

# **The Effect of Unemployment Benefits on Health, Living Standards and Unemployment in Turkey: Evidence from Structural Equation Modelling and Regression Discontinuity Design**

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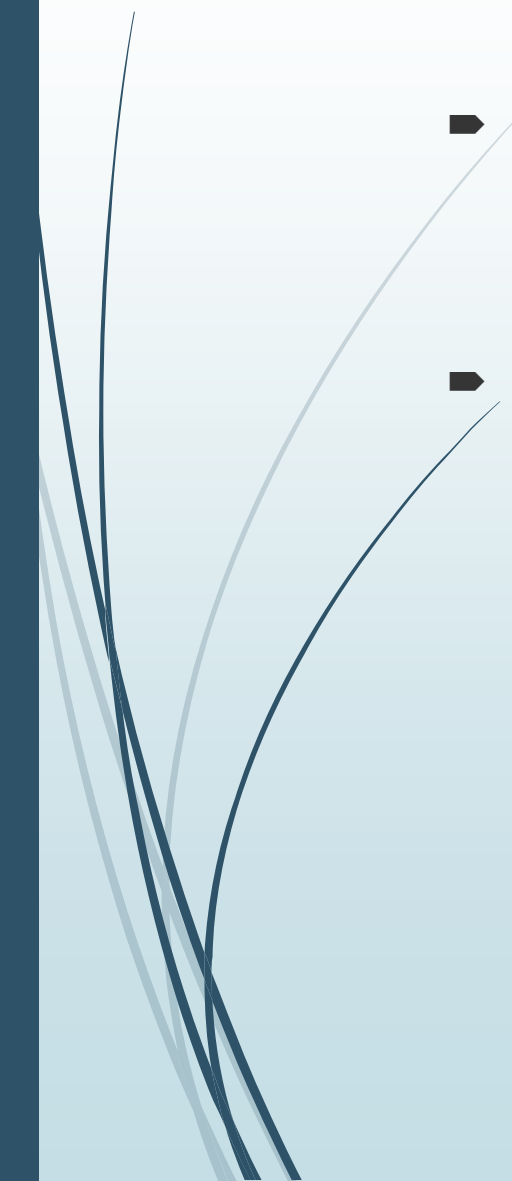


# AIM

- ▶ The loss of income caused by unemployment, financial tightness and even poverty lead to psychological diseases and physical health problems. Inadequate nutrition, inability to live in good conditions and mental depression are the main reasons for the emergence of health problems.
- ▶ It is found that unemployment is not only caused by loss of earnings, but also by removing the individual from the working environment and by reducing social interaction with other individuals.
- ▶ Studies support that social phobia, which occurs in individuals with reduced social sharing, brings along mental health problems. The evidence suggests that the decrease in social communication leads to self-confidence weakness in individuals, loss of status as a result of being unemployed and friends and relatives and triggers individual well-being and health problems



# AIM

- The aim of this study is to explore the impact of unemployment benefits on unemployment, health and living standards in Turkey, using detailed micro-level panel data derived by the Income and Living Condition Survey (ILCS) during the period 2007-2015
  - Policy evaluation is important to determine whether the government budget has been allocated to the appropriate policies, and to explore whether policies that do not meet the desired and targeted outcomes should be prevented or to reallocate resources to the most effective policies.
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# LITERATURE REVIEW

- Karsten and Klaus (2009) analysed 237 horizontal-cross sectional data and 87 panel data studies on the relationship between unemployment and mental health through a meta-analysis method. The meta-analysis results of the cross-sectional studies revealed a positive and significant relationship between unemployment and mental health. Findings showed that unemployed individuals had more mental distress and health disorders than those who continued to work.
- Rodriguez et al. (1997) using the “US National Survey of Families and Households” micro dataset, have found that individuals who do not receive unemployment benefits are depressed more often than those who do not. Cylus et al. (2014), using panel fixed effects method, have shown that unemployment benefits, received by the unemployed individuals at working age in the USA between 1968 and 2008, are effective in reducing suicide cases.



# LITERATURE REVIEW



- ▶ Two similar studies to ours is by Kuka (2018) and Shahidi et al. (2019) who explore the effects of unemployment benefits on health. Kuka (2018), explored the impact of unemployment insurance (UI) on health, by plausibly exogenous variation caused by changes in state UI law. The author suggests that more generous UI may experience less economic uncertainty improving mental health, by decreasing alcohol consumption, smoking and illness related to stress.
- ▶ Shahidi et al. (2019) using cross-sectional data from the Canadian Community Health Survey over the period 2009-2014 and implementing the PSM approach, have investigated the effect of unemployment benefits on self-rated health among the unemployed. The authors found a positive association between unemployment benefits and health outcomes.

# The Turkish Unemployment Benefits Scheme

- *Unemployment benefits scheme* covers both *unemployment cash assistances* provided especially to poor people during recession or crises periods and *unemployment insurance*. The eligibility for the unemployment insurance in Turkey, refers to employees, including foreign nationals, aged 18 or older working in the private or public sector.
- The unemployment benefits provide at least 1 percent of monthly earning up to a maximum. In particular, unemployment benefits are equal to 50 percent of the individual's last four months' average gross earnings, and in no case benefits can be higher than the official minimum wage.
- The reference period for the eligibility is the past three years before the job loss. The required minimum employment record is 600 days and of these at least 120 days must have been accumulated in the past year.
- The payment period varies according to the days of contributions. More specifically, an insured individual who has at least 600 days of contribution is eligible to receive the unemployment benefits for a period of 180 days. In the case of 900 days of contribution, the period of payment rises at 240 days, and if the insured person has contributed 1,080 days then she is entitled for a payment period of 300 days

# DATA AND METHODOLOGY

$$h_{it} = \Lambda_h H_{it} + \varepsilon_{it}^h \quad (1)$$

$$s_{it} = \Lambda_s SoL_{it} + \varepsilon_{it}^s \quad (2)$$

$$UB_{it} = a' \mathbf{X} + v_{it} \quad (3)$$

$$H_{it} = b_1 UB_{it} + b' \mathbf{Z} + u_{it} \quad (4)$$

$$SoL_{it} = c_1 UB_{it} + c_2 H_{it} + c' \mathbf{W} + e_{it} \quad (5)$$

# Regression Discontinuity Design (RDD) within SEM Framework

- Employment and working hours are unlikely to be independent from employment decisions. To identify the effect of unemployment benefits on health and living standards, we exploit the exogenous variation in the probability of receiving unemployment benefits due to the discontinuity in individual's eligibility of receiving the benefits, which is 600 days in the last three years

$$H_{it} = b_1 \mathbf{D}_{i,t} + f(UBE_{i,t} - c, a) + \mathbf{D}_{i,t} * f(UBE_{i,t} - c, a) + b' \mathbf{Z} + u_{it} \quad (6)$$

$$SoL_{it} = b_1 \mathbf{D}_{i,t} + f(UBE_{i,t} - c, a) + \mathbf{D}_{i,t} * f(UBE_{i,t} - c, a) + b_2 H_i + b' \mathbf{W} + e_{it} \quad (7)$$





# DATA



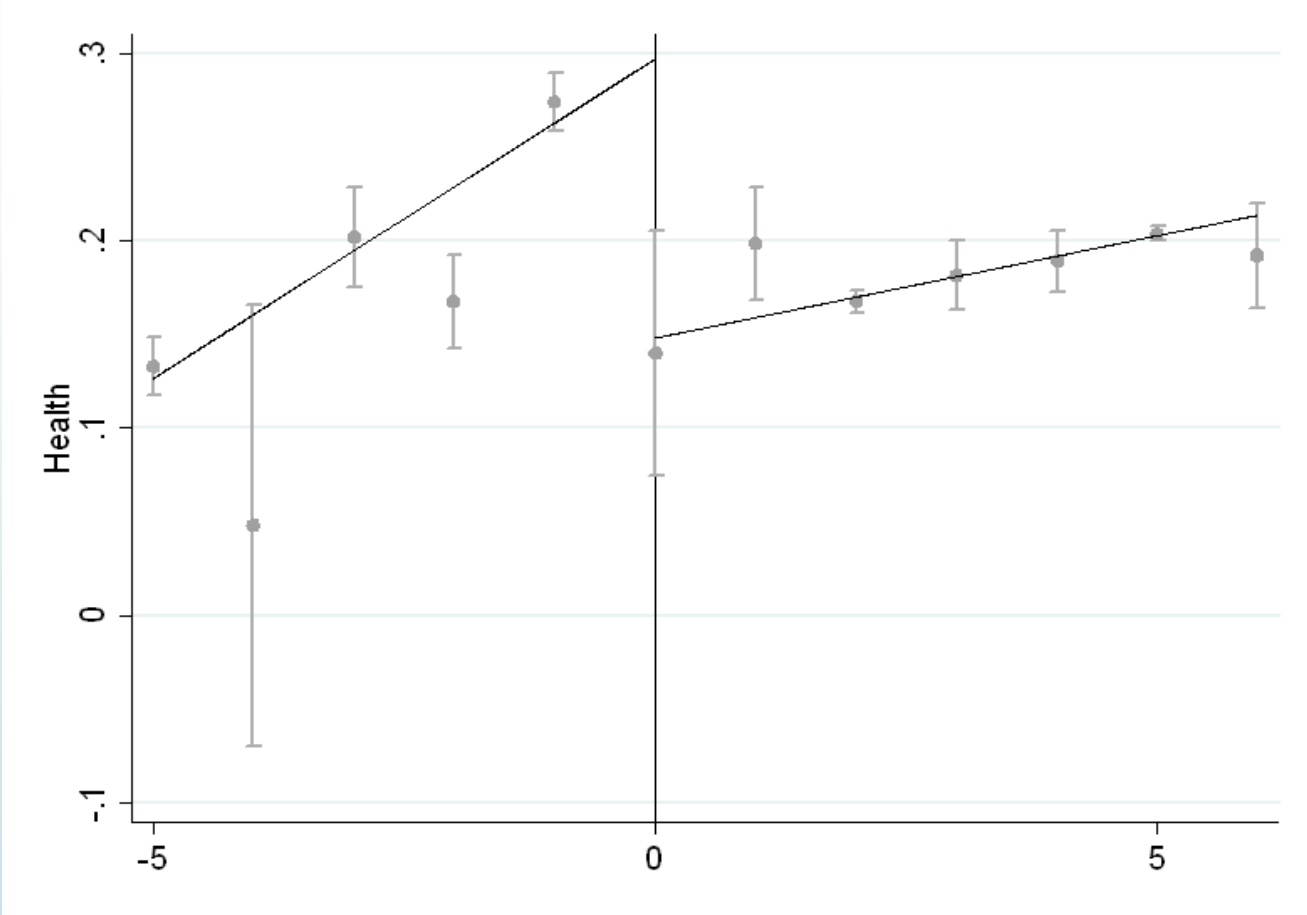
- The empirical work relies on data derived from the panel ILCs in the period 2007-2015 provided by the Turkish Statistical Institute (TURKSTAT).
- The ILCs is an annual panel survey, which includes a personal and a household questionnaire and its aim is to collect information that will allow for illustration and comparison of the income distribution between individuals and households, to measure the living conditions, poverty with monetary and non-monetary dimensions and social exclusion.
- The survey provides rich information on individual characteristics, such as gender, age, education, health, income and employment status among others, and household characteristics, including material deprivation, social benefits, income, house tenure status, dwelling and environment characteristics.

# SEM-PSM

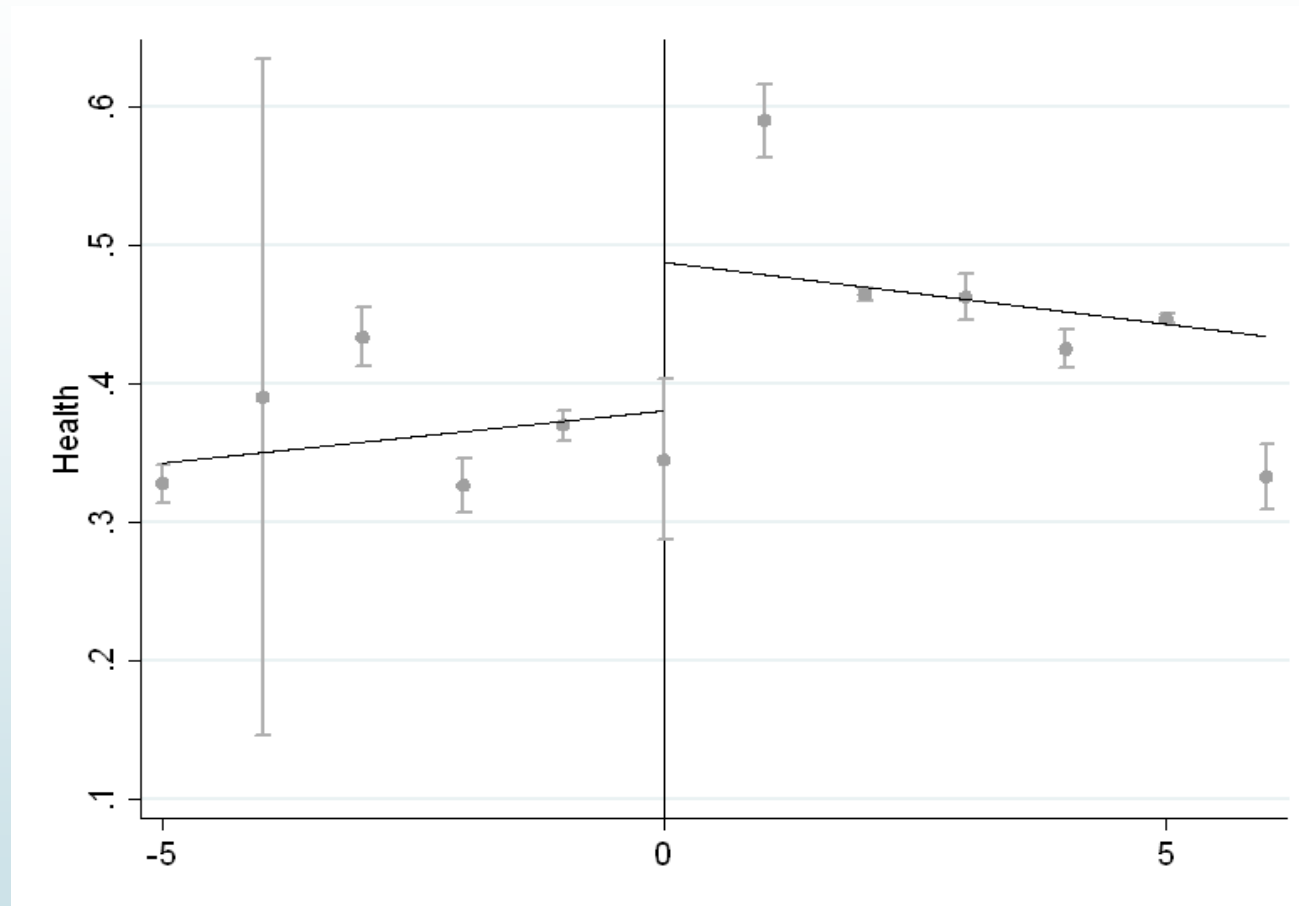
Variables	DV: UB	DV: Health	DV: SOL
Unemployment Benefits		-0.0477** (0.0201)	0.1203** (0.0235)
Health			-0.0827*** (0.0158)
Log of Household Income Excluding Unemployment, Disability and Sickness Benefits		-0.0973*** (0.0182)	
Log of Household Income Excluding Unemployment Benefits	-0.0067*** (0.0005)		0.7313*** (0.0217)
No Observations	5,961		
AIC	25,610.16		
BIC	26,245.99		

Robust standard errors within parentheses, \*\*\* and \*\* indicate significance at 1% and 5% level. UB denotes unemployment benefits, and SOL denotes standard of living. DV denotes dependent variable while AIC and BIC refer to the Akaike Information Criteria and Bayesian Information Criteria respectively

**Figure 1. SEM-RDD Estimates for the Health**



**Figure 2.** SEM-RDD Estimates for the SoL



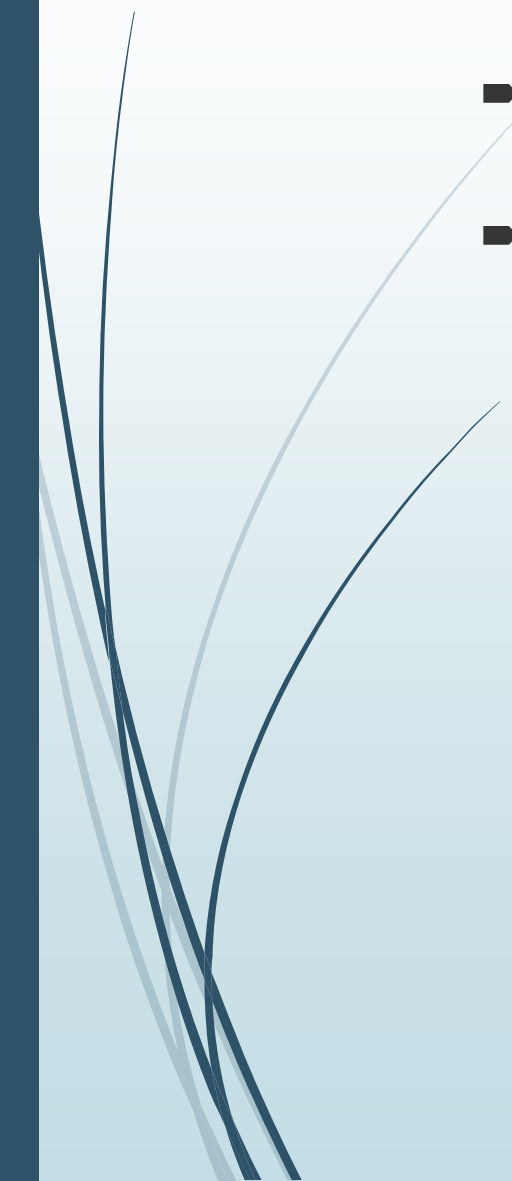
# SEM-RDD

	Bandwidth 1 month		Bandwidth 2 months		Bandwidth 3 months		Bandwidth 4 months		Bandwidth 5 months		Bandwidth 6 months	
	DV: Health	DV: SOL	DV: Health	DV: SOL	DV: Health	DV: SOL	DV: Health	DV: SOL	DV: Health	DV: SOL	DV: Health	DV: SOL
<b>b<sub>1</sub> (D)</b>	-0.0892** (0.0424)	0.1344** (0.0671)	-0.0735** (0.0344)	0.1238** (0.0601)	-0.075** (0.0363)	0.1159** (0.0512)	-0.071** (0.0327)	0.1122** (0.0626)	-0.068* (0.0354)	0.0924 (0.0628)	-0.062 (0.0569)	0.037 (0.0305)
<b>Health</b>		-0.057** (0.0271)		-0.063*** (0.0196)		-0.068*** (0.0154)		-0.074*** (0.0142)		-0.069*** (0.0128)		-0.061*** (0.0110)
<b>No Obs.</b>	4,883		6,344		8,382		9,552		11,492		13,217	
<b>AIC</b>	6,844.353		12,257.42		18,940.94		22,646.3		28,691.69		37,482.88	
<b>BIC</b>	7,193.381		12,660.48		19,372.75		23,089.5		29,150.95		37,960.16	
<b>TED Test</b>	-0.0024 (0.0376)	0.0393 (0.0262)										

Robust standard errors within parentheses, \*\*\*, \*\* and \* indicate significance respectively at 1%, 5% and 10% level. SOL denotes standard of living. DV denotes dependent variable, while AIC and BIC refer to Akaike Information Criteria and Bayesian Information Criteria respectively



# CONCLUSION

- Unemployment benefits initially have a positive effect on health and living standards
  - However, this effect lasts only for a short period of time around 5 months for health and 4 months for the SoL where the effect after that becomes insignificant.
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# CONCLUSION



- ▶ Even though the unemployment benefits scheme may have a short-run impact, this does not exclude the assumption that they can be beneficial for the individuals looking for a job and their families
- ▶ This type of social benefits may improve the health status, especially the mental health issues, smoothing the consumption during this period and enhance their living standards.
- ▶ However, it seems that this type of social benefits scheme does not provide any additional benefit in longer periods, and this shows that alternative policies should be implemented to reduce unemployment, such as training programmes, investments on industry and supply side policies that enhance productivity and increase wealth



Thank you!

