

DiTella, Rafael; MacCulloch, Robert

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Partisan social happiness

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Zentrum für Europäische Integrationsforschung
Center for European Integration Studies
Rheinische Friedrich-Wilhelms-Universität Bonn



Rafael Di Tella and Robert MacCulloch

Partisan Social Happiness

Working Paper

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Partisan Social Happiness

Rafael Di Tella*
Harvard Business School

and

Robert MacCulloch
ZEL, University of Bonn

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Abstract

We use data on the subjective well-being of more than a quarter of a million people living in the OECD over the period 1975-92 to study the behavior of partisan social happiness functions. Controlling for personal characteristics of the respondents, year and country fixed effects and country specific time trends, we find that the data describe social happiness functions for left-wing and right-wing individuals where inflation and unemployment enter negatively. We use these functions to test the root assumption of partisan business cycle models where left-wing individuals care more about unemployment relative to inflation than right-wingers (e.g. Alesina (1987)). Bootstrap confidence intervals suggest that up to 90 per cent of the time the evidence is consistent with this assumption. We also find that left-wingers like increases in government consumption more than right-wingers, that the latter have become more concerned with inflation over time and that the poor (rich) behave differently from the left (right). Finally, we find that individuals declare themselves to be happier when the party they support is in power, even after controlling for economic variables. Our findings are hard to explain using median voter models but are to be expected in a partisan world.

JEL: E6

Keywords: Median voter, partisan business cycles, subjective well-being.

* Corresponding author: Soldiers Field Rd, Boston Ma 02163, US. e-mail:rditella@hbs.edu. We give thanks to Bill Simpson for generous help with the statistical issues of this paper and to Sebastian Galiani, Andrew Oswald, Julio Rotemberg and seminar participants at Bonn and Harvard for helpful comments.

I. Introduction

*When the chips were down, the Democrats have taken their chances
on inflation and the Republicans on unemployment and recession.*

Arthur Okun¹

A number of economists have studied how politics affects economic performance. Following the work of Downs (1957), economists have built models where policy makers try to please the electorate in opportune moments in order to remain in office (e.g. Nordhaus (1975), Rogoff and Sibert (1988)). An alternative approach assumes that policymakers have partisan motivations. These “partisan” models (e.g. Hibbs (1977), Alesina (1987)) predict that different political parties will favor different policies. The potential of these two approaches in explaining business cycles sparked enormous interest in the profession and a large number of papers have tried to test their predictions.²

At least two conclusions seem to emerge from these studies. The first is that formal tests are difficult to construct. Since policy makers’ preferences are not observed, all the papers focus on the outcomes and choice of policies under different governments. But countries are subject to shocks. Thus, unless we really have other things equal, observing a different choice of policy, or a different experience in terms of, say inflation is not enough to identify the competing theories. This is difficult with the data available. Second, the evidence, although not conclusive, tends to favor partisan models over opportunistic models, particularly when the focus is on economic outcomes rather than policy instruments (see, for example, Frey and Schneider (1978), Golden and Poterba (1980), Hibbs(1987), Alesina (1988), Grier (1989), Chapell, Havrilesky and McGregor (1993) *inter alia*). It is worth stating the conclusions of what is one of the best multicountry empirical papers in the area. Looking at the impact of elections on the behavior of economic outcomes, Alesina and Roubini (1992) find that a) the evidence is generally adverse to the basic Nordhaus (1975) model; b) the data show an electoral cycle

¹ Cited in page 213 of Hibbs (1987).

² See Alesina, Roubini and Cohen (1997) for a comprehensive review.

on the inflation rate, consistent with the opportunistic model of Rogoff and Sibert (1988); c) the evidence is also consistent with the partisan model, particularly for a subset of countries with bi-partisan systems; and d) the partisan model with permanent effects on output and unemployment is rejected.

In this paper we adopt a different strategy to study the validity of these two approaches. We first obtain a measure of partisan social welfare by separating individuals according to their political inclination and collecting a measure of their declared happiness levels. With this information we construct measures of social happiness for each country and year in our sample, both for the left and for the right. We then study how these measures are affected by basic macro variables like inflation and unemployment. Since partisan models assume that the happiness (or ‘objective’) functions of different political parties look different, a natural first step is to look if the happiness functions of their constituencies look different. It is worth emphasizing that our approach, although based on surveys, does not involve asking people directly questions about the costs of inflation, as in Shiller (1996). In that study, the answers people give often involve issues such as loss of morale, exploitation and national pride. Faced with these answers, it does not seem promising to probe further to see how they differ across respondents with different political inclinations.

Our first task, then, is to see the extent to which these partisan social happiness functions support the root assumption in Alesina (1987) where left-wing parties represent constituencies who care more about unemployment relative to inflation compared to right-wing parties. We then check if our results are not influenced by some time-varying omitted variable. Specifically we check how our results change when we control for aggregate economic activity and government consumption, two variables that could be correlated with inflation and unemployment and affect partisan happiness differentially. We also test if the weights have changed over time. Alesina et al (1997), observing the experience of the socialist governments in France and Spain in the late 1980's, point out that political parties may be turning less partisan. The decision of Britain's Tony Blair to give more

independence to the central bank seems to point in the same direction.³ Lastly, we also control for the political color of the party in government. This is also a test of whether partisanship matters independently of these economic variables.

Hibbs (1987) discusses the evidence that can be used to support the assumptions of the partisan model, assuming we can use the poor (rich) to proxy for the left (right) wing. In particular, he reviews and extends earlier work by Blinder and Esaki (1978) and others (e.g. Schultz (1968) and Thurow (1970)) that study the impact of macroeconomics on income distribution. The conclusion emerging is that there are adverse effects of unemployment, while the evidence on inflation is more ambiguous. Alesina et al (1997) summarize these findings: *"Hibbs (1987) provides unambiguous evidence about unemployment's effect on income distribution in the United States: an increase in unemployment reduces the income shares of the population's two poorest quintiles and increases those of the two richest quintiles. (...) Inflation's distributional effects are harder to pinpoint with precision."* (pp. 47-8). Interestingly, research on these important issues has diminished over the last couple of decades. This is quite a drawback since the most persuasive of these papers involve a time series study for the US over the period 1947-1980. Typically, these studies regress the share of income going to the country's i^{th} quintile on inflation, unemployment and a time trend. But it is well known, for example, that income distribution in the US has continued to worsen even after unemployment and inflation were controlled in the mid-1980's, so there is a question mark on the explanatory power of those earlier models.

Our paper builds on the literature on well-being and economic performance. A small literature has studied the relationship between well-being and economic variables at the individual level. These can be thought of as microeconomic studies of happiness. For example, Easterlin (1974), Inglehart (1990) and others find a strong correlation between income and happiness within countries. Inglehart (1990), Clark and Oswald (1994),

³ In May 1997, the Labour government announced that, from then on, it was passing on to the Bank of England the responsibility for setting interest rates.

Winkelmann and Winkelmann (1998) and others study the impact of falling unemployed on well-being, Konow and Early (1999) gather experimental evidence to study if more generous subjects are happier, while Blanchflower and Oswald (1998) study reported happiness amongst the self-employed in their study of entrepreneurship. A small number of papers have studied happiness from a macroeconomic perspective. The seminal paper here is Easterlin (1974) who studies the evolution of a society's aggregate level of well-being over time and relates it to rising income levels (see also Blanchflower, Oswald and Warr (1993)). Morawetz et al (1977) examine the effect of a community's distribution of income and self-rated happiness, and Mayer and Jencks (1999) study the effects of income inequality on happiness at the state level in the U.S.. Di Tella, MacCulloch and Oswald (1997) study the effect of higher inflation and unemployment rates on aggregate happiness, Granato, Inglehart and Leblang (1996) explore the relationship between life satisfaction and the stability of democracy, and Frey and Stutzer (1999) study the effect of institutions of direct democracy on reported happiness. Ng (1996) discusses theoretical issues related to the structure of subjective well-being responses while Kahneman, Wakker and Sarin (1997) propose a formal axiomatic defense of experienced utility (see also Tinbergen (1991) and van Praag (1991)).

Section II describes the data. Section III outlines the empirical implementation while section IV estimates partisan social happiness functions for left-wing voters separately from right-wing voters and provides some checks on our results. The appendix presents results using an alternative definition of partisanship. Section V concludes.

II. The Data

Data Description

In order to construct our measures of partisan social happiness, we use the Euro-Barometer Survey Series for 1975-1992 (see Inglehart, Reich and Melich (1994)). This is a data base compiled by an international team of researchers which collects information on individual happiness and political preference for over a quarter of a million people living in

10 OECD countries.⁴ Different individuals are interviewed each year so the data is not a panel. Individuals must answer the following simple well-being question:

"On the whole, are you very satisfied, fairly satisfied, not very satisfied or not at all satisfied with the life you lead?"

The four relevant response categories are: *"Very satisfied"*, *"Fairly satisfied"*, *"Not very satisfied"* and *"Not at all satisfied"* (The small *"Don't know"* and *"No answer"* categories are not included in our data set). Table A in Appendix I presents the frequency proportions for the various life satisfaction response categories conditioning on employment state, marital status, and income quartile of respondents. The unemployed have relatively low well-being. A higher proportion of married respondents report themselves as being very satisfied compared to divorced respondents. As we move up to the highest income quartiles, there is a monotonically increasing proportion of responses which lie in the *"Very satisfied"* category and a monotonically decreasing proportion of responses which lie in the *"Not at all satisfied"* category. There is a second well-being question asking directly *"Are you happy?"* which was discontinued in 1986. For the overlapping period (1975-86) it has a correlation coefficient of 0.56.⁵

Respondents must also answer separate questions regarding their political affiliation. We use two of them. The first asks the respondent which political party they support. The exact question asks:

"If an election were to be held tomorrow, which party would you vote for?"

In each country, the political parties available to the respondent to choose from are later classified by political scientists into right and left. Of the full sample, 47 per cent declare that they would support a left-wing party, 12 per cent a center party and 41 per cent a right-wing party if an election were held tomorrow. In Table A we can see that right wingers seem to be a happier bunch, at least in the raw data. A second question is used to

⁴ Life satisfaction data were available for two more countries, Luxemburg and Northern Ireland. They were not included due to missing data on other variables of interest.

⁵ Apparently, one of the reasons for including the life-satisfaction question in the first place was that the question on happiness translated imprecisely across languages.

provide a robustness check. The results using this measure are reported in Table IA and IIA in appendix II. It asks respondents:

“In political matters, people talk of ‘the left’ and ‘the right’. How would you place your own views on this scale?” (from 1 to 10).

Respondents were classified as being left if their response was in categories 1 to 3, and right if their response was in categories 8 to 10.

In order to generate our measure of partisan social welfare, we follow a two-stage procedure. First, for each country in our sample, we regress individual life satisfaction responses on personal characteristics of the respondent and an indicator of the year in which the survey was conducted. These can be thought of as micro-econometric happiness equations. We restrict attention to individuals who declare themselves to support right-wing (left-wing) parties and take the coefficients on the year dummies as our yearly indicator of unexplained “right-wing (left-wing) social happiness” in the country. Thus, our measure of “partisan social happiness” for the left (right) is the average unexplained response to the happiness question given by individuals who support left-wing (right-wing) parties, after controlling for personal characteristics. This is then correlated with macroeconomic variables like inflation and unemployment. The two-stage procedure ensures that we have the same (correct) level of aggregation between left and right-hand variables, so it avoids the bias specified in Moulton (1983). The same can be achieved by estimation in one stage but correcting the standard errors.⁶

Validation

In this sub-section we review some arguments that have been used in defence of using happiness data. The first is a market-based argument: psychologists, who study well-being for a living, use these data. Presumably, if markets work and there was a better way

⁶ We prefer the two-stage procedure, as it is focused on aggregate magnitudes and our paper deals with macroeconomic questions. It is also more transparent (for example, the number of observations is directly related to the degrees of freedom that we actually have).

to study well-being, people who insist on using bad data would be driven out of the market. A second, and perhaps more persuasive argument is that well-being data pass what psychologists sometimes call validation exercises. Pavot (1991), for example, finds that respondents who report that they are very happy tend to smile more, an act that arguably is correlated with true internal happiness. A similar finding on the duration of so called "Duchenne smiles" is provided in Eckman, Davidson, and Friesen (1990). Konow and Early (1999) cite a number of studies that are also helpful in assessing the validity of well-being data. These include Fordyce (1988) showing that different measures of well-being correlate well with one another, with subject recall of positive versus negative life events (Seidlitz, Wyer and Diener (1997)), reports of friends and family members (Diener (1984), Sandvik, Diener and Seidlitz (1993)), and physical measures like heart rate and blood pressure measures of responses to stress (Shedler, Mayman and Manis (1993)) and electroencephalogram measures of prefrontal brain activity (Sutton and Davidson (1997)).

An issue that has also been considered in the psychology literature is that, in formulating their responses, subjects are influenced by what they believe to be the socially desirable response. If the social norm is to be happy, subjects may bias their response upwards. Since the first studies in the area, psychologists have found evidence pointing out that this concern may be exaggerated (e.g. Rorer (1965), Bradburn (1969)). Furthermore, Konow and Early (1999) present experimental evidence showing that the Marlowe-Crowne measure of social desirability is uncorrelated with happiness data.⁷ Lastly, at least part of the influence of social norms can be controlled for in the empirical specifications later on.

⁷ The Marlowe-Crowne measure uses evidence from an array of questions where the social norm differs from the honest answer. For example, the honest answer to the question "*Were there occasions when you took advantage of someone?*" is likely to be yes, though the socially acceptable one is no.

A further argument in defence of subjective well-being data, inspired by results presented in Inglehart (1992), is that happiness data are correlated with suicide rates.⁸ Di Tella et al (1997) test this idea by regressing aggregate suicide rates on country-by-year average reported life satisfaction, using a similar panel of countries used later in this paper (one year shorter). Controlling for country and year fixed effects, the relationship is negative and statistically significant at the 6 per cent level.

That paper also presents microeconomic happiness and life satisfaction regressions for 12 European countries and the US. The interesting finding is that these equations seem to share a similar structure across countries. For example, comparing the happiness equations for Europe and the U.S., we can see that the same personal characteristics are statistically associated with happiness, and the size of the effects does not vary much. Largely the same results obtain if we use life satisfaction data or if we look at individual countries within Europe. For every country in Europe, being unemployed increases the chance that the respondent declares himself dissatisfied with life, even after holding other things constant that may be expected to be associated with unemployment (e.g. family income, marital separation). The size of the impact is large and similar across countries. For the majority of countries, the effect of being unemployed is equivalent in life dissatisfaction 'units' to dropping from the top to the bottom income quartile. Other variables also have similar effects across countries (in all countries happiness is U-shaped in age and is monotonically increasing in income). Thus, the data seem to behave in a less erratic manner than an economist used to working with hard data would expect. Table B in Appendix I presents a micro-econometric life satisfaction regression for Europe, similar to the ones used in that paper, for the 273,386 respondents covered in our sample.

⁸ Inglehart (1990) looks at the cross section. He finds some evidence of a *negative* correlation and offers some arguments explaining why the correlation may be spurious.

III. Empirical Strategy

Our empirical strategy has three stages. In the first stage we obtain estimates of the average happiness level of the left and right in each of the country/years of our sample, after controlling for personal characteristics. In the second we estimate the impact of inflation and unemployment on the happiness of both groups while in the third stage we test if the impact of these variables is different across the two groups in a statistically significant fashion.

In the first stage we estimate two ordered logit regressions, one for left-wing individuals and one for right-wing individuals, for each country ($n=1$ to 10) of the following form:

$$HAPPY_{ij}^g = \mathbf{d}^g \cdot \mathbf{W}_{ij}^g + \mathbf{f}_t^g + \mathbf{m}_{ij}^g \quad (1)$$

where $HAPPY_{ij}^g$ is the answer to the well-being question "*Are you Satisfied with the life you lead?*" given by individual j in year t , who belongs to political group g ($g=\text{left or right}$). \mathbf{W}_{ij}^g is the vector of personal characteristics for individual j in political group g , and the vector \mathbf{d}^g contains the coefficients of the personal characteristics. The coefficients on the set of time dummies for political group g are denoted \mathbf{f}_t^g , while \mathbf{m}_{ij}^g are independently, identically distributed random errors. Table B shows one such regression (but using the data pooled across all political groups -left, center, right- and for all countries). Our main interest is a measure of average happiness for each group (left and separately for the right), after controlling for personal characteristics, for each year in the sample given by the coefficients on the year dummies, \mathbf{f}_t^g .

Two questions from the Euro-Barometer Survey are used to determine the political groups to which individuals belong. The first is a question asking individuals which parties they voted for in the last election, and subsequently classified by political scientists according to whether this party is on the right, center or left of the political

spectrum. The second question asks individuals directly if, ideologically speaking, they consider themselves to be on ‘the left’ or on ‘the right’ of the political spectrum. For the first definition we obtain a set of 18 dummy coefficients per country (and per political group) except for Spain and Portugal where we only have 8 per country since data were only available from 1985 to 1992. Since we have 10 countries, this gives us our sample of 160 observations per political group. The second definition of political group used was unavailable in 1975 and consequently 8 observations were lost.

In the second stage we run an Ordinary Least Squares regression of the form:

$$\mathbf{f}_{nt}^g = \mathbf{a}^g \text{UNEMPLOYMENT}_{nt}^g + \mathbf{b}^g \text{INFLATION}_{nt}^g + \mathbf{I}_n^g + \mathbf{h}_t^g + \text{YEAR}_n^g + \mathbf{e}_{nt}^g \quad (2)$$

where YEAR_n^g denotes a country specific time trend, \mathbf{I}_n^g is a country fixed effect, \mathbf{h}_t^g is a year fixed effect and \mathbf{e}_{nt}^g is an error term (i.i.d.).⁹

In the last stage of our empirical strategy we test whether the ratio of the coefficients $\mathbf{a}^g / \mathbf{b}^g$ is greater for left-wing voters than for the right-wing voters. In other words, we test:

$$H_0: \mathbf{a}^{\text{left}} / \mathbf{b}^{\text{left}} > \mathbf{a}^{\text{right}} / \mathbf{b}^{\text{right}} \quad \text{versus} \quad H_1: \mathbf{a}^{\text{left}} / \mathbf{b}^{\text{left}} \leq \mathbf{a}^{\text{right}} / \mathbf{b}^{\text{right}} \quad (3)$$

Since the ratio of the two coefficients on unemployment and inflation ($\mathbf{a}^g / \mathbf{b}^g$) does not have a standard distribution, bootstrapping techniques were used to compute the character of the sampling distribution of our test statistic (e.g. Efron and Tibshirani (1993)). The results were also checked against Monte-Carlo simulations, which imposed the assumption of normality of the regression error terms.

As inflation and, in particular, unemployment may be expected to be correlated

⁹ In Di Tella et al (1997) we compare a strategy similar to the one followed here with one based on using residuals from Ordinary Least Squares regressions for the first

with other variables, we also run more general regressions, controlling for aggregate economic activity, *TOTAL GDP* (an index of the country's total GDP where 1985=100), and government consumption, *GOVERNMENT* (final consumption expenditure by the government divided by GDP). We also test whether left and right political groups have changed their weightings over inflation and unemployment over time. In order to do this, we construct a dummy variable that is equal to 1 in every year after 1983, the mid point of our 18-year sample, and zero otherwise (*DUMYPOST83*).

Finally, we attempt to capture the impact of non-economic policies and outcomes that depend on the color of the government and affect partisan well-being. We construct a variable called *RIGHT WING* to measure the extent to which political preferences in the country lean towards the right. It is similar to those employed by political scientists to indicate the left/right position of a government, and is constructed in two steps (see, for example, Hicks and Swank (1992) and Castles (1986)). In the first step, we collect the number of votes received by each party participating in cabinet and express them as a percentage of the total votes received by all parties with cabinet representation. This percentage of support is then multiplied in the second step by a left/right political scale (from Castles and Mair (1984)) and summed across all the cabinet parties to give a continuous variable.¹⁰ Consequently the coefficient on this single variable (*RIGHT WING*) is intended to capture the overall residual effect of government on partisan well-being - after controlling for economic outcomes - via its influence on potentially many non-economic factors. These latter regressions also serve another role, that of testing for the structure of more general partisan happiness functions than those that contain only

microeconometric stage (instead of logit). Similar second stage regression results were found, regardless of the method used.

¹⁰ Using the dichotomous classification of political parties into right and left which is provided in Alesina and Roubini (1992), who in turn collect it from Alt (1985) and Banks (1989), reduces the sample even further to 104 observations and yields similar results (available upon request). The correlation coefficient between the two variables is over 0.72.

inflation and unemployment. Summary statistics appear in Table C, while a full description of the variables used and their sources is given in Appendix III.

IV. Results

Our primary regression specifications in Table I estimate the effect of inflation and unemployment on the social well-being of the whole sample (*HAPPINESS-ALL*), and both the left and the right separately (*HAPPINESS-LEFT* and *HAPPINESS-RIGHT*). In regression (1), both higher unemployment and inflation rates decrease well-being in the full sample. The effects are well defined, with *t*-statistics of 4.5 and 5.3 respectively. The estimated effects are similar to those obtained in Di Tella et al (1997). Again, one cannot reject the hypothesis that the coefficients on *UNEMPLOYMENT* and *INFLATION* are equal for the full sample. Regressions (2) and (3) present similar equations, but for the left and right sub-samples. The coefficient on *UNEMPLOYMENT* is more negative for the left than for the right, while that on *INFLATION* is less negative for the left than for the right, though neither difference is significant. Using the alternative definition of partisanship (regressions (34) and (35) in Table IA in Appendix II) yields stronger results. The effect of unemployment is not different across the two sub-groups, but the coefficient on *INFLATION* for the right is larger than that for the left at the 6 per cent level of significance.

Another simple, preliminary test explores whether the structure of the two equations is the same by checking if the coefficients on the explanatory variables (including the fixed effects and country-specific time trends) are jointly equal across the two equations. This hypothesis can be rejected at the 1 per cent level. Second, we test whether the coefficient on *UNEMPLOYMENT* is equal to the coefficient on *INFLATION* in the regression for the left (equality could not be rejected in regression (1) for the full sample), versus the alternative hypothesis that the size of the coefficient on *UNEMPLOYMENT* is greater than that on *INFLATION*. Similarly, we also test whether the coefficients are equal in the regression for the right, versus the alternative that the

coefficient on *UNEMPLOYMENT* is less than that on *INFLATION*. It is not possible to reject equality of the coefficients in either regression.

A more difficult question asks whether the trade-off between *UNEMPLOYMENT* and *INFLATION* is different across the two sub-samples (i.e. the ratio $\mathbf{a}^g / \mathbf{b}^g$). Partisan social happiness functions, such as regressions (2) and (3), allow us to test whether left-wing individuals care relatively more about unemployment than inflation when compared to right-wing individuals, or if the unemployment/inflation trade-off is the same for the two subgroups. This test allows us to see the extent to which evidence from subjective well-being data supports the root assumption in Alesina (1987). The ratio of the regression coefficients on *UNEMPLOYMENT* to *INFLATION* equals 1.203 ($= -7.453 / -6.194$) for the left and 0.901 ($= -6.697 / -7.436$) for the right. Using bootstrap techniques to compute the character of the sampling distribution of the ratio of the coefficients showed that in 77.5 per cent of 1,000 bootstrap repetitions, the unemployment/inflation trade-off indicated that left-wingers cared more about unemployment relative to inflation than right-wingers.¹¹ In other words, in 77.5 per cent of cases, the evidence is consistent with the assumptions made in partisan models of the macroeconomy.¹²

¹¹ Monte-Carlo simulations were also performed to estimate the distribution of the ratio of the coefficients on unemployment and inflation to enable us to calculate confidence intervals. These simulations told largely the same basic story that our bootstrap simulations told, both in the present and subsequent regression specifications. For example, in regressions (2) and (3) in 79.5 per cent of 1,000 Monte-Carlo simulations, the unemployment/inflation trade-off was greater for the left than for the right. Since the bootstrap simulations allow for issues such as non-normality of the data, which the Monte-Carlo simulations do not, we report the former. The Monte-Carlo results are available upon request.

¹² In most of the simulations, the coefficients on *UNEMPLOYMENT* and *INFLATION* were both negative. Hence the ratio of these two numbers was positive and a larger ratio for the left indicates a greater well-being loss due to higher unemployment relative to higher inflation than for the right. However in some simulations one of the coefficients became positive. Our program took into account that if, for example, the coefficient on *INFLATION* was positive in the simulated regression equation for the left, then despite the ratio of the coefficients being negative, the interpretation that the left incur a greater well-

It could be argued that making these comparisons underestimates the differential social cost of unemployment across the two groups if the left had a higher rate of unemployment than the right. That is, we should also include the direct effect on the happiness of an individual due to falling unemployed (from the micro-econometric first stage regressions) which might afflict a greater proportion of left-wing individuals than right-wing ones. Remember that we have already controlled for the personal cost of being unemployed in the first stage regressions. Thus, as long as left-wingers have higher unemployment rates than right-wingers, including the personal cost of unemployment is likely to show that the left cares more about unemployment than the right. In other words, excluding the direct costs biases our results against finding evidence consistent with the assumptions of partisan business cycles. We choose, however, not to include this direct cost. A first reason concerns the fact that the difference is small.¹³ Second, and more importantly, the unemployed are a minority within each party. If parties decide by majority voting, the relevant effect is that of unemployment and inflation on the average member of the party.

A source of potential concern with the above results is that the coefficient on *INFLATION* or *UNEMPLOYMENT* may be capturing the effects of another variable that could be correlated with them and that the group cares about. The first candidate is the level of economic activity, a variable that conceivably could have a differential impact on the left and the right. Regression (4) in Table I shows a similar regression to (1) that controls for *TOTAL GDP*, an index of economic activity that equals 100 in 1985 in each country. One cannot again reject the hypothesis that the coefficients on *UNEMPLOYMENT* and *INFLATION* are equal for the full sample. The effect of income is positive, as expected, though it is only significant at the 10 per cent level. Regressions (5)

being loss due to higher unemployment relative to higher inflation than for the right is still valid.

¹³ The unemployment rate in the full sample of 10 countries amongst individuals who said they supported a left-wing party was 5.8 per cent, compared with 4.0 per cent for

and (6) show that the coefficient on *TOTAL GDP* in the happiness regression for the right is larger than the corresponding coefficient in the regression for the left by a factor of three, although it is only significant at the 6 per cent level. The null hypothesis that the coefficients on all the explanatory variables are jointly equal across the left and right sub-samples can be rejected at the 1 per cent level.

Interestingly, the coefficients on *INFLATION* in both regressions stay almost unchanged, while the coefficient on *UNEMPLOYMENT* shows a large drop only in the regression for the right. So much so, that we can reject the hypothesis that the right cares about unemployment altogether once we control for increases in the aggregate income level. The coefficient on *UNEMPLOYMENT* is only significant at the 20 per cent level. The null hypothesis that the coefficients on *UNEMPLOYMENT* and *INFLATION* are equal in the regression for the right can be rejected at the 10 per cent level in favor of the alternative hypothesis that the size of the coefficient is smaller on *UNEMPLOYMENT* than on *INFLATION*. In the regression equation for the left it is not possible to reject equality of these two coefficients.

Using bootstrapping techniques we test the hypothesis that the trade-off between *UNEMPLOYMENT* and *INFLATION* is the same for the two groups. The ratio of the regression coefficients on *UNEMPLOYMENT* to *INFLATION* equals 1.036 ($= -6.449 / -6.226$) for the left and 0.484 ($= -3.644 / -7.535$) for the right. The simulations showed that in 89.3 per cent of 1,000 bootstrap repetitions, the evidence indicated that the left cared more about unemployment relative to inflation than the right.

A common observation in the written press is that political parties have evolved in the last decades, changing their preferences over inflation and unemployment. The case of socialist parties in Europe and the Democrats in the US is often mentioned as examples of parties that have become more inflation-averse in the last couple of decades (Alesina et al (1997)). This sometimes involves appointing conservative central bankers, or even

individuals who said they supported a right-wing party. Di Tella et al (1997) discuss a way to incorporate these direct costs into a macro trade-off.

changing the institutional arrangement to give more independence to the setting of monetary policy, as the case of the British Labor party under Tony Blair mentioned in the introduction would suggest. Although less obviously, it can also be claimed that some right-wing parties have converged towards the center.

In order to throw some light on these issues we construct a dummy variable, *DUMYPOST83*, that equals one in every year after 1983 and zero otherwise. Regressions (7), (8) and (9) in Table II use it to test these ideas. Regression (9) shows larger effects of *UNEMPLOYMENT* and *INFLATION* on happiness post-1983 for the right sub-sample. The coefficient on *UNEMPLOYMENT* is significantly different from zero at the 11 per cent level while that on *INFLATION* is significant at the 2 per cent level. Interestingly, there do not seem to be well-defined changes post-1984 in the happiness regression for the left. Thus, based on the evidence presented, a move by a left-wing party towards more anti-inflation policies (such as those in Blair's *New Labour*) should be explained in terms of median-voter ideas, rather than partisan motives.

The last three regressions in Table II control for government consumption over GDP, *GOVERNMENT CONSUMPTION*. The idea, again, is to try to control for a variable that could be correlated with inflation and unemployment and that also affects partisan happiness. It can certainly be argued that left-wingers care about the amount of government spending and that some of it could be used to reduce the social cost of unemployment, like spending on programs to help the unemployed. Regression (10) reveals a positive and significant effect of government consumption in the happiness of the full sample. Regressions (11) and (12) show that the fact that we control for government consumption and aggregate economic activity in the country does not change the result that the right seem to care more about inflation than unemployment relative to the left. Again we cannot reject the hypothesis that the coefficient on *UNEMPLOYMENT* is zero in the right sub-sample. The level of significance on the *UNEMPLOYMENT* coefficient in the left sub-sample is only 6 per cent however. Using bootstrap techniques to compute the character of the sampling distribution of the ratio of the coefficients showed that in 81.2 per cent of 1,000 bootstrap repetitions, the unemployment/inflation trade-off was

consistent with the assumptions in partisan business cycle models. Interestingly, the coefficient on *GOVERNMENT CONSUMPTION* in the regression for the left sub-sample is more than twice as large as in the right sub-sample, where it is insignificant.

Table III studies the influence of political color of the government in power on partisan well-being. This is a further attempt at controlling for the effect of other omitted variables correlated with partisan happiness. The results from regressions (13), (14) and (15) suggest that the effect of unemployment is no longer significantly associated with happiness at conventional levels (the significance of the coefficient on *UNEMPLOYMENT* in the left sub-sample, where it is larger, is 19 per cent). Bootstrap simulations showed that in 85.8 per cent of 1,000 repetitions, the evidence indicated that the left cared more about unemployment relative to inflation than the right.

The coefficient on *RIGHT WING* is insignificant for the overall sample, but is precisely estimated and with opposite signs in the left and right sub-samples. It seems that respondents declare themselves to be happier when the party in power has a similar ideological position to themselves, even after we control for key performance indicators such as unemployment, inflation and income. This result is hard to explain using a purely opportunistic approach to modeling the activities of political parties as developed, for example, in Rogoff and Sibert (1988). If the government tailored its policies to the median voter in order to stay in power, it would be difficult to explain why people care so much about the identity of the party forming government. It is easier to explain this result by imagining that different parties care differently about the set of policies and outcomes that can be affected by the government and that parties are loyal to the wishes of their constituents.

One explanation is that *RIGHT WING* may be capturing the effect on partisan well-being of variables that have been omitted from our regressions. One candidate is inequality, for which comparable panel data are unavailable. Another candidate is government consumption. Interestingly, including *GOVERNMENT CONSUMPTION* in

regressions (13) (14) and (15) yields similar results.¹⁴ Another alternative could be some non-economic variables that affect the two constituencies differently. Examples of such policies in America could include the party's position on gun controls, on constraints on abortions or on the ability of homosexual individuals to serve in the military forces. Alternatively, voters may simply care about some non-policy characteristic of the government, experiencing happiness when the party they support is in power, regardless of its policies. Such characteristics could be personal charisma (attractive only to the party's constituency) or some degree of broader ideological congruence. Lastly, it is possible that there is a pure "victory effect", where individuals care that the party they support is in power, regardless of the characteristics of the policymaker or the policies he/she applies.¹⁵

Lastly, regressions (16), (17) and (18) test whether these pure partisan effects have become weaker over time. Again the argument is simply that political parties have lost some of their appeal and that people, in general, have become less ideological. We try to throw some light on these issues by introducing an interaction term (*DUMYPOST83* times *RIGHT WING*). The estimates are not well defined, and if anything they go in the opposite direction. They indicate that the differential happiness between left and right individuals when a right wing government is in power has, if anything increased over time. This occurs even after controlling for our basic set of macro variables.

Part of the change in the size of the coefficients of interest when *RIGHT WING* is included is partly due to the fact that the number of observations drops to 125, and partly due to the fact that this variable is highly correlated with *INFLATION*, *UNEMPLOYMENT* and *TOTAL GDP*. This is shown in Table IV. The coefficients on these variables are also useful in calculating the total effect of a change in the political color of the party in power on partisan happiness. There seem to be two effects. There is

¹⁴ Results available upon request.

¹⁵ If politics were a soccer match, the opposite finding would be equivalent to observing the supporters of a team that is loosing, clap the ability of the winning team. For readers knowledgeable in soccer tactics, our findings fit the Bilardista tradition (as opposed to the Menottista tradition).

the direct effect of *RIGHT WING* on partisan happiness calculated in regressions (14) and (15). And there is the indirect effect, calculated by multiplying the coefficient on *RIGHT WING* in regressions (19), (20) and (21) by the coefficients on inflation, unemployment and aggregate income in the happiness regressions. For example, the indirect effect for the right is $0.0023*(-0.189)+(-0.004)*(-5.744)+0.0048*3.519=0.039$. The following table summarizes these effects for a hypothetical change in our *RIGHT WING* variable equivalent to going from Francois Mitterrand to Margaret Thatcher (5.53 or 3.8 standard errors in that variable) using equations (14)-(15).

Estimated effect on	Happiness of the Left	Happiness of the Right
Direct	-0.492	0.287
Indirect	0.058	0.218
Total Effect	-0.434	0.505

Tables V and VI explore the hypothesis that partisan differences are driven by income differences. This is sometimes called the Marxist hypothesis as it implies that voters have some sort of class loyalty. This has been one of the themes of the literature on political business cycles. Hibbs (1987) cites Paul Samuelson as saying, *"We tend to get our recessions during Republican administrations. ... The difference between the Democrats and the Republicans is the difference in their constituencies. It's a class difference... The Democrats constitute the people, by and large, who are around the median incomes or below. These are the ones whom the Republicans want to pay the price and burden of fighting inflation. The Democrats are willing to run some inflation (to increase employment); the Republicans are not."* (p. 213). Thus it is interesting to adopt a partisan definition that makes the rich equal to the right and the left equal to the poor.

The evidence however suggests that there are some differences with the partisan happiness equations studied above. A first difference appears comparing regressions (3) and (23), where it can be seen that the right cares more about inflation than the rich, and

the rich have not become as more concerned with inflation over time as the right have (regressions (9) and (27)). In none of the regression equations in Table V can one reject the null hypothesis that the coefficients on *UNEMPLOYMENT* and *INFLATION* are equal both for the poor ((22), (24) and (26)) and for the rich ((23), (25) and (27)). Importantly, we can never find evidence that the unemployment/inflation trade-off for the rich and poor favors the partisan assumptions.

Furthermore, there is no evidence of a differential effect of government consumption on the well-being of the rich and the poor (regressions (28) and (29) in Table VI). If anything, the evidence suggests that the effect of government consumption on happiness is more positive for the rich sub-sample. In contrast to the earlier results for the right and left, the happiness levels of the rich and poor do not depend on the ideological position of the government in power (regressions (30)-(33)).

Lastly in Appendix A, we provide robustness checks of the results presented in Tables I to III by using a second definition of individual's political affiliation. Whereas the dependent variable in these tables was based on the survey question which asked individuals which parties they voted for in the last election, and subsequently classified by political scientists according to whether this party is at the right or left end of the political spectrum, Tables IA and IIA are based on a separate question which asks respondents: *"In political matters, people talk of 'the left' and 'the right'. How would you place your own views on this scale?" (from 1 to 10).*

The results using this second definition of political affiliation showed in every regression at least as strong support for the root assumption in Alesina's (1987) partisan model that the left-wing cares more about unemployment than inflation compared to the right-wing. In regression equations (34) and (35) the ratio of the coefficient on *UNEMPLOYMENT* to *INFLATION* equals 1.784 ($= -7.248 / -4.062$) for the left and 0.884 ($= -7.916 / -8.954$) for the right. Bootstrap simulations showed that in 87.5 per cent of 1,000 cases, the unemployment/inflation trade-off indicated the left cared more about unemployment relative to inflation than the right. After controlling for *TOTAL GDP* in regressions (36) and (37), the evidence indicated that the left cared more about

unemployment relative to inflation than the right in 90.1 per cent of 1,000 bootstrap repetitions. Regressions (38) and (39) show larger effects of *UNEMPLOYMENT* and *INFLATION* on happiness post-1983 for the right sub-sample, but not for the left. For this specification, the unemployment/inflation trade-off was consistent with the partisan business cycle assumptions in 90.1 per cent of 1,000 bootstrap repetitions.

In Table IIA there is no evidence of a differential effect of government consumption on the well-being of the right and the left using our second definition of political affiliation (regressions (40) and (41)). There is, again, a strong effect of the political color of the government in power (regressions (42)-(45)). Respondents declare themselves to be happier when the party in power has a similar ideological position to themselves. These pure partisan effects on well-being do not seem to have become weaker over time (regressions (44) and (45)). The unemployment/inflation trade-off was consistent with the partisan assumptions in 89.0 per cent of 1,000 bootstrap repetitions in regressions (42) and (43), and in 83.3 per cent of cases in regressions (44) and (45).

V. Conclusions

This paper proposes a new approach to study standard questions in the literature on politics and macroeconomics that uses subjective well-being data. It starts by constructing a measure of partisan social happiness using individual responses to a life satisfaction question from over a quarter of a million individuals living in 10 European countries over the period 1975-92. By conditioning on either the party that the respondents have voted for, or the ideology they declare to have, we are able to obtain a measure of partisan social happiness for each country-year combination. With this information, we study the root assumption made in the partisan models of the macro economy (Hibbs (1977) and Alesina (1987)) regarding the size of the relative weights given to inflation and unemployment by the constituencies of the different political parties.

We present partisan social happiness regressions that control for the personal characteristics of the respondents, country fixed effects, year fixed effects and country

specific time trends. By and large, the evidence tends to favor the partisan approach to modeling business cycles. Social happiness functions estimated on the right-wing portion of the population look different from those obtained for the left sub-sample. In order to see if the unemployment/inflation trade-off was different for the two sub-samples, bootstrap simulations were performed. Using our first definition of partisanship, in 77.5 per cent of 1,000 cases this trade-off was consistent with the assumptions in partisan business cycle theory. Using an alternative definition of partisan support, the proportion of cases rose to 87.5 per cent. Once we control for aggregate income, the evidence is more favorable to partisan theory. Including this variable leaves the coefficients on the inflation rate practically unchanged in the two sub-samples. The coefficient on the unemployment rate falls more, however, in the regression for the right (it is almost halved). A bootstrap confidence interval showed that in 89.3 per cent of cases the unemployment/inflation trade-off indicated the left cared more about unemployment relative to inflation than the right. Using the alternative definition of left-right, the proportion was 90.1 per cent. In fact, we cannot reject the hypothesis that the right does not care about unemployment. The positive effect of income is larger and better defined in the right sub-sample.

We also study if the relative weights on these macro variables have changed over time. The results suggest that there is some evidence that the right has become more concerned with inflation but that this has not been the case for the left. We also find different trade-offs between inflation and unemployment for the two groups once we control for the effect of government consumption. The coefficient on this variable is large, positive and significant only in the left sub-sample.

The differential impact of inflation and unemployment across the left and right also survives the inclusion of a variable that measures the ideological position of the government in power. This variable is highly significant. It indicates that when the government leans more to the right ideologically, right-wing individuals tick up their happiness scores. In the same periods, left-wing individuals declare themselves to be more dissatisfied with their lives. We leave to further research to see whether this implies that non-economic policies are important, if political colors matter (whereby people like to see

their preferred parties win, much like they feel happy when their favorite soccer team wins), or if we have failed to control for other economic policies that are correlated with political color and which also affect happiness. In any case, the variable capturing the ideological position of the government (*RIGHT WING*) is strongly correlated with inflation (negatively) and unemployment (positively). Thus, there seem to be two channels through which governments affect the well-being of their constituencies: a direct (maybe non macro-economic) channel and an indirect effect through unemployment and inflation. This result indicates that the color of the government matters, at least in happiness terms, for a large part of the population.

We also explore the Marxist hypothesis that ideological differences can be traced back to differences in income. Thus the rich are often assumed to be "equivalent" to the political right, and the poor to the left. We find a number of differences. First we find that, if anything, the rich care less about inflation than the right, and that this has not changed over time. Furthermore, the happiness of the rich and poor are not affected at all by the ideological position of the government that happens to be in power. Importantly we cannot find evidence that the unemployment/inflation trade-off for the rich and poor favors the partisan assumptions.

The general results of the paper are in line with the assumptions made in partisan models of the business cycle, like Hibbs (1977) and Alesina (1987). They are more difficult to reconcile with an opportunistic model, like that of Nordhaus (1975) or Rogoff and Sibert (1988). In particular, if we assume that the unique objective of political parties is to win elections, it is hard to see why partisan happiness is so correlated with the political color of the party in government. One way to do so would be to have a model in which parties partly cater for partisan support and partly behave opportunistically. At a minimum, the findings reject the notion of purely opportunistic political parties which adopt identical policies to keep the median voter as happy as possible.

Appendix I

Table A: Life Satisfaction in Europe: 1975-92.

Reported Life Satisfaction	All	Unemployed	Marital Status	
			Married	Divorced
Very satisfied	27.21	16.31	29.21	19.11
Fairly satisfied	53.71	45.09	53.64	51.76
Not very satisfied	14.24	25.13	12.89	20.96
Not at all Satisfied	4.85	13.47	4.26	8.17

Reported Life Satisfaction	Partisan	Support	Income Quartiles			
	Left	Right	1st (Lowest)	2nd	3rd	4th (Highest)
Very satisfied	24.90	34.40	22.68	24.92	28.01	33.00
Fairly satisfied	54.60	52.14	50.41	54.20	55.69	54.41
Not very satisfied	15.28	10.17	18.90	15.73	12.68	9.85
Not at all Satisfied	5.22	3.28	8.00	5.15	3.62	2.74

Note: Based on 273,386 observations of individuals in the labour force. All numbers are expressed as a percentage.

Table B: Europe's Life Satisfaction (Ordered Logit) 1975-92. No.Observations=273,386.

Dep Var: Reported Life Satisfaction		Coefficient	Standard Error
Unemployed		-0.864	0.018
Self employed		0.113	0.014
Male		-0.121	0.009
Age		-0.047	0.001
Age Squared		5.45e-4	1.60e-5
Education to age: 15-18 years		0.112	0.010
≥ 19 years		0.236	0.012
Marital Status:	Married	0.235	0.012
	Divorced	-0.488	0.026
	Separated	-0.612	0.039
	Widowed	-0.292	0.019
No. of children ≥ 8 & ≥ 15 yrs:	1	-0.044	0.011
	2	-0.060	0.013
	3	-0.151	0.020
Income Quartiles	Second	0.258	0.011
	Third	0.462	0.012
	Fourth (highest)	0.701	0.012
Retired		0.119	0.016
School		0.071	0.019
Home		0.074	0.012
Countries:	Belgium	0.892	0.017
	Netherlands	1.529	0.016
	Germany	0.620	0.016
	Italy	-0.209	0.016
	Luxembourg	1.317	0.024
	Denmark	2.049	0.017
	Ireland	1.076	0.018
	Britain	0.952	0.017
	Greece	-0.354	0.018
	Spain	0.349	0.022
	Portugal	-0.384	0.021

Notes: Log-likelihood=278654.46. $\chi^2(48)=50837.43$. Cut1=-2.912, Cut2=-1.265, Cut3=1.549. The regression includes year dummies from 1975 to 1992. Country base category is France.

Table C: Summary Statistics

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
HAPPINESS	160	0.101	0.342	-0.701	1.189
HAPPINESS-LEFT	160	0.093	0.374	-0.778	1.455
HAPPINESS-RIGHT	160	0.071	0.415	-1.030	1.300
UNEMPLOYMENT	160	0.086	0.037	0.03	0.208
INFLATION	160	0.075	0.050	0.0003	0.201
TOTAL GDP	160	1.006	0.133	0.696	1.329
GOVERNMENT CONSUMPTION	160	0.186	0.032	0.137	0.276
RIGHT WING	125	5.450	1.443	2.275	7.800

Table I
Partisan Social Happiness Functions: 10 OECD Countries 1975-92.

Dependent Variable: HAPPINESS (group)	(1) ALL	(2) LEFT	(3) RIGHT	(4) ALL	(5) LEFT	(6) RIGHT
UNEMPLOYMENT	-7.801** (1.743)	-7.453** (2.288)	-6.697** (2.317)	-5.775** (2.117)	-6.449** (2.807)	-3.644 (2.799)
INFLATION	-6.060** (1.149)	-6.194** (1.509)	-7.436** (1.528)	-6.126** (1.142)	-6.226** (1.514)	-7.535** (1.512)
TOTAL GDP				1.630* (0.982)	0.807 (1.303)	2.457* (1.301)
Personal Controls	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	Yes	Yes	Yes	Yes	Yes	Yes
Adj R ²	0.78	0.71	0.76	0.80	0.71	0.76
Observations	160	160	160	160	160	160

Note: Standard errors in parentheses. ** denotes significance at the 5 per cent level. * denotes significance at the 10 per cent level.

Table II
Partisan Social Happiness Functions: 10 OECD Countries 1975-92.

Dependent Variable: HAPPINESS (group)	(7) ALL	(8) LEFT	(9) RIGHT	(10) ALL	(11) LEFT	(12) RIGHT
UNEMPLOYMENT	-4.080* (2.465)	-4.923 (3.309)	-0.944 (3.220)	-5.035** (2.115)	-5.212* (2.773)	-3.062 (2.837)
INFLATION	-5.583** (1.171)	-6.033** (1.572)	-6.514** (1.529)	-6.263** (1.127)	-6.456** (1.477)	-7.643** (1.512)
TOTAL GDP	1.708* (0.993)	0.707 (1.333)	2.671** (1.297)	2.914** (1.139)	2.953** (1.493)	3.466** (1.528)
UNEMPLOYMENT x DUMYPOST83	-2.580 (1.971)	-2.333 (2.645)	-4.104 (2.574)			
INFLATION x DUMYPOST83	-2.208 (1.430)	0.421 (1.919)	-4.344** (1.868)			
GOVERNMENT CONSUMPTION				6.750** (3.162)	11.289** (4.145)	5.308 (4.242)
Personal Controls	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	Yes	Yes	Yes	Yes	Yes	Yes
Adj R ²	0.80	0.70	0.77	0.81	0.72	0.76
Observations	160	160	160	160	160	160

Note: Standard errors in parentheses. ** denotes significance at the 5 per cent level. * denotes significance at the 10 per cent level.

Table III
Partisan Social Happiness Functions: 10 OECD Countries 1975-92.

Dependent Variable: HAPPINESS (group)	(13) ALL	(14) LEFT	(15) RIGHT	(16) ALL	(17) LEFT	(18) RIGHT
UNEMPLOYMENT	-3.321 (2.469)	-4.061 (3.102)	-0.189 (2.889)	-2.984 (2.600)	-3.242 (3.258)	-0.710 (3.040)
INFLATION	-5.124** (1.406)	-5.933** (1.766)	-5.744** (1.645)	-4.969** (1.457)	-5.558** (1.825)	-5.983** (1.703)
TOTAL GDP	1.137 (1.605)	-0.799 (2.017)	3.519* (1.878)	1.371 (1.701)	-0.231 (2.132)	3.158 (1.989)
RIGHT WING	-0.013 (0.018)	-0.089** (0.023)	0.052** (0.021)	-0.010 (0.019)	-0.083** (0.024)	0.049** (0.023)
RIGHT WING x DUMYPST83				-0.017 (0.038)	-0.040 (0.482)	0.026 (0.045)
Personal Controls	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	Yes	Yes	Yes	Yes	Yes	Yes
Adj R ²	0.80	0.73	0.82	0.80	0.73	0.82
Observations	125	125	125	125	125	125

Note: Standard errors in parentheses. ** denotes significance at the 5 per cent level. * denotes significance at the 10 per cent level.

Table IV
The Effect of the Politics on Economic Performance: 10 OECD Countries 1975-92.

Dependent Variable:	(19) UNEMPLOYMENT	(20) INFLATION	(21) TOTAL GDP
RIGHT WING	0.0023** (0.0010)	-0.0040** (0.0015)	0.0048** (0.0015)
Country Dummies	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes
Country-Specific Time Trends	Yes	Yes	Yes
Adj R ²	0.94	0.92	0.98
Observations	125	125	125

Note: Standard errors in parentheses. ** denotes significance at the 5 per cent level. * denotes significance at the 10 per cent level.

Table V
Happiness Functions for the Rich and for the Poor: 10 OECD Countries 1975-92.

Dependent Variable: HAPPINESS (group)	(22) POOR	(23) RICH	(24) POOR	(25) RICH	(26) POOR	(27) RICH
UNEMPLOYMENT	-7.391** (1.754)	-6.482** (2.363)	-6.559** (2.151)	-4.665 (2.890)	-6.156** (2.526)	-2.690 (3.390)
INFLATION	-6.546** (1.157)	-4.123** (1.559)	-6.573** (1.160)	-4.181** (1.558)	-6.179** (1.120)	-3.693** (1.610)
TOTAL GDP			0.669 (0.998)	1.462 (1.340)	0.841 (1.017)	1.470 (1.366)
UNEMPLOYMENT x DUMYPOST83					-0.605 (2.019)	-3.010 (2.710)
INFLATION x DUMYPOST83					-1.929 (1.465)	-1.811 (1.966)
Personal Controls	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	Yes	Yes	Yes	Yes	Yes	Yes
Adj R ²	0.82	0.62	0.82	0.62	0.82	0.62
Observations	160	160	160	160	160	160

Note: Standard errors in parentheses. ** denotes significance at the 5 per cent level. * denotes significance at the 10 per cent level.

Table VI
Happiness Functions for the Rich and for the Poor: 10 OECD Countries 1975-92.

Dependent Variable: HAPPINESS (group)	(28) POOR	(29) RICH	(30) POOR	(31) RICH	(32) POOR	(33) RICH
UNEMPLOYMENT	-6.328** (2.186)	-3.949 (2.914)	-3.188 (2.419)	-5.106 (3.325)	-3.094 (2.550)	-4.653 (3.502)
INFLATION	-6.616** (1.165)	-4.314** (1.553)	-5.591** (1.377)	-3.177* (1.893)	-5.548** (1.429)	-2.970 (1.962)
TOTAL GDP	1.072 (1.177)	2.703* (1.569)	1.096 (1.573)	-0.353 (2.162)	1.161 (1.668)	-0.039 (2.291)
GOVERNMENT CONSUMPTION	2.116 (3.268)	6.528 (4.356)				
RIGHT WING			0.002 (0.018)	-0.011 (0.025)	0.003 (0.019)	-0.008 (0.026)
RIGHT WING x DUMYPOST83					-0.005 (0.038)	-0.022 (0.052)
Personal Controls	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	Yes	Yes	Yes	Yes	Yes	Yes
Adj R ²	0.82	0.62	0.80	0.58	0.80	0.58
Observations	160	160	125	125	125	125

Note: Standard errors in parentheses. ** denotes significance at the 5 per cent level. * denotes significance at the 10 per cent level.

Appendix II

Table I A
Partisan Social Happiness Functions: 10 OECD Countries 1975-92, Second Definition.

Dependent Variable: HAPPINESS (group)	(34) LEFT	(35) RIGHT	(36) LEFT	(37) RIGHT	(38) LEFT	(39) RIGHT
UNEMPLOYMENT	-7.248** (3.022)	-7.916** (2.917)	-8.539** (3.800)	-6.330* (3.664)	-9.529** (4.573)	-0.900 (4.216)
INFLATION	-4.062** (2.010)	-8.954** (1.940)	-4.059** (2.016)	-8.957** (1.944)	-3.943* (2.104)	-7.425** (1.939)
TOTAL GDP			-0.959 (1.702)	1.178 (1.641)	-0.796 (1.740)	1.375 (1.605)
UNEMPLOYMENT x DUMYPOST83					1.375 (3.526)	-7.763** (3.251)
INFLATION x DUMYPOST83					-0.922 (2.465)	-5.532** (2.273)
Personal Controls	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	Yes	Yes	Yes	Yes	Yes	Yes
Adj R ²	0.62	0.69	0.61	0.69	0.61	0.71
Observations	152	152	152	152	152	152

Note: Standard errors in parentheses. ** denotes significance at the 5 per cent level. * denotes significance at the 10 per cent level.

Table II A
Partisan Social Happiness Functions: 10 OECD Countries 1975-92, Second Definition.

Dependent Variable: HAPPINESS (group)	(40) LEFT	(41) RIGHT	(42) LEFT	(43) RIGHT	(44) LEFT	(45) RIGHT
UNEMPLOYMENT	-7.619* (3.910)	-4.966 (3.748)	-8.606* (4.436)	-1.423 (3.565)	-7.708* (4.620)	-1.575 (3.725)
INFLATION	-4.120* (2.017)	-9.047** (1.934)	-2.643 (2.483)	-5.292** (1.996)	-2.217 (2.559)	-5.364** (2.063)
TOTAL GDP	0.245 (2.085)	2.961 (1.998)	-5.589** (2.830)	2.574 (2.274)	-4.961* (2.969)	2.467 (2.393)
GOVERNMENT CONSUMPTION	5.980 (5.982)	8.862 (5.734)				
RIGHT WING			-0.079** (0.032)	0.078** (0.026)	-0.072** (0.034)	0.077** (0.027)
RIGHT WING x DUMYPOST83					-0.047 (0.065)	0.008 (0.052)
Personal Controls	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	Yes	Yes	Yes	Yes	Yes	Yes
Adj R ²	0.61	0.69	0.59	0.77	0.59	0.77
Observations	152	152	117	117	117	117

Note: Standard errors in parentheses. ** denotes significance at the 5 per cent level. * denotes significance at the 10 per cent level.

Appendix III

The Euro-Barometer Survey Series [1975-1992]

The Euro-Barometer Surveys used in this paper were conducted by various research firms operated within the European Community (E.C.) countries under the direction of the European Commission. Either a nation-wide multi-stage probability sample or a nation-wide stratified quota sample of persons aged 15 and over was selected in each of the E.C. countries. The cumulative data file used contains 36 attitudinal, 21 demographic and 10 analysis variables selected from the European Communities Studies, 1970-1973, and Euro-Barometers, 3-38.

Data for Belgium, France, Germany, Ireland, Italy, Luxembourg, Netherlands and the United Kingdom were available for the full sample period which we used (1975-1992) whereas data were only available from 1981 to 1992 for Greece and from 1985 to 1992 for both Spain and Portugal. The number of observations in our sample was 29438 for France, 25251 for Belgium, 28870 for The Netherlands, 29053 for Germany, 30615 for Italy, 27550 for Denmark, 20543 for Ireland, 26220 for Britain, 11527 for Spain and 13395 for Portugal.

Data Definition

Countries: France, Belgium, The Netherlands, Germany, Italy, Denmark, Britain, Greece, Spain and Portugal.

HAPPINESS-ALL: The coefficients on the year dummies in an ordered logit Life Satisfaction regression that controls for personal characteristics, for each country across all individuals.

HAPPINESS-LEFT: Two definitions were used. For Tables I-III it is the coefficients on the year dummies in an ordered logit Life Satisfaction regression that controls for personal characteristics, for each country conditioning on the individuals who say they support left-wing parties. The exact Euro-Barometer question asks: "*If an election were to be held tomorrow, which party would you vote for?*". Political scientists have subsequently classified these parties into left and right.

For Tables IA and IIA the definition is the coefficients on the year dummies in an ordered logit Life Satisfaction regression that controls for personal characteristics, for each country conditioning on the individuals who say they place their political views as being to the left. The exact Euro-Barometer question asks: "*In political matters, people talk of 'the left' and 'the right'. How would you place your own views on this scale?*" (from 1 to 10). Respondents were classified as being left for the purposes of the present paper, if their response was in categories 1, 2 or 3.

HAPPINESS-RIGHT: Two definitions were used. For Tables I-III it is the coefficients on the year dummies in an ordered logit Life Satisfaction regression that controls for personal characteristics, for each country, conditioning on the individuals who say they support right-wing parties. The exact Euro-Barometer question asks: "*If an election were to be held tomorrow, which party would you vote for?*". Political scientists have subsequently classified these parties into left and right.

For Tables IA and IIA the definition is the coefficients on the year dummies in an ordered logit Life Satisfaction regression that controls for personal characteristics, for each country conditioning on the individuals who say they place their political views as being to the right. The exact Euro-Barometer question asks: "*In political matters, people talk of 'the left' and 'the right'. How would you place your own views on this scale?*" (from 1 to 10). Respondents were classified as being right for the purposes of the present paper, if their response was in categories 8, 9 or 10.

HAPPINESS-POOR: The coefficients on the year dummies in an ordered logit Life Satisfaction regression that controls for personal characteristics, for each country, conditioning on individuals who are in the bottom income quartile.

HAPPINESS-RICH: The coefficients on the year dummies in an ordered logit Life Satisfaction regression that controls for personal characteristics, for each country, conditioning on individuals who are in the top income quartile.

UNEMPLOYMENT: The unemployment rate, from the CEP-OECD data set [1950-1992].

INFLATION: The inflation rate, as measured by the rate of change in consumer prices, from the CEP-OECD data set [1950-1992].

GOVERNMENT CONSUMPTION: Government final consumption expenditure divided by Gross Domestic Product, from the CEP-OECD data set [1950-1992].

TOTAL GDP: An index of Real GDP per Capita at the price levels and exchange rates of 1985, standardised to equal 100 in 1985 for each country, from the CEP-OECD data set [1950-1992].

RIGHT WING: Index of left/right political party strength, defined as the sum of the number of votes received by each party participating in cabinet expressed as a percentage of total votes received by all parties with cabinet representation, multiplied by a left/right political scale constructed by political scientists. Votes are from Mackie and Rose's (1982), *The International Almanac of Electoral History*, cabinet composition is from *The Europa Yearbook* (1969-1989 editions), and the left/right scale is from Castles and Mair (1984).

DUMYPOST83: A dummy variable that is equal to 1 in every year after 1983, the midpoint of our sample, and zero otherwise.

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Zentrum für Europäische Integrationsforschung
Center for European Integration Studies
Rheinische Friedrich-Wilhelms-Universität Bonn

Walter-Flex-Strasse 3
D-53113 Bonn
Germany

Tel.: +49-228-73-1732
Fax: +49-228-73-1809
www.zei.de