
Consumer Confidence in Portugal: What Does it Really Matter?

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Abstract

Confidence, in general, and consumer confidence, in particular, are subject to an increasing interest by many agents, such as central banks and governments, at a national level, as well as by supra-national entities, such as the European Commission of the European Union. Although this interest is shared by the academic community, the literature in this area is mainly focussed on the use of consumer confidence to predict variables which describe the business cycle, like consumption. Instead, the objective of our paper is to analyse the evolution of consumer confidence in Portugal and examine which factors underpin its formation. Our empirical study uses monthly data for the period January 1987 – December 2008. We find that consumer confidence, besides presenting some inertia, is basically explained by electoral circumstances.

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Key words: Consumer Confidence, Elections, Portugal

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Introduction and motivation

Confidence, in general, and consumer confidence, in particular, are subject to an increasing interest by many agents, such as central banks and governments, at a national level, as well as by supra-national entities, such as the European Commission of the European Union (EU). This interest is shared by the academic community and by the (specialized) media. The severity of the current economic crisis, characterized by the lowest level of confidence in several countries for many decades has increased the attention to (consumer) confidence. Portugal is not an exception in this scenario.

As a matter of fact, even before the current economic crisis, the importance of confidence was already acknowledged at various levels. To illustrate this importance, one can take the so-called Lisbon Strategy that, as it is well-known, was launched in March 2000 by the European Council of the EU. The EU adopted then a package of measures to promote growth and employment and set ambitious targets regarding the position of the EU economy in order to make it “the most dynamic and competitive knowledge-based economy in the world” by 2010. Quite recently, EU politicians have admitted that the Lisbon Strategy has revealed to be excessively ambitious and have called for a new start with an emphasis on the reduction of long-term unemployment. In its supporting argumentation, the European Commission stressed the role of confidence of the economic agents in the EU. It was then argued that structural labour market reforms were beneficial because they would significantly contribute to “an increase in growth and in employment *through a positive impact on confidence*”; see European Commission (2004, p. 19 [italics added]). Moreover, business surveys on the economic sentiment and consumer confidence conducted by the European Commission are said to have become “an indispensable tool for monitoring the evolution of the EU and the euro area economies, as well as monitoring developments in the applicant countries”.²

The recognition of the importance of the economic climate for the business cycle makes part of one strand of the literature that explores the influence of confidence on relevant economic variables (Acemoglu and Scott, 1994; Matsusaka and Sbordone, 1995; Santero and Westerlund, 1996; Mourougane and Roma, 2003; Utaka, 2003; Harrison, 2005; Dion, 2006; Kwan and Cotsomitis, 2006; Taylor and McNabb, 2007). However, just to give an example, when acknowledging the relevance of consumer confidence for output growth (European Commission, 2000) it clearly becomes important to analyse the explanatory factors of confidence. Plainly, given that confidence is related with the real part of the economy, whose manipulation with the purpose to obtain a cer-

² See http://ec.europa.eu/economy_finance/db_indicators/db_indicators8650_en.htm (accessed on May 9, 2009).

tain growth level remains at the responsibility of each member-state, a crucial question to be asked when considering those EU objectives is to understand how confidence is explained in each member-state.

The increasing interest on the trajectory of confidence and on the factors that determine the formation of the subjective evaluations of the economy reflected by confidence indexes has instigated the recent development of some literature in this area. Most of the papers investigate whether economic variables, like inflation, unemployment and interest rate, and important events, like the Gulf War or the September 11, influence the formation of economic expectations; see Garner (2002), Golinelli and Parigi (2003) and Vuchelen (2004). On the other hand, Vuchelen (1995) and De Boef and Kellstedt (2004) include also political circumstances among the determinants of confidence. The last paper and Alsem et al. (2008) also consider the impact of economic and political information supplied by the media. On the other hand, the recent approach by Van Oest and Frances (2008) is focussed on the identification of changes in consumer confidence which are significantly different from zero.

In this paper we intend to analyse consumer confidence in Portugal in the period of 1987-2008. This index had only been analysed for Portugal by Caleiro (2006) who, instead of a econometric model, uses a fuzzy logic perspective to establish a relationship between confidence and unemployment in Portugal. Our empirical application provides two major contributions for the literature on the formation of consumer confidence. First, we present an objective analysis of the trajectory of this index, which identifies the significant structural changes in the series. Second, given the subjective nature of the variable of interest, we present regression results based on a wide set of explanatory variables, which include economic performance, electoral circumstances and national and international relevant events.

The rest of the paper is structured as follows. Section 1 analyses the evolution of consumer confidence in Portugal. Section 2 describes some potential explanatory factors of confidence and analyses some regression results. Finally, section 3 presents some concluding remarks.

1 Consumer Confidence in Portugal

Our variable of interest is the consumer confidence index for Portugal, which is published monthly by the Eurostat and covers the period starting in January 1987 until December 2008. This indicator is the arithmetic average of the balances (in percentage points) of the answers to the questions to consumers about their expectations for the next 12 months regarding the financial situation of their household, the general economic situation, unemployment expect-

tations (with an inverted signs), and household savings (European Commission, 2003). This time series, designated as *ConsConf*, is displayed in Figure 1.

Figure 1 about here

Roughly speaking, the consumer confidence indicator shows some stability at the beginning of the period, followed by an abrupt decline around 1992 until 1993, where an inverted u-shaped trajectory could be observed until 2003, where confidence was at its lowest value, followed then by a tentative recovery that stopped around the end of 2006 when another sudden decline could be observed. At the end of the period, the consumer confidence attained the lowest level, at least since 1987.

The variability of the consumer confidence index is a well-known feature of this kind of time series. In particular, the occurrence of sharp decreases seems to be common. In the case of Portugal, one can notice sharp declines at the end of 1991 and beginning of 2002, identified in Figure 1 by the vertical lines, that are associated with significant structural breaks. In order to study the statistical existence of structural breaks, we perform the Clemente et al. (1998) tests and also the CUSUM and CUSUM-Q tests. The results of these two approaches are quite similar and indicate the existence of structural breaks in this time series. The Clemente et al. (1998) test is a unit root test which has the ability to capture and identify, in a very robust way, the existence of structural breaks in a certain variable. The results indicate the existence of two structural breaks in *ConsConf*, more specifically on November/December 1991 and February/March 2002. It is worth mentioning that the sharp declines in confidence leading to an apparent shift in the mean, that took place at the beginning of 1992 and 2002, can be due to a conjugation of effects: external, such as the European Monetary System and technological bubble crisis, respectively; and internal, such as an unyielding policy associated with a majority and a political crisis, respectively.

In order to confirm the results obtained with the Clemente et al. (1998) and CUSUM tests we have also tested the equality of the three sub-periods means. We computed the ANOVA table and the results obtained point to the rejection of the null hypothesis of equality between the three means. So, there is strong statistical evidence of differences between the *ConsConf* means among the period under analysis. In fact, the horizontal lines in Figure 1 indicating the mean of the confidence index for each of the three sub-periods in analysis suggest that, when comparing each of these sub-periods with the previous one, the mean of the confidence index was reduced in about 50%.

2 Explaining Consumer Confidence in Portugal

In this section we investigate which factors affect the consumers' perceptions of current and expected economic conditions in Portugal. Previous studies on the formation of consumer confidence indicate that economic expectations are determined not only by the economic performance, but also by other factors like the political context and relevant events; see Vuchelen (1995), Garner (2002), Golinelli and Parigi (2003), Vuchelen (2004), and De Boef and Kellstedt (2004). However, most of these papers focus on the analysis of the impact of one or two of these classes of factors. In general, several alternative regression models have been estimated, but no specification tests documenting the suitability of the models obtained are presented.

The subjective nature of consumer confidence, suggests that this variable may be affected by a variety of conditions that can not be evaluated. In fact, Vuchelen (2004) mentions that this index reflects the 'mood' of consumers, which may have unobserved determinants as expected income or uncertainty. As the omission of relevant explanatory variables may lead to unreliable results in econometric analyses, in this paper we follow a different approach from that of the previous papers in this area. Our strategy consists on including in the analysis all the possible determinants of confidence and then assessing the models obtained by the most well known specification tests. In the remaining of this section we describe the variables that will be used to explain consumer confidence and then we discuss the regression results.

2.1 Potential explanatory variables

Given that consumer confidence reflects a prospective economic evaluation at the individual level, the most considered measures of economic performance in these matters appear to be important determinants of the consumer sentiment. Therefore, we incorporate unemployment and inflation, designated respectively as *Unemp* and *Infl* in our regression model. Unemployment corresponds to the seasonally adjusted values of the unemployment rate in total terms. Inflation corresponds to the growth rate of the consumer prices index.³

³ In a previous version of this paper which did not include the years of 2007 and 2008, we have included an interest rate among economic explanatory variables. We used the government bond yield with 10 years of maturity. As this variable became unavailable from May 2007 and, as far as we known, there is no other similar measure of the interest rate for Portugal for the period in analysis, the interest rate was excluded from this version of the paper. However, we think that this omission may be innocuous, since the block formed by the lags of this variable displayed the smaller statistical significance among all the covariates considered in

The second group of explanatory factors includes electoral variables which describe essentially the type of elections in Portugal during the period in analysis. Namely, we considered: i) normal elections, which we defined as the ones occurring in the normal electoral cycle in Portugal: October 1991, October 1995, and October 1999; and ii) anticipated elections, such as the ones occurred in July 1987, March 2002 and February 2005. Each of these classes of elections is included in the model through a dummy variable, designated respectively as, *Election* and *AntecElection*. *Election* takes the value one for the ten months before the occurrence of non-anticipated elections as well as for the month after these elections in order to capture the so-called honeymoon effect (this approach is similar to that of De Boef and Kellstedt, 2004). *AntecElection* = 1 for all the months preceding those three elections where it was perceptible that they could be called and one month after the election, to reflect the post-election political and economic sentiment. Namely, for the July 1987 election the political crisis around March 1987 was the relevant event; for the March 2002 election we consider the dissolution of the Parliament in December 2001; and for the February 2005 election the relevant event was the nomination of Prime Minister Durão Barroso as president of the European Commission in November 2004. Therefore, *AntecElection* = 1 in March 1987-August 1987, November 2001-April 2002 and October 2004-March 2005. Additionally, as we suspected that consumer confidence could be also affected by occurrence of absolute majorities in the elections of July 1987, October 1991, and February 2005, we have also considered the dummy variable *Majority* = 1 for ten months before and after these elections. In this case, the variable was designed to reflect not only the perception of the economic measures taken before the elections, but also the consumers' reaction to the policies implemented by the governments supported by a majority in the parliament. The inclusion of these three types of variables was inspired in Vuchelen (1995), but their construction follows closely the approach of De Boef and Kellstedt (2004).

We have also incorporated two variables of context in the regression model, which describe the occurrence of serious crisis, such as the ones in 1993, 2003, and 2008 where output did not grow in Portugal, and reflect the sentiment of Portuguese relative to entrance in the Euro area in January 2002. The former dummy variable, designated as *Crisis*, takes the value one each month of 1993, 2003, and 2008 while the latter, designated as *Euro*, is one in the six months before and the six months after January 2002. The idea in the definition of this last variable is to capture the sentiment of Portuguese during the period where the entrance in the Euro Zone was prepared and their adaptation to the new context based upon the substitution of the escudo by the euro, which was a process subject to some negative perspectives.

the previous version of the paper.

Obviously, there are many other potential determinants of *ConsConf*. In some exploratory analysis we have considered other factors, besides the ones mentioned before, some of which were used in previous studies like those of Vuchelen (1995) and De Boef and Kellstedt (2004). Namely, we considered variables to capture the ideology of the party in power, the change in the party in power, the influence of some particular events held in Portugal such as Expo 1998 or the final tournament of UEFA Euro 2004, and the influence of important events in the international context like the Gulf and the Iraq wars and the September 11. However, as none of these variables was significant in the models estimated, we will not present those results. On the other hand, there are other variables which we would like to include in the model, like an indicator of the media coverage of economic and political conditions, which we had no conditions to construct for the long period in analysis; see the studies of De Boef and Kellstedt (2004) and Alsem et al. (2008).

2.2 Regression results

The first step is to examine the order of integration of both the economic variables (*Unemp* and *Infl*) and *ConsConf* by using the well known Augmented Dickey-Fuller (ADF) tests and the tests of Clemente et al. (1998) which are appropriate to assess the presence of unit roots in cases where the series display one or two structural breaks. In fact, the results of the ADF tests are strongly criticized in the literature in the presence of structural breaks, since they tend to be biased towards the nonrejection of the null hypothesis of the existence of unit roots. Clemente et al. (1998) suggest a unit root test that allows for two changes in the mean of a series, under the assumption of innovational or additional outliers. This test has also the ability to check and identify the structural breaks in the series as we have mentioned in Section 1. It is important to refer that the Clemente et al. (1998) test is an extension of the Perron and Vogelsang (1992) tests, since it allows the existence of more than one structural change in the mean of the variable. This approach is not very popular yet, although its performance is higher than the traditional approaches (namely ADF test and Perron and Vogelsang (1992) statistics) when the variable being studied shows statistical evidence of structural breaks. The results of the unit root tests are reported in the Appendix and indicate that while *ConsConf* and *Infl* are integrated of order one, $I(1)$, *Unemp* is $I(2)$.

Given that *ConsConf*, $\Delta Unemp$ and *Infl* are $I(1)$ we have considered the possibility of estimating a long-run relationship between these variables. To test cointegration among those series we used the Phillips tests suggested by Gregory and Hansen (1996). According to these authors, the power of the Johansen's test is substantially reduced when the series exhibit structural breaks. So, in the presence of regime shifts, the Gregory and Hansen (1996)

tests, which show a higher performance, should be employed. We used the Gauss code provided by Hansen and our results indicate no cointegration among *ConsConf*, *Infl* and $\Delta Unemp$, which lead us to conclude that it does not exist a long-range relationship between *ConsConf* and the economic variables in our data base.

In a short-run perspective, we will work with the first differences of *ConsConf* and *Infl*, $\Delta ConsConf$ and $\Delta Infl$, and the second differences of *Unemp*, $\Delta^2 Unemp$. We first considered a baseline model which incorporates all the explanatory variables of *ConsConf* described in the previous sub-section, including up to four lags for $\Delta ConsConf$, $\Delta^2 Unemp$, and $\Delta Infl$. Table 1 presents the estimates of the coefficients and the standard errors, as well as some diagnostic measures, and some F tests for the joint significance of the lags of the $\Delta ConsConf$, $\Delta^2 Unemp$, and $\Delta Infl$, and the variables describing the electoral cycle, and the economic context.

Table 1 about here

As the F test for the null hypothesis that all the slope coefficients are zero (F^{all}) exhibits a p-value of 0.069 and the F tests for the joint significance of blocks of variables indicate that at the 5% and 10% significance levels only, respectively, one and two of the blocks are significant, it is clear that most of the factors which we have considered as potential determinants for $\Delta ConsConf$ are statistically irrelevant. In fact, in Portugal, consumers appear to overlook the economic variables in their prospective evaluation of the global performance of the economy. Similarly, the block concerning the past values of $\Delta ConsConf$ is not significant. Moreover, only if we consider a 10% significance level, the economic context becomes relevant in the formation of confidence, but only containing a variable, *Euro*, individually significant. Hence, confidence was not significantly affected by the poor performance of the Portuguese economy in terms of economic growth in 1993, 2003 and 2008 (although, in Figure 1, it is clear that *ConsConf* achieved the lowest levels in these years). On the other hand, the block of electoral variables clearly appears to determine consumer confidence, although the variable *Majority*, associated with a p-value of 0.197, is not individually relevant.

In this context, we propose a reduced model to describe consumer confidence in Portugal. We first estimated a model including variables which in the previous model displayed individual significance tests with a p-value smaller than 0.150 (besides the stated variables in Table 1, this model also includes the second and third lag of $\Delta ConsConf$, $\Delta^2 Unemp_t$, and the second lag of $\Delta Infl$). As this last covariate displayed a p-value of 0.361, it was then discarded, and the

final model was obtained:

$$\begin{aligned}
\widehat{\Delta ConsConf} = & -0.315_{(0.187)} - 0.110_{(0.061)}\Delta ConsConf_{t-2} + 0.100_{(0.061)}\Delta ConsConf_{t-3} \\
& + 1.782_{(1.096)}\Delta^2 Unemp_t + 0.919_{(0.427)}Election + 3.434_{(1.612)}AntecElection \\
& - 3.577_{(1.546)}Euro,
\end{aligned} \tag{1}$$

where standard errors are presented in parenthesis. The results of some diagnostic statistics and tests (p-values) are: $\overline{R}^2 = 0.047$, $\hat{\sigma} = 2.626$, $F^{all} = 0.006$, $F^{comp} = 0.275$, $F^{RESET} = 0.121$, $\chi^2_{Breusch-Godfrey} = 0.308$, $\chi^2_{White} = 0.736$, and $\chi^2_{Arch4} = 0.408$.

In this model the null hypothesis of no significance of all the covariates is rejected at the 1% level. In fact, we obtained a model where the block of variables containing the past lags of $\Delta ConsConf$ is significant at the 5% level and, at the same significance level, all the other variables with the exception of $\Delta^2 Unemp_t$, which is associated to a p-value of 0.105, are individually relevant. The larger adjusted R^2 , the smaller root mean squared error $\hat{\sigma}$, and the F test for comparison of this model with the one including all the possible covariates, F^{comp} , indicate that model (1) is the most appropriate to describe the data. Moreover, as none of the specification tests of model (1) was significant at the 5% level, there is no evidence of misspecification. Namely, the RESET test suggests that the functional form adopted is correct; Breusch-Godfrey tests suggest that serial correlation is not present; and, finally, the null hypotheses of homocedasticity is not rejected by White's test, and the presence of autoregressive conditional heterocedasticity of order four is also ruled out.

Interestingly, the results indicate that, besides being explained by its past values and by the event of the entrance in the Euro Zone, consumer confidence in Portugal is mainly determined by electoral circumstances. This last result was not unexpected, since the strong influence of political conditions on this index had already been documented by Vuchelen (1995) and De Boef and Kellstedt (2004) for Belgium and for the US, respectively. However, the apparent absence of explanatory power of the economic performance on the prospective evaluation of economic conditions is undoubtedly surprising and had not been observed in previous studies. Indeed, this may be the result of two facts: (i) that the same level of confidence can be associated with distinct economic situations as the result of absence of economic literacy, i.e. some sort of bounded rationality (Caleiro, 2006) on the part of agents and (ii) that the economic situation may be exerting an effect through the occurrence of elections. As Figure 2 clearly shows, the general pattern is that confidence increases before elections and decreases afterwards. In those elections, when confidence was relatively high/low, an electoral victory/defeat of the incumbent occurred, which coincided with periods of relative economic prosperity/downturn.

Figure 2 about here

On the one hand, the entrance in the Euro Zone had a negative influence over consumer confidence. Therefore, Portuguese consumers showed a pessimistic attitude towards the process of substituting the escudo by the euro. We think that, at least in part, this could be a result of the information that circulated at that time about, for example, the presumably increase in the prices due to inappropriate rounding offs in the conversion of the prices.

On the other hand, the announcement of elections, either those included in the normal electoral cycle or those called unexpectedly, seem to have a significant positive impact in the formation of consumer confidence. This is illustrated in Figure 2, where, in general, we observe high levels of consumer confidence before all the elections. This kind of pattern could be anticipated for the elections of the normal electoral cycle, reflecting the usual pattern of an electoral cycle which consists on economic expansions in the last part of the mandate in order to explore the decaying memory of the electorate. However, the positive influence of the anticipated elections over consumer confidence is somewhat surprising, but had also already been found in Vuchelen (1995) results for Belgium. In fact, Portuguese consumers instead of being negatively affected by the political instability that lead to the three anticipated elections, responded to the call of the elections in a very optimistic way, which certainly may be a consequence of the fact that consumer confidence in Portugal achieved high levels before these three elections but also shows a general perception that, after the elections called for to clear a crisis, the situation would improve. Note that although the two types of elections appear to influence $\Delta ConsConf$ in the same direction, the magnitude of the impact of the elections of the normal cycle is smaller. Therefore, we have tested whether their impact was statistically different, but we could not reject the null hypotheses that their impact in the formation of consumer confidence was the same (the p-value of this test was 0.132).

3 Concluding remarks

Our results show that the major determinants of the economic evaluation performed by Portuguese consumers are the electoral circumstances. In fact, electoral cycles, being the result of a manipulation of voters' welfare, are an apparent source of variations in confidence, as high levels of confidence around the election day are favorable to a re-election. This is in general accordance to the results of Vuchelen (1995) that, by recognizing that consumer confidence is essentially prospective, may react to elections given the news content of the electoral results. As it is well-known, from a partisan viewpoint the uncertainty associated with the electoral results may turn these into news (Alesina, 1987),

that prospective variables, such as expected inflation (as well as consumer confidence), do necessarily reflect.

In Portugal, economic perceptions and expectations, instead of being determined by objective measures of economic performance, appear to be essentially explained by electoral cycles. Our results may be relevant in practice, since they stress the importance of elections to confidence and, therefore, to the economy in general. This to say that the economic situation may be important but only to the extent that is being reflected in the occurrence of crucial events, such as the elections. In fact, the Portuguese elections can be associated with crucial events to the public as they helped to increase confidence after a crisis, which explained the early call of those elections. This constitutes a normative lesson based upon the importance of justifiable early elections to increase confidence. Furthermore, given that the evident victories lead to less favorable economic evaluations afterwards, this may be seen as the confirmation of a typical electoral cycle produced by an opportunistic policy based upon depressions immediately after the election day and subsequent expansions, which are easier to implement when the government is ruling based on an absolute majority in the parliament, as it was the case.

These results, in turn, call the attention to a novelty in the electoral cycles approach, as it is generally recognised that the variables traditionally used to win the elections, such as inflation and unemployment, are becoming less controllable, especially in a small open economy integrated in a monetary union, such as the case of Portugal. As a consequence, one may start acknowledging the existence of a relationship between electoral circumstances and a traditionally, but no longer, ignored variable, namely confidence, which, to some extent, can be manipulable. From this point of view, a opportunistic policy recommendation can easily be inferred based upon the use of confidence as a tool to win elections. Having said that, given that consumer confidence is supposed to help predicting the business cycle (see, for instance, Mourougane and Roma, 2003), one obvious and important line of future research in this area is the use of vector autoregressive (VAR) models to describe the interactions between consumer confidence, growth, and election results.

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4 Appendix

Table 2 displays the results of ADF and Clemente et al. (1998) (CMR) tests of unit roots.

Table 2 about here

Table 1
Model including all the covariates

Variables	Lag	Coefficient	Stand. Dev.
Δ ConsConf	1	-0.046	0.066
	2	-0.104	0.064
	3	0.096	0.064
	4	0.072	0.065
Δ^2 Unemp	-	2.101	1.355
	1	0.228	1.553
	2	0.088	1.609
	3	1.385	1.548
	4	-0.124	1.328
Δ Infl	-	-0.394	0.371
	1	-0.507	0.380
	2	-0.601	0.412
	3	0.098	0.377
	4	-0.798	0.372
Election		1.049*	0.464
AntecElection		3.302*	1.634
Majority		-0.683	0.528
Crisis		-0.159	0.498
Euro		-3.589*	1.572
Constant		-0.222	0.216

$\overline{R^2}=0.039, \hat{\sigma}=2.646$

P-values for F tests for blocks of variables: $F^{\text{all}}=0.069, F^{\text{ConsConf}}=0.126, F^{\text{Unemp}}=0.506, F^{\text{Infl}}=0.371, F^{\text{ElectoralCycle}}=0.023, F^{\text{Context}}=0.074$

Note: * denotes significance at the 5% level.

Table 2
Tests for unit roots

Variable	Test Statistics		
	ADF	CMR	
		Additive outliers	Innovative outliers
ConsConf	-1.253	-3.147	-4.630
Δ ConsConf	-16.772	-17.555	-13.859
Unemp	-1.137	-2.794	-3.738
Δ Unemp	-10.803	-3.405	-5.445
Δ^2 Unemp	-12.075	-8.602	-13.677
Infl	-0.752	-2.838	-4.117
Δ Infl	-16.482	-15.021	-16.090

CMR tests were implementent in Stata, using the routine of Baum (2005).
The critical value for CMR tests at 5% significance level is -5.49.

Figure 1: Consumer Confidence Index for Portugal

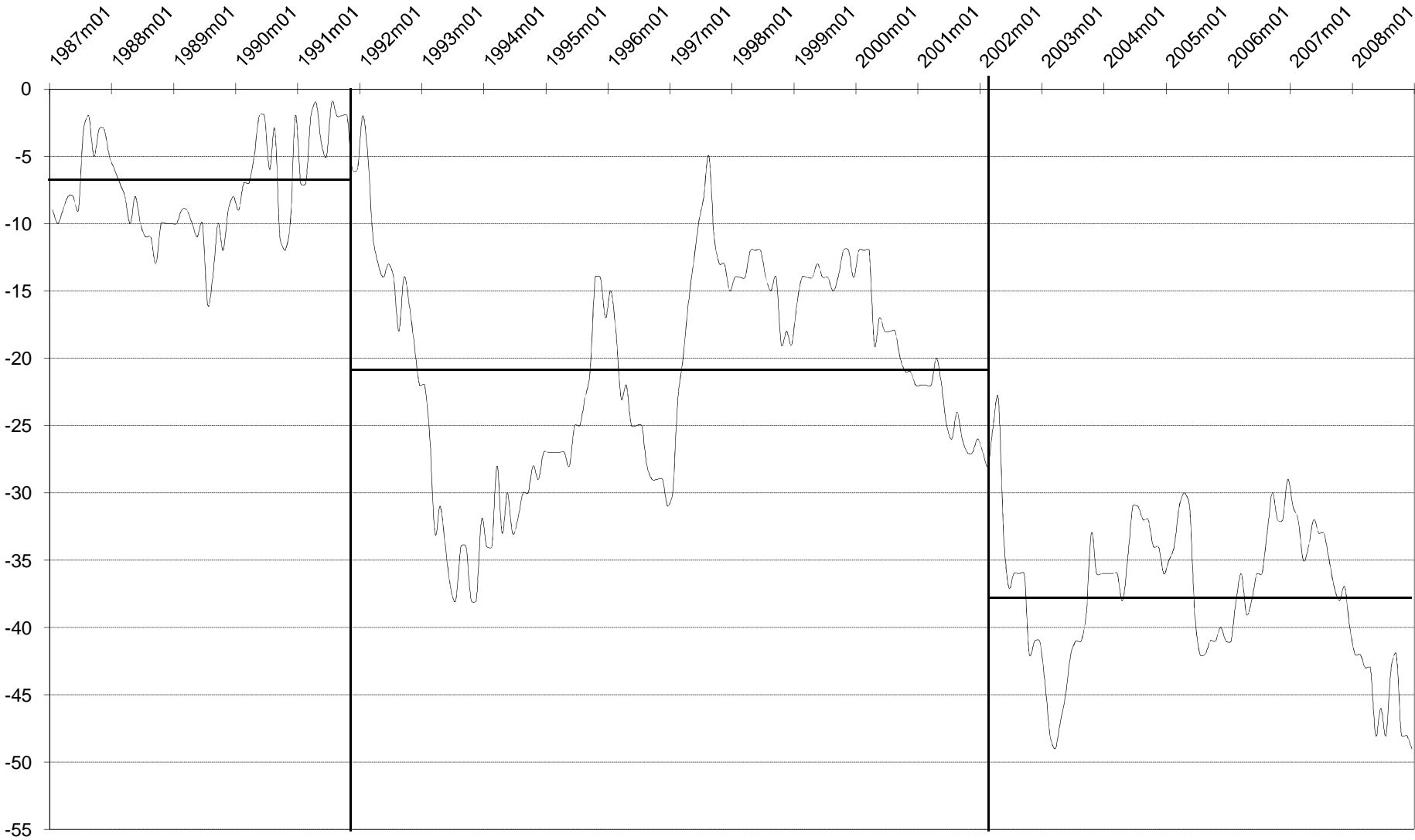


Figure 2: Consumer Confidence and Election Dates

