

# APPLICATIONS OF DANISH REGISTER DATA WITH A FOCUS ON THE LABOUR MARKET

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INSTITUT FOR ØKONOMI  
AARHUS UNIVERSITET

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# THEMES

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- Overview of data sources
- Applications as evaluator
- Applications as researcher
- Applications as government advisor

# DATA SOURCES – FOCUS ON LABOUR MARKET

- Data from Ministry of Employment
  - DREAM – weekly data on all recipients of public transfers (3 months lag)
  - Eindkomst – wage data on all individuals (3 months lag)
  - Data from RCTs and pilots
- Data from Statistics Denmark
  - Individual level data
  - Socieconomics characteristics; age, gender, education, family status, experience etc
  - Health and crime data
- All information can be merged by Statistics Denmark and accessed through Statistics Denmark

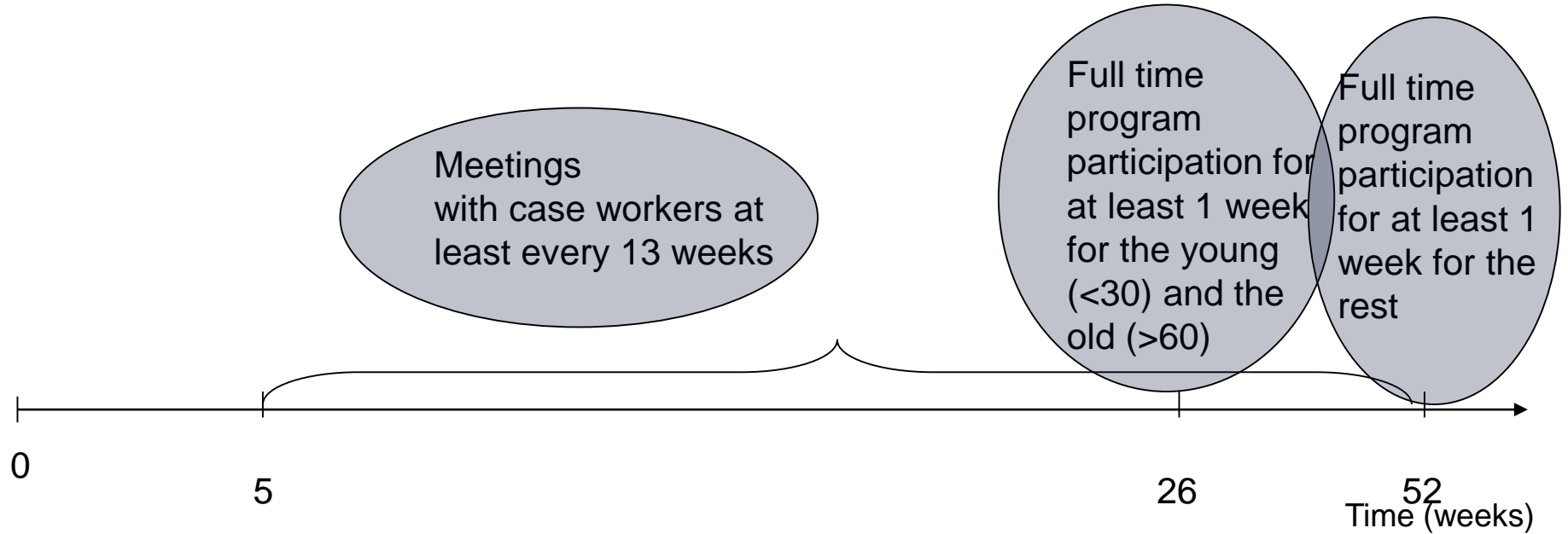
# APPLICATIONS AS EVALUATOR

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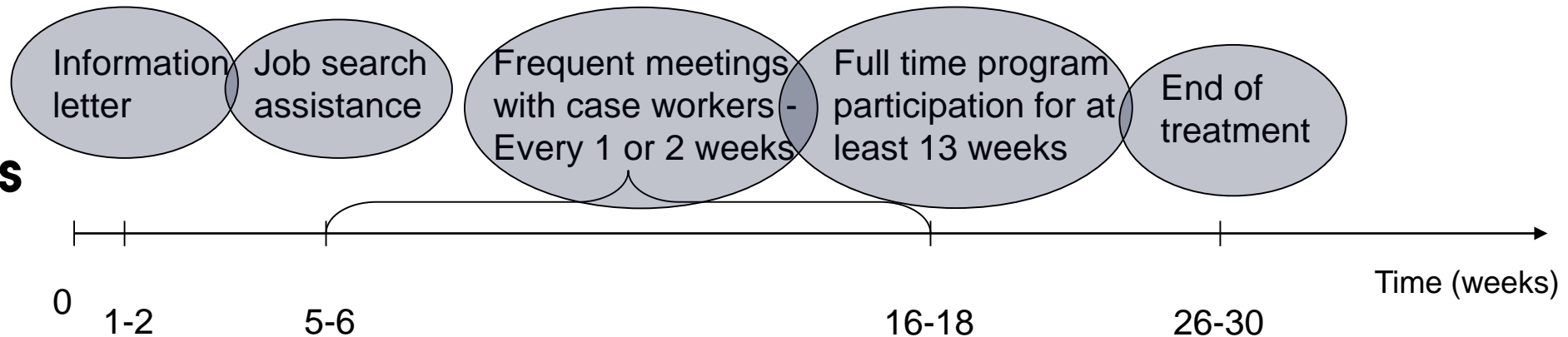
- Labour market policies in Denmark are often evidence based.
- Evidence is obtained either from the economics literature or through evaluations of RCTs, reforms or pilots.
- 12 RCTs since 2005
- First was **Quickly back to work** for newly unemployed UI recipients.

# EXAMPLE: QUICKLY BACK TO WORK

## Controls



## Treatments



# EXAMPLE: QUICKLY BACK TO WORK

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- Sample sizes T: 2500, C: 2500
- Randomisation: based on odd/even date of birth (not any more)
- Evaluated based on DREAM and RCT data
- Effect: unemployment duration reduced by approximately 3 weeks
- Affected labour market policy and supported further RCTs etc.

# APPLICATIONS AS A RESEARCHER

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- Researchers have an interest in unique data that can move the research frontier
- Access to up-to-date micro data enables researchers to address new topics
- Motivates researchers to collaborate with the political system and ministries
- Combining RCT and DREAM with register data from Statistics Denmark provide golden opportunities for subsequent research.

# RESEARCH BASED ON QBTW

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Graversen, B.K. and J.C. van Ours (2008), **How to help unemployed find jobs quickly; experimental evidence from a mandatory activation program**, *Journal of Public Economics*, 92, 2020-2035.

Graversen, B.K. and J.C. van Ours (2008), **Activating unemployed workers works; experimental evidence from Denmark**, *Economics Letters*, 100, 308-310.

Graversen, B.K. and J.C. van Ours (2011), **An activation program as a stick to job finding**, *Labour*, 25, 167-181.

Sørensen, K.L. (2017), **Active Labor Market Programs and Reservation Wages: It is a Hazard**, *Applied Economics Letters*, 24, 589-593.

Sørensen, K.L. (2017), **Heterogeneous Impacts on Earnings from an Early Effort in Labor Market Programs**. *Labour Economics*, 41, 266-279.



# RESEARCH E

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## Estimating Equilibrium Effects of Job Search Assistance

Pieter Gautier, *Vrije Universiteit Amsterdam and Tinbergen Institute*

Paul Muller, *Gothenburg University*

Bas van der Klaauw, *Vrije Universiteit Amsterdam  
and Tinbergen Institute*

Michael Rosholm, *Aarhus University*

Michael Svarer, *Aarhus University*

Identifying policy-relevant treatment effects from randomized experiments requires the absence of spillovers between participants and nonparticipants (SUTVA) or variation in observed treatment levels. We find that SUTVA is violated for a Danish activation program for unemployed workers. Using a difference-in-differences model, we show that nonparticipants in the experiment regions find jobs more slowly after the introduction of the program than workers

We thank Jean Marc Robin, Philipp Kircher, and Xiaoming Cai for useful comments, as well as seminar and conference participants at the University of Edinburgh, Boston University, University of Essex, Institut national de la statistique et des études économiques (INSEE) Crest, Royal Holloway University, University College London, Vrije Universiteit Amsterdam, Georgetown University, the University of Cambridge, the University of Oxford, the University of Wisconsin–Madison, and the Annual Search and Matching conference in Cyprus. Bas van der Klaauw acknowledges financial support from a Vici grant from the Dutch science foundation (NWO). Contact the corresponding author, Paul Muller, at paul.muller@gu.se. Information concerning access to the data used in this paper is available as supplementary material online.

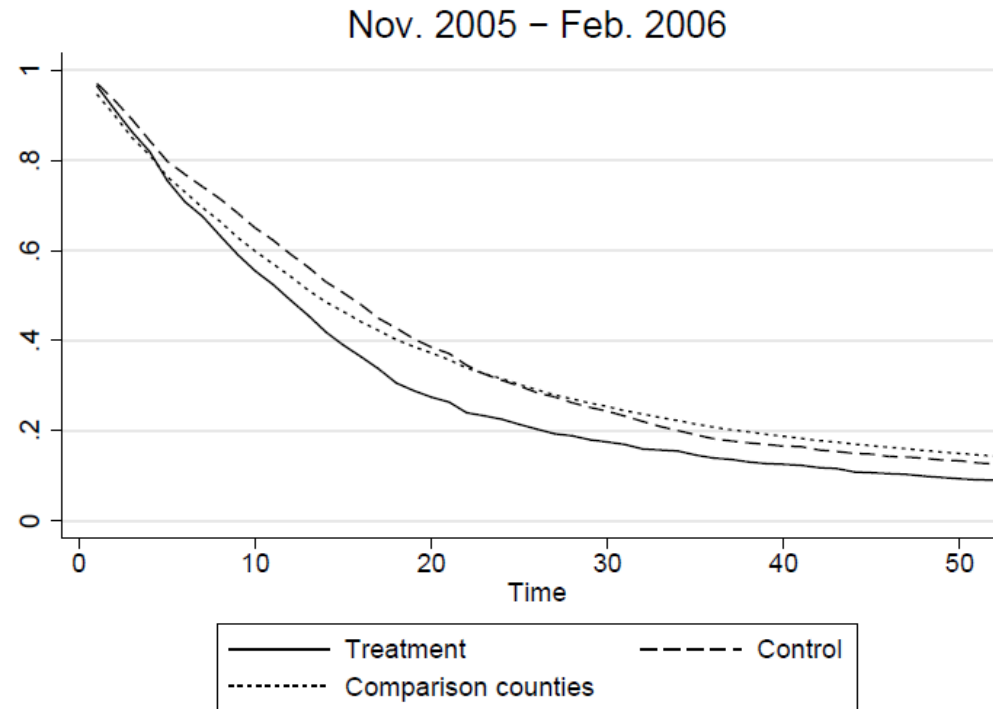


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# RESEARCH BASED ON QBTW

Do participants get jobs, that non-participants otherwise would have got?



# RESEARCH BASED ON QBTW

## Effects on employment

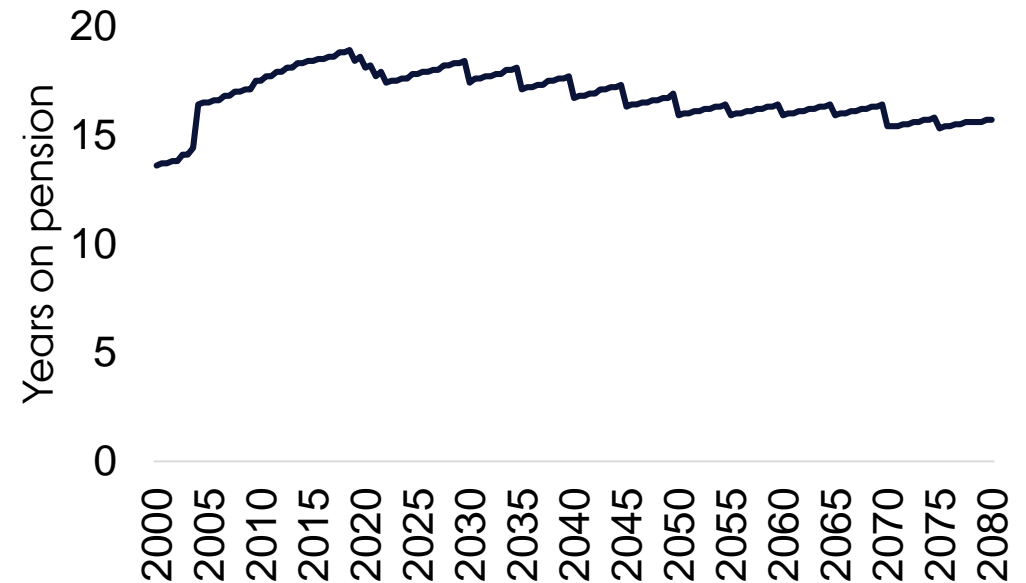
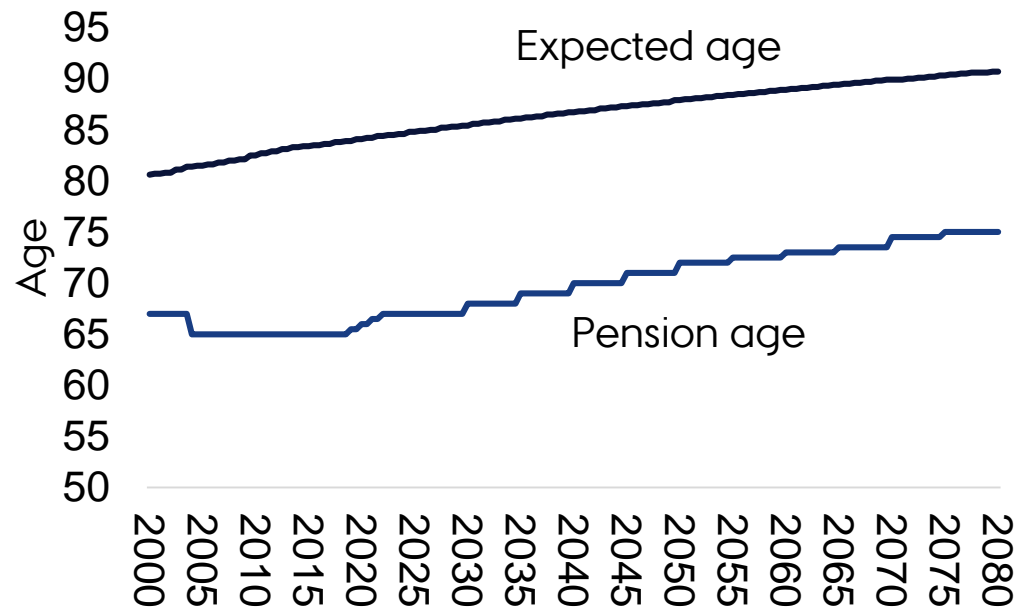
	Data censored after:					
	2 years		1 year		3 months	
	(1)		(2)		(3)	
Participants	0.154	(0.031)***	0.167	(0.032)***	0.151	(0.042)***
Nonparticipants	-0.044	(0.030)	-0.031	(0.031)	-0.115	(0.044)***
Individual characteristics	yes		yes		yes	
County fixed effects	yes		yes		yes	
Observations	77,057		77,057		77,057	

# APPLICATIONS AS AN ADVISOR

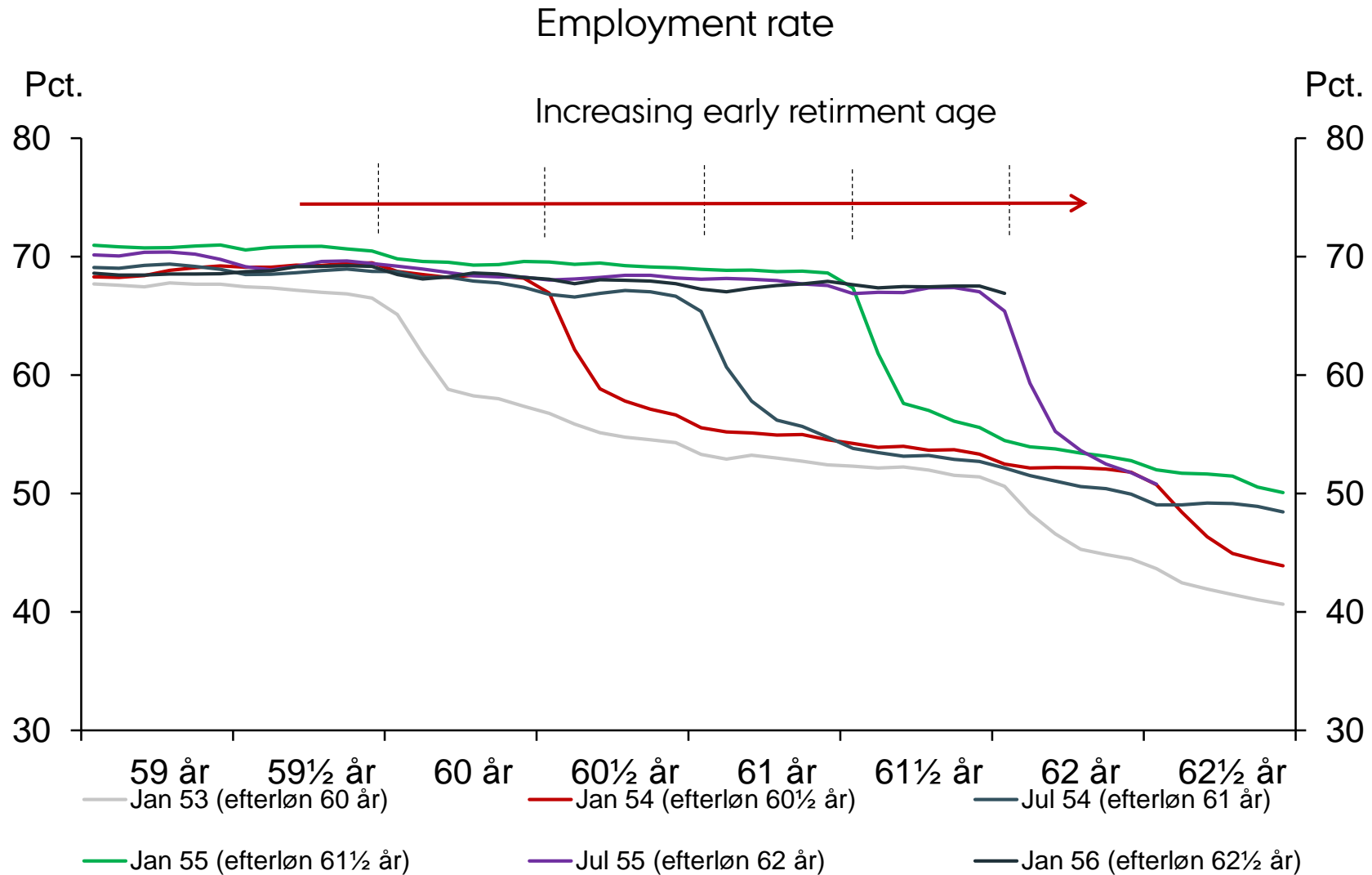
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- Danish Economic Council advises the government and opposition on economic topics
- Access to micro data enables qualified assessments of the different economic markets and the impact on the functioning of these markets from policy initiatives
- An example is the effect of recent pensions reforms

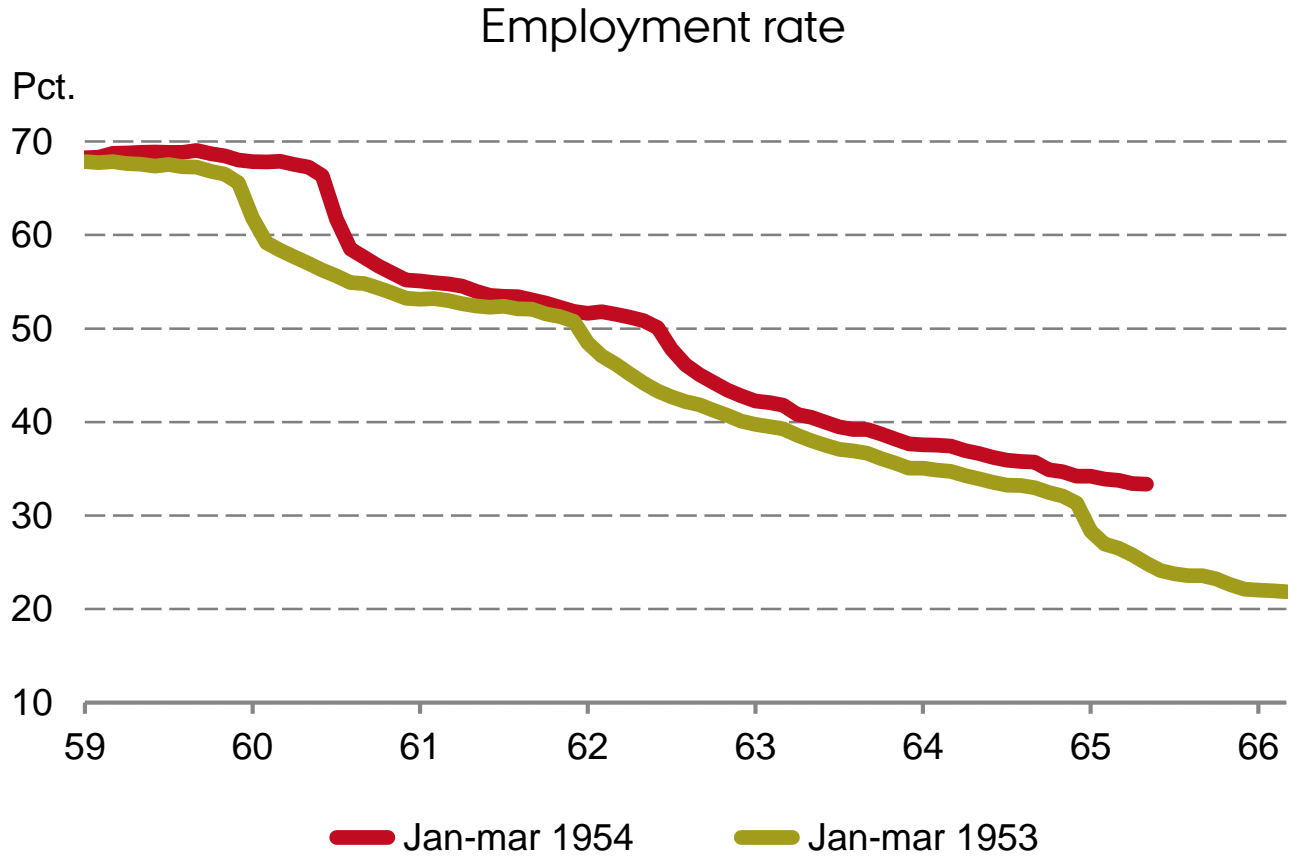
# PENSIONS REFORMS AND FISCAL SUSTAINABILITY



# EMPLOYMENT EFFECTS – SO FAR



# EMPLOYMENT EFFECT OF INCREASING PENSION AGE – INCREASED JANUARY 1 2019



# SUMMING-UP

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- High quality data requires collaboration between government offices and the statistical bureau
- Access to high quality data improves research and evaluations of policy reforms and can guide economic policies to optimally trade-off different aspects of policies
- Labour market data in Denmark is an example of how collaboration between government officials, the statistical bureau and the research environment can cross-fertilize.



