

Supplementary Material

Private Debt and the Anglo-Liberal Growth Model

Government & Opposition

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A A. Full regression tables (analyses cited in text)

Recall that we do not seek evidence of an obviously causal story: there is no particular argument that we expect liberal regimes to have higher household debt only because they are liberal regimes. Rather, the argument is one about equilibrium relationships and thus lends itself directly to the simple investigation of correlations. As such, a simple least squares modelling is closer to the theoretical claim than more sophisticated causal modelling approaches: the differences between countries are seen to be a ‘package deal’. This is most obvious if we start to consider what kind of variables we might want to ‘control’ for in a more sophisticated analysis. For example, we might want think that the size of the financial sector matters for the level of household debt: that easier access to credit facilitates borrowing. While clearly true, this ‘control variable’ is a consequence– or at least, a part– of the nature of the regime. The meaning of a difference in borrowing between liberal and coordinated regimes, net of the influence of the size of the financial sector, is thus very unclear.

Thus I estimate models which include a linear time trend, as well as a dummy for advanced-industrial country (AIC) status when including more countries than just the liberal and coordinated regimes (which are all AICs).

In this context, it is worth highlighting that the models I present are the most ‘forgiving’ to the theory: by omitting country-level effects and not adjusting the standard errors to account for the time-series cross-sectional nature of the data, I maximize the (theoretically expected) variation across the countries of interest, and the amount of information we assume is given by each country-year observation. Clustering the standard errors by country tends to increase the standard errors of the estimates given here, but not alter the substantive conclusions. Given that the main finding of interest here is the ‘null’ finding of no relationship, I discuss the results from tests less likely to produce this outcome, that is, the ‘raw’ associations.

Household debt

Analogous to Figure 1 in the main article, table 1 asks the question ‘do liberal market economies have higher levels of household debt?’. Where the figure allowed for patterns in each country to be seen easily, the regression analysis which categorizes the U.K., U.S, Canada, Australia and Ireland as ‘liberal’ allows us to consider whether those countries seen to share a growth model have higher, or more quickly increasing household indebtedness.

Table 1 indicates that, compared to all OECD countries for which data are available, the liberal economies are indeed more highly indebted: there is a positive and highly statistically significant effect of the liberal designation, of about 40 percentage points of GDP. However, most of this is accounted for by the greater heterogeneity in the OECD than the simple difference between liberal and coordinated regimes. Once we account for advanced industrial country(AIC) status, (excluding the Czech Republic, Estonia, Hungary, Korea, Poland, the Slovak Republic and Slovenia from the comparison) the difference drops by more than half. Furthermore, the low-debt countries driving this contrast are not the coordinated group, but the southern European and East Asian OECD countries. When we compare the liberal regime to its purported opposite, as in Model 3, there is no discernible difference between the two groups.

Table 1: Do liberal market economies have higher levels of household debt?

Model	A1	A2	A3
Liberal	39.91*** (8.14)	16.25* (6.46)	8.60 (7.69)
Year	5.42*** (0.79)	5.46*** (0.60)	6.73*** (0.95)
Sample	<i>Full</i>	<i>Full</i>	<i>L&C</i>
AIC dummy		<i>Y</i>	
<i>N</i>	293	293	141
<i>R</i> ²	0.20	0.53	0.27
adj. <i>R</i> ²	0.19	0.52	0.26
Resid. sd	50.25	38.55	42.54

Standard errors in parentheses

† significant at $p < .10$; * $p < .05$;

** $p < .01$; *** $p < .001$

Table 2 considers whether the growth of household debt was faster in the liberal countries. Model A4 estimates the linear trend for the growth of household debt within liberal countries, and Model A5 that within the coordinated regimes. We can see even in these simple analyses that the time effects are very similar: each extra year adds over five percentage points of GDP to household debt in the liberal countries, and six and a half in the coordinated. We can see by inspection of the standard errors here that these are unlikely to be differentiable from one another. Model A8 provides exactly this comparison, with a little more structure, by interacting the year of observation with the liberal regime type while limiting the sample to liberal and coordinated countries. If there is more rapid growth in the liberal regimes, this should be reflected in a positive coefficient on the interaction. This also allows us to include the level effects of the regime type. We can see from Model A8 in the table that while the overall trend is towards higher levels of indebtedness, there is no evidence that the liberal

countries are moving faster: the estimate of a 0.53 point premium in the liberal countries is not just small relative to its standard error, but substantively close to zero.

Table 2: Has household debt grown (more) in liberal countries?

Model	A4	A5	A6	A7	A8
Year	5.39*** (0.65)	6.56*** (1.36)	5.11*** (0.86)	4.93*** (1.18)	6.56*** (1.16)
Liberal regime			-3916.71 (4367.52)	-3624.50 (3467.28)	-1045.52 (4123.09)
Liberal × year			1.98 (2.18)	1.82 (1.73)	0.53 (2.06)
Sample	<i>L</i>	<i>C</i>	<i>Full</i>	<i>Full</i>	<i>L&C</i>
AIC dummy				<i>Y</i>	
<i>N</i>	65	96	293	293	141
<i>R</i> ²	0.52	0.20	0.20	0.53	0.27
adj. <i>R</i> ²	0.51	0.19	0.19	0.52	0.26
Resid. sd	26.59	50.22	50.27	38.59	42.68

Model including the AIC dummy and the liberal-year interaction also include AIC × year.

† significant at $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Models A6 and A7 indicate that – in contrast to the differences in debt *levels* – the liberal countries are even indistinguishable from the broader sample of all OECD countries. This holds whether or not we include a dummy variable control for AIC status. Here the point estimates do indicate a slightly quicker rate of increase, but even with the larger sample’s higher power, it is statistically indistinguishable from zero. That is, although they have different levels of debt overall, the liberal countries show no faster increases in debt than other countries.

Government debt and cyclically adjusted deficits

As discussed in the main text, tables 3 and 4 investigate whether governments in liberal countries take on debt directly, on behalf of households, in order to maintain political support as per the theory. Models A9 to A14 echo the specifications in tables 1 and 2, excluding the split-sample estimations of the time trend. They reveal similar null results in terms of the liberal-coordinated comparison of levels: Model A11 shows that there is no discernible difference between the two, while Model A10 indicates that liberal governments have lower levels of debt compared to the full AIC group. In terms of the expansion of debt, too, there is no indication that the liberal models debt had a different slope over time (as indicated by the liberal - year interaction) in any of the comparisons.

Table 3: Government debt in liberal versus other countries

Model	A9	A10	A11	A12	A13	A14
Year	-1.10*	-0.81 [†]	-1.81***	-0.83	0.20	-1.48*
	(0.49)	(0.44)	(0.51)	(0.54)	(0.87)	(0.65)
Liberal regime	-5.32	-16.93***	-4.80	3052.52	3130.70	1754.19
	(4.74)	(4.41)	(3.92)	(2579.74)	(2390.59)	(2124.98)
Liberal × year				-1.53	-1.57	-0.88
				(1.29)	(1.19)	(1.06)
Sample	<i>Full</i>	<i>Full</i>	<i>L&C</i>	<i>Full</i>	<i>Full</i>	<i>L&C</i>
AIC dummy		<i>Y</i>			<i>Y</i>	
<i>N</i>	335	335	158	335	335	158
<i>R</i> ²	0.02	0.22	0.08	0.02	0.23	0.09
adj. <i>R</i> ²	0.01	0.21	0.07	0.01	0.22	0.07
Resid. sd	33.67	30.03	24.08	33.64	29.95	24.10

Models including the AIC dummy and the liberal-year interaction also include AIC × year.

[†] significant at $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

One additional advantage of considering government debt is that, at least in this case, we can draw on data that are adjusted for the economic cycle. If debt in general, and government debt in particular, is thought of as playing a counter-cyclical stabilisation role, this clearly does not make sense. But the more general argument about growth models is less one about stabilization and more one of systemic structural borrowing to cover gaps in the creation of income for middle class consumption. Thus, it might be thought that eliminating cyclical variation would be the better measure of the growth model's debt bias.

Table 4 provides no such solace for the narrative of distinctive Anglo-liberal pathology. Model A15 indicates that structural debt in the period declined overall; and again (as with household debt) while the liberal countries have higher levels of debt than the non-liberal OECD (Model A16), this difference diminishes in the contrast with AIC peers (Model A17), and disappears completely in the comparison between liberal and coordinated countries

Table 4: Cyclically adjusted government deficits in liberal versus other countries

Model:	A15	A16	A17	A18	A19	A20	A21
Year	-0.51*** (0.08)	-0.03 (0.05)	-0.02 (0.05)	-0.00 (0.05)	0.01 (0.06)	-0.02 (0.12)	0.14† (0.07)
Liberal		1.07* (0.44)	0.89* (0.45)	-0.50 (0.38)	422.67† (253.30)	471.04† (261.05)	675.39** (215.19)
Lib. × yr.					-0.21† (0.13)	-0.23† (0.13)	-0.34** (0.11)
Sample	<i>L</i>	<i>Full</i>	<i>Full</i>	<i>L&C</i>	<i>Full</i>	<i>Full</i>	<i>L&C</i>
AIC dum.			<i>Y</i>			<i>Y</i>	
<i>N</i>	85	307	307	144	307	307	144
<i>R</i> ²	0.33	0.02	0.03	0.01	0.03	0.04	0.08
adj. <i>R</i> ²	0.33	0.01	0.02	-0.00	0.02	0.02	0.06
Resid. sd	3.59	3.03	3.03	2.26	3.02	3.02	2.20

Models including the AIC dummy and the liberal-year interaction also include AIC × year.

Standard errors in parentheses

† significant at $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

(Model A18). Including the regime-time interaction (in Models A19 to A21) indicates that the expansion of structural debts was actually slower than average in the liberal countries (although from a higher starting point).

B. Robustness: private sector and total debt levels

For completeness, I present here analogous analyses for the non-financial private sector (households and non-financial corporations) and for total debt levels in the economy. Thus tables 5 and 6 again replicate the models in levels and with the liberal-year interaction to capture different trajectories through time. Again, private sector debt overall is slightly higher in the liberal countries than the whole OECD, but no different from the coordinated or other advanced industrial countries. There is no significant liberal-time interaction suggesting quicker expansion of private sector debt.

Table 5: Private sector (households and non-financial corporations) debt in liberal versus other countries

	B1	B2	B3	B4	B5	B6
Year	4.70*** (0.72)	5.20*** (0.61)	5.22*** (0.67)	4.40*** (0.80)	4.83*** (1.20)	4.68*** (0.85)
Liberal	15.09* (7.06)	-5.03 (6.20)	-6.79 (5.20)	-3425.37 (3807.52)	-2071.48 (3344.03)	-2877.66 (2787.69)
Lib. \times yr.				1.72 (1.90)	1.03 (1.67)	1.43 (1.39)
Sample	<i>Full</i>	<i>Full</i>	<i>L&C</i>	<i>Full</i>	<i>Full</i>	<i>L&C</i>
AIC dummy		<i>Y</i>			<i>Y</i>	
<i>N</i>	332	332	155	332	332	155
R^2	0.12	0.38	0.29	0.13	0.38	0.29
adj. R^2	0.12	0.37	0.28	0.12	0.37	0.28
Resid. sd	49.20	41.46	31.41	49.21	41.55	31.40

Models including the AIC dummy and the liberal-year interaction also include AIC \times year.

Standard errors in parentheses

† significant at $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Models B7 to B12, for total debt levels, tell a slightly different story. That is, here there is a statistically significant difference between liberal and coordinated countries in terms of their levels of indebtedness (Model B9). However, this is the only difference that reaches conventional levels of significance. Further, as we saw in the final section of the article, the driver behind this difference is financial sector indebtedness— which is examined in more detail below.

Table 6: Total debt in liberal versus other countries

	B7	B8	B9	B10	B11	B12
Year	25.56***	28.26***	20.71***	24.84***	10.94	15.80**
	(6.40)	(6.07)	(3.91)	(7.06)	(11.91)	(4.91)
Liberal	112.57 [†]	4.08	60.59*	-8118.49	14080.18	-26256.91
	(62.50)	(61.56)	(30.12)	(33729.59)	(33078.08)	(16070.89)
Lib. × yr.				4.11	-7.03	13.15
				(16.85)	(16.53)	(8.03)
Sample	<i>Full</i>	<i>Full</i>	<i>L&C</i>	<i>Full</i>	<i>Full</i>	<i>L&C</i>
AIC dummy		<i>Y</i>			<i>Y</i>	
<i>N</i>	332	332	155	332	332	155
<i>R</i> ²	0.05	0.16	0.18	0.05	0.16	0.19
adj. <i>R</i> ²	0.05	0.15	0.17	0.05	0.15	0.17
Resid. sd	435.33	411.69	182.03	435.96	411.04	181.03

Models including the AIC dummy and the liberal-year interaction also include AIC × year.

Standard errors in parentheses

[†] significant at $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

C. Construction of manifesto growth regime measures

As outlined in the theory section in the main text, there are a large number of policies associated with the liberal regime, and others more closely linked to export-oriented growth models. Not all of these dimensions translate to the coding categories in the Volkens et al. (2013) (CMP). However, a number of policy areas that are measured in the manifesto data do directly tap key elements of each growth model, and it is these that I use to construct the measures analyzed in the article. Specifically, mentions of technical investment and training, regulation, and corporatism are used to measure the salience of ‘coordinated’ policies for economic growth. On the liberal side, the aspect of the growth model that is measured in the CMP is that of demand management: specifically, mentions of demand side economic policies, to the benefit of consumers. However, along with this demand-side approach is the liberal commitment to free market provision, thus these two categories are combined to yield the liberal growth model measure. Thus the measures are as follows:

$$\text{coordinated} = \text{Technology} + \text{Regulation} + \text{Corporatism}$$

$$\text{Liberal} = \text{Keynesian Demand Management} + \text{Free Market Economy.}$$

The constituent categories are summarized in table 7.

Table 7: Construction of growth model measures from CMP manifesto data

Model	CMP name (category)	Description
Liberal	Keynesian Demand Management (per 409)	Favourable mentions of demand side oriented economic policies (assistance to consumers rather than businesses). Particularly includes increase private demand through increasing public demand; increasing social expenditures. May also include stabilization in the face of depression; government stimulus plans in the face of economic crises.
Liberal	Free Market Economy (per 401)	Favourable mentions of the free market and free market capitalism as an economic model. May include favourable references to: laissez-faire economy; superiority of individual enterprise over state and control systems; private property rights; personal enterprise and initiative; need for unhampered individual enterprises.
coordinated	Technology (per 411)	Importance of modernization of industry and updated methods of transport and communication. May include: importance of science and technological developments in industry; need for training and research within the economy (this does not imply education in general); calls for public spending on infrastructure such as roads and bridges; support for public spending on technological infrastructure (e.g.: broadband internet, etc.).
coordinated	Regulation (per 403)	Support for policies designed to create a fair and open economic market. May include: calls for increased consumer protection; increasing economic competition by preventing monopolies and other actions disrupting the functioning of the market; defence of small businesses against disruptive powers of big businesses; social market economy.
coordinated	Corporatism (per 405)	Favourable mentions of cooperation of government, employers, and trade unions simultaneously. The collaboration of employers and employee organizations in overall economic planning supervised by the state.

D. The growth of the financial sector

Finally, there is one area of comparison between the liberal and coordinated economies where significant differences (in both statistical and substantive terms) arise. Specifically, liberal models have larger financial sectors, and these grew more rapidly in the pre-crisis boom.

Table 8: The growth of the financial sector in liberal versus other countries

	D1	D2	D3	D4	D5	D6	D7
Year	0.12*** (0.03)	0.05 (0.05)	0.05 (0.05)	0.02 (0.02)	0.04 (0.06)	0.04 (0.09)	-0.02 (0.03)
Liberal regime		1.86** (0.60)	1.16 [†] (0.60)	2.76*** (0.19)	-153.78 (316.87)	-153.03 (316.60)	-277.05** (96.91)
Liberal × year					0.08 (0.16)	0.08 (0.16)	0.14** (0.05)
Sample	<i>L</i>	<i>Full</i>	<i>Full</i>	<i>L&C</i>	<i>Full</i>	<i>Full</i>	<i>L&C</i>
AIC dummy			Y			Y	
<i>N</i>	58	341	341	144	341	341	144
<i>R</i> ²	0.26	0.03	0.09	0.60	0.03	0.09	0.63
adj. <i>R</i> ²	0.25	0.02	0.08	0.60	0.02	0.08	0.62
Resid. sd	1.03	3.57	3.46	1.01	3.58	3.47	0.99

Models including the AIC dummy and the liberal-year interaction also include AIC × year.

Standard errors in parentheses

[†] significant at $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Models D2 and D3 indicate that liberal countries have financial sectors that are nearly two points larger than the non-liberal OECD; but also that these levels are nearly three points higher than the coordinated regimes. This gives a numerical estimate of the differences visible in fig. 5 whose substantive size is evident from the contrast with overall financial sector sizes: nowhere is this higher than 10 per cent, so a three percentage point difference is a large one. Similarly, model D7 indicates that in the liberal models, the size of the financial sector increased by about 0.14 points in GDP each year, in coordinated models there was no such growth—indeed the point estimate on the time trend in these countries is negative!

Finally, table 9 points to the real beneficiaries of any liberal government policies conducive to high indebtedness. Compared to the coordinated countries (model D10), the debt of financial corporations in the liberal countries is significantly higher, by almost 75 percent of GDP. Equally, although with a little less statistical certainty, the growth of financial corporation debt is estimated to be twice the rate in coordinated countries. Model D13 indicates that in the coordinated (residual) category, each additional year adds 12 points to the level of financial corporation debt; in the liberal countries we must add another 12 points to that baseline.

Table 9: Financial corporation debt in liberal versus other economies

	D8	D9	D10	D11	D12	D13
Year	22.03*** (6.13)	23.91*** (5.98)	17.53*** (3.61)	21.29** (6.77)	5.69 (11.73)	12.78** (4.54)
Liberal	102.78† (59.90)	27.28 (60.66)	74.07** (27.85)	-8309.00 (32324.09)	12570.27 (32580.05)	-25367.03† (14849.25)
Liberal × year				4.20 (16.15)	-6.27 (16.28)	12.71† (7.42)
Sample	<i>Full</i>	<i>Full</i>	<i>L&C</i>	<i>Full</i>	<i>Full</i>	<i>L&C</i>
AIC dummy		<i>Y</i>			<i>Y</i>	
<i>N</i>	332	332	155	332	332	155
<i>R</i> ²	0.05	0.10	0.17	0.05	0.11	0.19
adj. <i>R</i> ²	0.04	0.09	0.16	0.04	0.10	0.17
Resid. sd	417.20	405.72	168.33	417.79	404.85	167.27

Models including the AIC dummy and the liberal-year interaction also include AIC × year.

Standard errors in parentheses

† significant at $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Note even here though that while this is a distinctive difference between liberal and coordinated countries, financial sector indebtedness may not be unique to liberal market economies. The absence of significant differences between liberal and other countries when the AIC dummy variables are included indicates that whatever political processes promote the indebtedness of financial sector corporations, they may be of broader applicability than the Anglo-liberal world. Within the liberal countries, however, the size of the sector is more pronounced, exacerbating any effects that financial sector preferences may have in the broader polity.