

Online Supplement for

Assessing the risk of democratic reversal in the United States: A reply to Kurt Weyland

Matias López
Graduate Institute of Geneva

Juan Pablo Luna
Pontificia Universidad Católica de Chile

Kurt Weyland samples 31 cases and codes them as either members or non-members of six sets, which relate to two overarching concepts: institutional weakness and exogenous conjuncture. The author theorizes that both concepts relate to the fate of democracy, and thus inform the likelihood that democracy in the US will endure or succumb. The author's original data is replicated in Table 1.

Table 1. Cases and Sets

	Institutional Weakness			Exogenous Conjecture			Democratic Suffocation
	High Instability	Paralegal Change	Easy Change	Economic Crises	Security Crises	Hydrocarbon Windfall	
Chávez	1	1	0	1	0	1	1
Morales	1	1	0	0	0	1	1
Correa	1	1	0	0	0	1	1
Moreno	1	1	0	1	0	0	0
Gutierrez	1	1	0	0	0	0	0
Zelaya	0	1	0	0	0	0	0
Lugo	0	1	0	0	0	0	0

Humala	0	1	0	0	0	0	0
N Kirchner	0	1	0	1	0	0	0
C Kirchner	0	1	0	0	0	0	0
Colom	1	1	0	0	0	0	0
Fujimori	0	1	0	1	1	0	1
Uribe	0	1	0	0	1	0	0
Menem	0	1	0	1	0	0	0
Garcia	0	1	0	1	0	0	0
Toledo	0	1	0	0	0	0	0
Bucaram	0	1	0	0	0	0	0
Collor	0	1	0	1	0	0	0
Serrano	1	1	0	0	0	0	0
Orbán	0	0	1	1	0	0	1
Erdoğan	0	0	1	1	0	0	1
Berlusconi	0	0	1	0	0	0	0
Mečiar	0	0	1	0	0	0	0
Fico	0	0	1	0	0	0	0
Borisov	0	1	0	0	0	0	0
Babiš	0	0	1	0	0	0	0
Băseșcu	0	1	1	0	0	0	0
Kaczyński	0	0	1	0	0	0	0
Papandreou	0	0	1	0	0	0	0
Tsipras	0	0	1	0	0	0	0
Trump	0	0	0	0	0	0	0

Source: Weyland, 2020

Weyland's reduction yields three paths towards democratic suffocation:

Hydrocarbon Windfall \wedge High Instability
 Economic Crises \wedge Security Crises \wedge Paralegal Change
 Economic Crises \wedge Easy Change

He only makes use of the logical AND (\wedge), dismissing the logical NOT (\neg), and does not appear to base his estimation on a truth table, i.e. considering all possible combinations of set attributes. When we reduce¹ conditions after building a truth table following Ragin’s method, Weyland’s own data generated paths that are different, and more complex:

$\text{High Instability} \wedge \text{Paralegal Change} \neg \text{Easy Change} \neg \text{Security Crises} \wedge \text{Hydrocarbon Windfall}$
 $\neg \text{High Instability} \wedge \text{Paralegal Change} \neg \text{Easy Change} \wedge \text{Economic Crises} \wedge \text{Security Crises} \neg \text{Hydrocarbon Windfall}$
 $\neg \text{High instability} \neg \text{Paralegal Change} \wedge \text{Easy Change} \wedge \text{Economic Crises} \neg \text{Security Crises} \neg \text{Hydrocarbon Windfall}$

The corrected data can be seen in Table 2.

Table 2. Re-coded Cases and Sets

	Institutional Weakness	Exogenous Conjecture			Structural constraints			
	Easy Change (Parliamentary regime)	Economic Crises	Security Crises	Hydrocarbon Windfall	Inequality	Ethnic fractionalization	Traditional values	Democratic Suffocation
Chavez	0	1	0	1	1	1	1	1
Morales	0	0	0	1	1	1	1	1
Correa	0	0	0	1	1	1	1	1
Gutierrez	0	0	0	1	1	1	1	0
Zelaya	0	0	0	0	1	0	1	0
Lugo	0	0	0	0	1	0	1	0
Humala	0	0	0	0	1	1	1	0
N Kirchner	0	1	0	0	1	0	1	0
C Kirchner	0	0	0	0	1	0	1	0
Colom	0	0	0	0	1	1	1	0

¹ We use the “conservative” reduction solution, see Duşa, A. (2018). *QCA with R: A comprehensive resource*. Springer..

Fujimori	0	1	1	0	1	1	1	1
Uribe	0	0	1	0	1	1	1	0
Menem	0	1	0	0	1	0	1	0
Garcia	0	1	0	0	1	1	1	0
Toledo	0	0	0	0	1	1	1	0
Bucaram	0	0	0	1	1	1	1	0
Collor	0	1	0	0	1	1	1	0
Serrano	0	0	0	0	1	1	1	0
Orbán	1	1	0	0	1	0	0	1
Erdoğan	1	1	0	0	1	1	1	1
Berlusconi	1	0	0	0	1	0	0	0
Mečiar	1	0	0	0	0	0	0	0
Fico	1	0	0	0	0	0	0	0
Borisov	1	0	0	0	0	0	0	0
Babiš	1	0	0	0	0	0	1	0
Băsescu	1	0	0	0	0	0	1	0
Kaczyński	1	0	0	0	1	0	1	0
Papandreou	1	0	0	0	0	0	0	0
Tsipras	1	0	0	0	0	0	0	0
Trump	0	0	0	0	1	1	1	?

Source: Own coding base on Weyland, 2020; Solt, 2016; Inglehart and Welzel, 2005; Dražanova, 2019

Below are the reductions when the outcome set remains identical to Weyland's original.

\neg Easy Change \wedge Economic Crises \wedge \neg Security Crises \wedge Hydrocarbon Windfall \wedge High Inequality \wedge Ethnic fragmentation \wedge Traditional Values
 Easy Change \wedge Economic Crises \wedge \neg Security Crises \wedge \neg Hydrocarbon Windfall \wedge High Inequality \wedge Ethnic fragmentation \wedge Traditional Values
 Easy Change \wedge Economic Crises \wedge \neg Security Crises \wedge \neg Hydrocarbon Windfall \wedge High Inequality \wedge \neg Ethnic fragmentation \wedge \neg Traditional Values
 \neg Easy Change \wedge Economic Crises \wedge Security Crises \wedge \neg Hydrocarbon Windfall \wedge High Inequality \wedge Ethnic fragmentation \wedge Traditional Values

Table 3 discriminates all paths to democratic breakdown and NOT breakdown when implementing each change in isolation, used for the outcomes described in table 1 in the main manuscript.

Table 3: path figurations with each modification

	Figurations (democratic breakdown)	Figurations (\neg democratic breakdown)
Recalibrating outcome set	High instability \wedge Paralegal change \wedge \neg Easy change \wedge \neg Security crises \wedge Hydrocarbon windfall	\neg High instability \wedge \neg Paralegal change \wedge \neg Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall
	\neg High instability \wedge Paralegal change \wedge \neg Easy change \wedge Economic crises \wedge Security crises \wedge \neg Hydrocarbon windfall	\neg High instability \wedge Easy change \wedge \neg Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall
	\neg High instability \wedge \neg Paralegal change \wedge Easy change \wedge Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall	High instability \wedge Paralegal change \wedge \neg Easy change \wedge \neg Security crises \wedge \neg Hydrocarbon windfall

		Paralegal change \wedge \neg Easy change \wedge Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall
		\neg High instability \wedge Paralegal change \wedge \neg Easy change \wedge \neg Economic crises \wedge Security crises \wedge \neg Hydrocarbon windfall
Excluding US from sample	High instability \wedge Paralegal change \wedge \neg Easy change \wedge \neg Security crises \wedge Hydrocarbon windfall	Paralegal change \wedge \neg Easy change \wedge \neg Security crises \wedge \neg Hydrocarbon windfall
	\neg High instability \wedge Paralegal change \wedge \neg Easy change \wedge Economic crises \wedge Security crises \wedge \neg Hydrocarbon windfall	\neg High instability \wedge Paralegal change \wedge \neg Easy change \wedge \neg Economic crises \wedge \neg Hydrocarbon windfall
	\neg High instability \wedge \neg Paralegal change \wedge Easy change \wedge Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall	\neg High instability \wedge Easy change \wedge \neg Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall
Removing endogenous measures	\neg Easy change \wedge \neg Security crises \wedge Hydrocarbon windfall	\neg Easy change \wedge \neg Economic crises \wedge \neg Hydrocarbon windfall
	\neg Easy change \wedge Economic crises \wedge Security crises \wedge \neg Hydrocarbon windfall	\neg Easy change \wedge \neg Security crises \wedge \neg Hydrocarbon windfall
	Easy change \wedge Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall	\neg Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall
Recode Ecuador and Bulgaria	High instability \wedge Paralegal change \wedge \neg Easy change \wedge \neg Security crises \wedge Hydrocarbon windfall	\neg High instability \wedge \neg Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall
	\neg High instability \wedge Paralegal change \wedge \neg Easy change \wedge Economic crises \wedge Security crises \wedge \neg Hydrocarbon	\neg High instability \wedge Paralegal change \wedge \neg Easy change \wedge \neg Economic crises \wedge \neg Hydrocarbon windfall

windfall

\neg High instability \wedge \neg Paralegal change \wedge Easy change \wedge Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall

\neg High instability \wedge Paralegal change \wedge \neg Easy change \wedge \neg Security crises \wedge \neg Hydrocarbon windfall

Paralegal change \wedge \neg Easy change \wedge \neg Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall

Add set membership

High instability \wedge Paralegal change \wedge \neg Easy change \wedge \neg Security crises \wedge Hydrocarbon windfall \wedge High inequality \wedge Ethnic fragmentation \wedge Traditional values

\neg High instability \wedge \neg Paralegal change \wedge Easy change \wedge \neg Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall \wedge \neg Ethnic fragmentation

\neg High instability \wedge \neg Paralegal change \wedge Easy change \wedge Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall \wedge High inequality \wedge Ethnic fragmentation \wedge Traditional values

\neg High instability \wedge Paralegal change \wedge \neg Easy change \wedge \neg Security crises \wedge \neg Hydrocarbon windfall \wedge High inequality \wedge Traditional values

\neg High instability \wedge Paralegal change \wedge \neg Easy change \wedge Economic crises \wedge Security crises \wedge \neg Hydrocarbon windfall \wedge High inequality \wedge Ethnic fragmentation \wedge Traditional values

Paralegal change \wedge \neg Easy change \wedge \neg Security crises \wedge \neg Hydrocarbon windfall \wedge High inequality \wedge Ethnic fragmentation \wedge Traditional values

\neg High instability \wedge \neg Paralegal change \wedge Easy change \wedge Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall \wedge High inequality \wedge \neg Ethnic fragmentation \wedge \neg Traditional values

\neg High instability \wedge Paralegal change \wedge \neg Easy change \wedge \neg Economic crises \wedge \neg Hydrocarbon windfall \wedge High inequality \wedge Ethnic fragmentation \wedge Traditional values

\neg High instability \wedge \neg Easy change \wedge \neg Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall \wedge High inequality \wedge Ethnic fragmentation \wedge Traditional values

\neg High instability \wedge Easy

		change \wedge \neg Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall \wedge \neg High inequality \wedge \neg Ethnic fragmentation \wedge Traditional values
		\neg High instability \wedge Paralegal change \wedge \neg Easy change \wedge \neg Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall \wedge \neg High inequality \wedge \neg Ethnic fragmentation \wedge \neg Traditional values
All corrections	\neg Easy change \wedge Economic crises \wedge \neg Security crises \wedge Hydrocarbon windfall \wedge High inequality \wedge Ethnic fragmentation \wedge Traditional values	Easy change \wedge \neg Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall \wedge \neg Ethnic fragmentation
	Easy change \wedge Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall \wedge High inequality \wedge Ethnic fragmentation \wedge Traditional values	\neg Easy change \wedge \neg Economic crises \wedge \neg Hydrocarbon windfall \wedge High inequality \wedge Ethnic fragmentation \wedge Traditional values
	Easy change \wedge Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall \wedge High inequality \wedge \neg Ethnic fragmentation \wedge \neg Traditional values	\neg Easy change \wedge Economic crises \wedge \neg Security crises \wedge \neg Hydrocarbon windfall \wedge High inequality \wedge Traditional values
	\neg Easy change \wedge Economic crises \wedge Security crises \wedge \neg Hydrocarbon windfall \wedge High inequality \wedge Ethnic fragmentation \wedge Traditional values	

R codes for Boolean reductions

```

library(ggplot2)
library(QCA)
library(scatterplot3d)
library(ggpubr)
#####

```


#####Weyland's description

summary(Weyland)

```
ttWey0 <- truthTable(data=Weyland, outcome = "Suffocation",
  conditions = "High.Instability,Paralegal.Change, Easy.Change,
  Economic.Crises,Security.Crises,Hydrocarbon.Windfall",
  incl.cut=0.8, sort.by="incl, n", complete=T, show.cases=T)
```

ttWey0

```
csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,
  all.sol=FALSE, use.tilde=FALSE)
```

csWey0

```
csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,
  all.sol=FALSE, use.tilde=FALSE)
```

csWey0

#####

#####

1A recalibrating outcome variable

```
ttWey0 <- truthTable(data=Weyland, outcome = "SuffocORcoup",
  conditions = "High.Instability,Paralegal.Change, Easy.Change,
  Economic.Crises,Security.Crises,Hydrocarbon.Windfall",
  incl.cut=0.8, sort.by="incl, n", complete=T, show.cases=T)
```

ttWey0

```
csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,  
all.sol=FALSE, use.tilde=FALSE)
```

csWey0

```
csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,  
all.sol=FALSE, use.tilde=FALSE)
```

csWey0

#####*IB for not breakdown*

```
ttWey0 <- truthTable(data=Weyland, outcome = "~SuffocORcoup",  
conditions = "High.Instability,Paralegal.Change, Easy.Change,  
Economic.Crises,Security.Crises,Hydrocarbon.Windfall",  
incl.cut=0.8, sort.by="incl, n", complete=T, show.cases=T)
```

ttWey0

```
csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,  
all.sol=FALSE, use.tilde=FALSE)
```

csWey0

```
csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,
all.sol=FALSE, use.tilde=FALSE)
```

```
csWey0
```

```
#####
```

```
#
```

```
## 2A removing the USA
```

```
Weyland_noUS<-subset(Weyland,isTrump==0)
```

```
ttWey0 <- truthTable(data=Weyland_noUS, outcome = "Suffocation",
conditions = "High.Instability,Paralegal.Change, Easy.Change,
Economic.Crises,Security.Crises,Hydrocarbon.Windfall",
incl.cut=0.8, sort.by="incl, n", complete=T, show.cases=T)
```

```
ttWey0
```

```
csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,
all.sol=FALSE, use.tilde=FALSE)
```

```
csWey0
```

```
##### 2B for not breakdown
```

```
ttWey0 <- truthTable(data=Weyland_noUS, outcome = "~Suffocation",
conditions = "High.Instability,Paralegal.Change, Easy.Change,
Economic.Crises,Security.Crises,Hydrocarbon.Windfall",
incl.cut=0.8, sort.by="incl, n", complete=T, show.cases=T)
```

ttWey0

```
csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,  
all.sol=FALSE, use.tilde=FALSE)
```

csWey0

```
csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,  
all.sol=FALSE, use.tilde=FALSE)
```

csWey0

#####

3A removing Moreno and recoding Bulgaria

```
Weyland_noMOR <- subset(Weyland, isMoreno == 0)
```

```
ttWey0 <- truthTable(data=Weyland_noMOR, outcome = "Suffocation",  
conditions = "High.Instability, Paralegal.Change, Easy.Change_correct,  
Economic.Crises, Security.Crises, Hydrocarbon.Windfall",  
incl.cut=0.8, sort.by="incl, n", complete=T, show.cases=T)
```

ttWey0

```
csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,  
all.sol=FALSE, use.tilde=FALSE)
```

csWey0

3B for not breakdown

```
ttWey0 <- truthTable(data=Weyland_noMOR, outcome = "~Suffocation",  
                    conditions = "High.Instability,Paralegal.Change, Easy.Change_correct,  
Economic.Crises,Security.Crises,Hydrocarbon.Windfall",  
                    incl.cut=0.8, sort.by="incl, n", complete=T, show.cases=T)
```

ttWey0

```
csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,  
all.sol=FALSE, use.tilde=FALSE)
```

csWey0

```
csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,  
all.sol=FALSE, use.tilde=FALSE)
```

csWey0

#####

4 A - alternative reduction removing endogenous variables

#Output = Suffocation

```
ttWey <- truthTable(data=Weyland, outcome = "Suffocation",
  conditions = "Easy.Change,
  Economic.Crises,Security.Crises,Hydrocarbon.Windfall",
  incl.cut=0.8, sort.by="incl, n", complete=T, show.cases=T)
```

```
ttWey
```

```
csWey <- minimize(ttWey, details=TRUE, show.cases=TRUE, row.dom=TRUE, all.sol=FALSE,
  use.tilde=FALSE)
```

```
csWey
```

```
# 4 B -
#Output = Not Suffocation
```

```
ttWey2 <- truthTable(data=Weyland, outcome = "~Suffocation",
  conditions = "Easy.Change,
  Economic.Crises,Security.Crises,Hydrocarbon.Windfall",
  incl.cut=0.8, sort.by="incl, n", complete=T, show.cases=T)
```

```
ttWey2
```

```
csWey2 <- minimize(ttWey2, details=TRUE, show.cases=TRUE, row.dom=TRUE,
  all.sol=FALSE, use.tilde=FALSE)
```

```
csWey2
```

```
#####
```

```
# 5A adding membership to new sets
```

```
ttWey0 <- truthTable(data=Weyland, outcome = "Suffocation",
  conditions = "High.Instability,Paralegal.Change, Easy.Change,
```

*Economic.Crises,Security.Crises,Hydrocarbon.Windfall,
High.Inequality,Ethnic.fragmentation,Traditional.Values",
incl.cut=0.8, sort.by="incl, n", complete=T, show.cases=T)*

ttWey0

*csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,
all.sol=FALSE, use.tilde=FALSE)*

csWey0

*csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,
all.sol=FALSE, use.tilde=FALSE)*

csWey0

#####5B for not breakdown

*ttWey0 <- truthTable(data=Weyland, outcome = "~Suffocation",
conditions = "High.Instability,Paralegal.Change, Easy.Change,
Economic.Crises,Security.Crises,Hydrocarbon.Windfall,
High.Inequality,Ethnic.fragmentation,Traditional.Values",
incl.cut=0.8, sort.by="incl, n", complete=T, show.cases=T)*

ttWey0

*csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,
all.sol=FALSE, use.tilde=FALSE)*

csWey0

```
csWey0 <- minimize(ttWey0, details=TRUE, show.cases=TRUE, row.dom=TRUE,
all.sol=FALSE, use.tilde=FALSE)
```

csWey0

#####

alternative reduction with all corrected and added data

```
Weyland2<-subset(Weyland_noUS,isMoreno==0)
```

```
ttWey <- truthTable(data=Weyland2, outcome = "SuffocORcoup",
conditions = "Easy.Change_correct,
Economic.Crises,Security.Crises,Hydrocarbon.Windfall_correct,
High.Inequality, Ethnic.fragmentation, Traditional.Values",
incl.cut=0.8, sort.by="incl, n", complete=T, show.cases=T)
```

ttWey

```
csWey <- minimize(ttWey, details=TRUE, show.cases=TRUE, row.dom=TRUE, all.sol=FALSE,
use.tilde=FALSE)
```

csWey

#for not having suffocation

```
ttWey2 <- truthTable(data=Weyland2, outcome = "~SuffocORcoup",
conditions = "Easy.Change_correct,
Economic.Crises,Security.Crises,Hydrocarbon.Windfall_correct,
High.Inequality,Ethnic.fragmentation,Traditional.Values",
incl.cut=0.8, sort.by="incl, n", complete=T, show.cases=T)
```


ttWey2

```
csWey2 <- minimize(ttWey2, details=TRUE, show.cases=TRUE, row.dom=TRUE,  
all.sol=FALSE, use.tilde=FALSE)
```

csWey2

#parsimonious minimization

```
parsWey <- minimize(ttWey2, include="?", details=TRUE, show.cases=TRUE,  
row.dom=TRUE, all.sol=FALSE)
```

parsWey