DOES KEYNES’ ANIMAL SPIRIT IMPACT THE PERCEPTION OF POLITICAL COMPETENCES?

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Abstract
Numerous published papers highlight the important role played by economic confidence in the economic growth of a country, or in the success of an economic policy. In the present research, we use the Joint Harmonized EU Program of Business and Consumer Surveys to shed light on the interrelationship between economic confidence and the perception of the incumbent government's and the President’s competence. Using French monthly economic and political data (from May 1988 to February 2009), we apply the standard Engle and Granger method to test for cointegration, and estimate a vector error correction model (VECM). Economic sentiment appears to be weakly exogenous, confirming the importance of Keynes’s animal spirit in the determination of business cycles. The analysis of impulse responses functions provides more insights into the dynamic interactions of economic sentiment and political confidence.

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Keywords
Economic sentiment; Political confidence; Vector error-correction model

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1. Introduction

Policy makers, analysts and the media pay attention to the Economic Sentiment Indicator (ESI). This index is assumed to reflect the confidence of the representatives of the industry (manufacturing), the services, the retail trade and the construction sectors, as well as the confidence of the consumers. It can be interpreted as the willingness to consume and to invest, and thus affects the business cycle. Easaw (2005) compared economic confidence to Keynes “animal spirits”. There is evidence that Consumer Sentiment Index is able to predict the growth of household consumption in the US, which in turn influences business cycles [see, e.g., Carroll et al. (1994), Ludvigson (2004) and Desroches et al. (2002)]. These works confirm the thesis of Hall (1993) and Blanchard (1993) that the US recession of the beginning of the nineties was caused by a spontaneous decline in consumption. Matsusaka et al. (1995) also corroborated the finding that economic sentiment played a role in that economic crisis.

Easaw et al. (2007) investigated how households form subjective preferences. They found that households tend to use their view on the economic situation as an “anchor” to determine their opinion about government’s competence for most presidential era. When household’ expectations of income and wealth are high, regard for the incumbent government increases. But when their confidence is low they tend to blame the government. This result underlines that perceived political competence is another variable of interest to policy-makers and analysts. It is known to be an important determinant of the success of economic policies; there is evidence that unexpected inflation and expected unemployment play a significant role in determining the popularity of political parties, but that there is no relation in the other direction (Kirchgassner, 1985).

Since households are both consumers and voters (Tullock, 1976), it is reasonable to think that their perception of the government influences their willingness to consume or to invest, or vice versa. The two appear to be related, but the direction of the causality is not trivial. Depending on the direction of the causality, we will interpret differently the variations from the long run relationship between households’ subjective confidence and their perception of competence. The goal of our paper is to investigate the relationship and the dynamics between the economic agents’ willingness to consume and invest, and perception of the government. In particular, we seek to determine whether economic agents form their opinion on political competences based on their economic sentiment, or vice versa. In the first scenario, the incumbent’s image mainly depends on whether the economic situation is improving or deteriorating and how it compares to the economic situation of countries of similar conditions. Despite its best efforts to manage the macro-economy and despite its competence, a government image might be deteriorating if unemployment and inflation keeps increasing. We can imagine other scenarios: the causality can go in the opposite direction, in both directions or in neither direction.

Using French time series, the present research complements Easaw (2007): we introduce along the household’s willingness to consume the firm’s willingness to invest; moreover, we consider not only the President but also the Prime Minister in the “ruling couple”. To the best of our knowledge, the only existing studies are for the United States, the United Kingdom and Germany; we are not aware of any study in France. The rest of the paper is as follows: in the next section, we present the Consumer Confidence Indicator (from the Joint Harmonised EU Programme of Business and Consumer Surveys), and the President and Prime Minister confidence indicator (from the Figaro-TNS Sofres-Logica). Section 3 provides a conceptual analysis of the joint relationship between economic sentiment and President and Prime Minister perceived competence. The econometric methodology and results are set out and discussed in section four. The main conclusions are drawn in section five.
2. The data

2.1. The Economic Sentiment Indicator (ESI)

The “Joint Harmonised EU Programme of Business and Consumer Surveys” was launched on 1961. Five surveys are currently conducted on a monthly basis in the following areas: manufacturing, industry, construction, consumers, retail trade and services. About 125 000 firms and almost 40 000 consumers are currently surveyed across the EU. More details are shown in Table 1.

[Table 1]

The questions of the surveys are presented in Appendix. Answers obtained from these questions are aggregated in the form of “balances” which are constructed as the difference between the percentages of respondents giving positive and negative replies. The Commission calculates confidence indicators as arithmetic means of answers (seasonally adjusted balances) to a selection of questions related to the confidence indicator they are supposed to monitor. Then the results for the five surveyed sectors are aggregated into the Economic Sentiment Indicator (ESI), whose purpose is to track GDP growth in the EU. Explicit weights are allocated to the different sectors for the computation of the composite indicator: Industry: 40%, Services: 30%, Consumers: 20%, Construction: 5%, Retail trade: 5% (see http://ec.europa.eu/economy_finance/indicators/business_consumer_surveys/).

2.2. The political confidence indexes

The monthly indicator “Baromètre Figaro Magazine – TNS Sofres / Logica” is used to measure whether the population is confident the Prime Minister or the President will be “able to handle current problems in France”. TNS Sofres / Logica interviewed, at home, 1000 persons aged 18 or more. This is a representative sample of the French adult population, based on quota sampling (with a selection based on sex, age, occupation of the household head as well as on region and size of the urban area). Our empirical analysis covers the period between May 1988 and April 2007. We focus on four presidencies: the Mitterrand era (reelection), the Chirac era (election and reelection) and the Sarkozy era.

It is useful to present the characteristics of the French Political System, and their implications for the perceived confidence of the president and the Prime Minister. We can see the French executive government as a “couple” with an elected president and a Prime Minister appointed by the president. Under the current constitution, the President can dissolve the Assembly whereas the legislature has no powers of removal against the president. In that sense we can see the president has having the upper hand in the “presidential couple”. However, the Prime Minister must be acceptable to the legislature. The various “couples” of the observation period are described in Table 2.

[Table 2]

Insofar as the president was elected for a seven-year term (five-year term since 2002), while the Assembly was elected for a five-year term, it was possible to observe what French called “Cohabitation”. It occurs when the President is from a different political party than the majority of the members of parliament. There have been three periods of cohabitation during our sample period. Each illustrates the change of powers between the President and the Prime Minister: in 1993 President Mitterrand was forced to appoint an opposition member, Edouard Balladur, forcing him to focus on foreign duties and allowing his Prime Minister to control internal affairs. In 1997, President Chirac decided to dissolve parliament and call for early legislative elections. French electorate turned back to the leftists. Chirac was forced to appoint Socialist Lionel Jospin to the premiership. The president had no say over certain major reforms such as the shortening of the working week from 39 to 35 hours.
Since the President and Prime Minister are a running couple, we can imagine that their popularity are somewhat related, in a sense they are complement in people’s view. Assuming they are, we do not expect that there are perfectly related since the Prime Minister can become unpopular if seen as the leader of unpopular domestic political reforms (while the president might be credited during the same time for his overall good handling of foreign policy). Alternatively, the president can benefit from the popularity of its Prime Minister (and receive credits for his choice of Prime Minister and overall command of the government) or not be very popular despite the good image of its Prime Minister. Alternatively, since the president and the prime minister compete for the same political resources, we can think of them as substitute rather than complement inputs for voters. During periods of cohabitation, the president and the prime minister tend to compete rather than to cooperate. Since both scenarios are possible, the analysis of causality will be important to find some insights on the presidential couple for our period of study.

2.3. Graphical evidence

Figure 1 depicts the Economic Sentiment Indicator and both Prime Minister and President subjective competences (PMCI and PCI; Prime Minister Confidence Index and President Confidence Index).

It can be seen that to a considerable extent the three series move together, at the beginning of the Mitterrand II period, the first Chirac era and the Sarkozy era. During the whole period of study, the economic sentiment index experienced 4 periods of steep decline. The first decline ends with a trough corresponding to the economic crisis of 1992-1993. The second and third declines correspond roughly to an economic slowdown (but not a recession). Finally the last decline begins after the election of actual president Nicolas Sarkozy and is aggravated by the current economic recession.

The indicator of the president and Prime Minister appear to move rather together with a notable exception during the second French cohabitation, which coincides with the recovery of the 1992-1993 crisis (with a left wing president Mitterrand, and a right wing Prime Minister Balladur, May 1993-May 1995). During the third cohabitation that took place during a period of rapid recovery from the 1993 recession (with the right wing president Chirac and the left wing Prime Minister Jospin, June 1997-May 2002), we do not observe such a discrepancy. We usually observe that when the president index goes down, the Prime Minister goes down as well. An interesting exception, well publicized in the media, appears in 2008 during the Sarkozy era. The President image deteriorates while its Prime Minister François Fillon image improves. Moreover, François Fillon has been significantly more popular than Nicolas Sarkozy. One can seek explanation in the presidential traits and character, confirming Brian Newman (2004) research outlining their importance in the public’s evaluation of presidential job performance.

Carlsen (1997) found favorable evidence for the United States that the degree to which the government engages in pre-election expansionary policy is inversely related to its reelection chances (confirming Nordhaus (1975)). Here, Figure 1 is consistent with this conjecture, since economic sentiment (which is partially a reflection of the macro-economy) increases sharply toward the second half of the Mitterrand period (when chances of re-election were slim). This is not the case for the other presidential eras (when chances of re-election for the right wing party was high). Partisan theories (originated with the work of Hibbs (1977)) can also help to explain this. They predict that left-wing governments will engage more often in expansionary policies than right-wing governments. As a matter of fact, they assume political parties tend to promote policies that are consistent with the preferences of their electors. Left-wing governments are averse to unemployment (since their electors tend to hold a large part of their
wealth as human capital), whereas right-wing parties are averse to inflation, which creates uncertainty about the return on financial and residential capital. The economic sentiment indicator (which is partially a reflection of the macro-economy) may or may not reflect that conjecture. After the election of Mitterrand (a left-wing President), there is no decline in the economic sentiment, while there is a large one after the victory of Chirac (1) and Sarkozy, two right-wing parties. Of course, it is not a validation of that theory and should be interpreted with a lot of caution.

2.4. Descriptive statistics

Descriptive statistics of the variables studied are shown in Table 3, as well as the ADF tests. The ADF statistic for the indicators of economic sentiment, president confidence and Prime Minister confidence do not exceed the critical values in absolute terms. When we take the first difference of each of the variables, they do. In other words, ESI_t, PMCI_t and PCI_t are each integrated of order one (or $I(1)$). Given these results, each variable satisfies the requirements to be included in the long-run cointegration model.

Table 4 exhibits the mean and standard deviation of the different presidencies, and a comparison test with the whole sample.

When comparing the means of the Economic Sentiment Indicator in the different presidencies to that of the whole sample, we find the difference to be statistically significant in three out of the four presidencies, the only exception being that of the Chirac reelection era. Conducting similar tests to determine whether the mean levels of Prime Minister Confidence Index and President Confidence Index in the different presidencies are statistically different from that of the whole sample, we find only evidence in the case of the Sarkozy era.

3. The model

Sentiment indexes, which are constructed from answers to survey questions, are popular with the media. A major role is conferred to consumer sentiment in the determination of economic fluctuations. The view among economists is mixed. Economic agents appear to be rational and to use all the available information, inflation and unemployment being the two most important variables. Therefore economic sentiment is endogenous and is a reflection of macroeconomic conditions. Other economists, following Keynes’ notion of “Animals spirits”, argue that psychological factors, which are not captured by economic variables, can influence consumers and entrepreneurs’ decisions. Thus the willingness to consume and to invest may be an important factor affecting consumption and investment. The study of economic sentiment indicator is therefore of prime interest. Garner (1991) and Throop (1992) argued that this indicator could be helpful during major economic or political events, as they tend to diverge from a path consistent with other macroeconomic variables.

In this research, we will assume that economic agents (households and entrepreneurs) form their views on government competence based on their current information set. It includes macroeconomic variables: unemployment and inflation. They also form their opinion on the economic situation based on their current information set that also includes macroeconomic variables, as well as personal finances and profitability in particular. It therefore appears that both indicators depend from common determinants: the macroeconomic variables, as shown in Figure 2. We will focus for the remaining of the paper, on the relationship between economic sentiment and political competence perception of president and prime minister.
Figure 2

Key to our work is the economic agent sequence of belief formation. Economic agents may form their beliefs about president and Prime Minister first. Their perception on government job performance may then affect their economic sentiment, as illustrated in equation (1):

\[ ESI_t = \alpha + \beta E_t(PMCI_t) + \chi E_t(PRI_t) \]  

We may also think that economic agents’ perception of a president competence depends on the macro-economy and their perception of the government best efforts and competence (as determined by the Prime Minister index) as summarized by equation (2). The direction of the causality is therefore not clear.

\[ PRI_t = \alpha + \beta E_t(PMCI_t) + \chi E_t(ESI_t) \]

Finally, the economic sentiment as well as the image of the president may be used as anchors to evaluate the Prime Minister competency:

\[ PMCI_t = \alpha + \beta E_t(PRI_t) + \chi E_t(ESI_t) \]

Thus the postulated long-run relationships (one or two since we have three variables) are not provided by the economic theory, and should be determined empirically. In the model we will estimate, all the variables are initially treated as jointly endogenous; nevertheless the structure of the model may imply various Granger Causal orderings and weak and strong exogeneity conditions, as in Engle, Hendry and Richard (1983). A trivariate co-integrated system must have a causal ordering in at least one direction (Engle et al., 1987). In econometric terms, if we find any of the above relationship, then the indices co-move and are cointegrated over the long-run, and any divergence is transitory. The idea is simply that a proportion of the disequilibrium from one period is corrected in the next period. Indeed, sometimes, economic agents make mistakes in their appreciation. If the macro-economy appears to be higher than initially expected, the perception of government competence may increase at the next period to correct the underestimation of government competence at the previous period for example.

4. Econometric methodology and results

A five-stage procedure was followed to study the long-run relationship between economic sentiment indicator and perceived political competence in a multivariate framework.

4.1. Step 1

In the first stage, the order of integration was tested using the Augmented Dickey-Fuller (ADF) test (Table 3 reports the results of the unit root tests). We know that economic sentiment is I(1). The best predictor is the value at the previous period. Assuming consumers use all the current information set, including any news about the macro-economy (which are unpredictable), it seems reasonable. It is not to say however that the economic sentiment only reflects information about the macro-economy and is without any interest. It may contain other information, psychological factors, that play an important role in the determination of business cycles. We can say the same thing about government and president perceived confidence. Moreover, the fact that our three indicators are I(1) indicate that an innovation has a permanent effect on its value, as it is equal to the sum of all previous changes. For the two indicators of perceived competence, it is consistent with the idea of “social capital”. The empirical evidence of microdata shows that investment - at micro level - is infrequent and lumpy. There are periods in which firms decide not to invest and periods of large investment episodes. To better understand the issues at stake, see Rocio Sanchez Mangas (2002). Since
willingness to invest, determined by economic sentiment, is an important determinant, it is consistent with the fact that the previous series are $I(1)$.

4.2. Step 2

The second stage relates to testing for the existence of a long-run equilibrium relationship between the economic sentiment and the political confidence indicators [$ESI_t$, $PMCI_t$, $PCI_t$] within a multivariate framework. We employ two methods: the Johansen procedure and the Phillips Ouliaris test. To implement the Johansen procedure it is necessary to specify the lag length of the vector auto-regressive model. We set this at one time period, on the basis of the results of diagnostic tests including the likelihood ration test proposed by Sims (1980). President and Prime Minister dummy variables were included in the long run cointegration equation. The Johansen procedure produces Trace and Maximum Eigen-value tests presented in Table 5, from which the number of cointegrating vectors can be identified. We proceed sequentially by first testing for $H_0: r \leq 0$, where $r$ is the number of cointegrating vectors. If $H_0$ is rejected, we then test for $r \leq 1$ and so on, until the null hypothesis could not be rejected.

Table 5 clearly rejects the null hypothesis of zero cointegrating vector against the alternative, at both 1% and 5% levels. It also rejects the null hypothesis of one cointegrating vector. Each test indicates the presence of at most two statistically significant cointegrating vectors in respect to the variables specified in the model. The Phillips & Ouliaris “$Pu$” and “$Pz$” cointegration tests (the values of the tests are respectively 98.64 and 31.63) clearly confirm the existence of a long-run relationship between the three indicators for France for the period 1988-2008, and the existence of two relations of cointegration. In other words, the Economic Sentiment Indicator and the president as well as the Prime Minister perceived competence indicators tend to co-move and are cointegrated over the long-run; any divergence is transitory. Finally, since there are two cointegrating vectors, causality in the Granger sense (and not in the structural sense) must exist, in at least one direction (Miller et al., 1990). This temporal Granger causality can be captured through the vector error correction model (VECM) derived from the long-run cointegrating vectors (Engle et al., 1987).

4.3. Step 3

The third stage involves analyzing the long-run relationship. The two relations of cointegration are respectively:

$$\alpha'_1 x = \text{ect}1_{t-1} = \pi_1 + \alpha_{1ESI}ESI_{t-1} + \alpha_{1PMCI}PMCI_{t-1} + \alpha_{1PCI}PCI_{t-1}$$  \hfill (7)

$$\alpha'_2 x = \text{ect}2_{t-1} = \pi_2 + \alpha_{2ESI}ESI_{t-1} + \alpha_{2PMCI}PMCI_{t-1} + \alpha_{2PCI}PCI_{t-1}$$  \hfill (8)

where $x$ is the vector of the three indicators. The intercepts are denoted respectively $\pi_1$ and $\pi_2$. The two vectors $\alpha_1$ and $\alpha_2$, shown in Table 6, represent the cointegrating vectors.

Table 6

These cointegrating vectors define two linear combinations of variables that are $I(0)$. There can be described as long-run equilibria. Note that a positive (negative) estimated coefficient in Table 6 implies a negative (positive) relationship between a variable and the other under consideration. The first relation of cointegration shows that the confidence in the president and the prime minister are negatively linked. A small increase in the prime minister popularity appears to have large effects on the president popularity, indicating a form of

\[1\] The test “$Pz$”, compared to the test “$Pu$”, has the advantage that it is invariant to the normalization of the cointegration vector, i.e. it does not matter which variable is on the left hand side of the equation.
competition between these two political functions (in the long-run: 931.85 – PCI, – 6.34 PMCI, = 0). The second relation shows that the prime minister confidence index and the economic sentiment are also negatively correlated in the long-run; a relatively large change in the economic sentiment is necessary to influence the prime minister confidence indicator (3576.77 – ESI, – 28.53 PMCI, = 0).

4.4. Step 4

The fourth stage involves investigating the nature of the short-run relationship using a VECM. In this representation, short-run fluctuations are represented with the lagged first differences. Any changes in the dependent variables are a function of the level of disequilibrium in the cointegration relationships (measured with the error correction terms, referred as ect1 and ect2):

\[
\Delta PCI_t = a_{PCI} + b_{PCI} \Delta ESI_{t-1} + c_{PCI} \Delta PMCI_{t-2} + d_{PCI} \Delta PCI_{t-1} + e_{PCI} ect1_{t-1} + e_{2 PCI} ect2_{t-1} + \varepsilon_{3t} \tag{4}
\]

\[
\Delta ESI_t = a_{ESI} + b_{ESI} \Delta ESI_{t-1} + c_{ESI} \Delta PMCI_{t-1} + d_{ESI} \Delta PCI_{t-1} + e_{ESI} ect1_{t-1} + e_{2 ESI} ect2_{t-1} + \varepsilon_{1t} \tag{5}
\]

\[
\Delta PMCI_t = a_{PMCI} + b_{PMCI} \Delta ESI_{t-1} + c_{PMCI} \Delta PMCI_{t-1} + d_{PMCI} \Delta PCI_{t-1} + e_{PMCI} ect1_{t-1} + e_{2 PMCI} ect2_{t-1} + \varepsilon_{2t} \tag{6}
\]

Where \( a_{ESI} \), \( a_{PMCI} \) and \( a_{PCI} \) represent the linear combination of dummy variables for the different political regimes, \( ect1_{t-1} \) and \( ect2_{t-1} \) are the lagged error correction terms and the vectors \( e_1 \) and \( e_2 \) represent the weight or adjustment speed; in other words, it measures how fast the stationary variables \( ect1_{t-1} \) and \( ect2_{t-1} \) feedback onto the system. Note that the \( \varepsilon_t \) are serially independent errors with mean zero and finite covariance matrix. Table 7 presents estimates of the short-run equations (4), (5) and (6):

[Table 7]

First, we can observe that some of the dummy variables, capturing the changes of president or prime minister, are highly significant confirming the importance of the presidential couples, either by their trait, their policies or the political parties to which they belong. Then, terms representing the discrepancy between the values of the level of the three indicators appear explicitly in the estimation with the coefficients of the lagged error correction terms. These terms can be taken as a measure of the speed of adjustment of the endogenous variable and the exogenous variables in the previous period. Coefficients for the second error correction terms are larger in absolute value, except in the equation of the president indicator. This suggests that the adjustment to the second cointegration relation is stronger than to the first. Therefore any shock leading to divergences between our three indicators ESI\(_t\), PMCI\(_t\) and PCI\(_t\) will tend to initiate an adjustment in the second cointegration relation: in this sense, the first cointegration relation is an anchor and “drives” the three indicators more than the second cointegration relation. The prime minister confidence index appears to adjust rapidly to any deviation from the long-run equilibrium through the second cointegration relation, compared to the president and to the economic sentiment. The president confidence index appears as being the variable that adjusts the most quickly to any disequilibrium from the long-run relation (through the first error correction term) at the previous period.

The third stage also involves performing standard Granger-type causality tests in an ECM. Following Granger (1969) ESI Granger causes PCI if the prediction of PCI is improved by including past values of ESI than by not including them if other relevant information, including past values of PCI are also incorporated. It is also well known (Engle and Granger, 1987) that if two nonstationary time series are cointegrated then the traditional tests for Granger causality are misspecified. One needs therefore to use the estimation of the VECM.
In the short-run, the t test applied to the lag of each explanatory variable in each of the three equations indicates the statistical significance of the short-run causal effects (and the strict Granger exogeneity or endogeneity of the dependent variables). For example, the variable ESI is deemed to Granger cause PCI if the coefficient $b_{PCI}$ is statistically different from zero. According to Table 7, in the short-run, at 10% level of significance, ESI appears to Granger cause PCI and PMCI to Granger cause ESI. In other words, when economic agents are optimistic about the economy they are confident in their president leadership. Besides when the prime minister inspires confidence economic agents anticipate better economic prospects. In the long-run, if a variable influences the other variables, but is not influenced by them, then this variable is weakly exogenous. It can be tested with a LR test [see Johansen and Juselius (1992)], it is asymptotically distributed as a chi square with degrees of freedom 1x2, equal to the number of zero restrictions on the $\alpha$ coefficients. Because we have three variables and two cointegrating relations, there can at most be one weakly exogenous variable.

ESI might well be our candidate for weak exogeneity, confirming the finding of Easaw et al. (2007). If it is the case then ESI is not adjusting to the long-run relations and hence can be considered as a driving trend in the system. To test that assumption, we define the null hypothesis ESI is exogenous (and the VECM can be reduced to a two-equation system by conditioning to ESI). We impose the following restriction matrix:

$$A = \begin{bmatrix} 1 & 0 \\ 0 & 0 \\ 0 & 1 \end{bmatrix}$$  \tag{7}

The VECM can be rewritten:

$$\Delta PCI_t = a_{PCI} + b_{PCI}\Delta ESI_{t-1} + c_{PCI}\Delta PMCI_{t-1} + d_{PCI}\Delta PCI_{t-1} + \epsilon_{1PCI}\epsilon c t_{1-1} + \epsilon_{2PCI}\epsilon c t_{2-1} + \epsilon_{3t}$$  \tag{8}

$$\Delta PMCI_t = a_{PMCI} + b_{PMCI}\Delta ESI_{t-1} + c_{PMCI}\Delta PMCI_{t-1} + d_{PMCI}\Delta PCI_{t-1} + \epsilon_{1PMCI}\epsilon c t_{1-1} + \epsilon_{2PMCI}\epsilon c t_{2-1} + \epsilon_{3t}$$  \tag{9}

The likelihood ratio statistic is equal to 47.72 (distributed as a chi square) and the p-value is equal to 0.014. Therefore the null hypothesis of weak exogeneity of the economic sentiment is borderline given a significance level of 1%. We can confirm the result of Easaw et al. (2007), i.e., the exogeneity of ESI, but only at a significance level of 2% or more. We also test the exogeneity of PCI and PMCI. The likelihood ratio statistics are equal to 47.72 and 40.52 respectively. Their p-values are equal to 2.21e-11 and 3.00e-10 respectively. In other words, the null hypothesis of weak exogeneity can be rejected at any reasonable level of confidence for these two variables.

4.5. Step 5

The inference of the effects of each endogenous variable on the other two is based on the results of the impulse-response analysis. We previously transform the VECM specification reported above into a level-VAR form, by taking into account the right number of cointegration relationships (Lütkepohl, 2006). Figure 3 shows the effects of the different shocks (i.e., President and Prime Minister confidence) on the economic sentiment.

[Figure 3]

According to Figure 3, a shock on PCI has a positive effect on ESI, stable after the 2nd month while a change in PMCI does not have any significant effect. In other words, the dynamic interactions between PCI and ESI indicate that when the confidence in the president increases economic agents become optimistic about economic prospects. It is consistent with the hypothesis that the confidence in the government is a key factor in the success of government policies. The responses of the President confidence are shown in Figure 4.

[Figure 4]
As depicted in Figure 4, a shock on PMCI has a large positive but declining effect on PC (it vanishes after 10 months). The president likely benefits from the good economic political results of its prime minister. A shock on ESI has the expected positive effect (i.e., confidence in the president is higher with optimist agents), but does not appear to be significant at 5%. Finally, Figure 5 illustrates the impulse responses of PMCI.

We can observe that a shock to PCI has a positive significant impact for a short period of time (approximately 4 to 6 months). The prime minister therefore tends to benefit, for a short period of time, from the confidence in the president. However, we cannot exclude that the president and the prime minister are competitors and that an increase in the confidence in the president results in a decline in the prime minister confidence (especially after a few months if we look at the confidence interval). If we see the prime minister as a candidate-in-waiting, then the popularity of the president hinders its chances of becoming the next president. Moreover, cohabitation exacerbates the usual competition between the president and the prime minister [see Protsyk (2006) for the idea that both can be competitors in a semi presidential regime]. Finally, as depicted in the second panel of Figure 5, a shock on the economic sentiment deteriorates for many months the prime minister confidence index. No spontaneous interpretation comes to mind when we try to explain why good economic prospects negatively affect the prime minister popularity in the short-run. We offer some possible explanations of this pattern. It may be that the prime minister does not get the credit for the good economic situation and that its image does not improve (and can even decline if the media does not speak much about him). Or it may be that economic agents fear the policies the prime minister could introduce (since contractionary policy becomes more likely than expansionary policy during economic expansion).

5. Concluding remarks

The view about the role of consumer sentiment is mixed among economists. If economic agents are assumed to use all the available information about macroeconomic conditions then one can merely expect economic sentiment to be an endogenous variable that is just a reflection of macroeconomic conditions. But if following Keynes’ notion of “Animals spirits” we accept that psychological factors, which are not captured by economic variables, can influence consumers and entrepreneurs’ decisions; then economic sentiment is an exogenous variable. And it is therefore of prime interest since it can be helpful to explain major economic or political events, not explained by macroeconomic variables.

Perceived political competence is another variable of interest to policy-makers and analysts since it is known to be an important determinant of the success of economic policy. In this research we investigated how households form their sentiment about the economy, the president and the prime minister. On the basis of the results found in the economic literature, we discussed the causality that can be established. Recognizing as in Tullock (1976) that households are at the same time consumers and voters, their perception of the government influences their willingness to consume or to invest, or vice versa. There is evidence that unexpected inflation and expected unemployment –macroeconomic variables that influence economic sentiment– play a significant role in determining the popularity of political parties. But there is no relation in the other direction (Kirchgassner, 1985). Easaw et al. (2007) conclude that households tend to use their view on the economic situation as an “anchor” to determine their opinion about government’s competence for most presidential era in their sample study. Protsyk (2006) analyzed how the president and the prime minister can be competitors in a semi presidential regime. Based on this literature, if one variable is
exogenous, it is certainly the economic sentiment. For the direction of the causality between the other variables it is not predicted by the economic theory.

Using the Joint Harmonized EU Programme of Business and Consumer Surveys as well as French monthly economic and political time series (from May 1988 to February 2009), we investigate the relationships and the dynamics between the economic agents’ willingness to consume and invest, and the perception of the government. The present research complements Easaw (2007) by introducing along the household’s willingness to consume the firm’s willingness to invest and by considering not only the President but also the Prime Minister. To the best of our knowledge, it is one of the very few work on the way people form their confidence about the economy and the government (existing studies are for the United States, the United Kingdom and Germany). The indicators of confidence for the president, the prime minister and the economy are each integrated of order one. The Johansen procedure concludes to the existence of a long-run relationship between the three indicators for France for the period 1988-2008 through two relations of cointegration. In the short-run, standard Granger-type causality tests concludes, at 10%, that the economic sentiment Granger causes the president confidence and that the prime minister confidence Granger causes the economic sentiment. In other words, when economic agents are optimistic about the economy they are confident in their president leadership. Besides when the prime minister inspires confidence, economic agents anticipate better economic prospect. In the long-run, the likelihood ratio test leads us to conclude that the null hypothesis of weak exogeneity of the economic sentiment is borderline (given a significance level of 1%). The other two indicators are not exogenous at any reasonable level of confidence. It therefore confirms the result of the literature: if one variable is exogenous, it is the economic sentiment. The economic sentiment would not be merely a reflection of the macro-economy but also involves psychological factors, underlying its importance in the analysis of the business cycle. In other words, these results confirm the finding of Easaw et al. (2007), i.e., the exogeneity of economic sentiment, but only at a significance level of 2% or more. In statistical terms, it also means that the economic sentiment is not adjusting to long-run relations and hence can be considered as a driving trend in the system.

Finally, based on impulse-response analysis, we have investigated the dynamic interactions between these three variables. Main results follow. When the confidence in the president increases economic agents become optimistic about economic prospects. It is consistent with the fact that confidence in the government is a key factor in the success of government policies. The president seems to benefit from the good economic political results of its prime minister. The reverse is more ambiguous and does not rule out possible competition between the two heads of the presidential couple (as investigated by Protsyk (2006)). Finally, a last result, less intuitive but more original, is that an improvement in the economic sentiment deteriorates for many months the prime minister confidence index. It may be that the prime minister does not get the credit for the good economic situation. Or it may be that economic agents imagine they cannot expect any good from the prime minister (since a contractionary policy becomes more likely than an expansionary policy during an economic expansion). This last result needs to be informed or confirmed by other studies. If it is true, a prime minister that hopes to run for the next presidential election will have incentives to engage in partisan policy to manipulate voters.
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Appendix

THE JOINT HARMONISED EU INDUSTRY SURVEY / Questionnaires (monthly questions)

1. Industry survey

Q1. How has your production developed over the past 3 months? It has increased, remained unchanged or decreased?
Q2 Do you consider your current overall order books to be more than sufficient (above normal), sufficient (normal for the season) or not sufficient (below normal)?
Q3 Do you consider your current export order books to be more than sufficient (above normal), sufficient (normal for the season) or not sufficient (below normal)?
Q4 Do you consider your current stock of finished products to be too large (above normal), adequate (normal for the season) or too small (below normal)?
Q5 How do you expect your production to develop over the next 3 months? It will increase, remain unchanged or decrease?
Q6 How do you expect your selling prices to change over the next 3 months? They will increase, remain unchanged or decrease?
Q7 How do you expect your firm’s total employment to change over the next 3 months? It will increase, remain unchanged or decrease?

2. Services survey

Q1 How has your business situation developed over the past 3 months? It has improved, remained unchanged or deteriorated?
Q2 How has demand (turnover) for your company's services changed over the past 3 months? It has increased, remained unchanged or decreased?
Q3 How do you expect the demand (turnover) for your company's services to change over the next 3 months? It will increase, remain unchanged or decrease?
Q4 How has your firm's total employment changed over the past 3 months? It has increased, remained unchanged or decreased?
Q5 How do you expect your firm's total employment to change over the next 3 months? It will increase, remain unchanged or decrease?
Q6 How do you expect the prices you charge to change over the next 3 months? They will increase, remain unchanged or decrease?
Q7 What main factors are currently limiting your business: none? insufficient demand? shortage of labour force? shortage of space and/or equipment? financial constraints? other factors?

3. Consumer survey

Q1 How has the financial situation of your household changed over the last 12 months: It has got a lot better? got a little better? stayed the same? got a little worse? got a lot worse? don't know?
Q2 How do you expect the financial position of your household to change over the next 12 months: It will get a lot better? get a little better? stay the same? get a little worse? get a lot worse? don't know.
Q3 How do you think the general economic situation in the country has changed over the past 12 months: It has got a lot better? got a little better? stayed the same? got a little worse? got a lot worse? don't know.
Q4 How do you expect the general economic situation in this country to develop over the next 12 months? It will get a lot better? get a little better? stayed the same? get a little worse? get a lot worse? don't know.
Q5 How do you think that consumer prices have developed over the last 12 months: They have risen a lot? risen moderately? risen slightly? stayed about the same? Fallen? don't know.
Q6 By comparison with the past 12 months, how do you expect that consumer prices will develop in the next 12 months? They will increase more rapidly? increase at the same rate? increase at a slower rate? stay about the same? Fall? don't know.
Q7 How do you expect the number of people unemployed in this country to change over the next 12 months? The number will increase sharply? increase slightly? remain the same? fall slightly? fall sharply? don't know.
Q8 In view of the general economic situation, do you think that now it is the right moment for people to make major purchases such as furniture, electrical/electronic devices, etc.? yes, it is the right moment now; it is neither the right moment nor the wrong moment; no, it is not the right moment now; don't know.
Q9 Compared to the past 12 months, do you expect to spend more or less money on major purchases (furniture, electrical/electronic devices, etc.) over the next 12 months? I will spend much more? a little more? about the same? a little less? much less? don't know.
Q10 In view of the general economic situation, do you think that now is a very good moment to save? a fairly good moment to save? not a good moment to save? a very bad moment to save? don't know.

Q11 Over the next 12 months, how likely is it that you save any money? very likely? fairly likely? not likely? not at all likely? don't know.

Q12 Which of these statements best describes the current financial situation of your household? we are saving a lot? we are saving a little? we are just managing to make ends meet on our income? we are having to draw on our savings? we are running into debt? don't know.

4. Retail trade survey

Q1 How has (have) your business activity (sales) developed over the past 3 months? It has (They have...) improved (increased)? remained unchanged? deteriorated (decreased)?

Q2 Do you consider the volume of stock you currently hold to be too large (above normal)? adequate (normal for the season)? too small (below normal)?

Q3 How do you expect your orders placed with suppliers to change over the next 3 months? They will increase? remain unchanged? decrease?

Q4 How do you expect your business activity (sales) to change over the next 3 months? It (They) will improve (increase)? remain unchanged? deteriorate (decrease)?

Q5 How do you expect your firm’s total employment to change over the next 3 months? It will increase? remain unchanged? decrease?

Q6 How do you expect the prices you charge to change over the next 3 months? They will increase? remain unchanged? decrease?

5. Construction survey

Q1 How has your building activity developed over the past 3 months? It has increased? remain unchanged? decreased?

Q2 What main factors are currently limiting your building activity? none? insufficient demand? weather conditions? shortage of labour force? shortage of material and/or equipment? financial constraints? other factors?

Q3 Do you consider your current overall order books to be more than sufficient (above normal)? sufficient (normal for the season)? not sufficient (below normal)?

Q4 How do you expect your firm’s total employment to change over the next 3 months? It will increase? remain unchanged? decrease?

Q5 How do you expect the prices you charge to change over the next 3 months? They will increase? remain unchanged? decrease?
### Tables

#### Table 1. Sample sizes in France and in the European Union

<table>
<thead>
<tr>
<th>States</th>
<th>Industry</th>
<th>Investment</th>
<th>Services</th>
<th>Consumer</th>
<th>Retail trade</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>4000</td>
<td>3800</td>
<td>4500</td>
<td>3300</td>
<td>3750</td>
<td>3000</td>
</tr>
<tr>
<td>EU</td>
<td>38250</td>
<td>44240</td>
<td>34730</td>
<td>39900</td>
<td>31780</td>
<td>20750</td>
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</table>

#### Table 2: Summary of the different “presidential couples” during the sample period

<table>
<thead>
<tr>
<th>President era</th>
<th>Prime Ministers</th>
<th>In office</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>François Mitterrand (2)</td>
<td>Michel Rocard</td>
<td>May 1988 to May 1991</td>
<td>First woman to become Prime Minister in France</td>
</tr>
<tr>
<td></td>
<td>Edith Cresson</td>
<td>May 1991 to April 1992</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Edouard Balladur</td>
<td>May 1993 to May 1995</td>
<td>2nd “cohabitation”</td>
</tr>
<tr>
<td>Jacques Chirac (1)</td>
<td>Alain Juppé</td>
<td>May 1995 to May 1997</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lionel Jospin</td>
<td>June 1997 to May 2002</td>
<td>3rd “cohabitation”</td>
</tr>
<tr>
<td>Jacques Chirac (2)</td>
<td>Jean-Pierre Raffarin</td>
<td>May 2002 to May 2005</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dominique de Villepin</td>
<td>May 2005 to May 2007</td>
<td></td>
</tr>
<tr>
<td>Nicolas Sarkozy</td>
<td>François Fillon</td>
<td>May 2007</td>
<td></td>
</tr>
</tbody>
</table>

#### Table 3. Descriptive statistics (whole sample)

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>ADF (level)</th>
<th>ADF (1st difference)</th>
<th>Integration order</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESI</td>
<td>100.72 (10.34)</td>
<td>-2.51</td>
<td>-5.24***</td>
<td>I(1)</td>
</tr>
<tr>
<td>PMCI</td>
<td>48.65 (13.58)</td>
<td>-3.07</td>
<td>-8.55***</td>
<td>I(1)</td>
</tr>
<tr>
<td>PCI</td>
<td>44.49 (11.24)</td>
<td>-3.27</td>
<td>-9.48***</td>
<td>I(1)</td>
</tr>
</tbody>
</table>

***: Denotes significance at the 1% level.

#### Table 4. Descriptive statistics (sub-periods)

<table>
<thead>
<tr>
<th></th>
<th>Mitterrand (2)</th>
<th>Chirac (1)</th>
<th>Chirac (2)</th>
<th>Sarkozy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (SD)</td>
<td>98.26 (11.91)</td>
<td>102.04 (10.42)</td>
<td>103.00 (4.53)</td>
<td>98.84 (11.91)</td>
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<tr>
<td>t-test for difference in means</td>
<td>-1.903</td>
<td>1.166</td>
<td>3.902***</td>
<td>-0.658</td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>53.64 (11.41)</td>
<td>53.01 (12.79)</td>
<td>36.52 (11.73)</td>
<td>45.64 (10.42)</td>
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<tr>
<td>t-test for difference in means</td>
<td>4.031***</td>
<td>3.129***</td>
<td>-8.012***</td>
<td>(13.06)</td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>47.54 (10.86)</td>
<td>47.96 (7.12)</td>
<td>35.23 (11.39)</td>
<td>44.69 (11.66)</td>
</tr>
<tr>
<td>t-test for difference in means</td>
<td>2.593***</td>
<td>4.476***</td>
<td>-6.298***</td>
<td>0.080</td>
</tr>
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</table>

***: Denotes significance at the 1% level.

#### Table 5. Johansen procedure (without linear trend and constant in cointegration)

<table>
<thead>
<tr>
<th>No. of cointegrating vectors</th>
<th>Eigenvalue</th>
<th>Trace test</th>
<th>Lmax test</th>
</tr>
</thead>
<tbody>
<tr>
<td>r = 2 (alternative: r = 3)</td>
<td>0.015</td>
<td>3.75</td>
<td>3.75</td>
</tr>
<tr>
<td>r = 1 (alternative: r = 2)</td>
<td>0.155</td>
<td>45.49***</td>
<td>41.74***</td>
</tr>
<tr>
<td>r = 0 (alternative: r = 1)</td>
<td>0.264</td>
<td>121.49***</td>
<td>76.00***</td>
</tr>
</tbody>
</table>

***: Denotes significance at the 1% level.
Table 6. The cointegrating vectors

<table>
<thead>
<tr>
<th></th>
<th>ect1</th>
<th>ect2</th>
</tr>
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<tbody>
<tr>
<td>PCI_t</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>ESI_t</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>PMCI_t</td>
<td>6.344***</td>
<td>28.528***</td>
</tr>
<tr>
<td>Intercept</td>
<td>-931.846***</td>
<td>-3576.763***</td>
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***: Denotes significance at the 1% level.

Table 7. VECM estimation results

<table>
<thead>
<tr>
<th></th>
<th>ΔPCI_t</th>
<th></th>
<th>ΔESI_t</th>
<th></th>
<th>ΔPMCI_t</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>Significance</td>
<td>Coef.</td>
<td>Significance</td>
<td>Coef.</td>
<td>Significance</td>
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<tr>
<td><strong>Endogenous variables</strong></td>
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<tr>
<td>ΔPCI_t-1</td>
<td>-0.324</td>
<td>****</td>
<td>0.059</td>
<td>0.037</td>
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<tr>
<td>ΔESI_t-1</td>
<td>0.234</td>
<td>*</td>
<td>0.129</td>
<td>**</td>
<td>0.132</td>
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<tr>
<td>ΔPMCI_t-1</td>
<td>0.057</td>
<td>-0.052</td>
<td>*</td>
<td>-0.238</td>
<td>***</td>
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<tr>
<td><strong>Error correction</strong></td>
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<tr>
<td>ect1</td>
<td>-0.422</td>
<td>****</td>
<td>0.074</td>
<td>***</td>
<td>0.012</td>
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</tr>
<tr>
<td>ect2</td>
<td>0.097</td>
<td>****</td>
<td>-0.018</td>
<td>***</td>
<td>-0.013</td>
<td></td>
</tr>
<tr>
<td><strong>President (ref : Mitterrand (2))</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Chirac (1)</td>
<td>-3.005</td>
<td>***</td>
<td>-0.742</td>
<td>-6.080</td>
<td>****</td>
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<tr>
<td>Chirac (2)</td>
<td>-4.553</td>
<td>****</td>
<td>0.050</td>
<td>-5.166</td>
<td>****</td>
<td></td>
</tr>
<tr>
<td>Sarkozy</td>
<td>-3.570</td>
<td>****</td>
<td>-1.182</td>
<td>***</td>
<td>-2.605</td>
<td>*</td>
</tr>
<tr>
<td><strong>Prime Minister</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Beregovoy</td>
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<td>0.207</td>
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<td>Cresson</td>
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<td>-0.695</td>
<td>-9.012</td>
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<td></td>
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<tr>
<td>Balladur</td>
<td>-6.958</td>
<td>****</td>
<td>2.413</td>
<td>****</td>
<td>0.891</td>
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<tr>
<td>Jospin</td>
<td>-0.461</td>
<td>1.858</td>
<td>****</td>
<td>7.075</td>
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<tr>
<td>De Villepin</td>
<td>-7.506</td>
<td>****</td>
<td>1.625</td>
<td>***</td>
<td>-1.335</td>
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<tr>
<td><strong>R</strong></td>
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<td>0.16</td>
<td>0.18</td>
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<td><strong>F-statistic</strong></td>
<td>4.81</td>
<td>****</td>
<td>3.42</td>
<td>****</td>
<td>4.07</td>
<td>****</td>
</tr>
</tbody>
</table>

Note: ****: p<0.001; ***: p<0.01; **: p<0.05; *: p<0.10;
Figures

Figure 1. Economic Sentiment Indicator, Prime Minister Confidence Index and President Confidence index

Figure 2. The economic and political environment
Figure 3. Impulse responses of ESI to economic shocks with a 95% bootstrap confidence interval

Figure 4. Impulse responses of PCI to economic shocks with a 95% bootstrap confidence interval
Figure 5. Impulse responses of PMCI to economic shocks with a 95% bootstrap confidence interval