Openness and Democracy as Determinants of the International Terrorism Spread Trajectories

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Political Violence and Modernity

As a global issue, terrorism could arise only within the discourse about the global *(Fiss, Hirsch, 2005)*

State Transformation and Globalization

- State's organizational principles shift from the closed national state to unions and other forms of collaboration $\rightarrow$ Cosmopolitanism in politics? *(Held, 1995)*; $\rightarrow$ remained as a normative *(Archibugi, 2000)*
- The term openness of the political system is driven from the idea of the responsive state articulated in the liberal discourse *(Johannsen, Pedersen, 2008)*
- As the openness of the economic system, this was described by Rodrik in the context of the developing international economic polic. *(Rodrik, 1999)*
- The relationship between openness and the quality of economic institutions. *(Iversen, 2001)*

Research Question

- Is it relevant to expect the existence of the relationship between the processes of expanding the openness and spread of international terrorism? *(Gries, et al., 2011)*
- The role of the terrorism spread trajectories and the variety of issues;

Is there a significant interrelation between the characteristics of the political system openness and the spread of international terrorism in time dynamics across countries differentiated by political regime types?

Hypotheses

H_1

The character of terrorism changed significantly not after the Cold War, but later after the shift of terrorism values and foundations

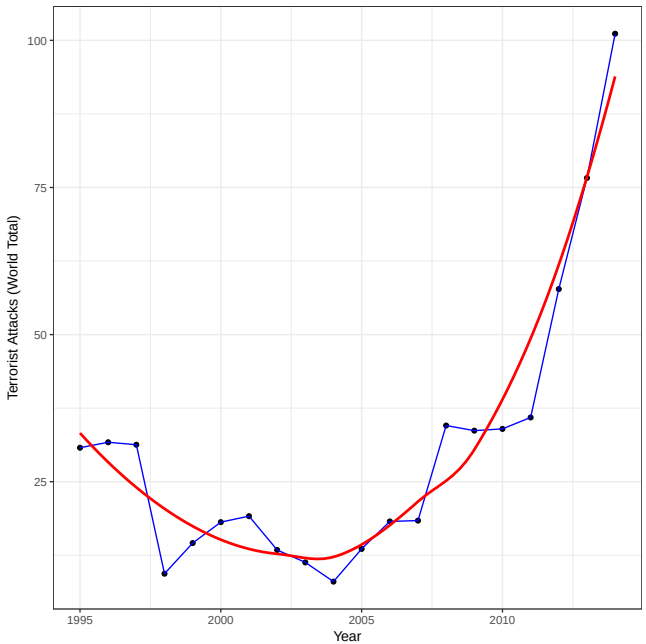
H_2

Despite the openness of democratic systems, the rationale is to expect less terrorist activity rather than in authoritarian countries

H_3

Particular characteristics of the openness are not described by a certain pattern, but have a random character

Data, Time and Methods



- Cross-contry sample of 84 countries (from 1995 to 2014): (1) since this year the data is fully available; (2) the discussions about the international terrorism are mostly devoted to the terrorist acts after the "Cold War" period.
- *A terrorist attack as the threatened or actual use of illegal force and violence by non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation (Keefer, Loayza, 2008)*
- The Global Terrorism Database (GTD).
- Logarithmic Dependent Variable $\rightarrow$ log-log model *(Benoit, 2011)*

Data, Time and Methods (II)

Indicators of the possibility of involving the Other in space *(Openness Determinants)*:

- **Economic growth**: in percent on the basis of GDP per capita from The World Bank Data *(Endres, 2011)*;
- **Development of the international tourism**: logarithmic measure in the number of annually arriving tourists *(Endres, 1991)*;
- **Refugees in a country**: The United Nations High Commissioner for Refugees UNHCR;
- **Media Freedom**: according to V-Dem;
- **Internet Dissemination**: according to V-Dem.

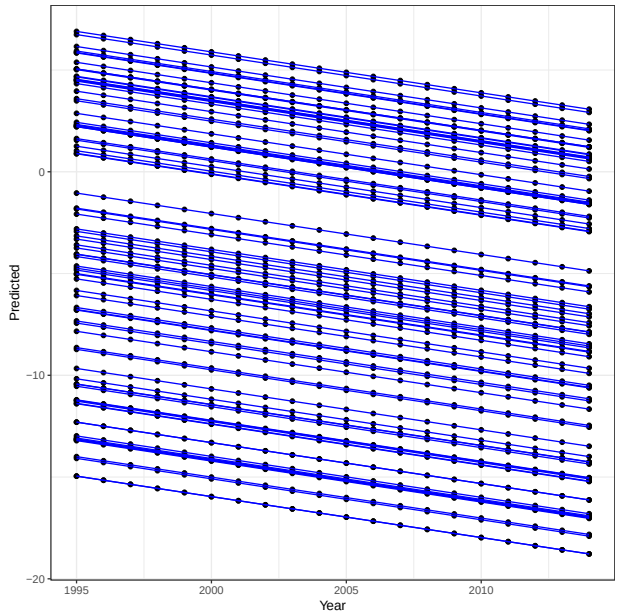
Method: mixed-effect (multilevel) models and LCM models for time dynamics ($ICC = 0.47,\ [0.39; 0.55]$)

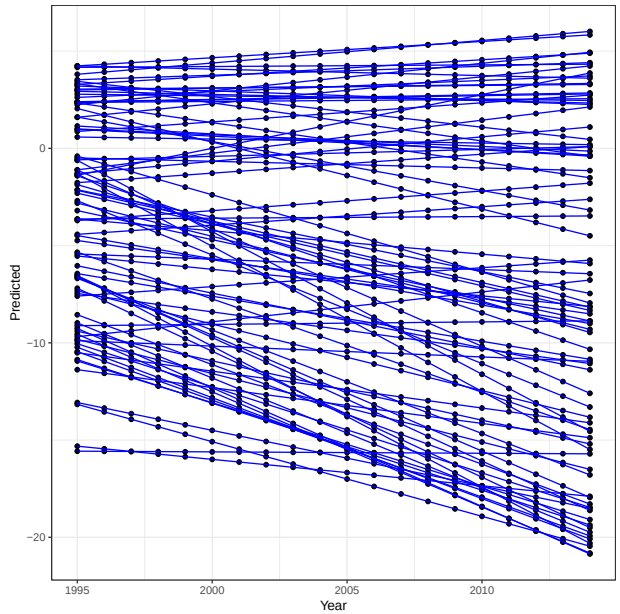
	Dependent variable:			
	Log Terrorist Attacks			
		panel linear		*linear mixed effects*
	(1)	(2)	(3)	(4)
Internet Dissemination	1.969***	1.958***	1.137*	
	(0.467)	(0.451)	(0.621)	
Log GDP Growth	−0.117*	−0.066	−0.075	
	(0.061)	(0.064)	(0.055)	
Log Tourism	1.216***	1.475***	−1.056**	
	(0.155)	(0.154)	(0.478)	
Log Regugee	0.725***	0.719***	−0.214	
	(0.078)	(0.075)	(0.159)	
FH Category	3.172***	3.355***	1.113	
	(0.539)	(0.522)	(0.696)	
Media Freedom	0.037**	0.034**	0.007	
	(0.016)	(0.016)	(0.014)	
Constant	−41.555***			−5.300***
	(3.320)			(0.774)
Observations	1,680	1,680	1,680	1,680
Adjusted R^2	0.135	0.152	0.494	
Log Likelihood				−5,850.136
F Statistic	43.661***	50.410***	19.730***	
Note:				*p<0.1; **p<0.05; ***p<0.01

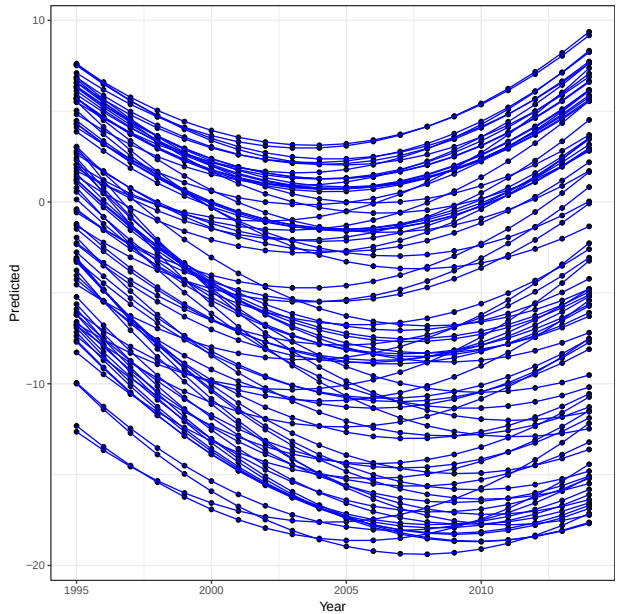
Time Specification

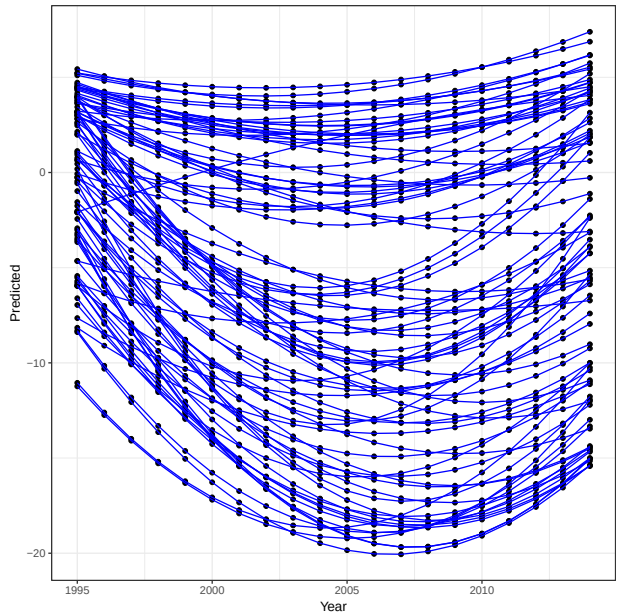
	Dependent variable:				
	Log Terrorist Attacks				
	(1)	(2)	(3)	(4)	(5)
Time	−0.201***	−0.201***	−1.298***	−1.298***	−1.533***
	(0.031)	(0.046)	(0.115)	(0.151)	(0.274)
$Time^2$			0.058***	0.058***	0.089***
			(0.006)	(0.007)	(0.032)
$Time^3$					−0.001
					(0.001)
Constant	−3.389***	−3.389***	−0.098	−0.098	0.226
	(0.826)	(0.712)	(0.779)	(0.707)	(0.775)
sd(Time)		0.32	0.33	0.97	0.97
sd($Time^2$)				0.04	0.04
sd(Intercept)	6.9	5.78	5.83	5.08	5.08
Obs	1,680	1,680	1,680	1,680	1,680
Log -L	−5,831.326	−5,803.375	−5,755.346	−5,742.328	−5,747.710
AIC	11,670.650	11,618.750	11,524.690	11,504.660	11,517.420
Note:					*p<0.1; **p<0.05; ***p<0.01

Empirical Bayes Regression Lines









	Dependent variable:				
	Log Terrorist Attacks				
	(1)	(2)	(3)	(4)	(5)
Time	-1.595^{***}	-1.605^{***}	-1.979^{**}	-1.877^{***}	-2.021^{***}
	(0.188)	(0.186)	(0.834)	(0.240)	(0.543)
$Time^2$	0.066^{***}	0.067^{***}	0.064^{***}	0.064^{***}	0.070^{**}
	(0.009)	(0.009)	(0.009)	(0.009)	(0.028)
FH Category	2.440^{***}	2.415^{***}	2.814^{**}	2.496^{***}	2.430^{***}
	(0.826)	(0.828)	(1.275)	(0.823)	(0.822)
GDP Growth	-0.159^{**}	-0.149^{**}	0.092	0.097	0.421^{**}
	(0.062)	(0.071)	(0.134)	(0.134)	(0.176)
Refugee	0.301^{*}	0.306^{*}	0.060	0.077	0.025
	(0.168)	(0.169)	(0.202)	(0.195)	(0.215)
Tourism	1.034^{***}	1.013^{***}	1.203^{***}	1.086^{***}	1.127^{***}
	(0.384)	(0.386)	(0.445)	(0.384)	(0.381)
Media	0.007	0.006	0.003	0.010	0.010
	(0.018)	(0.018)	(0.034)	(0.018)	(0.018)
Internet_1	4.255	4.286	2.120	4.394	4.349
	(3.084)	(3.114)	(4.470)	(3.103)	(3.086)
Internet_2	6.963^{**}	6.902^{**}	9.055^{**}	7.394^{**}	7.242^{**}
	(3.040)	(3.058)	(4.280)	(3.061)	(3.051)
Internet_3	6.512^{**}	6.431^{**}	6.159	6.759^{**}	6.674^{**}
	(2.959)	(2.975)	(4.001)	(2.979)	(2.968)
$Time \times GDP$			-0.025^{**}	-0.025^{**}	-0.141^{***}
			(0.012)	(0.012)	(0.043)
$Time \times Refugee$			0.047^{**}	0.043^{**}	0.094^{*}
			(0.019)	(0.018)	(0.055)
$Time^2 \times GDP$					0.007^{***}
					(0.002)
$Time^2 \times Refugee$					-0.003
					(0.003)
Constant	-28.138^{***}	-27.786^{***}	-29.356^{***}	-28.087^{***}	-28.911^{***}
	(6.903)	(6.935)	(8.684)	(6.978)	(7.013)

Model Estimation

	Dependent variable:				
	Log Terrorist Attacks				
	(1)	(2)	(3)	(4)	(5)
sd(Intercept)	5.51	5.44	5.49	5.42	5.19
sd(time)	1.18	1.15	1.13	1.11	1.16
sd($time^2$)	0.05	0.05	0.05	0.04	0.05
sd(tourism)		0.24	0.21	0.22	0.19
sd(refugee)		0.17	0.18	0.17	0.14
Observations	1,680	1,680	1,680	1,680	1,680
Log Likelihood	−6,084.365	−6,082.632	−6,092.798	−6,083.812	−6,089.278
Akaike Inf. Crit.	12,204.730	12,207.260	12,243.590	12,213.620	12,228.560
Note:					*p<0.1; **p<0.05; ***p<0.01

- Minor interaction effects are not included in the table;
- Maximum likelihood estimation method;
- BLUP-estimates for Random Effects

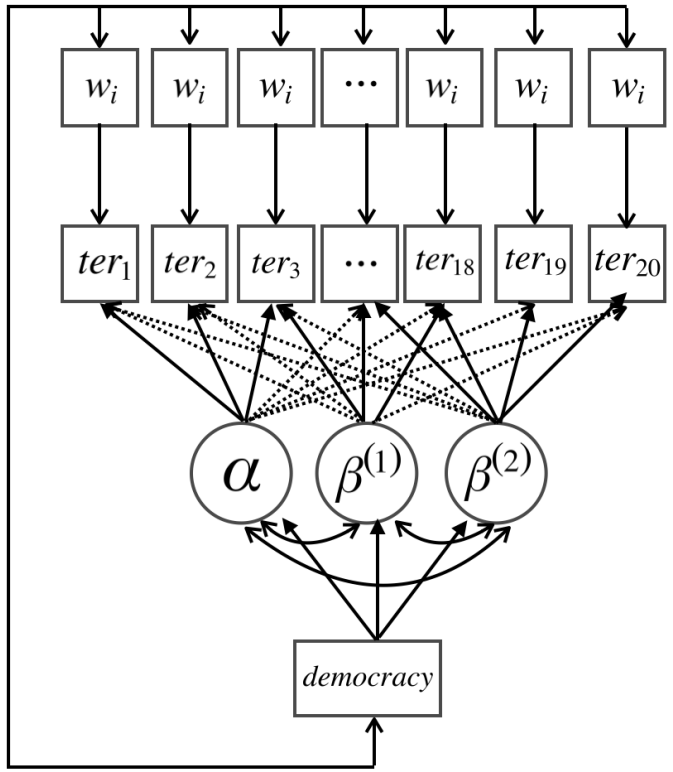
Robustenss Check

Modeling trajectories using latent growth curves. Equations (1) for LCM and (2) for a mixed effect model are particularly similar *(Bollen, Curran, 2006)*

$$\mathbf{y} = \mathbf{\Lambda}\mu_\eta + \mathbf{\Lambda}\zeta + \epsilon \quad (1)$$

$$\mathbf{y} = \mathbf{X\Gamma} + \mathbf{ZU} + \varepsilon \quad (2)$$

The question of separating the net effect of time as a certain trajectory and explaining the part of the dispersion by some exogenous factors is present both in LCM and ME-Models *(Curran, et al., 2004)*



Results

- The time effect is non-linear, is of a quadratic nature. The extremum is fixed at the 2004 point $\rightarrow$ ISIS activity and ;
- The difference in the international terrorism trajectories by political regime takes place at the start, but then does not allow to single out a systematic pattern in individual deviations;
- The presence of refugees is meaningful for individula trakectories as deviation and in time dynamics as pattern;
- Freedom of media is not significant, in contrast to the significance of high intensive spread of the Internet;
- Effect of GDP: Focus from rich countries over time shifted to the poor, but still not exponentially;
- Endogeneity problem with tourusts effect.

Conclusion

- Terrorists really changed the agenda in the 1990s and seemed to "ambush", but the final change in the agenda of the movement took place only in the 2000s and remains so far;
- As a result of the disrupted safety discourse, irrational sense of fear arises, on the basis of which the legitimization of order and the construction of space takes place *(Lefebvre, 1991)*
- The idea of openness through the physical involvement of others in a space that dominates other forms of involvement;
- Significance of the Internet dissemination is not clear;
- Political regimes are constantly differentiated; patterns and trajectories vary across countries and time.

Limitations of the study

- Trade-off between the extended set of the openness indicators and the dimensionalty problem;
- Deep conceptual analysis is needed to clarify the definition of openness;
- Absence of variables at the second level (Unchanged predictors) $\rightarrow$ possible respecification of the multilevel model;
- Problem of endogeneity, connected with the relationship between the spread of terrorism and tourism.

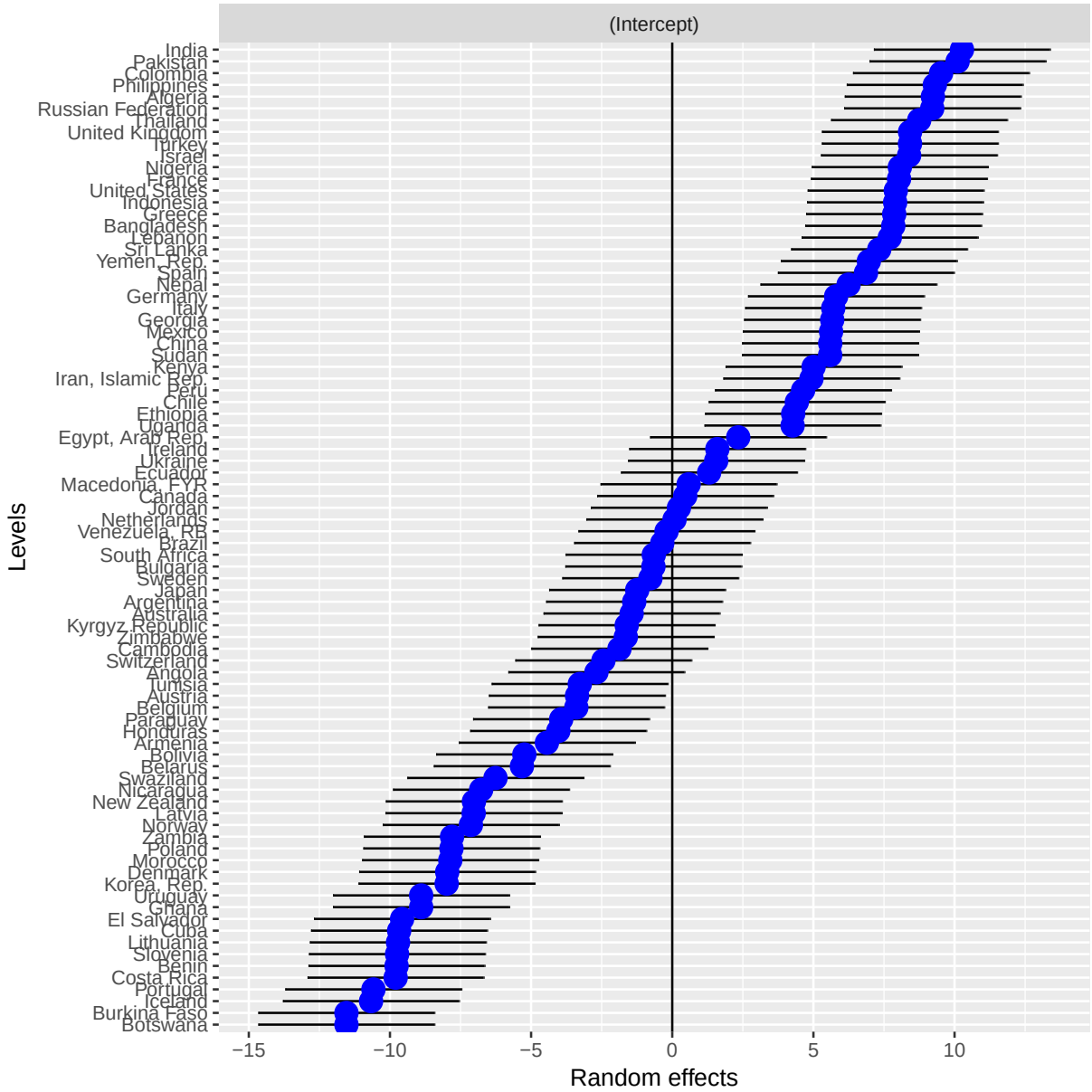
Acknowledgements

The author thanks Daria Salnikova *(HSE)* and Shawn Treier *(ANU, UMN)* for comments on the analysis part and Nikita Savin *(HSE)* for valuable discussions.

Appendix A: Sample

Algeria	Denmark	Kyrgyz Republic	Spain
Angola	Ecuador	Latvia	Sri Lanka
Argentina	Egypt, Arab Rep.	Lebanon	Sudan
Armenia	El Salvador	Lithuania	Swaziland
Australia	Ethiopia	Macedonia, FYR	Sweden
Austria	France	Mexico	Switzerland
Bangladesh	Georgia	Morocco	Thailand
Belarus	Germany	Nepal	Tunisia
Belgium	Ghana	Netherlands	Turkey
Benin	Greece	New Zealand	Uganda
Bolivia	Honduras	Nicaragua	Ukraine
Botswana	Iceland	Nigeria	United Kingdom
Brazil	India	Norway	United States
Bulgaria	Indonesia	Pakistan	Uruguay
Burkina Faso	Iran, Islamic Rep.	Paraguay	Venezuela, RB
Cambodia	Ireland	Peru	Yemen, Rep.
Canada	Israel	Philippines	Zambia
Chile	Italy	Poland	Zimbabwe
China	Japan	Portugal	Cuba
Colombia	Jordan	Russian Federation	Korea, Rep
Costa Rica	Kenya	Slovenia	South Africa

Appendix B: Random Effects (Null model)



Appendix C: Normal Distribution of Random Effects

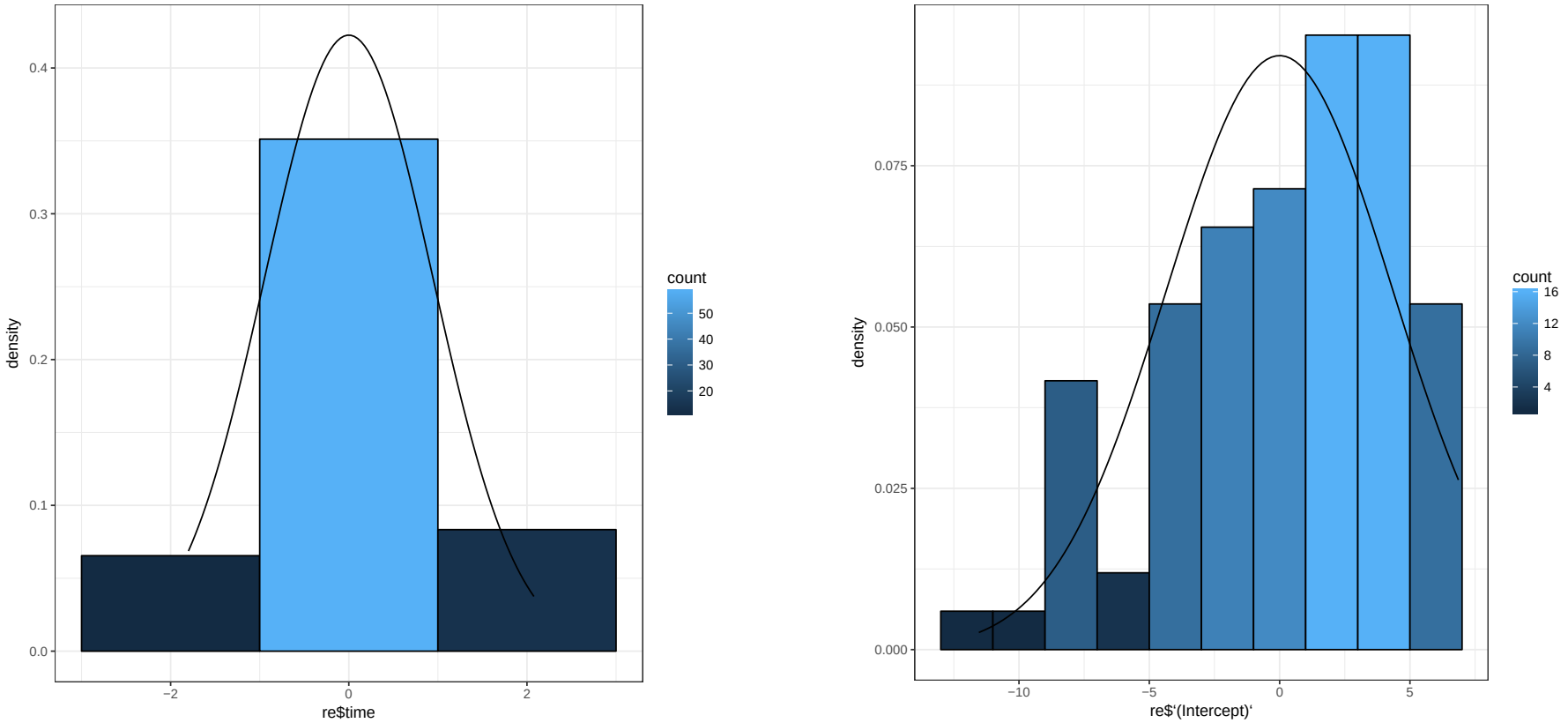


Figure: For other Random Effects this assumptions is not identified clearly