

RUHR-UNIVERSITÄT BOCHUM

THE GENERAL STATUTORY MINIMUM WAGE'S IMPACT ON GERMAN TRADE UNIONS' MEMBERSHIP

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Implementation of a statutory minimum wage

- The longest time, social partners resisted any statutory minimum wage for fear of losing their power in negotiation of employment and working conditions.
- Unions realigned their interest towards the introduction of a minimum wage regarding the erosion of the traditional collective bargaining system and the emergence of a low-wage sector.
- Unions saw the minimum wage issue as an opportunity to strengthen their organizational self-interest and to set an agenda with broad public support.
- The grand coalitions' agreement on a minimum-wage is grounded in a growing public support for a correction of a perceived injustice (working poor).
- However, it is yet unclear how the minimum wage impacts on the unions' interests in revitalising collective bargaining and a growing membership.
- **Research Question: How has the introduction of a statutory minimum wage affected DGB unions' membership among those who benefited from it?**

Influence of the minimum wage on union membership

Three mechanisms that mediate the relationship:

1a. Union consciousness (Some workers may join unions because of their awareness and appreciation of union achievements)	1b. Value of reputation (Free-riding may carry significant social costs that can be reduced only by union membership)	2. Dissonance between expectations of work and experience of work (pay levels, working conditions, and job satisfaction may pose a trigger to join a union)
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Increasing *union consciousness* reinforces the *value of reputation*

Hypotheses derived:

- **H₁:** The introduction of the new statutory minimum wage changes the probability of an entry into a union for people who benefit from the minimum wage.
 - *R₁: MW increases union consciousness and thereby the value of reputation (Increase)*
 - *R₂: MW reduces the dissonance between expectations & experience of work (Decrease)*
- **H₂:** The introduction of the statutory minimum wage changes the probability of a withdrawal from a union for people who benefit from the minimum wage.
 - *R₁: MW increases union consciousness and thereby the value of reputation (Decrease)*
 - *R₂: MW reduces the dissonance between expectations & experience of work (Increase)*

The data source

“Labour Market and Social Security” (PASS)

- Conducted every year since 2005.
- Wide range of topics with an emphasis on labour market and poverty.
- Overrepresentation of people in the low-wage sector.
- Panel study; participants are repeatedly interviewed every year.

Study population

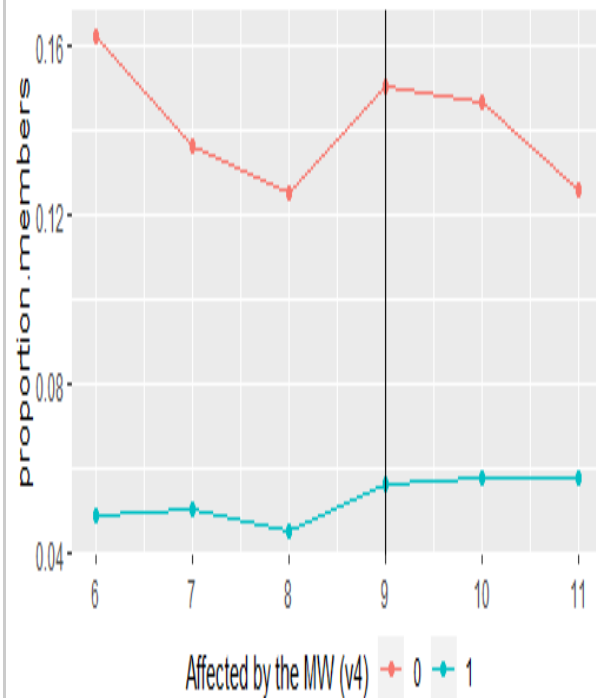
- 14,362 observations of 3,096 people between 2012 and 2017.
- 1,742 observed episodes of a union membership.
- 344 entries and 349 withdrawals observed.

Variables

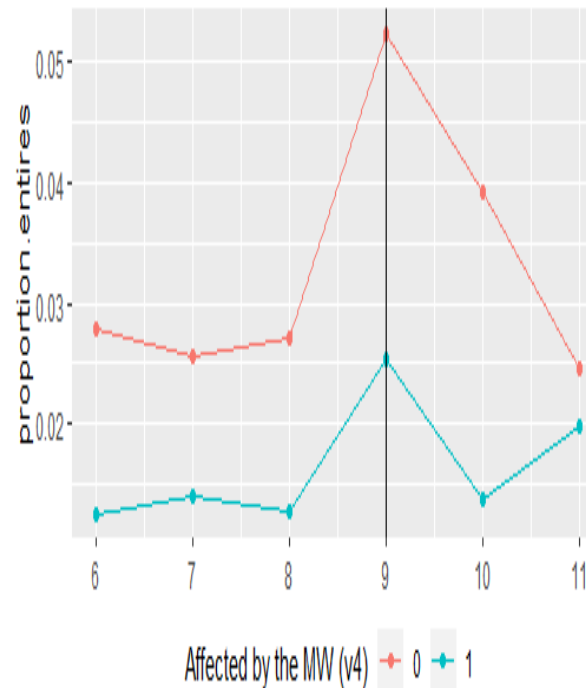
	<i>Affected by the Minimum Wage (MW)</i>		<i>Introduction of the MW</i>	
	<i>0</i>	<i>1</i>	<i>0</i>	<i>1</i>
Before 2015	hourly wage ≥ 9.5 €	hourly wage < 8.5€	X	
Since 2015	hourly wage ≥ 9.5 €	hourly wage < 9.5 €		X

Development of unions' membership

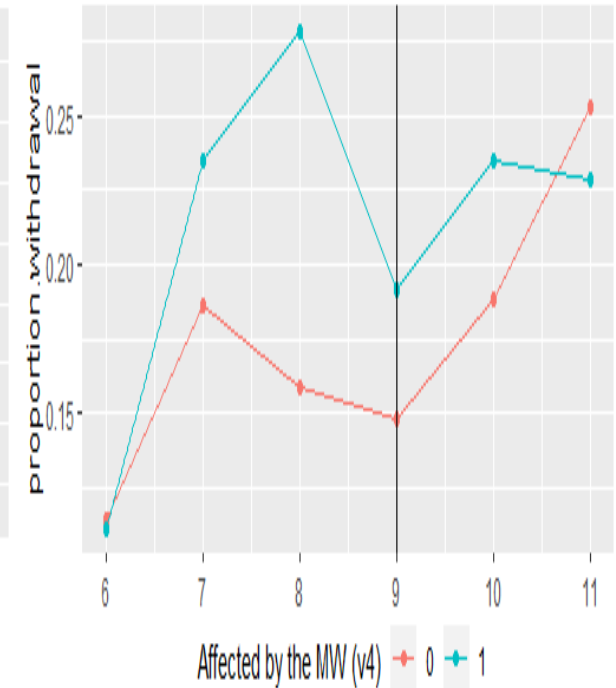
Share of union members of the population



Share of entries into unions



Share of withdrawals from unions



Procedure to test for causal effects

Identification of the causal effect

- Theoretical basis: **Rubin Causal Model (RCM)**
- Identification of the average treatment effect (ATE) by satisfaction of the conditional independence assumption (CIA) → search for confounders
- Detected confounder: *Working hours, Family income, Age, Nature, Nurture, Marital status*

Difference-in-Differences Model (DiD)

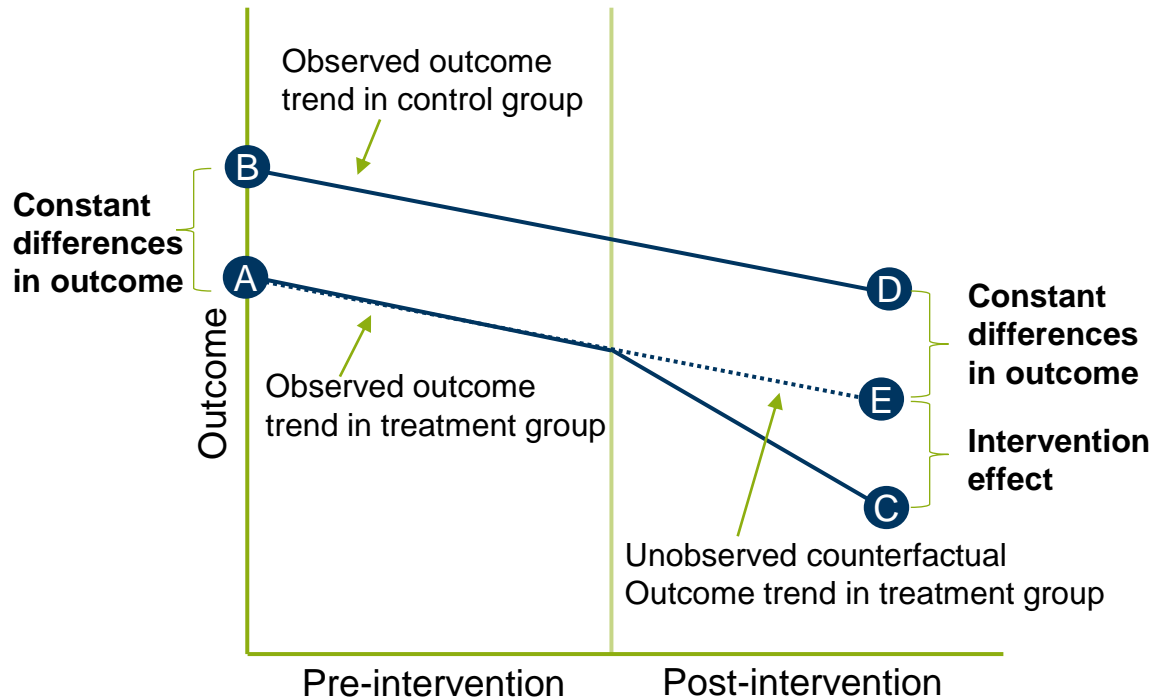
- Aim: satisfaction of CIA in respect to time-constant unobservable confounders (*Nature, Nurture*)
- Functionality: pre-post-comparison of treatment and control group
- Requirement: same time trends of treatment & control group

Propensity Score Matching (PSM)

- Aim: Ensuring same time trends & satisfaction of CIA in respect to time-varying observable confounders (*Working hours, Family income, Age, Marital status*)
- Functionality: Selection of statistical twins based on their probability of receiving the MW

Method for estimating the causal effects

Difference-in-Differences model



Source: Own representation

Coef	Calculation	Interpretation
β_0	B	Baseline average
β_1	D-B	Time trend in control group
β_2	A-B	Difference of group in pre-intervention period
β_3	(C-A) - (D-B)	Treatment effect (Differences in changes over time)

Regression model

$$Y = \beta_0 + \beta_1[\text{Time}] + \beta_2[\text{Intervention}] + \beta_3[\text{Interaction term}] + \beta_4[\text{Confounder}] + \varepsilon$$

[Interaction term: *Time*Intervention*]

Influence of the minimum wage... ... on entries into unions

	(1)				(2)		
	OR		(CI)		OR		(SE)
Year2015*MW	0.809	*	(0.3683 – 11.788)		1.307		(0.501 – 3.627)
Year2015	2.048	**	(1.283 – 3.3378)		1.794	*	(1.099 – 2.984)
MW	0.692		(0.3686 – 1.2641)		0.540		(2.232 – 1.175)
N	5,138				3,914		
AIC	1,105.79				945.94		

Notes: Endogenous variables: joining a union (1 = yes); Method: difference-in-differences logit model (ORs reported); confidence intervals in parentheses; ORs of factor variable branch-of-industry not reported.

Levels of significance: 0.05 = * / 0.01 = ** / 0.001= *** (one-tailed test).

Source: Own calculations based on the PASS data for 2013-2016.

Results:

- The introduction of the statutory minimum wage doesn't affect the entries in unions for the treated population
- The introduction of the statutory minimum wage increases the entries in unions *overall*

Influence of the minimum wage... ... on withdrawals from unions

	(1)				(2)		
	OR		(CI)		OR		(CI)
Year2015*MW	0.535		(0.196 – 1.433)		0.342		(0.073 – 1.408)
Year2015	1.519		(0.877 – 2.685)		1.518	*	(10.84 – 2.801)
MW	1.855	*	(0.903 – 3.747)		0.928		(0.273 – 2.795)
N	532				460		
AIC	494.33				430.39		

Results:

- The introduction of the statutory minimum wage doesn't affect the withdrawals in unions for the treated population
- The introduction of the statutory minimum wage increases the withdrawals in unions *overall*

Notes: Endogenous variables: ending a union membership (1 = yes). Method: difference-in-differences logit model (ORs reported); confidence intervals in parentheses; ORs of factor variable branch-of-industry not reported.

Levels of significance: 0.05 = * / 0.01 = ** / 0.001 = *** (one-tailed test).

Source: Own calculations based on the PASS data for 2013-2016.

Conclusion

Ambivalent success:

- ***H₁ & H₂ rejected***

Withdrawals from unions as well as *entries* in unions did not differ between the treated and untreated population in the aftermath of the minimum wage introduction

→ balance between the *Union consciousness- & Value of reputation*-channels and the *Dissonance between expectations & experience of work-channel*

- Overall the *entries* into unions increases significantly

→ favors the *Union consciousness- & Value of reputation-channels*

Outlook:

➤ **Short term** increase in union membership and proportion of entries and decrease in proportion of withdrawals (**Union consciousness & value of reputation**)

➤ **Long term** is still unclear

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