



Copenhagen  
Business School  
HANDELSHØJSKOLEN

# *Occupational Pensions, Aggregate Saving and Fiscal Sustainability in Denmark*

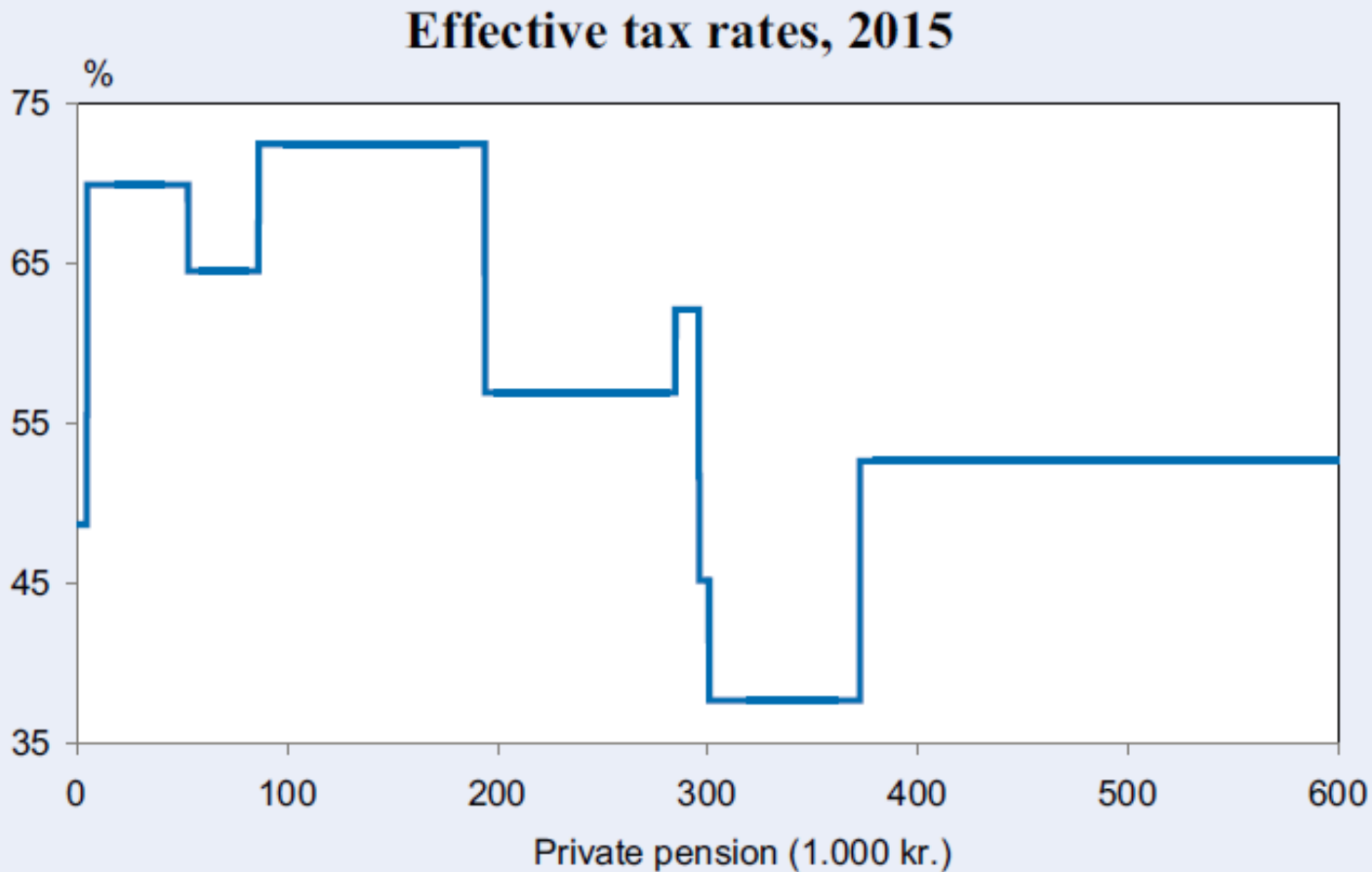
*Presentation at the Central Bank of Iceland, Reykjavik,  
September 7, 2015*

Svend E. Hougaard Jensen, Ph.D.  
Professor, Department of Economics  
Director, PeRCent  
Copenhagen Business School  
Denmark

# Motivation

- Danish pension system is “world-class”
  - *Melbourne Mercer Global Pension Index*: the Danish pension system has for three consecutive years been ranked number one in the world!
- But: Despite a robust structure, the system is not perfect. It still faces a number of challenges...
- Here we focus on OP schemes. They face their own problems:
  - Poverty trap and means-testing: effective returns on retirement saving may be low and this may (strongly) reduce the incentives to save for retirement...
  - Trade union density is falling - and “zeitgeist” against collective, mandatory arrangements...
  - Uncertainty about rule(s) of taxation...

# Effective tax rates, 2015

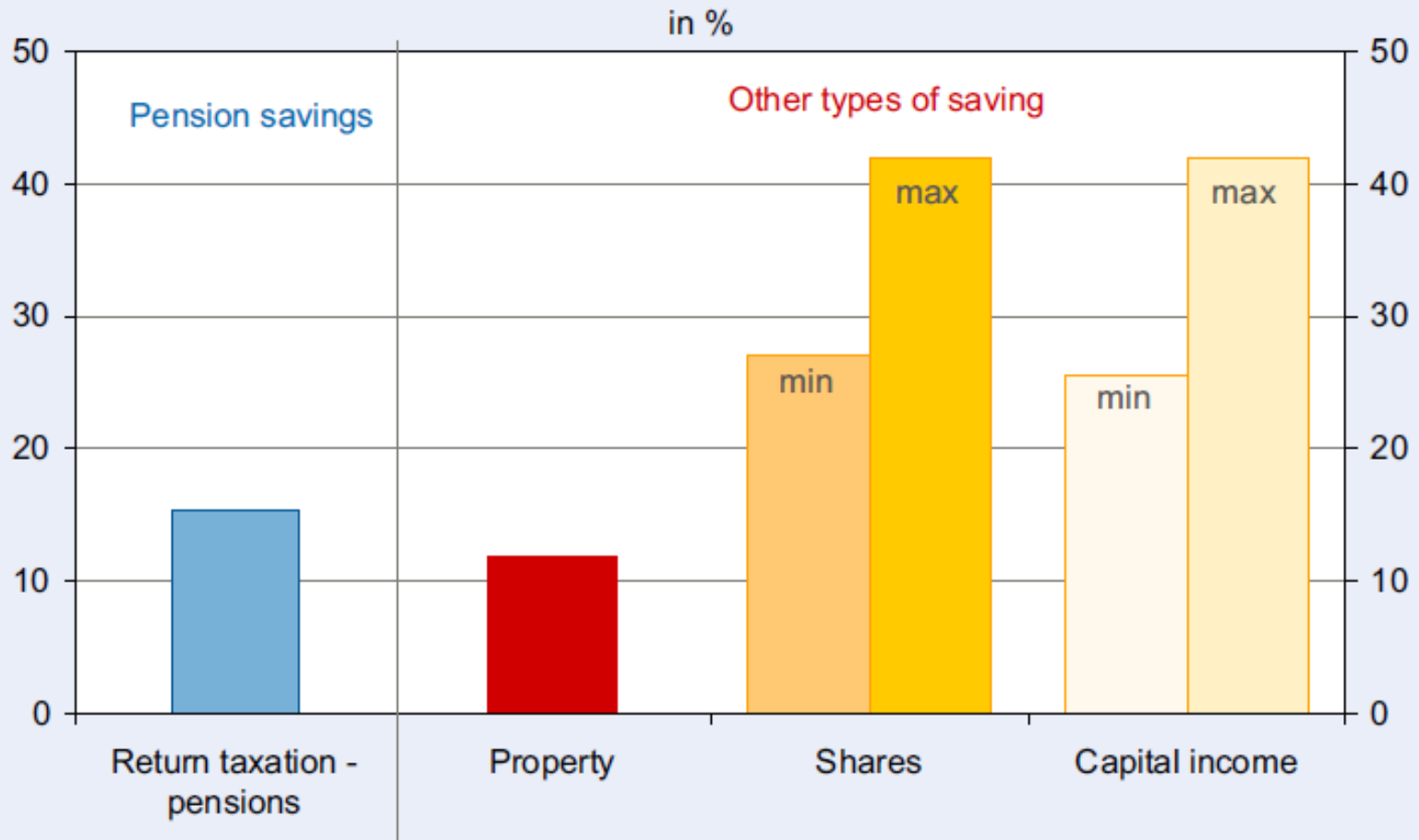


Note: Stylized case for a single pensioner who lives in rented accommodation and thus receives a means-tested rent subsidy.

Source: Pensionskommissionen (2015).

# Taxes on the return on different types of savings, 2015

## Taxes on the return on different types of savings, 2015



Source: Pensionskommissionen (2015).

# Two issues:

1. OXIT?

2. ETT  $\rightarrow$  TTE?

# The analytical framework

- DREAM

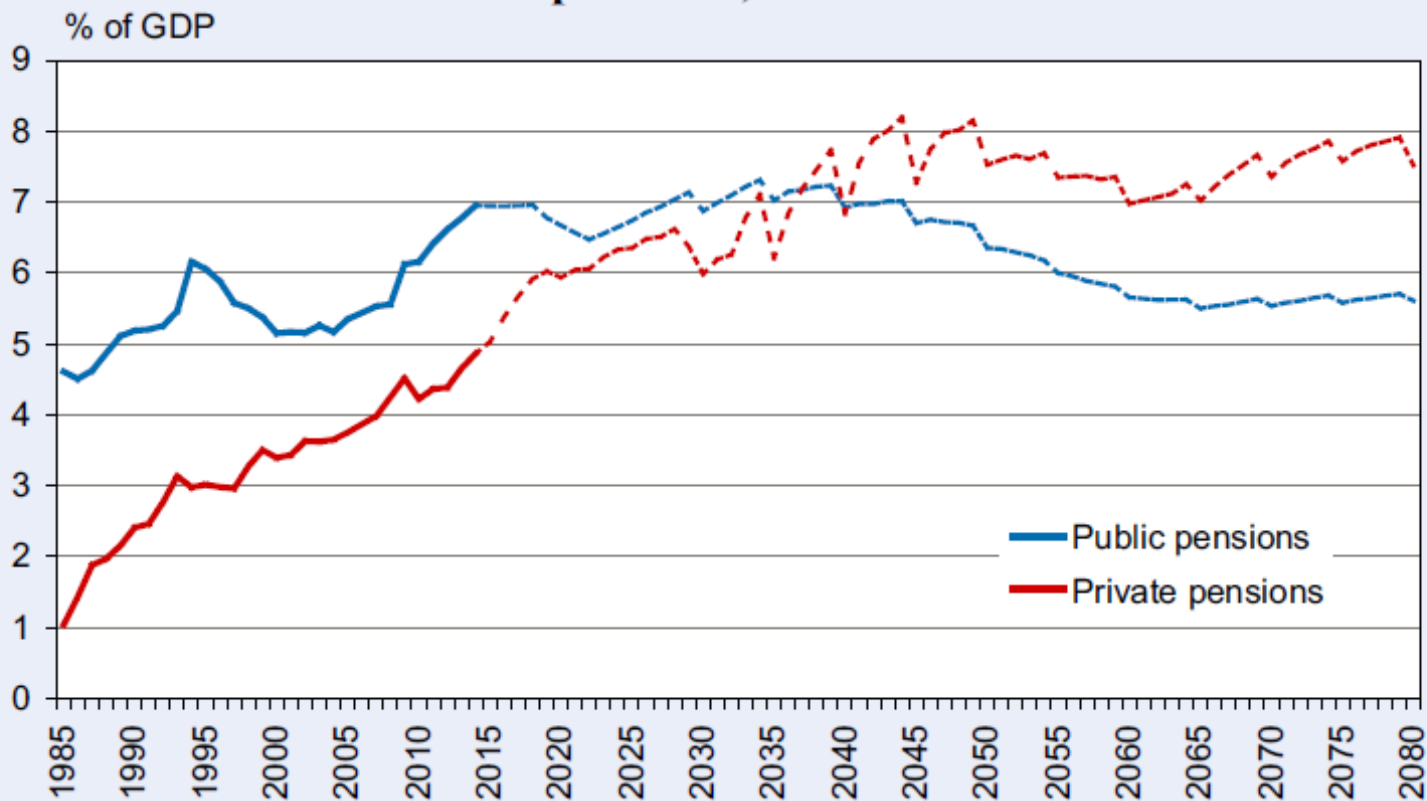
# Accumulated Pension Savings, Private and Public, in Denmark, 2000-2013 (billions of DKK)

<b>Investor</b>	<b>1998</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2013</b>
1. Life insurance companies	511	650	953	1.351	1.757
2. Multi-employer pension funds	214	270	381	478	585
3. Pension funds, firms	38	43	42	51	53
4. Banks	191	215	298	405	445
5. Public pension funds	255	330	479	817	741
a. ATP	200	247	365	758	677
b. SP	6	21	51	2	0
c. LD	49	62	64	57	64
<b>Total</b>	<b>1.463</b>	<b>1.837</b>	<b>2.634</b>	<b>3.103</b>	<b>3.581</b>
<b>Share of GDP</b>	<b>1,23</b>	<b>1,38</b>	<b>1,66</b>	<b>1,73</b>	<b>1,90</b>

Source: Finanstilsynet (Danish FSA)

# Public pensions and payments from contribution-based private pensions, 2015

## Public pensions and payments from contribution-based private pensions, 2015



Note: Dotted lines are projected values.

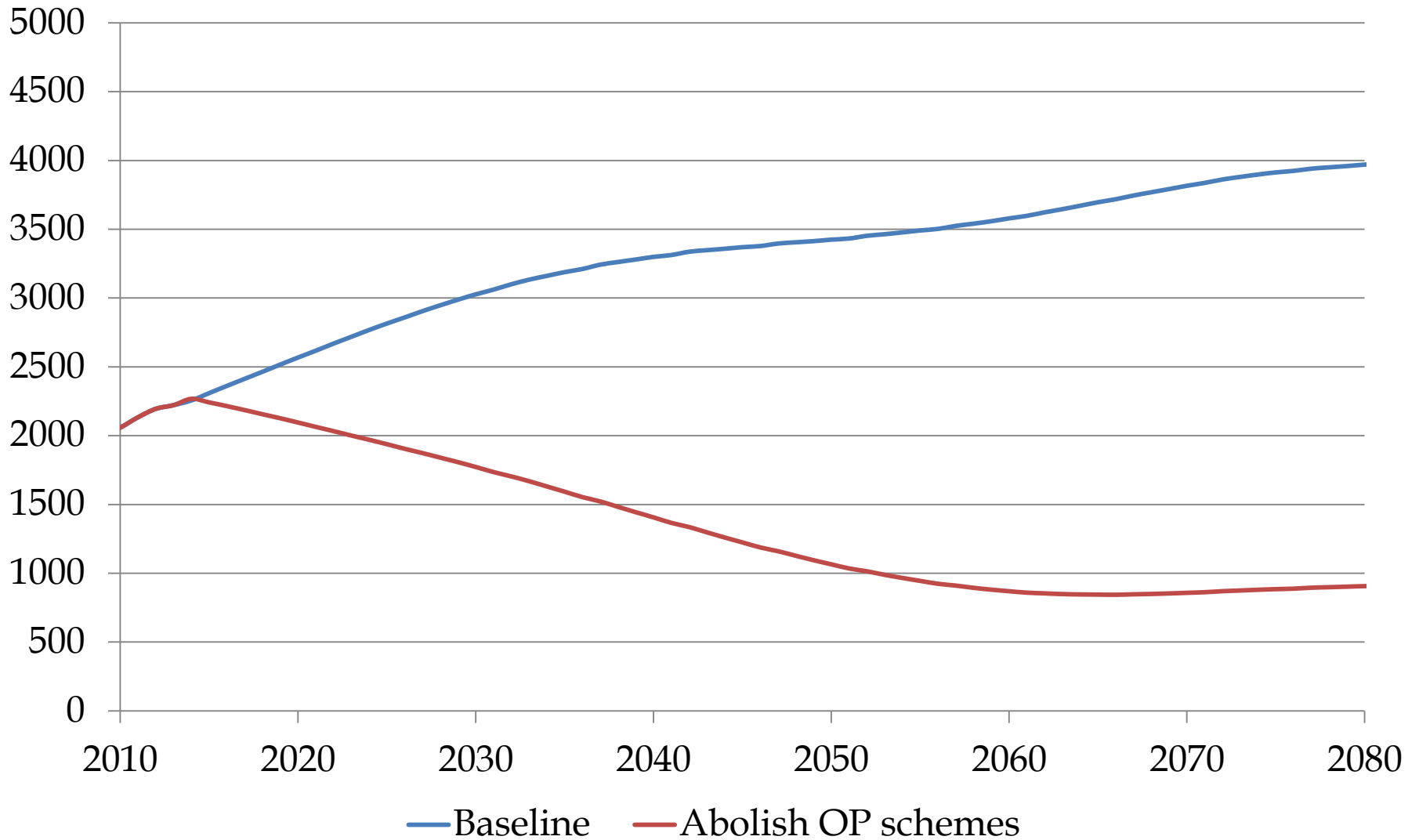
Source: Pensionskommissionen (2015).



# Experiment # 1:

- **OXIT?**

# Projected Time Path of Private Pension Funds



# Does mandatory pension saving crowd out private saving?

- “... a major study showing that only 15 percent of Danes respond actively to retirement savings policies thereby documenting why mandatory labour market pension schemes are effective at raising total saving.”

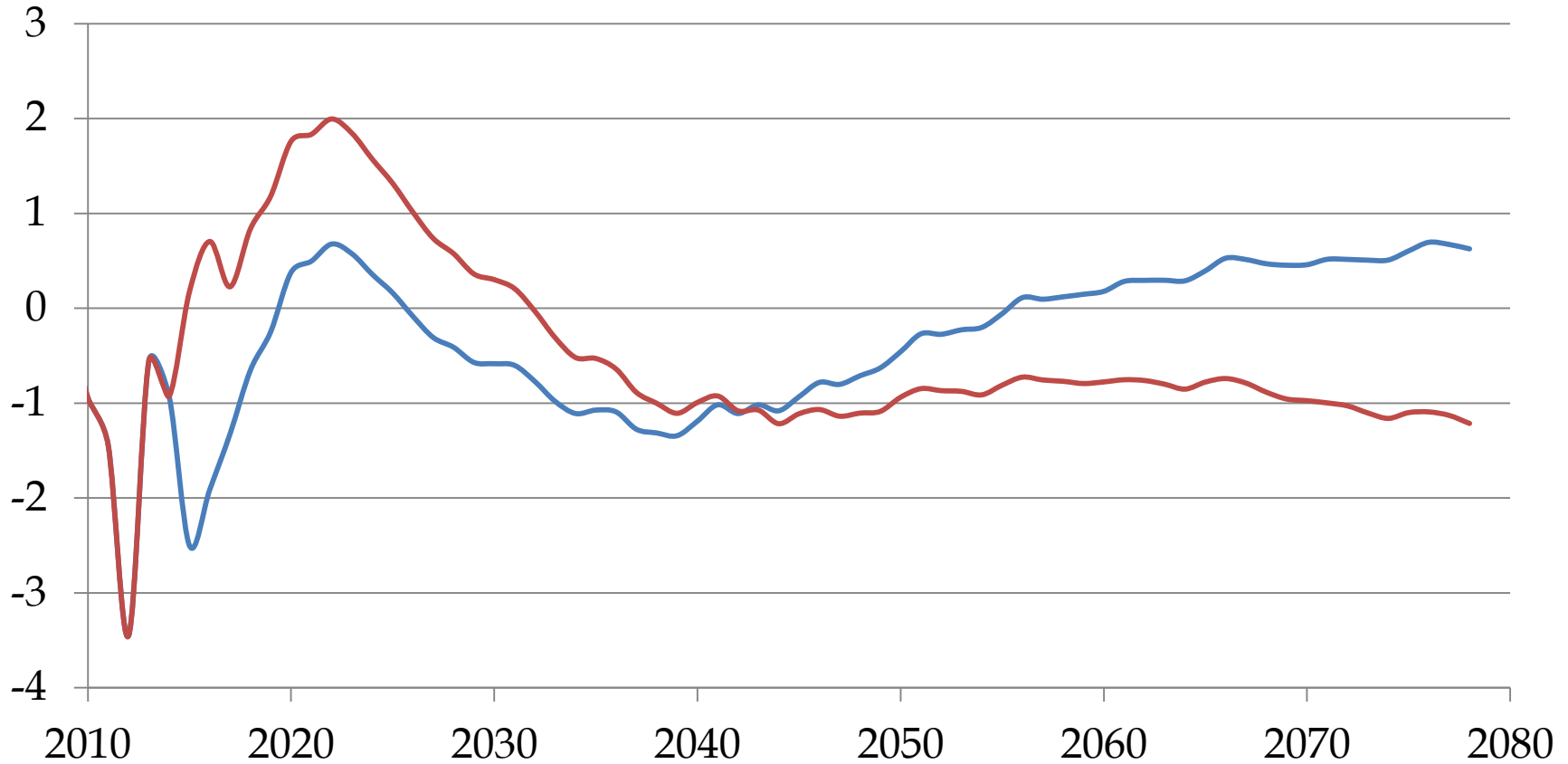
# Macroeconomic Effects of Abolishing Occupational Pensions

	2009	2015	2020	2025	2030	2040	2050	2060
	Index, baseline=100							
GDP	100,0	100,4	100,3	100,4	100,4	100,4	100,2	100,1
Private consumption	100,0	103,1	103,7	104,0	104,2	104,1	103,2	102,6
Investment	100,0	103,5	102,1	101,2	100,8	100,3	100,2	100,1
Public spending	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Export	100,0	97,0	96,2	96,4	96,3	96,4	97,1	97,7
Import	100,0	101,2	101,1	101,2	101,3	101,2	100,9	100,6
	Index, baseline=100							
Employment	100,0	100,1	99,8	99,8	99,8	99,8	99,8	99,8
Private	100,0	100,0	99,6	99,6	99,6	99,6	99,6	99,6
Public	100,0	100,1	100,1	100,1	100,1	100,1	100,1	100,1

Source: DREAM, own calculations

# Effects on Public Finances: Structural Primary Budget Balance

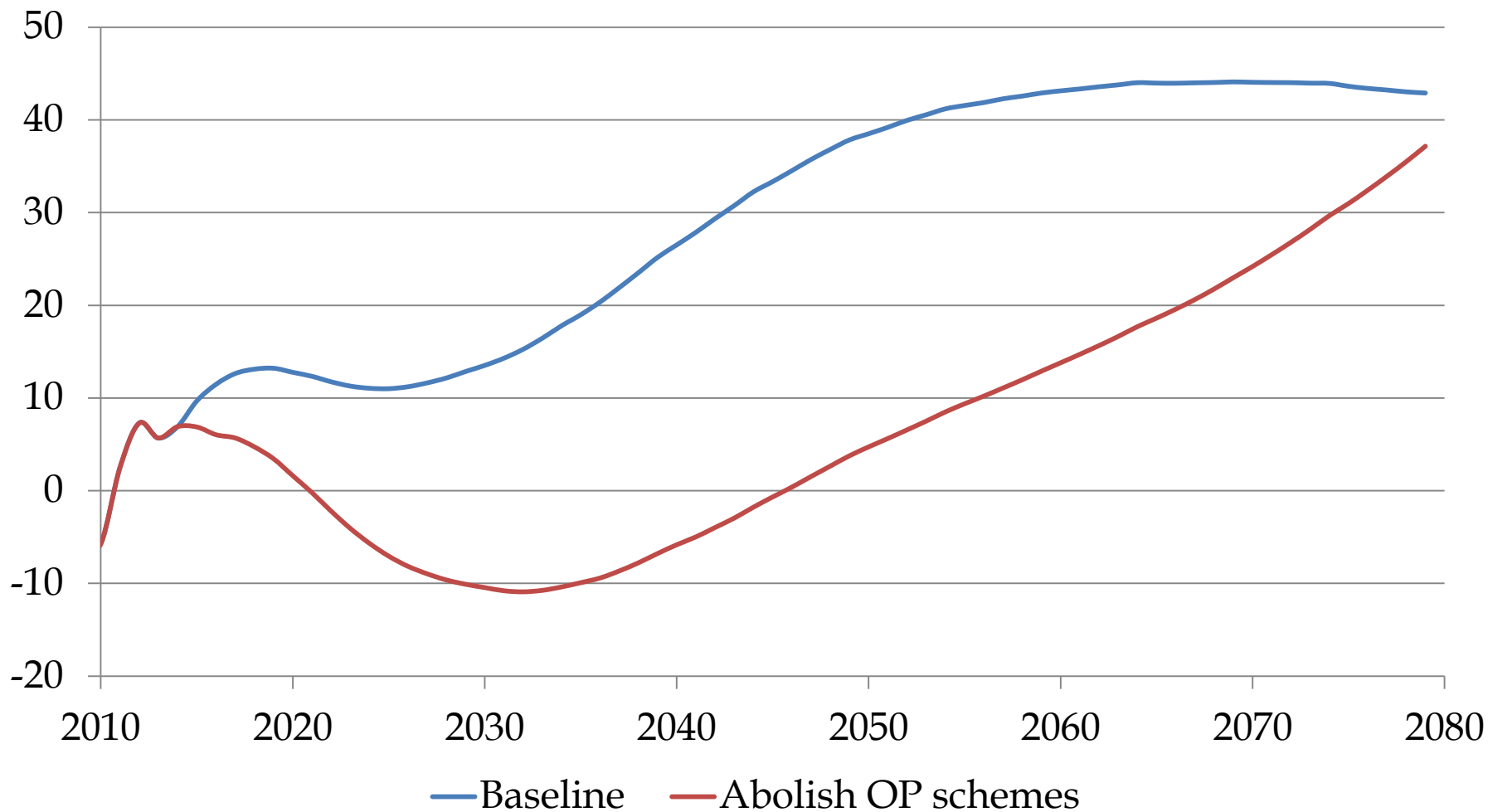
Pct. of GDP



— Baseline — Abolish OP schemes

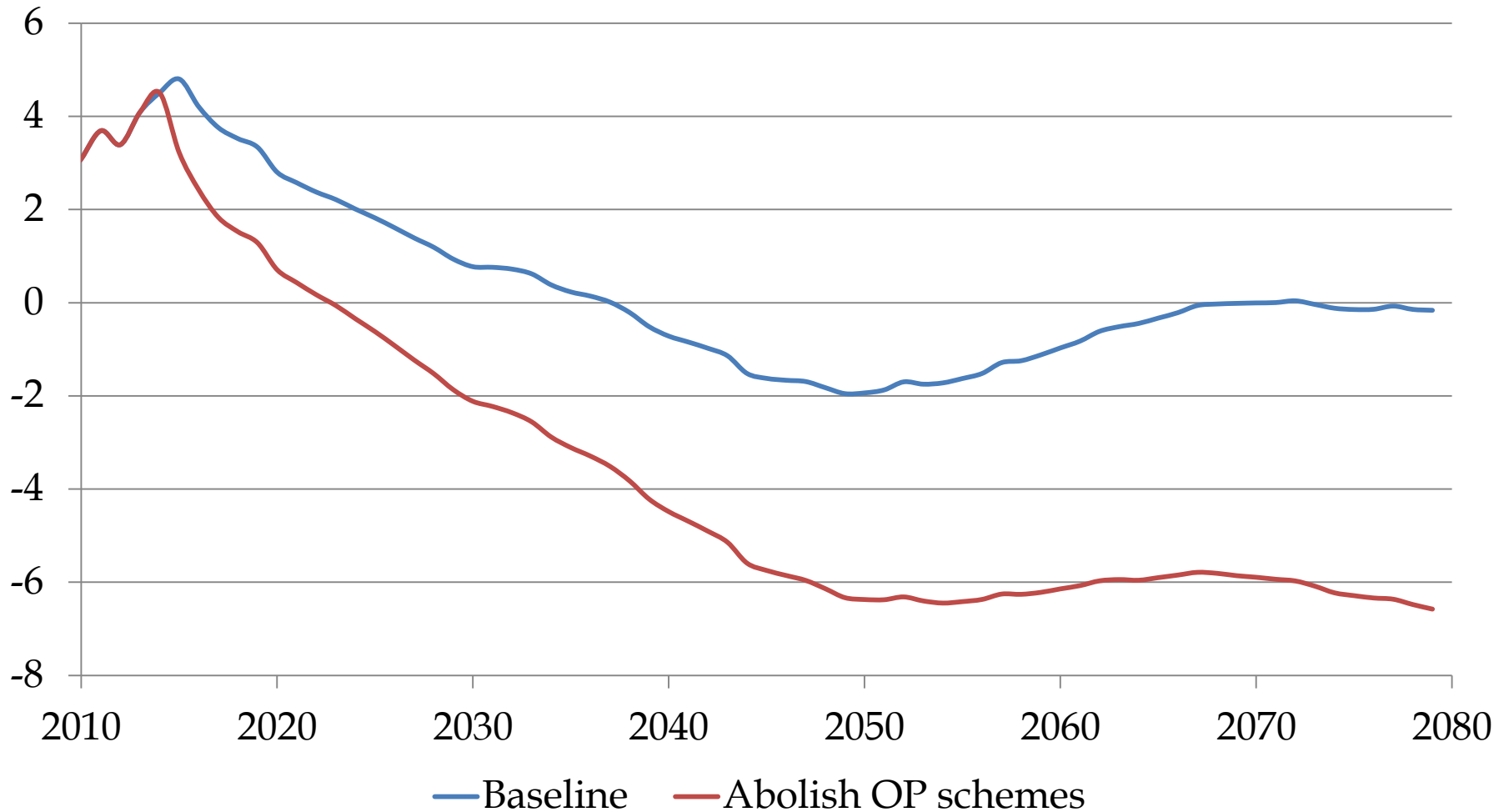
# Effects on Public Finances: Government Debt

Pct. of GDP



# Effects on the Current Account: Fiscal Policy Unsustainable

Pct. of GDP

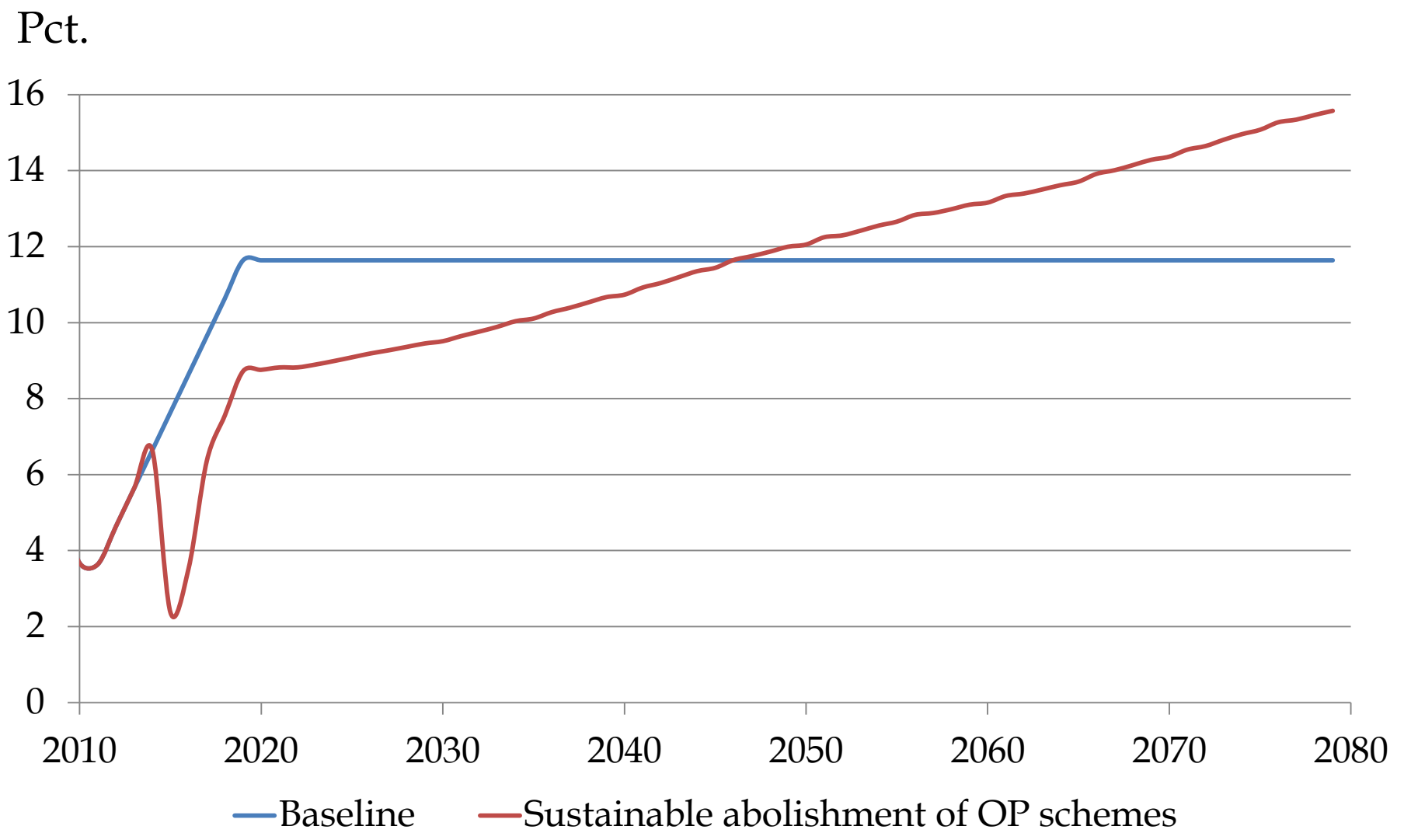


# Sustainability index

- The permanent improvement of the primary budget (measured as a share of GDP) that is needed to guarantee that the government's intertemporal budget constraint is satisfied.
- Baseline: -0.07
- OXIT: -0.93 (app. 15 billion of DKK)



# Projected Time Path of the Basic Tax Rate: Baseline vs. Sustainable Abolishment of OP Schemes



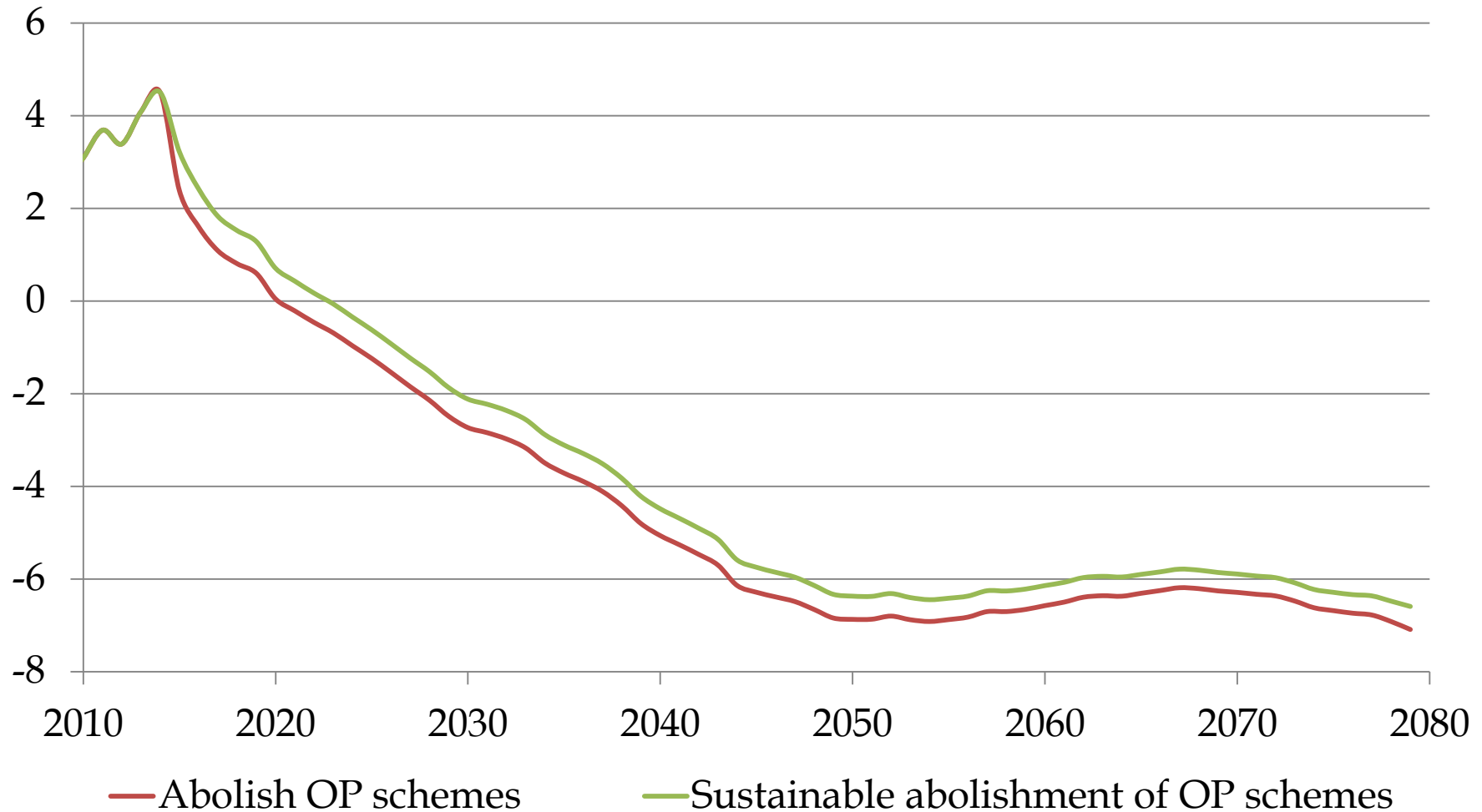
# Macroeconomic Effects of Abolishing Pensions and Adjusting the Basic tax Rate to Ensure Sustainability of Fiscal Policy

	2009	2015	2020	2025	2030	2040	2050	2060
	Index, baseline=100							
GDP	100,0	101,1	100,9	100,9	100,9	100,6	100,2	99,8
Private consumption	100,0	104,9	105,5	105,6	105,6	104,8	103,1	101,9
Investments	100,0	107,4	103,2	101,6	100,9	100,0	99,7	99,5
Public consumption	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Exports	100,0	96,1	95,6	96,1	96,1	96,4	97,2	97,8
Imports	100,0	102,5	101,9	101,9	101,9	101,5	100,8	100,3
	Index, baseline=100							
Employment	100	100,1	99,8	99,8	99,8	99,8	99,8	99,8
Private	100	100,2	99,7	99,7	99,7	99,6	99,6	99,5
Public	100	99,8	99,8	99,9	99,9	100,1	100,2	100,3

Source: DREAM, own calculations

# Effects on the Current Account: Fiscal Policy Sustainable

Pct. of GDP



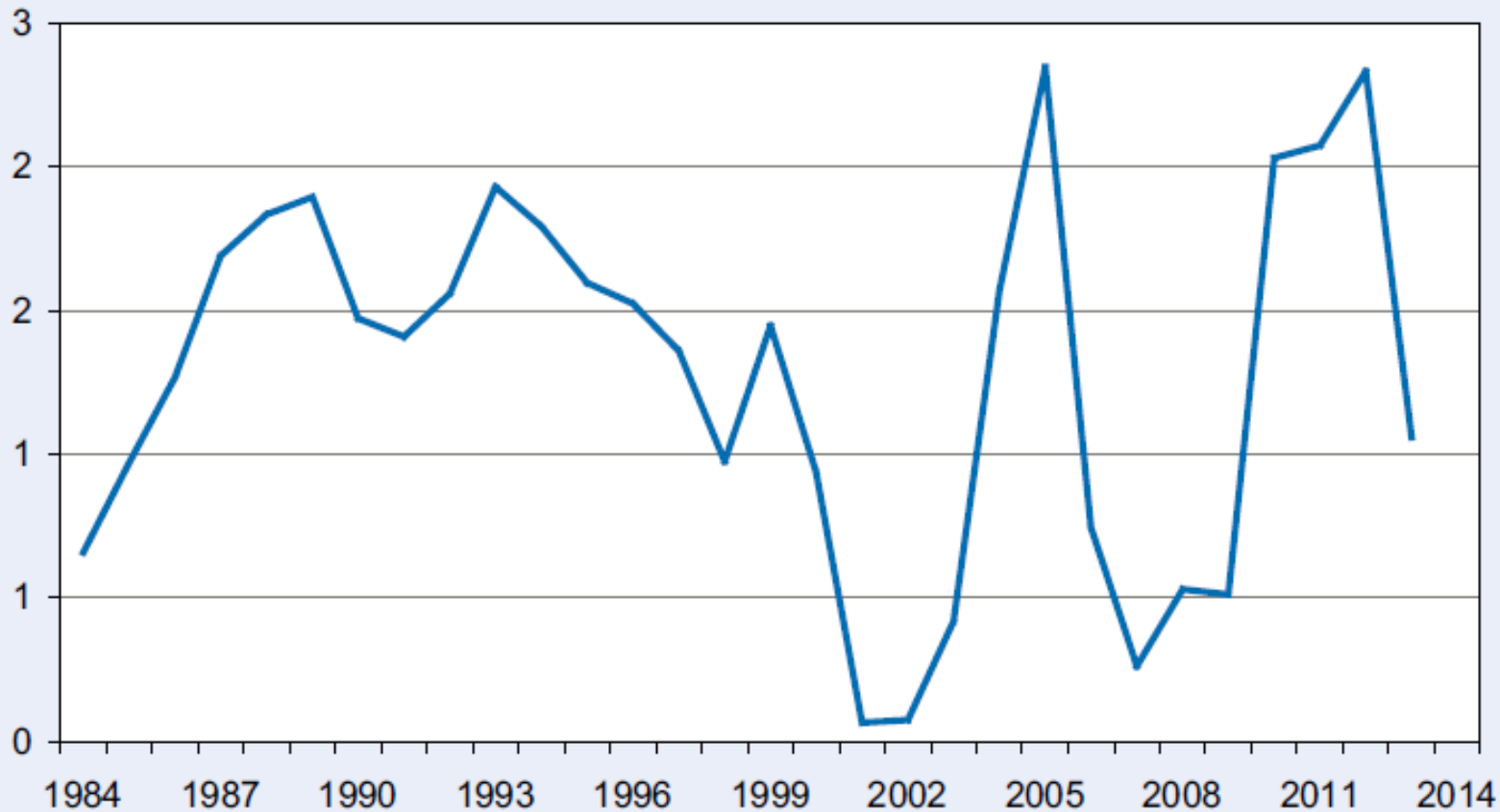
## Experiment # 2:

- **ETT → TTE?**
  - Full
  - Partial
  - Tax relief

# Revenue from taxation of returns on pension funds, 1984–2014

## Revenue from taxation of returns on pension funds, 1984–2014

% of GDP



Source: Statistics Denmark (2015).

# Warning:

- Mind the gap...

# Old-Age Expenditures and Taxation of Pension Savings (DKK, billion)

	2015	2050	Difference
(a) Changes in age-related expenditures			
Old-age pension expenditures	102,1	107,8	
Old-age service provision	81,9	129,4	
<b>Total</b>	<b>184,0</b>	<b>237,2</b>	<b>53,2</b>
(b) Revenues from taxation of pension savings			
OP schemes: Pension benefits	63,9	134,7	
Income tax revenue of pension benefits	25,5	53,9	
Effect on VAT and other indirect taxes	9,4	19,8	
Phasing-out of pension supplement	2,9	6,1	
<b>Total</b>	<b>37,8</b>	<b>79,8</b>	<b>42,0</b>

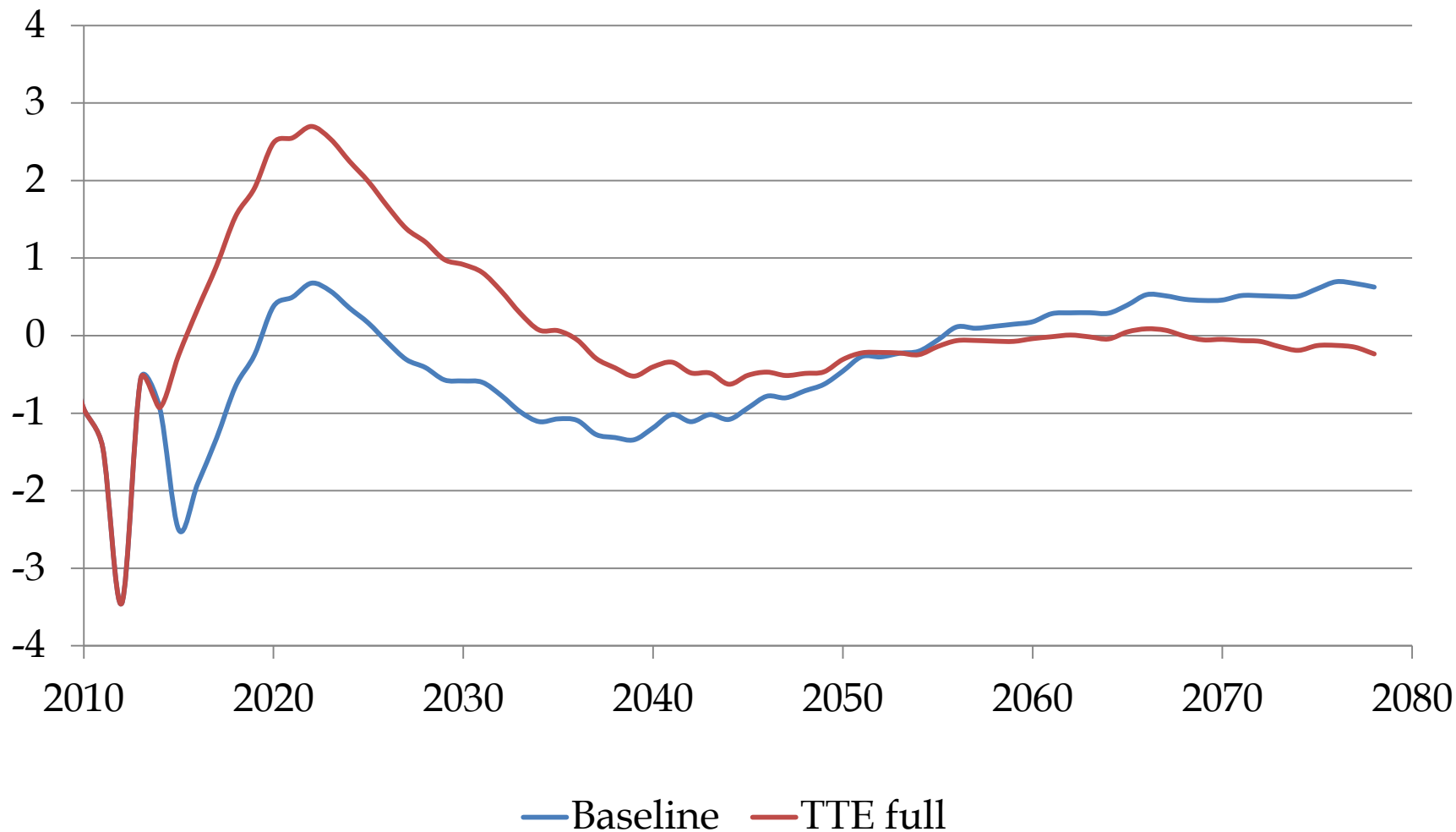
## Experiment # 2:

- Full, across-the board...

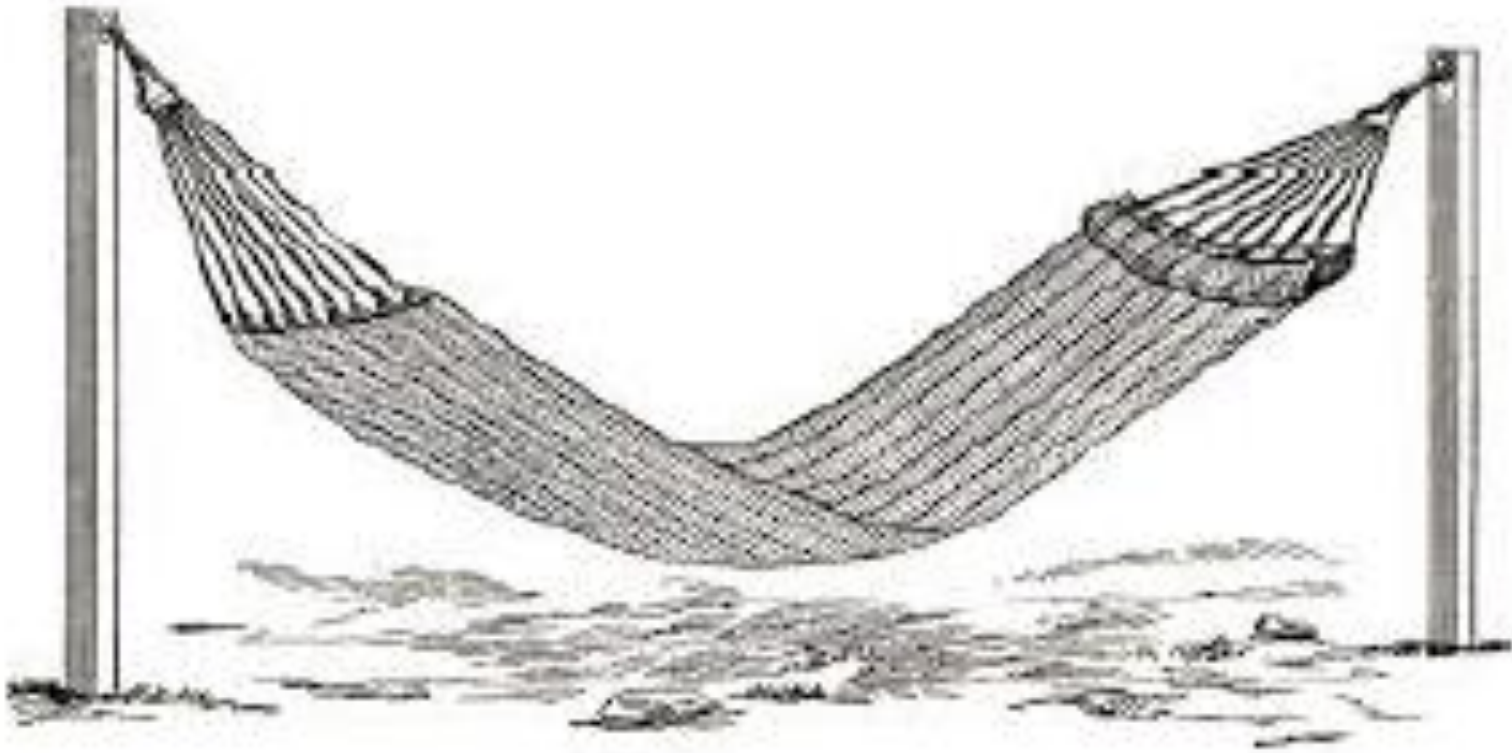


# From ETT to TTE Taxation: Effects on Structural Primary Budget Balance

Pct. of GDP

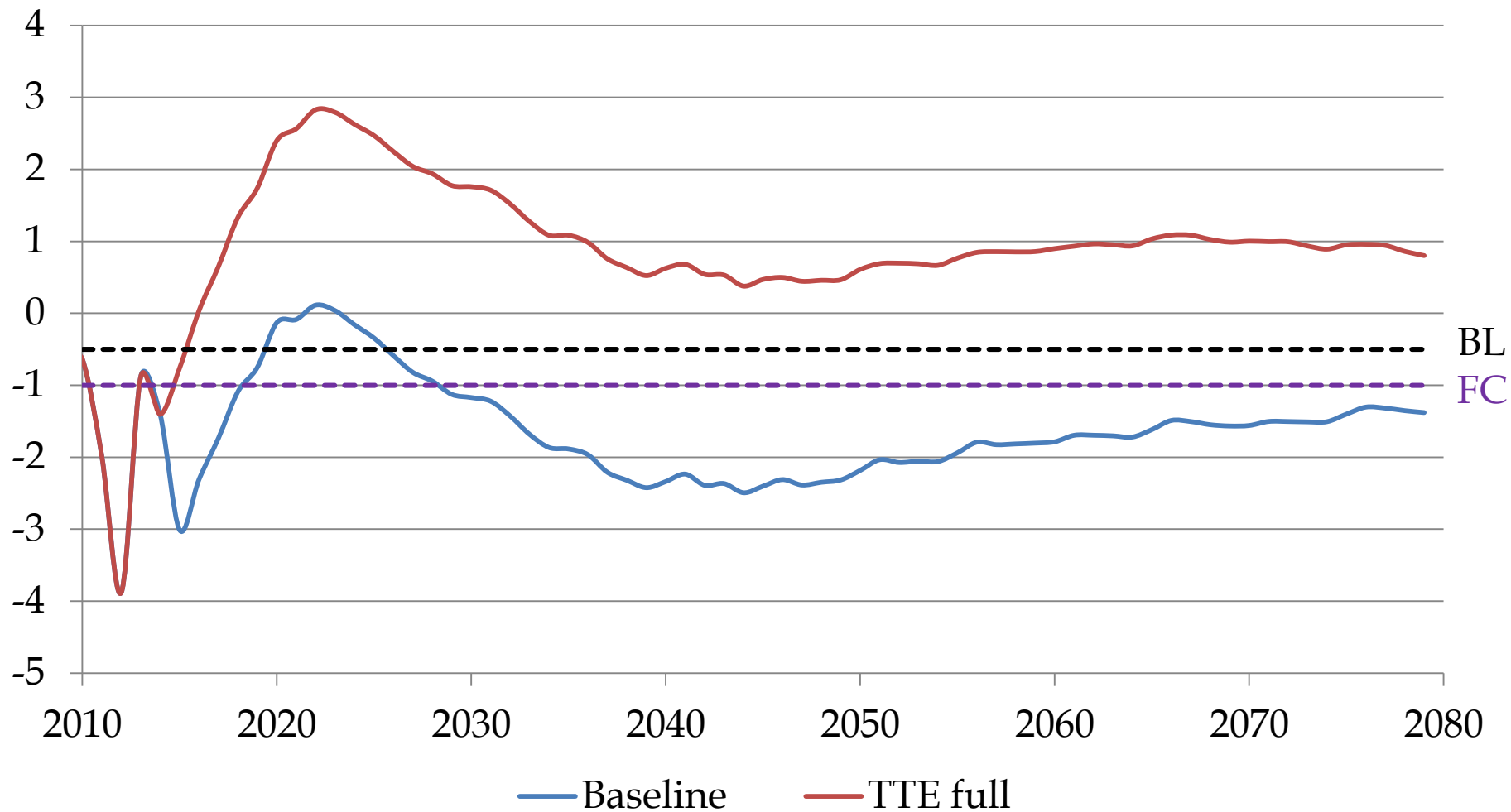


# The hammock problem...



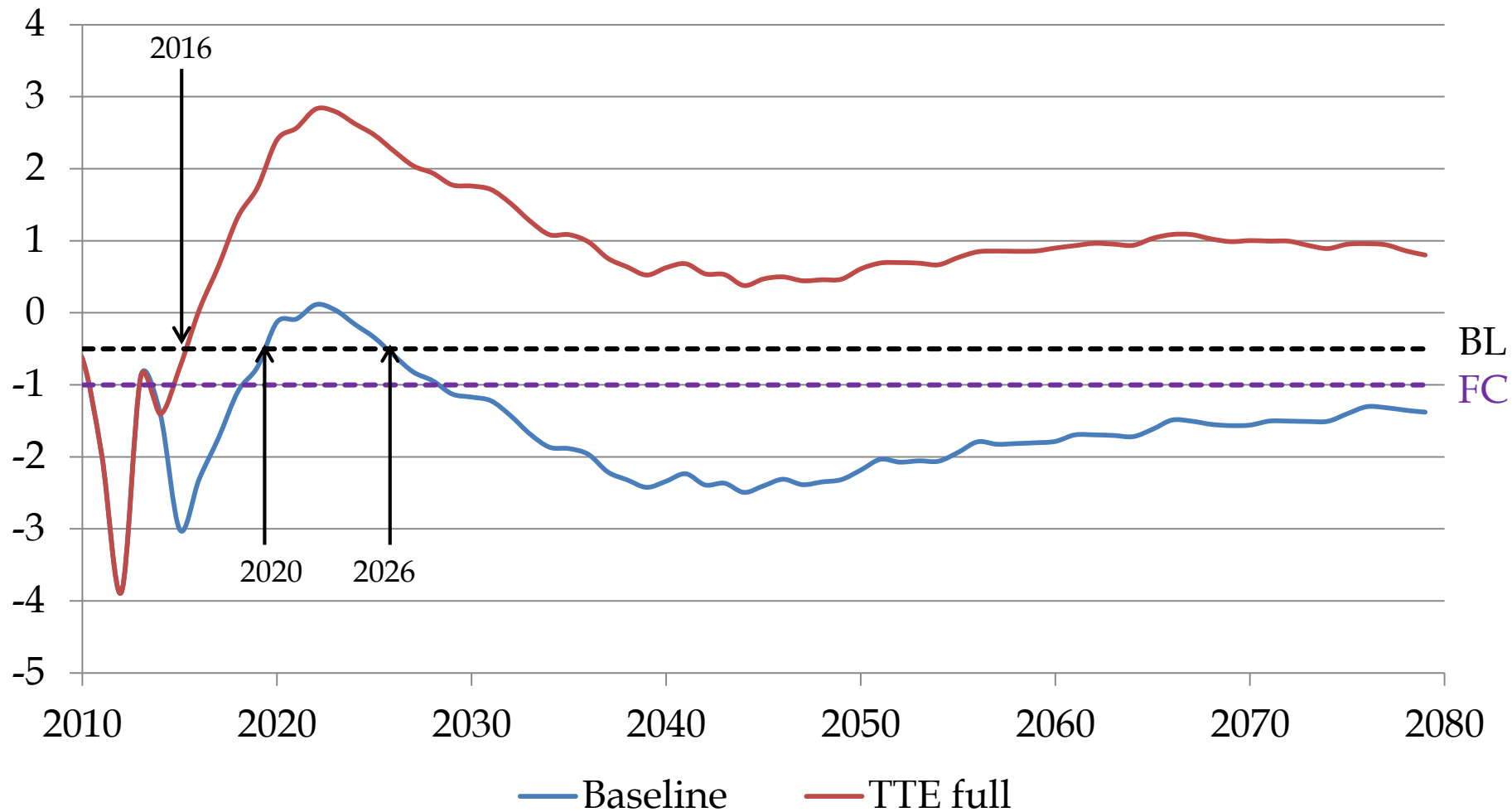
# From ETT to TTE Taxation: Effects on Structural General Budget Balance

Pct. of GDP



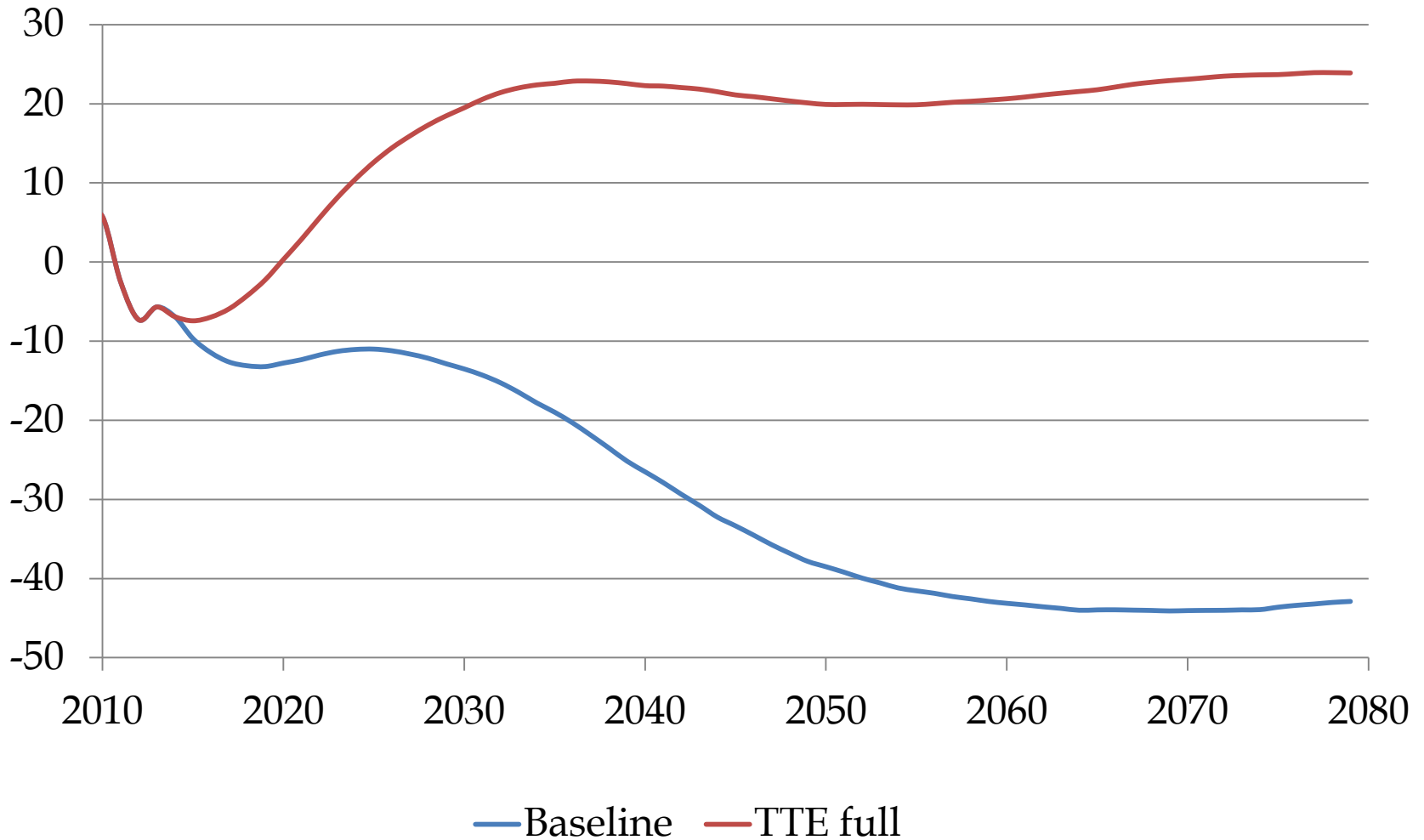
# From ETT to TTE Taxation: Effects on Structural General Budget Balance

Pct. of GDP



# From ETT to TTE Taxation: Effects on Public Net Wealth

Pct. of GDP



# Sustainability index

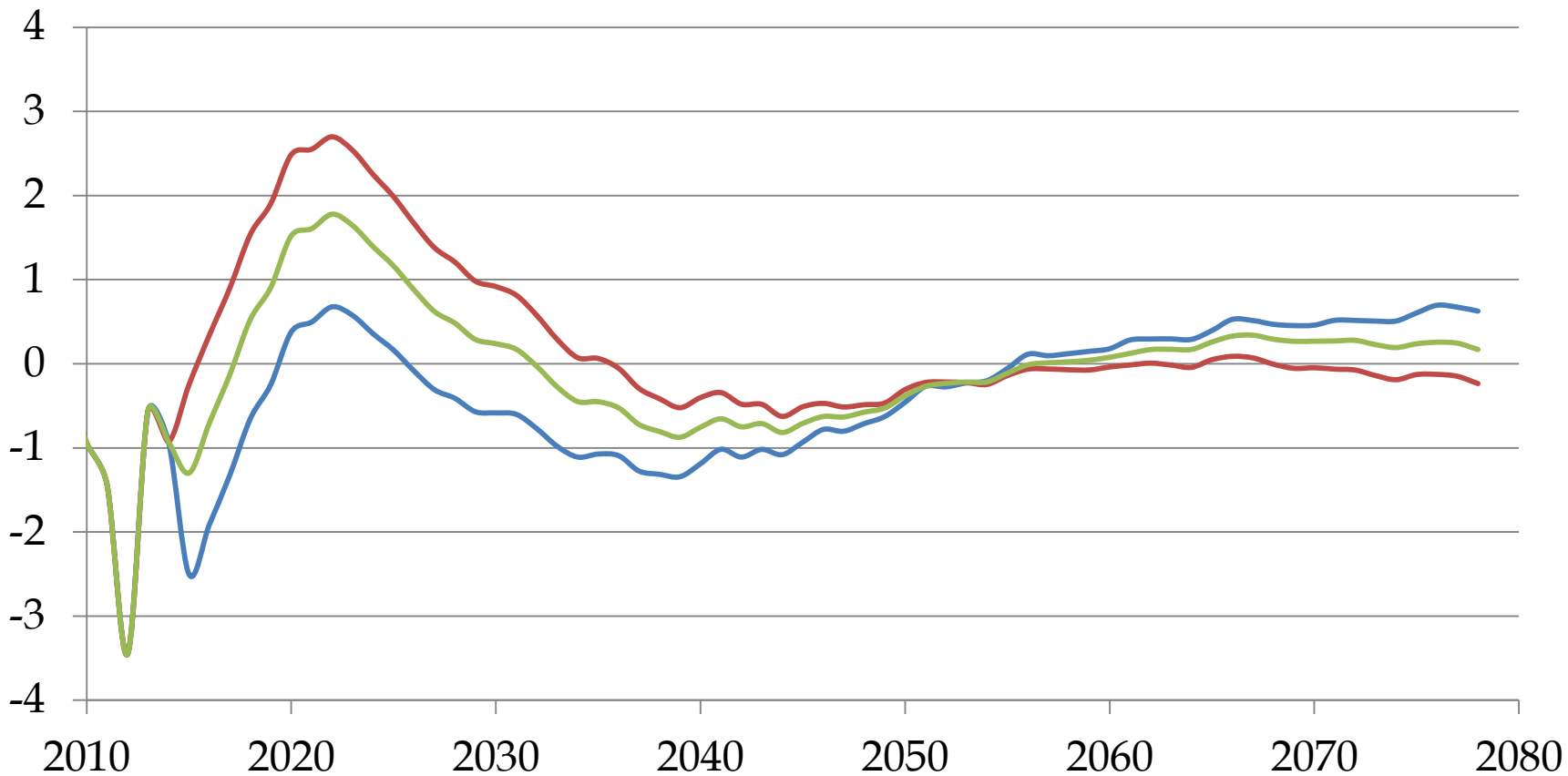
- Baseline:  $-0.07$
- TTE (full):  $-0.07$
- Tax rate:  $44\%$

## Experiment # 2:

- Partial
  - periodic installments

# Partial Conversion from ETT to TTE Taxation: Effects on Structural Primary Budget Balance

Pct. of GDP

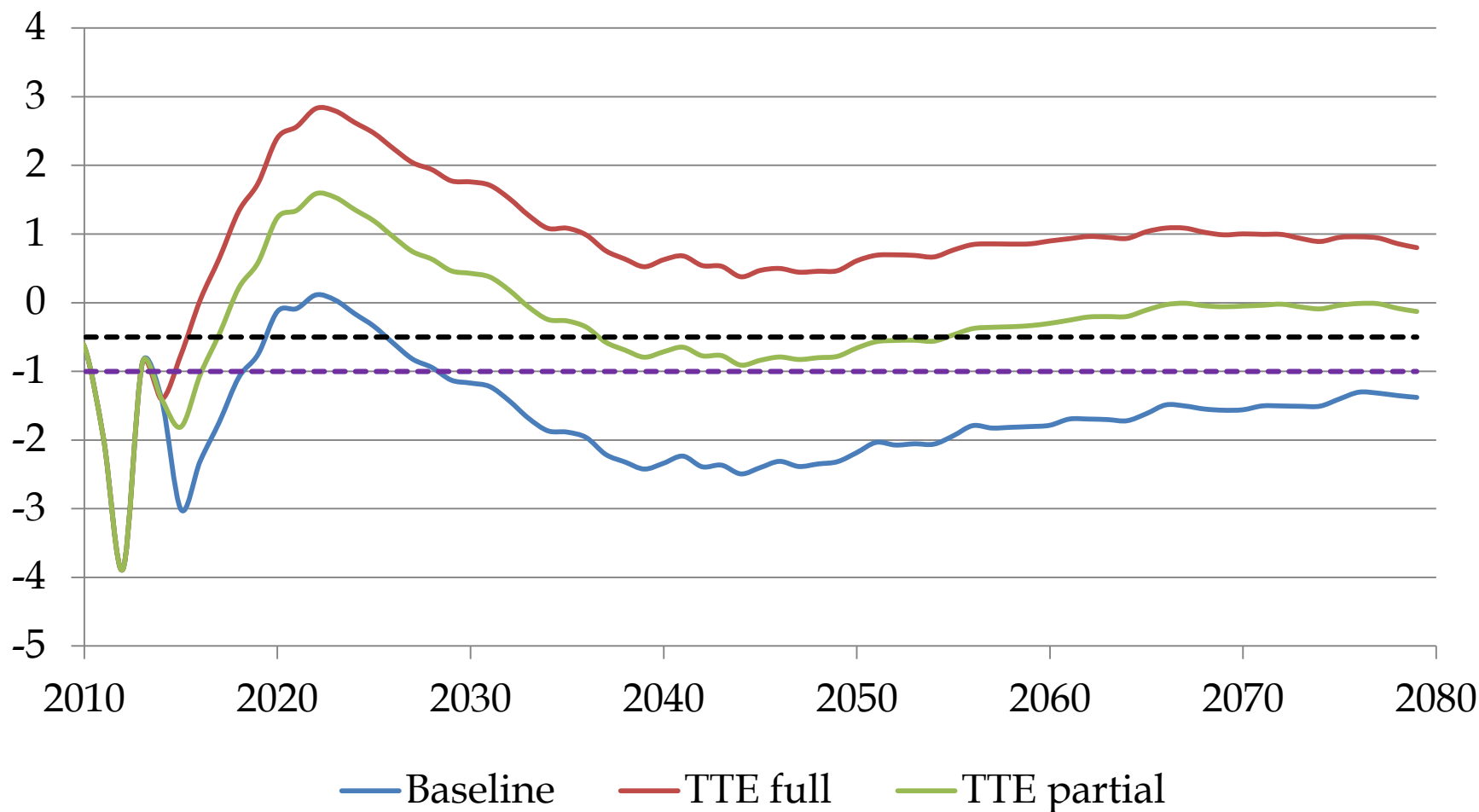


— Baseline — TTE full — TTE partial



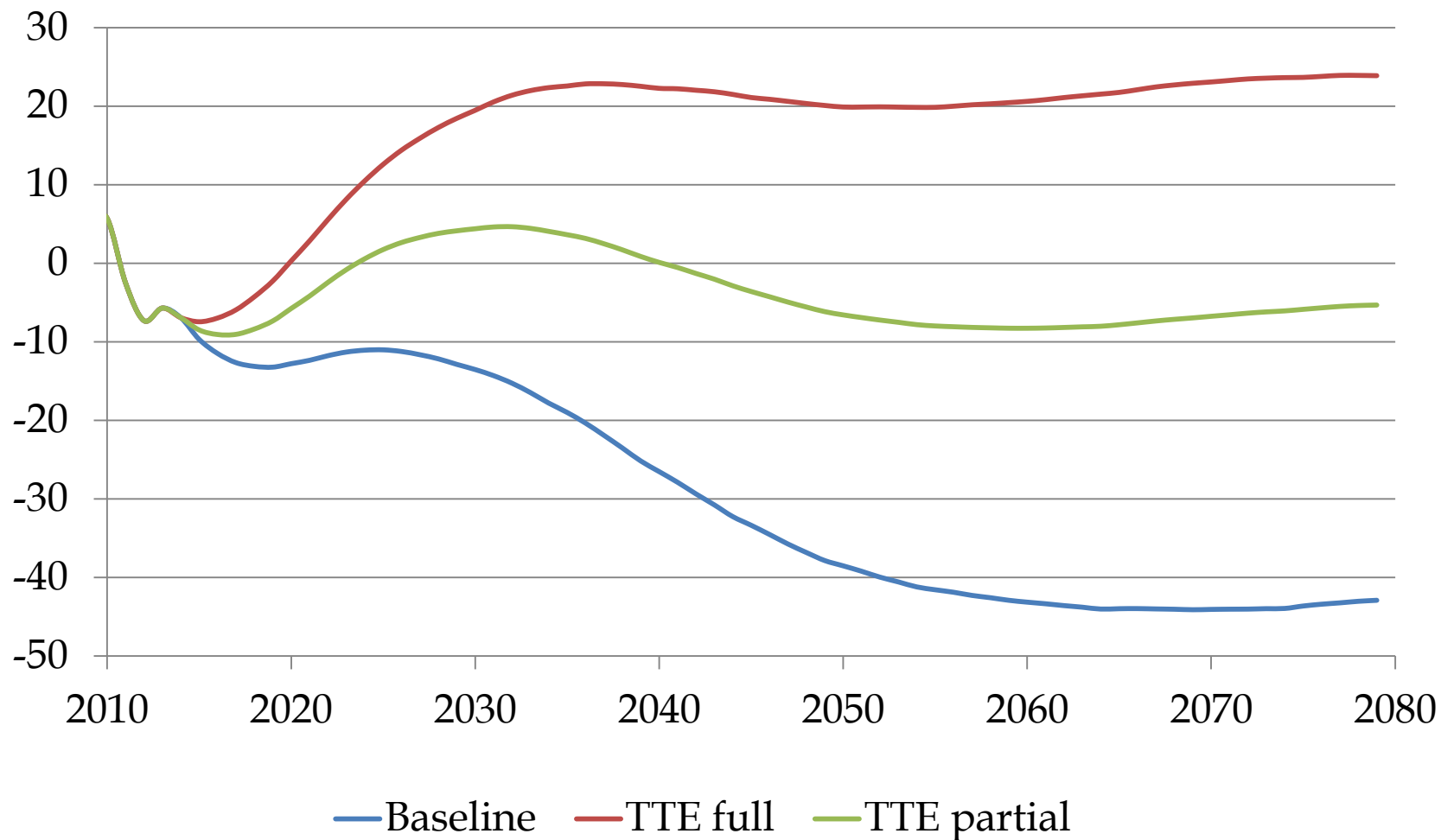
# Partial Conversion from ETT to TTE Taxation: Effects on Structural General Budget Balance

Pct. of GDP



# A Partial Shift from ETT to TTE Taxation: Effects on Public Net Wealth

Pct. of GDP



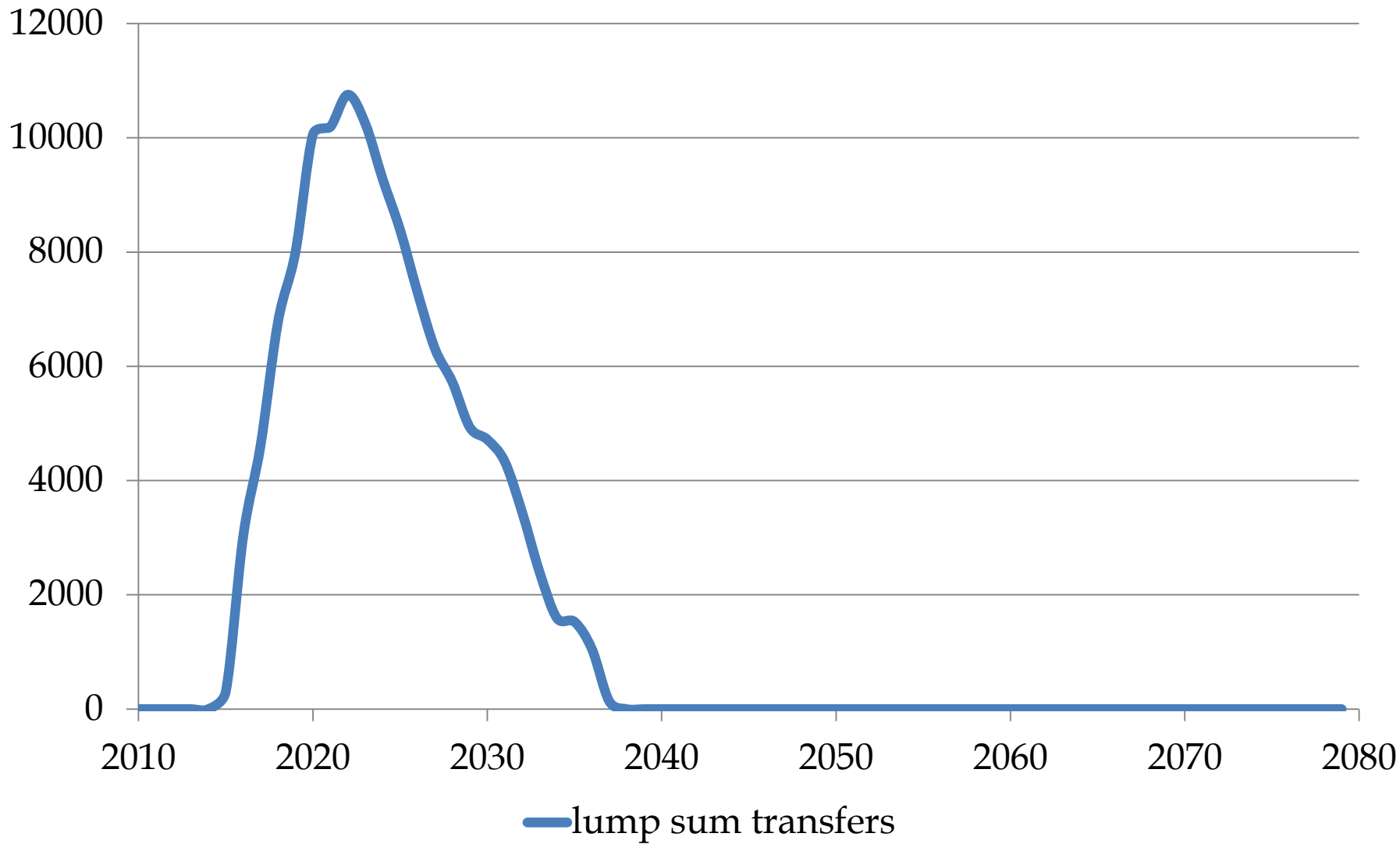
# Sustainability index

- Baseline: -0.07
- TTE (full): -0.07
- TTE (partial): -0.06
- Tax rate: 44%

## Experiment # 2:

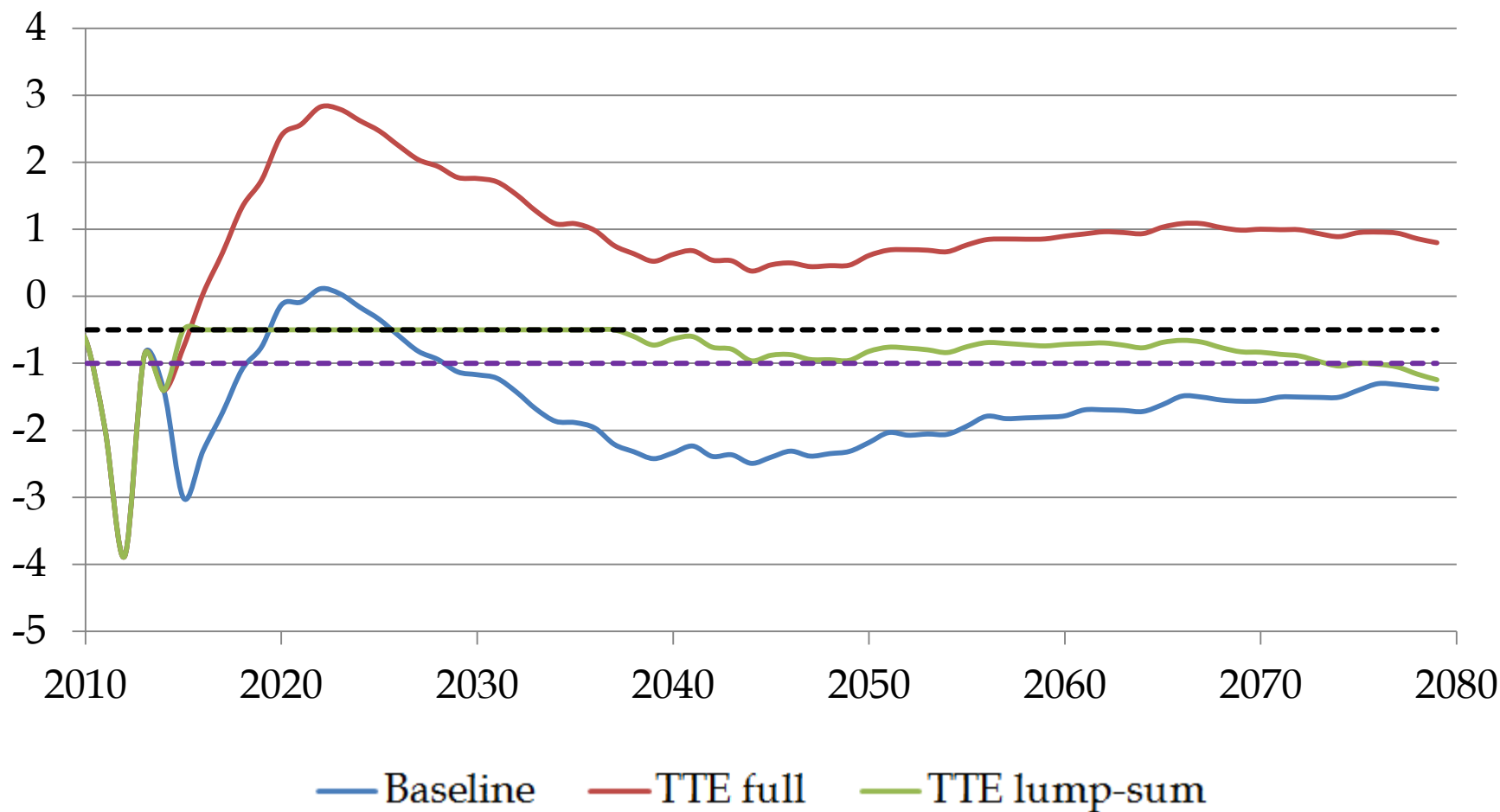
- Tax relief
  - lump-sum transfer

# Change in Lump-sum Transfer to Households



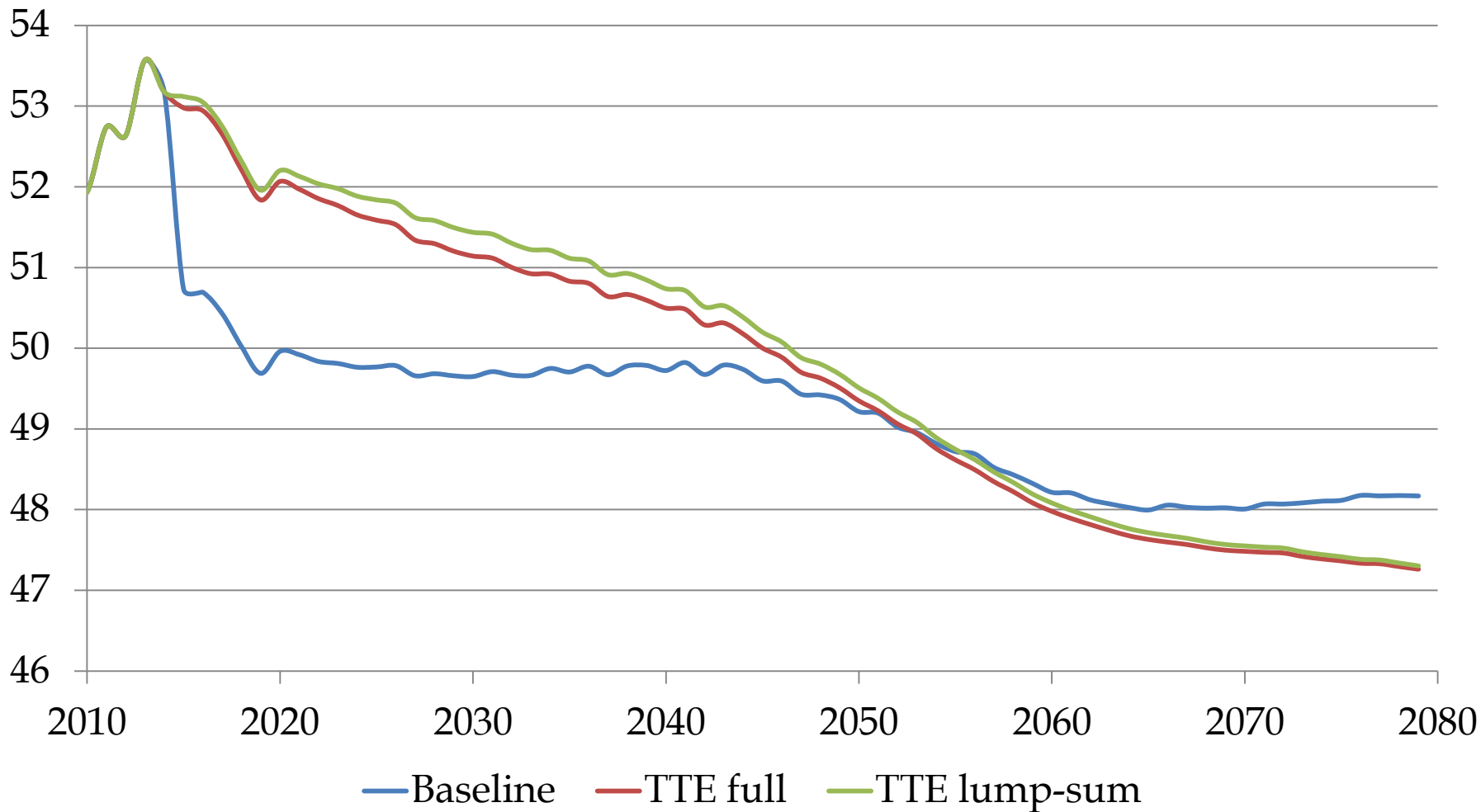
# Conversion from ETT to TTE Taxation Combined with Tax Relief: Effects on Structural General Budget Balance

Pct. of GDP

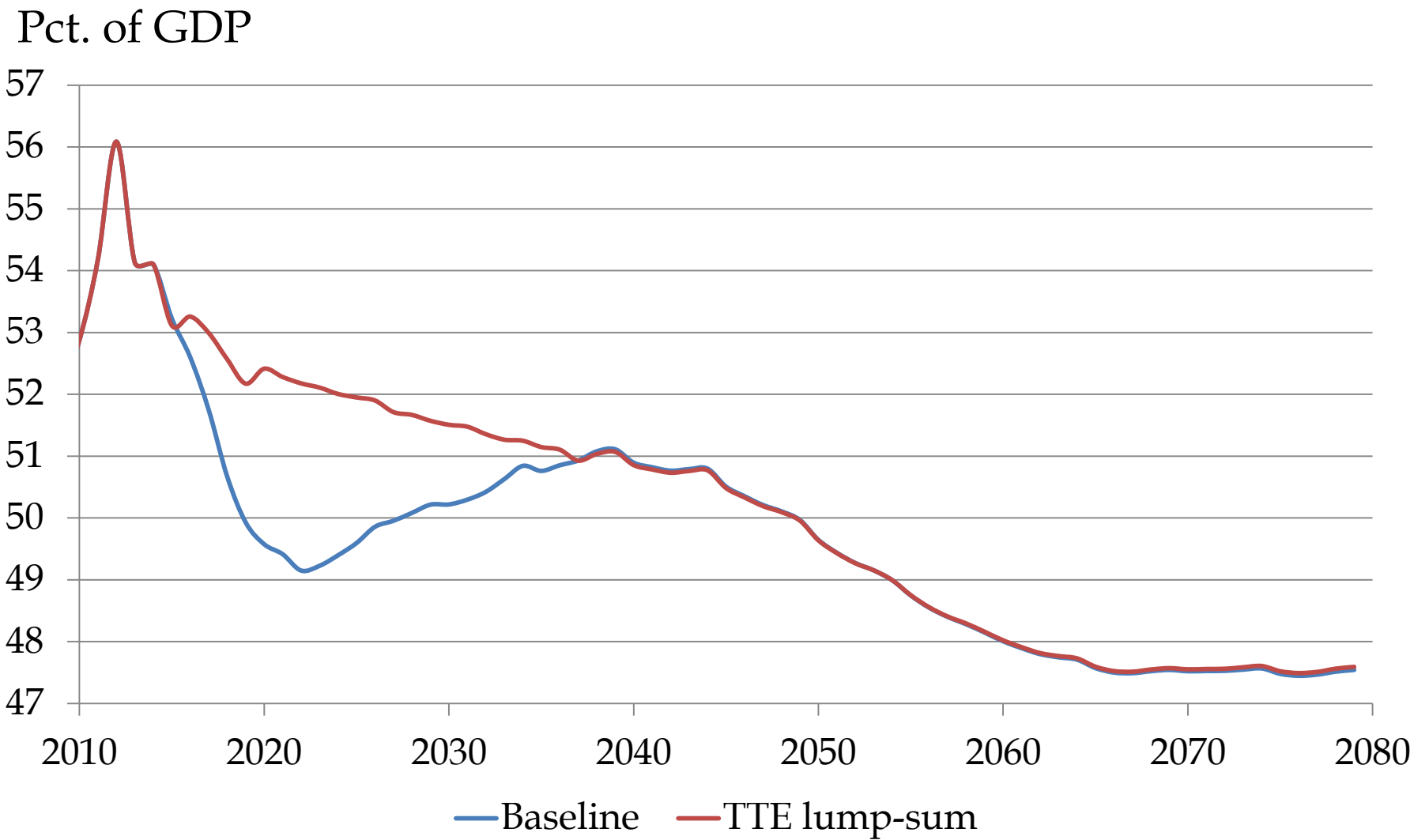


# Conversion from ETT to TTE Taxation Combined with Tax Relief: Effects on Government Revenues

Pct. of GDP



# Conversion from ETT to TTE Taxation Combined with Tax Relief: Effects on Government Expenditures





# Sustainability index

- Baseline: -0.07
- TTE (full): -0.06
- TTE (partial): -0.06
- TTE (tax relief): -0.33

# Conclusions

1. Keep OP schemes in place
  - a. Solve the poverty trap problem
  - b. Promote the “Danish model”
2. “Keep off the pension billions!”
  - a. Stick to ETT
  - b. Negotiate with EU
  - c. Promote comprehensive balance sheet and permanent income accounting framework for the public sector