

A Service of



Leibniz-Informationszentrum Wirtschaft Leibniz Information Centre

Roth, Felix

# Working Paper Is Generalized Trust Stable over Time?

Hamburg Discussion Papers in International Economics, No. 15

#### **Provided in Cooperation with:**

University of Hamburg, Department of Economics, Senior Lecturer in International Economics

Suggested Citation: Roth, Felix (2024): Is Generalized Trust Stable over Time?, Hamburg Discussion Papers in International Economics, No. 15, University of Hamburg, Department of Economics, Senior Lecturer in International Economics, Hamburg

This Version is available at: https://hdl.handle.net/10419/280903

#### Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

#### Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.





## FAKULTÄT

FÜR WIRTSCHAFTS- UND SOZIALWISSENSCHAFTEN

## Is Generalized Trust Stable over Time?

**Felix Roth** 

**Hamburg Discussion Paper in International Economics [No.15]** 

**University of Hamburg** 

**Senior Lecturer in International Economics** 

January 2024

As Senior Lecturer in International Economics in the Department of Economics at the University of

Hamburg, PD Dr. Felix Roth aims to promote and disseminate original, empirical research focusing on

European economic integration, the economics of Monetary Union, and the impact of intangible

investment on international growth.

The Hamburg Discussion Paper Series was launched to enable both internal and external researchers,

faculty members as well as students at the University of Hamburg to make their research publicly

available. The aim is to contribute to the current policy debate by publishing empirical data leading to

novel findings and policy implications in these fields and to stimulate additional research on related

topics.

The views expressed in this paper represent the opinion of the author only. For any questions or

comments, please directly contact the author.

**Editor:** 

PD Dr. Felix Roth

University of Hamburg

Senior Lecturer in International Economics

Von-Melle-Park 5

Postfach #17

20146 Hamburg

Felix.Roth@uni-hamburg.de

Homepage: https://www.felixroth.net/

ISSN 2625 - 7513 (online)

https://www.wiso.uni-hamburg.de/fachbereich-vwl/ueber-den-fachbereich/mitglieder/roth-felix.html

## Is generalized trust stable over time?

By Felix Roth<sup>1</sup>

This version: 07 01 2024

#### **Abstract**

Using a unique international database on generalized trust — constructed from more than 1,000 individual national surveys containing more than 1 million individual observations — covering 142 countries across the world for the 41-year time period from 1980 to 2020, this paper finds strong evidence that generalized trust at the country level is not stable over time.<sup>2</sup> In fact, the paper finds a pronounced intertemporal variation of generalized trust over time in many countries across the globe. The paper's findings lend greater credibility to the theory of "experiential" trust over that of "cultural" trust, which leads the author to argue for using standard and dynamic panel estimation approaches in future analyses of generalized trust outcomes.

Keywords: Generalized Trust, Intertemporal Variation, Stability, Panel Data, Causality

JEL-Class.: C23, O47, O50, Z13

#### 1. Introduction

The answer to the important question of whether generalized trust is stable over time remains unresolved. One theory on generalized trust claims that it is a "cultural" variable, which changes only slowly over time (Bjornskov 2006: 17, Tabellini 2008: 263, Uslaner 2002: 160, 230, 252, 2008: 725) and is stable over very long periods of time (Bjornskov 2006: 17, Uslaner 2002: 160, 230). Some scholars have gone so far as to suggest that it is stable for up to 1,000 years (Putnam 1993: 153, 180). The empirical evidence offered in support of this view are the high correlation coefficients (Knack and Keefer 1997: 1267, Zak and Knack 2001: 309, Uslaner 2002: 230) and standard regression analysis (Bjornskov 2006: 4) between the first three waves of the World Value Survey (WVS) for a cross-section of countries.

<sup>&</sup>lt;sup>1</sup> Felix Roth is Senior Lecturer and Senior Research Fellow at the University of Hamburg. He is grateful for a grant received from the European Commission under the Horizon 2020 program for the GLOBALINTO project (Capturing the value of intangible assets in micro data to promote the EU's growth and competitiveness, contract number 822259). He also wishes to thank Jon Stemmler and Antonio Kortum for excellent research assistance. Please address all correspondence to: Felix Roth, University of Hamburg, Von-Melle-Park 5, Postfach #17, 20146 Hamburg, Germany (felix.roth@uni-hamburg.de).

<sup>&</sup>lt;sup>2</sup> A replication package, including all the files and directories that are needed to reproduce all the results in the paper, is ready for submission upon acceptance of this paper for publication.

The cultural theory has three direct implications. First, trust in countries is a stable cultural feature (Tabellini 2008: 263, Uslaner 2002: 160, 230), which is approximate time-invariant (Bjornskov 2022: 222). Second, due to this cultural stability, low- and high-trust countries are deemed to remain poor and rich, respectively, for a long period of time (Paldam 2011: 335 interpreting the work by Putnam 1993 and Uslaner 2002). Third, given its time invariance, standard and dynamic panel data econometric estimation techniques to retrieve causal effects cannot be applied in analyzing the outcomes of generalized trust (Bjornskov 2012: 1349, 2022: 222).

A contrasting theory claims that generalized trust is an "experiential" variable (Sonderskov and Dinesen 2014: 792), which changes over time in response to localized experiences (Glanvill and Paxton 2007: 232, 239-240) and can unravel very quickly (Knack and Keefer 1997: 1267). The empirical evidence behind this view are the pronounced intertemporal variations of trust when analyzing large country-panel datasets (Roth 2007: 44-49, 2009: 111-114, 2022a: 182, 2024: 13-15, Paldam 2011: 336) and country-case intertemporal evidence for the US (Inglehart 1990: 428, 1999: 95, Uslaner 1999: 132, Putnam 1995: 73, 2000: 140-141, Paxton 1999: 122), Germany (Noelle-Neumann 2005: 5, Inglehart 1990: 438), Italy (Inglehart 1990: 438, Uslaner 2002: 253), Mexico (Inglehart 1990: 438, Uslaner 2002: 253) and Denmark (Sonderskov and Dinesen 2014: 784).

The experiential theory also has three direct implications. First, as stated above, trust in countries changes over time due to localized experiences (Glanvill and Paxton 2007: 232, 239-240, Sonderskov and Dinesen 2014: 792) and can unravel very quickly (Knack and Keefer 1997: 1267). Second, due to its experiential character, trust in countries can be built or dismantled via effective or ineffective policies (Knack and Zak 2003: 91, Sonderskov and Dinesen 2014: 792). Third, when analyzing the outcomes of generalized trust, standard and dynamic panel data econometric estimation techniques should be applied to retrieve causal effects, (Algan and Cahuc 2010: 2060, Roth 2007: 63, 2009: 118-120, 2024: 16-18).

Using a unique international database on generalized trust — constructed from more than 1,000 individual national surveys containing more than 1 million individual observations — covering 142 countries across the world for the 41-year time period from 1980 to 2020, this paper finds strong evidence of a pronounced intertemporal variation of generalized trust over time. Based on this novel empirical evidence, the paper comes to three conclusions. First, generalized trust should be viewed as an "experiential" variable, which can change over time and can unravel very quickly, unlike a "cultural" variable, which is time-invariant. Second, neither low-trust nor high-trust countries are deemed to remain poor or rich if trust is built or dismantled through effective or

ineffective policies. Third, standard and dynamic panel data econometric estimation techniques to retrieve causal effects should be applied when analyzing the outcomes of generalized trust.

Following this introduction, this paper contains four additional sections. Section 2 elaborates the operationalization of generalized trust, the data, and the research design and case selection. Section 3 presents the empirical evidence. Section 4 discusses the implications of the results, and section 5 concludes.

## 2. Operationalization, Data, Research Design and Case Selection

#### 2.1 Operationalization

Generalized trust is measured by asking respondents the following survey question: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" Possible responses to the question include i) "Most people can be trusted"; ii) "Can't be too careful"; iii) "Don't know" and iv) "No answer". In line with the existing literature (e.g. Knack and Keefer 1997: 1256, Roth 2009: 109), the generalized trust value for each country is calculated by dividing the number of participants who answer "Most people can be trusted" by the total number of people who answer "Most people can be trusted" and "Can't be too careful". The answers "Don't know" and "No answer" are dropped.

#### 2.2 Data

Data on generalized trust are taken from seven international survey programs. Data from 1981 to 2020 are drawn from the Integrated Value Study (IVS), which is an integrated dataset consisting of the merged data from i) the first seven waves of the World Value Survey (1981-2020) (Haerpfer et al. 2021) and ii) the first five waves of the European Value Survey (1981-2017) (EVS 2021). The data from the IVS were then appended onto the data from five international Barometer survey programs, including: iii) data from 1996-2018 from the first 20 waves of the Latinobarómetro (Latinobarómetro Data 2018); iv) data from 2006-2019 from the first five waves of the Arab Barometer (Arabbarometer Data 2019); v) data from 2001-2014 from the first four waves of the Asianbarometer (Asianbarometer 2016); vi) data from 1999-2013 from the first, third and fifth waves of the Afrobarometer (Afrobarometer Data 2015); and vii) data from 1986 from the 25th

<sup>&</sup>lt;sup>3</sup> The questionnaire slightly varies over the seven (i-vii) international survey programs used. A detailed overview of the slight variations of all survey questions is provided in Appendix E in the supplementary information.

<sup>&</sup>lt;sup>4</sup> The IVS data include an overall number of 450 surveys, 115 countries and 645,249 individual observations from 1981 until 2020.

wave of the Eurobarometer (Rabier et al. 1986). Table A1 in Appendix A in the supplementary material provides an overview of the availability of each survey for each country.

#### 2.3 Research Design and Case Selection

To permit the intertemporal comparison of our 122 countries, we constructed nine five-year average trust levels in 1980, 1985, 1990, 1995, 2000, 2005, 2010, 2015 and 2020.<sup>5</sup> Following the methodological approach of Lijphart (1971) to try to maximize country and time observations, we generated the largest existing generalized trust database covering 142 countries over the time period 1980-2020 with an overall number of 744 country time observations. Given that this analysis is based on an analysis of time dimensions, only countries with at least two consecutive time observations were used. Therefore, for our analysis, 20 countries with only one time series observation were discarded from our sample, leaving us with 122 countries with 724 country time observations over the 41-year period 1980-2020. Table B1 in Appendix B in the supplementary information gives an overview of our case and sample selection along this step.

#### 3. Empirical Evidence

Table 1 displays the summary statistics for our descriptive analysis of 724 generalized trust observations at the country level. For the whole period (1980-2020), generalized trust has a mean value of 27.5 percent, with a minimum value of 2.1 percent in Zimbabwe in 2020 and a maximum value of 75.4 percent in Denmark in 2010. Mean values of trust over time declined from 38.0 percent in 1980 to 25.0 percent in 2020, due to the broadening of the country sample from mainly OECD countries in 1980 to up to 122 global countries in 2010 and 94 countries in 2020.

Table 2 displays the 122-country sample included in the analysis. The mean values ( $\mu$ ), standard deviations ( $\sigma$ ), and coefficients of variation (cv)<sup>6</sup> shown are derived from the countries' individual time series (n), which range from 2-9 observations<sup>7</sup> for the period 1980-2020. Trust changes were calculated by subtracting the first observation of the time series from the last one ( $\Delta$ ).

<sup>&</sup>lt;sup>5</sup> The year in which the field work was conducted in the participating countries differs markedly across the seven waves of the WVS and the five waves of the EVS. For the aggregated IVS data, this means that the times series data on generalized trust show highly heterogeneous patterns from one country to another. In order to retrieve the 5-year-time observation structure, this paper inter- and extrapolates missing data with an inverse distancing weighted (Cox 2015) method [see here also Makrychoriti et al. (2021: 7) for a similar approach].

<sup>&</sup>lt;sup>6</sup> The values of the coefficients of variation are calculated by using the following formula:  $[(\sigma/\mu)*100]$ . For Iran, this yields a cv-value of 74.9 per cent according to the calculation: [(19.61/26.17)\*100]. The higher the coefficients of variation, the higher the intertemporal variation in trust.

<sup>&</sup>lt;sup>7</sup> Table C1 in Appendix C shows the consecutive time-series information for each individual country.

The average  $\mu$ -value is 25.4 percent, and the average  $\sigma$ -value is 4.7; this corresponds to an average cv-value of 20.8 percent. The sum of the positive and negative changes equals an overall negative  $\Delta$ -value of -3.2 percentage points. The empirical evidence of an average cv-value of 20.8 percent points towards a pronounced intertemporal variation in the level of generalized trust over the 41-year time period among our 122 country cases.

**Table 1.** Summary Statistics for Generalized Trust, 1980-2020

Variable	Year	Observations	Mean	Standard Dev.	Minimum	Maximum
Trust	1980-2020	724	27.5	15.0	2.1	75.4
	1980	23	38.0	13.0	11.4	61.2
	1985	28	38.8	12.9	11.7	62.6
	1990	45	34.8	14.4	6.6	66.1
	1995	81	27.4	12.7	5.7	65.4
	2000	99	27.0	14.6	4.0	68.2
	2005	117	25.8	14.3	3.5	73.7
	2010	122	26.2	14.4	3.2	75.4
	2015	115	25.4	15.3	5.4	73.9
	2020	94	25.0	16.8	2.1	73.7

Source: Author's own dataset on generalized trust, compiled from publicly available international data.

Four-fifths of the country cases (98/122) display cv-values greater than 10.8 Almost half (53/122) display cv-values larger than 20. And around one-sixth (21/122) display cv-values greater than 30.9 The pronounced cv-values follow distinct patterns across the globe. Whereas North-Western Europe witnessed on average a marked increase of generalized trust (12.1 percentage points), we find a pattern of declining trust levels in the rest of the world, which is particularly pronounced in Asia (-7.4 percentage points) and the Mediterranean economies (-6.2 percentage points). When further disaggregating our country group, we find that the decline in Asia is driven by a decline in Southern Asia (-17.1).

In order to further substantiate the evidence of an intertemporal variation of generalized trust, Figure 1 displays the time series evidence from 1980-2020 for 16 countries, showing the eight highest positive (Figure 1a) and negative (Figure 1b)  $\Delta$ -values of trust over the 41-year time

<sup>&</sup>lt;sup>8</sup> As a rule of thumb, a coefficient of variation of larger than 10 should be considered a substantial intertemporal variation in generalized trust.

<sup>&</sup>lt;sup>9</sup> The large intertemporal variation (cv-values) of generalized trust is also vividly illustrated with the help of a bar chart (Figure D1 in Appendix D). As can be seen in this figure, the cv-values are highly heterogeneous across our 122-country sample, ranging from a cv-value of 1.2 percent in Yemen to 74.9 percent in Iran.

Table 2. Levels and Changes of Generalized Trust, 122 Countries, 1980-2020

No. Country	ц	σ	cv	n	Δ	No. Country	щ	σ	cv	n	Δ	No.	Country	щ	σ	ev	n	Δ	No. Country	щ	σ	ev	n	Δ
1 Albania	14.7	8.8	59.6	6	-22.2	36 Finland	60.8	5.6	9.3	9	11.3	71	Moldova	17.2	3.1	17.9	4	-8.5	106 Switzerland	50.0	6.7	13.4	8	14.6
2 Algeria	14.8	3.4	23.1	5	0.2	37 France	23.4	2.1	8.9	9	2.5	72	Mongolia	14.7	3.7	25.4	4	7.5	107 Taiwan	36.2	4.2	11.6	6	-6.5
3 Andorra	23.1	2.3	9.8	4	5.3	38 Georgia	15.8	4.4	28.0	6	-9.0	73	Montenegro	27.7	4.1	14.8	6	-9.9	108 Tanzania	11.3	1.4	12.8	4	2.5
4 Argentina	22.3	5.3	23.8	9	-3.7	39 Germany	38.2	4.4	11.6	9	13.1	74	Morocco	17.6	3.9	21.9	5	-3.5	109 Thailand	31.1	6.8	21.8	5	9.8
5 Armenia	20.8	3.9	18.7	6	-0.2	40 Ghana	11.1	3.3	29.3	3	-7.0	75	Mozambique	18.1	5.0	27.8	3	-11.0	110 T. and T.	3.5	0.3	8.6	2	-0.6
6 Australia	46.3	3.4	7.4	9	1.2	41 Greece	25.9	13.4	51.9	8	-39.7	76	Namibia	29.6	4.1	13.7	5	-8.6	111 Tunisia	22.2	8.5	38.1	3	-20.1
7 Austria	38.8	7.0	18.0	7	19.0	42 Guatemala	20.1	4.1	20.4	6	-10.8	77	Netherlands	54.9	6.2	11.3	9	15.9	112 Turkey	11.1	2.7	24.6	7	3.8
8 Azerbaijan	21.0	3.8	18.1	6	7.1	43 Honduras	16.7	5.0	29.8	6	-9.0	78	New Zealand	54.0	3.9	7.2	6	9.9	113 Uganda	15.7	0.6	4.1	4	0.0
9 Bangladesh	18.7	4.0	21.5	6	-7.8	44 Hong Kong	38.7	5.2	13.4	5	7.5	79	Nicaragua	13.8	5.6	40.9	6	-17.8	114 Ukraine	27.9	1.7	5.9	6	-1.3
10 Belarus	36.1	7.0	19.5	7	16.3	45 Hungary	26.5	3.3	12.3	9	-5.4	80	Nigeria	17.6	4.6	25.9	7	-9.8	115 UK	37.9	4.8	12.7	9	-3.6
11 Belgium	32.0	2.3	7.3	7	7.1	46 Iceland	48.1	7.8	16.2	9	19.8	81	North Macedonia	14.9	2.9	19.6	6	6.1	116 US	39.5	4.8	12.2	9	-3.5
12 Benin	30.2	2.0	6.6	3	4.0	47 India	28.7	8.2	28.5	7	-12.2	82	Norway	68.4	4.8	7.0	9	11.6	117 Uruguay	26.9	5.2	19.3	6	-7.6
13 Bolivia	18.6	1.8	9.6	6	-2.2	48 Indonesia	27.3	14.9	54.7	5	-43.8	83	Pakistan	24.8	2.8	11.2	6	1.9	118 Venezuela	17.8	5.7	31.9	6	-1.5
14 Bosnia Herze.	19.5	5.8	29.8	6	-15.7	49 Iran	26.2	19.6	74.9	5	-50.5	84	Palestine	24.2	8.4	34.8	4	-21.9	119 Vietnam	43.0	9.2	21.4	5	-13.9
15 Botswana	11.0	3.0	27.0	5	-2.7	50 Iraq	30.1	12.2	40.4	5	-31.7	85	Panama	19.4	3.6	18.5	6	-7.7	120 Yemen	39.4	0.5	1.2	4	0.2
16 Brazil	7.0	1.9	26.8	7	-0.7	51 Ireland	39.3	4.0	10.1	7	-2.9	86	Paraguay	16.6	1.8	10.8	6	-3.8	121 Zambia	13.5	4.1	30.2	5	-7.3
17 Bulgaria	23.3	4.7	20.4	7	-12.0	52 Italy	30.0	2.6	8.6	9	1.8	87	Peru	13.7	2.6	18.9	6	0.8	122 Zimbabwe	10.3	3.7	36.4	6	-10.6
18 Burkina Faso	24.3	6.0	24.7	3	14.0	53 Japan	39.9	2.3	5.8	9	-5.0	88	Philippines	7.1	1.2	16.3	6	-0.3	North-Western Europe	47.9	5.0	10.7	100	12.1
19 Cambodia	9.6	1.1	11.1	3	2.6	54 Jordan	23.2	6.6	28.5	5	-12.5	89	Poland	24.0	4.0	16.9	8	-6.0	Liberal Market Econ.	43.8	4.1	9.7	49	-0.2
20 Canada	45.9	3.9	8.4	9	-2.4	55 Kazakhstan	30.6	5.6	18.4	3	-13.5	90	Portugal	18.5	4.7	25.2	8	-11.1	Mediterranean	22.8	4.9	21.9	45	-6.2
21 Cape Verde	7.0	2.7	38.9	3	6.6	56 Kenya	9.4	0.3	2.8	3	-0.5	91	Puerto Rico	17.0	5.1	30.2	6	11.8	Transition	22.9	4.0	18.8	135	-3.6
22 Chile	17.6	2.6	14.7	7	-7.5	57 Kuwait	32.2	10.2	31.6	3	-20.1	92	Romania	14.5	2.9	20.2	7	-3.5	Asia	26.6	6.1	24.3	159	-7.4
23 China	56.9	4.2	7.3	7	2.6	58 Kyrgyzstan	22.9	8.6	37.7	5	-5.1	93	Russia	27.3	4.5	16.6	7	-12.9	Africa	18.4	4.2	24.8	112	-3.9
24 Colombia	17.6	2.6	15.0	6	-7.0	59 Latvia	22.0	3.0	13.8	5	6.3	94	Rwanda	11.3	4.0	35.4	3	9.4	CSA	17.4	3.7	21.2	124	-4.8
25 Costa Rica	14.2	2.8	19.9	6	-5.1	60 Lebanon	13.5	3.7	27.7	4	-7.7	95	Saudi Arabia	38.3	12.3	32.1	4	-23.8	Northern Europe	61.5	5.9	9.9	45	14.3
26 Croatia	18.7	3.5	18.6	6	-10.1	61 Lesotho	8.3	4.8	57.6	4	2.1	96	Senegal	28.7	1.4	4.9	3	3.3	Western Europe	38.1	4.4	11.2	55	10.6
27 Cyprus	8.0	1.1	13.2	4	-2.9	62 Lybia	14.7	5.3	36.1	3	-10.5	97	Serbia	18.5	5.1	27.5	6	-12.3	Central Asia	26.7	7.1	28.0	8	-9.3
28 Czech Rep.	26.3	2.5	9.4	7	-4.3	63 Lithuania	28.8	3.2	11.3	7	1.9	98	Singapore	29.3	5.5	18.8	5	14.8	Eastern Asia	36.4	3.8	12.4	40	0.3
29 Denmark	66.5	7.8	11.8	9	22.0	64 Luxembourg	29.8	2.4	8.0	6	2.0	99	Slovakia	19.3	3.2	16.5	7	-1.9	South Eastern Asia	22.7	6.1	25.3	33	-3.0
30 Dom. Rep.	22.5	6.3	28.2	6	-10.6	65 Madagasear	29.7	2.2	7.3	3	-5.1	100	Slovenia	20.3	3.2	15.7	7	7.1	Southern Asia	24.6	8.6	34.0	24	-17.1
31 Ecuador	18.1	1.9	10.7	6	-3.4	66 Malawi	25.5	13.5	52.8	5	-18.9	101	South Africa	22.3	4.8	21.6	8	-6.7	Western Asia	24.5	6.2	26.0	54	-10.5
32 Egypt	32.4	7.9	24.3	5	-14.4	67 Malaysia	11.8	3.9	33.3	4	9.9	102	South Korea	32.1	3.5	11.0	9	-4.5	Northern Africa	20.5	5.5	27.1	24	-9.4
33 El Salvador	21.1	4.5	21.4	6	-8.4	68 Mali	20.1	4.0	19.9	4	9.4	103	Spain	35.3	2.5	7.1	9	3.6	Sub-Saharan Africa	17.8	3.8	24.2	88	-2.3
34 Estonia	30.3	5.8	19.2	7	6.8	69 Malta	19.1	4.9	25.5	7	11.1	104	Sudan	21.1	4.0	18.9	3	-8.1	CAA	17.2	4.3	24.2	59	-5.9
35 Ethiopia	18.7	5.2	27.9	4	-12.3	70 Mexico	23.8	5.7	24.0	9	-0.2	105	Sweden	63.5	3.3	5.2	9	6.7	South America	17.6	3.1	18.2	65	-3.7
																			World-Average	25.4	4.7	20.8	724	-3.2

*Notes*: T. and T.=Trinidad and Tobago. Econ.=Economies. CSA= Central and South America and Caribbean. CAA= Central America and Caribbean. Geographic regions are based on the M49 methodology of the United Nations (United Nations 2023). The grouping of Liberal Market Economy is based on the work by Hall and Soskice (2001). *Sources*: Author's own dataset on generalized trust, compiled from publicly available international data.

period.<sup>10</sup> Excellent examples of a substantial intertemporal variation of generalized trust can be identified in the cases of Denmark, with a cv-value of 11.8 percent and Iran, with a cv-value of 74.9 percent. Whereas in Denmark,<sup>11</sup> we witness a continuous pronounced increase in trust by 22 percentage points from 51.7 percent in 1980 to 73.7 percent in 2020, in Iran<sup>12</sup> we identify a very quick unraveling of trust, with a decline of 50.5 percentage points from 65.3 percent in 2000 to 14.8 percent in 2020.

Concerning the positive panel in Figure 1a, most countries that follow the Danish pattern are North and Western European countries such as Iceland (19.8 percentage points), Austria (19.0 percentage points), the Netherlands (15.9 percentage points), Switzerland (14.6 percentage points), Germany (13.1 percentage points), Norway (11.6 percentage points), and Finland (11.3 percentage points). However, we also witness a pronounced increase of trust in the transition economy Belarus (16.3 percentage points), Asian country Singapore (14.8 percentage points), African country Burkina Faso (14.0 percentage points), and Central American economy Puerto Rico (11.8 percentage points).

Concerning the negative panel in Figure 1b, other countries with cv-values of  $\geq$  30 percent either follow the Iranian pattern, such as Indonesia (-43.8 percentage points), Greece (-39.7 percentage points), Iraq (-31.7 percentage points), Saudi Arabia (-23.8 percentage points), Albania (-22.2 percentage points), Palestine (-21.9 percentage points), Kuwait (-20.1 percentage points), Tunisia (-20.1 percentage points), Malawi (-18.9 percentage points), Nicaragua (-17.8 percentage points) and Bosnia and Herzegovina (-15.7 percentage points).

The evidence of a strong intertemporal variation of generalized trust among the 122 countries over the 41-year time period is also identified when analyzing a map of the world. Figure 2 displays a map of the world that depicts cv-values that are larger than 10 in dark grey and those with more stable trust levels with cv-values below 10 in light grey.

<sup>&</sup>lt;sup>10</sup> The countries with the highest negative Δ-values all display cv-values of ≥ 30 percent.

<sup>&</sup>lt;sup>11</sup> The underlying raw data (before inter- and extrapolation) for Denmark from the World Value Survey display a trust increase of 22.8 percentage points, from a trust value of 51.3 percent in 1981 to 74.1 percent in 2017. The exceptional increase of generalized trust in Denmark is in line with the finding by Sonderskov and Dinesen (2014: 784).

<sup>&</sup>lt;sup>12</sup> Iran saw the largest decline in generalized trust by of 47.2 percentage points from 65.3 percent in 2000 to 18.1 percent in 2005. The underlying raw data (before inter- and extrapolation) from the World Value Survey displays a trust value of 65.3 percent in 2000 and one of 10.6 percent in 2007. The pronounced decline can then be attributed to the autocratic presidency of the Ahmadineschād regime which installed itself from 2005 onward.

<sup>&</sup>lt;sup>13</sup> Malawi recorded the second largest decline in trust between two panel waves. From 2000 to 2005, we witness a decline of 36.3 percentage points from 43.2 percent in 2000 to 6.9 percent in 2005. The underlying raw data (before inter- and extrapolation) from the Afrobarometer displays a trust value of 44.8 percent in 1999 and 6.9 percent in 2005. The pronounced decline can be attributed to the severe famine that swept across the country in 2001/2002.

Figure 1. Countries with the Highest Positive and Negative Changes in Generalized Trust, 1980-2020

Figure 1a. Countries with the Highest Positive Changes in Generalized Trust, 1980-2020

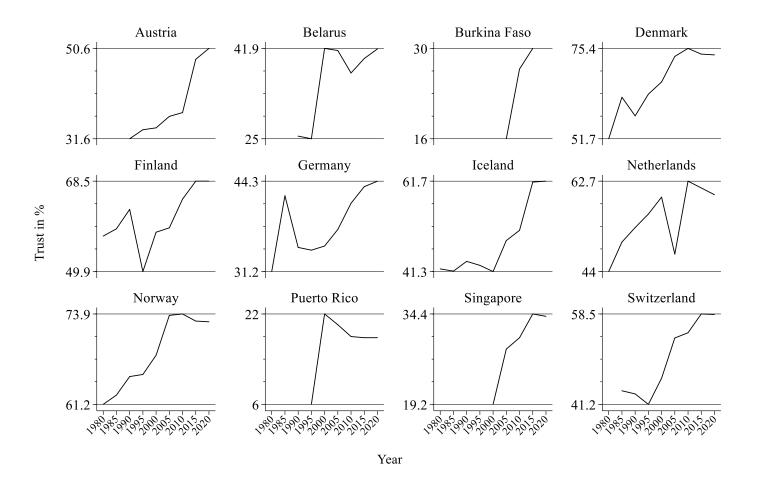
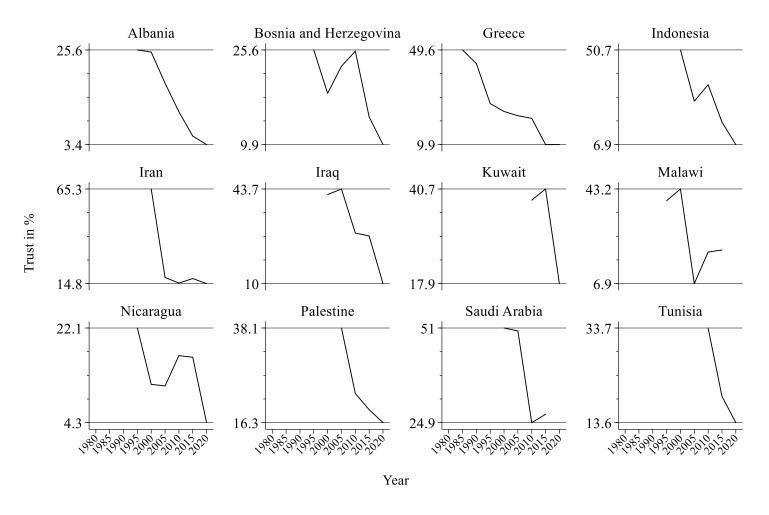


Figure 1b. Countries with the Highest Negative Changes of Generalized Trust, 1980-2020



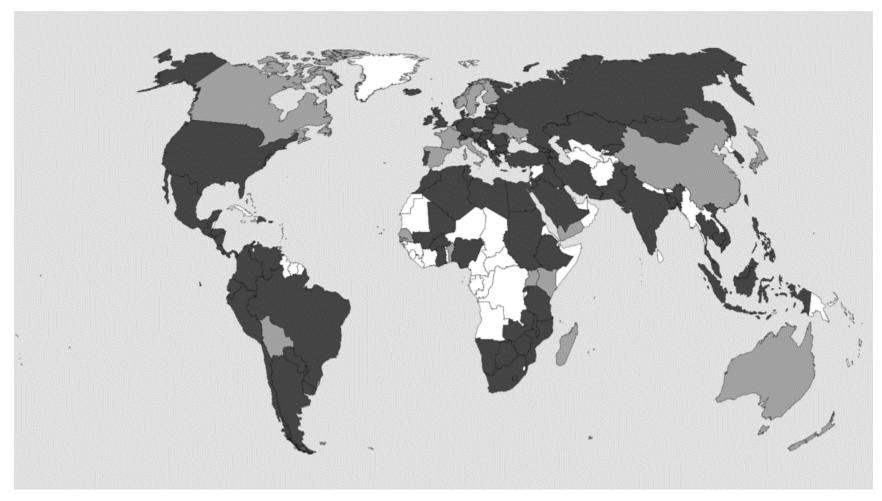


Figure 2. Coefficients of Variation for Generalized Trust in 122 Countries, 1980-2020

*Notes*: Coefficients of variation-values from 0 to 10 are depicted in light grey and cv-values of larger than 10 are depicted in dark grey. *Source*: Author's own dataset on generalized trust, compiled from publicly available international data

We detect a significant intertemporal variation of trust in four-fifths of our country cases (98/122), including the US, almost all countries in Central and South America, Africa and a substantial number of Asian and European countries.<sup>14</sup>

#### 4. Discussion

The novel evidence of our 122-country sample over the 41-year time period from 1980 to 2020 is in line with the findings of pronounced intertemporal variations of trust for smaller country samples and for shorter time periods when analyzing large country-panel datasets (Roth 2007: 44-49, 2009: 111-114, 2022a: 182, 2024: 13-15, Paldam 2011: 336). Furthermore, it is in line with findings of pronounced country-case intertemporal evidence for the US (Inglehart 1990: 428, 1999: 95, Uslaner 1999: 132, Putnam 1995: 73, 2000: 140-141, Paxton 1999: 122), Germany (Noelle-Neumann 2005: 5, Inglehart 1990: 438), Italy (Inglehart 1990: 438, Uslaner 2002: 253), Mexico (Inglehart 1990: 438, Uslaner 2002: 253) and Denmark (Sonderskov and Dinesen 2014: 784).

This novel empirical evidence prompts three observations. First, generalized trust should be viewed as an "experiential"-variable that changes over time (Glanville and Paxton 2007: 231-2, Sonderskov and Dinesen 2014: 783) and can unravel very quickly (Knack and Keefer 1997: 1267), rather than a "cultural" variable, which is stable over a very long period of time and is time-invariant (Bjornskov 2006: 17, 2012: 1349, 2022: 222; Putnam 1993: 153, 180, Uslaner 2002: 160, 230).

Second, it is possible to build up or to dismantle trust through effective or ineffective policies. In Denmark, for example, the pronounced continuous increase in generalized trust can be attributed to increasing levels of education, improved quality of state institutions, and an increase in citizens' institutional trust (Sonderskov and Dinesen 2014: 783). Conversely, the continued pronounced decline in trust witnessed in Greece can most likely be attributed – at least from 2010 onwards – to the dismantling of these elements by the authorities in the country (Roth 2022b). On the other

\_

<sup>&</sup>lt;sup>14</sup> As already stated above, proponents of the cultural theory on trust back their view with evidence showing high correlation coefficients of 0.91 between the first and second wave of the World Value Survey (Knack and Keefer 1997: 1267, Zak and Knack 2001: 309, Uslaner 2002: 230). This empirical evidence is problematic for two reasons. First, even if correlation coefficients among our 122 countries are relatively high (≥ 0.76), they are much lower among African (0.22), Asian (0.39) and South American (0.66) countries. Second, in order to assess the degree of intertemporal variation, correlation coefficients are inadequate. For example, a universal global increase/decline of trust among all economies, would indicate high correlation coefficients although cv-values have increased pronouncedly. Table D1 in Appendix D displays the results for all correlation coefficients.

hand, the country cases of Iran and Malawi and the two former Yugoslavia countries, Albania and Bosnia and Herzegovina, exemplify how quickly trust can come unraveled in response to a regime change towards autocracy, a food crisis, or the outbreak of civil war.

Third, standard and dynamic panel data econometric estimation techniques should be applied to retrieve causal effects when analyzing the outcomes of generalized trust. The clear advantage of applying panel data econometrics over cross-section econometrics alone can be exemplified in analyzing the relationship between trust and growth. Whereas purely cross-country econometric approaches were unable to address endogeneity to retrieve causal effects to detect a curvilinear relationship between trust and growth (Knack and Keefer 1997: 1261), standard and dynamic panel data econometric approaches were able to detect a curvilinear relationship between trust and growth (Roth 2009: 115, 118, 2024: 18).

#### 5. Conclusions

Using a unique international database on generalized trust — constructed from more than 1,000 individual national surveys containing more than 1 million individual observations — covering 142 countries across the world for the 41-year time period from 1980 to 2020, this paper finds strong evidence of a pronounced intertemporal variation of generalized trust. Based on this novel empirical finding, the paper reaches three conclusions. First, generalized trust should be viewed as an "experiential" variable, which changes over time, rather than a "cultural" variable, which is time-invariant. Second, due to its experiential character, trust in countries can be built or dismantled via effective or ineffective policies and it can unravel very quickly. Third, standard and dynamic panel data econometric estimation techniques to retrieve causal effects should be applied when analyzing the outcomes of generalized trust.

Overall, our results open up three promising avenues for future research, which we have not covered in this paper due to space and data limitations. The first avenue would consist of continuing the development of a comprehensive descriptive analysis of the pronounced intertemporal variation of trust in our 122-country sample over the 41-year period 1980 to 2020 by focusing on detailed country-case studies, as well as patterns caused by geographical location and regime-typologies. The second avenue for future research would entail an in-depth analysis of the determinants of trust over time for our 122-country sample for the same time period. The third avenue would aim to extend our country sample and time-series evolution using the data from the eight waves of the

Integrated Value Survey and the upcoming waves from the five international Barometer survey programs.

#### References

- Afrobarometer Data (2015), All Countries, Rounds 1-5, 1999-2015, available at <a href="http://www.afrobarometer.org">http://www.afrobarometer.org</a>.
- Algan, Y. and Cahuc, P. (2010), "Inherited Trust and Growth", *American Economic Review*, 100(5), 2060–2092.
- Arabbarometer Data (2019), All Countries, Rounds 1-5, 2006-2019, available at <a href="https://www.arabbarometer.org/survey-data/data-downloads/">https://www.arabbarometer.org/survey-data/data-downloads/</a>.
- Asianbarometer Data (2016), All Countries, Rounds 1-4, 2001-2016, available at <a href="https://www.asianbarometer.org/data?page=d10">https://www.asianbarometer.org/data?page=d10</a>.
- Bjornskov, C. (2006), "The determinants of trust", Public Choice, 130, 1-21.
- Bjornskov, C. (2012), "How does social trust affect economic growth", *Southern Economic Journal*, 78(4), 1346-1368.
- Bjornsjov, C. (2022), "Social trust and patterns of growth", *Southern Economic Journal*, 89, 216-237.
- Cox, N. (2015), "MIPOLATE: Stata module to interpolate values", Statistical Software Components, S458070 (Boston College Department of Economics, revised 19 Dec 2016).
- EVS (2021): EVS Trend File 1981-2017. GESIS Data Archive, Cologne. ZA7503 Data file Version 2.0.0, doi:10.4232/1.13736.
- Glanville, J.L. and Paxton, P. (2007), "How do We Learn to Trust? A Confirmatory Tetrad Analysis of the Sources of Generalized Trust", *Social Psychology Quarterly*, 70, 230–242.
- Haerpfer, C., Inglehart, R., Moreno, A., Welzel, C., Kizilova, K., Diez-Medrano J., Lagos, M.,
  Norris, P., Ponarin, E. and Puranen, B. et al. (eds) (2021). World Values Survey Time-Series
  (1981-2020) Cross-National Data-Set. Madrid, Spain & Vienna, Austria: JD Systems
  Institute & WVSA Secretariat. Data File Version 2.0.0, doi:10.14281/18241.15.
- Hall, P. and D. Soskice (2001), Varieties of Capitalism. (Oxford: Oxford University Press).
- Inglehart, Ronald (1990), Culture Shift (Princeton, NJ: Princeton University Press).
- Inglehart, Ronald (1999), "Trust, Well-Being and Democracy", in: Mark E. Warren (ed.), *Democracy and Trust* (Cambridge: Cambridge University Press: 88–120).
- Knack, S. and Keefer, P. (1997), "Does Social Capital Have an Economic Payoff? A Cross-Country Investigation", *Quarterly Journal of Economics*, 112 (4), 1251–1288.

- Knack, S. and Zak, P.J. (2003), "Building Trust: Public Policy, Interpersonal Trust, and Economic Development", *Supreme Court Economic Review*, 10, 91-107.
- Latinobarómetro Data (2018), All Countries, Rounds 1995-2018, available at <a href="https://www.latinobarometro.org/latContents.jsp">https://www.latinobarometro.org/latContents.jsp</a>.
- Lijphart, A. (1971), "Comparative Politics and the Comparative Method", *American Political Science Review*, 65, 682-693.
- Makrychoriti, P., Pasiouras, F. and Tasiou, M. (2021), "Financial stress and economic growth: The moderating role of trust", *KYKLOS*, 75 (1), 48-74.
- Noelle-Neumann, E. (2005), "Vertrauen ist Besser", Frankfurter Allgemeine Zeitung, 166: 5.
- Paldam, M. (2011), "Generalized Trust: The Macro Perspective", In: Sacconi, L. and Antoni, G., Social Capital, Corporate Social Responsibility, Economic Behaviour and Performance (London: Palgrave Macmillan), 331-357.
- Paxton, P. (1999), "Is Social Capital Declining in the United States A Multiple Indicator Assessment?", *American Journal of Sociology*, 105, 88–127.
- Putnam, R. (1993), *Making Democracy Work: Civic Traditions in Modern Italy* (Princeton, NJ: Princeton University Press).
- Putnam, R. (1995), "Bowling Alone: America's Declining Social Capital", *Journal of Democracy*, 6: 65–78.
- Putnam, R. (2000), *Bowling Alone: The Collapse and Revival of American Community* (New York, NY: Simon & Schuster).
- Rabier, J.-R., Helene, R. and Inglehart, R. (1986), *Eurobarometer 25: Holiday, Travel and Environmental Problems*, ICPSR Study Number 8616, Inter-university Consortium for Political and Social Research).
- Roth, F. (2007), "Social Capital, Trust and Economic Growth A Cross-sectional and Panel Analysis" (Göttingen: University of Göttingen).
- Roth, F. (2009), "Does Too Much Trust Hamper Economic Growth?", KYKLOS, 62 (1): 103–128.
- Roth, F. (2022a), "Social Capital, Trust and Economic Growth", In: F. Roth, *Intangible Capital and Growth* (Cham: Springer), 167-185.
- Roth, F. (2022b), "Political Economy of EMU: Rebuilding Systemic Trust in the Euro Area in Times of Crisis", In: Roth, F., *Public Support for the Euro* (Cham: Springer), 93-136.
- Roth, F. (2024), "Reassessing Trust and Growth", *Hamburg Discussion Papers in International Economics* No. 14, Senior Lectureship of International Economics, University of Hamburg.

- Sonderskov, K.M. and Dinesen, P.T. (2014), "Danish Exceptionalism: Explaining the Unique Increase in Social Trust over the Past 30 Years", *European Sociological Review*, 30(6), 782-795.
- Tabellini, G. (2008), "Institutions and Culture", *Journal of the European Economic Association* 6(2-3): 255-294.
- United Nations (2023), *Methodology: Standard country or area codes for statistical use (M49)*, The United Nations, accessed October 2023, https://unstats.un.org/unsd/methodology/m49.
- Uslaner, Eric M. (1999), "Democracy and Social Capital", in: Mark E. Warren (ed.), *Democracy and Trust* (Cambridge: Cambridge University Press), 121–150).
- Uslaner, E. (2002), *The Moral Foundations of Trust* (Cambridge: Cambridge University Press).
- Uslaner, E. (2008), "Where you stand depends upon where your grandparents sat", *Public Opinion Quarterly*, 72, 725-740.
- Zak, P. and S. Knack (2001), "Trust and Growth", The Economic Journal, 111, 295–321.

#### **Appendices**

- Appendix A. Generalized Trust Data Resources
- Appendix B. Case Selection
- Appendix C. Country and Time Coverage
- Appendix D. Additional Descriptive Statistics
- Appendix E. Survey Questions
- Appendix F. Overview of Country Sample

## Appendix A. Generalized Trust Data Resources

**Table A1.** Raw Data for Generalized Trust in 142 Countries

No.	Country	Study	No.	Country	Study	No.	Country	Study	No.	Country	Study	No.	Country	Study
1	Albania	IVS	31	Cyprus	IVS	61	Jordan	IVS, Arab	91	Nicaragua	IVS, Latino	121	Swaziland	Afro
2	Algeria	IVS, Arab, Afro	32	Czech Rep.	IVS	62	Kazakhstan	IVS	92	Niger	Afro	122	Sweden	IVS
3	Andorra	IVS	33	Denmark	IVS, EB	63	Kenya	Afro	93	Nigeria	Afro	123	Switzerland	IVS
4	Argentina	IVS, Latino	34	Dom. Rep.	IVS, Latino	64	Kosovo	IVS	94	North Maced.	IVS	124	Taiwan	IVS, Asian
5	Armenia	IVS	35	Ecuador	Latino	65	Kuwait	IVS, Arab	95	North Cyprus	IVS	125	Tajikistan	IVS
6	Australia	IVS	36	Egypt	IVS, Arab, Afro	66	Kyrgyzstan	IVS	96	Norway	IVS	126	Tanzania	IVS, Afro
7	Azerbaijan	IVS	37	El Salvador	IVS, Latino	67	Latvia	IVS	97	Pakistan	IVS	127	Thailand	IVS, Asian
8	Bahrain	Arab	38	Estonia	IVS	68	Lebanon	IVS, Arab	98	Palestine	IVS, Arab	128	Togo	Afro
9	Austria	IVS	39	Ethiopia	IVS	69	Lesotho	Afro	99	Panama	Latino	129	T. and T.	IVS
10	Bangladesh	IVS	40	Finland	IVS	70	Liberia	Afro	100	Paraguay	Latino	130	Tunisia	IVS, Arab, Afro
11	Belarus	IVS	41	France	IVS, EB	71	Lybia	IVS, Arab	101	Peru	IVS, Latino	131	Turkey	IVS
12	Belgium	IVS, EB	42	Georgia	IVS	72	Lithuania	IVS	102	Philippines	IVS, Asian	132	Uganda	IVS, Afro
13	Benin	Afro	43	Germany	IVS, EB	73	Luxembourg	IVS, EB	103	Poland	IVS	133	Ukraine	IVS
14	Bolivia	IVS, Latino	44	Ghana	IVS, Afro	74	M acau	IVS	104	Portugal	IVS, EB	134	UK	IVS, EB
15	Bosnia Herze.	IVS	45	Greece	IVS	75	M adagascar	Afro	105	Perto Rico	IVS	135	US	IVS
16	Botswana	Afro	46	Guatemala	IVS, Latino	76	M alawi	Afro	106	Qatar	IVS	136	Uruguay	IVS, Latino
17	Brazil	IVS, Latino	47	Guniea	Afro	77	M alay sia	IVS, Asian	107	Romania	IVS	137	Uzbekistan	IVS
18	Bulgaria	IVS	48	Haiti	IVS	78	M ali	IVS, Afro	108	Russia	IVS	138	Venezuela	IVS, Latino
19	Burkina Faso	IVS, Afro	49	Honduras	Latino	79	M alta	IVS	109	Rwanda	IVS	139	Vietnam	IVS, Asian
20	Burundi	Afro	50	Hong Kong	IVS, Asian	80	M auritius	Afro	110	Saudi Arabia	IVS, Arab	140	Yemen	IVS, Arab
21	Cambodia	Asian	51	Hungary	IVS	81	M exico	IVS, Latino	111	Senegal	Afro	141	Zambia	IVS, Afro
22	Cameroon	Afro	52	Iceland	IVS	82	M oldova	IVS	112	Serbia	IVS	142	Zimbabwe	IVS, Afro
23	Canada	IVS	53	India	IVS	83	M ongolia	Asian	113	Sierra Leone	Afro			
24	Cape Verde	Afro	54	Indonesia	IVS, Asian	84	M ontenegro	IVS	114	Singap ore	IVS, Asian			
25	Chile	IVS, Latino	55	Iran	IVS	85	M orocco	IVS, Arab, Afro	115	Slovakia	IVS			
26	China	IVS, Asia	56	Iraq	IVS, Arab	86	M ozambique	Afro	116	Slovenia	IVS			
27	Colombia	IVS, Latino	57	Ireland	IVS, EB	87	M y anmar	IVS	117	South Africa	IVS, Afro			
28	Costa Rica	Latino	58	Israel	IVS	88	Namibia	Afro	118	South Korea	IVS, Asian			
29	Cote d'Ivoire	Afro	59	Italy	IVS, EB	89	Netherlands	IVS, EB	119	Spain	IVS, Latino, EB			
30	Croatia	IVS	60	Japan	IVS, Asian	90	New Zealand	IVS	120	Sudan	Arab, Afro			

*Notes*: IVS =Integrated Value Survey. Arab=Arab Barometer. Afro=Afro Barometer. Latino=Latinobarómetro. Asian=Asian Barometer. EB=Eurobarometer. *Sources*: Author's own dataset on generalized trust, compiled from publicly available international data.

## Appendix B. Case Selection

Table B1. Case Selection based on 142 Countries

No.	Country	NT	Total	No.	Country	NT	Total	No.	Country	NT	Total	No.	Country	NT	Total
1	Albania	0	1	37	El Salvador	0	1	73	Luxembourg	0	1	109	Rwanda	0	1
2	Algeria	0	1	38	Estonia	0	1	74	Macau S.A.R	1	0	110	Saudi Arabia	0	1
3	Andorra	0	1	39	Ethiopia	0	1	75	M adagascar	0	1	111	Senegal	0	1
4	Argentina	0	1	40	Finland	0	1	76	M alawi	0	1	112	Serbia	0	1
5	Armenia	0	1	41	France	0	1	77	M alay sia	0	1	113	Sierra Leone	1	0
6	Australia	0	1	42	Georgia	0	1	78	M ali	0	1	114	Singap ore	0	1
7	Azerbaijan	0	1	43	Germany	0	1	79	Malta	0	1	115	Slovakia	0	1
8	Bahrain	1	0	44	Ghana	0	1	80	M auritius	1	0	116	Slovenia	0	1
9	Austria	0	1	45	Greece	0	1	81	M exico	0	1	117	South Africa	0	1
10	Bangladesh	0	1	46	Guatemala	0	1	82	Moldova	0	1	118	South Korea	0	1
11	Belarus	0	1	47	Guinea	1	0	83	M ongolia	0	1	119	Spain	0	1
12	Belgium	0	1	48	Haiti	1	0	84	Montenegro	0	1	120	Sudan	0	1
13	Benin	0	1	49	Honduras	0	1	85	Morocco	0	1	121	Swaziland	1	0
14	Bolivia	0	1	50	Hong Kong	0	1	86	Mozambique	0	1	122	Sweden	0	1
15	Bosnia Herze.	0	1	51	Hungary	0	1	87	M y anmar	1	0	123	Switzerland	0	1
16	Botswana	0	1	52	Iceland	0	1	88	Namibia	0	1	124	Taiwan	0	1
17	Brazil	0	1	53	India	0	1	89	Netherlands	0	1	125	Tajikistan	1	0
18	Bulgaria	0	1	54	Indonesia	0	1	90	New Zealand	0	1	126	Tanzania	0	1
19	Burkina Faso	0	1	55	Iran	0	1	91	Nicaragua	0	1	127	Thailand	0	1
20	Burundi	1	0	56	Iraq	0	1	92	Niger	1	0	128	Togo	1	0
21	Cambodia	0	1	57	Ireland	0	1	93	Nigeria	0	1	129	T. and T.	0	1
22	Cameroon	1	0	58	Israel	1	0	94	North Macedonia	0	1	130	Tunisia	0	1
23	Canada	0	1	59	Italy	0	1	95	North Cyprus	1	0	131	Turkey	0	1
24	Cape Verde	0	1	60	Japan	0	1	96	Norway	0	1	132	Uganda	0	1
25	Chile	0	1	61	Jordan	0	1	97	Pakistan	0	1	133	Ukraine	0	1
26	China	0	1	62	Kazakhstan	0	1	98	Palestine	0	1	134	UK	0	1
27	Colombia	0	1	63	Kenya	0	1	99	Panama	0	1	135	US	0	1
28	Costa Rica	0	1	64	Kosovo	1	0	100	Paraguay	0	1	136	Uruguay	0	1
29	Cote d'Ivoire	1	0	65	Kuwait	0	1	101	Peru	0	1	137	Uzbekistan	1	0
30	Croatia	0	1	66	Kyrgyzstan	0	1	102	Philippines	0	1	138	Venezuela	0	1
31	Cyprus	0	1	67	Latvia	0	1	103	Poland	0	1	139	Vietnam	0	1
32	Czech Rep.	0	1	68	Lebanon	0	1	104	Portugal	0	1	140	Yemen	0	1
33	Denmark	0	1	69	Lesotho	0	1	105	Puerto Rico	0	1	141	Zambia	0	1
34	Dom. Rep.	0	1	70	Liberia	1	0	106	Qatar	1	0	142	Zimbabwe	0	1
35	Ecuador	0	1	71	Lybia	0	1	107	Romania	0	1	-	-	20	-
36	Egypt	0	1	72	Lithuania	0	1	108	Russia	0	1	-	142	122	122

*Notes:* NT= No Time Series. T. and T. = Trinidad and Tobago. *Sources*: Author's own dataset on generalized trust, compiled from publicly available international data.

## **Appendix C**. Country and Time Coverage

**Table C1.** Country and Time Coverage, 122 Countries, 1980-2020

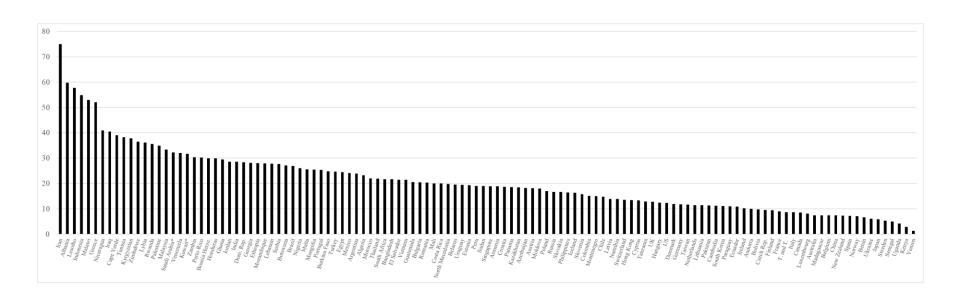
No.	Country	1980	1985	1990	1995	2000	2005	2010	2015	2020	μ	σ	CV	n	Δ
1	Albania				Х	×	Х	X	Х	×	14.7	8.8	59.6	6	-22.2
2	Algeria					×	×	X	X	X	14.8	3.4	23.1	5	0.2
3	Andorra						X	X	X	X	23.1	2.3	9.8	4	5.3
4	Argentina	×	×	×	X	×	X	×	×	X	22.3	5.3	23.8	9	-3.7
5	Armenia				×	×	×	X	X	X	20.8	3.9	18.7	6	-0.2
6	Australia	×	×	×	×	×	×	X	X	X	46.3	3.4	7.4	9	1.2
7	Austria			×	X	×	X	X	X	X	38.8	7.0	18.0	7	19.0
8	Azerbaijan				X	×	X	X	X	X	21.0	3.8	18.1	6	7.1
9	Bangladesh				X	×	X	X	X	X	18.7	4.0	21.5	6	-7.8
10	Belarus			×	X	×	X	X	X	X	36.1	7.0	19.5	7	16.3
11	Belgium	×	X	×	X	X	X	X			32.0	2.3	7.3	7	7.1
12	Benin						X	X	X		30.2	2.0	6.6	3	4.0
13	Bolivia				×	×	×	×	×	X	18.6	1.8	9.6	6	-2.2
14	Bosnia Herze.				X	X	X	X	X	X	19.5	5.8	29.8	6	-15.7
15	Botswana				X	×	×	X	X		11.0	3.0	27.0	5	-2.7
16	Brazil			×	X	×	×	X	X	X	7.0	1.9	26.8	7	-0.7
17	Bulgaria			×	X	X	X	X	X	X	23.3	4.7	20.4	7	-12.0
18	Burkina Faso						X	X	X		24.3	6.0	24.7	3	14.0
19	Cambodia						X	×	X		9.6	1.1	11.1	3	2.6
20	Canada	×	×	×	×	×	X	×	×	×	45.9	3.9	8.4	9	-2.4
21	Cape Verde						X	×	X		7.0	2.7	38.9	3	6.6
22	Chile			×	X	×	×	X	X	×	17.6	2.6	14.7	7	-7.5
23	China			×	X	×	X	X	X	X	56.9	4.2	7.3	7	2.6
24	Colombia				X	×	X	X	X	X	17.6	2.6	15.0	6	-7.0
25	Costa Rica				X	×	X	X	X	X	14.2	2.8	19.9	6	-5.1
26	Croatia				X	×	X	X	X	X	18.7	3.5	18.6	6	-10.1
27	Cyprus						X	X	X	X	8.0	1.1	13.2	4	-2.9
28	Czech Rep.			×	X	×	X	X	X	×	26.3	2.5	9.4	7	-4.3
29	Denmark	×	×	×	X	X	X	X	X	X	66.5	7.8	11.8	9	22.0
30	Dom. Rep.				X	X	X	X	X	X	22.5	6.3	28.2	6	-10.6
31	Ecuador				X	X	X	X	X	X	18.1	1.9	10.7	6	-3.4
32	Egypt					X	X	X	X	X	32.4	7.9	24.3	5	-14.4
33	El Salvador				X	×	X	X	X	X	21.1	4.5	21.4	6	-8.4
34	Estonia			×	X	×	X	X	X	X	30.3	5.8	19.2	7	6.8
35	Ethiopia						X	X	X	X	18.7	5.2	27.9	4	-12.3
36	Finland	×	×	×	X	×	X	X	X	X	60.8	5.6	9.3	9	11.3
37	France	×	×	×	X	×	X	X	X	X	23.4	2.1	8.9	9	2.5
38	Georgia				X	×	×	X	X	X	15.8	4.4	28.0	6	-9.0
39	Germany	×	X	×	X	×	X	X	X	X	38.2	4.4	11.6	9	13.1
40	Ghana						X	X	X		11.1	3.3	29.3	3	-7.0
41	Greece		×	×	X	×	X	X	X	×	25.9	13.4	51.9	8	-39.7
42	Guatemala				X	×	X	X	X	X	20.1	4.1	20.4	6	-10.8
43	Honduras				X	×	X	X	X	×	16.7	5.0	29.8	6	-9.0
44	Hong Kong					×	×	X	X	X	38.7	5.2	13.4	5	7.5
45	Hungary	×	×	×	X	×	×	X	X	X	26.5	3.3	12.3	9	-5.4
46	lceland	×	×	×	X	×	×	X	×	X	48.1	7.8	16.2	9	19.8
47	India			×	X	×	X	X	X	X	28.7	8.2	28.5	7	-12.2
48	Indonesia					X	X	X	X	X	27.3	14.9	54.7	5	-43.8
49	Iran					×	X	X	X	X	26.2	19.6	74.9	5	-50.5
50	Iraq					×	X	X	X	X	30.1	12.2	40.4	5	-31.7
51	Ireland	×	×	×	X	×	X	X			39.3	4.0	10.1	7	-2.9
52	Italy	×	×	×	X	X	×	×	×	X	30.0	2.6	8.6	9	1.8
53	Japan	×	×	×	X	×	×	×	×	X	39.9	2.3	5.8	9	-5.0
54	Jordan					×	×	×	×	×	23.2	6.6	28.5	5	-12.5
55	Kazakhstan							X	×	×	30.6	5.6	18.4	3	-13.5
56	Kenya						×	X	×		9.4	0.3	2.8	3	-0.5
57	Kuwait							×	X	X	32.2	10.2	31.6	3	-20.1
58	Kyrgyzstan					×	×	×	X	X	22.9	8.6	37.7	5	-5.1
59	Latvia			×	X	×	×	×			22.0	3.0	13.8	5	6.3
60	Lebanon						×	×	X	X	13.5	3.7	27.7	4	-7.7
61	Lesotho					X	×	×	×		8.3	4.8	57.6	4	2.1
٠.															40.5
62	Lybia					×		×	X	X X	14.7	5.3 3.2	36.1	3 7	-10.5

64	Luxembourg		X	X	×	×	×	X			29.8	2.4	8.0	6	2.0
65	Madagascar						X	X	X		29.7	2.2	7.3	3	-5.1
66	Malawi				X	X	X	X	X		25.5	13.5	52.8	5	-18.9
67	Malaysia						X	X	X	X	11.8	3.9	33.3	4	9.9
68	Mali					X	X	X	X		20.1	4.0	19.9	4	9.4
69	Malta	×	×	X	×	X	X	X			19.1	4.9	25.5	7	11.1
70	Mexico	×	X	X	X	×	×	X	X	Х	23.8	5.7	24.0	9	-0.2
71	Moldova	"			X	X	×	×			17.2	3.1	17.9	4	-8.5
72	Mongolia					×	×	×	×		14.7	3.7	25.4	4	7.5
73	Montenegro				×	×	×	X	×	×	27.7	4.1	14.8	6	-9.9
74	Morocco					×	×	X	×	X	17.6	3.9	21.9	5	-3.5
75						^	×	×	×	^	18.1	5.0	27.8	3	-11.0
	Mozambique				o o	U									
76	Namibia	ا .		u	X	X	X	X	X	u	29.6	4.1	13.7	5	-8.6
77	Netherlands	X	Х	Х	Х	×	Х	×	×	×	54.9	6.2	11.3	9	15.9
78	New Zealand				X	X	X	X	X	X	54.0	3.9	7.2	6	9.9
79	Nicaragua				×	X	×	X	×	×	13.8	5.6	40.9	6	-17.8
80	Nigeria			X	×	×	X	Х	X	X	17.6	4.6	25.9	7	-9.8
81	North Macedonia				X	X	X	X	X	X	14.9	2.9	19.6	6	6.1
82	Norway	×	×	X	X	X	X	X	X	X	68.4	4.8	7.0	9	11.6
83	Pakistan				Х	X	X	X	X	X	24.8	2.8	11.2	6	1.9
84	Palestine						X	X	X	X	24.2	8.4	34.8	4	-21.9
85	Panama				X	X	X	X	X	X	19.4	3.6	18.5	6	-7.7
86	Paraguay				X	X	X	X	X	X	16.6	1.8	10.8	6	-3.8
87	Peru				×	X	X	X	X	X	13.7	2.6	18.9	6	0.8
88	Philippines				×	X	X	X	X	X	7.1	1.2	16.3	6	-0.3
89	Poland		×	X	X	X	X	X	X	X	24.0	4.0	16.9	8	-6.0
90	Portugal		×	X	×	X	X	X	X	X	18.5	4.7	25.2	8	-11.1
91	Perto Rico				×	×	X	X	X	X	17.0	5.1	30.2	6	11.8
92	Romania			×	×	×	×	X	×	X	14.5	2.9	20.2	7	-3.5
93	Russia			×	×	X	×	X	X	X	27.3	4.5	16.6	7	-12.9
94	Rwanda						×	X	X		11.3	4.0	35.4	3	9.4
95	Saudi Arabia					×	X	X	X		38.3	12.3	32.1	4	-23.8
96	Senegal						×	×	×		28.7	1.4	4.9	3	3.3
97	Serbia				×	×	×	×	×	×	18.5	5.1	27.5	6	-12.3
98	Singapore					×	×	×	×	×	29.3	5.5	18.8	5	14.8
99	Slovakia			Х	×	×	×	X	×	X	19.3	3.2	16.5	7	-1.9
100	Slovenia			X	×	×	×	X	×	X	20.3	3.2	15.7	7	7.1
101	South Africa	×	X	X	×	×	×	×	×	^	22.3	4.8	21.6	8	-6.7
102		×	X	X	×	×	×	×	×	×	32.1	3.5		9	-4.5
103	South Korea	×		X	×	×					35.3		11.0		
	Spain	l ^	X	^	^	^	×	X	X	X		2.5	7.1	9	3.6
104	Sudan	ا		u			u	X	X	X	21.1	4.0	18.9	3	-8.1
105	Sweden	X	×	X	Х	×	Х	×	×	×	63.5	3.3	5.2	9	6.7
106	Switzerland		X	X	X	×	X	X	X	X	50.0	6.7	13.4	8	14.6
107	Taiwan				×	×	Х	×	×	×	36.2	4.2	11.6	6	-6.5
108	Tanzania					×	X	×	×		11.3	1.4	12.8	4	2.5
109	Thailand					×	X	X	X	×	31.1	6.8	21.8	5	9.8
110	T. and T.						×	Х			3.5	0.3	8.6	2	-0.6
111	Tunisia							Х	X	X	22.2	8.5	38.1	3	-20.1
112	Turkey			X	×	×	X	X	X	X	11.1	2.7	24.6	7	3.8
113	Uganda					×	×	Х	X		15.7	0.6	4.1	4	0.0
114	Ukraine				X	X	×	X	X	X	27.9	1.7	5.9	6	-1.3
115	UK	×	×	X	X	X	X	X	X	X	37.9	4.8	12.7	9	-3.6
116	US	×	×	X	X	×	×	X	X	X	39.5	4.8	12.2	9	-3.5
117	Uruguay				×	×	×	X	X	X	26.9	5.2	19.3	6	-7.6
118	Venezuela				×	×	×	X	X	X	17.8	5.7	31.9	6	-1.5
119	Vietnam					×	×	X	X	X	43.0	9.2	21.4	5	-13.9
120	Yemen						X	X	X	X	39.4	0.5	1.2	4	0.2
121	Zambia				×	×	×	X	X		13.5	4.1	30.2	5	-7.3
122	Zimbabwe				×	×	X	X	X	×	10.3	3.7	36.4	6	-10.6
-	Observations	23	28	45	81	99	117	122	115	94	724	724	724	724	724
	Average	37.9	38.8	34.8	27.4	27.0	25.8	26.2	25.4	25	25.4	4.7	20.8	5.9	-3.2

*Note:* T. and T. = Trinidad and Tobago. *Source*: Author's own dataset on generalized trust, compiled from publicly available international data.

## Appendix D. Additional Descriptive Statistics

Figure D1. Coefficients of Variation for Generalized Trust in 122 Countries, 1980-2020



*Notes*: Coefficients of Variation-values of Generalized Trust range from 1.6 per cent in Yemen to 74.9 per cent in Iran. *Source*: Author's own dataset on generalized trust, compiled from publicly available international data.

Figure D2. Generalized Trust over Time, 12 North-Western European Countries, 1980-2020

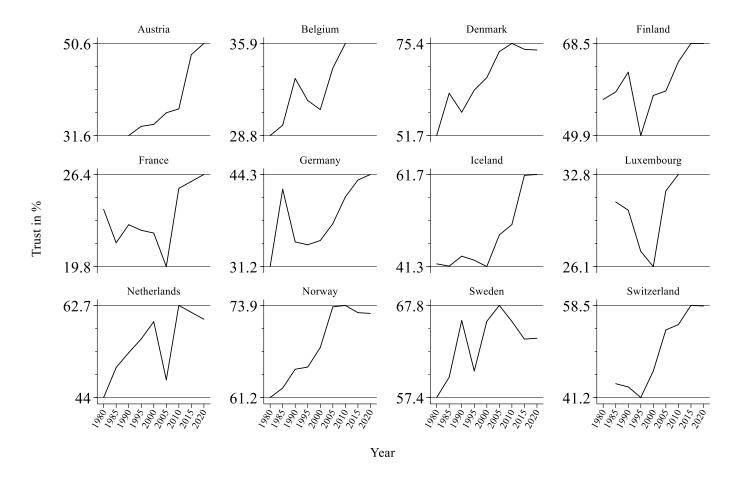


Figure D3. Generalized Trust over Time, 6 Liberal Market Economies, 1980-2020

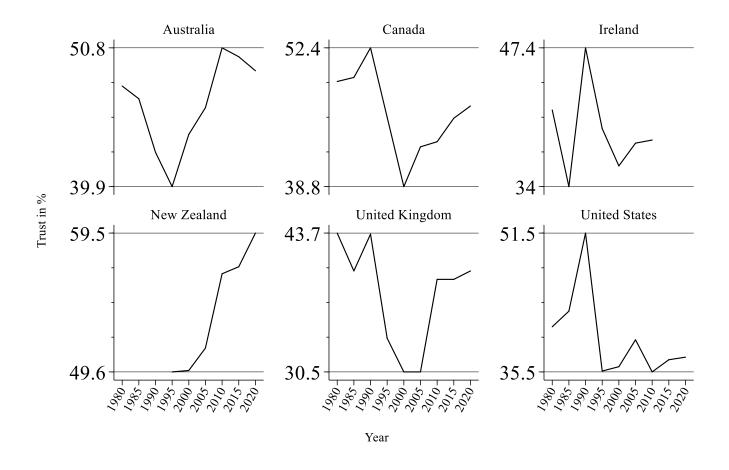


Figure D4. Generalized Trust over Time, 6 Mediterranean Market Economies, 1980-2020

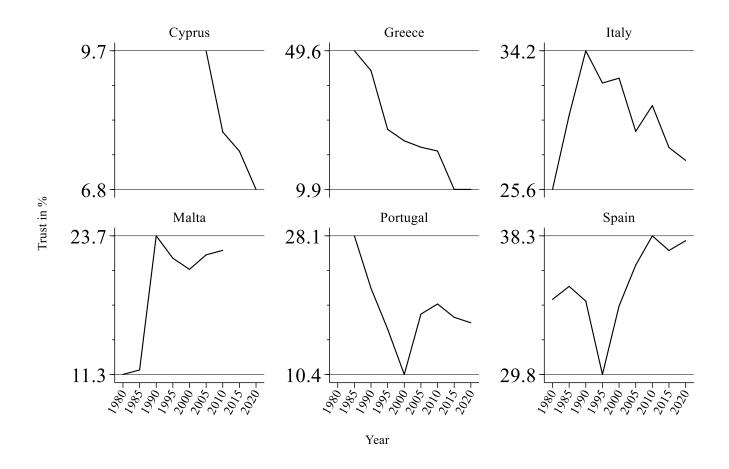


Figure D5. Generalized Trust over Time, 21 Transition Countries, 1980-2020

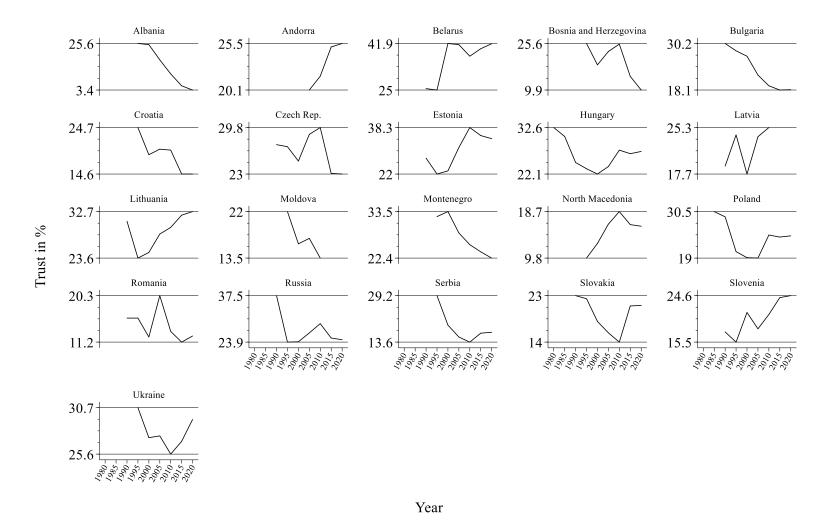


Figure D6. Generalized Trust over Time, 30 Asian Countries, 1980-2020

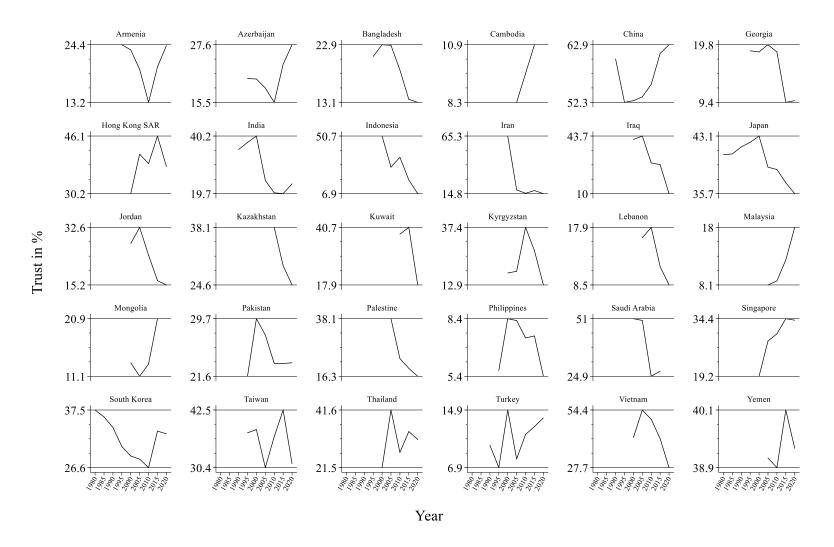


Figure D7. Generalized Trust over Time, 27 African Countries, 1980-2020

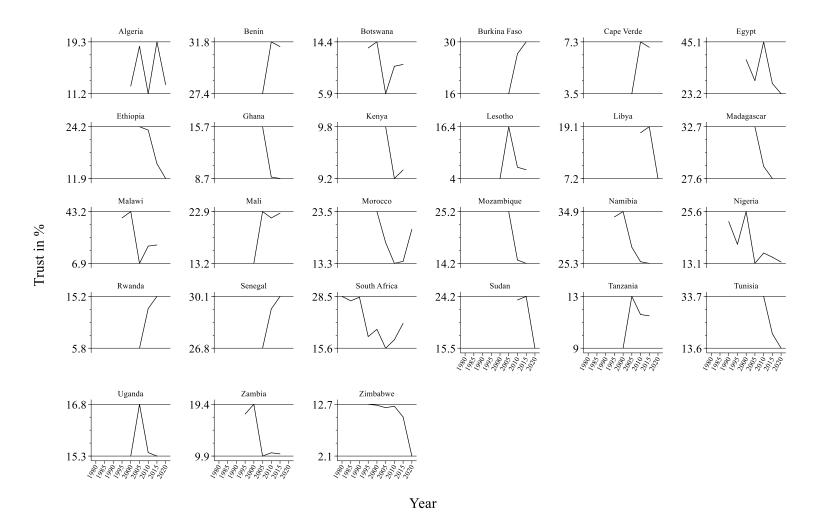


Figure D8. Generalized Trust over Time, 20 Central and South American Countries, 1980-2020

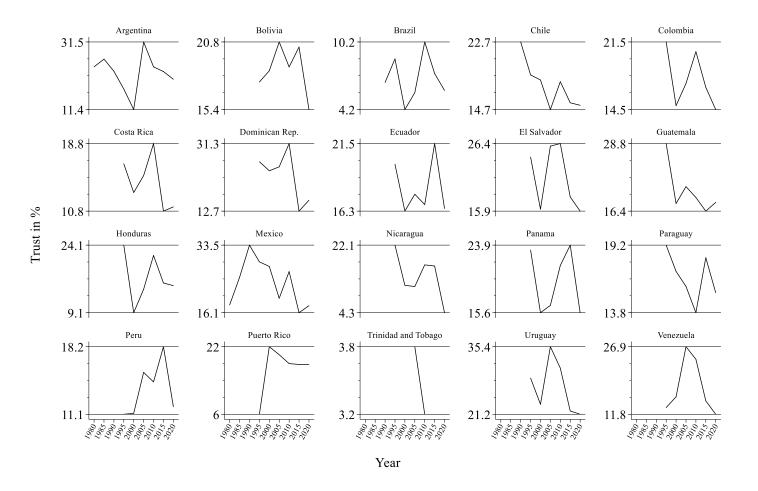


Table D1. Correlation Coefficients of Trust across Nine Individual Panel Waves, 1980-2020

			122 Co	untries with	724 Observ	ations			
Year	1980	1985	1990	1995	2000	2005	2010	2015	2020
1980	1.00 (23)	0.95 (23)	0.91 (23)	0.86 (23)	0.85 (23)	0.86 (23)	0.86 (23)	0.90 (20)	0.89 (19)
1985		1.00 (28)	0.91 (28)	0.87 (28)	0.86 (28)	0.85 (28)	0.85 (28)	0.82 (24)	0.81 (23)
1990			1.00 (45)	0.94 (45)	0.90 (45)	0.87 (45)	0.87 (45)	0.83 (40)	0.83 (39)
1995				1.00 (81)	0.93 (81)	0.87 (81)	0.88 (81)	0.86 (75)	0.87 (70)
2000					1.00 (99)	0.81 (99)	0.80 (99)	0.77 (93)	0.76 (82)
2005						1.00 (117)	0.91 (117)	0.88 (110)	0.86 (89)
2010							1.00 (122)	0.93 (115)	0.88 (94)
2015								1.00 (115)	0.86 (94)
2020									1.00 (94)

			27 African	Countries v	rith 112 Obs	ervations			
Year	1980	1985	1990	1995	2000	2005	2010	2015	2020
1980	i	i	i	i	i	i	i	i	i
1985		i	i	i	i	i	i	i	i
1990			1.00(2)	1.00(2)	-1.00(2)	1.00(2)	1.00(2)	1.00(2)	i
1995				1.00(7)	0.97 (7)	0.33 (7)	0.79(7)	0.75 (7)	1.00(2)
2000					1.00 (14)	0.22 (14)	0.68 (14)	0.66 (14)	0.81 (5)
2005						1.00 (24)	0.73 (24)	0.68 (24)	0.66 (6)
2010							1.00 (27)	0.84 (27)	0.56 (9)
2015								1.00 (27)	0.61 (9)
2020									1.00 (9)

	22 North- and South-American Countries with 142 Observations														
Year	1980	1985	1990	1995	2000	2005	2010	2015	2020						
1980	1.00 (4)	0.99 (4)	0.87 (4)	0.82 (4)	0.72 (4)	0.95 (4)	0.95 (4)	1.00 (4)	0.99 (4)						
1985		1.00(4)	0.92(4)	0.89(4)	0.81(4)	0.90(4)	0.98 (4)	0.99(4)	1.00(4)						
1990			1.00 (6)	0.97 (6)	0.98 (6)	0.89 (6)	0.97 (6)	0.92(6)	0.95 (6)						
1995				1.00 (21)	0.74 (21)	0.66 (21)	0.82 (21)	0.71 (21)	0.76 (21)						
2000					1.00 (21)	0.77 (21)	0.82 (21)	0.76 (21)	0.86 (21)						
2005						1.00 (22)	0.91 (22)	0.78 (21)	0.85 (21)						
2010							1.00 (22)	0.73 (21)	0.83 (21)						
2015								1.00 (21)	0.92 (21)						
2020									1.00 (21)						

			32 Asian	Countries w	ith 174 Obse	ervations			
Year	1980	1985	1990	1995	2000	2005	2010	2015	2020
1980	1.00(3)	0.99(3)	0.80(3)	0.59(3)	0.78 (3)	0.94(3)	0.98(3)	0.99(3)	0.99(3)
1985		1.00(3)	0.87(3)	0.69(3)	0.85(3)	0.98(3)	1.00(3)	0.97(3)	0.96(3)
1990			1.00(6)	0.98 (6)	0.96 (6)	0.95 (6)	0.89 (6)	0.90(6)	0.92 (6)
1995				1.00 (14)	0.98 (14)	0.93 (14)	0.90 (14)	0.90 (14)	0.89 (14)
2000					1.00 (25)	0.61 (25)	0.54 (25)	0.46 (25)	0.39 (23)
2005						1.00 (30)	0.83 (30)	0.80 (30)	0.69 (27)
2010							1.00 (32)	0.90 (32)	0.72 (29)
2015								1.00 (32)	0.89 (29)
2020									1.00 (29)

			41 Europear	Countries	with 296 Ob	servations			
Year	1980	1985	1990	1995	2000	2005	2010	2015	2020
1980	1.00 (15)	0.95 (15)	0.94 (15)	0.88 (15)	0.88 (15)	0.89 (15)	0.90 (15)	0.90 (12)	0.90 (12)
1985		1.00 (20)	0.92 (20)	0.87 (20)	0.86 (20)	0.85 (20)	0.85 (20)	0.78 (16)	0.77 (16)
1990			1.00 (31)	0.93 (31)	0.90 (31)	0.87 (31)	0.88 (31)	0.82 (26)	0.81 (26)
1995				1.00 (39)	0.95 (39)	0.92 (39)	0.90 (39)	0.87 (33)	0.85 (33)
2000					1.00 (39)	0.96 (39)	0.94 (39)	0.91 (33)	0.90 (33)
2005						1.00 (41)	0.97 (41)	0.95 (35)	0.94 (35)
2010							1.00 (41)	0.97 (35)	0.96 (35)
2015								1.00 (35)	1.00 (35)
2020									1.00 (35)

*Notes*: i = insufficient observations (only one observation). *Source*: Author's own dataset on trust, compiled from publicly available international data.

### **Appendix E.** Survey Questions

The wording in the questionnaires on generalized trust varies slightly over the seven (i-vii) international survey programs used in this study. The precise wording is given below:

- i+ii) Integrated Value Study (IVS) (Haerpfer et al. 2021 and EVS 2021) reads: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?".
- iii) Latinobarómetro (Latinobarómetro Data 2018) reads: "Generally speaking, would you say that you can trust most people, or that you can never be too careful when dealing with others?" from 1998 until 2018 and "Generally speaking, would you say that people can be trusted or that you can't be too careful in dealing with people?" from 1996 until 1997.
- iv) Arabbarometer (Arabbarometer Data 2019) reads: "Generally speaking, would you say that most people can be trusted?" in wave 1 and "Generally speaking, do you think most people are trustworthy or not?" from wave 2 to 4. In wave 5, the question reads: "Generally speaking, would you say that "Most people can be trusted" or "that you must be very careful in dealing with people"?".
- v) Asianbarometer (Asianbarometer 2016) reads: "General speaking, would you say that "Most people can be trusted" or "you can't be too careful in dealing with them"?" in wave 1 and "General speaking, would you say that "Most people can be trusted" or "that you must be very careful in dealing with people"?" from waves 2 to 4.
- vi) Afrobarometer (Afrobarometer Data 2015) reads: "Generally speaking, would you say that <u>most</u> <u>people can be trusted</u> or that <u>you can't be too careful in dealing with people?</u>" in wave 1 and "Generally speaking, would you say that most people can be trusted or that you must be very careful in dealing with people?" in waves 3 and 5.
- vii) Eurobarometer (Rabier et al. 1986) reads: "Generally speaking, would you say that most people could be trusted or that one could not be too careful in dealing with people?" in wave 25.

Despite these differences in the precise wording of the trust question across these seven survey programs, their content and meaning are essentially the same.

## Appendix F. Overview of Country Sample

Figure F1: Overview of Country Sample for 122 Countries

