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Abstract

This paper investigates how the timing of elections and government ideological motivations influence the dynamics of social and military expenditure in a panel of 22 OECD countries over the period 1988-2008. Three basic results emerge. First, governments tend to bias outlays towards social expenditure and away from military expenditure at election times. Second, membership in the NATO alliance affects the timing of election-driven military spending manipulations. Third, partisan distinctions are clearly discernible but differ between the two types of expenditure: while certain categories of social expenditure are higher during left administrations, military expenditure are higher during right administrations.

JEL classification: C33; D72; H53; H56; P16
Keywords: elections; partisanship; social expenditure; military expenditure

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1 Introduction

In classical political economy models of electoral competition, politicians are depicted as opportunistic actors who manipulate the economy around elections to increase their popularity and maximise their re-election prospects. The theoretical idea of these electoral manipulations, known as "political business cycles", dates back to the seminal papers of Nordhaus (1975) and Lindbeck (1976). Politicians embrace stimulatory policies to improve real outcomes in pre-electoral periods and shift to contractionary policies after the elections to combat the resulting inflation. The Nordhaus-Lindbeck approach was later refined by a number of scholars to incorporate rational expectations and emphasise the presence of uncertainty regarding the electoral outcome and the competence level of policymakers (see Cukierman & Meltzer, 1986; Rogoff & Sibert, 1988; Rogoff, 1990; Persson & Tabellini, 1990; Carlsen, 1999). According to these studies, governments' opportunistic behaviour will result in small and short-lived cycles in policy instruments, but will not necessarily have an impact on employment or growth (Alesina & Roubini, 1992).

Another important strand of the literature on the domestic political sources of macroeconomic policy emphasises politicians' ideological motivations. The so-called "partisan models" assume that left-wing and right-wing governments choose different policies and produce different outcomes that reflect the preferences of their class-defined core political constituencies (labour base and capital owners, respectively). In particular, parties of the right choose policies that maximise price stability, even at the cost of employment and growth, whereas parties of the left are more willing to bear the costs of inflation to fight unemployment and achieve faster growth rates (Hibbs, 1977). While the rationality assumption may impose constraints on the ability of policymakers to influence real economic outcomes (Alesina, 1987), both traditional and rational approaches of the partisan theory share the same predictions with respect to economic policies: left-wing governments will engage in more income re-distribution and more expansionary policies than right-wing governments.

Generally speaking, there is considerably more evidence of electoral and partisan shifts in fiscal and monetary policies than in real economic outcomes.[1] In addition, explanations based on fiscal policy (compared to those on monetary policy) seem to form a stronger basis for a convincing theoretical model (Drazen, 2000) and to conform much better to the data, especially when a more sophisticated analysis is undertaken (Imbeau *et al.*, 2001; Milani, 2010). The latter suggests that electoral and partisan cycles follow a Ramsey Rule: most policy tools are used to meet political aims, although certain tools are preferred, and the extent and the mix of usage of policy tools exhibit strong context dependence (Franzese, 2002; Franzese & Jusko, 2006). Research into context-conditional political cycles offers the ground for resolving empirical anomalies and an ideal venue for understanding their variability across countries and over time. For example, there is evidence in the literature that the magnitude and composition of electoral cycles depends on the country's level of economic development (Shi & Svensson, 2006), the country's democratic age (Brender & Drazen, 2005), and the nature of the political

[1] For extensive reviews of the literature see Alesina *et al.* (1997), Drazen (2000) and Franzese (2002).

system (Persson & Tabellini, 2002, 2003; Albalate *et al.*, 2012). Likewise, a number of scholars show that the incentives for electioneering vary with features of strategic context, such as the expected closeness of elections (Frey & Schneider, 1979; Schultz, 1995) and the relative impact that non-economic issues have on voter choice (Efthyvoulou, 2012). On the other hand, the capacity for partisaneering appears to be conditioned by the level of globalization (Goodman & Pauly, 1993; Andrews, 1994) and the process of European integration (von Hagen, 2006; Efthyvoulou, 2011).

This paper contributes to the literature in two main aspects. First, we provide new and more comprehensive evidence of how the political process influences the dynamics of welfare expenditure in advanced industrialised countries. In the existing literature on the political determinants of social expenditure, the impact of election timing and government ideology have been explored separately, and little attention has been paid to whether the effects vary across different social expenditure categories. For instance, in a recent empirical study covering the years 1980 to 2003, Potrafke (2009) finds partisan cycle regularities in welfare expenditure in a panel of 20 OECD countries. However, his analysis does not explore the combined possibility of election-motivated manipulations, and focuses on the detection of effects in total social expenditure. To address these issues, this paper employs a similar (but larger) data set and explores the existence of politically-induced cycles in aggregate and disaggregate measures of social expenditure that track both incumbent partisanship in character and the electoral calendar in timing.

Second, we present the first multi-country panel study that looks at the influence of electoral and partisan politics on the dynamics of military expenditure and compares the findings with those on social expenditure. While examining political motivations on transfer payments and taxation has enjoyed tremendous popularity in the recent empirical literature, the presence of political cycles in military spending has been relatively neglected. Indeed, the existing studies on the politics of military spending are mostly based on single-country evidence (especially from the United States, whose military is hardly comparable to other developed democracies) and largely overlook the interactive, and potentially negative, relationship with social spending in serving electoral and partisan goals.

Why should we expect political cycles to differ in timing and direction across these two types of expenditure? A strong motivation can be found in a line of research arguing that the government faces a tradeoff between "butter" and "guns": if it devotes more resources to military activities without increasing total product, civilian sectors of the economy must pay by foregoing benefits they would otherwise receive, and vice versa (Russett, 1982). Since expenses for social programs have a more direct and more immediate political influence on voters during peace time than do military expenditure, increased allocations to "butter" in election years can partly occur at the expense of "guns" (Mintz, 1988). This view is consistent with arguments that voters are "fiscal conservatives", and hence, electoral manipulation takes the form of shifting spending towards the goods voters prefer, rather than changing overall spending or revenues (Drazen & Eslava, 2010). Central to "butter-vs-guns" thesis is also the role of government ideology in shaping budget priorities. Following the partisan theory claims

discussed above, we would expect that left-wing governments will spend more than right-wing governments. However, given that right-wing parties tend to be pro-military and in favour of a strong national defence while left-wing parties tend to be pro-peace (Klingemann *et al.*, 1994; Whitten & Williams, 2011), we should also expect ideology to have the opposite effect on military spending. Our paper contributes to the literature by testing these hypotheses, using the most recent data on social and military expenditure, the best available politico-economic indicators, and the most recently developed econometric techniques.

By way of preview, the main findings can be listed as follows. First, governments tend to bias outlays towards social expenditure and away from military expenditure at election times, lending support to a "butter-vs-guns" tradeoff within an electoral competition setting. Second, membership in the NATO alliance affects the timing of election-driven military spending manipulations: politicians in NATO countries engage in defence cutbacks during pre-election years, whereas politicians in non-NATO countries decrease allocations to "guns" during election years. These effects become more pronounced when we exclude the countries with increased conflict involvement, where political leadership's concern for national security can play an important role on voter choice. Third, partisan distinctions are clearly discernible but differ between the two types of expenditure: while certain categories of social expenditure are higher during left administrations, military expenditure are higher during right administrations. The latter suggests that left-wing governments use social spending to promote their welfare enhancing preferences, but spend relatively less on military spending, possibly because of their more dovish positions on international relations.

The paper proceeds as follows. Section 2 discusses in more detail how our contribution is related to previous studies of political cycles and develops the main hypotheses to be tested; Section 3 describes the data on social and military expenditure; Section 4 outlines the empirical model specification; Section 5 reports the empirical results and investigates their robustness; Section 6 concludes.

2 Background and Hypotheses Development

2.1 Electoral Cycles in Social and Military Expenditure

According to the literature on electoral cycles, re-election motives create incentives for incumbent politicians to generate a fiscal expansion at election times. Rogoff (1990) was the first to predict that these cycles may take the form of changes in the composition (rather than the level) of government spending; that is, policymakers shifting government outlays towards the more "visible" public goods. A number of subsequent studies lent empirical support to this prediction using either multi-county panel data (Schuknecht, 2000; Block, 2002; Vergne, 2009; Katsimi & Sarantides, 2012) or data for local government elections (Blais & Nadeau, 1992; Schneider, 2010; Veiga & Veiga, 2007; Drazen & Eslava, 2010). However, whether elections give rise to a substitution of capital for current expenditure or the opposite is still debatable. Katsimi & Sarantides (2012) point out that this can be in part attributed to different samples of elections employed (at the local or at the central level, in developing or in developed coun-

tries), and hence, to different perceptions of which categories of public spending are actually "more visible". A common feature of the aforementioned studies is that they focus on specific categories of non-defence spending and fail to appreciate that military expenditure may also be "sacrificed" around elections as one way to enable increases in civilian expenditure. Even though military spending cannot be characterised by "low visibility", voters may consider it to be wasteful and with no positive externalities in periods of peace.[2] The political economy tradeoff between "butter" and "guns" is very well established in the literature on civil conflict causes (Caruso, 2010), but has rarely been analysed within an electoral competition setting.[3]

As stated in Section 1, the capacity and the effects of electioneering may vary predictably across policies depending on the strategic context. For instance, in a recent study, Efthyvoulou (2012) shows that the size of electoral fiscal cycles is negatively correlated with non-economic voting: the higher the level of non-economic voting, the weaker are politicians' incentives to manipulate fiscal policy as fewer voters can be influenced by an electoral boom in "targeted" welfare expenditures. This may also imply that in countries where non-economic matters are high on the public's political agenda, politicians may choose to pursue an appropriate set of non-economic policies to signal that their concerns are close to those of voters; such as, taking security-related measures to counter organised crime and terrorism. While most categories of government spending are directly linked to redistributive policies, such as unemployment and old age benefits, defence spending is highly associated with non-economic priorities.[4] This suggests that the extent to which politicians make "butter-vs-guns" tradeoffs may vary across countries and that the magnitude of the resulting effects may be determined by election politics and external security concerns. The following crucial questions thus arise: do increased allocations to "butter" during election times come partly at the expense of "guns", and if they do, is this relationship consistent across different country groups? The present paper will attempt to answer these questions.

2.2 Partisan Cycles in Social and Military Expenditure

According to the partisan explanation of economic policy, left-wing and right-wing governments choose policies that reflect the preferences of their partisans. Typically, parties of the left are assumed to be more sensitive to unemployment than parties of the right, and hence, more willing to increase government spending to achieve policy objectives. The empirical evidence strongly supports partisan effects on the size of the government, and moderately

[2]Wlezien (1996) shows that public responds rather quickly to defence appropriations decisions and that policymakers respond directly to public preferences for defence spending and adjust its appropriations accordingly.

[3]The available empirical studies on electoral defence spending cycles are solely based on single-country evidence and do not reach conclusive results: Nincic & Cusack (1979) show that the US military spending rises during the two years preceding the elections; Dalen & Swank (1996) show that the Dutch defence spending increases in election years; Mintz (1988) find that the Israeli defence spending grows in smaller than proportional proportions a year prior to an election; and, Zuk & Woodbury (1986) and Karagöl & Turhan (2008) fail to find any trace of electoral cycles in military expenditure in the United States and Turkey, respectively.

[4]The literature on the demand for military spending suggests that a number of external variables, such as international threats, military interventions, the presence of an arms race, conflicts and regional foreign policies, affect a country's military burden (Goldsmith, 2003; Nikolaidou, 2008; Dunne *et al.*, 2008, 2009).

supports partisan effects in some specific policy areas; such as, social and welfare spending (see Franzese, 2002).[5] In many cases, however, the evidence seems to suggest that partisan governments' resource to these policies depends heavily on their international and domestic politico-economic context. For instance, several studies investigate the interaction between government ideology, economic policy and the degree of globalization. Goodman & Pauly (1993) and Andrews (1994) provide support for the hypothesis that capital liberalisation reduces the ability of governments to influence the domestic economy and leads to policy convergence, whereas Garrett (1995) and Potrafke (2009) show that globalization does not restrict, but rather encourages partisan politics.[6] On the other hand, von Hagen (2006) and Efthyvoulou (2011) argue that globalization is by no means the only possible constraint on autonomous policy-making, and that the process of European integration (in the immediate form of EU-induced reforms and the fulfillment of the Maastricht criteria) may also lead to structural changes in the influence of political factors on the economy.

While various categories of public spending have been widely explored by the burgeoning literature on partisan cycles, very few studies attempt to explain how partisan politics affect patterns of defence spending.[7] This is partly because most studies of military spending have focused on the United States where the two-party/single-government context offers little variation, and partly because the predictions regarding the direction of effects are not clear-cut. On one hand, left-wing governments may favour increases in military spending because of their welfare policy preferences, but, on the other hand, they may favour decreases in military spending because of their dovish positions on international relations (Whitten & Williams, 2011). The existing single-country evidence is also contradictory, providing support for both competing hypotheses: while Kollias & Paleologou (2003) find that the Greek defence spending is higher during left administrations[8], Dalen & Swank (1996) and Karagöl & Turhan (2008) find the opposite effects for the Netherlands and Turkey, respectively. In a multi-country study covering the pre-1998 period, Whitten & Williams (2011) show that government ideology interacts with the international security environment to affect defence spending and conclude that a one-dimensional conceptualisation of left-right politics may sometimes produce misleading results. Drawing upon the latter conclusion, this paper presents new multi-country evidence on partisan cycles in defence spending by using a more complex partisanship variable that captures coalition governments and a range of party ideologies, and by employing a rich set of control variables that capture conflicts and external security threats.

[5] Hicks & Swank (1992) analyse a panel of 18 OECD countries over the period 1960-1982 and show that left-wing governments generate higher welfare effort than their right-wing counterparts.

[6] This finding is consistent with the "compensation hypothesis", according to which globalization increases market dislocations and competition between nation states, and thus, causes a greater demand for interventionist policies which leftish governments are happy to supply (Potrafke, 2009).

[7] Most of the existing literature on the political determinants of defence spending focuses on differences between democracies and autocracies (see, for example, Hewitt, 1992; Goldsmith, 2003).

[8] See also Eichenberg & Stroll (2003) who use data from the United States and four European countries and find that some leaders from the left increased military spending over the period 1960-1998.

3 Data on Social and Military Expenditure

We consider yearly data on social and military expenditure (as a share of GDP) for 22 OECD countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States.

Data on social expenditure are obtained from the OECD Social Expenditure Database (SOCX)[9] for the period 1981-2008. SOCX includes social spending flows controlled by the general government that can be attributed to an individual beneficiary; hence excludes pure public goods like national defence. Specifically, it involves "benefits to, and financial contributions targeted at, households and individuals in order to provide support during circumstances which adversely affect their welfare, provided that the provision of the benefits and financial contributions constitutes neither a direct payment for a particular good or service nor an individual contract or transfer" (Adema & Ladaique, 2009). The database groups social expenditure into nine policy areas depending on their social purpose,[10] with old age, health and family expenditure being the largest spending items. Panel (a) of Figure 1 illustrates that, on average, public social spending-to-GDP ratios increased most significantly in the early 1980s, early 1990s and, again at the beginning of this millennium. In between these decennial turning points spending-to-GDP ratios changed little; during the 1980s the average public social spending-to-GDP ratio oscillated around 19%, while after the economic downturn in the early 1990s it oscillated around 22% (see also Adema *et al.*, 2012).

Data on military expenditure are taken from the Stockholm International Peace Research Institute (SIPRI), which is considered to be the most reliable data source on aggregated military expenditure from 1988 onwards. We do not explore military spending prior to 1988 since the alternative source which covers the pre-2002 period and a longer time span - the Correlates of War (COW) National Material Capabilities Database - is notoriously less accurate. Moreover, combining the two sources is problematic in terms of comparability because the exact definition of what comprises military spending (equipment, salaries, paramilitary spending, pensions, spending on R&D, etc) varies over time and across countries, and these variations are not captured in the same way by the two sources.[11] Panel (b) of Figure 1 shows that, since the end of the Cold War, the average military spending-to-GDP ratio has been steadily declining: from 2.4% in 1988 to 1.6% in 2008. This is primarily a consequence of the demise of

[9] As pointed out by Potrafke (2009), using the SOCX is the best available procedure for analysing social expenditure in a cross-country study.

[10] These areas are: old-age (pensions, early retirement pensions, home-help and residential services for the elderly); survivors (pensions and funeral payments); incapacity-related benefits (care services, disability benefits, benefits accruing from occupational injury and accident legislation, employee sickness payments); health (spending on in- and out-patient care, medical goods, prevention); family (child allowances and credits, child-care support, income support during leave, sole parent payments); active labour market policies (employment services, training, employment incentives, integration of the disabled, direct job creation, and start-up incentives); unemployment (unemployment compensation, early retirement for labour market reasons); housing (housing allowances and rent subsidies); and, other social policy areas (non-categorical cash benefits to low-income households and other social services).

[11] In a recent paper on military spending and regime types, Bove & Brauner (2011) find major inconsistencies between SIPRI and COW and emphasise the difficulties in extending the SIPRI data backwards in time.

the Soviet threat. In the last decade in Europe, especially Western and Central Europe, most countries have been imposing austerity measures to reduce their budget deficits, with heavy cuts in military expenditure, although the rates of cuts have varied considerably. It must be stressed that 14 out of the 22 sampled OECD countries are members of the NATO military alliance, and thus, contribute to NATO's commonly funded budgets, including the civil and military budgets and the budget for funding infrastructure improvements.[12] In addition, they support NATO by maintaining forces and assets that they pledge to NATO through a defence planning process (Johnson & Thomas, 1999). As shown in panel (c) of Figure 1, the average military spending-to-GDP ratio in NATO countries is between 0.7 and 1.2 percentage points higher than in non-NATO countries.

< Insert Figure 1 here >

4 Empirical Model Specification

In order to test the hypotheses described in Sections 1 and 2, we employ an empirical specification that builds on the work of Potrafke (2009), Efthyvoulou (2012) and Klomp & de Haan (2013), and takes the following form:

$$\Delta \ln Y_{it} = \alpha \Delta \ln Y_{it-1} + \beta \mathbf{X}_{it} + \gamma \mathbf{Z}_{it} + \delta \text{`Election'}_{it} + \vartheta \text{`Ideology'}_{it} + \mu_i + \lambda_t + \varepsilon_{it} \qquad \text{(M.1)}$$

where $\Delta \ln Y_{it}$ is the growth rate of public expenditure (social or military) in country i and year t, $\mathbf{X}_{it}$ is a vector of expenditure-specific control variables, $\mathbf{Z}_{it}$ is a vector of variables capturing economic and politico-institutional constraints; 'Election'$_{it}$ and 'Ideology'$_{it}$ are indicators coding the timing of elections and the government's political orientation, respectively; μ_i and λ_t represent country-specific effects and year-specific effects, respectively; ε_{it} is an $i.i.d.$ error term.

Vector $\mathbf{X}_{it}$ in the social expenditure equation contains control variables suggested by previous related studies. In particular, it includes: the growth rate of real GDP per capita ($\Delta \ln$ 'GDP per capita') to capture changes in economic development; the growth rate of the unemployment rate ($\Delta \ln$ 'Unemployment') to capture the influence of the domestic business cycle; and, the growth rate of the dependency ratio ($\Delta \ln$ 'Dependency Ratio') - measured by the percentage of the citizens aged below 14 and above 64 - to capture social support requirements resulting from changes in population age structures. On the other hand, vector $\mathbf{X}_{it}$ in the military expenditure equation encompasses control variables commonly used in the defence economics literature, namely changes in economic development and measures of conflict involvement and security threats. For the latter we use the following variables: the growth rate

[12] NATO alliance members are asked to spend on their militaries a minimum of 2% of GDP; yet, very often members do not meet this target. All too frequently, US Defence Secretaries lament the existence of a gap between members willing to pay the price and bear the burden of commitments, and those who enjoy the benefits of NATO membership but free-ride on the costs, as Robert M. Gates warned in a recent speech (International Herald Tribune, 11 June 2011). The European allies often counter these charges of under-contributions by stressing that much of US defence spending is on non-European concerns and by emphasising that they assume disproportionate burdens for UN peacekeeping and for other activities (Sandler & Murdoch, 2000).

of the size of armed forces as a percentage of the labour force ($\Delta \ln$ 'Armed Forces'); the growth rate of potential and actual enemies' military expenditure ($\Delta \ln$ 'Rivals'); a 0-1 dummy variable capturing the abolition of the draft and the shift to an all-volunteer force[13] ('Volunteers'); a 0-1 dummy variable capturing external military operations and wars[14] ('Wars'); and, a 0-1 dummy variable coding NATO membership and allowing for the effects of alliance spill-ins ('NATO').

As pointed out in Section 2, globalization may force politicians to relinquish their ability to generate political cycles and cause a convergence around market-friendly policies. In addition, separation of powers can work as a commitment device and moderate politically-driven fiscal policy manipulations (Saporiti & Streb, 2008). To control for such constraints, we include in vector $\mathbf{Z}_{it}$ two variables: the growth rate of the KOF index of economic globalization ($\Delta \ln$ 'Globalization') and the POLCON index of political constraints ('Political Constraints'). The KOF index of economic globalization embraces the economic dimension of globalization and is constructed using data on actual flows (such as trade, foreign direct investment and income payments to foreign nationals) and restrictions (such as capital restrictions, taxes on international trade and hidden import barriers). On the other hand, the POLCON index of political constraints includes information on veto players (such as two legislative chambers), and thus, measures the degree of institutional constraints on the executive branch of the government.

The electoral variable 'Election'$_{it}$ codes the year the executive is elected. In other words, it equals 1 in the years of legislative elections in parliamentary countries and in the years of presidential elections in presidential countries, and 0 in all other years. The partisan variable 'Ideology'$_{it}$ is the Potrafke (2009)'s government ideology index, which places the cabinet on a left-right scale with values between 1 and 5. Specifically, it takes the following values: 1 if the share of governing right-wing parties in terms of the seats in the cabinet and in parliament is larger than 2/3; 2 if it is between 1/3 and 2/3; and, 3 if the share of centrist parties is 50% or if the left-wing and right-wing parties form a coalition government that is not dominated by one side or the other. The index is symmetric and takes the values 4 and 5 if left-wing parties dominate. Following Potrafke (2009, 2012), we normalise this variable (mean zero, variance one) so that we can directly interpret the coefficients and marginal effects across the specifications. Table A.1 in the Appendix reports descriptive statistics and data sources for all the aforementioned variables.

Equation (M.1) is a standard panel data specification, in which all continuous variables are in growth rates. Taking growth rates offers two advantages: first, it avoids problems of

[13] This variable equals 0 in the years when conscription was in force and 1 in the years following the suspension of the compulsory military service. Since ending conscription tends to have two effects that go in opposite directions (fewer soldiers getting paid higher wages), the net effect on aggregated defence spending is not clear-cut.

[14] This variable takes value 1 during year t and year $t+1$ of external military operations (for example, ISAF in Afghanistan, UN missions) and/or intra-state and inter-state wars. The Correlates of War data set defines war as sustained combat, involving organised armed forces, resulting in a minimum of 1,000 battle-related deaths. Intra-state (civil) wars refer to those that predominantly take place within the recognised territory of a state, whereas inter-state wars to those that take place between states.

spurious inference when the time-series are non-stationary in levels;[15] second, it eliminates time-invariant, country-specific effects in levels. On the other hand, using growth rates does not control for potential country-specific time trends in levels, and thus, it is sensible to estimate equation (M.1) using either the fixed-effects or the random-effects estimator. A Hausman test indicates that the model with random effects is preferable to fixed effects for both social and military expenditure equations, which is consistent with the fact that our sampled countries are drawn from a larger population of OECD countries. Hence, we adopt the random-effects (RE) estimator and use heteroscedasticity and autocorrelation consistent standard errors to calculate the corresponding test statistics. In addition, in order to account for the possibility of contemporaneous correlation across countries, we present the results of regressions with panel-corrected standard errors (PCSE), assuming a panel-specific first-order autocorrelation structure. An econometric problem that arises here is that the growth rates of public expenditure may exhibit persistence over time, and thus static model estimates will suffer from misspecification (omitted variable) bias. Tests of statistical significance (using both t-test and F-test methods) reveal that, while the estimate of parameter α fails to reach statistical significance in the military expenditure equation, it is highly significant in the social expenditure equation. This suggests that social expenditure should preferably be modelled with a dynamic structure and appropriate econometric techniques should be employed. In accordance with the large sample properties of the GMM methods, the well-known first-differencing and system-GMM estimators are biased in our case (given that we only have 22 countries) and small-sample bias-corrected estimators are more appropriate. Consequently, for the social expenditure equation, we also consider the bias-corrected least-squares dummy variable (LSDV) estimator developed by Bruno (2005) and designed for dynamic panel data models with small N.[16]

5 Empirical Findings

5.1 Results on Social Expenditure

We start by estimating the total social expenditure ('TSE') equation for the period 1981-2008 using a dynamic framework (see column (1) of Table 1). As a first point, we can notice that our proxies for economic development and business cycle fluctuations display the expected sign and are statistically significant at the 1% significance level. Specifically, the results suggest that a 1 percentage point fall in the growth rate of GDP per capita and a 1 percentage point rise in the growth rate of the unemployment rate translate into a 0.65 and 0.04 percentage

[15] Indeed, panel unit root tests indicate that some of our variables are non-stationary in levels, but become stationary when transformed into first difference form.

[16] We choose the Blundell & Bond (1998) estimator as the initial estimator in which the growth rates of GDP per capita and unemployment rates are treated as endogenous variables and the instruments are collapsed as suggested by Roodman (2006). Since the analytical variance estimator performs poorly for large coefficients of the lagged dependent variable (Bruno, 2005), we undertake 200 replications of the procedure to bootstrap the estimated standard errors. The results remain qualitatively the same when the Arellano & Bond (1991) and the Anderson & Hsiao (1982) are chosen as initial estimators or when we undertake different number of bootstrap replications, such as 50, 100 or 500. The preference of the RE estimator, the PCSE estimator and the bias-corrected LSDV in this context is also discussed in Potrafke (2009).

point increase in the growth of social expenditure (as a share of GDP), respectively. These estimates are in line with those found in Potrafke (2009) for a similar data set but a shorter time span. Furthermore, our results indicate that a higher degree of economic globalization is associated with a retrenchment in social spending: the coefficient on 'Δ ln Globalization' is negative and highly statistically significant.[17] Turning now to our variables of interest, we find evidence in favour of both opportunistic and partisan theory claims: the coefficients on 'Election' and 'Ideology' have the expected positive sign and are statistically significant at conventional levels of significance. Qualitatively, the findings imply that the growth rate of social expenditure (as a share of GDP) increases by about 0.6 percentage points in election years[18], and by about 0.3 percentage points when the ideology variable increases by one standard deviation (that is, when there is a shift towards more leftist governments).[19] The reported effects largely persist when we consider a static framework (see columns (3) and (5) of Table 1). However, the coefficient on 'Ideology' becomes now marginally statistically insignificant.

The failure to find systematic evidence of a pronounced partisan cycle in social expenditure does not necessarily mean that partisan politics do not affect the welfare state. Left-wing governments may generate higher welfare effort than their right-wing counterparts, but this effort may only be targeted at certain, more vulnerable social groups. To test this hypothesis we implement the same analysis for all possible combinations of the nine social policy areas, and we find that the impact of partisanship becomes stronger and statistically more robust when we focus on three categories of social expenditure, namely old age, family and incapacity-related benefits ('SSE'). As shown in columns (2), (4) and (6) of Table 1, allowing the dependent variable to include only these programs produces more stark results: the coefficient on 'Ideology' retains its positive sign, becomes larger in absolute value and is now statistically significant at the 5% confidence level or better. On the other hand, the results on the electoral variable remain essentially the same as those obtained for the aggregate measure. These findings provide further evidence that the discipline and compensation effects of globalization do not contradict each other and can actually co-exist.[20] Welfare-enhancing preferences create incentives for leftist governments to increase social expenditure and compensate citizens for the risks of globalization. However, the discipline effect of globalization may restrict their capacity to produce partisan cycles in all social welfare programs and direct their effort towards certain categories. In addition, it may drive governments of all stripes to behave in an opportunistic manner and satisfy citizens' demand for higher social welfare in

[17] Using the overall KOF index (instead of its economic subindex) results in a statistically insignificant coefficient, as in Potrafke (2009). This suggests that the social and political dimensions of globalization do not play an important role in explaining the dynamics of social spending in our sampled countries. It must be stressed, however, that the inferences on the political variables are the same regardless of which globalization index is employed.

[18] We have also controlled for governments' behaviour in the year prior to elections. The pre-election variable appears to be statistically insignificant when added to the model, implying that politicians engage in social spending manipulation only in election years.

[19] The average growth rate of social expenditure (as a share of GDP) in our sample is 1%.

[20] For a detailed discussion of the two hypotheses related to the globalization-welfare state nexus, see Dreher *et al.* (2008) and Meinhard & Potrafke (2012).

periods of election. The latter is in line with Efthyvoulou (2011) who argues that constraints imposed on the ability of politicians to ingratiate themselves with partisans and preserve their supporters' loyalty, may strengthen their incentives to engage in fiscal electioneering and target the median voter.

< Insert Table 1 here >

Table 2 reports the results when we estimate the same regression package for the shorter time period 1988-2008. This allows us to compare the findings on social expenditure with those on military expenditure - which are only available for the post-1987 period - and to investigate the persistence of the reported effects in a period characterised by deepened globalization. Overall, the results confirm what was obtained for the full sample period: a large election-year increase in the growth of both aggregate and disaggregate measures of social expenditure ('TSE' and 'SSE', respectively), and strong partisan shifts only in the latter. However, the effects in the post-1987 period appear to be relatively more pronounced (especially when consider a dynamic framework), lending support to the conjecture of the previous paragraph. Besides globalization, the fiscal rules of the European Monetary Union (EMU) may also affect government behaviour. As pointed out by von Hagen (2006), in the immediate run to the EMU, voters put a high priority on fiscal discipline, as this could increase the chances of getting into the monetary union. Governments, therefore, embarked on fiscal contractions during the mid-1990s to look tough, but, once EMU membership was secured, the old patterns of politically-motivated fiscal actions re-emerged. To test for the validity of this argument, we re-estimate all regressions assuming absence of political cycles in the EMU member states after the Maastricht Treaty and before the start of the monetary union. To do that, we set both the electoral variable and the (normalised) partisan variable equal to zero during the years 1993 to 1998 for the sampled EU countries that entered the Eurozone in 1999.[21] Table 3 presents the corresponding results. Despite the fact that we now control for a significantly lower number of elections and allow smaller variation in partisanship levels, the estimates obtained are remarkably the same as the estimates reported in Table 2, providing support for the "consolidation fatigue" observation (von Hagen, 2006). In other words, political cycles in social spending were particularly weak in the prospective euro countries during the mid-1990s, but became stronger after the start of EMU in 1999.

< Insert Table 2 and Table 3 here >

5.2 Results on Military Expenditure

We continue by estimating the total[22] military expenditure ('TME') equation for the period 1988-2008 using RE. Looking at column (1) in Table 4, we can notice that economic development plays an important role in explaining the dynamics of military spending (as in the

[21] For Austria and Finland (which became members of the EU in 1995) we set the political variables equal to zero during the years 1995 to 1998.

[22] Data on components of military expenditure are not currently available for all sampled countries/years to undertake a similar econometric analysis at the disaggregated level.

case of social benefits): the coefficient on $\Delta \ln$ 'GDP per capita' has the expected negative sign and is statistically significant at the 1% confidence level. Furthermore, a country's investment in defence appears to be highly responsive to the proxies of conflict involvement and security threats. Specifically, we find positive and significant growth effects arising from the proportion of the labour force in armed forces and the level of rivals' military spending, consistent with the traditional external action-reaction explanation of military expenditure. The variable 'Wars' (which mostly represents external military deployments, like in Kosovo, Iraq and Afghanistan) also exerts a positive influence on the dependent variable, suggesting that countries involved in operations abroad increase their investment in defence to meet overseas deployment demands. Concerning our variables of interest, we can see that the coefficient on 'Ideology' is negative and statistically significant, indicating that the more to the left a government is, the less will spend on the military. Specifically, the estimate suggests that the growth rate of military expenditure (as a share of GDP) decreases by about 0.4 percentage points when the ideology variable increases by one standard deviation. This finding supports the view that left governments do not use military spending as one of the policy tools to achieve their welfare goals; but, on the contrary, they tend to favour decreased military spending because of their less hawkish positions on international relations. Finally, the results in column (1) provide no evidence of electoral impacts in military spending: the variable 'Election' enters the regression with small coefficient estimate and z-statistic.

As noted in Section 3, nearly two-third of our sampled countries are members of the NATO military alliance, and as such, they need to provide sufficient funds for modernising and restructuring their defence forces to meet NATO's requirements. This may suggest that politicians' abilities to manipulate military spending for electoral gains are, to some extent, conditioned by NATO membership. To test this hypothesis, we replace the electoral variable by the interaction terms 'Election $*$ NATO^1' and 'Election $*$ NATO^0' (coding elections in NATO and non-NATO members, respectively) and run the same regression as before. As shown in column (2) of Table 4, the absence of an electoral cycle in military spending (as observed in column (1)) is due predominantly to NATO countries: while the coefficient on 'Election $*$ NATO^1' fails to reach statistical significance, the coefficient on 'Election $*$ NATO^0' is statistically significant at the 5% confidence level. The negative sign on the latter variable provides evidence of a "butter-vs-guns" tradeoff in non-NATO countries: increased allocations to "butter" during elections come partly at the expense of "guns". As already mentioned, one interpretation for the failure to find electoral shifts in NATO countries is that the NATO's defence burden may be sufficient to curb the temptation of politicians to manipulate military expenditure for opportunistic purposes. Another possible explanation is that the necessary defence cutbacks in NATO members are actually made in the year preceding the election. Why do we expect the timing of effects to differ between the two country groups? First, NATO members are less reliant on soldiers and more on capital (Bove & Cavatorta, 2012), and spending on physical inputs is more rigid and takes longer to adjust for electoral purposes compared to spending on military personnel, whose timing is easier to fine tune. Second, voters in NATO countries (which have, on average, larger population size and greater military power)

may assign relatively higher weight to issues of national security when casting their votes. Thus, politicians in these countries may be inclined to "sacrifice" spending on the military in the year prior to election, in order to avoid the political cost involved in reducing the defence budget during the election year. Following this discussion, we experiment with both pre-election and on-election year cycles and find evidence in line with the above prediction: defence spending grows in smaller than normal proportions during the election year or the year prior to an election depending on whether the country is a member of the NATO alliance or not[23] (see column (3)). Qualitatively, the findings suggest that the election-induced decrease in the growth rate of military spending (as a share of GDP) is 1.1 percentage points in NATO countries and 1.5 percentage points in non-NATO countries.[24] The reported results are invariant to tests of robustness, such as, including among the explanatory variables the growth rates of the unemployment rate and the dependency ratio (see column (4)), and excluding from the model the variables $\Delta \ln$ 'Armed Forces' and $\Delta \ln$ 'Rivals' which may be endogenous relative to the dependent variable (see column (5)). Using lagged values as instruments for the latter variables also yields the same conclusions.

One would expect the timing of elections to play a different role in shaping military spending during low-stakes conflicts, like those that have involved democratic nations during the post-Cold War era. While in periods of peace governments have the capacity to engage in election-driven tradeoffs between "butter" and "guns", in periods of conflicts they face tremendous pressures to increase allocations to both the civilian and the military sectors. In addition, during conflict times non-economic voting is at high levels, and hence, opportunistic policymakers have strong incentives to boost their popularity through electoral increases in military spending and signal that their concerns are close to those of voters. If this argument is true, then the electoral cycles observed in columns (1) through (5) should be weaker or even have the opposite direction for some nations and time periods. We thus continue our analysis by excluding the 6 countries with the highest frequency of external military operations and conflicts (as indicated by the variable 'Wars'), namely Canada, France, Italy, Spain, the United Kingdom and the United States. The results presented in column (6) support the aforementioned assertion. Specifically, when we focus on the remaining 16 countries, the coefficient on 'Pre-Election $*$ NATO^1' becomes larger in absolute value and retains its statistical significance, suggesting that the electoral-induced military cutbacks in the 6 excluded NATO countries are, on average, smaller. The results presented and discussed in this section seem to persist when we estimate the same regression package using PCSE (see Table 5). Even though controlling for contemporaneous correlation across countries eliminates the statistical significance of the war dummy and produces a significant relationship between political constraints and military spending growth, the inferences on the electoral and partisan variables do not change.

< Insert Table 4 and Table 5 here >

[23] We have also augmented the regression model with dummy variables coding both electoral and pre-electoral years for the two country groups, and performed equality tests on the estimated parameters. The results of these tests confirm the reported findings.

[24] The average growth rate of military expenditure (as a share of GDP) in our sample is -2.2%.

5.3 Further Robustness Checks

Rogoff (1990) stresses that incumbent governments may strategically choose the timing of elections depending on economic outcomes and call early elections when the economy is doing well. To test whether the reported electoral effects are driven by strategically timed elections, we look at an alternative indicator that captures only the elections whose timing is predetermined.[25] The results are not much influenced by this exercise, suggesting that treating all elections as exogenous does not bias our estimates nor lead to misleading inferences. Following Persson & Tabellini (2002, 2003) and Albalate *et al.* (2012), we also test whether the nature of political system may shape the dynamics of social and military spending. To do that, we augment the regression model with indicators capturing different forms of government (presidential, assembly-elected presidential or parliamentary) and different electoral rules (proportional representation versus plurality rule). The added indicators turn out to be statistically insignificant in all specifications and the key findings presented in the previous sections remain essentially intact. This is not so surprising if we take into account that political system variables exhibit little time-series variation and that any time-invariant, country-specific effects in levels are removed by taking first differences. Finally, we test whether our results are sensitive to the exclusion of France from the group of NATO countries.[26] Treating France as a non-NATO country produces very similar results and does not change the inferences on the political variables, as discussed in Section 5.2 (results available upon request).

6 Conclusions

The "butter-vs-guns" dilemma is an important challenge faced by governments as they try to maximise public good provision. Military spending can restrict politicians' ability to meet important domestic welfare goals, and failure to satisfy the demand for welfare programs at some minimal level can generate social discontent and undermine political support for the incumbent. Our results lend support to Mintz (1988)'s argument that the tradeoff between "butter" and "guns" can serve as a political-electoral tool: incumbent politicians seem to sacrifice military spending at elections times as a way to enable increases in social spending, which have a more direct and more immediate political impact on voter choice. Furthermore, our results indicate that the timing of election-driven defence manipulations is conditioned by NATO membership: governments in NATO countries decrease spending on the military during pre-election years, while governments in non-NATO countries reduce the military burden during election years. This can partly be attributed to different levels of non-economic voting and capital intensity of military forces between the two country groups, which can influence

[25] We classify an election as predetermined if it is held either at the constitutionally determined election interval or within the expected year of the constitutionally fixed term. Among the 180 elections in our sample, 158 are classified as predetermined.

[26] France withdrew from the integrated military command in 1966 and returned to full participation in 2009. However, since 1989, France has regularly contributed troops to NATO's military operations and is considered to be the fourth-biggest contributor to the NATO's military budget. From the early 1990s onwards, France distanced itself from the 1966 withdrawal decision with its participation at the meetings of defence ministers and the presence of French officers in Allied Command Operations (http://www.nato.int).

politicians' incentives and abilities to engineer electoral shifts in certain periods. Finally, our results provide evidence of persistent partisan differences in public expenditure: parties of the left tend to favour increased allocations to "butter", such as old age, family and incapacity-related benefits, whereas parties of the right tend to favour increased allocations to "guns". The latter suggests that both dimensions of political ideology (determined by welfare policy preferences and foreign policy preferences) are influential in shaping government spending.

To sum up, our findings offer further insights on how incumbents manipulate public expenditure for political purposes and highlight two aspects of contextual variation in the emerging cycles. First, patterns of electioneering and partisaneering are not symmetric across different types of expenditure: while the political effects on social spending sign as the opportunistic and partisan theories predict, those on military spending indicate shifts of the opposite direction. Second, politicians' incentives and capacity to enact welfare and foreign policies that will buy votes or curry partisan favour seem to be influenced by external economic constraints, the conflict environment and strategic opportunities. These observations can explain why studies that focus on aggregate measures of public expenditure, employ the same empirical specification across different expenditure categories, and ignore the context conditionality of political cycles, may find weak empirical support for such cycles. As Franzese (2002, 2003) points out, reports of the empirical demise of political cycle theories may have been greatly exaggerated and researchers should rekindle their attention to this field. While competitive elections and partisan distinctions are ubiquitous features of all modern democracies, systematic manipulation of fiscal policies for political gains can have important consequences on economic performances. For instance, the existence of national political cycles can account for the considerable cross-country differences in policy instrument interdependencies and be seen as one of the factors that prevents complete economic integration across the EU member states (Efthyvoulou, 2011). Furthermore, there is suggestion in the literature that different types of public expenditure can exert different impacts on economic growth (Kalaitzidakis & Tzouvelekas, 2011), and that military spending diverts resources from productive uses (Smith, 1980; Knight *et al.*, 1996) and degrades growth in countries facing low levels of threat (Aizenman & Glick, 2006). Therefore, understanding how the political process gives rise to a substitution of military for social expenditure (or the opposite) is of utmost importance, especially in the light of the recent economic crisis which has modified the role of partisan politics (Galasso, 2012).

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A Appendix

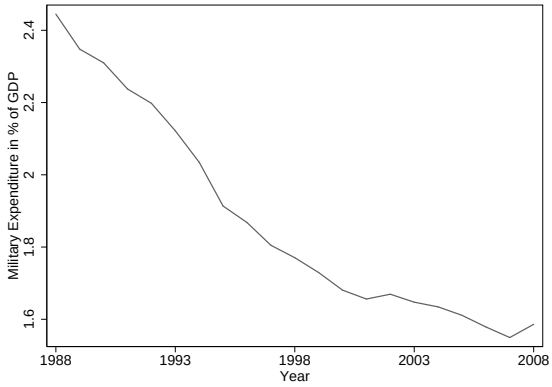
See Table A.1

Table A.1: Descriptive statistics and data sources (1988-2008)

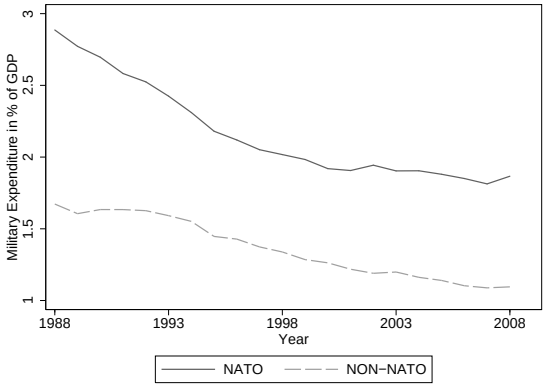
Variable	Obs	Mean	Std Dev	Min	Max	Source
Total Social Expenditure (% of GDP)	460	21.5	4.9	10.7	35.7	SOCX
Subcomponents of Social Expenditure (% of GDP)	460	11.6	3.4	5.0	20.4	SOCX
GDP per capita	462	23690.6	8883.2	7930.4	56389.2	WDI
Unemployment Rate	462	7.1	3.6	0.5	23.9	WDI
Globalization (KOF economic subindex)	462	78.2	11.0	48.0	98.7	Dreher (2006)
Dependency Ratio	462	33.2	1.5	30.1	39.5	WDI
Political Constraints (POLCON index)	462	0.49	0.09	0.23	0.72	Henisz (2000)
Total Military Expenditure (% of GDP)	462	1.9	0.9	0.5	5.8	SIPRI
Armed Forces (% of Labour)	462	1.2	0.8	0.1	5.2	SDM
Rivals	462	3101.5	17283.4	0	218402	Dunne *et al.* (2009)
Volunteers	462	0.24	0.43	0	1	Bove & Cavatorta (2012)
Wars	462	0.15	0.35	0	1	COW
Election	462	0.27	0.45	0	1	Various Sources
Ideology (Left-Wing)	462	2.9	0.9	1	4	Potrafke (2009)

SOCX: OECD Social Expenditure Database; **WDI**: World Bank's World Development Indicators; **SIPRI**: Stockholm International Peace Research Institute; **COW**: Correlates of War Project; **SDM**: Swedish Defence Ministry

(a) Social expenditure



(b) Military expenditure



(c) Military expenditure: NATO vs non-NATO

Figure 1: Social and military expenditure in % of GDP: cross-country averages

Table 1: Political cycles in social expenditure, 1981-2008

Dependent variable: Δ ln Total Social Expenditure (Δ lnTSE), Δ ln Subcomponents of Social Expenditure (Δ lnSSE).						
	Bias-corrected LSDV		Random effects		Panel-corrected SE	
	Δ lnTSE	Δ lnSSE	Δ lnTSE	Δ lnSSE	Δ lnTSE	Δ lnSSE
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged Dependent	0.239***	0.179***				
	(6.03)	(4.24)				
Δ ln GDP per capita	-0.650***	-0.733***	-0.659***	-0.758***	-0.704***	-0.704***
	(6.43)	(7.01)	(5.25)	(4.80)	(7.72)	(6.76)
Δ ln Unemployment	0.039***	0.006	0.051***	0.013	0.045***	0.014
	(3.31)	(0.46)	(4.70)	(0.94)	(4.50)	(1.22)
Δ ln Globalization	-0.005***	-0.005***	-0.004**	-0.004*	-0.004***	-0.005***
	(3.13)	(2.92)	(2.26)	(1.76)	(2.89)	(2.92)
Δ ln Dependency Ratio	0.381	0.418	0.429	0.476	0.264	0.377
	(1.22)	(1.29)	(1.16)	(1.15)	(0.85)	(1.01)
Political Constraints	-0.015	0.003	-0.032*	-0.021	-0.043***	-0.051***
	(0.61)	(0.12)	(1.84)	(1.01)	(4.88)	(4.71)
Election	0.006**	0.007**	0.006***	0.006***	0.006***	0.006***
	(2.34)	(2.48)	(3.22)	(2.88)	(2.94)	(2.82)
Ideology (Left-Wing)	0.003*	0.004***	0.002	0.004**	0.002	0.005***
	(1.84)	(2.89)	(1.64)	(2.32)	(1.59)	(3.17)
Fixed Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	576	576	578	578	578	578
Number of N	22	22	22	22	22	22
R^2-Overall			0.43	0.31	0.41	0.32

Columns report estimated coefficients (z-statistics). 'SSE' includes three categories of social expenditure: old age, family and incapacity-related benefits. ***,**,* Statistically significant at the 1%, 5% and 10% confidence level, respectively.

Table 2: Political cycles in social expenditure, 1988-2008

Dependent variable: Δ ln Total Social Expenditure (Δ lnTSE), Δ ln Subcomponents of Social Expenditure (Δ lnSSE).						
	Bias-corrected LSDV		Random effects		Panel-corrected SE	
	Δ lnTSE	Δ lnSSE	Δ lnTSE	Δ lnSSE	Δ lnTSE	Δ lnSSE
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged Dependent	0.300***	0.319***				
	(6.96)	(6.89)				
Δ ln GDP per capita	-0.734***	-0.797***	-0.770***	-0.836***	-0.731***	-0.673***
	(6.18)	(5.57)	(5.45)	(4.35)	(6.81)	(5.66)
Δ ln Unemployment	0.030**	0.009	0.050***	0.024	0.049***	0.032**
	(2.12)	(0.54)	(4.11)	(1.57)	(4.10)	(2.40)
Δ ln Globalization	-0.005***	-0.005***	-0.003*	-0.004*	-0.003*	-0.004**
	(3.01)	(2.93)	(1.82)	(1.72)	(1.66)	(2.17)
Δ ln Dependency Ratio	0.188	0.513	0.091	0.433	-0.051	0.665
	(0.53)	(1.18)	(0.22)	(0.68)	(0.13)	(1.43)
Political Constraints	-0.013	0.001	-0.033	-0.031	-0.048***	-0.058***
	(0.41)	(0.02)	(1.31)	(1.20)	(4.44)	(4.93)
Election	0.008***	0.007**	0.007***	0.006**	0.007***	0.005*
	(2.74)	(1.98)	(4.49)	(2.20)	(2.97)	(1.90)
Ideology (Left-Wing)	0.002	0.006***	0.001	0.005**	0.001	0.004**
	(1.59)	(3.16)	(0.58)	(2.16)	(0.36)	(2.43)
Fixed Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	436	436	438	438	438	438
Number of N	22	22	22	22	22	22
R^2-Overall			0.46	0.32	0.43	0.34

See notes for Table 1.

Table 3: Political cycles in social expenditure, 1988-2008: with no political effects in the run-up to EMU

Dependent variable: Δ ln Total Social Expenditure (Δ lnTSE), Δ ln Subcomponents of Social Expenditure (Δ lnSSE).						
	Bias-corrected LSDV		Random effects		Panel-corrected SE	
	Δ lnTSE	Δ lnSSE	Δ lnTSE	Δ lnSSE	Δ lnTSE	Δ lnSSE
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged Dependent	0.296***	0.320***				
	(6.87)	(6.92)				
Δ ln GDP per capita	-0.732***	-0.794***	-0.767***	-0.829***	-0.726***	-0.669***
	(6.16)	(5.54)	(5.41)	(4.33)	(6.74)	(5.63)
Δ ln Unemployment	0.032**	0.010	0.051***	0.024	0.050***	0.032**
	(2.21)	(0.58)	(4.22)	(1.59)	(4.21)	(2.43)
Δ ln Globalization	-0.005***	-0.005***	-0.003*	-0.004*	-0.003*	-0.004**
	(3.02)	(2.92)	(1.83)	(1.71)	(1.69)	(2.14)
Δ ln Dependency Ratio	0.181	0.530	0.083	0.439	-0.066	0.684
	(0.50)	(1.21)	(0.20)	(0.69)	(0.17)	(1.46)
Political Constraints	-0.014	0.002	-0.033	-0.030	-0.048***	-0.057***
	(0.46)	(0.04)	(1.30)	(1.17)	(4.46)	(4.84)
Election	0.008**	0.007*	0.008***	0.006**	0.007***	0.005*
	(2.57)	(1.77)	(4.08)	(2.46)	(2.86)	(1.89)
Ideology (Left-Wing)	0.003*	0.006***	0.001	0.005**	0.001	0.004**
	(1.65)	(3.18)	(0.55)	(1.98)	(0.25)	(2.21)
Fixed Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	436	436	438	438	438	438
Number of N	22	22	22	22	22	22
R^2-Overall			0.46	0.32	0.43	0.34

See notes for Table 1.

Table 4: Political cycles in military expenditure, 1988-2008: random-effects

Dependent variable: Δ ln Total Military Expenditure (Δ lnTME).						
	(1)	(2)	(3)	(4)	(5)	(6)
Δ ln GDP per capita	-0.627***	-0.612***	-0.616***	-0.526***	-0.642***	-0.706***
	(4.12)	(4.07)	(4.05)	(3.28)	(3.96)	(4.56)
Δ ln Globalization	0.001	0.001	0.001	0.001	0.001	0.001
	(0.01)	(0.33)	(0.31)	(0.41)	(0.42)	(0.04)
Δ ln Armed Forces	0.019***	0.019**	0.019**	0.019**		0.016**
	(2.65)	(2.49)	(2.50)	(2.49)		(2.46)
Δ ln Rivals	0.123***	0.117***	0.128***	0.131***		0.106**
	(2.89)	(2.79)	(2.74)	(2.86)		(2.21)
Volunteers	0.004	0.004	0.004	0.003	0.003	0.019**
	(0.48)	(0.52)	(0.50)	(0.42)	(0.35)	(2.00)
Wars	0.015**	0.015**	0.015**	0.016**	0.013**	0.010
	(2.42)	(2.48)	(2.35)	(2.49)	(1.99)	(0.97)
Political Constraints	-0.022	-0.022	-0.023	-0.020	-0.019	-0.070
	(0.77)	(0.76)	(0.78)	(0.70)	(0.62)	(1.63)
NATO	-0.005	-0.011	-0.006	-0.005	-0.008	-0.008
	(0.80)	(1.48)	(0.91)	(0.76)	(1.08)	(0.87)
Election	-0.001					
	(0.26)					
Election ∗ NATO^1		0.007				
		(0.85)				
Pre-Election ∗ NATO^1			-0.011**	-0.011**	-0.009**	-0.014**
			(2.33)	(2.41)	(2.06)	(2.09)
Election ∗ NATO^0		-0.015**	-0.015**	-0.015**	-0.016***	-0.015**
		(2.55)	(2.53)	(2.51)	(2.73)	(2.30)
Ideology (Left-Wing)	-0.004*	-0.004*	-0.004*	-0.004*	-0.005*	-0.005**
	(1.83)	(1.83)	(1.82)	(1.82)	(1.94)	(1.88)
Δ ln Unemployment				0.024		
				(1.50)		
Δ ln Dependency Ratio				-0.149		
				(0.40)		
Fixed Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	440	440	440	440	440	320
Number of N	22	22	22	22	22	16
R^2	0.16	0.17	0.17	0.18	0.16	0.18

Columns report estimated coefficients (z-statistics). Column (6) excludes the following countries: Canada, France, Italy, Spain, the United Kingdom and the United States. ***,**,* Statistically significant at the 1%, 5% and 10% confidence level, respectively.

Table 5: Political cycles in military expenditure, 1988-2008: panel-corrected SE

Dependent variable: Δ ln Total Military Expenditure (Δ lnTME).						
	(1)	(2)	(3)	(4)	(5)	(6)
Δ ln GDP per capita	-0.684***	-0.657***	-0.658***	-0.540***	-0.674***	-0.751***
	(3.87)	(3.65)	(3.71)	(2.32)	(3.78)	(3.88)
Δ ln Globalization	0.001	0.001	0.001	0.001	0.001	0.001
	(0.09)	(0.20)	(0.19)	(0.28)	(0.34)	(0.05)
Δ ln Armed Forces	0.016*	0.016*	0.016*	0.016*		0.015
	(1.71)	(1.71)	(1.76)	(1.72)		(1.60)
Δ ln Rivals	0.113*	0.110	0.126*	0.130*		0.10
	(1.71)	(1.62)	(1.87)	(1.93)		(1.09)
Volunteers	0.009	0.009	0.009	0.007	0.008	0.020**
	(1.29)	(1.27)	(1.24)	(0.99)	(1.11)	(2.11)
Wars	0.010	0.011	0.010	0.012	0.008	0.007
	(1.24)	(1.37)	(1.28)	(1.49)	(1.07)	(0.50)
Political Constraints	-0.055**	-0.052**	-0.051*	-0.052*	-0.054**	-0.100**
	(2.12)	(2.05)	(1.95)	(1.99)	(2.12)	(2.41)
NATO	-0.006	-0.012	-0.007	-0.006	-0.007	-0.006
	(0.84)	(1.59)	(0.89)	(0.81)	(0.85)	(0.64)
Election	-0.001					
	(0.29)					
Election $*$ NATO^1		0.008				
		(1.30)				
Pre-Election $*$ NATO^1			-0.011*	-0.011*	-0.010*	-0.017*
			(1.86)	(1.93)	(1.66)	(1.81)
Election $*$ NATO^0		-0.013*	-0.013*	-0.014*	-0.013*	-0.013*
		(1.88)	(1.85)	(1.96)	(1.90)	(1.72)
Ideology (Left-Wing)	-0.005**	-0.005*	-0.005*	-0.005*	-0.005*	-0.007**
	(1.99)	(1.95)	(1.89)	(1.87)	(1.86)	(2.04)
Δ ln Unemployment				0.017		
				(0.69)		
Δ ln Dependency Ratio				0.397		
				(0.55)		
Fixed Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	440	440	440	440	440	320
Number of N	22	22	22	22	22	16
R^2	0.19	0.20	0.20	0.20	0.18	0.22

See notes for Table 4.

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