GOV 52: Replication Project

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Introduction

The original paper *The Dynamic American Dream*, coauthored by Jennifer Wolak and David A.M. Peterson (2020), was published in the *American Journal of Political Science*[1] The paper analyzes the behavior of belief in the American dream over time, as it relates to economic inequality, social mobility, home ownership, public policy mood (that is, the public demand for liberal policy outcomes), consumer confidence, and the presence of U.S. midterm and presidential elections. Because the variables include both stationary and non-stationary time series, the authors opted to use a generalized error correction model (GECM) (Bannerjee et al. 1993; DeBoef and Keele 2008). Because of the high correlation between social mobility and economic inequality, the data are split into two models, one with the gini coefficient variable and one with the social mobility variable. Extending the findings from the GECM models, the paper also looks at which non-stationary, explanatory variables have a long run relationship with belief in the American dream, as reflected by long run multipliers and their respective t-values. Ultimately, the authors found positive correlations between belief in the American dream and social mobility, home ownership, consumer confidence (measured by index of consumer sentiment),.

My replication of the models yielded the same numerical values and, therefore, the same interpretive conclusions. Rather than re-writing the conclusions from the original paper, I elaborate on why the original paper was designed as it was and extend the original model for new findings. I bootstraped the long run multiplier standard errors, , and made the figure 2 bar plots into more intuitive line plots.

The GECM model requires that non-stationary variables be lagged. There are numerous ways of testing stationarity - the ADF Test, the Dickey Fuller test, and the Phillips Perron Test to name a few. The original authors use

Table 1: Model One Standard Error vs. Bootstrapped Standard Errors

	original	bootstrapped	pct_diff
(Intercept)	12.24	11.38	0.07
am_lag	0.06	0.06	0.02
gini_delta	251.62	244.98	0.03
gini_lag	11.93	12.28	-0.03
home_delta	0.87	0.84	0.03
home_lag	0.23	0.20	0.12
mood_delta	0.14	0.15	-0.03
mood_lag	0.07	0.07	0.02
ics_delta	0.05	0.06	-0.23
ics_lag	0.02	0.03	-0.07
midterm	1.04	1.22	-0.17
prezcamp	0.22	0.22	-0.01

[1]The replication data was available through the Harvard dataverse. You can access the files here.

Table 2: Model Two Standard Error vs. Bootstrapped Standard Errors

	original	bootstrap	pct_diff
(Intercept)	15.44	14.95	0.03
am_lag	0.06	0.06	-0.02
soc_delta	61.25	59.94	0.02
soc_lag	3.02	3.43	-0.14
home_delta	0.92	0.89	0.03
home_lag	0.22	0.21	0.05
mood_delta	0.15	0.16	-0.04
mood_lag	0.07	0.07	0.04
ics_delta	0.05	0.06	-0.18
ics_lag	0.02	0.03	-0.06
midterm	1.07	1.29	-0.21
prezcamp	0.22	0.23	-0.03

Figure 1: The Dynamics of Public Belief in the American Dream

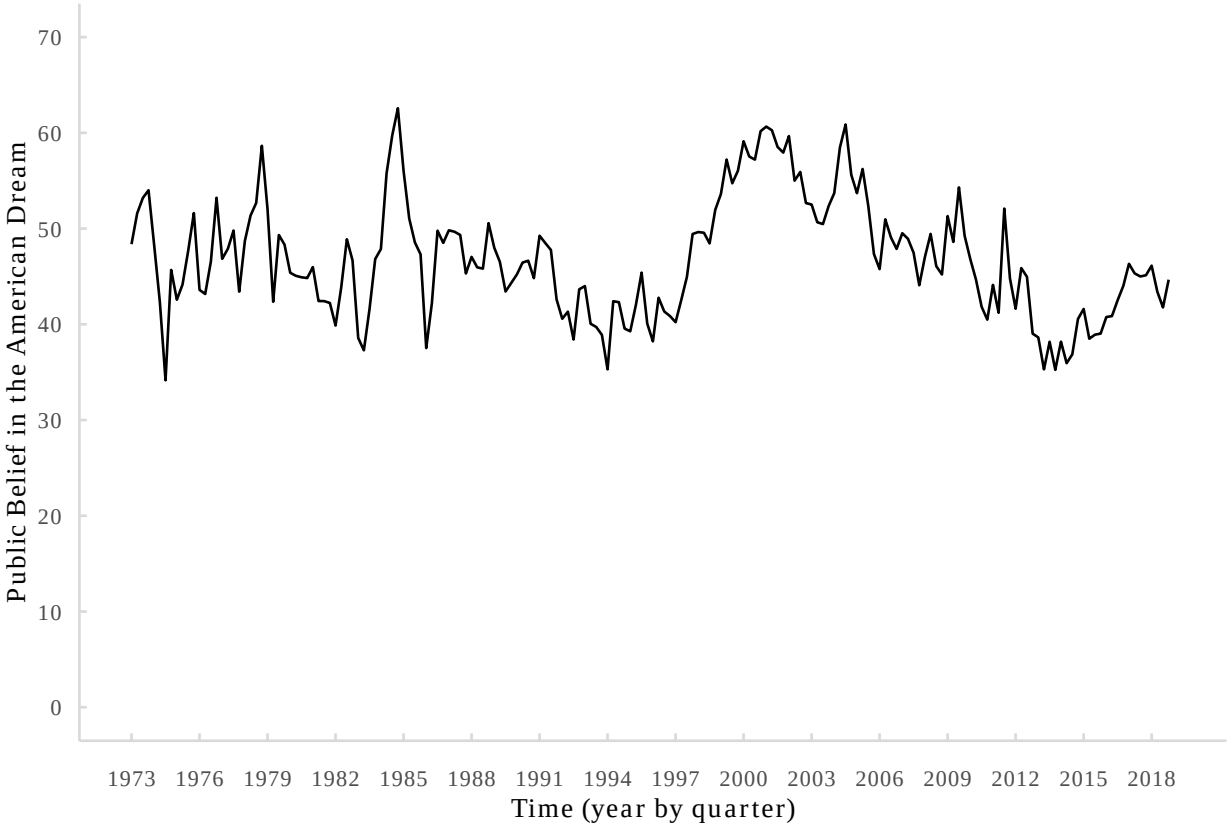


Table 3: Variable Stationarities

Variable	Lag	Z_rho	p-value
American Dream			
Type 1: no drift, no trend	4	-0.4229186	0.5960181
Type 2: with drift, no trend	4	-29.2144709	0.0100000
Type 3: with drift, and trend	4	-29.5016390	0.0100000
Gini Coefficient			
Type 1: no drift, no trend	4	0.1815872	0.7303527
Type 2: with drift, no trend	4	-0.5720620	0.9183873
Type 3: with drift, and trend	4	-7.9586331	0.5796473
Social Mobility			
Type 1: no drift, no trend	4	-0.6523428	0.5449164
Type 2: with drift, no trend	4	-1.7047092	0.8003862
Type 3: with drift, and trend	4	-3.7382584	0.9004809
Home Ownership			
Type 1: no drift, no trend	4	-0.0193342	0.6857035
Type 2: with drift, no trend	4	-1.7416056	0.7962397
Type 3: with drift, and trend	4	-0.5692698	0.9900000
Policy Mood			
Type 1: no drift, no trend	4	-0.0885227	0.6703283
Type 2: with drift, no trend	4	-19.2059513	0.0135664
Type 3: with drift, and trend	4	-19.5549765	0.0714619
Consumer Confidence			
Type 1: no drift, no trend	4	-0.1562859	0.6552698
Type 2: with drift, no trend	4	-15.7278998	0.0321491
Type 3: with drift, and trend	4	-16.3027041	0.1642804
Midterm Election			
Type 1: no drift, no trend	4	-175.0000000	0.0100000
Type 2: with drift, no trend	4	-169.7220028	0.0100000
Type 3: with drift, and trend	4	-169.7124886	0.0100000
Presidential Election			
Type 1: no drift, no trend	4	-53.4972563	0.0100000
Type 2: with drift, no trend	4	-67.5167961	0.0100000
Type 3: with drift, and trend	4	-67.8242200	0.0100000

Figure 2: The Dynamics of Economic Inequality in America

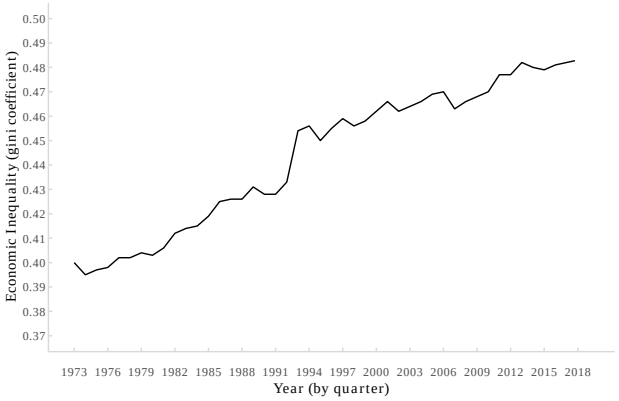


Figure 3: Behavior of American Presidential Campaign Cycles

Figure 4: Distribution of Change in Belief in American Dream

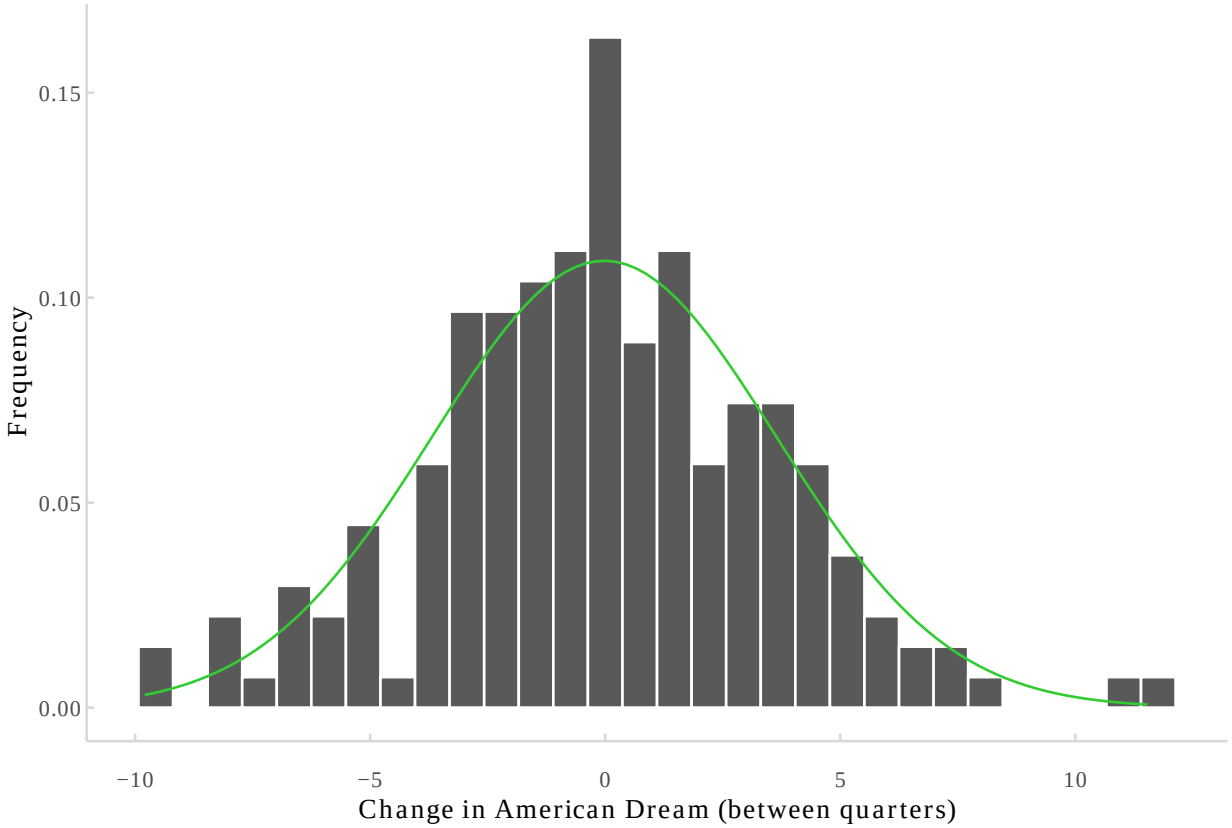
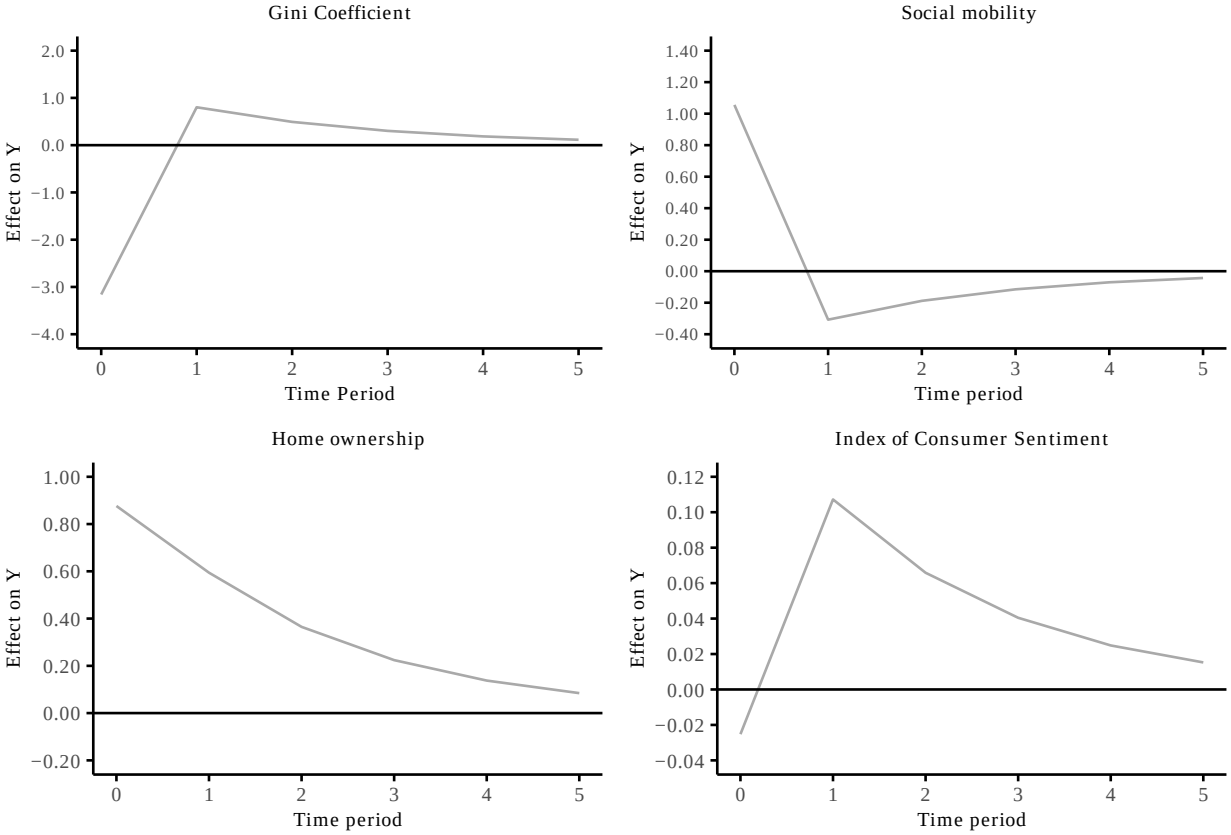


Table 4: Explaining Belief in the American Dream

	Dependent variable:	
	Δ in Belief in the American Dream	
	Model 1	Model 2
Belief in the American Dream$_{t-1}$	-0.386^{***}	-0.388^{***}
	(0.057)	(0.058)
Δ Gini coefficient	−315.981	
	(251.617)	
Gini coefficient$_{t-1}$	-41.727^{***}	
	(11.932)	
Δ Social mobility		105.564^{*}
		(61.247)
Social mobility$_{t-1}$		10.237^{***}
		(3.019)
Δ Homeownership	0.877	0.827
	(0.865)	(0.916)
Homeownership$_{t-1}$	0.932^{***}	0.788^{***}
	(0.230)	(0.219)
Δ Policy mood	−0.146	−0.116
	(0.143)	(0.152)
Policy mood$_{t-1}$	0.092	0.121^{*}
	(0.069)	(0.071)
Δ Index of consumer sentiment	−0.025	−0.032
	(0.050)	(0.051)
Index of consumer sentiment$_{t-1}$	0.097^{***}	0.088^{***}
	(0.024)	(0.025)
Midterm election	1.203	1.204
	(1.043)	(1.066)
Presidential campaign	0.535^{**}	0.382^{*}
	(0.221)	(0.221)
Constant	-38.657^{***}	-54.838^{***}
	(12.240)	(15.443)
Long run multipliers		
LRM, Gini coefficient	-108.1521†	
standard error	(26.9571)	
t-value	-4.0120	
LRM, Social mobility		26.3578†
standard error		(6.9230)
t-value		3.8073
LRM, Home ownership	2.4165†	2.0295†
standard error	(.4556)	(.4571)
t-value	5.3041	4.4403
LRM, Policy mood	.2394	.3111
standard error	(.1750)	(.1791)
t-value	1.3681	1.7370
LRM, Index of consumer sentiment	.2527†	.2258†
standard error	(.0578)	(.0560)
t-value	4.3723	3.7635
Observations	175	167
R^2	0.267	0.270

Note: *p<0.1; **p<0.05; ***p<0.01
† denotes significant LRMs, where t-value exceeds absolute value of 3.560
standard errors wrapped in parentheses

Figure 5: Estimated Lag Distributions for Belief in the American Dream



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De Boef, Suzanna, and Luke Keele. 2008. "Taking Time Seriously." *American Journal of Political Science* 52(1): 184–200.

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