Expenditures and Votes in the U.S. and U.K.

Alfred G. Cuzán and Richard J. Heggen

July 9, 2022

Keywords: Fiscal model, United States, United Kingdom, presidential elections, elections for the House of Commons

Abstract

In this research note, we replicate a fiscal model of elections tested with data from the United States and the United Kingdom published nearly four decades ago (Cuzán and Heggen 1985). The authors showed that in both countries there was a general tendency for cutbacks in national spending relative to Gross Domestic Product to result in re-election and for expansions in defeat of the incumbents. Here, with a longer data series, we replicate their study. While in the U.S. the results are the same whether we look at the popular vote or that of the Electoral College, in the U.K. only the House of Commons vote is consistent with the authors' hypothesis.

Almost four decades ago, a model with a single variable fiscal policy (to be defined presently) correctly predicted 10 out the previous 12 U.S. presidential elections (83%) and 8 out of 11 for the U.K (73%). For the theory underlying this note, see the earlier paper (Cuzán and Heggen 1985).[1] A literature survey of determinants of British or U.S. elections or a multi-variable model of either country is beyond its scope. In this research note, our sole purpose is to replicate the original study to see if the pattern holds up with an additional three decades of data.

Table 1 displays the model's components and their descriptive statistics. FISCAL, the predictor variable, is a composite of two others derived from F, the ratio of national government spending to Gross Domestic Product. F' is the relativized mean annual change in F between elections adjusted for term length, and F" is the change of F' between elections. More formally, F' and F" are first and second derivatives of F over time. As shown in the matrix within Table 1, the signs of F' and F" determine FISCAL. If neither F' nor F" is positive, FISCAL is an expansion; if either is negative, FISCAL is a cutback.

. . . . . .

Table 1 about here

. . . . . .

Two differences between the U.S and U.K. merit noting. One lies in the proportion of GDP taken up by spending: 0.37 by all government in the U.K., 0.18 by the U.S. federal government.[2] The other has to do with F': on average, it is higher in the U.S. (although the difference is less so when measured by the median). Figure 1 illustrates the trends. Be it noted that F is tracked between election years. The most-recent U.K. election was in 2019, before the spending surge associated with the COVID-19 virus. Looking at F", the rate of change in F' values are much the same, 0.01 and 0.02, respectively.

. . . . . .

Figure 1 about here

. . . . . .

In the U.S., where third-party presidential candidacies are unusual or inconsequential, on average the incumbents win just over 50% of the vote, around 10

percentage points more than in the U.K. On the other hand, incumbents in the U.K. win the popular vote about three quarters of the time, compared with three-fifths in the U.S. Nevertheless, in both countries the incumbents' share of the two-party vote, that is, of the proportion of the vote received by the two largest parties, is 0.52. In neither country, however, is the popular vote decisive in retaining control of the executive. That depends on the outcome of the House of Commons and the Electoral College, respectively. Here again, the incumbents in the U.K. retain their lease on 10 Downing Street more frequently than do the occupants of the White House, 0.63 vs. 0.54.

These similarities and differences aside, what the model predicts is the effect of FISCAL on election outcome for the incumbents. The dependent or output variable takes one of two binary forms. One, VO, has to do with whether the in-party comes first in the popular vote, and the other, ECO/HCO, whether it receives a positive vote in the House of Commons or Electoral College. In the century under study, the popular vote winner was overruled twice in the U.S. (2000 and 2016), and thrice in the U.K. (1929, 1951, and 1974).

The hypothesis to be tested is that fiscal expansion has a negative result in both versions, and a cutback policy, a positive result. The rationale put forward in the 1985 article is that FISCAL operates as something of a "price" of government. By analogy to economics, an increase thereof reduces the quantity that voters are willing to support.[3] Fiscal expansion thus results in a lowering of the vote share going to the incumbents while a cutback increases it or leaves it unchanged. Thus, in Figure 1, a solid dot represents a positive result in VO, and a blank one, a negative one. Incumbents that implement fiscal expansion (indicated by an upslope shift on the plot) generally tend to

fail in their bid for re-election while those that reduce F or its rate of growth (signified by a downslope shift) tend to succeed in winning another term.

Table 2 represents tests the relationship statistically. Election results between 1920 and 2020 are sorted by country according to their corresponding values of FISCAL, expansion or cutback. For each country, and for both together, two distributions are shown, one for VO and the other for HC/EC. In the U.S., the data are statistically consistent with the hypothesis in both outcomes; in the U.K. this is true only for the House of Commons. The functional relation between fiscal policy and HC/EC decision is essentially identical in the two countries: 22/27 elections correctly predicted in the U.K and 21/26 in the U.S. When both countries are combined, the relationship holds in both outcomes, 39/53 (74%) in the popular vote, and 43/53 (81%) in the HC/EC.

Figures 2 and 3 show that in the U.K. and the U.S., respectively, there is a statistically significant negative relation between F", the acceleration/deceleration variable, on the one hand, and, on the other, V_{2p}, the incumbent two-party vote. By contrast, in neither country is a reliable relationship with either F or F' observed. This may be because in both countries F has risen over time, suggesting something comparable to a shift to the right in the demand function in support of government spending, perhaps as per Wagner's Law (Dollery and Singh 1998).

However, it appears that voters are sensitive to the rate at which spending growth occurs. A physical analogy based on Newton's Law of Motion may help. Consider a voter as a passenger riding in the vehicle of government. When the vehicle turns to the left (an acceleration in the physical sense), the rider's reaction is to lean to the right. When the vehicle turns left, the opposite occurs. When the vehicle speeds up, the rider

leans back. When the vehicle slows, the rider leans forward. If there's no acceleration, the rider may not realize that the vehicle is moving at all. The analogy is not perfect, but it does illuminate the negative relationship between spending and votes, one where the latter shifts in the opposite direction of the former, falling with expansion and rising with cutbacks, respectively.

. . . . . .

Figures 1 and 2 here

. . . . . .

As in the 1985 article, the findings in this replication with a longer and more consistent data series demonstrate that fiscal policy indeed has a predictable relation with electoral outcomes for the incumbent party in both the U.S. and the U.K. In both countries, fiscal expansion generally foretells loss of control of the executive, and cutback, its retention. In 81% of all cases, the model correctly predicts this outcome. We are unaware of any other election-predicting model that achieves this rate of success based on but one objective policy variable, F in this case. (For another single-variable explanation of elections in the U.K. based on a non-policy variable, see Norpoth 2014.) These findings suggest that fiscal policy ought to be given greater attention in any attempt to account for wins and losses in the U.K. House of Commons, and in both the popular vote and the Electoral College in the U.S.

References

Cuzán, A.G. and R.J. Heggen. 1985. "Expenditures and Votes: In Search of Downward-Sloping Curves in the United States and Great Britain." *Public Choice,* 45(1): 19-34.

Cuzán, A.G. and Bundrick, C. M. 2005. "Deconstructing the 2004 Presidential Election Forecasts: The Fiscal Model and the Campbell Collection Compared," *PS: Political Science & Politics,* 38 (2): 255-262.

Cuzán, A.G., Heggen, R. J., and Bundrick, C. M. 2009. "Fiscal Policy in American Presidential Elections: A Simulation," *Simulation,* 85 (1): 5-15.

Dollery, Brian and Sukhvinder Singh. 1998. "A Note on the Empirical Analysis of Wagner's Law," *Economic Analysis & Policy*, 28 (2): 245-257.

Niskanen, W. 1979. "Economic and Fiscal Effects on the Popular Vote for President." in D.W. Rae and T.J. Eismeier, Eds. *Public Policy and Public Choice*. Beverly Hills: Sage Publications.

Norpoth, H. 2014. "The Electoral Cycle." *PS: Political Science and Politics* 47 (2): 332-335.

Peltzman, S. 1992. "Voters as Fiscal Conservatives." *Quarterly Journal of Economics* 107 (2): 327-361.

Table 1. Definitions and Measurements, 1920-2020				
Symbol	Concept	Variable measurement	Mean [Median] (SD)	
			UK Total government (*N*=27)	US Federal government (*N*=26)
F	Government spending	Expenditures/GDP	0.37 [0.37] (0.08)	0.18 [0.19] (0.08)
F’	Relative annual change in F	$(F_t - F_{t-1})/F_{t-1},/n$, where t is the current election, t-1 is the prior election, and n is the years between	0.02 [-0.01] (0.31)	0.28 [0.04] (0.88)
F’’	Arithmetic annual change in F’	$(F'_t - F'_{t-1})/n$	0.01 [0.05] (0.51)	0.02 [-0.01] (1.43)
FISCAL	Fiscal policy, expansionary or cutback	F' ≤0 >0 F'' ≤0: Cutback | Cutback F'' >0: Cutback | Expansion Cutback = 0 Expansion = 1	0.33	0.42
V	Incumbent party share of total vote	V_i/T where V_i is the vote going to the incumbents and T is the total votes cast	0.41 [0.42] (0..06))	0.499 [0.496] (0.07)
V_{2p}	Incumbent party share of two-party vote	$V_i/(V_i + V_o)$, where V_o is the vote of the second highest vote getter	0.52 [0.52] (0.06)	0.52 [0.52] (0.07)
VO	Vote outcome for the incumbents	Win = 1 if $V_{2p} \geq 50\%$ Loss = 0 if $V_{2p}<50\%$	0.74	0.63
ECO/HCO	Electoral College or House of Commons Vote for the incumbents	Win = 1 Loss = 0	0.63	0.54
Data sources:				

Fiscal policy: https://www.usgovernmentspending.com/, https://www.ukpublicspending.co.uk/

Elections:
Dave Leip's Atlas of US Presidential Elections, https://uselectionatlas.org/
House of Commons, UK Election Statistics: 1918-2019: A Century of Elections, Briefing Paper Number CBP7529, 27 February 2020, https://commonslibrary.parliament.uk/research-briefings/cbp-7529/

Table 2. Wins and Losses by Fiscal Policy, U.K. and U.S., 1920-2020					
Country	Outcome	FISCAL			
		Cutback	Expansion	Cutback	Expansion
		Vote		House of Commons/ Electoral College	
U.K.					
	Win	13	6	15	2
	Loss	5	3	3	7
		p =0.77		p = 0.002	
U.S.	Win	14	2	12	2
	Loss	1	9	3	9
		p = 0.000		p = 0.002	
U.K.-U.S.	Win	27	8	27	4
	Loss	6	12	6	16
		p = 0.002		p < 0.001	

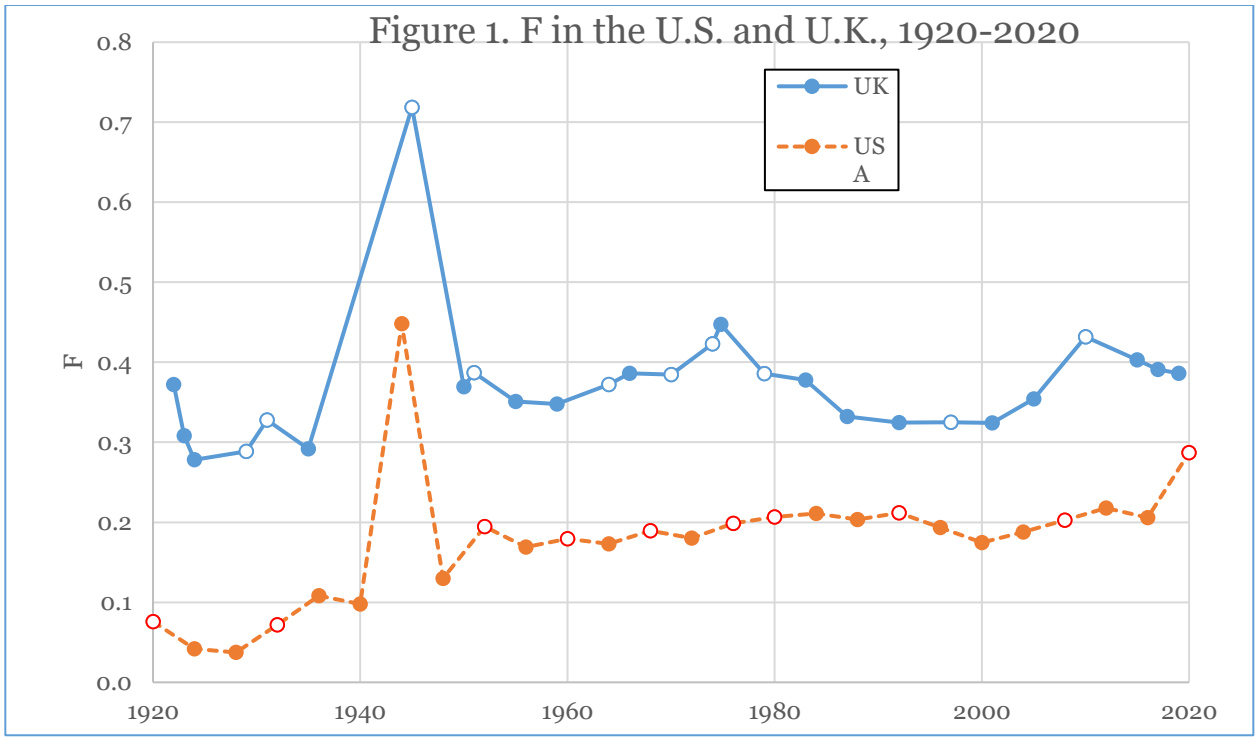
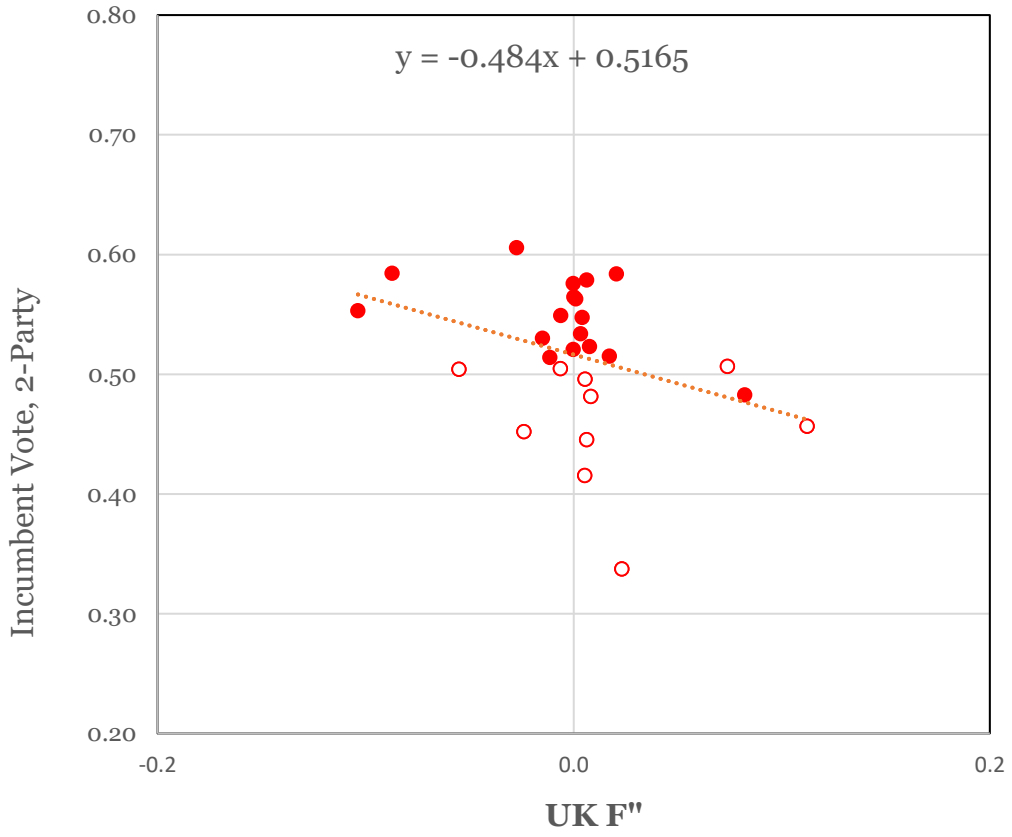
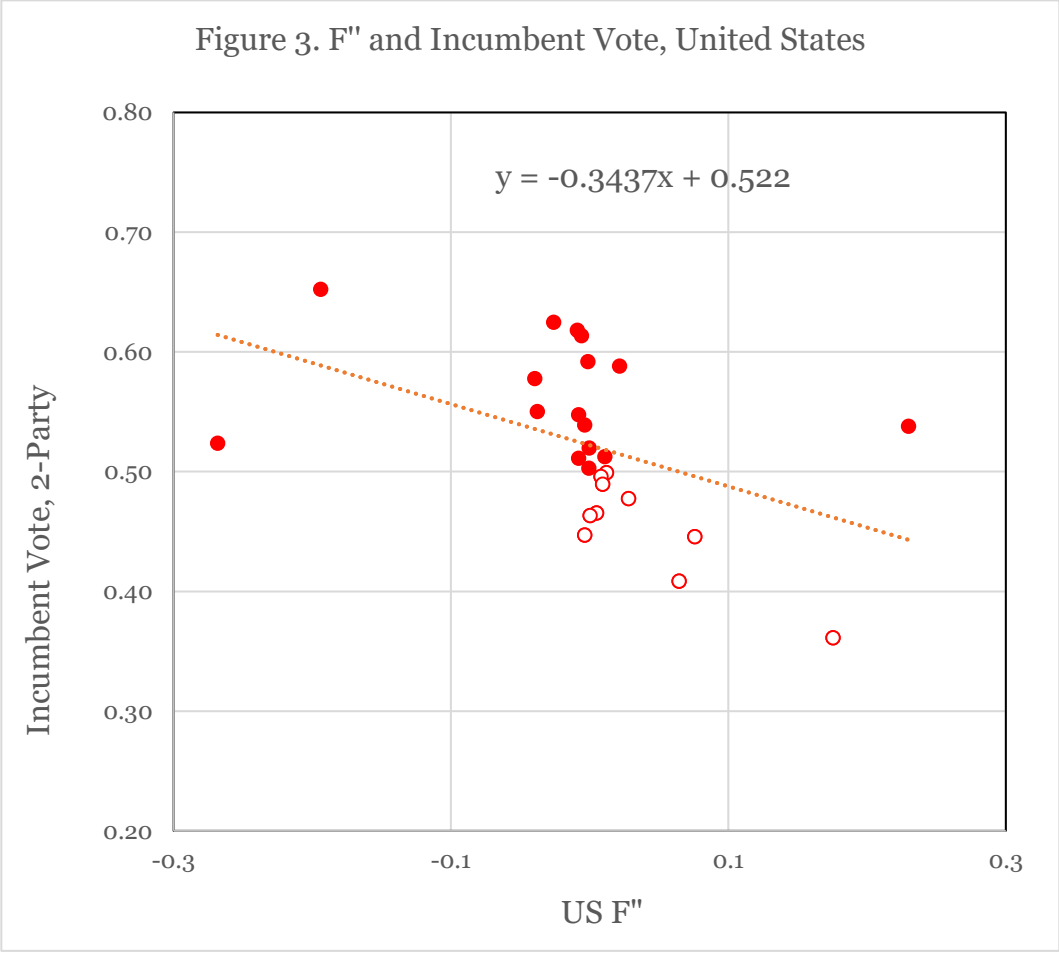


Figure 1. F in the U.S. and U.K., 1920-2020
F
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
1920
1940
1960
1980
2000
2020
UK
USA

Figure 2. F" and Incumbent Vote, United Kingdom





[1] See, also, Cuzán and Bundrick (2005) and Cuzán, Heggen and Bundrick (2009).

[2] Our source does not break down U.K. spending between the central and total government for most of the years in the series—only since 2010. We have not found a series extending over a century that tracks national government separately. This is not as problematic as it may seem, given the much higher level of centralized spending in the U.K. compared to the U.S.

[3] For similar findings, on the effect of spending, measured on a per capita basis, on U.S. presidential elections, see Niskanen and Peltzman (1992).