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Election cycles and electoral forecasting in Italy, 1994–2008

Paolo Bellucci*

University of Siena, Centre for the Study of Political Change (CIRCaP), Via Mattioli 10, Siena 53100, Italy

Abstract

Research on pre-1994 Italian politics has paid little attention to the study of popularity functions and the forecasting of electoral results. With the enactment of a new electoral law, the dramatic change in Italy's party system and the resulting alternation in government of different political coalitions, public opinion approval of the government has acquired a greater political and electoral relevance. This paper, after analysing government approval series between 1994 and 2008, discusses how government approval influences electoral outcomes in the Italian Second Republic, and also how it can be fruitfully employed in forecasting models.

Keywords: Italian government approval; Vote and popularity functions; Election forecasting; Electoral cycle; Italian 2nd Republic

1. Italy: A changing political environment

Research on pre-1994 Italian politics has paid little attention to the study of government popularity functions (or to the forecasting of electoral results). This has been due to some key behavioural (the importance of long-term determinants of the vote) and institutional (a polarised multi-party parliamentary democracy) aspects of the Italian polity. For most of the post-war period, social (class and religion) and political (communism/liberalism) cleavages were the most important predictors of the vote, and their strengths were reinforced by a PR electoral law. It followed that elections were mainly conducted on the capacity of parties to mobilize their core constituencies, while electoral volatility appeared to be quite restricted (Corbetta, Parisi & Schadee, 1988). The majority of voters were encapsulated in contrasting political sub-cultures (Catholic and Communist), which polarized and anchored the electorate and inhibited electoral mobility for a long time. Furthermore, Italy's multi-party system format (an example of extreme polarized pluralism; see Sartori, 1976) resulted in post-electoral coalition governments, the majority of which were led by the dominant Christian Democratic Party (DC) between 1946 and 1993. Crucially, for fifty years Italy experienced no alternation in office of the main opposition Italian Communist Party (PCI), while the many government changes experienced by the Christian Democrats resulted in an alternate widening and narrowing of the number of parties joining the Christian

* Tel.: +39 0577 235340; fax: +39 0577 235292.
E-mail address: paolo.bellucci@unisi.it.

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Democrats in the various centre or centre-left coalition governments. Finally, the government leader – the Prime Minister – had no personal visibility, and cabinets' policy making was firmly in the parties' hands.

In this context, popular evaluations of government performance were rather inconsequential. Even though an earlier exploratory piece of research on Italian popularity functions (Santagata, 1985) – unfortunately based on a very short series and only annual observations – had discovered a correlation between Italy's objective economic conditions and voters' evaluation of the government, the electoral irrelevance of government popularity due to the lack of a real alternation in power, and the strength of cleavage and ideological voting, has led to a neglect of research on popularity functions.[1]

On the other hand, research on vote functions, and on the retrospective and economic determinants of voting in Italy, has not been lacking. However, it has showed, overall, that the general responsibility-incumbency paradigm which has guided comparative research (Lewis-Beck & Paldam, 2000b) finds little support in Italy. Early time series research found that increasing inflation reduced the electoral strength of the Christian Democratic Party while rewarding the Communist opposition. Growing levels of unemployment, however, showed a puzzling opposite trend, highlighting the importance of patronage for the ruling DC (Lewis-Beck & Bellucci, 1982; Bellucci, 1984). However, these early models were rather unstable, were plagued by multicollinearity, and did not incorporate all party choices, focusing only on the DC and PCI. A later cross-sectional aggregate-level analysis confirmed the previous results, but also discovered that the coalition's partners were affected differently by economic conditions, in particular the Socialist Party holding the premiership in 1987, but far less the Christian Democrats, although they held important ministerial portfolios (Bellucci, 1991). It was further ascertained that retrospective concerns weighted differently across the Italian electorate: *the least* among the so-called 'belonging' voters (Parisi & Pasquino, 1977), the traditional and (then) largest part of the electorate who belonged to the Communist and Catholic political sub-cultures and had a strong partisan identification; and *the most* among the minority of 'opinion' voters, the share of Italians with no partisan identification but with a higher level of political interest (Bellucci, 1991). Unsurprisingly, then, a comparative study of economic voting found Italy to be the polity in which economic concerns and retrospective considerations exerted the lowest impact on voting of all Western democracies (Lewis-Beck, 1988).

Both the coalition governments and the electorate's political polarization have therefore inhibited retrospective voting during Italy's First Republic. The coalition governments made it difficult for voters to identify the party to be held responsible for steering the country and its economy, while the traditional anchors of partisanship hindered switch-voting. A low 'clarity of government responsibility' (Powell & Whitten, 1993) in Italy's multi-party system coalition governments and the very salience of political and social cleavages that contributed to the formation of the multi-party format were the causes of Italian governments' restricted accountability and relatively stable voting choices.

The dramatic change in Italy's party system in the early 1990s and the enactment of a mixed proportional-majoritarian electoral law has forced the remaining old (renamed) and new parties to join pre-electoral coalitions to contest elections (Cotta & Verzichelli, 2007). This opened the way to the alternation in power of different coalitions, an unprecedented event in the history of the Italian republic. Ideological polarization sensibly declined, and voters were then presented with a clear choice between alternative available governments. The Italian National Election Study (ITANES) survey series (Bellucci & Maraffi, 2008) has since then shown a steady decline in cleavage voting (Corbetta, 2006) and an increasing importance of valence politics (Clarke, Sanders, Stewart & Whiteley, 2004) in the electors' calculus of voting. At the individual level, the evaluation of government performance – driven by retrospective economic concerns – interacts with partisanship in shaping the voting choice (Bellucci, 2007, 2008).

[1] The limited availability of relevant data, i.e., approval rates of governments and prime ministers, also explains the little attention that has been paid to this kind of research. Only after the party-system change of the mid-1990s have newspapers and polling agencies started collecting and publishing polls data. This was also in response to the wide usage of polls and political marketing research by media-tycoon Silvio Berlusconi in the launch of his new party Forza Italia (Go Italy) in 1994, as well as in the conduct of electoral campaigns. For details on Berlusconi's political marketing strategy, see Diamanti (1994).

A changed political environment has thus brought about a new model of voting behaviour, and highlights the importance of government performance as an important cue for voters for Italy also. While the strength of a government has previously been derived directly from the parties' electoral consensus (which was, however, largely detached from actual performance), in contemporary Italy the parties' fortunes originate more from their activity in the government than has been the case in the past. Government accountability is then enhanced, together with its visibility. This new context allows the researcher to investigate the relationship between government approval and electoral outcomes, and makes it meaningful to ask whether government approval can be employed to forecast the results of elections.

In the next section an empirical analysis of the determinants of government approval between 1994 and 2008 is carried out first. It is found that government approval can be explained using the general model of accountability based on retrospective popular evaluations. Next, a forecasting model derived directly from the popularity function is tested, with unsatisfactory results which are due mainly to multicollinearity and the limited number of observations. A revised model which includes fewer predictors is then proposed, and yields a fair post-prediction performance. Finally, a report on the forecast of the 2009 European election results for Italy (released in April 2009) based on the previous model is presented.

2. Time series analysis of government approval

The model of Italian government popularity estimated here is grounded in two of the perspectives (and controversies) that have oriented the vast and long-standing body of research on vote and popularity ($V-P$) functions: the responsibility hypothesis and the economic vs. political dimensions (see the collection of essays in Lewis-Beck & Paldam, 2000a, and Dorussen & Taylor, 2002). The first refers to the theoretical approach employed to inquire into the relationship between governments and the electorate, while the second points to the debate over the relative relevance of economic and political variables as explanatory factors. With regard to the first, most research on the popularity function assumes (at least as a starting point) a reward-punishment paradigm (Key, 1968), according to which voters reward (punish) a government with a positive (negative) record with their support (lack of support). Although alternative theoretical perspectives have been advanced (e.g., the issue-ownership model, Budge & Farlie, 1983; and the partisan model Hibbs, 1987), the responsibility model has received by far the most empirical confirmation, and is also supported by research showing the increasing electoral importance of short-term and valence-politics related popular evaluations. Regarding the political vs. economic explanatory variables debate, while earlier research focused solely on economic indicators, and thus neglected the political actors' strategies, institutional constraints and opportunities, later research has explicitly introduced political factors into the specification of the models assessing the impact of international crises, political leaders, the electoral cycle, and, from a comparative perspective, the institutional context (majoritarian vs. proportional electoral systems, coalition governments, and clarity of responsibility) on the approval of the executives. Overall, political factors are estimated to account for one third of the variance in $V-P$ functions (Lewis-Beck & Paldam, 2000b).

The increasing importance of government performance in the 'permanent campaign' which has developed in Italy (as elsewhere in contemporary democracies) has fortunately brought about a greater availability of polling data. Bellucci (2006) has assembled the existing evidence on government approval in Italy, updated here to cover the period September 1994–January 2008, which includes 143 monthly observations. Fig. 1 shows the trend, suggesting a U-shaped curve within the Centre-Left (1996–2001; 2006–2008) and the Centre-Right (2001–2006) government tenures: a honeymoon effect, followed by the cost-of-ruling attrition (Nannestad & Paldam, 2002), and a slight surge in popularity in the run-off towards the elections.

In keeping with the extant literature on government approval, the estimated model relies on two sets of explanatory variables: subjective economic expectations of the electorate on the one hand, and political variables on the other. The latter include the political leaning of the government, to test the differentiated impact of partisan cycles on the popularity; the direct

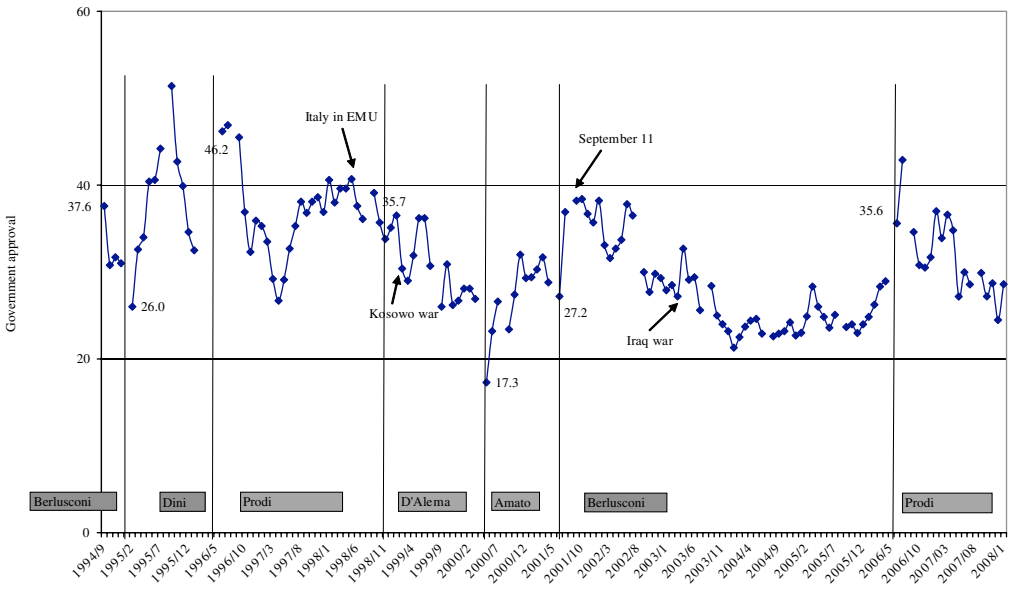

Fig. 1. Trend of Italian government approval, 1994/9–2008/1.

involvement of Italian troops in conflicts abroad for the first time in post-war Italy (in former Jugoslavia in 1997, when the centre-left government was led by former Communist D'Alema, and in Iraq between 2003 and 2006 during the centre-right government led by Berlusconi), which represented a highly divisive issue among Italian public opinion; the length of government tenure, in order to capture the erosion of support over the term; a lagged popularity variable, to describe other political variables; and shocks not previously included.

Formally, the model is:

$$P_t = b_0 + b_1 P_{t-1} + b_2 E_t + b_3 C_t + b_4 I + b_5 W + U_t, \quad (1)$$

where P_t = the percentage approval of government performance; P_{t-1} = the percentage approval of government performance in the previous month; E_t = the index of households' economic sentiment (composed of retrospective and prospective economic evaluations); C_t = the government's time in office, in months; I = the partisanship of the government (left or right); W = war, a dummy index of months in which Italian troops were deployed in Kosovo and Iraq; b_0–b_5 are the estimated coefficients; and U_t = the error term.[2] The expectations are: $B_1, B_2 > 0$; $B_3 < 0$.

OLS estimates appear in Table 1. The model fits the data well (Adj.R^2 = 0.80), and shows no significant autocorrelation (Durbin's h-test = 1.1). As would be expected, according to traditional economic voting theory (Lewis-Beck, 1988; Sanders, 2000), the economy drives government approval in Italy as well, and when voters are optimistic about the economic conditions, they support the government. A one percentage point increase in the household economic sentiment brings about, on average, a 0.23 point percentage increase in the government popularity. Political variables such as the political leaning of the executive and Italy's military involvement lack statistical significance. Time in office has an impact according the 'cost of ruling' hypothesis, and each year of tenure depresses the approval rate by one percentage point, on average, after accounting for other conditions. Finally, lagged approval, which taps other political variables not previously included, shows a significant impact, around 2.5 times that of the economy, thus confirming Paldam's (1986) earlier finding concerning the relative weight of economic and political variables.

[2] Definitions of the variables and data sources are in Table 1.

These results support the viability of the responsibility hypothesis for the Italian case as well. The public opinion dynamics of government approval in Italy's Second Republic are driven by economic concerns and evaluations of the government's performance. Since earlier data are not available, it is not possible to asses whether government accountability is now stronger than in previous decades, as we hypothesize. What can be gauged, however, is the extent to which government accountability translates into a voting choice; that is, whether the previous model of government approval is of assistance in explaining and predicting electoral outcomes. This is an issue we confront in the following section.

3. Government approval and elections forecasts

3.1. The approval model

Eq. (1) can be employed as a predictive model of electoral results under the assumption that government popularity is a direct predictor of election results. The major problem in trying to apply such a model to Italy is the sample size of observations: there were only 5 national elections held between 1994 and 2008. Furthermore, popularity series were only available after the 1994 elections, so the sample size is reduced to four. On such a basis, any inference is of necessity only speculative. For instance, the correlation (Pearson) between government popularity in the quarter preceding the election and the incumbent government parties' share of the vote is $r = -0.07$. A slightly better correlation, $r = 0.3$, is obtained if we restrict the analysis to the two major parties which are the backbone of the Centre-Left (Democratic Party, or *Partito Democratico*, *PD*) and Centre-Right (People of Freedom, or *Popolo della Libertà*, *PdL*) coalitions, rather than considering all parties in government.[3] However, the small number of observations ($N = 4$) prevents any estimate from being made. One way out of this limitation is to increase the sample size by also including the Regional and European elections, to give $N = 9$. This solution, however, apparently assumes that voters' choices are not influenced by the different institutional and electoral contexts, which is indeed a questionable assumption, since European elections are considered to be 'second order' (Reif & Schmitt, 1980), while Italian Regional elections are considered as a kind of mid-term election (Chiaramonte & D'Alimonte, 2000). In the former case, government and main-stream parties tend to lose votes in favor of fringe (or protest) and anti-European parties, while in the latter the result possibly depends on an array of local coalitions. Furthermore, in both types of election the turnout is sensibly lower than in national legislative elections.

However, despite these important differences in the individuals' vote calculus and turnout, there is evidence of an election cycle at the system level which could shed light on voters' electoral choices over time, as the 'Barometer election'[4] model (Anderson & Ward, 1996), the 'Surge and decline'[5] model (Campbell, 1960), and the 'Policy-Balancing'[6] model (Kedar, 2006) show in comparative research. Fig. 2 shows the trend of incumbent government parties' shares of the votes in National, Regional and European elections between 1995 and 2008. There appears to be a clear cyclical trend of support, with parties in national government losing consensus over subsequent second-order elections.[7]

The choice to include 'second order' elections in the series recognizes the existence of such an election cycle underpinning the evolution of the electoral

[3] We have summed the votes of the parties which later joined together to form the Democratic Party (Democrats of Left plus Daisy) and the People of Freedom (Go Italy and National Alliance).

[4] This model is applicable for some elections – such as British by-elections and the election of the German Landers or Italian Regions – in which, without a direct possibility of affecting the national government, it is possible to observe a change in the climate of public opinion regarding the government due to changing and deteriorating economic and socio-political conditions.

[5] This model was introduced to explain the results of US Congressional mid-term elections. While short-term factors (such as candidates' personalities and the electoral campaign) mobilize independents and weak partisans to vote in presidential elections, in mid-term elections, with lower stimuli and lower stakes, less interested and opposition voters come back "home" and vote for their preferred party or do not vote. The initial surge is then followed by a decline. The exposure of the electoral campaign and political mobilization – as well as the intensity of partisanship – appear to be the central elements of such a model.

[6] According to this model, (moderate) voters use consecutive (horizontal balancing) or concomitant (vertical balancing, in federal systems) elections to promote moderate policies by vote switching.

[7] The vote shares of government coalitions and main parties are reported in Appendix.

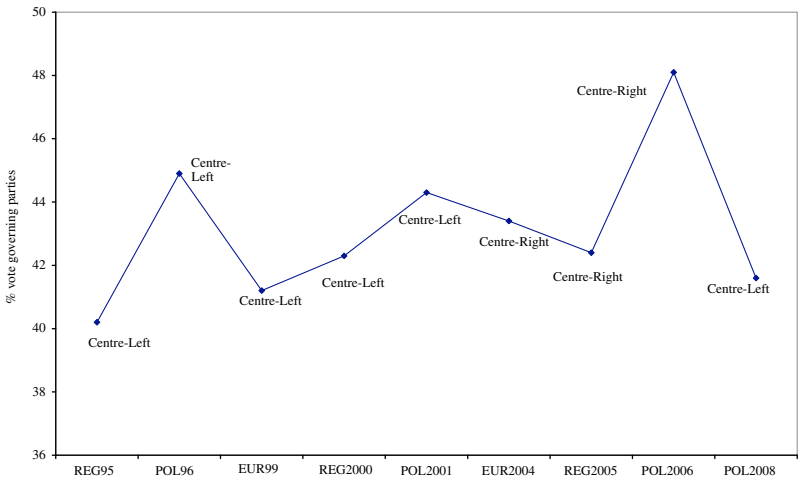

Fig. 2. Government parties' votes across a cycle of elections. Italy 1995–2008 (incumbent government vote).

support. In order to take this into account, and to control for the heterogeneity of the electoral context, a variable indexing the different electoral arenas is included in the forecasting model.

The model tested is a straightforward extension of the previous popularity function, according to which the electoral results of ruling parties depend on the government approval rate in the quarter preceding the election, the economic expectation of the population, the length of government tenure, and, finally, the electoral area. Formally:

$$V = b_0 + b_1 A + b_2 E + b_3 C + b_4 N + U, \qquad (2)$$

where V = the incumbent government vote/incumbent main party vote; A = the government approval the quarter before the election; E = the index of households' economic sentiment the quarter before the election (composed of retrospective and prospective economic evaluations); C_t = the government's time in office, in months; N = the electoral arena (a dummy indexing National Parliament elections); U = the error; and $b_0 - b_4$ are the estimated coefficients. The expectations are: $B_1, B_2, B_4 > 0$; $B_3 < 0$.

The OLS estimates, which appear in Table 2, clearly show this model to be unsatisfactory. Neither the approval rate nor the economic expectations are significant, while the impact of the time in office acts in the opposite direction to our expectation. In explaining this outcome, it should be observed that the relatively large coefficients of multiple determination which are associated with the statistical insignificance of the predictors point to the presence of multicollinearity among the predictors. Indeed, approval is positively correlated with economic expectations ($r = 0.48$), as well as being negatively correlated with time in office ($r = -0.65$). Dropping these two variables in turn and re-estimating the model does not ameliorate the results, however; suppressing the cost of ruling variable yields a negative impact of approval, while dropping economic expectations confirms the insignificance of approval. Also, changing the metric of approval, from the level to first differences between the two quarters preceding the elections, confirms the inapplicability of such a model.[8]

In summary, an analysis which relies on the approval model is marred by the great difficulties originating from the limited sample size, and, probably, from the model specification as well. This suggests that an alternative strategy be attempted, improving the theoretical specification of the model and excluding the correlates of approval, since government support has been shown to capture a number of antecedent factors, and, employed as a single predictor, can simplify the forecasting equation.

[8] The difference in approval appears to be negatively and insignificantly correlated with votes in any of the specifications of the approval model tested.

Table 1
Government approval in Italy (September 1994–January 2008), OLS estimates.

	B	Std. error
Approval $t-1$	0.58*	0.05
Economy	0.23*	0.05
Time in office	−0.08*	0.02
Left	0.62	0.55
War	0.97	0.75
Constant	−11.6*	4.6
Adj.R^2	0.80	
SEE	2.64	
N	127	
$D-h$	1.1	

Definition of variables
Approval: percentage of respondents satisfied with performance of the government. Question reads: 'How would you evaluate the work of the government until now? Very positive, positive enough, negative enough, completely negative'. Approval is the percentage answering 'very positive' or 'positive enough'. Source: ISPO, IPSOS, CIRCaP—University of Siena.
Economy: index of household economic sentiment, based on 9 questions tapping retrospective and prospective economic evaluation, weighted to a composite index with base 1968 = 100. Source: ISAE.
Time in office: a time counter (1 to N) indicating the number of months of incumbency for that government.
Left: political leaning of government, coded 1 if left-wing, 0 if right-wing.
War: military involvement, a dummy variable coded 1 between 1999/2 and 1999/7 (Kosovo war) and between 2003/05 and 2006/12 (Iraq war).
Adjusted R^2: the coefficient of multiple determination, corrected for degrees of freedom.
SEE: the standard error of estimate.
N: the number of observations.
* Statistically significant at the 0.01 level, two-tailed test.

3.2. The approval-partisanship model

The conventional wisdom is that – at least in established democracies – long-term factors shaping voters' choices are ostensibly declining in importance, while short-term (and campaign induced) ones have become progressively more important. This has also implied a paradigm shift, away from sociological explanations and towards psychological accounts of the processes of the calculus of voting. This is of course an ongoing debate, and controversies arise as to the relative ranking of these factors and the explanations provided for such developments (from societal changes to politically driven ones). A broad consensus exists, however, on the basic elements which constitute the explanation of voting, while the disagreement relates more to the relative weight each of the elements carries for the voters and the systemic contextual factors affecting them (Thomassen, 2005; Gunther, Montero & Puhle, 2007).

Table 2
Predicting government vote, 1995–2008. Approval model. OLS estimates (with standard errors in parentheses).

	Government vote	Government's main party vote
Approval	0.21	−0.60
	(0.19)	(0.26)
Economy	0.09	0.06
	(0.07)	(0.09)
Time in office	0.12*	−0.00
	(0.03)	(0.05)
Parliamentary election	2.03*	2.9*
	(0.97)	(1.3)
Constant	23.5**	41.0**
	(8.3)	(11.6)
Adj.R^2	0.73	0.48
SEE	1.2	1.7
N	9	9
DW	2.6	3.0

* $p < 0.05$.
** $p < 0.01$, one-tailed test.

A forecasting model of election results therefore needs to rely on data for both long- and short-term determinants of the vote. As far as the former is concerned, partisanship, understood as a predisposition to vote for a party, appears to be a probable relevant variable. Since no time series survey evidence on partisanship is available, this is measured here as the average vote in the previous three elections,[9] a kind of baseline normal vote (Norpoth & Gschwend, 2003). Regarding the latter, government approval and time in office are two obvious plausible candidates. Norpoth and Gschwend's (2003) analysis for Germany shows the viability of such a model, as does the Lewis-Beck, Nadeau and Bélanger (2004) model for the UK, which relies on short-term factors.

Fig. 3 shows how the vote is associated with approval rates: changes in approval are mildly correlated with the overall incumbent government vote, and more strongly correlated with the main party government

[9] In the 1995 regional election, partisanship is simply the vote in the 1994 national election, while in 1996 it is the average vote across the 1995 and 1994 elections.

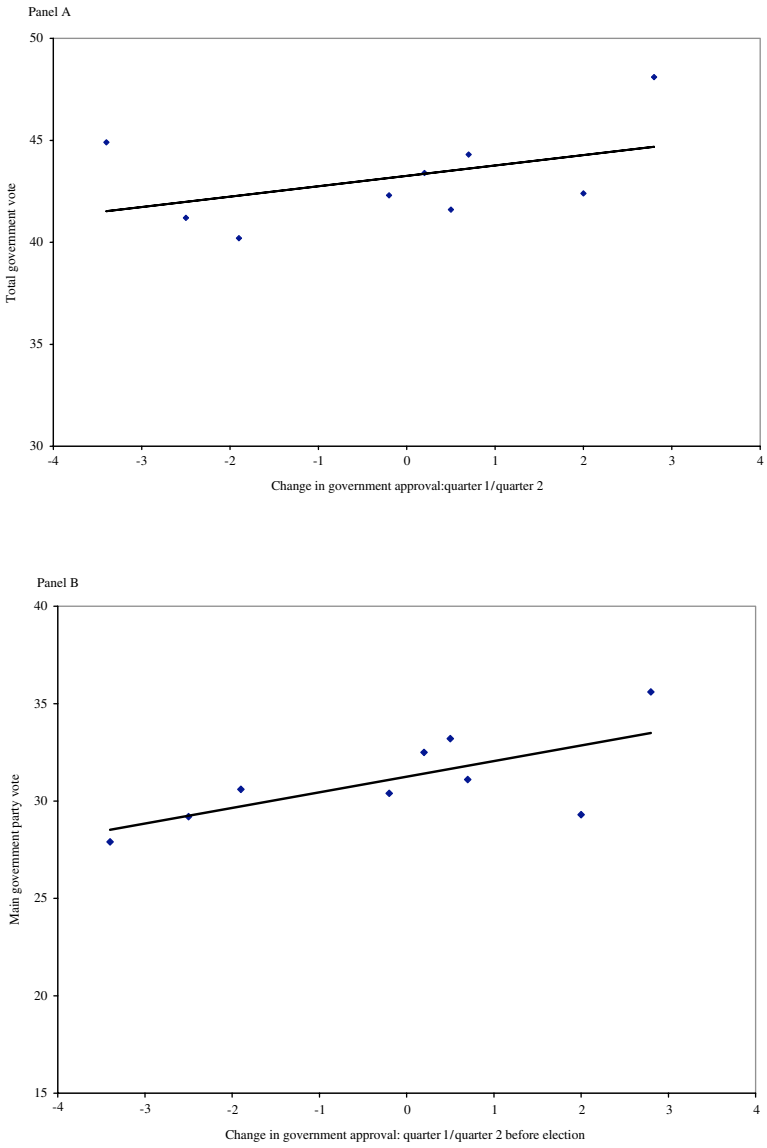

Fig. 3. Total incumbent government vote (Panel A) and main incumbent government party vote (Panel B) plotted against government approval through a cycle of elections, Italy 1995–2008.

vote. These are encouraging results. But what about the other variables which are candidates for entering the model? Table 3 shows the correlation matrix of the relevant predictors with the two dependent variables we are studying (the total share of the incumbent government parties' vote and the vote share of the main party of the incumbent government). As expected, changes in approval are more strongly associated with the government's main party vote ($r = 0.70$, $p < 0.05$) than with the total government vote ($r = 0.44$, not significant). Against our expectation but consistent with previously discussed evidence on

Table 3
Correlation (Pearson) matrix of determinants of government vote and government's main party vote (Partito Democratico/Popolo della libertà) ($N = 9$).

	Government's main party vote	Change in approval	Partisanship: government (average – 3 elections – previous vote)	Partisanship: main party vote (average – 3 elections – previous vote)	Time in office
Government vote	0.47	0.44	−0.23	0.02	0.64*
Government's main party vote		0.70*	0.38	0.09	0.56
Change in approval			0.37	0.17	0.80*
Partisanship: government (average – 3 – previous vote)				0.28	0.26
Partisanship: main party vote (average – 3 – previous vote					0.51

* $p < 0.05$.

the erosion of the election cycle, partisanship is negatively correlated with the total government vote ($r = -0.23$), while it is rightly signed although only moderately associated ($r = 0.09$) with the government main party vote. This puzzling finding hints that, across the election cycle, supporters of the government's minor partners are more prone to deserting their previous choice than voters of core parties are. This implies that total government partisanship – across the election cycle – acts as a weighting factor on the subsequent vote. With respect to the time-in-office variable, the correlation with the vote is strong, positive and statistically significant ($r = 0.64$; $p < 0.05$). Accordingly, support for the government would increase with tenure, a finding which is at odds with theoretical expectations. However, this strong association appears to be due to the extraordinary performance of the Berlusconi government in 2006, when it polled 48.1%. If we exclude this year, the correlation with tenure drops to $r = 0.24$ (with total government vote) and $r = 0.13$ (main party vote). Finally, the strong inter-correlation between time in office and change in approval ($r = 0.80$), which prevents us inserting both in the regression equation, is further problematic. Since we have seen from the previous analysis that time in office is a significant predictor of approval, we are confident that its effect is already accounted for in the approval variable.

The previous analysis has clearly shown the weaknesses associated with developing an election forecasting model when the sample size is so restricted. Nevertheless, the task is not intractable, even though the degrees of freedom limitation imposes severe constraints on the model specification. Government approval appears to be a strong predictor, together with partisanship, whose impact has to be correctly understood, suggesting a differentiated influence between the total government vote and the core party vote. Crucially, then, the electoral arena must enter the specification of the model. The model to be estimated (with the two different dependent variables) therefore has the following specification:

$$V = b_0 + b_1 A + b_2 P + b_3 E + U, \tag{3}$$

where V = the incumbent government vote/incumbent main party vote; A = the change in government approval the quarter before the election; P = partisanship, measured as the average vote in the previous three elections; E = the electoral arena (a dummy indexing National Parliament elections); U = the error; and $b_0 - b_3$ are the estimated coefficients. The expectations are $B_1, B_3 > 0$; $B_2 < 0$ in the total government vote equation; and $B_2 > 0$ in the main government party vote.

Table 4 shows the OLS estimates; the coefficients of multiple determination adjusted for the degrees of freedom (Adj.R^2) are in the low range (0.28 and 0.57), suggesting a moderate fit of the model to the data. However, the approval coefficients are signed as ex-

Table 4
Predicting government vote, 1995–2008. Approval-partisanship model. OLS estimates (with standard errors in parentheses).

	Government vote	Government's main party vote
Change in approval	0.62*	0.73*
	(0.29)	(0.36)
Partisanship	−0.54*	0.06
	(0.26)	(0.23)
Parliamentary election	2.73*	1.2
	(1.0)	(1.4)
Constant	66.5**	28.6**
	(12.0)	(8.0)
Adj. R^2	0.57	0.28
SEE	1.5	2.0
N	9	9
DW	2.5	3.0

* $p < 0.05$.
** $p < 0.01$, one-tailed test.

pected, and are statistically significant.[10] The partisanship variables are also in the expected direction, but are not significant in the main party vote equation. Finally, the parliamentary election dummy exerts a positive impact, as expected, although it falls short of significance in the main vote equation. The DW test signals no evidence of serial correlation.[11]

A comparison of observed and predicted values according to Eq. (3) shows encouraging results, with a mean absolute error of 1 and 1.3 percentage points respectively for the total government vote and the government main party vote (Table 5). These predictions are of course after the fact, and are therefore only illustrative. A more severe test is to assess the model performance on out-of-sample forecasts—omitting each year in turn and re-estimating the model. The mean absolute error increases to 2.2 for the total government vote, and to 2.5 for the main party vote. For the total government vote, the largest error in political elections (+5.4 points) occurred in 2008, with Berlusconi's landslide return in power (polling 46.8%), while in the other three elections the error hovers around about three percentage points. Notably, the error is lower on average for European elections (1.2) and regional elections (0.8). The point estimates for national elections are therefore the most off target. But to what extent is the model able to pick the winner? After all, in a multi-party system a difference in the electoral results of a few percentage points may turn a likely victory into a defeat, with the outcome depending on the votes polled by the main government and opposition coalitions, but also on the votes received by parties outside the coalitions. Following Lewis-Beck et al. (2004), actual and out-of-sample predicted vote margins of the government versus the opposition have been computed (Table 6, panel A). In 1996, for instance, the model estimated that the incumbent Centre-Left government would poll 41.3%, with a predicted margin against the opposition of 1%, thus assigning the victory to the Centre-Left. The actual margin was 4.6%, so the model underestimated the result but picked the winner. On the other hand, in the 2008 election the model predicted a tie and the confirmation of the incumbent Centre-Left, while the actual margin – 4.7 points – was in favour of the Centre-Right. Overall, the forecasts predicted the right winner in two of the four National elections considered (1996 and 2006).

This may be considered a meagre result, although the limitation of the available series, which constrains model specification, needs to be taken into account. A better evaluation can be formulated concerning the prediction of the votes polled by the two major Italian parties which head the Centre-Left and Centre-Right blocks. The mean absolute error of the out-of-sample forecasts (Table 6, panel B) is 2.5, slightly greater than the total government vote error. However, the model correctly predicted the direction of the lead of the People of Freedom against the Democratic Party in each political election. The magnitudes of the predicted margins are also quite close to the observed values. In 1996, for instance, the model predicted a People of Freedom lead of 2.9 points, which is not too far from the observed margin of 5.5. In 2008, the observed lead was 4.2 against a

[10] Many forecasting models include (objective and/or subjective) economic measures, together with approval (see for instance the recent collection of papers in Campbell & Lewis-Beck, 2008). It might be of interest to report that also inserting the economic expectations into the model of Eq. (3) does not alter the impact of the other predictors, but the coefficient is wrongly signed and not significant.

[11] The DW tests – with $T = 9$ and $K = 4$ independent variables (including the intercept), and where the critical values for the D_U and D_L bounds are respectively 2.12 and 0.45 (Savin & White, 1977) – show values within the inconclusive range: $(4 - 2.12) < \text{DW} < (4 - 0.45)$ or $1.88 < \text{DW} < 3.55$. Johnston (1984, p. 316) suggests a conservative practical procedure for rejecting the null hypothesis of no autocorrelation if $\text{DW} < D_U$, which we fail to do.

Table 5
Observed and estimated electoral results according to Eq. (2).

(A) Total government vote

	Actual government vote (a)	Predicted (b)	Error (c: $b-a$)	Out-of-sample prediction* (d)	Out-of-sample error (e: $d-a$)
REG95	40.2	41.3	1.1	41.7	1.5
NAT96	44.9	43.6	−1.3	41.3	−3.6
EUR99	41.2	41.1	−0.1	41.1	−0.1
REG2000	42.3	43.1	0.8	43.4	1.1
NAT2001	44.3	46.0	1.7	47.0	2.7
EUR2004	43.4	41.5	−1.9	40.9	−2.5
REG2005	42.4	42.4	0.0	42.4	0.0
NAT2006	48.1	46.8	−1.3	45.1	−3.0
NAT2008	41.6	42.4	0.8	47.0	5.4
Mean absolute error			1		2.2

(B) Government main party vote

	Actual government main party vote (a)	Predicted (b)	Error (c: $b-a$)	Out-of-sample prediction* (d)	Out-of-sample error (e: $d-a$)
REG95	30.6	29.4	−1.1	30.5	−0.1
NAT96	27.9	29.4	1.5	33.4	5.5
EUR99	29.2	28.7	−0.5	28.4	−0.8
REG2000	30.4	30.7	−0.1	30.1	−0.3
NAT2001	31.1	32.2	1.1	32.8	1.7
EUR2004	32.5	31.1	−1.4	30.3	−2.2
REG2005	29.3	32.4	3.1	34.8	5.5
NAT2006	35.6	34.0	−1.6	32.5	−3.1
NAT2008	33.2	32.2	−1.0	31.8	−1.4
Mean absolute error			1.3		2.5

Note: NAT—National election; REG—Regional election; EUR—European election.
* The out-of-sample prediction is generated by omitting each year in turn and re-estimating the model.

predicted value of 5.6. Overall, the ratio of the average observed to the average predicted margin is 1.3 (average actual margin: 6.1; average predicted margin: 4.6), significantly lower than the analogous ratio in the errors of the total government vote: 2.4 (Table 6, panel B). The better performance of the model in predicting the main party vote *vis a vis* the total government vote signals that Italian voters primarily hold the largest party, which holds the premiership, accountable for the coalition government's performance.

4. Conclusions

The change in the Italian party system in the 1990s has brought about real alternations in the government of competing coalitions, and has for the first time made the evaluation of government performance salient to voters. The dynamics of government approval in Italy – on which topic previous research is virtually absent – follow a pattern common to contemporary democracies, being driven by economic and political factors according to the responsible government paradigm. The evaluation of government performance is an important predictor of voting choice at the individual level. In this paper the relationship between aggregate approval rates and election results has been investigated, with the aim of providing a forecasting model of election outcomes. The limitation of the sample size of available elections has suggested the inclusion also of 'second order' elections in the series, and the consideration of national political elections within an election cycle that unfolds over regional and European ones. The proposed model then relies on a parsimonious set of predictors: the change in government approval in the quarter before the election, partisanship and the type of election. Out-of-sample

Table 6
Observed and predicted (based on out-of-sample) national election results.*

(A) Total government vote

Year	Incumbent	Observed government vote (a)	Predicted government vote (b)	Observed opposition vote (c)	Actual margin (d: $a-c$)	Predicted margin (e: $b-c$)
1996	Centre-Left (CL)	44.9	41.3	40.3	4.6 (CL)	1.0 (CL)
2001	Centre-Left (CL)	44.3	47.0	45.4	−1.1 (CR)	1.6 (CL)
2006	Centre-Right (CR)	48.1	45.1	49.8	−1.7 (CL)	−4.7 (CL)
2008	Centre-Left (CL)	41.6	47.0	46.9	−5.3 (CR)	0.1 (CL)
Absolute average					3.2	1.3

(B) Government main party vote (Democratic Party and People of Freedom)

Year	Incumbent	Observed party vote (a)	Predicted party vote (b)	Observed opposition vote (c)	Actual margin (d: $a-c$)	Predicted margin (e: $b-c$)
1996	Democratic party (PD)	27.9	33.4	36.3	−5.5 (PoF)	−2.9 (PoF)
2001	Democratic party (PD)	31.1	32.8	41.5	−10.4 (PoF)	−8.7 (PoF)
2006	People of Freedom (PoF)	35.6	32.5	31.3	4.3 (PoF)	1.2 (PoF)
2008	Democratic party (PD)	33.2	31.8	37.4	−4.2 (PoF)	−5.6 (PoF)
Absolute average					6.1	4.6

* The actual and predicted winners (or party lead) are in parentheses.

Table 7
Pre-election forecasts of European elections results for Italy (issued April 2009).

Change in popularity	Observed government vote (a)	Predicted government vote (b)	Error ($c = a - b$)	Observed main party vote–People of Freedom (d)	Predicted main party vote–People of Freedom (e)	Error ($f = d - e$)
2009–2008	45.6	48.9	−3.3	35.3	35.6	−0.3
2009/4–2009/1-2-3	45.6	49.2	−3.6	35.3	36.0	−0.7

forecasts of both the total government vote and the main party government vote show a moderate forecasting capacity. The forecasting model for the government main party performs better than that of the total government vote, clearly suggesting that the Italians primarily hold the largest party in the ruling coalition accountable for government performance. Although this is far from a complete and satisfactory evaluation, it is shown that a political economy model offers a sound explanation of voters' choices over the election cycle, and is a strong base for ex-ante forecasts for future research.

Post-Scriptum: An approval-partisanship model ex-ante forecast of the 2009 European elections

The approval-partisanship model has been employed in an ex-ante forecast of the results of the 2009 European elections for Italy. The forecast was issued in late April 2009 and posted on the website of the Centre for the Study of Political Change at the University of Siena (http://www.gips.unisi.it/circap/rapporto-governo) two months before the election. Two readings of the approval rate of the incumbent Centre-Right government led by Silvio Berlusconi were used: the first one measured, according to the specification of Eq. (3), the change in approval in the quarter before the elections (average value of the popularity ratings in February, March and April 2009) with respect to the last quarter of 2008 (difference in ratings: $53.8-47.0 = 6.8$); while the second one compared the last available approval rate (April 2009) with the average value of the previous quarter, January to March (difference in ratings: $55.6 - 48.2 = 7.4$). The other relevant values to be inserted in the prediction equation were the partisanship variables, computed as the

Table A.1
Share of votes of coalition and main government parties in Italy, 1995–2008.

	Centre-Left		Centre-Right	
	All coalition vote	Main party vote	All coalition vote	Main party vote
REG95	40.2*	30.6*	41.6	36.8
NAT96	44.9 (M)*	27.9*	40.3 (M)	36.3
EUR99	41.2*	29.2*	42.4	35.5
REG2000	42.3*	30.4*	50.6	38.3
NAT2001	44.3 (M)*	31.1*	45.4 (M)	41.7
EUR2004	46.7	31.1	43.4*	32.5*
REG2005	52.9	32.6	42.4*	29.3*
NAT2006	49.8	30.4	48.1*	35.6*
NAT2008	41.6*	32.2*	45.7*	37.4*
Average	44.9	30.6	44.4	35.9
S.D.	4.3	1.4	3.3	3.5

Note: NAT—National election; REG—Regional Election; EUR—European election.
(M): Majoritarian (plurality) electoral system. All other elections are PR.
* Incumbent.

average vote share in the last three elections (the regional elections of 2005, and the national elections of 2006 and 2008): government vote: 40.6%; main party vote: 34.1%. Substituting these values into Eq. (3) yields the estimates which appear in Table 7.

The model predicted rather accurately the share of votes that People of Freedom polled, with a margin of error of between −0.3 and −0.7. These results were even more satisfactory given that the available polls were assigning between 40% and 45% to Silvio Berlusconi's party. Also, the forecast concerning the coalition vote, although off the mark by 3.3/3.6 percentage points, predicted the winner to have a lead over the opposing Democratic Party of 23.1%, vs. the actual lead of 19.5%.

Appendix

See Table A.1.

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