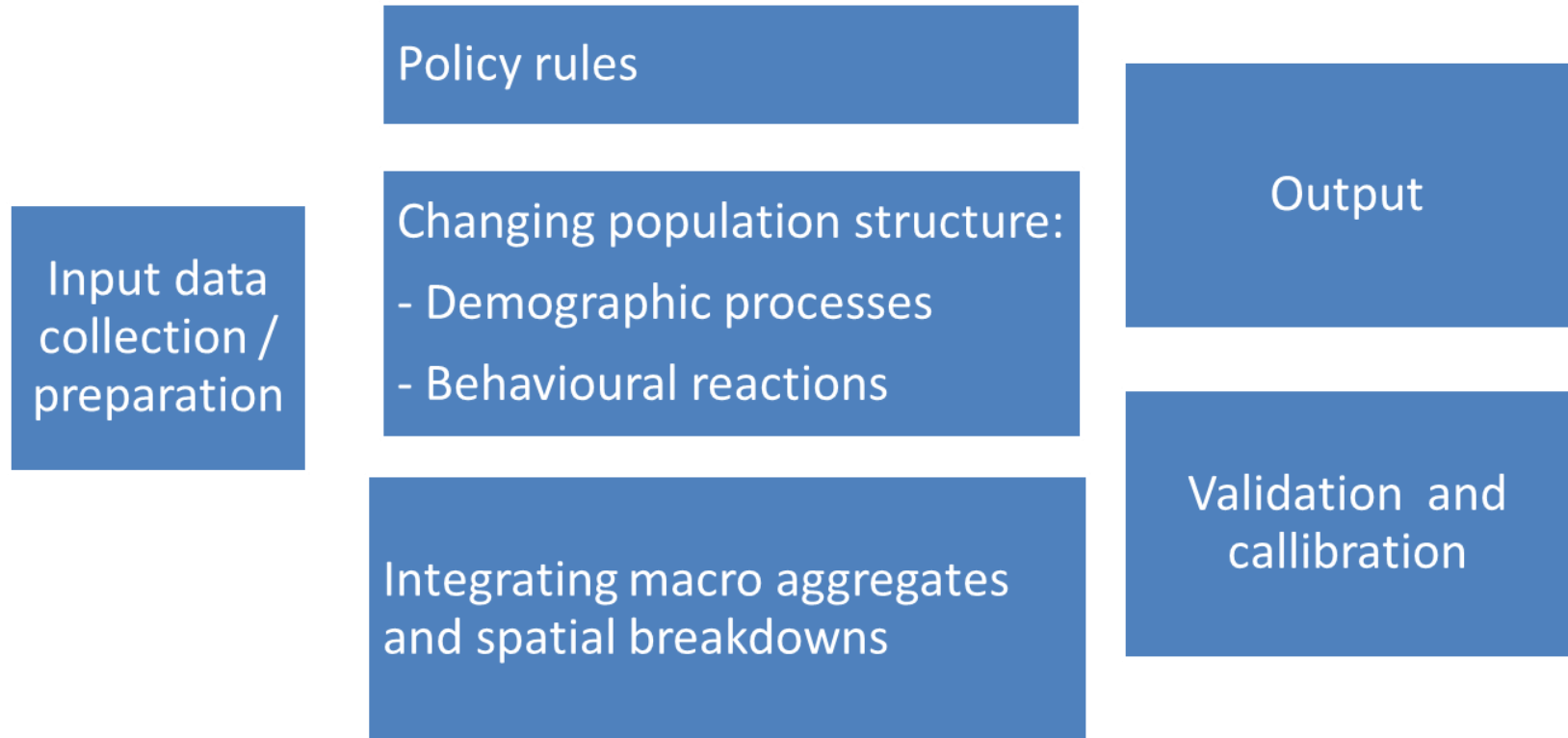
- **Micro**: using individual decision units (e.g. persons, households, firms)
- **Simulation**: application of a set of rules that may change the state or behaviour of these units
- Possibility to look quite precisely at aims of socio-economic policy, instruments applied and structural changes for those concerned
- “What if” questions

Tax-benefit models

Arithmetic:

- Simulation of taxes and benefits
- Using household micro-data:
 - Hypothetical Households or
 - Representative samples of population (administrative data or surveys)
- To measure impact on disposable income

Building a microsimulation model



Outline

1. Tax-benefit microsimulation modelling
2. **EUROMOD**
3. EUROMOD in Belgium

What is EUROMOD ?



“EUROMOD is a **tax-benefit microsimulation** model for the **European Union** that enables researchers and policy analysts to calculate, in a comparable manner, the **effects of taxes and benefits** on household **incomes** and **work incentives** for the population of **each country** and for the **EU** as a whole.”

(<https://www.euromod.ac.uk/about/what-is-euromod>)

What makes EUROMOD special?

1/2

- Tax-benefit model for the European Union (EU-28): unique
- Purpose built-software
 - Tax-benefit modelling “language”
 - User-friendly interface
 - Can provide simplified interfaces for non-expert users (e.g. Motyff)
 - Open access
 - Short cut to non-EU model building (South Africa, Namibia, Serbia, Russia, Australia etc.)

What makes EUROMOD special?

2/2

- Highly flexible and transparent
 - Facilitates comparability
 - Easy to simulate major reforms to policy structures
- Harmonised data
 - Standard input micro data: EU Statistics on Income and Living Conditions
 - Model family data (user-constructed)
- Library of policies
- Expert users can:
 - Link to labour supply or macro models, extend policy scope

20 years of EUROMOD

Milestones in the development of the tax-benefit microsimulation model for the European Union

1996

Core funding

1996 to 1997 EUROMOD preparatory study, funded by EC's FP4 Targeted Socio-Economic Research (TSER)

1998

Core funding

1998 to 2000 EUROMOD constructed for then EU-15 countries, funded by EC's FP4 TSER – EUROMOD: an integrated European benefit-tax model

1999

Notable events

Publication of the first EUROMOD working paper EMO/99 An Introduction to EUROMOD Sutherland, Immervoll, O'Donoghue

- Projects providing EUROMOD development funding
- First-time release of EU countries as part of EUROMOD
- First-time release of augmented national/regional models based on EUROMOD
- First-time release of non-EU EUROMOD 'spin-offs'
- Notable events

2001

Core funding

2001 to 2004 EUROMOD updated as part of EC FP5 research project – MICRESA (Micro analysis of the European Social Agenda)

EUROMOD releases

Belgium
Denmark
Germany
Ireland
Greece
Spain
France
Italy
Luxembourg
Netherlands
Austria
Portugal
Finland
Sweden
UK

2005

Core funding

2005 to 2008 FP6 project I-CUE (Improving the Capacity and Usability of EUROMOD) provided basis to extend to EU-25 and carried out the extension for four countries

2008

EUROMOD releases

Estonia
Hungary
Poland
Slovenia

2009

Core funding

2009 to 2015 EUROMOD's updating and development supported by DG-EMPL's European Union Programme for Employment and Social Security (PROGRESS)

Non-EU 'spin-offs'

SAMOD
South Africa

10,555

EUROMOD citations since 1997

166

Working papers since 1999

2010

EUROMOD releases

Czech Republic
Lithuania

Non-EU 'spin-offs'

SRMOD
Serbia

2012

EUROMOD releases

Bulgaria
Cyprus
Latvia
Malta
Romania
Slovakia

Augmented models

MEFISTO
Belgium (Flanders)

Non-EU 'spin-offs'

RUSMOD
Russia

Notable events

Publication of first *EUROMOD NEWS*

2013

Non-EU 'spin-offs'

MAKMOD
Macedonia

2014

Augmented models

TREMOM
Italy (Trento)

Non-EU 'spin-offs'

NAMOD
Namibia
ATM
Australia

2015

Augmented models

SORESI
Austria

2016

Core funding

EUROMOD funded by DG-EMPL via EU Programme for Employment and Social Innovation (EaSI)

EUROMOD releases

Croatia

Augmented models *Under development*

mICROmod
Croatia

Non-EU 'spin-offs' *Under development*

ECUAMOD
Ecuador
TAZMOD
Tanzania
MOZMOD
Mozambique
GHAMOD
Ghana
mICROZAMOD
Zambia
ETMOD
Ethiopia

Notable events

EUROMOD 20th Anniversary Conference

EUROMOD: ways it can be used

- Simulate current, future or potential tax-benefit rules
 - Distributive analysis
 - Budgetary effects
 - Indicators of work incentives (e.g. METR's)
- Complex policy reforms (e.g. revenue-neutral; national; EU-wide)
- Policy swaps (i.e. implement a policy from one country in another)
- EU-wide policy reforms
- Scenarios for changes in employment, income growth, household composition
- Tax evasion and non-take-up simulation/calibration
- Input in other analyses (labour supply models etc.)

Narrowing the gap between academic research and policymaking

EUROMOD is a tool for **both**

- Academic policy-relevant research and
- Analysis of the effects of policies with direct relevance to policy-makers

Built-in tool producing basic statistics

Training courses involve both communities

Annual release (latest December 2018) (model 1.0+; incl. HHoT)

Outline

1. Tax-benefit microsimulation modelling
2. EUROMOD
3. **EUROMOD in Belgium**

EUROMOD in Belgium

Close cooperation between a network of national experts in each member state and the Essex development team

National team Belgium:

KULeuven & UAntwerpen

Active in several

- Extensions
- Applications



EUROMOD in Belgium

Well-covered tax-benefit policies: personal income taxes; social insurance contributions, non-contributory social benefits

Extensions of EUROMOD : policy domains, input data, behavioural reactions

- FLEMOSI-project 2009-2013 (KULeuven, UA, VUB, Ulg, ISER):
 - Models MEFISTO & MOTYFF (webversions)
 - Pensions, indirect taxes, link with macromodel, demographoc ageing processes
- Wealth-related policies (CRESUS & EU-projects; UA & KULeuven)
- Indirect taxes (EU-projects; KULeuven)
- Climate change policies (SUSPENS: UAntwerpen, FPB)
- ...

EUROMOD in Belgium

Alternative input data:

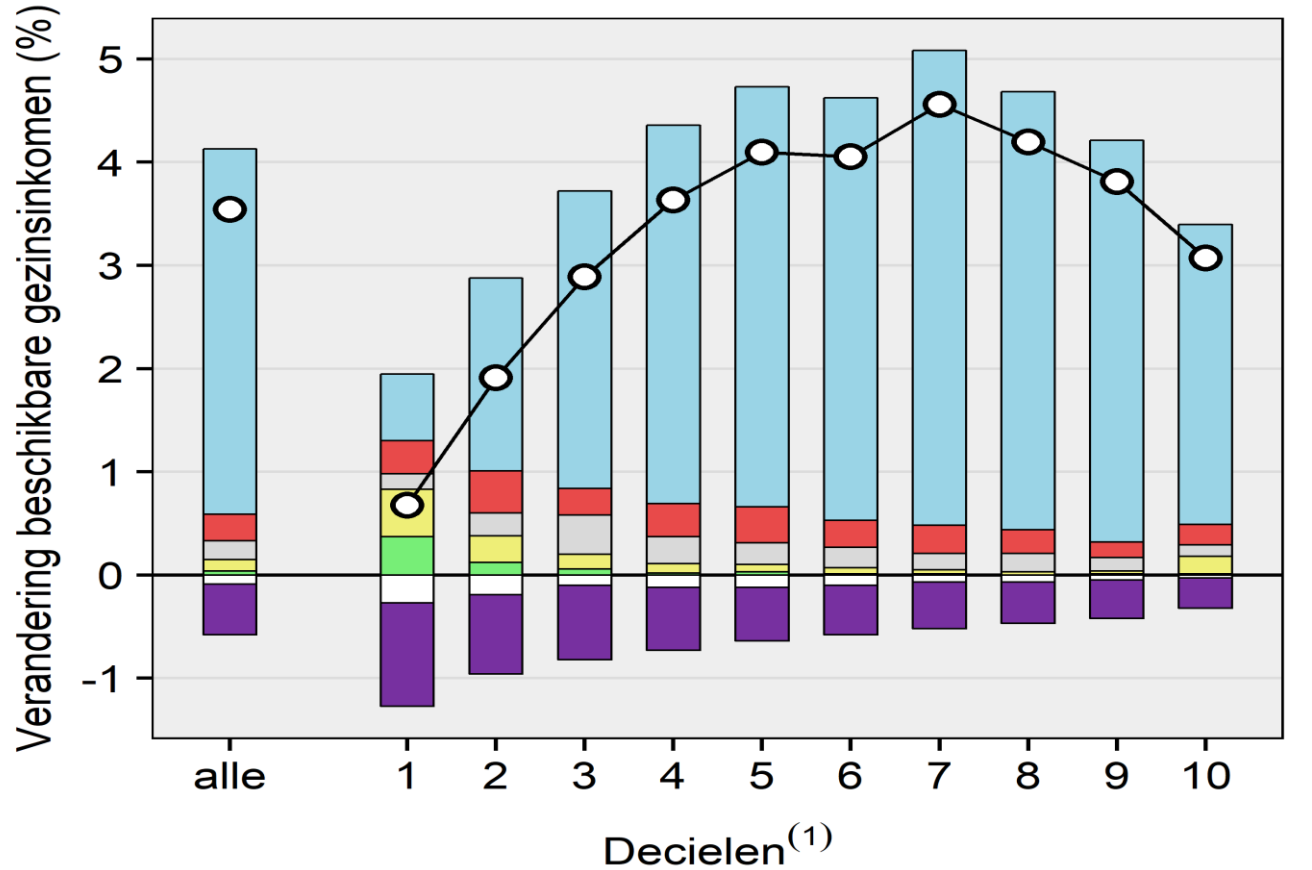
- HHoT (EU-projects; UAntwerpen, ISER)
- Household Finance & Consumption Survey (HFCS)
(Wealth-related policies)
- Household Budget Survey (Indirect Taxes; Climate change policies)
- Administrative data: Housing taxation in Flanders; Childbenefit data; ...
 - BELMOD

EUROMOD in Belgium

Applications:

- Personal income tax reforms;
- Distributive and labour supply effects of earned income tax credits;
- Estimating size of homeownership bias in income taxation;
- Evaluating child benefit reforms;
- Ex ante analysis of reform incapacity benefits for long-term illness;

Change in disposable income poor en rich Michel I, 2014-2020



○ Netto-groei

Personenbelasting

Soc. zekerheidsbijdragen

BTW en accijnzen

Pensioenen

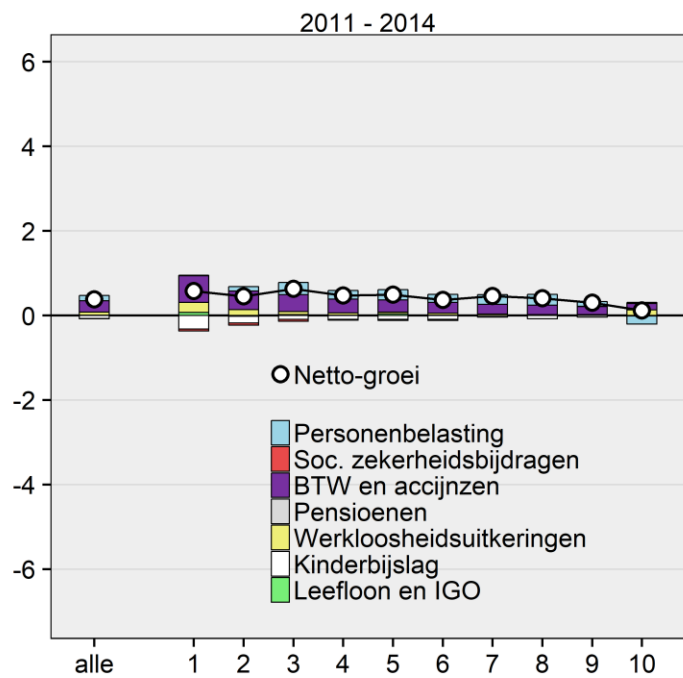
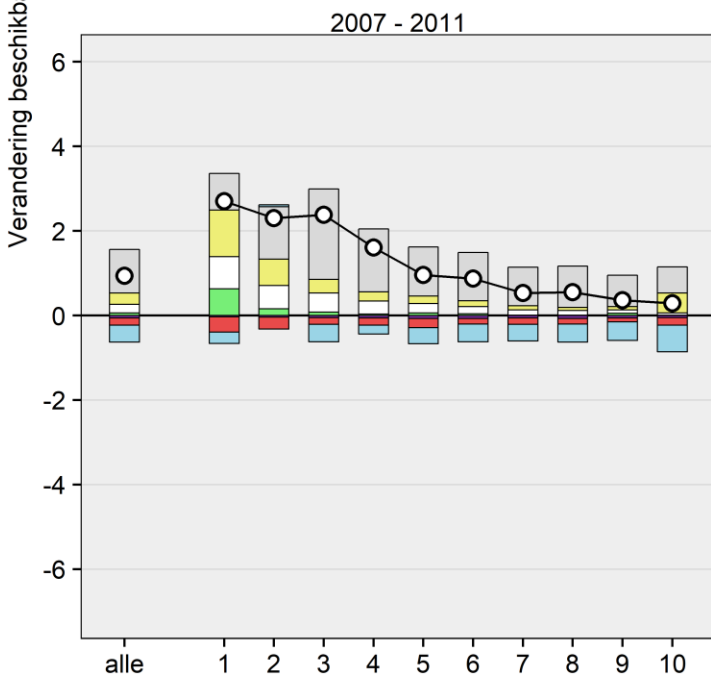
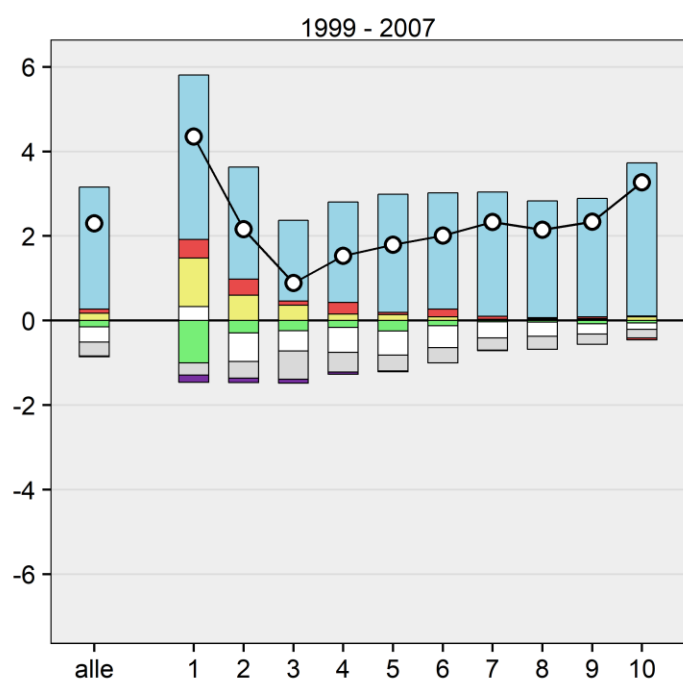
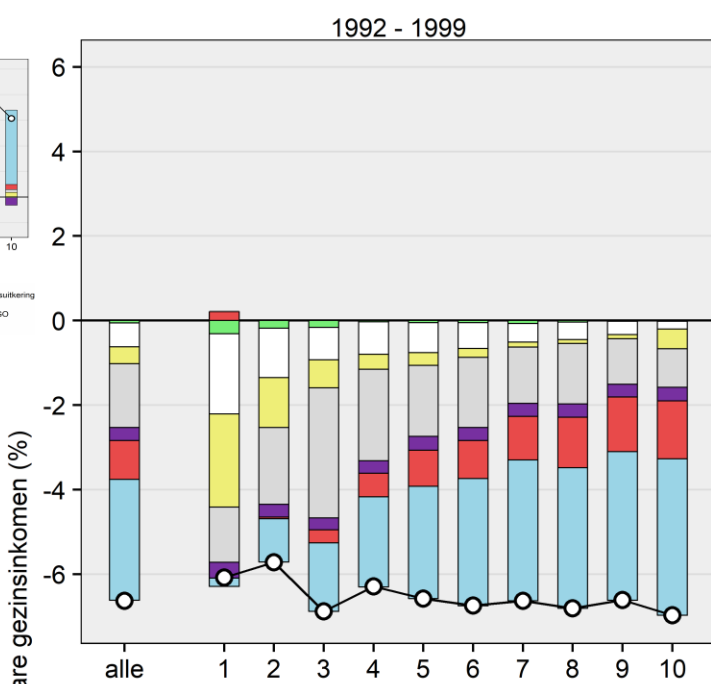
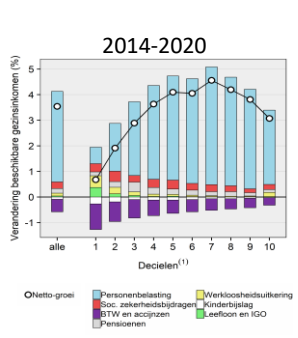
Werkloosheidsuitkering

Kinderbijslag

Leefloon en IGO

Source: Decoster et al., 2019

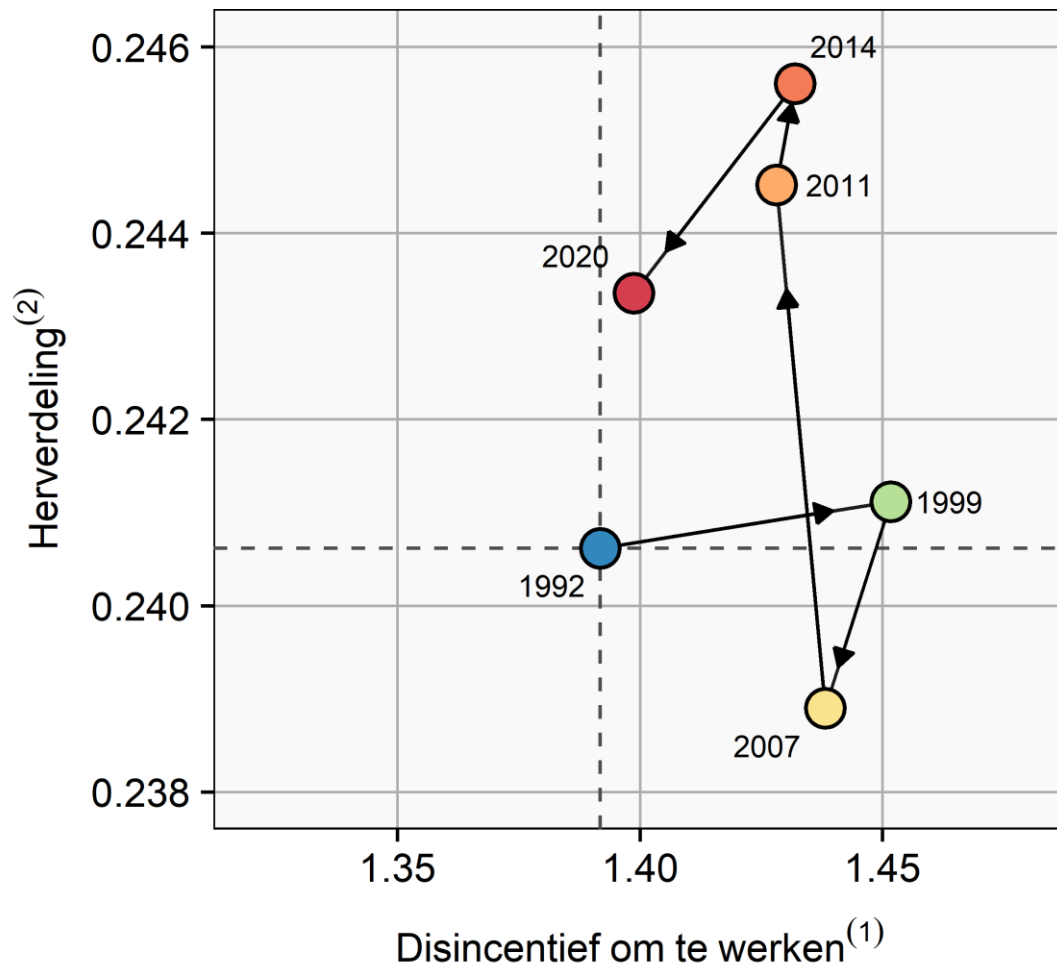




Decielen⁽¹⁾



Redistribution and disincentive to work



2014-2020: ↓ ↓ redistribution +
↑ ↑ work incentives

1992-1999: ↓ work incentives,
↑ redistribution

1999-2007: ↓ redistribution, ↑
work incentives

2007-2011: ↑ ↑ redistribution,
& ↑ work incentives

2011-2014: ↑ redistribution

(1) Calculated as marginal cost of public funds;

(2) Calculated as Reynolds-Smolensky index

