Resilience in Mental Health among Older Populations in Crises: The Role of Social Capital during the COVID-19 Pandemic

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Introduction – Ageing in Europe in times of crisis

- Increasing costs for sustaining health in an ageing Europe
  - E.g., old-age dependency ratio – 3:1 in 2022 projected to fall to 2:1 by 2050

- Meanwhile, Europe may be entering a period of 'polycrisis' e.g., ↑ risk of major health, economic and environmental crises (Richardson, 2025)
  - Older people often most at risk during large-scale crises

- Ageing societies + pressures on public finances + rising risks of major crises = protecting older people's health/wellbeing a major future challenge in Europe

- Aim of paper: to explore a potential source of support to mitigate the impact of crises on health and wellbeing among older people - *social capital*

Social capital, crises, and wellbeing (1)

- Social capital = social networks and their attendant norms of reciprocity and trust that facilitate cooperation for mutual benefit (e.g., De Silva et al. 2005)

- Social capital long linked to better health and wellbeing
  - Social support, positive psychological states (e.g., belongingness, perceived control or security), collective efficacy to overcome problems

- Social capital as stressor-buffer
  - Recent work during large-scale crises
  - Esp. effective for more vulnerable groups with other resource deficits?

Social capital, crises, and wellbeing (2)

- Level: Individual vs. contextual
  - Individual-level (or egocentric-network) resource: private good
    - Protective benefits accrued by individuals based on own, self-reported level of social capital (e.g., whether they are civically engaged)
  - Contextual-level (or a macro-level) resource as a property of all members of an area: public good
    - Protective benefits: accrued by all people based on average levels of social capital in an area (e.g., mean level of civic engagement in an area)

- Tie type: Bridging vs. bonding
  - Bonding ties: stronger social ties, within social groups e.g., family/friends
  - Bridging ties: weaker social ties, across social groups e.g., ties formed via formal civic engagement

Key aim and questions

- Key questions:
  - Can social capital protect older people's wellbeing during large-scale crises?
  - Is it particularly beneficial for more economically vulnerable groups?

- AIM: Use the COVID-19 pandemic as a natural experiment to test whether pre-pandemic social capital cushioned impact of the pandemic on mental health

Data

- SHARE: Survey of Health, Ageing and Retirement in Europe (longitudinal panel data)
  - Individuals (n=~50,000) aged 50 and older; 27 EU countries and Israel (95 NUTS-1 regions)

- 3-waves of data:
  - WAVE 8 mainstage: October 2019-March 2020 (peri-pandemic)
  - COVID-19 WAVE 1: June 2020-September 2020
  - COVID-19 WAVE 2: June 2021-August 2021

- European social survey
  - Social capital indicators aggregated to NUTS-1 level
  - Based on most recent pre-2020 wave in which a country participated in the ESS
  - No data for Malta

Key measures (1) – wellbeing and restrictions

- Psychological distress: ‘In the last month, have you been sad or depressed?’
  - 0=No; 1=Yes

- Pandemic impact: country-level degree of government restrictions
  - Daily scores matched to respondents based on date of interview
  - Mean score (0-100) across 4 dimensions of restrictions
    - ‘Stay at home requirements’; ‘Restrictions on social gathering’, ‘Work closing’, ‘Restrictions on internal movements’

Key measures (2) – Pre-pandemic social capital

- Individual-level social capital (WAVE 8):
  - Bridging: Have you done voluntary or charity work in the past 12 months?
  - Bonding: composite scale of strong-ties based on size, geographical closeness, contact frequency, and emotional closeness

- NUTS1-level social capital (mean scores):
  - Bridging: mean % involved in charity/voluntary organisations
  - Bonding: Informal networks of frequency of meeting ‘socially with friends, relatives?’ (mean frequency)

Key measures (3) – covariates

- Individual-level:
  - WAVE 8 baseline: highest qualification, gender, physical health, subjective financial situation
  - Time variant: age, partner in HH, n of people in HH, had COVID-19 since last survey

- NUTS1-level:
  - 2019: % with degrees, density, GDP per capita, GINI inequality, % aged over 65, rolling 7-day COVID-19 case rate

- Country-level:
  - Rolling 7-day new deaths per million

Modelling

- Multi-level mixed models
  - Level 1: observations; Level 2: individuals; Level 3: NUTS1 regions
  - Random slope (at NUTS1-level) for restrictions and wave dummies

- Fixed effects models (explicitly model *change*)
  - Clustered standard errors at NUTS1 region-level
  - Looking at pre- to short term (2000) and medium term (2021) peri-pandemic *changes* in mental health with changes in social restrictions

RESULTS

SHORT-TERM BUFFERING ROLE OF INDIVIDUAL- AND CONTEXTUAL-LEVEL SOCIAL CAPITAL

Modelling buffering role of social capital

	Model 1 Depression Mixed effects
Country-level social restrictions	0.001***
Regional civic engagement	
Regional friends/family connectivity	
Individual-level civic engagement	
Individual-level strong-tie connectedness	
Restrictions * Regional civic engagement	
Restrictions * Regional friend/family connectivity	
Restrictions * Individual-level civic engagement	
Restrictions * Individual-level strong-tie connectedness	
Constant	0.304***
	(0.079)
Individuals	136625
Regions	95

Notes: *** p<.001, ** p<.01, * p<.05; SHARE Mainstage wave 8 (pre-pandemic) and SHARE COVID-19 waves 1 and 2; models contain all individual and contextual covariates

Modelling buffering role of social capital

	Model 1 Depression Mixed effects	Model 2 Depression Mixed effects
Country-level social restrictions	0.001***	0.001***
Regional civic engagement		0.030
Regional friends/family connectivity		0.033
Individual-level civic engagement		-0.009*
Individual-level strong-tie connectedness		-0.008*
Restrictions * Regional civic engagement		
Restrictions * Regional friend/family connectivity		
Restrictions * Individual-level civic engagement		
Restrictions * Individual-level strong-tie connectedness		
Constant	0.304***	0.230*
	(0.079)	(0.104)
Individuals	136625	136625
Regions	95	95

Notes: *** p<.001, ** p<.01, * p<.05; SHARE Mainstage wave 8 (pre-pandemic) and SHARE COVID-19 waves 1 and 2; models contain all individual and contextual covariates

Modelling buffering role of social capital

	Model 1 Depression Mixed effects	Model 2 Depression Mixed effects	Model 3 Depression Mixed effects
Country-level social restrictions	0.001***	0.001***	0.002
Regional civic engagement		0.030	0.106
Regional friends/family connectivity		0.033	0.033
Individual-level civic engagement		-0.009*	-0.003
Individual-level strong-tie connectedness		-0.008*	-0.003
Restrictions * Regional civic engagement			-0.005**
Restrictions * Regional friend/family connectivity			-0.000
Restrictions * Individual-level civic engagement			-0.000**
Restrictions * Individual-level strong-tie connectedness			-0.000
Constant	0.304***	0.230*	0.211
	(0.079)	(0.104)	(0.124)
Individuals	136625	136625	136625
Regions	95	95	95

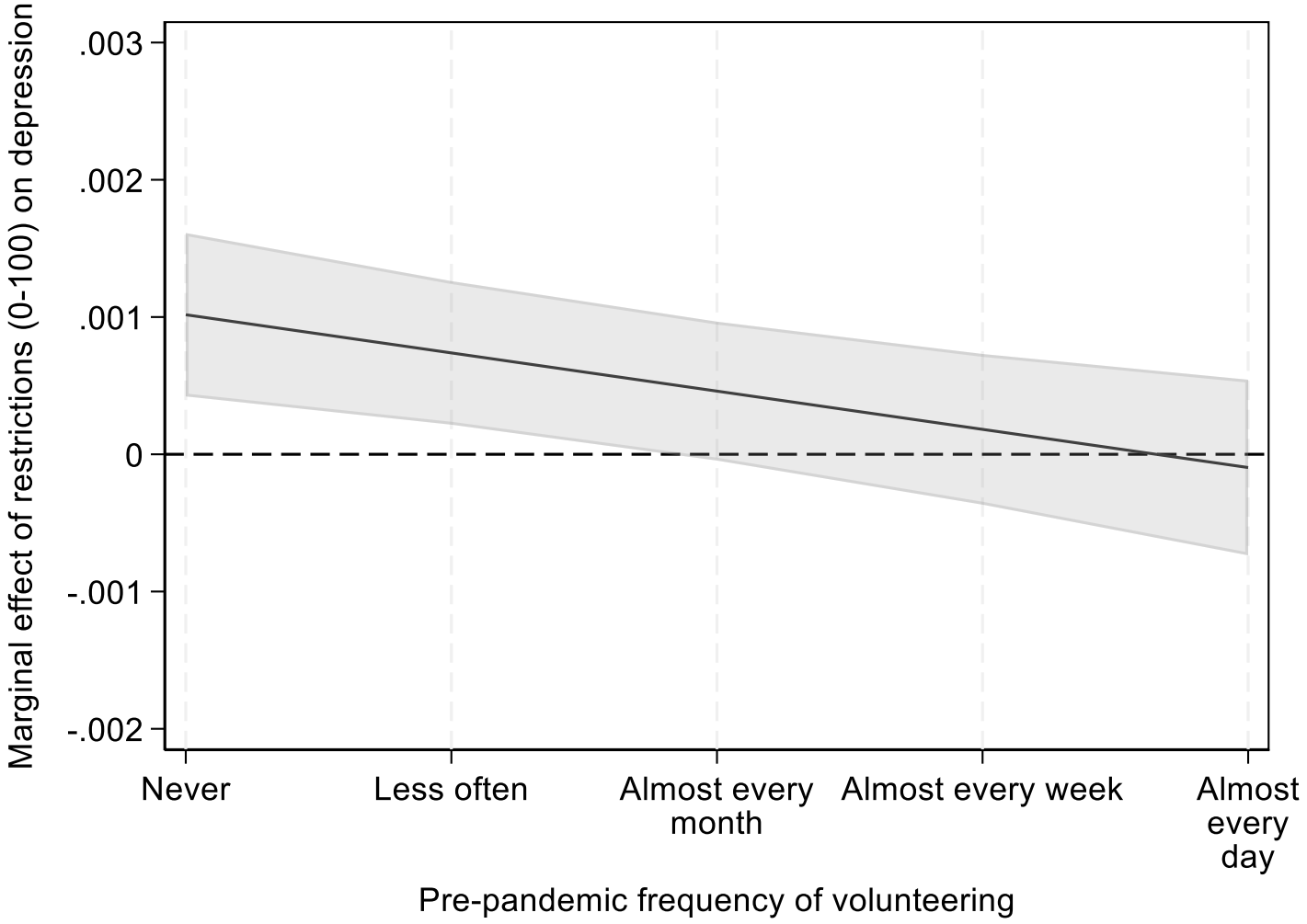
Notes: *** p<.001, ** p<.01, * p<.05; SHARE Mainstage wave 8 (pre-pandemic) and SHARE COVID-19 waves 1 and 2; models contain all individual and contextual covariates

Modelling buffering role of social capital

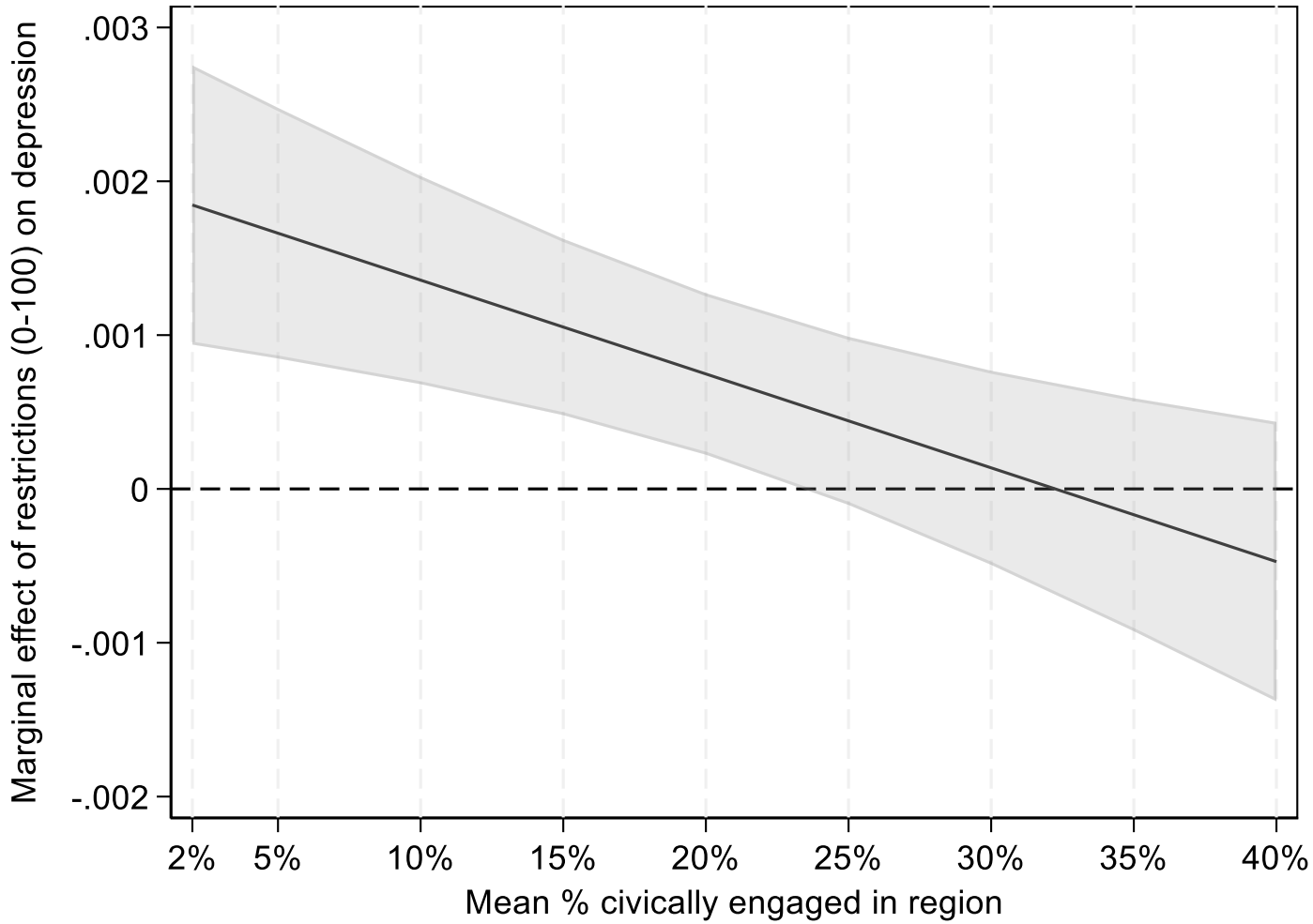
	Model 1 Depression Mixed effects	Model 2 Depression Mixed effects	Model 3 Depression Mixed effects	Model 4 Depression Fixed effects
Country-level social restrictions	0.001***	0.001***	0.002	0.002
Regional civic engagement		0.030	0.106	-
Regional friends/family connectivity		0.033	0.033	-
Individual-level civic engagement		-0.009*	-0.003	-
Individual-level strong-tie connectedness		-0.008*	-0.003	-
Restrictions * Regional civic engagement			-0.005**	-0.006**
Restrictions * Regional friend/family connectivity			-0.000	-0.000
Restrictions * Individual-level civic engagement			-0.000**	-0.000*
Restrictions * Individual-level strong-tie connectedness			-0.000	-0.000
Constant	0.304***	0.230*	0.211	0.428
	(0.079)	(0.104)	(0.124)	(0.800)
Individuals	136625	136625	136625	99648
Regions	95	95	95	95

Notes: *** p<.001, ** p<.01, * p<.05; SHARE Mainstage wave 8 (pre-pandemic) and SHARE COVID-19 waves 1 and 2; models contain all individual and contextual covariates

Impact of restrictions on distress by individual-level civic engagement



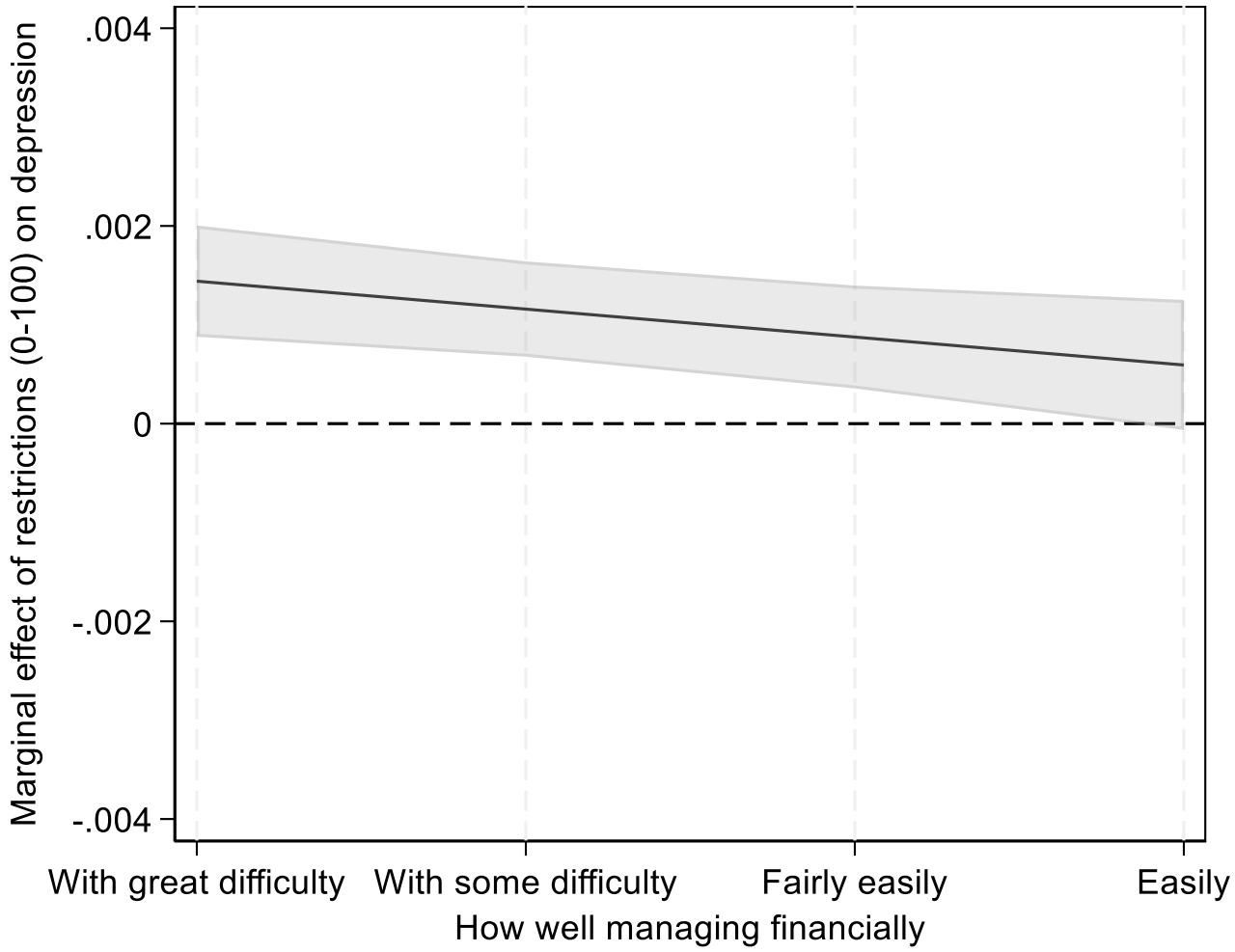
Impact of restrictions on distress by regional-level civic engagement



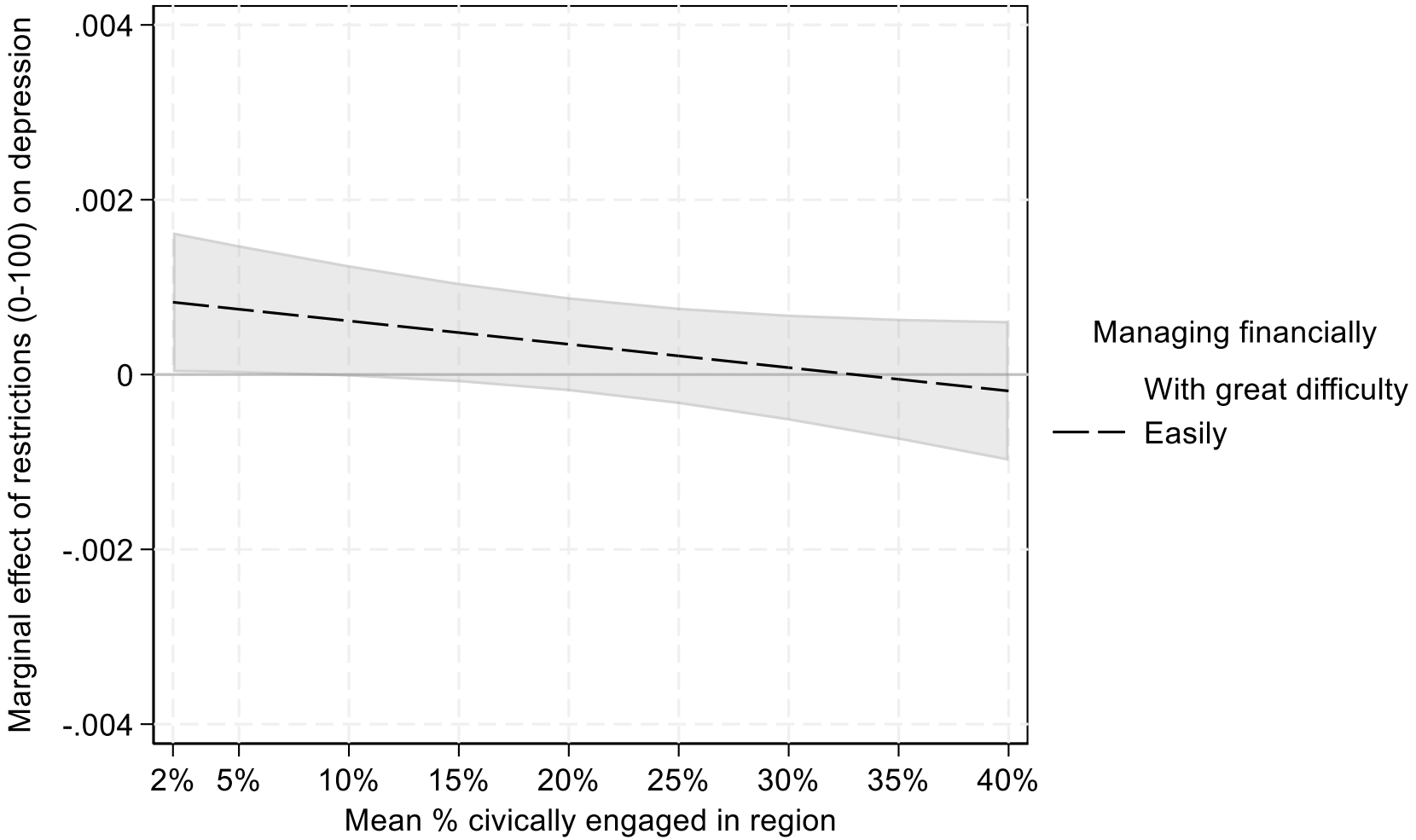
RESULTS

DO RESTRICTIONS HAVE STRONGER EFFECTS ON VULNERABLE GROUPS, AND DOES SOCIAL CAPITAL OFFER ADDITIONAL PROTECTION?

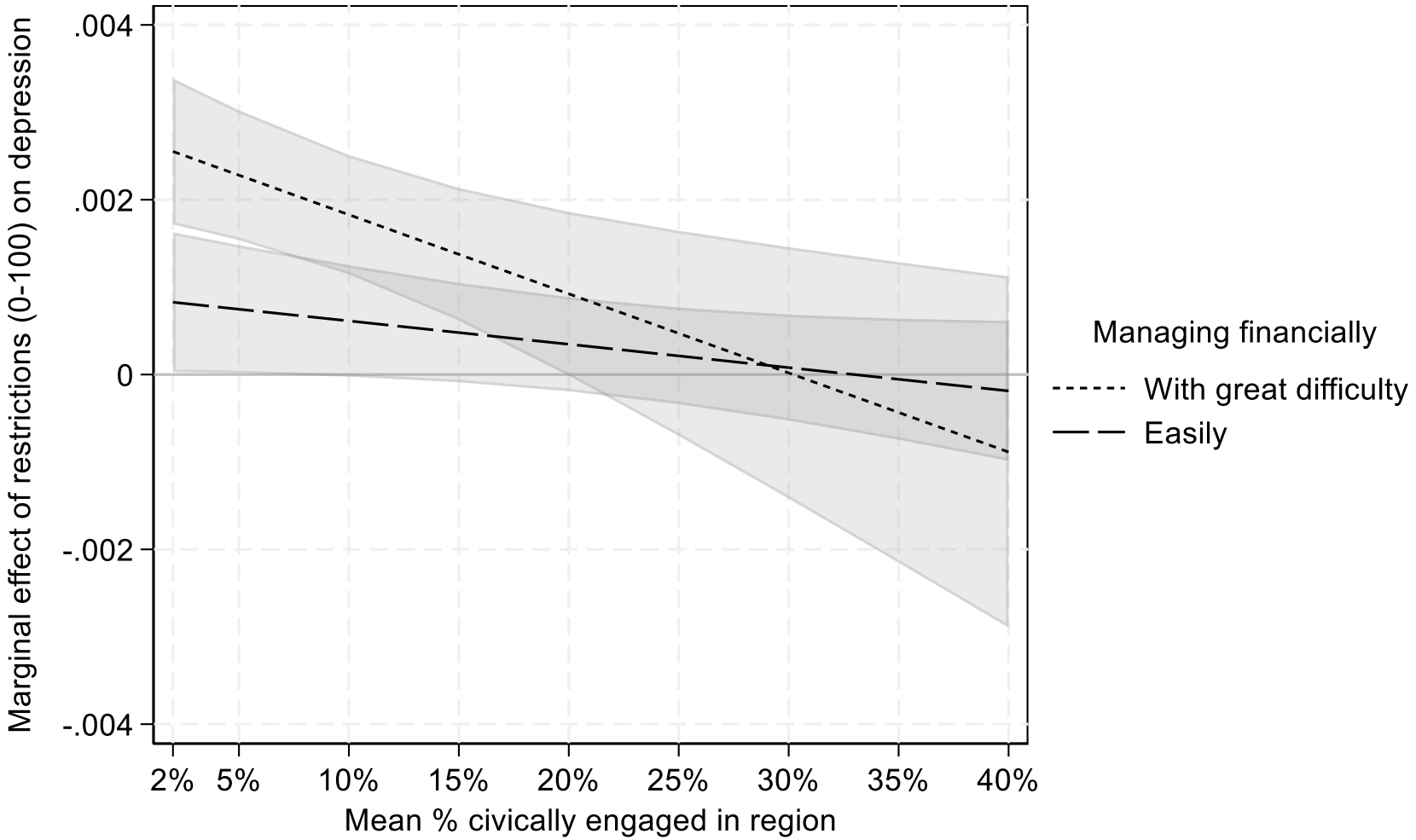
Impact of restrictions by individual-level subjective financial situation



Impact of restrictions by individual-level subjective financial situation and regional-level civic engagement



Impact of restrictions by individual-level subjective financial situation and regional-level civic engagement



DISCUSSION

TAKE-AWAYS AND LIMITATIONS

Key findings

- Increased government social restrictions increased depression
- However, both individual- and region-level civic engagement buffered impact of restrictions on depression
  - Region-level = stronger
- Little evidence family/friend networks cushioned harm
- Restrictions had a stronger impact on more financially insecure older people
  - However, the protective effect of regional social capital was stronger for more financially insecure older people

Limitations

- Fixed effects but time-variant unobserved heterogeneity
  - Fixed social capital measures: time variant unobserved heterogeneity
  - Robustness testing
- Impact of pandemic on social capital itself (baseline measures)
- What are the mechanisms explaining the buffering
- Extension to other crises

Thank-you for listening

Regional social capital as key buffer

- Do other regional variables act as buffers? Can these account for apparent buffering role of social capital?

- REGIONAL-LEVEL:
  - Population density, GDP, education, age composition
- NATIONAL-LEVEL:
  - Quality of governance, GDP % on healthcare, income inequality, Human Development Index score

- Social capital = primary buffer