

Evaluation of Political Trust in the ESS

Diana Zavala
ESS Researcher

March 2012
CSDI meeting

Outline

- Evaluation of concepts in the ESS
- Analyses of Political trust
 - Invariance test
- How SQP can help for exploring causes of invariance

Evaluation of concepts in the ESS

- Cross cultural survey research requires that the **measures used to compare** groups of countries or populations **are comparable**
- In the ESS the methodological rigour at all stages of the survey design focuses on cross-country comparability.

Evaluation of concepts in the ESS

- Permanent program on evaluation of concepts in the ESS
- Political trust is a concept widely used both as independent and dependent variable in substantive models.
- Worth to evaluate if the questions used to measure the concepts for political trust are equivalent or invariant =
- They are interpreted in the same way by all respondents regardless of their cultural context or national origin.

Analysis of Political trust

Using this card, please tell me on a score of 0-10 how much you personally trust each of the institutions I read out. 0 means you do not trust an institution at all, and 10 means you have complete trust. Firstly...

	<i>No trust at all</i>										<i>Complete trust</i>
B4 ...[country]'s parliament?	00	01	02	03	04	05	06	07	08	09	10
B5 ...the legal system?	00	01	02	03	04	05	06	07	08	09	10
B6 ...the police?	00	01	02	03	04	05	06	07	08	09	10
B7 ...politicians?	00	01	02	03	04	05	06	07	08	09	10
B8 ...political parties?	00	01	02	03	04	05	06	07	08	09	10

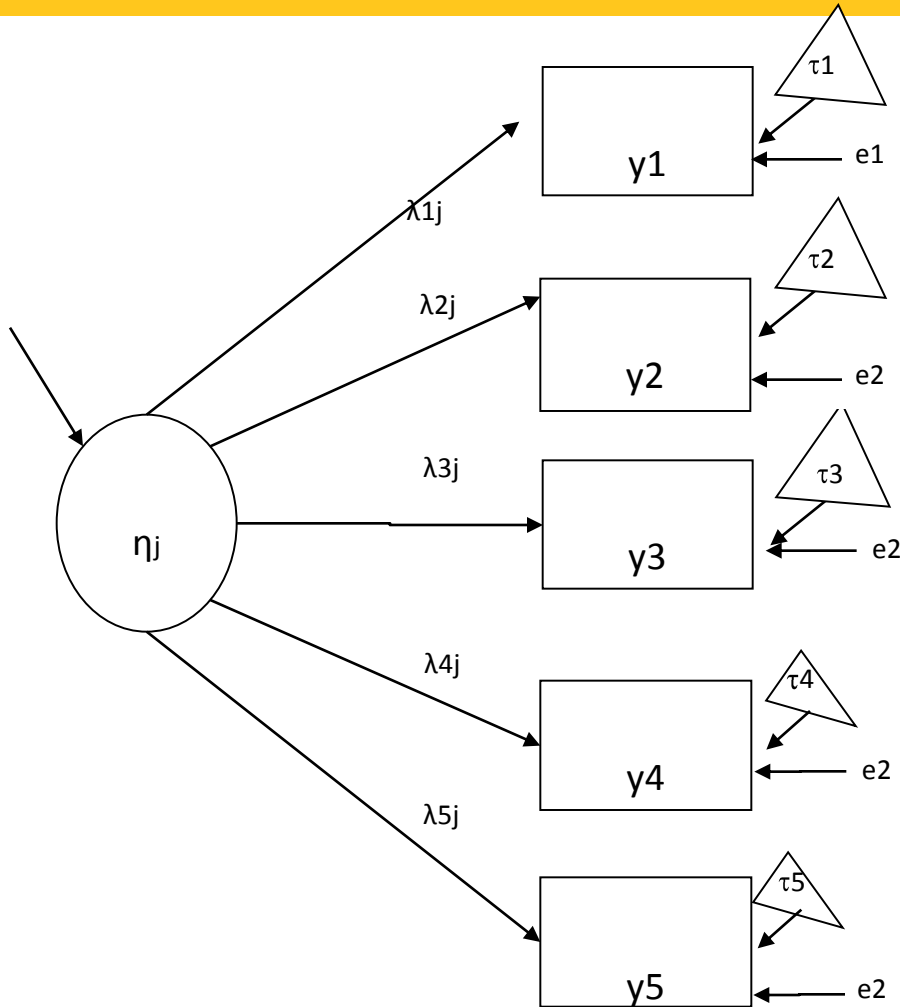
Analysis of Political trust

- In each round about 25 countries and 30 different language versions are used in the ESS
- A previous study of the MTMM experiments in R2 of political trust shows that the quality of the measures is different for different linguistic groups.
- Cross-cultural analysis where the minority languages included more than 80 cases (Round 2 to Round 5).

Testing invariance: CFA

- **Configural invariance.** Tests if the factor structure is the same across groups or in other words if the same model holds for all countries/cultures under comparison.
- **Metric invariance.** Factor loadings (λ) are assumed invariant in all countries. If holds, comparisons of relationships can be made.
- **Scalar invariance.** Requires equality of intercepts (τ) across countries. If holds also the means can be compared.

The first model proposed



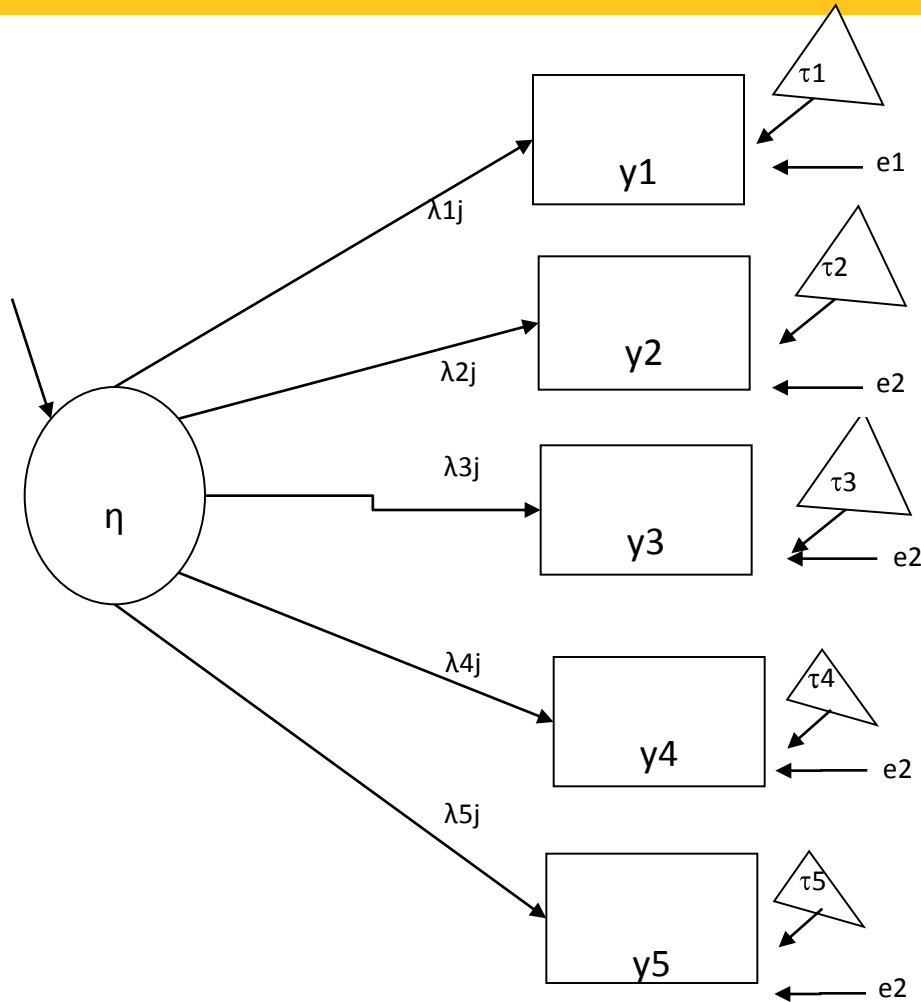
$$\begin{aligned}y_{1j} &= \tau_{1j} + \lambda_{1j}\eta_j + e_{1j} \\y_{2j} &= \tau_{2j} + \lambda_{2j}\eta_j + e_{2j} \\y_{3j} &= \tau_{3j} + \lambda_{3j}\eta_j + e_{3j} \\y_{4j} &= \tau_{4j} + \lambda_{4j}\eta_j + e_{4j} \\y_{5j} &= \tau_{5j} + \lambda_{5j}\eta_j + e_{5j}\end{aligned}$$

$$E(e_i) = E(e_i \eta_j) = E(e_i e_j) = 0 \text{ for } i \neq j$$

η = Political trust

y_1 = Trust in the Parliament
 y_2 = Trust in the legal system
 y_3 = Trust in the police
 y_4 = Trust in the politicians
 y_5 = Trust in the Political parties

The second model proposed



$$y_{1j} = \tau_{1j} + \lambda_{1j}\eta_j + e_{1j}$$
$$y_{2j} = \tau_{2j} + \lambda_{2j}\eta_j + e_{2j}$$

$$y_{4j} = \tau_{4j} + \lambda_{4j}\eta_j + e_{4j}$$
$$y_{5j} = \tau_{5j} + \lambda_{5j}\eta_j + e_{5j}$$

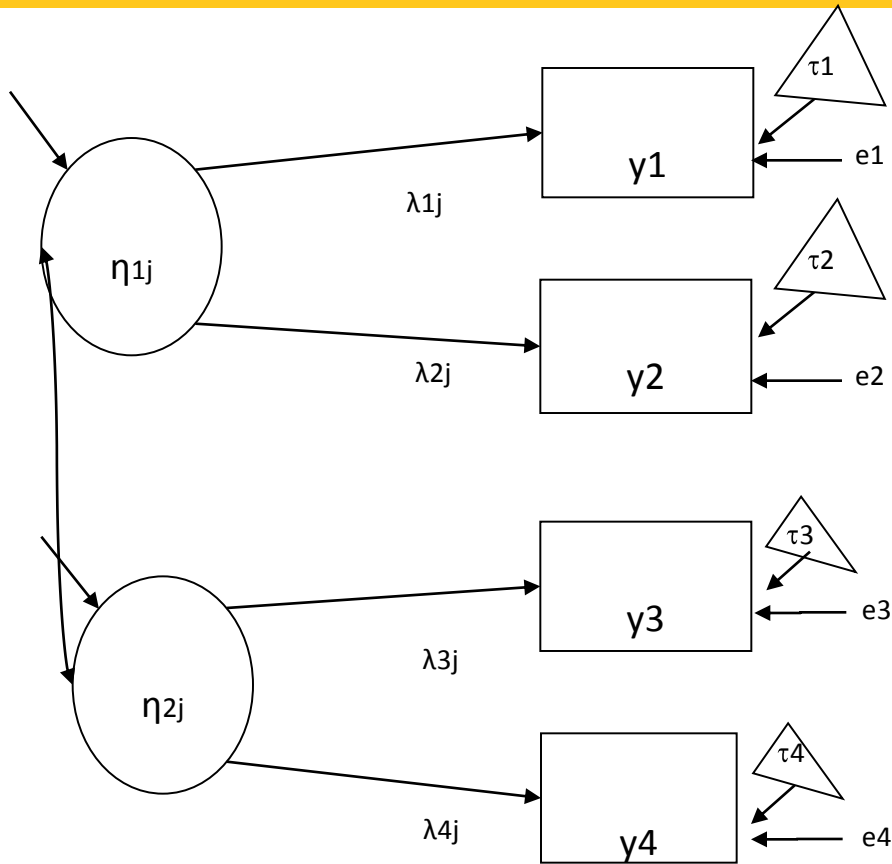
$$E(e_i) = E(e_i | \eta_j) = E(e_i e_j) = 0 \text{ for } i \neq j$$

η = Political trust

y_1 = Trust in the Parliament
 y_2 = Trust in the legal system

y_4 = Trust in the politicians
 y_5 = Trust in the Political parties

The third model proposed



$$y_{1j} = \tau_{1j} + \lambda_{1j}\eta_{1j} + e_{1j}$$
$$y_{2j} = \tau_{2j} + \lambda_{2j}\eta_{1j} + e_{2j}$$

$$y_{3j} = \tau_{3j} + \lambda_{3j}\eta_{2j} + e_{3j}$$
$$y_{4j} = \tau_{4j} + \lambda_{4j}\eta_{2j} + e_{4j}$$

$$E(e_i) = E(e_i \eta_j) = E(e_i e_j) = 0 \text{ for } i \neq j$$

η_{1j} = Trust in institutions

η_{2j} = Trust in authorities

y_1 = Trust in the Parliament

y_2 = Trust in the legal system

y_3 = Trust in the politicians

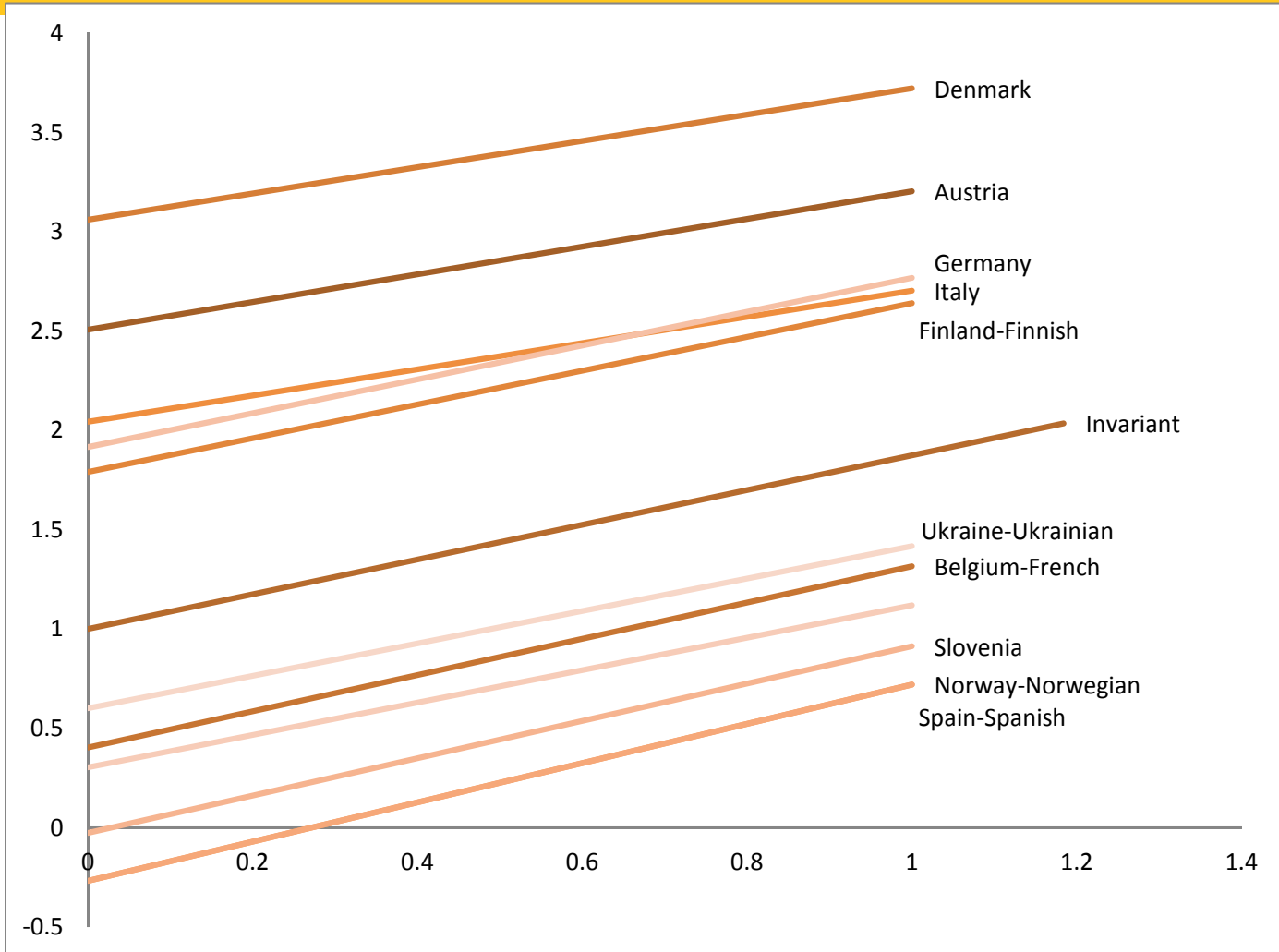
y_4 = Trust in the Political parties

Metric Invariance

	R2 λ_{trust} institutions	R3 λ_{trust} institutions	R4 λ_{trust} institutions	R5 λ_{trust} institutions
Invariant groups	.851 (.006)	.816 (.006)	.836 (.005)	.807(.005)
Austria	.697 (.025)	.626 (.026)	*	*
Belgium – French	.912 (.051)	-	.994(.054)	-
Denmark	.661 (.032)	.483 (.03)	.668(.031)	.531(.027)
Finland- Finnish	-	.627 (.025)	.659(.024)	.591(.023)
Finland- Swedish	-	-	.409(.11)	.283(.13)
Italy	.66 (.036)	*	*	*
Israel - Arabic	*	*	.409(.107)	.458(.075)
Norway	.688 (.029)	.608 (.027)	.629(.028)	.675(.029)
Spain – Spanish	.987 (.041)	-	.999(.039)	-
Slovenia	.94 (.036)	-	-	.995(.028)

Invariant countries	1.184 (.028)	1.263 (.031)	1.34 (.025)	1.48(.022)
Austria	2.506 (.128)	2.936 (.132)	*	*
Belgium – French	.403 (.245)	-	.406(.259)	-
Denmark	3.06 (.204)	4.361 (.199)	2.94(.241)	4.249(.164)
Finland- Finnish	1.789(.056)	3.283 (.154)	3.153(.15)	3.739(.127)
Finland- Swedish	-	2.26(.13)	4.674(.13)	5.671(.832)
Italy	2.042 (.161)	*	*	*
Israel - Arabic	-	-	4.835(.454)	4.231(.312)
Norway-Norwegian	2.621 (.166)	3.114(.158)	3.125 (.167)	2.784(.18)
Spain – Spanish	-.268 (.212)	-	-.642(.2)	-
Slovenia	-.028 (.161)	-	.582(.059)	.121(.094)
Germany	1.915(.047)	2.115(.048)	1.822(.047)	2.167(.044)
Ukraine-Russian	.017 (.068)	.303(.066)	.482(.06)	.505(.051)
Ukraine-Ukrainian	-.527(.297)	.601(.071)	.416(.069)	.48(.107)
Bulgaria	*	.671(.057)	.654(.04)	.575(.043)
Israel- Hebrew	*	*	2.099(.059)	2.3(.061)
Latvia-Latvian	*	*	2.384(.063)	*
Latvia-Russian	*	*	2.218(.102)	*
Romania	*	*	.585(.045)	*
Croatia	*	*	.598(.047)	-

Invariance in R2: an illustration

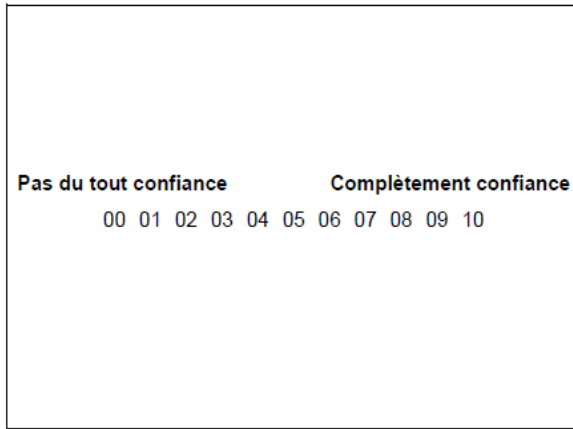


Exploring reasons of non-invariance using SQP codings

- Belgium French: reference to the Federal Belgian Parliament not present in Dutch.
- More complex item in linguistic characteristics (nouns, words, abstract nouns)
- Different layout of showcards
- In other cases there is an inconsistent use of Country's parliament (legal system) and the name of the specific institution

Exploring invariance

CARTE 8




KAART 8

*Helemaal
geen
vertrouw
en*

*Volledig
vertrouwen*

0 1 2 3 4 5 6 7 8 9 10



 Deuxième vague 2004 – Belgique francophone



Conclusions

Testing invariance is important before starting comparisons in cross-cultural research

One should also keep in mind the size of the bias.

The ESS makes a systematic exercise of testing invariance on its core concepts (WP12-DACE)

SQP can be used to explore possible differences in the instruments that may cause invariance because provides systematic information on the characteristics

RECSM

Research and Expertise Centre for Survey Methodology

www.upf.edu/survey

recsm@upf.edu

Diana.zavala@upf.edu