

## Online Appendix

### Dataset

The QCA datasets and codebook are available for download at

<https://dataverse.harvard.edu/dataverse/statecollapse> and <https://daniel-lambach.de/research>.

### Synchronic comparison

Table VI: Truth Table for synchronic comparison

CASE_ID	FACTIONAL	MILIT	INCOME	GOV_ REV	LOCAL_ POLITY	OUTCOME
Croatia 1995	0	1	1	0	0	0
Guinea 1996, Sri Lanka 1983	1	0	1	1	1	0
Ethiopia 1974, Burundi 1993	0	0	0	0	0	0
Iran 1979, Uzbekistan 1999, Cambodia 1967	0	0	1	1	0	0
Nigeria 1967, Niger 1990	0	0	1	1	1	0
Moldova 1992	1	1	1	0	0	0
Lesotho 1998	1	0	1	0	0	0
Mali 1991	0	0	1	0	0	0
Burkina Faso 1987	0	0	1	0	1	0
Sudan 1992	0	1	1	0	1	0
Sierra Leone 1998	1	1	0	1	1	1
Uganda 1985	1	1	0	0	1	1
Somalia 1991, Chad 1979	0	1	0	1	1	1
Tajikistan 1992, Bosnia- Herzegovina 1992, Georgia 1991	1	1	1	1	0	1
Afghanistan 1979	0	1	1	1	0	1
Liberia 1990	0	1	0	0	0	1
Angola 1992	0	1	1	1	1	1
Congo-Kinshasa 1960, Lebanon 1975	1	1	1	0	1	1
Zaire 1996	0	0	0	0	1	1
Laos 1960	1	1	0	0	0	1
Guinea-Bissau 1998	1	0	0	0	1	1

Remainders are omitted from the table.

*The complex solution*

When minimizing for Outcome = 1, we get the following complex solution formula:

$$\begin{aligned} & \text{MILIT}(1) * \text{INCOME}(0) * \text{GOV\_REV}(1) * \text{LOCAL\_POLITY}(1) + \\ & \text{FACTIONAL}(1) * \text{MILIT}(1) * \text{GOV\_REV}(0) * \text{LOCAL\_POLITY}(1) + \\ & \text{FACTIONAL}(0) * \text{MILIT}(1) * \text{GOV\_REV}(1) * \text{LOCAL\_POLITY}(1) + \\ & \text{MILIT}(1) * \text{INCOME}(1) * \text{GOV\_REV}(1) * \text{LOCAL\_POLITY}(0) + \\ & \text{MILIT}(1) * \text{INCOME}(0) * \text{GOV\_REV}(0) * \text{LOCAL\_POLITY}(0) + \\ & \text{MILIT}(0) * \text{INCOME}(0) * \text{GOV\_REV}(0) * \text{LOCAL\_POLITY}(1) \end{aligned}$$

To check the robustness of our results, we conducted an analysis for Outcome = 0, including all logical remainders for reduction. This produced the following solution formula:

$$\begin{aligned} & \text{MILIT}(0) * \text{INCOME}(1) + \\ & \text{MILIT}(0) * \text{LOCAL\_POLITY}(0) + \\ & \text{FACTIONAL}(0) * \text{INCOME}(1) * \text{GOV\_REV}(0) + \\ & \text{INCOME}(1) * \text{GOV\_REV}(0) * \text{LOCAL\_POLITY}(0) \end{aligned}$$

While this does not precisely mirror the solution for Outcome = 1, all conditions have the expected values: a per-capita income above 5 per cent of the global average, constant or increasing state revenues and an absence of militarization, factionalism and localized pre-colonial polities. This can be further reduced to:

$$\begin{aligned} & \text{MILIT}(0) * [\text{INCOME}(1) + \text{LOCAL\_POLITY}(0)] + \\ & \text{INCOME}(1) * \text{GOV\_REV}(0) * [\text{FACTIONAL}(0) + \text{LOCAL\_POLITY}(0)] \end{aligned}$$

In other words, there are two major sets of conditions that predict the non-occurrence of state collapse in the synchronic comparison. The first one consists of an absence of militarization and either a lack of extreme poverty or a lack of local, precolonial or preimperial polities. The second one describes states that are not excessively poor and that do not suffer from declining state revenues with either non-factional politics or an absence of pre-colonial polities. In sum, the analysis for Outcome = 0 supports the robustness of the results for Outcome = 1.

The terms of the complex solution for Outcome = 1 only cover a few cases each so this result is too specific for meaningful interpretation. We therefore chose to simplify our results by calculating a parsimonious solution. Using all logical remainders, we found no contradictory simplifying assumptions for the parsimonious solutions for Outcome = 1 and Outcome = 0.

The simplifying assumptions for Outcome = 1 were:

FACTIONAL(0) \* MILIT(0) \* INCOME(0) \* GOV\_REV(1) \* LOCAL\_POLITY(1) +  
 FACTIONAL(0) \* MILIT(1) \* INCOME(0) \* GOV\_REV(0) \* LOCAL\_POLITY(1) +  
 FACTIONAL(0) \* MILIT(1) \* INCOME(0) \* GOV\_REV(1) \* LOCAL\_POLITY(0) +  
 FACTIONAL(1) \* MILIT(0) \* INCOME(0) \* GOV\_REV(1) \* LOCAL\_POLITY(1) +  
 FACTIONAL(1) \* MILIT(1) \* INCOME(0) \* GOV\_REV(1) \* LOCAL\_POLITY(0) +  
 FACTIONAL(1) \* MILIT(1) \* INCOME(1) \* GOV\_REV(1) \* LOCAL\_POLITY(1)

For Outcome = 0 they were:

FACTIONAL(0) \* MILIT(0) \* INCOME(0) \* GOV\_REV(1) \* LOCAL\_POLITY(0) +  
 FACTIONAL(1) \* MILIT(0) \* INCOME(0) \* GOV\_REV(0) \* LOCAL\_POLITY(0) +  
 FACTIONAL(1) \* MILIT(0) \* INCOME(0) \* GOV\_REV(1) \* LOCAL\_POLITY(0) +  
 FACTIONAL(1) \* MILIT(0) \* INCOME(1) \* GOV\_REV(0) \* LOCAL\_POLITY(1) +  
 FACTIONAL(1) \* MILIT(0) \* INCOME(1) \* GOV\_REV(1) \* LOCAL\_POLITY(0)

The parsimonious solution is therefore logically consistent.

## Diachronic comparison

Table VII: Truth Table for diachronic comparison

CASE_ID	FACTIONAL	MILIT	TRANSITION	REPRESSION	AID	OUTCOME
Afghanistan 1973, Somalia 1978	0	0	0	0	1	0
Angola 1975, Zaire 1977, Laos 1989	0	1	0	1	0	0
Chad 1965, Guinea- Bissau 1980, Uganda 1971	0	0	0	1	0	0
Georgia 2003, Lebanon 2005, Tajikistan 2010	1	0	0	1	0	0
Liberia 1979	0	0	0	0	0	0
Sierra Leone 1967	1	0	0	0	0	0
Afghanistan 1979, Chad 1979	0	1	1	1	0	1
Angola 1992	0	1	1	1	1	1
Bosnia-Herzegovina 1992, Georgia 1991, Lebanon 1975	1	1	0	0	0	1
Congo-Kinshasa 1960	1	1	1	0	0	1
Zaire 1996	0	0	0	1	1	1
Guinea-Bissau 1998	1	0	0	1	1	1
Laos 1960	1	1	1	0	1	1
Liberia 1990, Somalia 1991	0	1	0	1	1	1
Sierra Leone 1998, Tajikistan 1992	1	1	1	1	1	1
Uganda 1985	1	1	0	1	0	1

Remainders are omitted from the table.

### *The complex solution*

When minimizing for Outcome = 1, QCA produces the following complex solution formula:

$$\begin{aligned}
 & \text{FACTIONAL}(1) * \text{MILIT}(1) * \text{TRANSITION}(1) * \text{REPRESSION}(1) + \\
 & \text{FACTIONAL}(0) * \text{MILIT}(1) * \text{REPRESSION}(1) * \text{AID}(1) + \\
 & \text{FACTIONAL}(1) * \text{MILIT}(1) * \text{TRANSITION}(0) * \text{AID}(0) +
 \end{aligned}$$

$$\begin{aligned} & \text{FACTIONAL}(1) * \text{MILIT}(1) * \text{TRANSITION}(1) * \text{REPRESSION}(0) + \\ & \text{MILIT}(0) * \text{TRANSITION}(0) * \text{REPRESSION}(1) * \text{AID}(1) + \\ & \text{FACTIONAL}(1) * \text{MILIT}(1) * \text{TRANSITION}(1) * \text{AID}(1) \end{aligned}$$

To check the robustness of our results, we also calculated a complex solution for Outcome = 0:

$$\begin{aligned} & \text{MILIT}(0) * \text{TRANSITION}(0) * \text{AID}(0) + \\ & \text{FACTIONAL}(0) * \text{MILIT}(0) * \text{TRANSITION}(0) * \text{REPRESSION}(0) + \\ & \text{FACTIONAL}(0) * \text{TRANSITION}(0) * \text{REPRESSION}(1) * \text{AID}(0) \end{aligned}$$

As in the synchronic comparison, the complex solution for Outcome = 1 is made up of six rather idiosyncratic terms which are very specific to small clusters of cases. Again we chose the parsimonious result as a base for our interpretation. We used all logical remainders to calculate the parsimonious solution. This step required 13 simplifying assumptions, some of which were contradictory, i.e. used to reduce *both* the Outcome = 1 and the Outcome = 0 solution. These were:

$$\begin{aligned} & \text{FACTIONAL}(0) * \text{MILIT}(0) * \text{TRANSITION}(1) * \text{REPRESSION}(0) * \text{AID}(0) + \\ & \text{FACTIONAL}(0) * \text{MILIT}(0) * \text{TRANSITION}(1) * \text{REPRESSION}(0) * \text{AID}(1) + \\ & \text{FACTIONAL}(0) * \text{MILIT}(0) * \text{TRANSITION}(1) * \text{REPRESSION}(1) * \text{AID}(0) + \\ & \text{FACTIONAL}(1) * \text{MILIT}(0) * \text{TRANSITION}(1) * \text{REPRESSION}(0) * \text{AID}(0) + \\ & \text{FACTIONAL}(1) * \text{MILIT}(0) * \text{TRANSITION}(1) * \text{REPRESSION}(0) * \text{AID}(1) + \\ & \text{FACTIONAL}(1) * \text{MILIT}(0) * \text{TRANSITION}(1) * \text{REPRESSION}(1) * \text{AID}(0) \end{aligned}$$

Every one of these solution terms contains the condition TRANSITION(1) which we had previously identified as a sufficient condition of collapse. Therefore, we assigned these hypothetical cases an outcome value of 1. This allowed us to simplify the Outcome = 0 solution to:

$$\text{MILIT}(0) * \text{TRANSITION}(0) * \text{AID}(0) +$$

$$\text{FACTIONAL}(0) * \text{TRANSITION}(0) * \text{REPRESSION}(0) +$$

$$\text{FACTIONAL}(0) * \text{TRANSITION}(0) * \text{AID}(0)$$

This can be further reduced to:

$$\text{TRANSITION}(0) * [\text{MILIT}(0) * \text{AID}(0) + \text{FACTIONAL}(0) * [\text{REPRESSION}(0) +$$

$$\text{AID}(0)]]$$

Therefore, cases that have not recently experienced political transition, coupled with either an absence of militarization and stable external aid, or a combination of an absence of factionalism with either a low level of repression or stable external aid, do not suffer state collapse. This does not precisely mirror the solution for Outcome = 1, but the conditions have the expected values and the results are logically consistent with our other findings.

The remaining simplifying assumptions for Outcome = 0 are:

$$\text{FACTIONAL}(0) * \text{MILIT}(1) * \text{TRANSITION}(0) * \text{REPRESSION}(0) * \text{AID}(0) +$$

$$\text{FACTIONAL}(0) * \text{MILIT}(1) * \text{TRANSITION}(0) * \text{REPRESSION}(0) * \text{AID}(1)$$

The simplifying assumptions for Outcome = 1 are:

$$\text{FACTIONAL}(0) * \text{MILIT}(0) * \text{TRANSITION}(1) * \text{REPRESSION}(0) * \text{AID}(0) +$$

$$\text{FACTIONAL}(0) * \text{MILIT}(0) * \text{TRANSITION}(1) * \text{REPRESSION}(0) * \text{AID}(1) +$$

$$\text{FACTIONAL}(0) * \text{MILIT}(0) * \text{TRANSITION}(1) * \text{REPRESSION}(1) * \text{AID}(0) +$$

$$\text{FACTIONAL}(0) * \text{MILIT}(0) * \text{TRANSITION}(1) * \text{REPRESSION}(1) * \text{AID}(1) +$$

$$\text{FACTIONAL}(0) * \text{MILIT}(1) * \text{TRANSITION}(1) * \text{REPRESSION}(0) * \text{AID}(0) +$$

$$\text{FACTIONAL}(0) * \text{MILIT}(1) * \text{TRANSITION}(1) * \text{REPRESSION}(0) * \text{AID}(1) +$$

$$\text{FACTIONAL}(1) * \text{MILIT}(0) * \text{TRANSITION}(1) * \text{REPRESSION}(0) * \text{AID}(0) +$$

$$\text{FACTIONAL}(1) * \text{MILIT}(0) * \text{TRANSITION}(1) * \text{REPRESSION}(0) * \text{AID}(1) +$$

$$\text{FACTIONAL}(1) * \text{MILIT}(0) * \text{TRANSITION}(1) * \text{REPRESSION}(1) * \text{AID}(0) +$$

$$\text{FACTIONAL}(1) * \text{MILIT}(0) * \text{TRANSITION}(1) * \text{REPRESSION}(1) * \text{AID}(1) +$$

FACTIONAL(1) \* MILIT(1) \* TRANSITION(0) \* REPRESSION(0) \* AID(1) +  
 FACTIONAL(1) \* MILIT(1) \* TRANSITION(0) \* REPRESSION(1) \* AID(1) +  
 FACTIONAL(1) \* MILIT(1) \* TRANSITION(1) \* REPRESSION(1) \* AID(0)

There are no further contradictory assumptions.

### Alternative conditions

We ran similar calculations for both the synchronic and diachronic comparison using several alternative conditions based on our review of the literature, specifically the theories of Acemoglu and Robinson (2012) and Englehart (2007). These conditions are presented in Table VIII.

*Table VIII: Alternative conditions*

Condition	Description	Values	Brief coding rules	Source
BUR_OBS TR	Obstruction of the bureaucracy	0= no obstruction of the bureaucracy by ruling regime  1= obstruction of the bureaucracy by ruling regime	0= no obstruction; no observable conflicts between government and bureaucracy  1= cuts in salaries, sacking of employees, non-merit appointments occur and have negative impact on the bureaucratic efficiency	Qualitative research
DEMOC	Regime type	0= Hybrid Regime or Autocracy  1= Democracy	0= Polity Score $\leq$ +5  1= Polity $>$ +5	Polity IV or own coding following the criteria of Polity IV
ETH_MIN_ RULE	Rule by ethnic minority	0= No "absolute Power" of an ethnic Minority  1= "Absolute Power" (monopoly or dominant) of an ethnic minority	"Absolute power" of an ethnic group which  a) Has a proportion of less than 50% of the total population AND is not the "biggest" ethnic group or  b) Has a proportion of less than 25 % of the total population	Ethnic Power Relations Dataset;  Qualitative research

PERSONAL_RULE	Personalist regime	0= no personalist regime 1= personalist regime	0= Head of Government has no direct access to the budget; career and economic success do not depend on a personal relationship to the head of government;  1= Head of Government partially controls budget; personal relationship to the head of government is a benefit; accumulation of offices by regime insiders	Qualitative research
PRIM_COMM_EXP	Dependence on primary commodity exports	0= prim_com_exp < 5% 1= 5% ≤ prim_com_exp	Value of primary commodity exports/Total GDP (both in US-\$)	UNCTAD Commodity Yearbooks (1989, 1991, 1995, 2003)

PERSONAL\_RULE, DEMOC and ETH\_MIN\_RULE were used as proxies for inclusive political institutions. Replacing any of the conditions from the existing solution terms (see Tables IV and V) with these conditions one at a time did not lead to any improvement in results. In the diachronic comparison, all of them introduce contradictions, no matter which other condition they replace.

In the synchronic comparison, DEMOC also introduces contradictions. For PERSONAL\_RULE and ETH\_MIN\_RULE, QCA produces the following parsimonious solution formulas when dropping FACTIONAL, minimizing for Outcome = 1 and using all Remainders for simplifying assumptions:

$$\text{MILIT}(1) * \text{INCOME}(0) + \text{MILIT}(1) * \text{GOV\_REV}(1) + \text{INCOME}(0) *$$

$$\text{LOCAL\_POLITY}(1) + \text{LOCAL\_POLITY}(1) * \text{PERSONAL\_RULE}(0)$$

and

$$\text{MILIT}(1) * \text{INCOME}(0) + \text{MILIT}(1) * \text{GOV\_REV}(1) + \text{INCOME}(0) *$$

$$\text{LOCAL\_POLITY}(1) + \text{MILIT}(1) * \text{ETH\_MIN\_RULE}(0) * \text{LOCAL\_POLITY}(1)$$

The first three terms of both formulas are identical to the terms in our solution formula. In the fourth one, PERSONAL\_RULE and ETH\_MIN\_RULE show up with values that are the



opposite of what was theoretically expected. In other words, it is the *absence* of personalism and ethnic minority rule that is associated with OUTCOME = 1. We therefore reject the claim that more inclusive political institutions make a state less vulnerable to collapse.

The same result obtains for economic institutions. We use PRIM\_COMM\_EXP as an – admittedly imperfect – proxy for extractive economic institutions. When we replace any condition in our calculation with PRIM\_COMM\_EXP, we introduce contradictions in both the synchronic and the diachronic comparison. This holds even when changing the threshold from 5% to 15% of GDP.

Taking these results together, we find that Acemoglu and Robison’s theory about the inclusivity of political and economic institutions does not help us to distinguish collapsed states from non-collapsed, but fragile ones. This is in line with our expectation that features like clientelism and neopatrimonialism a) are widespread among fragile states, offering few distinguishing features between collapsed and non-collapsed states, and b) do not have a uniformly negative effect on the stability of a state.

Finally, we used BUR\_OBSTR as a measure of Englehart’s "self-destructive despotism". Substituting BUR\_OBSTR for FACTIONAL, minimizing for Outcome = 1 and using all Reminders for simplifying assumptions produces the following two parsimonious solutions:

$$\text{MILIT}(1) * \text{INCOME}(0) + \text{MILIT}(1) * \text{GOV\_REV}(1) + \text{INCOME}(0) * \\ \text{LOCAL\_POLITY}(1) + \text{BUR\_OBSTR}(0) * \text{MILIT}(1) * \text{LOCAL\_POLITY}(1)$$

and

$$\text{MILIT}(1) * \text{INCOME}(0) + \text{MILIT}(1) * \text{GOV\_REV}(1) + \text{BUR\_OBSTR}(0) * \text{MILIT}(1) \\ * \text{LOCAL\_POLITY}(1) + \text{BUR\_OBSTR}(1) * \text{MILIT}(0) * \text{LOCAL\_POLITY}(1)$$

The first of these is the same as the solutions involving PERSONAL\_RULE and ETH\_MIN\_RULE, down to the fact that the *absence* of obstruction of the bureaucracy is associated with state collapse. In the second solution, the same is present in the third term,

while the fourth one includes the *absence* of militarization. Accordingly, we find neither of these solutions as theoretically convincing as our solution reported in the paper.

### Sensitivity Analysis

We checked whether different calibrations of conditions provided better results by (1) adding multiple values to selected conditions and (2) recalibrating selected conditions.

#### (1) Multiple Values

Specifically, for three conditions (INCOME, LOCAL\_POLITY, REPRESSION), we tested whether a Multi-Value QCA approach (i.e., using more than two values per condition) would yield improved solution terms. Adding multiple values to the other conditions was rejected because these were based on qualitative coding decisions (MILIT, UNOFF\_MILITIA) where it was difficult to establish clear thresholds between multiple values, taken from other datasets where they only existed as binary values (FACTIONAL) or where the underlying theoretical concept was dichotomous (AID, GOV\_REV, TRANSITION). See Table VIII for the Multi-Value calibrations of these conditions. Sources were the same as in Table III.

*Table VIII: MVQCA coding of conditions*

<b>Condition</b>	<b>Values</b>	<b>Description and coding rules</b>
INCOME	0 = Income $\leq$ 5% of the global average 1 = Income > 5% but $\leq$ 20% of global average 2 = Income > 20% of global average	GDP per Capita/Global Average GDP per Capita (both in US-\$)
LOCAL_POLITY	0 = no local precolonial/preimperial polity 1 = local precolonial/ preimperial polity or polities 2 = precolonial kingdom, empire of state 3 = no period of colonial or imperial domination	0 = There were no local polities of note prior to imperial/colonial dominance. 1 = Local Polity has to cover a significant part of the current state territory but is not congruent with current state territory. 2 = Kingdoms, states and empires have

		to be broadly congruent with contemporary state territory. For both 1 and 2, polities have to exhibit some degree of institutionalization and persistence.
REPRESSION	0 = no repression 1 = low level of repression 2 = intermediate level of repression 3 = high level of repression	Average of Political Terror Scale Data (both State Department and Amnesty International scores) for the three-year period prior to collapse 0 = PTS score 1 (no repression) 1 = PTS score 2 (systematic persecution of individual dissidents) 2 = PTS score 3 (systematic persecution of political active citizens) 3 = PTS scores 4-5 (generalized terror)

Adding multiple values to INCOME, LOCAL\_POLITY and REPRESSION did not improve the quality of our results. To the contrary, using MVQCA made solution terms more complex without providing additional explanatory value.

## (2) Recalibrating conditions

AID, LOCAL\_POLITY, MILIT and UNOFF\_MILITIA were unchanged because these conditions rested on qualitative assumptions that are hard to recalibrate. Data for FACTIONAL and REPRESSION were drawn from other datasets, making recalibration difficult.

We tested different calibrations for three conditions:

- For INCOME, the 5% threshold represented a quasi-natural break between distinct groups of cases where a majority of cases below the threshold were "collapse" cases. Raising or lowering the threshold introduces contradictions into the truth table.
- Similarly, changing the 100% threshold for GOV\_REV (current government revenue / government revenue three years prior) did not create better results.

- For TRANSITION, varying the threshold (a three-point change in the Polity score) had little impact since most decisions to code TRANSITION as present were based on the case being coded as "Interregnum" (-88) in the Polity IV dataset.