



Analyzing Welfare Attitudes in Europe using Principal Component Analysis (PCA) European Social Survey (ESS) Round 8, 2016

Mary Krysllette C. Bunyi
DS3 Project 1 Presentation
22 September 2021

ESS8 Module on Welfare Attitudes (2016)



“What kind of state intervention do people in various European countries ask for? How satisfied are they with what the welfare state achieves?”

- To assess the legitimacy of the European welfare state and its policies
- Focus on attitudes toward:
 - (a) welfare state scope and government responsibilities
 - (b) collective financing
 - (c) different models of welfare
 - (d) service delivery
 - (e) target groups and receivers of welfare

Data Processing and Cleaning

- **Excluded features that may not be useful/appropriate for PCA**

- Categorical and Socio-demographic variables
- Administrative (*admub*)
- Systematically excludes a segment of the population (*lkuemp*: "Not working/not looking for work/never worked")
- Not fielded in Austria due to an error in their questionnaire (*lknemny*)
- Asked only for a subset of respondents (*ub50pay*, *ub50edu*, *ub50unp*, *ub20pay*, *ub20edu*, *ub20unp*, *ubsppay*, *ubspedu*, *ubspunp*, *ubpay*, *ubedu*, *ubunp*)
- EU-specific questions (*vteurmmb*, *vteumbgb*, *vteubcmb*, *eusclbf*, *eudcnbf*)

- **Encoded null values**

- Removed respondents who answered "Not applicable", "Refusal", "Don't know", or "No answer" in any of the final selection of questions

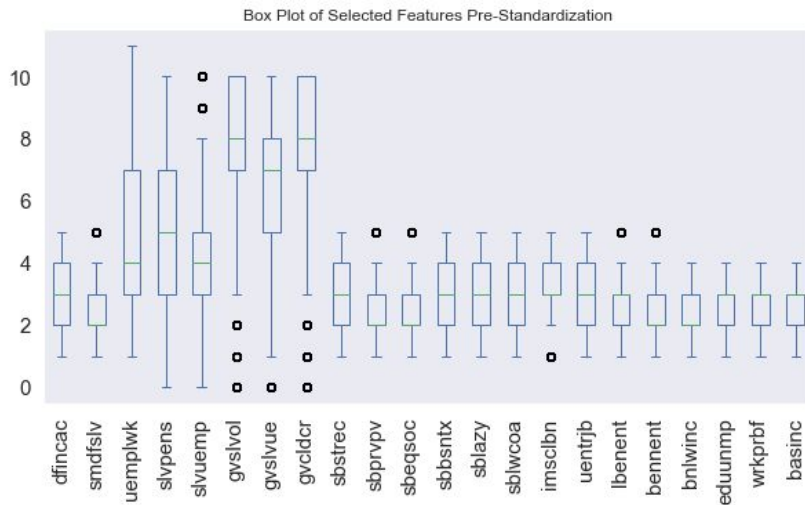
- **Standard Scaler**

- Mean of 0, variance of 1

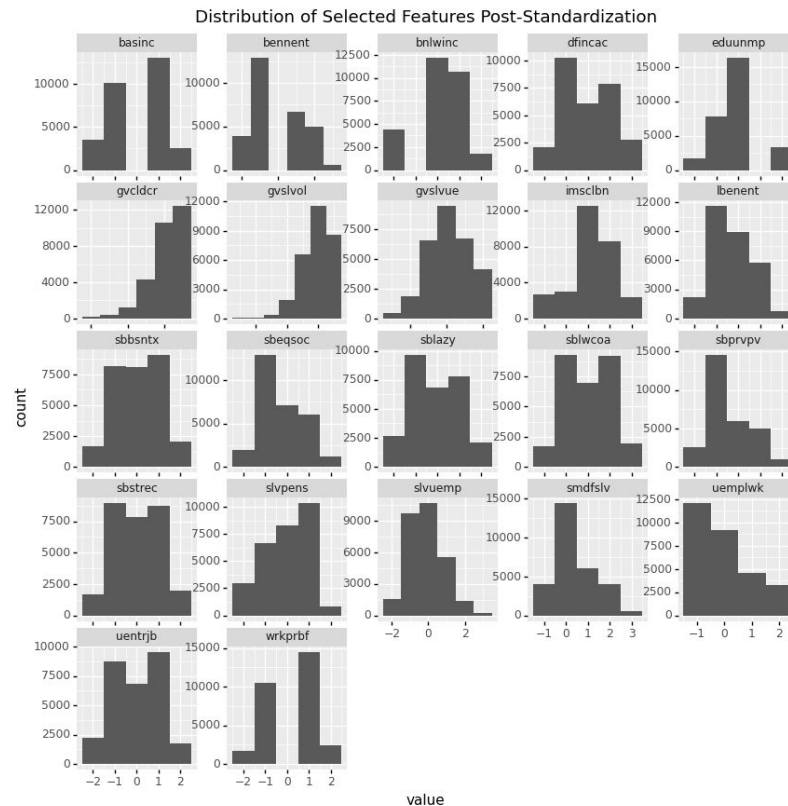
- **Dimensionality**

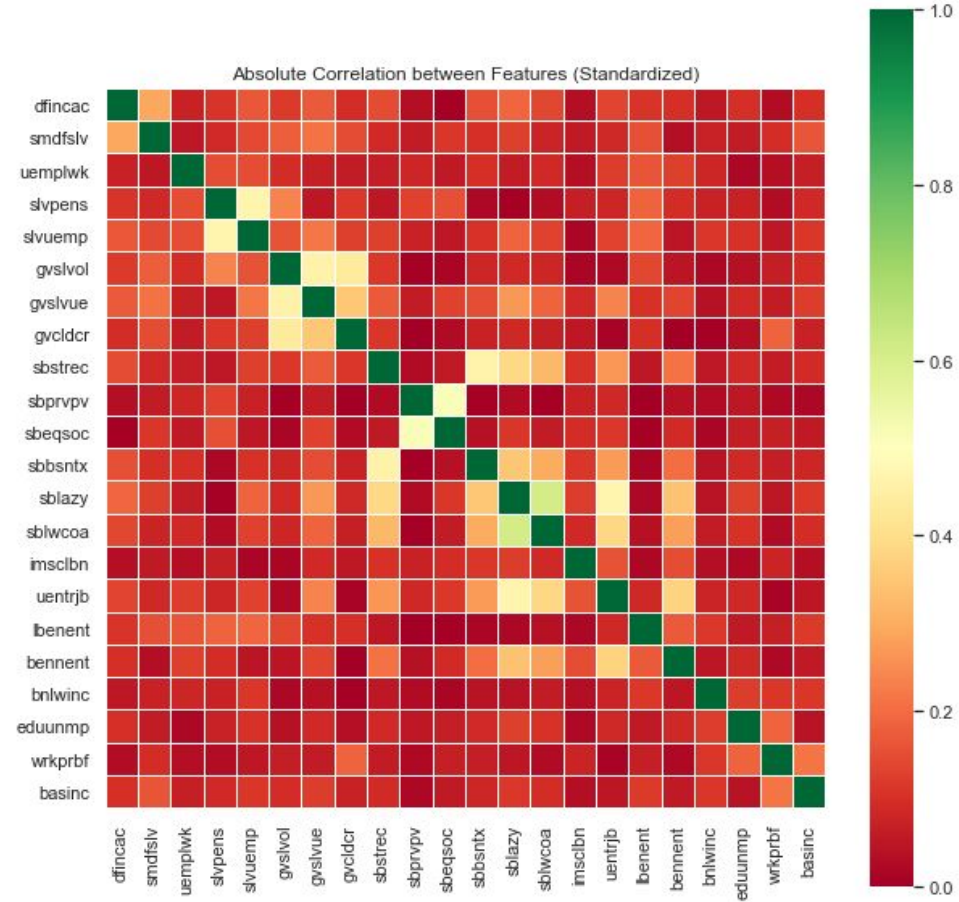
	Rows	Columns
Raw	44,387	43
Final	29,119	22

Exploratory Data Analysis



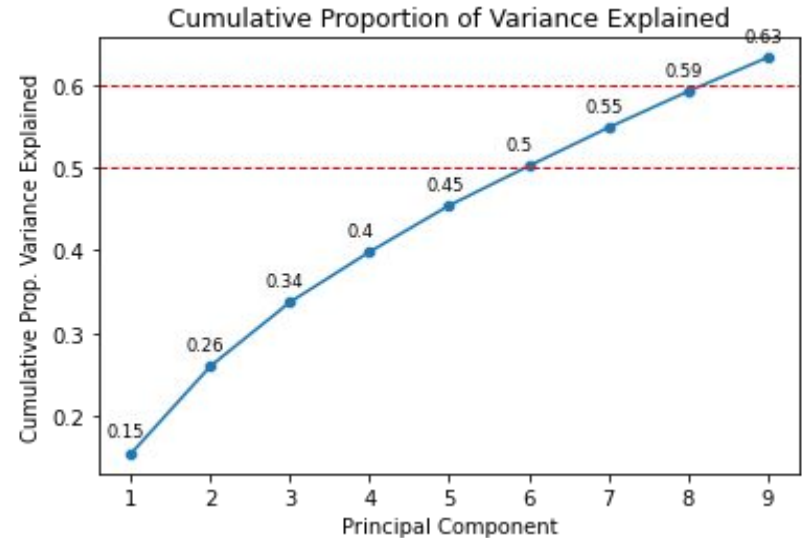
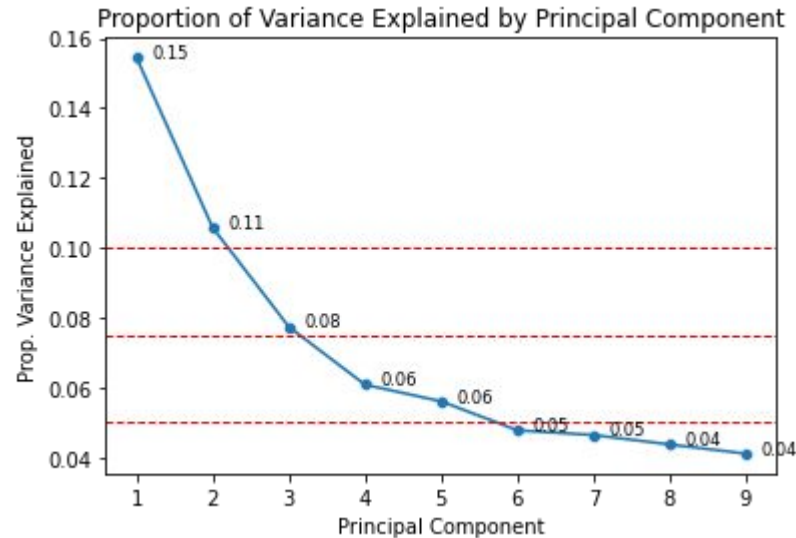
*Relatively normal distributions for majority,
although some are heavily left-skewed*





PCA Implementation

*“In the social sciences, where information is often less precise, it is not uncommon to consider a solution that accounts for **60 percent** of the total variance (and in some instances even less) as satisfactory.” (Hair, 2014)*



Conceptual Mapping



Principal Components cover perceptions on:

1. Economic Impact of Welfare Services
2. Welfare Recipients
3. Distributional Impact of Welfare Services
4. Targeting of Welfare Services
5. Welfare Impact in the Context of Current Services

	Economic Impact of Welfare Services	Welfare Recipients	Distributional Impact of Welfare Services	Targeting of Welfare Services	Welfare Impact in the Context of Current Services
Large differences in income acceptable to reward talents and efforts	-0.210000	-0.130000	0.040000	0.080000	0.250000
For fair society, differences in standard of living should be small	0.190000	0.180000	0.180000	-0.060000	-0.230000
Of every 100 working age how many unemployed and looking for work	0.020000	-0.290000	0.020000	0.070000	0.150000
Standard of living of pensioners	0.090000	0.380000	-0.230000	-0.070000	-0.130000
Standard of living of unemployed	0.210000	0.290000	-0.180000	-0.120000	-0.220000
Standard of living for the old, governments' responsibility	-0.200000	-0.330000	-0.130000	-0.390000	-0.240000
Standard of living for the unemployed, governments' responsibility	-0.300000	-0.170000	-0.180000	-0.300000	-0.110000
Child care services for working parents, governments' responsibility	-0.180000	-0.260000	-0.180000	-0.320000	-0.370000
Social benefits/services place too great strain on economy	-0.320000	0.090000	0.120000	0.060000	-0.100000
Social benefits/services prevent widespread poverty	0.040000	-0.150000	0.520000	0.080000	-0.350000
Social benefits/services lead to a more equal society	0.100000	-0.150000	0.530000	0.040000	-0.300000
Social benefits/services cost businesses too much in taxes/charges	-0.300000	0.120000	0.120000	0.090000	-0.100000
Social benefits/services make people lazy	-0.400000	0.170000	0.100000	0.070000	0.030000
Social benefits/services make people less willing care for one another	-0.340000	0.170000	0.140000	0.050000	-0.020000
When should immigrants obtain rights to social benefits/services	0.130000	-0.120000	0.140000	-0.080000	0.100000
Most unemployed people do not really try to find a job	-0.320000	0.240000	0.040000	0.010000	0.050000
Many with very low incomes get less benefit than legally entitled to	0.070000	0.310000	0.050000	-0.120000	-0.250000
Many manage to obtain benefits/services not entitled to	-0.240000	0.270000	0.050000	0.060000	-0.030000
Social benefits only for people with lowest incomes	0.010000	-0.190000	-0.090000	0.410000	0.010000
Spend more on education for unemployed at cost of unemployment benefit	0.110000	0.010000	-0.260000	0.330000	-0.360000
Benefits for parents to combine work and family even if means higher taxes	-0.090000	-0.110000	-0.250000	0.380000	-0.390000
Against or in favour of a basic income scheme	-0.140000	-0.140000	-0.150000	0.380000	-0.060000

Conceptual Mapping



Principal Components:

1. Perception of the Economic Impact of Welfare Services

Survey Item	PC Score	View
Standard of living for the unemployed, governments' responsibility	(0.30)	no
Social benefits/services place too great strain on economy	(0.32)	agree
Social benefits/services cost businesses too much in taxes/charges	(0.30)	agree
Social benefits/services make people lazy	(0.40)	agree
Social benefits/services make people less willing care for one another	(0.34)	agree
Most unemployed people do not really try to find a job	(0.32)	agree

Conceptual Mapping



Principal Components:

2. Perception of Welfare Recipients

Survey Item	PC Score	View
Standard of living of pensioners	0.38	good
Standard of living for the old, governments' responsibility	(0.33)	no
Many with very low incomes get less benefit than legally entitled to	0.31	disagree

Conceptual Mapping



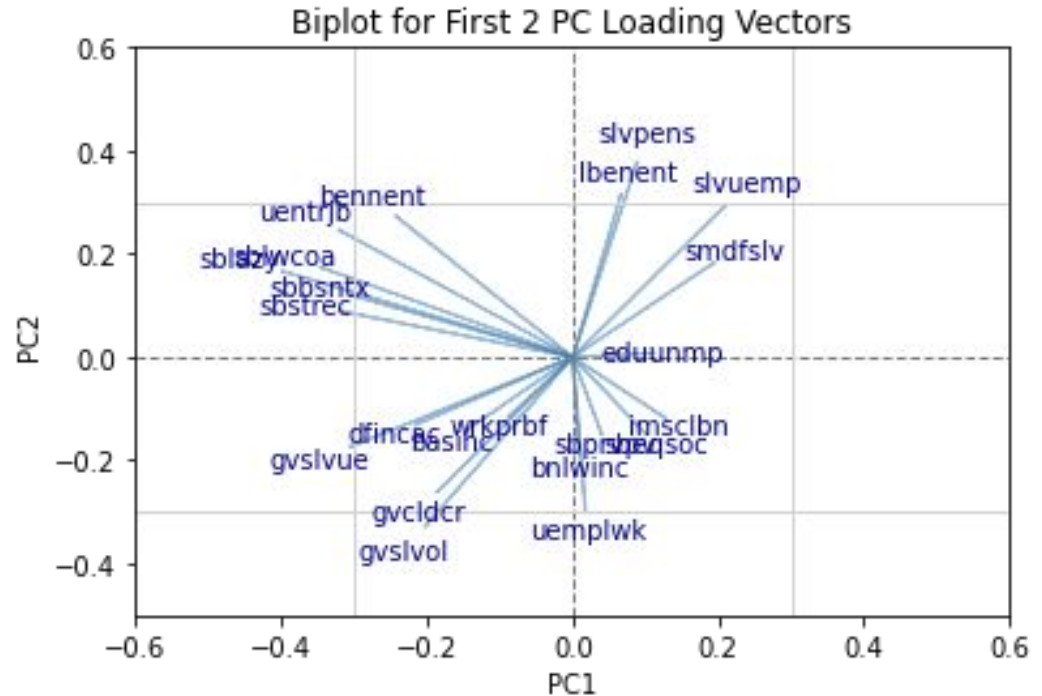
Principal Components:

3. *Perception of the Distributional Impact of Welfare Services*

Survey Item	PC Score	View
Social benefits/services prevent widespread poverty	0.52	disagree
Social benefits/services lead to a more equal society	0.53	disagree

Loadings for 1st 2 Principal Components

Variables clustered closely could warrant analysis into the correlation of questions, which may result in survey truncation



Policy Relevance



- High variability/Low correlation among welfare attitudes
 - May also indicate survey's ability to capture different aspects of societal attitudes
- May collapse correlated questions
 - PC1 - business and economic impact
 - PC3 - impact on poverty and equality
- Transformation into aggregate measures/indices
- Communicates citizens' general preferences and perceptions on welfare services, especially their scope and impact
- Identified issues could inform impact evaluation programs and public information campaigns (e.g., focus on economic and distributional effects)

Thank you for your time!

Any questions?

