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Expenditure Cuts and Access to Healthcare under the Great Recession in Europe

Income Groups Are Unequally Affected

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Beforehand

This presentation is based on the following – hot from the *virtual* press – article:

> Torfs, Lore, Adriaenssens, Stef, Lagaert, Susan, & Willems, Sara. (2021). The unequal effects of austerity measures between income-groups on the access to healthcare: a quasi-experimental approach. *International Journal for Equity in Health, 20*(1), 79. doi:10.1186/s12939-021-01412-7

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Appetizer: who got “squeezed” more?

- The ‘Great Recession’ is the prolonged series of economic downturns that started in 2008
- Tooze ends his monumental history of the ‘Great Recession’ with a comparison:

  > *1914 may also be a good way for thinking about the kind of historical problem that the financial crisis of 2008 represents* (Tooze, 2018, p. 473)

- He argues that similar effects can be discerned
- One notable absence in his little list of questions:
  which income group or social class suffered more?
- The effect on inequality probably is opposite:
  → a decrease due to World War I
  → a marked increase due to the Great Recession

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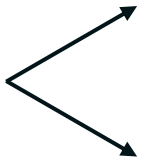
Introduction

- The general and the direct effect of any recession is: loss of welfare
- Within this, the distributional effects of the ‘Great Recession’ are intensely discussed
- We focus on the access to healthcare: *Unmet Medical Needs* (UMN)
- For purposes of clarity, we discern two potential sources of increased UMN due to the crisis:
  1. *Direct effects:* lower standard of living due to trends in wages, unemployment, or profits
  2. *Policy effects* following from the recession : Increased out-of-pocket payments, decreased supply, other barriers to access to care

Introduction

- We focus on the latter:
  do budget (under control of the severity of the recession) affect access to healthcare?
- In particular, we conjecture that the effect is more severe in low-income groups
- We develop an intuitive design that allow to control for the direct effects of the crisis
  → isolate health budget effects
- How? Comparisons between similar countries



with a same level of recession (negative growth), *but*

with different responses in the retrenchment of public health budgets

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II. Access to healthcare and the Great Recession

- 2008 marked the start of what is termed ‘the great Recession’
- Especially in Europe, this spilled over in a sovereign debt crisis
- Forced many governments to cut expenditures, also (but not universally) in healthcare
- Relationship between and
  - ✓the severity of the crisis, and
  - ✓health expenditures

  is quite strong
  (2008-14: r=0.603; p < 0.001)

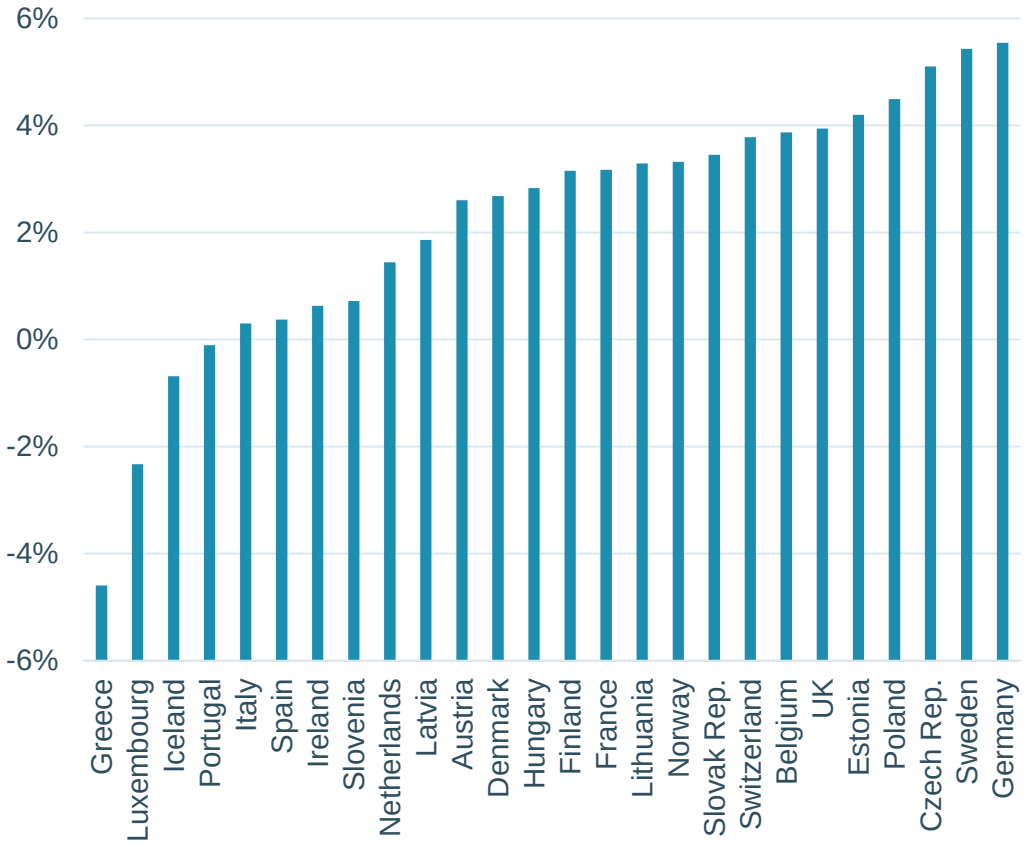

Figure 1. Average annual change in health expenditures, 2008-2014 (PPP)

Source: OECD Health Statistics

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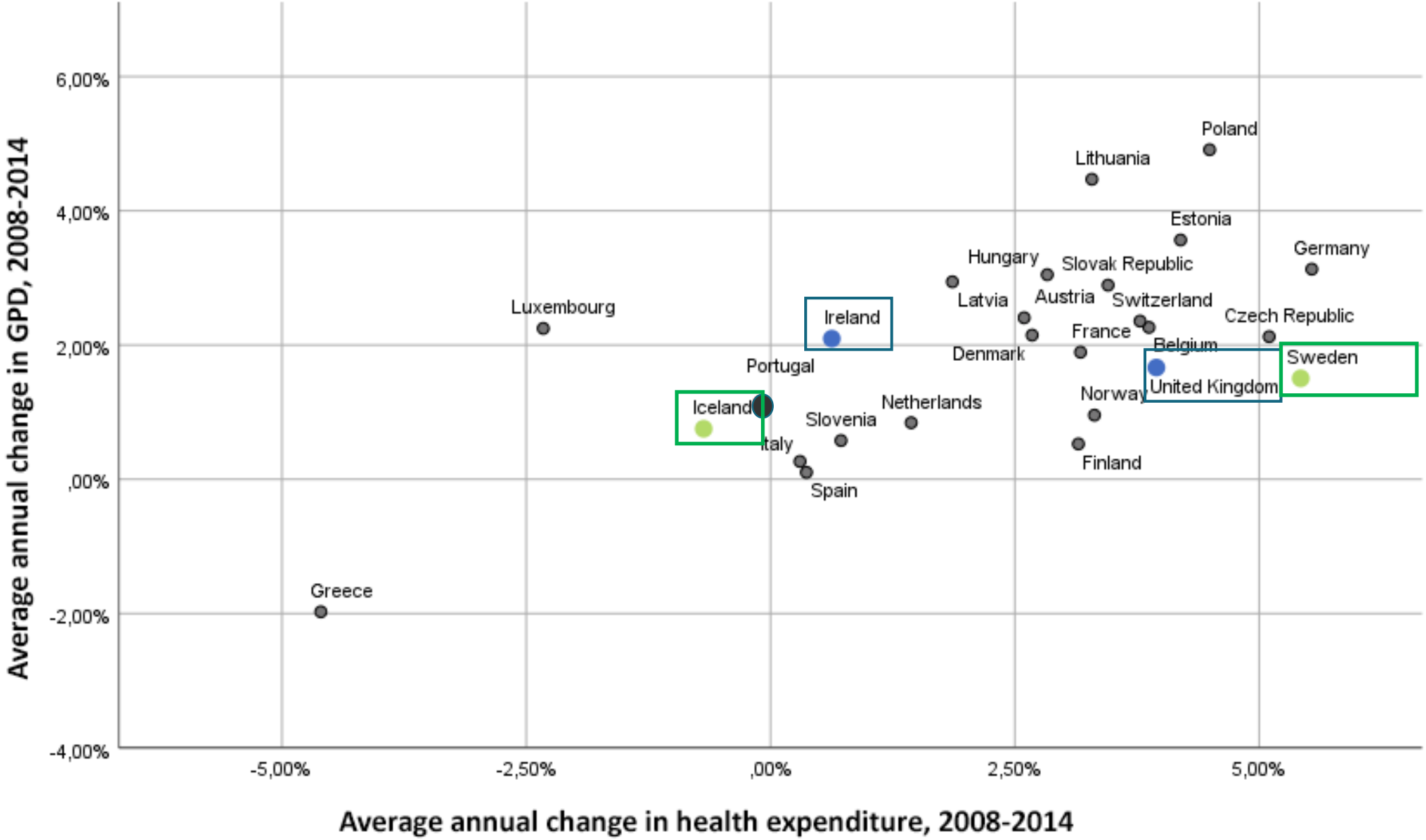

Figure 2. Average annual change in GDP and health expenditures, 2008-2014

Sources: OECD Economic References Database; Health Statistics

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II. Access to healthcare and the Great Recession

- Between both pairs of countries
  - ✓quite clear similarity in business cycle
  - ✓quite clear difference in health expenditures
- Provides a good basis for a natural experiment disentangling the effects of the Great Recession itself from the healthcare policy (in terms of budget)
- This difference also extends to qualitative dimensions of healthcare interventions

Policy measure	Country			
	IR	UK	IS	SE
I. Level of contributions				
▪ Cutbacks	✓		✓	
▪ Increasing or introducing user charges				
▪ Expanding benefits, targeting low-income groups	✓			
II. Volume and quality of public healthcare				
▪ Changing the scope of coverage	✓			
▪ Changing in the population of coverage	✓			
III. Costs of publicly financed healthcare				
▪ Reduction of health professional salaries	✓	✓	✓	
▪ Changes in provider infrastructure /capital investment	✓		✓	
▪ Centralization: hospital mergers			✓	
▪ Reduction of tariffs paid to providers	✓			

II. Access to healthcare and the Great Recession

- These elements make us expect differential effects in access to healthcare
- Our focus is not just on the effect
  healthcare budget → access to healthcare
- We test as to whether low-income groups suffer more from healthcare retrenchment
- Earlier one-country studies found a larger increase in unmet medical needs…
  - ✓ for low-income groups in Greece
    (Zavras et al, 2016)
  - ✓ for unemployed in Portugal (Legido Quigley et al, 2016)
  - ✓ for *above*-median incomes in Ireland (Schneider & Devitt, 2018)

II. Access to healthcare and the Great Recession

- We thus exploit the difference between the two pairs of countries with
  - ✓similar recession traits and background
  - ✓differences in healthcare budgets and policies
- The standard conjecture is: budget cuts strengthen the make low-income groups suffer more in terms of unmet medical needs
- The two pairs of countries have an interesting difference in terms of their policies toward low-income groups
- Especially the **Irish** health policy changes may be informative:
  - ✓Severe retrenchment
  - ✓Concomitant policy to spare the worst effects for low-income groups

  (Maresso et al, 2015; Mladovsky et al, 2012)

II. Access to healthcare and the Great Recession

- With this information, we define our working hypotheses as follows
    1. Austerity measures in healthcare affect low-income groups more
    2. Measures tailored for low-income groups mitigate or offset this effect
- The differential effect is estimated with a difference-in-difference-in-differences (DDD) approach

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III.1. Sample and data

- Individual and household data from the European Union Statistics on Income and Living Conditions program (EU-SILC)
- Most of the policy measures implemented in 2008-2014
  → data of the 2008 and the 2014 waves
- Repeated cross-sections
- Dependent variable: unmet medical needs (UMN)
  - ✓ respondents indicate as to whether they were unable to take up needed medical care the past year
  - ✓ they also provide the reason (7 + ‘other’)
  - ✓ we constructed a dummy of UMN due to cost-related reasons (direct costs, waiting lists, travel distance)

III.1. Sample and data

- Descriptives of UMN
- One problem: large proportion of missing values in Iceland and Sweden

		Iceland	Sweden	Ireland	UK
2008	UMN	1.6	2.4	1.7	1.1
	Missing %	56.4	50.2	0.1	10.6
	Total	6,618	14,889	10,116	16,823
2014	UMN	4.4	1.4	3.9	2.1
	Missing %	56.8	48.7	<0.1	0.1
	Total	6,934	11,277	10,629	17,905
	Difference pp	+2.8	-1.0	+2.2	+1.0

Table 2. Descriptives – UMN, 2008-2014

III.2. Specifications

- Difference-in-differences allows to estimate differences in trends due to a ‘treatment’ (usually some policy measure)
- It does compare
  - ✓ first difference: before-and-after outcomes for the country with austerity measures
  - ✓ second difference: before-and-after change in outcomes for the control country
- In our case, a DD approach would estimate as to whether austerity measures affect access to healthcare (it does!)
- We add a third difference (second interaction term): income groups
- Big advantage compared to the existing research: not just one country, but controlling for overall trends

III.2. Specifications

- We estimate a Linear Probability Model
  (advantage: coefficients comparable between models)
- Robust standard errors clustered at the level of country-years
- The following design elements are relevant:
  - ✓ treatment and control cases share geographic, historical, institutional, social-cultural, and economic commonalities
  - ✓ Also applies to welfare state institutions (including healthcare policies)
  - ✓ Set of control variables: age, gender, marital status, urbanization, basic activity, general health, suffering from a chronic illness, and limitations because of health status

III.2. Specifications

- One important requirement in DD(D): equal trends assumption in the absence of a treatment
- EU-SILC has not run long enough to test the parallel trends assumption in a pre-treatment period (the standard test)
- We developed several other tests and arguments:
  - ✓ Plausibility increases if the cases are similar in levels *before* the treatment (Kahn-Lang & Lang 2019)
  - ✓ Before 2008, EU countries invested in the coordination of health policies through OMC, counterbalancing potential divergence
  - ✓ Placebo test with Portugal as a control case

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IV. Results

- We test two different DDD-estimations
  1. Iceland control: Sweden)
  2. Ireland (control: UK)
- Results for the Iceland-Sweden effect are clear-cut, and in line with the prediction
- In Ireland, the effect is even stronger than predicted: middle-class citizens' UMN increases more than the first income quintile

	Iceland		Ireland	
	β	(SE)	B	(SE)
Income quintile 2	-0.0196**	(0.0005)	0.0029**	(0.0002)
Income quintile 3	-0.0162*	(0.0019)	0.0160**	(0.0003)
Income quintile 4	-0.0183**	(0.0007)	0.0058*	(0.0006)
Income quintile 5 (highest)	-0.0351**	(0.0011)	0.0005	(0.0005)
Control country	Sweden		United Kingdom	
*** p<0.01; ** p<0.001 Cluster-robust standard errors (country-year)**				

Table 3. DDD-results

IV. Results

- We tested how UMN-levels differed in 2008 and 2014 (χ^2):
  - ✓ 2008: only Q5 had lower UMN than Q1
  - ✓ 2014: Q3 scored higher than Q1 in UMN

	Iceland		Ireland	
	β	(SE)	B	(SE)
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*** p<0.01; ** p<0.001**
Cluster-robust standard errors (country-year)

Table 3. DDD-results

Content

V. Conclusion & discussion

- Clear-cut effects as predicted:
  - ✓ Austerity measures tend to hamper lower-income groups' access to healthcare more
  - ✓ In case of retrenchment, attenuating policies can limit and even overshoot this expected effect
- Problem with common trends?
  Difficult to test due to data limitations, but
  - ✓ Policies tended to converge pre-2008, due to OMC (IE-UK)
  - ✓ Differences before treatment were small
- Problem with self-reported UMN?
  - ✓ Item response rate in Iceland –Sweden is low
  - ✓ Hypothetical adaptation: more deprivation leads to less reported UMN? If anything, leads to an underestimation of low-income UMN trend