‘Leaning Against an Open Door’:

Political Ideology and the Cyclicality of Public Expenditure

Andrew Abbott [a,*]

[a, *] *Business School, University of Hull, Cottingham Road, Hull, HU6 7RX*

Philip Jones [b]

[b] *Department of Economics, University of Bath, Claverton Down, Bath, BA2 7AY*

[*] Corresponding author. Tel: +44 1482 463570; fax: +44 1482 463484;

Email addresses: a.abbott@hull.ac.uk (A. Abbott); p.r.jones@bath.ac.uk (P.Jones)

Abstract

When is government expenditure likely to be procyclical? While economists tend to anticipate counter-cyclical expenditure, recent studies report procyclical expenditure. This paper explores the impact of political ideology on the cyclicality of government expenditure. Predictions are tested with reference to government expenditure in the USA between 1950 and 2008. The likelihood of procyclical expenditure increases if groups that press for increased public expenditure are‘…leaning against an open door’.

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1. Introduction

Alesina et al. (2008) argue that economists tend to anticipate counter-cyclical government expenditure (to stabilise economies), even though recent empirical studies report procyclical expenditure. Government expenditure is procyclical when expenditure increases in an economic upturn and decreases in an economic downturn. Procyclical expenditure was first identified in developing countries (e.g. Gavin et al., 1996; Kaminsky et al., 2004; Talvi and Végh, 2005; Woo, 2009), but now there is evidence of procyclical expenditures in OECD countries (e.g. Abbott and Jones, 2011; Arreaza et al., 1998; Hercowitz and Strawszynski, 2004; Lane, 2003).

In this paper the objective is to explore the determinants of the cyclicality of government expenditure. There are normative rationales for counter-cyclical expenditure and for procyclical expenditure. Keynes advocated counter-cyclical intervention to minimise the social cost of unemployment and inflation. Lane (2003) argues that procyclical expenditures will maximise social welfare if public-sector goods are complements for private-sector goods (produced in competitive markets). By comparison, this paper explores the proposition that it is the mix of incentives that vote-maximising politicians face over the economic cycle, which can *explain* the pattern of government cyclicality.

Buchanan and Wagner (1977) emphasise this distinction. They argue that politicians have incentives to increase government expenditure to win votes. Politicians are more indulgent if there is fiscal illusion. The more that governments borrow, the more voters under-estimate the 'tax cost' of government spending. In economic downturns (when governments rely heavily on deficit finance), fiscal illusion is pervasive. Buchanan and Wagner are critical that the Keynesian rationale provides politicians with the justification to borrow to increase public expenditure. R.F. Harrod (Keynes' biographer) stated that Keynes believed economic policy would be made by

"…a small group of enlightened men…in accordance with the 'public interest'" (cited by Buchanan and Wagner, 1977: 84). Buchanan and Wagner are more critical. They argue that politicians make decisions to increase the likelihood that they will win elections.

Lane (2003) provides a rationale for procyclical expenditure but, once again, there is a distinction between explanations based on a welfare-maximising rationale and explanations based on political ambition. When *explaining* procyclical government expenditure, Lane and Tornell (1996) and Tornell and Lane (1999) identify the significance of 'voracity effects'. Voracity effects are experienced when political pressures to increase public expenditures increase as national income increases. Lane (2003) tested the proposition that political pressures are relevant in the OECD. He measured the impact of pressures for increased public spending in the OECD with reference to Henisz's (2000) index of 'power dispersion'. The index, based (in part) on differences between group preferences, was statistically significant when explaining the cyclicality of some government budgets, e.g. when explaining procyclical government wage expenditure.

It is impossible to ignore the importance of political pressures but this paper also emphasises the importance of *politicians' responses* to political pressures. It acknowledges that changes in 'demand' for public expenditure are important over the economic cycle but it also focuses on the variables that influence the 'supply' of public expenditure. Are politicians more willing to increase government expenditure in an economic upturn (than in an economic downturn)? Are left-wing politicians more willing to respond than right-wing politicians? Are politicians more indulgent if they feel secure in political office?

The argument in this paper is that willingness to accommodate pressure in an economic upturn is particularly important when predicting the cyclicality of government expenditure.

Downs (1957) argued that vote-maximising politicians are myopic. In their attempt to win electoral support, they discount future difficulties. But the more they indulge pressures to increase expenditure in an economic upturn, the more they face difficulty sustaining government spending in an economic downturn – and the greater the likelihood of procyclical government expenditure.

Section two of the paper focuses on the variables that influence willingness to accommodate pressures to increase government expenditure. It highlights the importance of political ideology but, more generally, it argues that government expenditure is likely to be procyclical when the groups that press for public expenditure are '…leaning against an open door'.

Section three of the paper presents the economic model and the data used to test predictions. Section four considers the empirical results. The final section of the paper focuses on policy implications.

2. Accommodating Pressures to Increase Government Expenditure

In a Keynesian world, the rationale for counter-cyclical expenditure relies on the observation that prices and wages do not adjust efficiently. In a neoclassical world (with competitive markets) the rationale for procyclical expenditure relies on the observation that private-sector goods are complements for public-sector goods (Lane, 2003). [1] The question is

[1] There is also a neoclassical rationale for procyclical government intervention to correct market failure. Alesina et al. (2008:1007) argue that spending might be procyclical to correct the failures experienced in capital markets (especially in developing countries). They argue that government spending is more likely to be procyclical if governments face borrowing constraints; *"...in bad times ...countries cannot borrow, or can do so only at very high interest rates, therefore they cannot run deficits and have to cut spending; in booms, they can borrow more easily and choose to do so, increasing public spending..."*.

whether these rationales *explain* the decision to spend counter-cyclically, and the decision to spend procyclically.

Focussing on 'demand', the size of groups that press for public expenditure is important (e.g. Olson, 1971; Becker, 1983; 1985). As producer groups are smaller than consumer groups, they are more effective. When Becker (1983:385) analysed political competition for government subsidies, he argued that "*...politically successful groups tend to be small relative to the size of the groups taxed to pay their subsidies*". Lane (2003: 2665) reports a greater likelihood of procyclical capital expenditure than procyclical current expenditure (explaining that "*....individual voters…care most about public consumption goods or transfers… (but) business interests… (care more about) …the infrastructure....*").

While demand is relevant, variables that influence politicians' willingness to accommodate demand are also likely to be important when predicting procyclical government spending.[2] Consider the relevance of:

(a) Fiscal Illusion

Politicians are wary that the cost of indulging groups that press for expenditure is that the electorate might fear an increase in taxation. If an increase in public expenditure increases votes, an increase in taxation loses votes. Politicians are likely to be more willing to accommodate pressures in an economic upturn. In an economic upturn, tax revenues are increasing. Politicians do not have to announce new taxes (or new tax rates). Craig and Heins (1980) demonstrate that, with progressive taxation, tax revenues increase and levels of government spending are sensitive

[2] While federal governments are able to borrow in an economic downturn (to sustain indulgent expenditure commitments), there are costs and the costs limit the extent to which they can borrow. Sub-central governments find it more difficult because there are usually limits on the extent to which they can borrow. There is evidence that sub-central governments (in federations) are more likely to spend procyclically when there are borrowing constraints. Abbott and Jones (2012b) employ the index of budget autonomy of local government produced by Rodden (2002) to report a negative correlation between the degree of budget autonomy and the cyclicality of sub-central government spending in a group of OECD countries.

to the income elasticity of tax revenues. Other things equal, government spending is higher, the higher the income elasticity of tax revenue.

Andersen and Nielsen (2008:34) argue that in an economic upturn (with economic prosperity) there is a "...*lack of fiscal transparency*...". Focussing on the OECD, they argue that one implication is that "... *a procyclical fiscal policy is a phenomenon that is typically associated with times of economic prosperity*..." (p.34).

If willingness to spend in an economic upturn is important, the first prediction is that:

(i) *Government spending is more likely to be procyclical in an economic upturn than in an economic downturn.*

If voters are more likely to under-estimate tax costs in an economic upturn, they are also likely to be more aware of expenditures from some budgets than from others. They know more about expenditures that impact directly on their day-to-day life (Downs 1960).[3] They know more about current expenditure than capital expenditure. Risk-averse politicians are aware that voters' concern about future taxation is likely to be greater if they increase current expenditure in an economic upturn than if they increase capital expenditure. If the first prediction in this paper focuses on fiscal awareness over the economic cycle, the second focuses on fiscal awareness across government budgets. Risk–averse politicians are more likely to accommodate demands for the expenditures that are least likely to alarm the electorate. The 'small' groups that demand an increase in expenditure are likely to be more effective when they press for an increase in capital expenditure.

[3] In questionnaire surveys, voters attach a higher priority to domestic expenditure (social security, health care, education) than to 'international affairs' (see Jones, 2006 for further analysis).

The same argument applies when analysing intergovernmental transfers. Local politicians have incentives to compete for intergovernmental transfers to mitigate the need for local taxation. Mueller (2003:223) focuses on these incentives and notes that *"....the more the government spends holding taxes constant the happier voters are…"* and *"…the higher the probability of incumbent politicians being re-elected…"*.[4] As voters are not aware of changes in inter-governmental transfers, risk-averse politicians in federal governments are more likely to accommodate pressure for an increase in intergovernmental transfers in economic upturns.

The second prediction is therefore that:

(ii) Expenditures from capital accounts and transfers from federal to local governments are more likely to be procyclical in an economic upturn than expenditures from current accounts.

(b) Political ideology

A well-established literature insists that politicians on the left are more likely to increase government expenditure than politicians on the right.[5] In this paper, attention focuses on the Democrats and the Republicans in the USA. Mueller (2003) reports Democrats have a greater willingness to increase government expenditure. Republicans are more likely to prefer market solutions than government solutions.

[4] Grossman (1989) explains why local representatives press for transfers and why politicians at federal government accommodate these pressures. *"The federal politician uses his redistributive powers to buy…loyalty…This loyalty manifests itself in the state politician's political endorsement of, and electoral support for, the federal politicians and the marshalling of the state politician's local supporters"* (Grossman, 1989; 585).

[5] Potrafke (2011) considers the impact of ideology on the composition of public spending. Surveying the literature that deals with ideology, he notes that: "*Leftish parties appeal more to the labor base and promote expansionary fiscal and monetary policies whereas right-wing parties appeal more to capital owners and are therefore more concerned with reducing inflation.*" (p.103).

If left-wing politicians are ideologically more inclined to spend in an economic upturn (and to deliver rents to their supporters in this way), right-wing politicians are more likely to deliver rents to their supporters by reducing tax rates.

The third prediction is therefore that:

(iii) Government expenditure is likely to be more procyclical if there is a left-wing (Democrat) president than if there is a right-wing (Republican) president.

(c) The Cost of Accommodating Political Pressures

The extent to which politicians are willing to accommodate pressures for increased public expenditure also depends on the *ease* with which they are able to accommodate pressures. It is easier to accommodate pressure for public expenditure if political-party preferences reflect the preferences of the median voter. [6]

In this context, one important consideration is the extent to which the same political party is in office across all branches of government. The costs of accommodating pressures to increase public spending will be low and it will be easy to get agreement across the different branches of government to endorse an increase in expenditure. Any US president is likely to face lower political costs increasing public spending when it is possible to rely on support at Capitol Hill. For a Democratic President, a proposal to increase spending will meet less resistance if the Democratic Party has a majority in both the Senate and in the House of Representatives.

The fourth testable prediction is that:

[6] Cusak (1997:378) notes that appealing to the median voter "… *restricts the possibility of a government with partisan preferences from imposing policies that accord with its position on the left-right scale and forces it to accept policies distant from that position*". However, it is important to acknowledge that economic constraints are also likely to be relevant, e.g. Helleiner (1994) notes that international financial integration constrains government autonomy.

(iv) *Expenditures from current and capital accounts are more likely to be procyclical if there is a Democratic president, if there is an economic upturn, and if the Democratic Party has a majority in the Senate and in the House of Representatives.*

Willingness to spend in an economic upturn depends on ideology (political-party preference) and on the electoral costs of increasing public expenditure. The more that myopic politicians indulge pressures to spend in an economic upturn the more they face difficulty in an economic downturn. Right-wing politicians may be less likely to increase public expenditure in an economic upturn, but they are more likely to be willing to reduce taxation in an economic downturn. In an economic downturn it is easier to make the case to reduce taxation to stabilise the economy. The final prediction is that:

(v) *Taxation is more to likely to be procyclical in an economic downturn if there is a Republican president.*

In summary, the cyclicality of government spending depends on the mix of objectives and constraints over the economic cycle. Public expenditure is more likely to be procyclical in an economic upturn if the ideology is left of centre. Taxation is more likely to be procyclical in an economic downturn if the ideology is right of centre.

3. The Model and Data

The five testable predictions presented in section two of the paper predict specific patterns of cyclical government spending (revenues). Collectively, they constitute a test of the

hypothesis that policy is sensitive to the specific (partisan) objectives of the politicians who are in office.

The cyclicality of spending and revenues can be estimated by utilizing the following regression models:

$$\Delta g_t = \alpha + \lambda \Delta g_{t-1} + \beta \Delta y_t + \varepsilon_t \quad (1)$$

$$\Delta \tau_t = \phi + \rho \Delta \tau_{t-1} + \delta \Delta y_t + \nu_t \quad (2)$$

for t=1,....,T

where g denotes (the log of) total government spending, or one of its components, and τ is either (the log of) total receipts or one component of government revenue. Δy_t is the output gap, so β and δ indicate the pattern of cyclicality in spending and revenue streams respectively. For example, when Δy_t is statistically significant, $\beta > 0$ implies procyclical spending, while $\beta < 0$ indicates counter-cyclicality. When Δy_t is statistically insignificant, spending is acyclical. ε_t and ν_t are both white noise error terms. The above model allows us to estimate the cyclicality of spending (revenues), while also accounting for potential persistence in fiscal policy, through the inclusion of Δg_{t-1} and $\Delta \tau_{t-1}$ in (1) and (2) respectively.

This paper focuses on the differences in cyclicality across Democrat and Republican Presidencies. Equations (1) and (2) can be extended to:

$$\Delta g_t = \alpha + \lambda \Delta g_{t-1} + \beta \Delta y_t + \pi_1 DMP_t + \pi_1 \left(DMP_t \times \Delta y_t \right) + \varepsilon_t \quad (3)$$

$$\Delta \tau_t = \phi + \rho \Delta \tau_{t-1} + \delta \Delta y_t + \xi_1 DMP_t + \xi_1 \left(DMP_t \times \Delta y_t \right) + \nu_t \quad (4)$$

where DMP = 1 when the US President was a Democrat and DMP = 0 for a Republican President. ($DMP_t \times \Delta y_t$) is the interaction term between the presidential party and the output gap, which allows us to ascertain differences in the cyclical responses of spending and revenues between Democrat and Republican Presidents. We can derive separate cyclicality estimates: for example, $\hat{\beta}$ is the spending cyclicality coefficient for Republican Presidents and $\left(\hat{\beta} + \pi_2\right)$ is the Democrat President cyclicality estimate.

As well as ascertaining whether the output gap impacts on the growth of spending (revenues), potential asymmetric responses over the economic cycle can be tested for by estimating separate coefficients for upturns and downturns. Upturns (downturns) arise when actual output is greater (less than) potential GDP.

Government expenditure and revenue data were obtained from the *Office of Management and Budget*, who produce historical tables for the budget of the US Federal government.[7] Our sample period is 1950 to 2008 and all figures are in billions of constant fiscal year 2005 dollars. We consider Total Expenditure and the components: Current Expenditure and Capital Expenditure. Capital Expenditure itself is split into Direct Federal spending (Defence and Non-defence) and Federal grants to state and local governments. Capital spending constitutes 9.23% of the total spending over the sample period, Direct Federal Capital Expenditure averages 70.7% of the total, while 29.3% is spent on Federal grants to state and local governments. The composition of total receipts is as follows: 44.9% for Individual Income Taxes; 15.8% for Corporate Income Taxes; 27.4% for Social Insurance Contributions; 9.4% for Excise Duties; and 4.5% for all Other

[7] See http://www.whitehouse.gov/omb/budget/Historicals

Revenues. The Federal fiscal year runs from 1st October to 30th September, so for example, fiscal year 2008 began on 1st October 2007 and ends 30th September 2008. Prior to 1977, the fiscal year ran from 1st July to 30th June, so a transition quarter, a separate accounting period, was introduced to bridge the period from the old fiscal year format to the new one. We estimate our model using all available annual observations, except the transition quarter.

To measure the output gap we use data on actual real GDP and potential real GDP in constant 2005 prices. Observations for both actual and potential real GDP were taken from the Congressional Budget Office's estimates, which are published on an annual basis.[8] The Congressional Budget Office defines real potential GDP as *'a measure of maximum sustainable output – the level of real GDP in a given year that is consistent with a stable rate of inflation.'* (p1: Arnold, 2001). Potential output is estimated using a Solow growth model, incorporating a neoclassical production function, which is used to forecast potential GDP up to 10 years in advance. We align our GDP data to the Federal fiscal year, rather than the calendar year.

4. Estimation Results

The relationships described above were estimated using OLS. The test results for our first and second predictions are shown in table 1. Total Federal expenditure is acyclical, a result which is confirmed for both Δy_t^+ and Δy_t^-.[9] Current spending, which accounts for just over 90% of total spending, is not surprisingly also acyclical. In the first instance, it would appear that a

[8] http://www.cbo.gov/publication/41880

[9] Acyclicality of general government spending (that encompasses all tiers of government) was also found by Fiorito (1997) and Talvi and Végh (2005) for a group of countries.

similar result holds also for total capital spending, where Δy_t is found not to be statistically significant. However, when separate estimates for the coefficients of Δy_t^+ and Δy_t^- are produced, there is a statistically significant but asymmetric response between upturns and downturns. $\hat{\beta}_1$ is positively signed, implying capital expenditures are procyclical during upturns, while $\hat{\beta}_2$ implies counter-cyclicality during downturns. Thus the acyclicality result for the output gap can be explained by two oppositely signed but statistically significant effects.

Similar results are found for the components of capital spending, except for non-defence capital spending, which is found to be acyclical. The strongest cyclicality effect arises in the case of Federal capital spending on grants to state and local governments: these estimates are larger than those implied for total capital spending.[10] Direct Federal capital spending is also procyclical in upturns but counter-cyclical for downturns, which is driven by the cyclicality of Defence Capital Expenditure. While producer groups are likely to be more effective lobbyists than consumer groups, producer groups are even more effective when explaining increases in defence expenditure (i.e, when analysing the influence of the 'military-industrial complex'[11]).

Looking at the cyclical properties of spending for all tiers of government, Lane (2003) finds total government expenditures to be mildly counter-cyclical, a result which is confirmed for current spending. Government investment was found to be procyclical.

< TABLE 1 NEAR HERE >

[10] Intergovernmental transfers are an important source of revenue for sub-central governments, which in turn can contribute to the procyclicality of sub-central government spending (see for example, Abbott and Jones, 2012a).
[11] In 1961 President Eisenhower referred to the effectiveness of a 'military industrial complex' as a lobby group for increased government spending. For analysis of Eisenhower's concerns see James Huston's analysis at http://www.americanforeignrelations.com/E-N/The-Military-Industrial-Complex.html.

Evidence in favour of the third testable hypothesis, *'government expenditure is more likely to be procyclical when there is a left-wing (Democrat) president than when there is a right-wing (Republican) president'*, comes from table 2, which reports separate spending cyclicality coefficients for Democrat and Republican Presidents. Differences in cyclicality responses arise across the tenures of the two presidential parties. For example, Total Expenditure is acyclical for Democrat Presidents but it is counter-cyclical for Republican Presidents, albeit mildly counter-cyclical. A similar result is found for Current Expenditure, which is not surprising given that it accounts for the largest proportion of the total spend.

Differences also arise with public investment: Capital Expenditure is procyclical for Democrat Presidents but acyclical for Republican Presidents. These results are mainly driven through Direct Federal Capital Expenditure and Defence Capital Expenditure, though Federal grants to state and local governments are also procyclical during the incidence of Democrat Presidents. Thus, the expectation that expenditures should be more procyclical for Democrat Presidents appears to hold for capital spending.

< TABLE 2 NEAR HERE >

Differences in the cyclicality of spending can arise, not only due to political ideology, but according to whether current real output is above or below trend. Table 3 presents separate estimates for Democrat and Republican presidencies during both upturns and downturns. It is apparent that the cyclicality of spending arises during the Democrat Presidencies but importantly only for economic upturns, consistent with our first and third predictions. Both Total Spending and Current Expenditure are procyclical during upturns, unlike the results presented in table 2, which suggested acyclicality during the tenures of

Democrat Presidents. Likewise Capital Expenditure is procyclical, particularly with respect to Direct Federal Defence spending. The cyclicality coefficients for Total Capital Spending; Direct Federal Capital Spending; and Defence Capital Spending are all larger during the upturns compared to when the full sample of observations is considered. Capital spending also tends to be more procyclical than current spending, consistent with our second prediction, *'expenditures from capital accounts and intergovernmental transfers are more likely to be procyclical than expenditures from current accounts.'* Procyclicality for capital intergovernmental transfers is also found for Democrat Upturns, with a stronger effect implied than from the full sample of observations.

The evidence for Republican Presidents implies acyclicality for upturns and downturns, which contradicts the evidence of counter-cyclicality from the full sample of observations for Total Spending; Current Expenditure; Direct Federal Capital Expenditure; and Defence Capital Expenditure.

< TABLE 3 NEAR HERE >

The evidence is also consistent with the proposition that the procyclicality of spending is affected by the political costs of implementing spending policies. Costs are likely to be lower when the President has the support of the Houses of Congress. We therefore investigated whether there are any significant differences in the cyclicality of spending, when the political party of the President has control of both houses of congress (see table 4). We see that this control appears to be important for Capital Expenditure

during upturns, specifically Direct Federal and Defence spending, but not in nearly every other case.[12]

< TABLE 4 NEAR HERE >

Finally, turning to Federal government revenues it is apparent that the procyclicality is concentrated around episodes of the Republican Presidents, but only for Individual Income Taxes and Corporate Income Taxes (see table 5). The higher estimates for procyclical taxation when there is a Republican president is consistent, more generally, with evidence of the impact of political ideology on taxation (Angelopoulos et al., 2009). When the economy is in trouble, politicians' first concern is to signal competence (Rogoff and Sibert, 1988). As there is a rationale for tax cuts (to boost aggregate demand) the electoral risk to a Republican government is lower if they take the opportunity to reduce tax rates. Democrats may be cautious about increasing spending counter-cyclically in downturns (because of the fear of falling tax revenues and increasing costs of borrowing). Republicans are able to raise revenue procyclically, leaving citizens with a greater fraction of their income.

< TABLE 5 NEAR HERE >

4. Conclusions

This paper has focused on politicians' willingness to accommodate pressures to increase public expenditure. The variables that explain willingness to accommodate pressures in an economic upturn are the variables that are significant when explaining the likelihood of procyclical government expenditure.

As vote-maximising politicians are wary that their actions will fuel the electorate's fear of taxation, they are more willing to increase expenditure when there is fiscal illusion and when

[12] Similar results are derived when interacting Presidency with control of the Senate and House of Representatives separately.

their party is in office in all branches of government. Left-wing political parties are more likely to reward supporters by increasing government expenditure (right-wing politicians are more likely to reduce taxes in an economic downturn). The likelihood of procyclical government expenditure increases if, in economic upturns, pressure for government expenditure is '…leaning against an open door'.

A long-established literature calls for constraints to restrain vote-maximising politicians (Brennan and Buchanan, 1980). In the USA every state (with the exception of Vermont) has a balanced-budget rule. The nature and the extent of the rules differ across different states. In some states, the governor must present a balanced budget at the beginning of the fiscal year, in others the rule is that the budget must be balanced at the end of the year. One insight from studies that assess the efficacy of balanced-budget rules is that they are more effective the more voters are aware of the extent to which politicians comply (e.g. Poterba, 1996; Borge and Hopland, 2014).

Maravelle and Claeys (2012:753) describe the range of policy options that are available to "…tackle …procyclicality in spending". They note that is possible to introduce expenditure constraints (Hauptmeier et al., 2011); to refine deficit rules, and to establish institutions (e.g. fiscal councils) to monitor fiscal sustainability. With evidence that the likelihood of procyclical government expenditure increases when there is fiscal illusion, here the policy recommendation is that there should be greater transparency. If balanced- budget rules are not designed to restrain politicians' reliance on procyclical expenditure; voters should be made aware of changes in government expenditure at the end of the fiscal year. Changes should be reported in absolute terms, and as a proportion of the increase that would be anticipated if government expenditures had increased in line with their long-term trend.

If lobby groups are "…leaning against an open door" (because politicians are able to rely on fiscal illusion), an increase in transparency will increase the likelihood that left-wing and right-wing politicians will respond more prudently when they experience an economic upturn.

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Table 1: Cyclical Federal Spending

	Output gap	Upturn	Downturn
	Δy_t	Δy_t^+	Δy_t^-
Total expenditure:	0.004	0.016	-0.006
	(0.88)	(1.62)	(-1.62)
Current expenditure	0.004	0.016	-0.007
	(0.84)	(1.59)	(-1.58)
Capital expenditure:	0.005	0.026*	-0.014*
	(0.91)	(2.35)	(-2.33)
Direct federal:	0.006	0.032*	-0.017*
	(0.84)	(2.26)	(-2.76)
Defence	0.005	0.033*	-0.019*
	(0.66)	(2.09)	(-2.81)
Non-defence	-0.003	-0.011	0.005
	(-0.38)	(-0.89)	(0.54)
Federal grants to state and local government	0.010	0.069*	-0.043*
	(0.70)	(2.49)	(-3.31)

Notes: t-ratios (calculated from robust standard errors) are reported in parentheses.

Table 2: Cyclical Federal spending: the effect of the Presidential Party

	Democrat President	Republican President
Total Expenditure:	0.017	-0.006*
	(1.90)	(-2.35)
Current Expenditure	0.016	-0.005*
	(1.86)	(-2.25)
Capital Expenditure:	0.023*	-0.009
	(3.19)	(-1.88)
Direct Federal:	0.029*	-0.010*
	(2.90)	(-2.19)
Defence	0.029*	-0.011*
	(2.53)	(-2.03)
Non-defence	0.009	-0.009
	(0.75)	(0.96)
Federal grants to state and local government	0.050*	-0.015
	(2.30)	(-0.98)

Notes: see table 1.

Table 3: Cyclical Federal spending: the effect of Presidential Party during Upturns and Downturns

	Democrat President		Republican President	
	Upturn	Downturn	Upturn	Downturn
Total Expenditure:	0.029*	-0.007	-0.009	-0.004
	(2.15)	(-0.76)	(-1.47)	(-0.83)
Current Expenditure	0.028*	-0.008	-0.009	-0.004
	(2.15)	(-0.85)	(-1.49)	(-0.83)
Capital Expenditure:	0.037*	-0.004	-0.002	-0.012
	(3.15)	(-0.25)	(-0.12)	(-1.84)
Direct Federal:	0.052*	-0.015	-0.005	-0.134
	(3.32)	(-0.71)	(-0.30)	(-1.96)
Defence	0.055*	-0.022	-0.005	-0.015*
	(3.17)	(-0.93)	(-0.26)	(-2.01)
Non-defence	-0.0007	0.027	-0.037*	0.006
	(-0.04)	(0.90)	(-2.04)	(0.53)
Federal grants to state and local government	0.081*	-0.011	0.043	-0.043*
	(2.31)	(-0.31)	(0.93)	(-2.79)

Notes: see table 1.

Table 4: Cyclical Federal spending: the effect of coincidence between the President and both Houses of Congress

	Democrat coincidence		Republican coincidence	
	Upturn	Downturn	Upturn	Downturn
Total Expenditure:	0.0022	-0.011	-0.0001	0.001
	(1.75)	(-1.32)	(-0.05)	(0.13)
Current Expenditure	0.022	-0.012	-0.002	-0.0005
	(1.74)	(-1.39)	(-0.60)	(-0.05)
Capital Expenditure:	0.032*	-0.017	0.013	0.013
	(2.47)	(-1.71)	(1.15)	(0.70)
Direct Federal:	0.045*	-0.022	0.012	0.009
	(2.49)	(-1.81)	(0.93)	(0.60)
Defence	0.051*	-0.027	-0.002	0.020
	(2.75)	(-1.98)	(-0.21)	(1.56)
Non-defence	-0.033	0.003	0.079*	-0.066
	(-1.85)	(0.21)	(2.02)	(-1.03)
Federal grants to state and local government	0.067	-0.029	0.003	0.073
	(1.75)	(-1.21)	(0.15)	(1.33)

Notes: see table 1.

Table 5: Cyclical Federal Revenue: the effect of Presidential Party during Upturns and Downturns

	Democrat President		Republican President	
	Upturn	Downturn	Upturn	Downturn
Total Receipts:	0.010	0.012	0.007	0.015*
	(1.72)	(1.47)	(0.60)	(3.04)
Individual Income Taxes	0.010	0.015	0.011	0.016*
	(1.49)	(1.16)	(0.76)	(2.88)
Corporate Income Taxes	0.016	-0.002	-0.025	0.055*
	(0.94)	(-0.06)	(-0.91)	(3.95)
Social Insurance & Retirement (on-budget)	0.017	-0.008	0.008	0.004
	(1.43)	(-0.54)	(0.35)	(0.83)
Social Insurance & Retirement (off-budget)	0.018	-0.008	0.015	0.010
	(1.58)	(-0.48)	(1.48)	(1.95)
Excise Taxes	-0.012	0.0006	0.003	0.008
	(-0.83)	(0.03)	(0.27)	(0.80)
Other	-0.019	0.011	0.049*	-0.017
	(-1.18)	(0.52)	(2.04)	(-1.63)

Notes: see table 1.