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Partisan Social Happiness

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We use a new approach to study questions in political economy that relies on data on the subjective well-being of a large sample of people living in the OECD over the period 1975–1992. Controlling for the 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. The evidence is consistent with the hypothesis that left-wing individuals care more about unemployment relative to inflation than right-wingers. Interestingly, we find that individuals declare themselves to be happier when the party they support is in power, even after controlling for macroeconomic variables. The effect of politics is large. Finally, we find that these partisan differences cannot be traced back to income differences. That is, it is misleading to assume—as it is done in the previous literature—that the poor (rich) behave similarly to the left (right). For example, inflation and unemployment do not have differential effects across rich and poor and the happiness levels of these two groups are unaffected by the identity of the party in power. Our findings are hard to explain using median voter models but are to be expected in a partisan world.

1. INTRODUCTION

A number of economists and political scientists have studied how politics affects economic performance. Following the work of Downs (1957), models have been built where policy makers try to please the electorate at opportune moments in order to remain in office (*e.g.* Nordhaus (1975), Rogoff and Sibert (1988)). An alternative approach assumes that policy makers have partisan motivations. These "partisan" models (*e.g.* Hibbs (1977), Alesina (1987)) predict that different political parties will favour different policies. The potential of these two approaches in explaining business cycles sparked an enormous amount of interest and numerous papers have tried to test their predictions.[1]

At least two conclusions seem to emerge from this work. The first is that formal tests are difficult to construct. Since policy makers' preferences are not observed, most of 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 from these tests, although not conclusive, tends to favour partisan models over opportunistic models, particularly when the focus is on economic outcomes rather than policy instruments (see, for example, Frey and Schneider (1978*a*,*b*), Golden and Poterba (1980), Hibbs (1987), Grier (1989), Chappell, Havrilesky and McGregor (1993), *inter alia*). The inconclusive nature of the evidence is reflected in the conclusions of what is one of the more comprehensive multi-country empirical papers in

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

the area. Looking at the impact of elections on the behaviour of economic outcomes, Alesina and Roubini (1992) find that there is evidence of an electoral cycle on the inflation rate, consistent with the opportunistic model of Rogoff and Sibert (1988). They also find some evidence consistent with the partisan model, particularly for a subset of countries with bi-partisan systems.

In this paper we adopt a different strategy to study the validity of these two approaches and, more generally, the relationship between politics and economics. We use data from surveys where people are asked how happy they are and what is their political inclination. We then see how happiness levels correlate with basic macroeconomic variables (like inflation and unemployment) and political variables (like the colour of the party in government). Importantly, we investigate if these relationships are different for groups of left- and right-wing individuals. Since partisan models are built around the assumption 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).[2]

Our first task, then, is to test the extent to which these partisan social happiness functions support the root assumption in partisan models where left-wing parties represent constituencies who care more about unemployment relative to inflation compared to right-wing parties. We then check whether our results are being influenced by some time-varying omitted variable.[3] 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 with which macro variables enter partisan social happiness functions have changed over time. Lastly, we also include the political ideology of the party in government. This serves to control for other omitted variables, and also provides an independent test of partisan vs. opportunistic models of the economy.

Alesina *et al.* (1997) discuss 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, they review the work of Hibbs (1987) who extends earlier work by Blinder and Esaki (1978) and others (*e.g.* Thurow, 1970) that study the impact of macroeconomics on income distribution. They summarize these findings as follows: *"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. 47–48). 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 tests involves a time series study for the U.S. 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 inequality of the income distribution in the U.S. 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 body of work has studied the relationship between income and happiness. The seminal paper is Easterlin

2. Such an approach has been criticized, particularly in the context of contingent valuation studies used to assess environmental damage. Diamond and Hausman (1994), for example, discuss how individuals answer differently in response to slight changes in wording. Other problems include what is sometimes called strategic bias (when respondents bias their answers to influence their preferred outcome) and that respondents are asked to value attributes with which they have little experience (information bias).

3. Such a concern is reduced by our focus on the happiness of a group relative to that of another group. This approach uses the base group as a way to control for other aggregate shocks than the ones we are capturing with our macroeconomic controls.

(1974), which finds that income is associated with higher happiness in cross sections within individual years in the U.S., but that over time we do not observe higher reported levels of well-being in spite of the large income gains. This finding, which is sometimes called the "Easterlin Paradox", has been found for other periods and other countries (*e.g.* Inglehart (1990), Easterlin (1995), Blanchflower and Oswald (2004), *inter alia*). Di Tella, MacCulloch and Oswald (1997) report a strong role for income within years/countries, but that overall happiness has different trends across countries in the OECD. They also take a macroeconomic perspective by studying the role of business fluctuations in explaining happiness, and how a welfare state, proxied by the parameters of the unemployment insurance system, can help mitigate the costs of these fluctuations. Well-being data has also been used to study the costs of falling unemployed (Clark and Oswald (1994), Winkelmann and Winkelmann (1998)), and entrepreneurship (Blanchflower and Oswald, 1998). The "Easterlin Paradox" has motivated well-being research on the role of relative income (Blanchflower and Oswald, 2004) and on the role of democratic values (Granato, Inglehart and Leblang, 1996). Three other interesting papers studying the role of aggregate variables are Morawetz *et al.* (1977), who study the role of income inequality; Frey and Stutzer (2000), who study the effect of institutions of direct democracy on happiness across the Swiss cantons; and Gruber and Mullainathan (2002), who show how happiness data can be used to study public policy by studying how cigarette taxes affect smokers. Frey and Stutzer (2002) provide a review. Finally, in a contribution relating happiness to macroeconomics, Di Tella, MacCulloch and Oswald (2001) study the effect of higher inflation and unemployment rates on average happiness.

In the present paper we focus on political economy aspects of macroeconomics. Specifically, we try to gain a greater understanding of how the structure of happiness varies across different ideological groups and different income groups within the population. This allows us to investigate some of the basic questions in the field of political economy, such as the performance of partisan vs. opportunistic models. Our approach relies on the estimation of differential effects for one group (*e.g.* the left) relative to another (*e.g.* the right), something that allows us to control for omitted correlations between happiness and our macroeconomic variables of interest. A similar approach, involving the employed and the unemployed, was used in Di Tella *et al.* (1997) to study the role of the welfare state in generating European unemployment. The papers by Frey and Stutzer (2000) and Gruber and Mullainathan (2002) also use this strategy to control for the potential presence of shocks that are contemporaneous to changes in their independent variables.

This paper, and we believe much of the happiness literature, can be understood as an application of *experienced* utility, a concept that emphasizes the pleasures derived from consumption (discussed in Kahneman and Thaler, 1991). It argues, in essence, that there are circumstances where measures of experienced utility can be derived (such as happiness responses) that are reasonable substitutes to observing individual choices. Ng (1996) discusses the theoretical structure of subjective well-being responses (see also Tinbergen (1991) and van Praag (1991)). van Praag (1971) is an early attempt at using verbal qualifiers to deal with the related question of satisfaction with income. Rabin (1998) makes the connection between happiness data and experienced utility explicitly.

Section 2 describes the data. Section 3 outlines the empirical implementation while Section 4 estimates partisan social happiness functions. Section 5 concludes.

2. THE DATA

In order to construct our measures of partisan social happiness, we use the Euro-Barometer Survey Series for 1975–1992 (see Inglehart, Reif and Melich, 1994). This is a database compiled by an international team of researchers which collects information on individual happiness and

political preference for approximately a quarter of a million people living in 10 OECD countries.[4] Different individuals are interviewed each year so the data are 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 A1 in Appendix A 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 (1975–1986) it has a correlation coefficient of 0·56.[5]

Respondents must also answer separate questions regarding their political affiliation. It 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 if their response was in categories 1–3, and right if their response was in categories 8–10. In Table A1 we can see that right-wingers seem to be a happier bunch, at least in the raw data.[6]

In order to study partisan social welfare, we restrict attention to individuals who identify themselves as left-wing or right-wing, something that reduces the sample to 74,839 individuals. Using a less strict definition of left right (for example, defining left-wingers to be those responding 1–4 and right-wingers those responding 7–10 in the question above) increases the size of the sample to 121,872 and does not change the basic results of the paper. When we study if partisan differences can be traced back to income differences we include individuals who are in the top and bottom quartiles of the income distribution for a total of 120,014 individuals.

2.1. Validation

In this sub-section we review some arguments that have been used in defence of using happiness data. A first argument is that well-being data pass what psychologists sometimes call validation exercises. These are of two kinds: those that are based on correlating happiness data with physical measures and those that are based on correlating them with other subjective data. Konow and Earley (1999) cite a number of studies that fall in the second category. These include Fordyce (1988), who shows that different measures of well-being correlate well with one another, with subject recall of positive vs. negative life events (Siedlitz, Wyer and Diener, 1997) and with

4. Life satisfaction data were available for two more countries, Greece and Luxembourg. 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.

6. As a robustness check, the working paper version of this paper reports similar results using a second question on ideology, which 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.

reports of friends and family members (Diener (1984), Sandvitz, Diener and Seidlitz (1993)). Blanchflower and Oswald (2004) show that answers to a life satisfaction question, such as those used in this paper, correlate well with happiness data (the answers to the question *"Are you Happy?"*) for the U.S. and the U.K. A similar finding emerges from data for a large sample of individuals living in 12 OECD countries (Di Tella *et al.*, 1997). Work falling in the first category includes Pavot (1991), for example, who 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 Ekman, Davidson and Friesen (1990). Konow and Earley (1999) also report work showing that the data correlates well with physical measures like heart rate and blood pressure measures of responses to stress (Shedler, Mayman and Manis, 1993) or 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 Earley (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.

A further argument in defence of subjective well-being data, inspired by results presented in Inglehart (1990), 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 (1 year shorter). Controlling for country and year fixed effects, the relationship is negative and statistically significant at the 6% level.

That paper also presents microeconometric happiness and life satisfaction regressions for 12 European countries and the U.S. 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 satisfaction "units" to dropping from the top to the bottom income quartile. Other variables also have similar effects across countries (for example, in every country happiness is U-shaped in age and monotonically increasing in income). Thus, the data seem to behave in a less erratic manner than an economist used to working with hard data could expect.

Table A2 in Appendix A presents a similar microeconometric life satisfaction regression for Europe, but identifies from our full sample (of 201,522 respondents) the differential effects of being left and right. A number of personal characteristics seem to have a similar effect on the happiness responses of the two groups, as suggested by an insignificant interaction effect.

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.

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

An interesting exception is the role of what we can call family values. Married individuals are happier than those that are single (the base category). The effect is somewhat stronger for left-wingers. But, consistent with the stereotype of conservative individuals being less able to adapt to changing circumstances and worried about family structure, being separated or divorced has a bigger negative effect on right-wing individuals while being *de facto* married is less valued by this group. Widowhood is much more costly to right-wingers, whereas left-wingers who are widowed exhibit happiness levels that are no different to being single. The effect of divorce on a right-winger in terms of happiness is of similar size to the effect of being unemployed (=70% = (−0·403 − 0·307)/(−0·946 − 0·062)). On the other hand, the effect of divorce on a left-winger in terms of happiness is 43% of the effect of unemployment (=0·403/0·946).

3. EMPIRICAL STRATEGY

The empirical strategy is based on identifying the validity of the root assumption of partisan business cycle models. These models assume that utility (which we shall refer to as "happiness") depends negatively on inflation and unemployment rates but that the relative size of the effects is different for left-wingers compared to right-wingers. Thus, if the welfare of left-wing voters depends on unemployment and inflation with weights α^L and β^L, and that of the right-wing group depends on these variables with weights α^R and β^R we can write

$$\begin{aligned}\text{HAPPINESS}^L_{ntj} = {} & \alpha^L \text{Unemployment}_{nt} + \beta^L \text{Inflation}_{nt} \\ & + \delta^L \Omega_{ntj} + \lambda^L_n + \eta^L_t + \text{YEAR}^L_{nt} + \mu^L_{ntj} \end{aligned} \tag{1a}$$

where the superscript L indicates that the sample has been restricted to only left-wing individuals ($N = 39{,}816$). And

$$\begin{aligned}\text{HAPPINESS}^R_{ntj} = {} & \alpha^R \text{Unemployment}_{nt} + \beta^R \text{Inflation}_{nt} \\ & + \delta^R \Omega_{ntj} + \lambda^R_n + \eta^R_t + \text{YEAR}^R_{nt} + \mu^R_{ntj} \end{aligned} \tag{1b}$$

where the superscript R indicates that the sample has been restricted to only right-wing individuals ($N = 35{,}023$). HAPPINESS^G_{ntj} is the utility of individual j living in nation n in year t who belongs to ideological group G, with $G \in \{L, R\}$. Partisan business cycle models assume that $\alpha^R/\beta^R < \alpha^L/\beta^L$, or, in other words, that the effect of unemployment relative to inflation on happiness is smaller for the right-wing than the left-wing. Ω_{ntj} is a vector of personal characteristics for this individual (*e.g.* age, employment state, education). YEAR^G_{nt} denotes country-specific time trends, λ^G_n are country fixed effects and η^G_t are year fixed effects. μ^G_{ntj} are independently, identically and logistically distributed random errors for the two groups. Thus, the variance of the error term is assumed to be invariant over time and across individuals within each ideological group. This allows the error term to have a different structure across ideological groups, so that σ^G_{ntj} can take the values σ^L *and* σ^R depending on whether the individual belongs to the left- or the right-wing group. Standard errors are corrected for potential correlation of the errors within cells.[9]

As an alternative approach, we seek to estimate for the full sample ($N = 74{,}839$) the following regression:

$$\begin{aligned}\text{HAPPINESS}_{ntj} = {} & (\alpha^L + r_{ntj}(\alpha^R - \alpha^L))\text{Unemployment}_{nt} \\ & + (\beta^L + r_{ntj}(\beta^R - \beta^L))\text{Inflation}_{nt} + (\delta^L + r_{ntj}(\boldsymbol{\delta^R} - \boldsymbol{\delta^L}))\Omega_{ntj}\end{aligned}$$

9. Otherwise there could be a tendency to overstate significance as described in Moulton (1986). An alternative is to perform a two-step estimation, as in Di Tella *et al.* (2001).

$$+\lambda_n^L + r_{ntj}(\lambda_n^R - \lambda_n^L) + \eta_t^L + r_{ntj}(\eta_t^R - \eta_t^L) + \text{YEAR}_{nt}^L$$
$$+ r_{ntj}(\text{YEAR}_{nt}^R - \text{YEAR}_{nt}^L) + \mu_{ntj} \quad (1c)$$

where the dummy variable, r_{tnj}, is equal to one when the individual is a right-winger. Thus, for example, the vector $\boldsymbol{\delta}^{\boldsymbol{R}} - \boldsymbol{\delta}^{\boldsymbol{L}}$ contains the change in the coefficients of the personal characteristics, Ω_{ntj}, when the individual is right-wing (compared to left-wing). μ_{ntj} are independently, identically distributed random errors. That is, the variance of the error term is assumed to be invariant across individuals (including different ideological groups) and over time. In other words, $\sigma_{ntj}^G = \sigma$.[10]

Estimation of equations (1a)–(1c) is constrained by the fact that we cannot directly observe the (latent continuous) variable, HAPPINESS_{ntj}. We have data on the individual self-reported happiness levels for a large sample of individuals living in Europe during 1975–1992, as well as on their ideological inclinations, so that the macroeconomic variations during this period can be used for empirical identification of these partisan effects. Since such proxies for each individual's level of utility is based on data that give us only an ordinal ranking, we are unable to estimate an ordinary least squares regression to identify the levels of the coefficients (α^L, β^L, α^R and β^R). What we do observe is four discrete response outcomes that come from the well-being question *"Are you satisfied with the life you lead?"*. From these, define the following four dichotomous variables: $\text{HAPPY}_{ntj}^1 = 1$ if the person responds *"Not at all satisfied"* and 0 otherwise; $\text{HAPPY}_{ntj}^2 = 1$ if the person responds *"Not very satisfied"* and 0 otherwise, $\text{HAPPY}_{ntj}^3 = 1$ if the person responds *"Fairly satisfied"* and 0 otherwise; $\text{HAPPY}_{ntj}^4 = 1$ if the person responds *"Very satisfied"* and 0 otherwise. The ordered logit model can be written as: $\text{HAPPY}_{ntj}^1 = 1$ if $\text{HAPPINESS}_{ntj} < c_1$; $\text{HAPPY}_{ntj}^2 = 1$ if $c_1 < \text{HAPPINESS}_{ntj} < c_2$; $\text{HAPPY}_{ntj}^3 = 1$ if $c_2 < \text{HAPPINESS}_{ntj} < c_3$; $\text{HAPPY}_{ntj}^4 = 1$ if $\text{HAPPINESS}_{ntj} > c_3$ where c_1, c_2 and c_3 are the thresholds that the latent variable must cross to change the value of the corresponding dichotomous variable. Let $F(\cdot)$ be the cumulative logistic function and $\Sigma_{ntj}^L = \delta^L \Omega_{ntj} + \lambda_n^L + \eta_t^L + \text{YEAR}_{nt}^L$. The relevant probabilities from equation (1c) (setting the dummy for the right, r_{ntj}, equal to 0 for simplicity) are

$$\text{prob}(\text{HAPPY}_{ntj}^1 = 1) = F\left(\frac{c_1 - \alpha^L \text{Unemployment}_{nt} - \beta^L \text{Inflation}_{nt} - \Sigma_{ntj}^L}{\sigma}\right)$$

$$\text{prob}(\text{HAPPY}_{ntj}^2 = 1) = F\left(\frac{c_2 - \alpha^L \text{Unemployment}_{nt} - \beta^L \text{Inflation}_{nt} - \Sigma_{ntj}^L}{\sigma}\right) - F\left(\frac{c_1 - \alpha^L \text{Unemployment}_{nt} - \beta^L \text{Inflation}_{nt} - \Sigma_{ntj}^L}{\sigma}\right)$$

$$\text{prob}(\text{HAPPY}_{ntj}^3 = 1) = F\left(\frac{c_3 - \alpha^L \text{Unemployment}_{nt} - \beta^L \text{Inflation}_{nt} - \Sigma_{ntj}^L}{\sigma}\right) - F\left(\frac{c_2 - \alpha^L \text{Unemployment}_{nt} - \beta^L \text{Inflation}_{nt} - \Sigma_{ntj}^L}{\sigma}\right)$$

$$\text{prob}(\text{HAPPY}_{ntj}^4 = 1) = 1 - F\left(\frac{c_3 - \alpha^L \text{Unemployment}_{nt} - \beta^L \text{Inflation}_{nt} - \Sigma_{ntj}^L}{\sigma}\right) \quad (2)$$

10. Standard errors are again corrected for potential correlation of the errors within cells.

where σ is the standard deviation of the regression error term and the cut points are chosen so as to maximize the corresponding likelihood function.

With respect to our parameters of interest, it is clear from the above equations that the ordered logit is only able to identify the ratios, α^L/σ and β^L/σ, for the left (as well as α^R/σ and β^R/σ for the right). In other words, the *levels* of the deep parameters (α^L and β^L as well as α^R and β^R) can only be identified up to a scalar. However, the ratio of the coefficients on the unemployment and inflation rate, taken from the ordered logit estimation in equation (1c), are $(\alpha^L/\sigma)/(\beta^L/\sigma) = \alpha^L/\beta^L$ and $(\alpha^R/\sigma)/(\beta^R/\sigma) = \alpha^R/\beta^R$ for left- and right-wingers, respectively. (Similar expressions are obtained when we use regressions (1a)–(1b) and allow σ to take on different values, σ^L and σ^R, depending on which partisan group the individual belongs to.[11]) In other words, the *ratio* of the coefficients on unemployment and inflation in equations (1a)–(1c) can be identified, provided σ is time invariant.

The formal hypothesis that we test is

$$H_o : \alpha^R/\beta^R = \alpha^L/\beta^L \qquad \text{vs. } H_1 : \alpha^R/\beta^R < \alpha^L/\beta^L. \tag{3}$$

This test is done in two different ways. First, we use bootstrapping techniques to compute the character of the sampling distribution of our test statistic (see Efron and Tibshirani, 1993). Obtaining confidence intervals this way has some advantages, in particular it does not rely on asymptotic properties (like a Wald test). We conducted 1000 bootstrap repetitions and calculated the percentage of times that the ratio of the coefficients on unemployment and inflation for the right-wing group was less than for the left-wing group.[12] Second, when we run regression (1c) on the full sample (*i.e.* with both left and right together) and allow coefficients to differ across individuals of different ideological orientation, we use a simple Wald test of our non-linear hypothesis, which is distributed as chi^2, to get a more direct sense of the relative size of the effects.

The specifications shown in (1a)–(1c) impose restrictions on how inflation and unemployment affect happiness. First, it assumes that inflation has the same average effects across people of different age and education groups. However, if older people tend to receive more fixed income than younger groups then inflation may erode their income relatively more. On the other hand, the old may benefit more from capital gains to the extent they have greater wealth. Unemployment may hurt the young more than the old if the former are more likely to be looking for jobs and are less skilled. On the other hand, older people may pay higher taxes to support welfare payments to the young. Due to these kinds of opposing effects that are possible in theory, their actual overall size and significance becomes an empirical question. In contrast to the two-step approach presented in Di Tella *et al.* (2001), the approach used here allows for a simple test of the validity of the restrictions that have been implicitly imposed in the basic specification by interacting unemployment and inflation with personal characteristics.

We also directly test whether the coefficients on unemployment and inflation are invariant over time by including a dummy (*Post83*) which equals 1 in every year after 1983, the mid-point of our sample, and zero otherwise, interacted with inflation and unemployment for each left and right political grouping. There also exists the possibility that the cut points in the ordered logit regression are changing over time. The existence of such an effect is tested by splitting the sample into pre- and post-1983 sub-samples and checking whether or not equality of the cut points can be rejected.

11. When estimation of the ordered logit model takes place, differences in the distribution of the error term are expressed in different sets of cut points for each regression (*e.g.* c_1^L, c_2^L and c_3^L for the left sub-sample and c_1^R, c_2^R and c_3^R for the right), since estimation imposes identical values on the standard deviation across sub-samples.

12. The working paper version also checked our results using Monte-Carlo simulations. See below.

Since inflation and, in particular, unemployment may be expected to be correlated with other variables, we also run regressions controlling for aggregate economic activity, *GDP*, and government consumption over GDP. Finally, we attempt to capture the impact of politics on partisan well-being. We construct a variable called *Right Wing Government* to measure the extent to which the government 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 (*e.g.* Hicks and Swank, 1992). First, 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. In the second step, this percentage of support is multiplied by a left/right political scale (from Castles and Mair, 1984) and summed across all the cabinet parties to give a continuous variable.[13] The coefficient on *Right Wing Government* captures the overall residual effect of government on partisan well-being—after controlling for economic outcomes. In one interpretation, it controls for the possibility that politics enters directly into the utility function (see Coleman, 1990). Summary statistics appear in Table A3, correlation coefficients are in Table A4, while a full description of the variables used and their sources is given in Appendix B.

4. RESULTS

Our primary regression specifications in Table A5 estimate the effect of inflation and unemployment on social well-being. Regressions (1) and (2) do so for separate sub-samples of left- and right-wing individuals, respectively, while regression (3) uses the full pooled sample, but allows coefficients to differ across individuals of different ideological orientation. They correspond to regressions (1a)–(1c) in Section 3 (on the empirical strategy). The large number of personal characteristics that have been added directly to this specification are listed under the heading "Personal Controls".

In regression (1) for the left sub-sample, higher unemployment and inflation rates both decrease well-being. The effect of the unemployment rate is well defined at the 1% level of significance. However, the coefficient on inflation is significant only at the 23% level. In contrast in regression (2) for right-wing individuals, both the coefficients on the unemployment rate and inflation rate are negative and significant at the 5% and 1% levels, respectively.[14] Since these are ordered logit regressions, we can interpret the derived effects as probabilities. For example, regression (1) tells us that if the unemployment rate increases 10 percentage points, the probability that the average person in the left sample declares him/herself to be happy (*i.e.* either very satisfied or fairly satisfied) falls by 13·4 percentage points (from 75·1% to 61·7%). If the inflation rate were to increase by 10 percentage points, this same probability would drop by 2·9 percentage points. The estimated effects for right-wing individuals in regression (2) are also large: if the unemployment rate increases 10 percentage points, the probability that the average person in the right sample (in terms of happiness) declares him/herself to be happy (either very satisfied or fairly satisfied) falls by 5·6 percentage points (from 86·6% to 81·0%). If the inflation rate were to increase by 10 percentage points, this probability would drop by 7·2 percentage points.[15]

13. Using the dichotomous classification of political parties (right or left) in Alesina and Roubini (1992), collected from Alt (1985) and Banks (1989) but available for fewer countries and years, yields similar results (available on request). The correlation coefficient with *Right Wing Government* is 0·72.

14. Using the expanded definition of left (counting individuals responding categories 1–4, rather than 1–3) and right (counting those responding categories 7–10, rather than 8–10) yields broadly similar results and increases the size of the sample. For example using the specification presented in column (1) for the left in Table A1, the coefficients (standard error) on the unemployment rate and inflation rate are −6·241 (2·175) and −1·797 (1·183), respectively, with 64,177 observations. Using the specification in regression (2) for the right yields −4·166* (2·214) and −4·916 (1·163) for the coefficients on unemployment and inflation, respectively, with 57,695 observations.

15. These probabilities are calculated using equations similar to those reported in equation (2) above.

Consistent with the partisan model of the macro-economy (Hibbs (1977), Alesina (1987)), left-wing individuals seem to care more about unemployment than inflation while right-wing individuals seem to care more about inflation than unemployment. A formal test of the root assumption of the partisan model involves comparing the unemployment/inflation ratio across the two sub-samples. Using bootstrap techniques to compute the character of the sampling distribution of the ratio of the coefficients on unemployment to inflation showed that in 96·5% of 1000 bootstrap repetitions the ratio was less for right-wingers compared to left-wingers.[16] Regression (3) allows us to get a more direct sense of the relative size of these effects by considering the full sample and including interaction effects for right-wingers. In this regression, the negative effect of unemployment for right-wingers is 27% smaller than that for left-wingers. The negative effect of inflation for right-wingers is 265% larger than that for left-wingers. Two types of test were done using the regression (3) specification to check for a difference between the unemployment/inflation ratio of coefficients across the two sub-samples. In the first we use a Wald test of the (non-linear) null hypothesis, $\alpha^R/\beta^R = \alpha^L/\beta^L$ (vs. the alternative that the L.H.S. is less than the R.H.S.). This test indicated that we can reject the null hypothesis at the 2·5% level. Using bootstrap techniques to compute the character of the sampling distribution of the ratio of the coefficients showed that in 97·8% of 1000 bootstrap repetitions, the unemployment/inflation trade-off indicated that left-wingers cared more about unemployment relative to inflation than right-wingers. In other words, in 97·8% of cases, the evidence is consistent with the assumptions made in partisan models of the macro-economy.

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, which might afflict a greater proportion of left-wing individuals than right-wing ones. Remember that these regressions also control for the personal cost of being unemployed, as well as the unemployment rate. Thus, as long as left-wingers have higher unemployment rates than right-wingers, including the personal cost of unemployment in the calculations 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 made in partisan business cycle models. We choose, however, not to include this direct cost. A first reason concerns the fact that the difference is small.[17] Second, and more importantly, the unemployed are a minority within each party. If parties decide by majority voting, the relevant effect is that on the average member of the party, who is employed.

The general one-step approach used here, in contrast to the two-step approach of Di Tella *et al.* (2001), allows for a simple test of some of the restrictions imposed in the specifications used in Table A5. Our basic estimating strategy assumes that the effects of inflation and unemployment do not change across the different groups. Yet, this assumption could be regarded as tenuous. Standard economic theory predicts that unemployment and inflation will differentially affect

16. Our working paper also reports results using Monte-Carlo simulations 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 as the bootstrap simulations, both in the present and subsequent regression specifications. Furthermore, in most of the bootstrap 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-being loss due to higher unemployment relative to higher inflation than for the right is still valid.

17. The unemployment rate in the full sample of 10 countries amongst individuals who said they supported a left-wing party was 5·8%, compared with 4·0% for individuals who said they supported right-wing parties. Di Tella *et al.* (2001) discuss how to incorporate these effects.

different age groups (as they affect, for example, their net asset positions) and education groups (as they affect the probability of being unemployed). A simple test of this is to repeat our previous regressions but to also include an interaction of inflation and unemployment with age. When this is done the results are unaffected. The interactions of inflation and unemployment with the age indicators are all insignificant, and the key coefficients on unemployment and inflation are similar. The chi-squared test for equality of the ratios of unemployment and inflation across left- and right-wing groups using regression (3) as the base specification yields 4·59, rejecting equality at the 3% level (in favour of the partisan assumptions). A similar picture emerges when interactions with the different levels of educational attainment are studied. There is some weak evidence that those who have received education up to only between 15 and 18 years old are more negatively affected by unemployment, although this effect only reaches the 10·2% level of significance. There is also some evidence suggesting that inflation may affect the high educated to a lesser extent than the low educated, although just at the 8% level.

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. A natural candidate is the level of economic activity, a variable that conceivably could have a differential impact on the left and the right. Regressions (1–3) in Table A6 show similar regressions to (1–3) in Table A5, but including a control for *GDP*, the log of the country's gross domestic product *per capita* in 1990 dollars. As before, the regressions include a full set of personal controls, but since they are extremely similar in value to those reported in Table A5, they are not reported to save space. The evidence moves substantially in favour of the partisan assumptions, as the coefficients on inflation are largely unchanged but the coefficient on unemployment for the left becomes more negative and that for the right falls in absolute value. In fact, once GDP has been controlled for, we can reject the hypothesis that the right-wingers care about unemployment at conventional levels of significance. The effect of *GDP* is significant and positive in the right sub-sample and insignificant (and negative) in the left sub-sample. Bootstrap simulations suggest that the evidence gathered in regressions (1) and (2) of Table A6 is consistent with the partisan assumptions 99·0% of the time.

In regression (3) in Table A6 we pool the left- and right-wing together, but again allow every coefficient to differ across individuals of different ideological orientation. Using this regression a Wald test of the null hypothesis of an equal unemployment–inflation ratio for the left and right groups can be rejected at the 2% level in favour of the assumption of a lower ratio for the right-wing. Bootstrapping showed that in 99·5% of 1000 bootstrap repetitions, the unemployment/inflation trade-off indicated that right-wingers cared less about unemployment relative to inflation than left-wingers.

We also experimented by including government consumption divided by GDP into our basic specifications reported in Table A5.[18] 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 *a priori* that left-wingers care differently than right-wingers about the amount of government spending and that some of it could be used to reduce the social cost of unemployment, like spending on programmes to help train the unemployed. The results suggest this is not the case. The coefficient on *Government Consumption* is positive but not significant for both left and right, and there are also no significant differences in the coefficient across the two groups. Importantly, the pattern observed in regressions (1) and (2) in Table A5 regarding the main variables of interest still holds. For example, controlling for government consumption, the coefficients on unemployment and inflation in regression (1) for the left are almost unchanged, equal to −7·00 and −1·69, respectively. In regression (2) for the right they

18. All results reported but not included in the tables are available on request.

also remain similar to their previous values, equal to −4·87 for unemployment and −6·03 for inflation, after controlling for government consumption. The chi^2(1) value testing equality of the ratios on the unemployment to inflation rates using the regression (3) specification is equal to 5·0, so our null hypothesis can be rejected at the 2% level.

A common observation in the written press is that political parties have evolved in the last decades, changing their preferences over inflation and unemployment. This evolution sometimes involves appointing conservative central bankers, or even changing the institutional arrangement to give more independence to the setting of monetary policy. 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.[19] Although less obvious, it can also be claimed that some right-wing parties have become more tolerant of the welfare state (*e.g.* Spain) and converged towards the centre. In order to throw some light on these issues we construct a dummy variable, *Post83*, that equals 1 in every year after 1983 and zero otherwise. Regressions (4–6) in Table A6 use it to test these ideas. Interestingly, regressions (4) and (5) suggest that, in the pre-1983 period, the stereotype of left-wingers only concerned with unemployment and right-wingers only concerned with inflation is consistent with the evidence based on subjective well-being data. They also suggest that left-wingers have become more concerned with inflation over time, but that the coefficient on unemployment for this group has not changed. In contrast, right-wing individuals have become more concerned over time with both inflation and unemployment. Quantitatively, the biggest change occurs in the right subsample as this group has become increasingly concerned with unemployment. The two-tailed Wald test in regression (6) suggests that we can reject the null hypothesis that the ratio of the unemployment/inflation coefficients is equal for left and right individuals in favour of the partisan assumption at the 9 level for the pre-1983 period. The same test does not reject equality for the post-1983 period.[20]

Regressions (1–3) in Table A7 study the influence of the political colour of the government in power on partisan well-being. This is a variable that is both interesting in itself and could also be seen as a further attempt at controlling for the effect of other omitted variables correlated with partisan happiness. The coefficients of interest in regressions (1) and (2) do not change much, although the changes are in general in the direction of being somewhat less supportive of the partisan assumptions. Regression (3) reports that now the two-tailed test for equality of the *Unemployment/Inflation* ratio across the two groups yields a chi^2(1) of 1·7. This corresponds to equality of the ratio across left- and right-wing groups being rejected at the 19% level for a two-tailed test (or at the 9·5% level for the one-tailed test).

The coefficient on the variable denoting how far into the ideological right is the government, *Right Wing Government,* is negative and significant for individuals that identify themselves as left-wing in regression (1) in Table A7. By contrast in regression (2) for the right-wing individuals, the coefficient on *Right Wing Government* is positive and significant. 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. The effect is quite large: a right-wing individual living under Mitterrand would

19. 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.

20. We also split the sample into two halves on the time dimension and ran separate regressions for each half as a check to see if the cut-points were shifting over time. Using the estimated confidence intervals around each cut-point, equality of the two sets across early and late time periods cannot be rejected. The cut-points (standard errors) for the early period are −0·6 (2·0), 1·1 (2·0), 3·8 (2·0) and for the late period are −0·5 (3·1), 1·2 (3·1), 4·0 (3·1) based on the specification in column (3) of Table A5.

be willing to put up with an increase of 11 percentage points in the inflation rate in order to have Margaret Thatcher in charge of the government (=5·5*0·077/3·685).

This result is hard to explain using a purely opportunistic approach to modelling 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. Moreover, if a left-wing government, for example, leaned towards the centre then its supporters would tend to be particularly unhappy while right-wingers would tend to be happier. Instead the opposite occurs. 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 Government* may be capturing the effect on partisan well-being of variables that have been omitted from our regressions. Interestingly, including *GDP* does not affect this result (and again turns the ratio of the coefficients on Unemployment and Inflation consistent with the partisan assumptions at standard levels of significance). Including *Government Consumption* in these regressions or a simple measure of inequality (from the Luxembourg Income Study using post-tax equivalized income) also leaves this result unaffected. 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 policy maker or the policies he/she applies.[21] In other words, it is possible that politics enters directly into the utility function.[22]

Part of the change in the size of the coefficients of interest when *Right Wing Government* is included in regressions (1–3) in Table A7 is due to the fact that the number of observations drop, and partly due to the fact that, after controlling for year and country dummies and country-specific time trends, this variable is highly correlated with Inflation and Unemployment. This is shown in Table A8. The coefficients on these two variables, if taken as causal, are also useful in calculating the total effect of a change in the political colour of the party in power on partisan happiness. There seem to be two effects. There is the direct effect of *Right Wing Government* on partisan happiness that we can obtain from the coefficient of this variable in the happiness regressions in Table A7. And there is the indirect effect, calculated by multiplying the coefficient on *Right Wing Government* in regressions (1) and (2) in Table A8 by the coefficients on inflation and unemployment in the happiness regression. For example, using the results reported in regression (3), the indirect effect for the left is $0{\cdot}0023*(-4{\cdot}996) + (-0{\cdot}004)*(-2{\cdot}064) = -0{\cdot}003$. Table A9 summarizes these effects for a hypothetical change in our *Right Wing Government* variable equivalent to changing Francois Mitterrand for Margaret Thatcher (equal to 5·5 or 3·8 standard errors in that variable) using regressions (1) and (2) in Table A8 and regression (3) in Table A7.

Lastly, regressions (4–6) in Table A7 test whether these pure partisan effects, captured by the coefficient on *Right Wing Government* in the previous set of regressions, have become weaker

21. 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).

22. See Coleman (1990).

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 (*Post83* times *Right Wing Government)*. The estimates are not well defined, and are quantitatively small.

4.1. Happiness equations for the rich and poor

Tables A11–A13 explore the hypothesis that partisan differences can be traced back to income differences. This is sometimes called the Marxist hypothesis as it is related to the idea that voters have some kind of class loyalty, and has been one of the main themes of the political business cycle literature. As a preliminary test, in Table A10 we regress ideological orientation on individual income, as well as a set of personal characteristics, country and year dummies and country-specific time trends using a logit model. There is a monotonically increasing chance of a person voting left as you go down the income quartiles, at the 1% level. A drop from the top to bottom income quartile increases the chance that you will vote left by 11·4 percentage points.

These differences are relevant for macroeconomics. 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 making the rich equal to the right and the left equal to the poor. We construct a dummy variable *Rich*, that equals one if the respondent is in the top income quartile, and zero otherwise. We repeat the identical structure of Tables A5–A7, but using *Rich* instead of *Right*, and where the comparison group is now those individuals in the bottom income quartile.

The general pattern of Tables A11–A13 is different from that presented in Tables A5–A7. For example, the interaction of Inflation with *Rich* is positive. Although it is not significant at conventional levels (only at the 14% level), it is in the direction of the rich being *less* concerned than the poor about inflation, not more. From regressions (1) and (2) in Table A11, for example, we know that if inflation were to increase 10 percentage points, the probability that the average poor person declares him/herself to be in the top two happiness categories falls 7·2 percentage points (from 75·9% to 68·7%), while the probability that a rich person declares him/herself to be in the top two happiness categories drops 2·5 percentage points (from 88·6% to 86·1%). The ratio test is unable to reject at standard significance levels the null hypothesis of no partisan differences when partisanship lines are drawn following income differences. The same applies when we control for GDP and allow for our coefficients to change with time (see Table A12).

Perhaps the most significant difference between partisan happiness and the happiness of the rich and poor concerns the impact of the colour of the government. 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 (see Table A13). If anything, the poor seem to get happier than the rich when the government leans ideologically to the right.

5. CONCLUSIONS

This paper shows that "happiness" data can be used to address important questions in political economy. It does so by addressing a basic debate in the literature on politics and macroeconomics, namely that between partisan models (*e.g.* Hibbs (1977), Alesina (1987)) vs.

opportunistic models (*e.g.* Nordhaus (1975), Rogoff and Sibert (1988)). The approach, which can be thought of as an application of the concept of experienced utility, is based on constructing an empirical measure of partisan social happiness. To do this, we use individual responses to a life satisfaction question from a large sample of individuals living in 10 European countries over the period 1975–1992 and we restrict attention to individuals who declare to be on the left and the right of the ideological spectrum. We then study how the well-being of the main political constituencies react to macroeconomic and political changes.

The probability that an individual reports a high level of well-being is negatively correlated with inflation and unemployment, even after controlling for personal characteristics of the respondents, country and year dummies and country-specific time trends. Importantly, there are significant differences between left- and right-wing individuals. By and large, the evidence tends to favour the partisan approach to modelling business cycles: right-wingers tend to care more about inflation and left-wingers seem to be more concerned with unemployment. Moreover, we can reject at standard levels of significance equality of the ratio of the coefficients on unemployment and inflation for the left and right sub-sample in favour of the assumptions made in partisan business cycle models of a higher trade-off for the left.

A surprising finding of the paper concerns the relative importance of politics. We include in our partisan happiness equations a variable that measures the ideological position of the government in power. 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. The size of the coefficient is large and highly significant. A right-wing individual living under Mitterrand would be willing to put up with an increase of 11 percentage points in the inflation rate in order to see Margaret Thatcher take charge of the government. One possible explanation for this result is that there are other policies, not linked to macroeconomics in nature, along which governments differ and that our analysis ignores. These could include agricultural policy, the approach to fighting crime, the policy on abortion and other social issues, etc. But another possibility is that politics enters directly into the utility function (or that people simply care about winning). Furthermore, the variable capturing the ideological position of the government (*Right Wing Government*) 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 channel and an indirect effect through unemployment and inflation. Our results indicate that the colour of the government matters 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, and in contrast to what is suggested in previous research, we find that inflation hurts the poor more than the rich (although the effect is not well determined statistically). Furthermore, we find that the happiness levels of the rich and poor are not affected 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 favours the partisan assumptions.

The general results of the paper are in line with the assumptions made in partisan models of the business cycle, but are more difficult to reconcile with opportunistic models. In particular, if we assume that the unique objective of political parties is to win elections, it is hard to see why the correlation between partisan happiness and the political colour of the party in government is so strong. One explanation would involve a model where parties partly cater for partisan support and partly behave opportunistically (as in Frey and Schneider (1978*a*,*b*)). At a minimum, our findings reject the notion of purely opportunistic political parties that adopt identical policies to keep the median voter as happy as possible.

APPENDIX A

TABLE A1

Life satisfaction in Europe: 1975–1992

Reported life satisfaction	All	Unemployed	Marital status	
			Married	Divorced
Very satisfied	28·45	16·44	30·11	19·71
Fairly satisfied	54·44	45·13	54·49	52·78
Not very satisfied	13·19	25·47	12·00	20·35
Not at all satisfied	3·91	12·95	3·40	7·16

Reported life satisfaction	Partisan support		Income quartiles			
	Left	Right	1-st (Lowest)	2-nd	3-rd	4-th (Highest)
Very satisfied	21·77	36·26	24·05	26·00	29·01	34·00
Fairly satisfied	53·28	50·36	51·84	54·94	56·11	54·61
Not very satisfied	18·63	10·18	17·70	14·76	11·89	9·10
Not at all satisfied	6·32	3·20	6·42	4·30	2·99	2·29

Note: There are a total of 74,839 left and right partisan supporters in the sample and 120,014 people lie in either the top or the bottom income quartiles. The full sample we draw on includes 201,522 people. All numbers are expressed as percentages.

TABLE A2

Europe's life satisfaction (ordered logit), 1975–1992, *with political orientation interacted*

Dependent variable:	Left		Right dummy	
Reported life satisfaction	Coefficient	Std. error	Coefficient	Std. error
Unemployed	−0·946	0·054	−0·062	0·087
Self-employed	0·122	0·045	−0·114	0·058
Male	−0·081	0·026	−0·056	0·033
Age: Middle	−0·150	0·031	−0·064	0·047
Old	−0·030	0·041	−0·076	0·061
Education to age: 15–18 years	0·057	0·029	−0·002	0·037
≥19 years	0·212	0·036	−0·063	0·050
Marital status: Married	0·232	0·033	−0·087	0·043
De facto	0·133	0·051	−0·199	0·097
Divorced	−0·403	0·066	−0·307	0·109
Separated	−0·326	0·108	−0·283	0·187
Widowed	−0·009	0·056	−0·369	0·078
Number of children: One	−0·031	0·025	−0·074	0·042
Two	−0·046	0·038	−0·042	0·058
Three	−0·267	0·060	0·161	0·086
Income quartiles: Second	0·200	0·033	−0·014	0·046
Third	0·436	0·035	−0·075	0·047
Fourth (highest)	0·620	0·039	−0·011	0·053
Retired	0·231	0·048	0·125	0·059
Home	0·050	0·036	0·064	0·050
School	0·259	0·058	−0·053	0·081
Countries: France	−10·087	2·151	13·741	6·621
Belgium	0·240	2·715	6·168	6·759
Netherlands	−4·221	1·977	6·354	6·574
Germany	−5·505	2·045	6·081	6·690
Italy	−9·762	2·000	4·983	6·618

TABLE A2—Continued

Dependent variable:	Left		Right dummy	
Reported life satisfaction	Coefficient	Std. error	Coefficient	Std. error
Denmark	−4·968	2·014	8·325	6·578
Ireland	−2·616	2·193	8·758	6·644
Britain	−3·173	1·987	4·493	6·620
Portugal	−10·393	3·591	13·494	6·765

Notes: Number of observations = 74,839. Pseudo R^2 = 0·10. Log-likelihood = −75,963. $Chi^2(111)$ = 22,476. Cut1 = −5·5 (2·0), Cut2 = −3·8 (2·0), Cut3 = −1·0 (2·0). The regression includes year dummies from 1975 to 1992 and their interactions with right dummies. Spain is the base country. Left denotes the sub-sample of individuals who answered 1–3 to the question *"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*).* Right denotes those answering 8–10.

TABLE A3

Summary statistics

Variable	Obs.	Mean	Std. dev.	Min.	Max.
Unemployment	160	0·087	0·037	0·031	0·212
Inflation	160	0·070	0·048	−0·003	0·242
GDP (in logs)	160	9·667	0·307	8·560	10·180
Right Wing Government	125	5·531	1·489	2·275	7·800
Government consumption	160	0·188	0·036	0·139	0·290

TABLE A4

Correlation coefficients

	Unemployment	Inflation	GDP	Right Wing Government
Unemployment	1			
Inflation	−0·263	1		
GDP	−0·343	−0·433	1	
Right Wing Government	0·014	−0·255	0·122	1
Government consumption	−0·234	0·171	0·346	0·096

Note: Based on 160 observations.

TABLE A5

Partisan social happiness functions, left and right: 10 *OECD countries* 1975–1992

Dependent variable:	1	2	3 (All)	
Reported life satisfaction	Left	Right	Left	Right dummy
Macro variables				
Unemployment	−6·668	−4·963	−6·725	1·804
	(2·535)	(2·428)	(2·558)	(2·827)
Inflation	−1·636	−6·090	−1·656	−4·387
	(1·350)	(1·118)	(1·358)	(1·416)
Personal controls				
Unemployed	−0·939	−1·015	−0·943	−0·066

TABLE A5—Continued

Dependent variable:	1	2	3 (All)	
Reported life satisfaction	Left	Right	Left	Right dummy
	(0·055)	(0·074)	(0·054)	(0·087)
Self-employed	0·120	0·008	0·121	−0·113
	(0·045)	(0·036)	(0·045)	(0·058)
Male	−0·079	−0·139	−0·079	−0·058
	(0·025)	(0·026)	(0·026)	(0·033)
Marital status: Married	0·232	0·148	0·234	−0·087
	(0·033)	(0·036)	(0·033)	(0·043)
De facto	0·135	−0·065	0·136	−0·201
	(0·051)	(0·086)	(0·051)	(0·097)
Divorced	−0·400	−0·715	−0·403	−0·306
	(0·065)	(0·091)	(0·066)	(0·109)
Separated	−0·321	−0·617	−0·323	−0·288
	(0·108)	(0·147)	(0·108)	(0·186)
Widowed	−0·008	−0·378	−0·008	−0·366
	(0·056)	(0·056)	(0·056)	(0·079)
Income quartiles: Second	0·198	0·188	0·198	−0·012
	(0·033)	(0·038)	(0·033)	(0·045)
Third	0·432	0·367	0·435	−0·071
	(0·034)	(0·041)	(0·034)	(0·047)
Fourth (highest)	0·615	0·617	0·619	−0·007
	(0·039)	(0·045)	(0·039)	(0·052)
Number of children: One	−0·028	−0·107	−0·028	−0·079
	(0·025)	(0·032)	(0·025)	(0·042)
Two	−0·044	−0·088	−0·044	−0·044
	(0·038)	(0·043)	(0·038)	(0·058)
Three	−0·269	−0·108	−0·271	0·163
	(0·060)	(0·063)	(0·060)	(0·086)
Age: Middle	−0·148	−0·218	−0·149	−0·067
	(0·031)	(0·037)	(0·031)	(0·047)
Old	−0·031	−0·109	−0·031	−0·078
	(0·041)	(0·046)	(0·041)	(0·061)
Education to age: 15–18 years	0·057	0·057	0·058	−0·001
	(0·029)	(0·027)	(0·029)	(0·037)
≥ 19 years	0·216	0·155	0·217	−0·064
	(0·036)	(0·036)	(0·036)	(0·051)
Retired	0·231	0·358	0·233	0·121
	(0·048)	(0·043)	(0·048)	(0·059)
Home	0·051	0·116	0·052	0·063
	(0·036)	(0·036)	(0·036)	(0·050)
School	0·260	0·209	0·262	−0·055
	(0·058)	(0·058)	(0·058)	(0·082)

Note: Number of observations = 39,816 for reg. (1); 35,023 for reg. (2); 74,839 for reg. (3). Pseudo R^2 in regs. (1), (2) and (3) are 0·08, 0·09 and 0·1, respectively. All regs. include year and country dummies, and country-specific time trends. Standard errors in parentheses. In reg. (3) the Wald test of the null hypothesis that the ratio of the coefficients on unemployment to inflation are equal for both the left and right subsamples is $\text{chi}^2(1) = 4{\cdot}97$, Prob > $\text{chi}^2 = 0{\cdot}03$.

TABLE A6

Partisan social happiness functions, left and right: GDP and changes over time

Dependent variable:	1	2	3	4	5	6
Reported life satisfaction	Left	Right	All	Left	Right	All
Macro variables						
Unemployment	−8·812	−1·946	−8·894	−7·068	−1·034	−7·123
	(3·457)	(2·328)	(3·492)	(3·868)	(2·498)	(3·903)

TABLE A6—Continued

Dependent variable: Reported life satisfaction	1 Left	2 Right	3 All	4 Left	5 Right	6 All
Unemployment* Right dummy			6·963			6·088
			(3·287)			(4·143)
Inflation	−1·414	−6·098	−1·430	−0·920	−4·421	−0·936
	(1·320)	(1·138)	(1·328)	(1·433)	(1·030)	(1·442)
Inflation* Right dummy			−4·621			−3·451
			(1·374)			(1·611)
GDP	−2·023	2·478	−2·046			
	(1·599)	(1·251)	(1·613)			
GDP* Right dummy			4·502			
			(1·539)			
Unemployment* Post83				−1·145	−6·056	−1·157
				(3·615)	(2·500)	(3·644)
Unemployment* Right dummy* Post83						−4·826
						(3·861)
Inflation* Post83				−3·309	−5·221	−3·322
				(1·505)	(1·385)	(1·519)
Inflation* Right dummy* Post83						−1·853
						(1·916)
Personal controls included	Yes	Yes	Yes	Yes	Yes	Yes
Ratio test, $chi^2(1)$			5·30			2·80
Prob > chi^2			0·021			0·094
Pseudo R^2	0·08	0·09	0·10	0·08	0·09	0·10

Note: Number of observations is 39,816 for regs. (1) and (4); 35,023 for regs. (3) and (5); 74,839 for regs. (3) and (6). All regressions include year and country dummies, country-specific time trends and the same vector of personal characteristics as Table A5. Standard errors are in parentheses. Left denotes the sub-sample of individuals who answered 1–3 to the question *"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*).* Right denotes those answering 8–10.

TABLE A7

Partisan social happiness functions, left and right: government colour

Dependent variable: Reported life satisfaction	1 Left	2 Right	3 All	4 Left	5 Right	6 All
Macro variables						
Unemployment	−4·961	−3·540	−4·996	−4·921	−3·601	−4·955
	(2·565)	(2·317)	(2·581)	(2·565)	(2·363)	(2·581)
Unemployment* Right dummy			1·473			1·370
			(2·692)			(2·728)
Inflation	−2·045	−3·685	−2·064	−1·980	−3·750	−1·997
	(1·475)	(1·165)	(1·482)	(1·592)	(1·208)	(1·600)
Inflation* Right dummy			−1·603			−1·736
			(1·616)			(1·768)
Right Wing Government	−0·077	0·077	−0·077	−0·075	0·075	−0·076
	(0·020)	(0·017)	(0·020)	(0·030)	(0·018)	(0·030)
Right Wing Government* Right			0·154			0·151
			(0·023)			(0·032)
Right Wing Government* Post83				−0·004	0·006	−0·005
				(0·038)	(0·033)	(0·038)
Right Wing Gov't* Right dummy* Post83						0·011
						(0·047)

TABLE A7—Continued

Dependent variable: Reported life satisfaction	1 Left	2 Right	3 All	4 Left	5 Right	6 All
Personal controls included	Yes	Yes	Yes	Yes	Yes	Yes
Ratio test, $chi^2(1)$			1·71			1·70
Prob > chi^2			0·191			0·192
Pseudo R^2	0·078	0·088	0·099	0·078	0·088	0·099

Note: Number of observations is 33,660 for regs. (1) and (4); 29,598 for regs. (2) and (5); 63,258 for regs. (3) and (6). All regressions include year and country dummies, country-specific time trends and the same vector of personal characteristics as in Table A5. Standard errors are in parentheses. Left denotes the sub-sample of individuals who answered 1–3 to the question *"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*).* Right denotes those answering 8–10.

TABLE A8

The effect of politics on economic performance: 10 *OECD countries* 1975–1992

Dependent variable:	(1) Unemployment	(2) Inflation
Right Wing Government	0·0023	−0·0040
	(0·0010)	(0·0015)
Adj R^2	0·94	0·92
Observations	125	125

Note: Standard errors in parentheses. Regressions (1) and (2) include country and year dummies as well as country-specific time trends.

TABLE A9

Effect on happiness of the left and right of a shift toward right-wing government

Estimated effect on	Happiness of the left	Happiness of the right
Direct	−0·42	0·42
Indirect	−0·02	0·01
Total effect	−0·44	0·43

Note: For the left, the direct effect is calculated as 5·5* −0·077 = −0·42 and the indirect effect is calculated as 5·5* − 0·003 = −0·02. For the right, the direct effect equals 5·5*0·077 = 0·42 and the indirect effect equals 5·5*[0·0023*(−3·5) − 0·0040*(−3·7)] = 0·01.

TABLE A10

Right-wing ideology, logit regression, Europe 1975–1992

	Coeff.	Std. error		Coeff.	Std. error
			(continued)		
Unemployed	−0·154	0·032	Widowed	0·092	0·034
Self-employed	0·789	0·023	Number of children: One	−0·049	0·020
Male	−0·109	0·015	Two	−0·052	0·023

TABLE A10—Continued

	Coeff.	Std. error		Coeff.	Std. error
Age	−0·010	0·031	Three	0·029	0·035
Age squared	3·1*e*−4	2·8*e*−5	Income quartiles: Second	0·095	0·020
Education to age: 15–18 years	0·205	0·018	Third	0·227	0·020
≥ 19 years	−0·076	0·020	Fourth (highest)	0·456	0·021
Marital status: Married	0·016	0·022	Retired	0·074	0·026
De facto	−0·486	0·037	Home	0·498	0·023
Divorced	−0·298	0·042	School	0·175	0·033
Separated	−0·450	0·068			

Note: Number of observations = 108,534. Pseudo R^2 = 0·10. Log-likelihood = −66,985. Chi^2(111) = 15,705. The regression includes year, country dummies and country-specific time trends. Dependent variable is Right Dummy (a dummy equal to 1 if the answer to the question *"In political matters, people talk of 'the left' and 'the right'. How would you place your own views on this scale?"* is 8–10 and 0 if answer is 1–3).

TABLE A11

Partisan social happiness functions, rich and poor

Dependent variable:	1	2	3 (All)	
Reported life satisfaction	Poor	Rich	Poor	Rich dummy
Macro variables				
Unemployment	−5·499	−4·190	−5·991	2·027
	(1·656)	(1·986)	(1·775)	(1·809)
Inflation	−3·798	−2·691	−4·086	1·554
	(1·035)	(0·995)	(1·106)	(1·035)
Personal controls				
Unemployed	−0·993	−0·743	−1·061	0·376
	(0·049)	(0·077)	(0·052)	(0·083)
Self-employed	0·049	0·211	0·052	0·144
	(0·040)	(0·027)	(0·043)	(0·048)
Male	−0·078	−0·136	−0·084	−0·044
	(0·024)	(0·022)	(0·025)	(0·031)
Marital status: Married	0·166	0·284	0·177	0·087
	(0·032)	(0·031)	(0·034)	(0·038)
De facto	−0·002	6·3*e*−5	−0·003	2·9*e*−4
	(0·062)	(0·047)	(0·065)	(0·066)
Divorced	−0·558	−0·694	−0·599	−0·040
	(0·049)	(0·098)	(0·052)	(0·100)
Separated	−0·688	−0·650	−0·737	0·143
	(0·062)	(0·121)	(0·066)	(0·132)
Widowed	−0·171	−0·273	−0·184	−0·069
	(0·034)	(0·067)	(0·036)	(0·071)
Number of children: One	−0·048	−0·061	−0·051	−0·006
	(0·032)	(0·025)	(0·034)	(0·038)
Two	−0·073	−0·049	−0·079	0·033
	(0·048)	(0·027)	(0·051)	(0·052)
Three	−0·097	−0·114	−0·104	−0·002
	(0·061)	(0·046)	(0·066)	(0·066)
Age: Middle	−0·241	−0·168	−0·258	0·100
	(0·035)	(0·027)	(0·038)	(0·045)
Old	0·034	−0·063	0·037	−0·096
	(0·040)	(0·036)	(0·043)	(0·050)
Education to age: 15–18 years	0·015	0·118	0·016	0·094
	(0·024)	(0·027)	(0·025)	(0·036)
≥ 19 years	0·223	0·219	0·239	−0·035
	(0·035)	(0·032)	(0·037)	(0·041)

TABLE A11—Continued

Dependent variable:	1	2	3 (All)	
Reported life satisfaction	Poor	Rich	Poor	Rich dummy
Retired	0·140	0·338	0·151	0·162
	(0·036)	(0·052)	(0·039)	(0·059)
Home	−0·033	0·191	−0·035	0·213
	(0·036)	(0·031)	(0·038)	(0·044)
School	0·313	0·402	0·336	0·035
	(0·049)	(0·044)	(0·053)	(0·058)
Ratio test, $chi^2(1)$			0·03	
Prob > chi^2			0·854	
Pseudo R^2	0·075	0·088	0·094	

Note: Number of observations is 58,381 for reg. (1); 61,633 for reg. (2) and 120,014 for reg. (3). All regressions include year and country dummies, country-specific time trends and the same vector of personal characteristics as in Table A5. Standard errors are in parentheses. Poor (Rich) denotes the sub-sample of individuals whose income lies in the bottom (top) quarter of the income distribution.

TABLE A12

Partisan social happiness functions, rich and poor: GDP and changes over time

Dependent variable:	1	2	3	4	5	6
Reported life satisfaction	Poor	Rich	All	Poor	Rich	All
Macro variables						
Unemployment	−5·261	−3·739	−5·740	−4·593	−2·727	−4·983
	(2·210)	(2·596)	(2·380)	(2·067)	(2·719)	(2·224)
Unemployment* Rich			2·135			2·385
			(2·284)			(2·274)
Inflation	−3·803	−2·694	−4·092	−2·957	−1·866	−3·187
	(1·033)	(0·998)	(1·104)	(1·028)	(0·968)	(1·102)
Inflation* Rich			1·556			1·428
			(1·034)			(1·166)
GDP	0·217	0·392	0·227			
	(1·035)	(1·213)	(1·120)			
GDP* Rich dummy			0·088			
			(1·050)			
Unemployment* Post83				−2·104	−2·539	−2·311
				(2·278)	(2·137)	(2·460)
Unemployment* Rich dummy* Post83						−0·060
				−3·033	−2·695	(2·319)
Inflation* Post83				(1·210)	(1·112)	−3·225
						(1·293)
Inflation* Rich dummy* Post83						0·717
						(1·174)
Personal controls included	Yes	Yes	Yes	Yes	Yes	Yes
Ratio test, $chi^2(1)$			0			0·01
Prob > chi^2			0·98			0·94
Pseudo R^2	0·07	0·09	0·09	0·07	0·09	0·09

Note: Number of observations is 58,381 for regs. (1) and (4); 61,633 for regs. (2) and (5) and 120,014 for regs. (3) and (6). All regressions include year and country dummies, country-specific time trends and the same vector of personal characteristics as in Table A5. Standard errors are in parentheses. Poor (Rich) denotes the sub-sample of individuals whose income lies in the bottom (top) quarter of the income distribution.

TABLE A13

Partisan social happiness functions, rich and poor: government colour

Dependent variable: Reported life satisfaction	1 Poor	2 Rich	3 All	4 Poor	5 Rich	6 All
Macro variables						
Unemployment	−3·871	−2·875	−4·235	−3·871	−2·710	−4·236
	(1·881)	(2·123)	(2·026)	(1·856)	(2·172)	(1·999)
Unemployment* Rich dummy			1·528			1·676
			(1·984)			(2·004)
Inflation	−2·834	−1·688	−3·085	−2·834	−1·517	−3·085
	(1·110)	(1·144)	(1·196)	(1·133)	(1·190)	(1·221)
Inflation* Rich dummy			1·512			1·669
			(1·202)			(1·231)
Right Wing Government	0·006	−0·012	0·006	0·006	−0·007	0·006
	(0·012)	(0·016)	(0·013)	(0·015)	(0·019)	(0·016)
Right Wing Government* Rich			−0·017			−0·013
			(0·014)			(0·018)
Right Wing Government* Post83				5·3*e*−6	−0·016	4·5*e*−5
				(0·020)	(0·029)	(0·021)
Right Wing Gov't* Rich dummy* Post83						−0·015
						(0·028)
Personal controls included	Yes	Yes	Yes	Yes	Yes	Yes
Ratio test, $chi^2(1)$			0·16			0·21
Prob > chi^2			0·689			0·650
Pseudo R^2	0·07	0·08	0·09	0·07	0·08	0·09

Note: Number of observations is 48,790 for regs. (1) and (4); 51,049 for regs. (2) and (5) and 99,839 for regs. (3) and (6). All regressions include year and country dummies, country-specific time trends and the same vector of personal characteristics as in Table A5. Standard errors are in parentheses. Poor (Rich) denotes the sub-sample of individuals whose income lies in the bottom (top) quarter of the income distribution.

APPENDIX B

The Euro-Barometer survey series (1975–1992)

The Euro-Barometer Surveys 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, Denmark, France, Germany, Ireland, Italy, Netherlands and United Kingdom were available for the full sample period (1975–1992) whereas data were only available from 1985 to 1992 for both Spain and Portugal. The number of observations in our sample was 29,438 for France, 25,251 for Belgium, 28,870 for the Netherlands, 29,053 for Germany, 30,615 for Italy, 27,550 for Denmark, 20,543 for Ireland, 26,220 for the United Kingdom, 11,527 for Spain and 13,395 for Portugal.

Countries

France, Belgium, Netherlands, Germany, Ireland, Italy, Denmark, Britain, Spain and Portugal.

Data definitions

Happiness: The individual categorical responses to the Euro-Barometer question that reads: *"On the whole, are you very satisfied, fairly satisfied, not very satisfied or not at all satisfied with the life you lead?"*.

***Right dummy*:** A dummy that equals 1 if the individual answers 8, 9 or 10 to the Euro-Barometer question: *"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 dummy was equal to 0 if respondents answered 1, 2 or 3. A second definition was used to test robustness. It is constructed using the question that asks: *"If an election were to be held tomorrow, which party would you vote for?"*. Political scientists subsequently classified these parties into left and right.

***Rich dummy*:** A dummy equal to 1 if individuals are in the top quarter of the income distribution and 0 otherwise.

***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).

***GDP*:** The log of real GDP *per capita*, at the price levels and exchange rates of 1990, from OECD National Accounts (1975–1997).

***Right Wing Government*:** Index of left/right political party strength, defined as the sum of 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).

***Post83*:** A dummy variable that is equal to 1 in every year after 1983, the midpoint of our sample, and zero otherwise.

Background statistics for Tables A5–A7 and A11–A13

TABLE A5

Reg. (1) Log-likelihood = −42,321. $Chi^2(57)$ = 5815. Cut1 = 0·2 (0·9), Cut2 = 2·0 (0·9), Cut3 = 4·7 (0·9).
Reg. (2) Log-likelihood = −33,596. $Chi^2(57)$ = 4412. Cut1 = −13·8 (2·9), Cut2 = −12·1 (2·9), Cut3 = −9·3 (2·9).
Reg. (3) Log-likelihood = −75,924. $Chi^2(115)$ = 21,175. Cut1 = −10·1 (2·9), Cut2 = −8·4 (2·9), Cut3 = −5·6 (2·9).

TABLE A6

Reg. (1) Log-likelihood = −42,319. $Chi^2(58)$ = 6003. Cut1 = −17·1 (13·3), Cut2 = −15·4 (13·3), Cut3 = −12·6 (13·3).
Reg. (2) Log-likelihood = −33,592. $Chi^2(58)$ = 4655. Cut1 = −1·5 (6·2), Cut2 = 0·2 (6·2), Cut3 = 3·0 (6·2).
Reg. (3) Log-likelihood = −75,918. $Chi^2(117)$ = 24,081. Cut1 = −17·6 (13·7), Cut2 = −15·8 (13·7), Cut3 = −13·1 (13·7).
Reg. (4) Log-likelihood = −42,316. $Chi^2(59)$ = 7085. Cut1 = 0·2 (3·3), Cut2 = 1·9 (3·3), Cut3 = 4·7 (3·3).
Reg. (5) Log-likelihood = −33,579. $Chi^2(59)$ = 5082. Cut1 = −14·0 (2·6), Cut2 = −12·3 (2·6), Cut3 = −9·5 (2·6).
Reg. (6) Log-likelihood = −75,902. $Chi^2(119)$ = 25,789. Cut1 = −1·1 (3·8), Cut2 = 0·6 (3·8), Cut3 = 3·4 (3·8).

TABLE A7

Reg. (1) Log-likelihood = −35,877. $Chi^2(54)$ = 8053. Cut1 = −9·0 (3·5), Cut2 = −7·2 (3·5), Cut3 = −4·5 (3·5).
Reg. (2) Log-likelihood = −28,422. $Chi^2(54)$ = 5884. Cut1 = −3·3 (6·2), Cut2 = −1·6 (6·2), Cut3 = 1·2 (6·2).
Reg. (3) Log-likelihood = −64,302. $Chi^2(109)$ = 42,880. Cut1 = −9·0 (3·5), Cut2 = −7·3 (3·5), Cut3 = −4·5 (3·5).
Reg. (4) Log-likelihood = −35,877. $Chi^2(55)$ = 8058. Cut1 = −8·7 (3·9), Cut2 = −6·9 (3·9), Cut3 = −4·2 (3·9).
Reg. (5) Log-likelihood = −28,422. $Chi^2(55)$ = 6147. Cut1 = −3·6 (6·5), Cut2 = −2·0 (6·5), Cut3 = 0·8 (6·5).
Reg. (6) Log-likelihood = −64,302. $Chi^2(111)$ = 46,291. Cut1 = −8·7 (3·9), Cut2 = −7·0 (3·9), Cut3 = −4·2 (3·9).

TABLE A11

Reg. (1) Log-likelihood = −63,578. $Chi^2(55)$ = 7792. Cut1 = −5·5 (2·6), Cut2 = −3·9 (2·6), Cut3 = −1·3 (2·6).
Reg. (2) Log-likelihood = −56,503. $Chi^2(55)$ = 5948. Cut1 = −5·6 (2·5), Cut2 = −3·8 (2·5), Cut3 = −0·7 (2·5).
Reg. (3) Log-likelihood = −120,382. $Chi^2(111)$ = 19,024. Cut1 = −9·3 (2·3), Cut2 = −7·6 (2·3), Cut3 = −4·8 (2·3).

TABLE A12

Reg. (1) Log-likelihood = −63,578. $Chi^2(56)$ = 7811. Cut1 = −4·5 (6·0), Cut2 = −2·9 (6·0), Cut3 = −0·3 (6·0).
Reg. (2) Log-likelihood = −56,503. $Chi^2(56)$ = 6059. Cut1 = −2·4 (10·2), Cut2 = −0·6 (10·2), Cut3 = 2·5 (10·2).
Reg. (3) Log-likelihood = −120,382. $Chi^2(113)$ = 20,933. Cut1 = −0·02 (9·4), Cut2 = 1·6 (9·4), Cut3 = 4·5 (9·4).
Reg. (4) Log-likelihood = −63,570. $Chi^2(57)$ = 8009. Cut1 = −6·2 (2·5), Cut2 = −4·6 (2·5), Cut3 = −2·0 (2·5).
Reg. (5) Log-likelihood = −56,497. $Chi^2(57)$ = 6333. Cut1 = −6·4 (2·5), Cut2 = −4·7 (2·5), Cut3 = −1·5 (2·5).
Reg. (6) Log-likelihood = −120,369. $Chi^2(115)$ = 23,038. Cut1 = −9·2 (2·4), Cut2 = −7·6 (2·4), Cut3 = −4·7 (2·4).

TABLE A13

Reg. (1) Log-likelihood = −53,615. $Chi^2(52)$ = 7370. Cut1 = 0·6 (0·7), Cut2 = 2·2 (0·7), Cut3 = 4·8 (0·7).
Reg. (2) Log-likelihood = −46,603. $Chi^2(52)$ = 5708. Cut1 = −0·9 (1·4), Cut2 = 0·9 (1·4), Cut3 = 4·0 (1·4).
Reg. (3) Log-likelihood = −100,502. $Chi^2(105)$ = 31,837. Cut1 = −5·8 (3·2), Cut2 = −4·2 (3·3), Cut3 = −1·4 (3·3).
Reg. (4) Log-likelihood = −53,615. $Chi^2(53)$ = 7390. Cut1 = 0·6 (0·9), Cut2 = 2·2 (0·9), Cut3 = 4·8 (0·9).
Reg. (5) Log-likelihood = −46,603. $Chi^2(53)$ = 5789. Cut1 = −0·4 (1·6), Cut2 = 1·4 (1·6), Cut3 = 4·4 (1·6).
Reg. (6) Log-likelihood = −100,502. $Chi^2(107)$ = 34,225. Cut1 = −5·9 (3·4), Cut2 = −4·2 (3·4), Cut3 = −1·4 (3·4).

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REFERENCES

ALESINA, A. (1987), "Macroeconomic Policy in a Two-Party System as a Repeated Game", *Quarterly Journal of Economics*, 651–678.
ALESINA, A. and ROUBINI, N. (1992), "Political Cycles in OECD Economies", *Review of Economic Studies*, **59**, 663–688.
ALESINA, A., ROUBINI, N. and COHEN, G. (1997) *Political Cycles and Macroeconomy* (Cambridge, MA: MIT Press).
ALT, J. (1985), "Political Parties, World Demand, and Unemployment: Domestic and International Sources of Economic Activity", *American Political Science Review*, **79** (4), 1016–1040.
BANKS, A. (1989) *Political Handbook of the World* (Binghamton, NY: CSA Publications).
BLANCHFLOWER, D. and OSWALD, A. (1998), "What Makes an Entrepreneur?", *Journal of Labour Economics*, **16** (1), 26–60.
BLANCHFLOWER, D. and OSWALD, A. (2004), "Well-Being Over Time in Britain and the USA", *Journal of Public Economics*, **88**, 1359–1386.
BLINDER, A. and ESAKI, H. (1978), "Macroeconomic Activity and Income Distribution in the Postwar United States", *Review of Economics and Statistics*, 604–609.
BRADBURN, N. (1969) *The Structure of Psychological Well-Being* (Chicago: Aldine Publishing).
CASTLES, F. and MAIR, P. (1984), "Left–Right Political Scales: Some Expert Judgements", *European Journal of Political Research*, **12**, 73–88.
CHAPPELL, H., HAVRILESKY, T. and MCGREGOR, R. (1993), "Partisan Monetary Policies: Presidential Influence through the Power of Appointment", *Quarterly Journal of Economics*, **108** (1), 185–218.
CLARK, A. and OSWALD, A. (1994), "Unhappiness and Unemployment", *Economic Journal*, **104**, 648–659.
COLEMAN, J. (1990) *Foundations of Social Theory* (Cambridge, MA: Harvard University Press).
DIAMOND, P. and HAUSMAN, J. (1994), "Contingent Valuation: Is Some Number better than No Number?", *Journal of Economic Perspectives*, **8** (4), 45–64.
DIENER, E. (1984), "Subjective Well-Being", *Psychological Bulletin*, **93**, 542–575.
DI TELLA, R., MACCULLOCH, R. and OSWALD, A. (1997), "The Macroeconomics of Happiness", *Review of Economics and Statistics* (CEP Working Paper 19, forthcoming).

DI TELLA, R., MACCULLOCH, R. and OSWALD, A. (2001), "Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness", *American Economic Review*, **91** (1), 335–341.
DOWNS, A. (1957) *An Economic Theory of Democracy at Work* (New York, NY: Harper).
EASTERLIN, R. (1974), "Does Economic Growth Improve the Human Lot? Some Empirical Evidence", in P. David and M. Reder (eds.) *Nations and Households in Economic Growth: Essays in Honour of Moses Abramovitz* (New York and London: Academic Press).
EASTERLIN, R. (1995), "Will Raising the Incomes of All Increase the Happiness of All?", *Journal of Economic Behaviour and Organization*, **27**, 35–48.
EFRON, B. and TIBSHIRANI, R. (1993) *An Introduction to the Bootstrap*, Monographs on Statistics and Applied Probability, Vol. 57 (New York: Chapman and Hall).
EKMAN, P., DAVIDSON, R. and FRIESEN, W. (1990), "The Duchenne Smile: Emotional Expression and Brain Physiology II", *Journal of Personality and Social Psychology*, **58**, 342–353.
FORDYCE, M. (1988), "A Review of Research on Happiness Measures: A Sixty Second Index of Happiness and Mental Health", *Social Indicators Research*, **20**, 355–381.
FREY, B. and SCHNEIDER, F. (1978*a*), "An Empirical Study of Politico-Economic Interaction in the United States", *Review of Economic and Statistics*, **60**, 174–183.
FREY, B. and SCHNEIDER, F. (1978*b*), "A Politico-Economic Model of the United Kingdom", *Economic Journal*, **88**, 243–253.
FREY, B. and STUTZER, A. (2000), "Happiness, Economy and Institutions", *Economic Journal*, **110**, 918–938.
FREY, B. and STUTZER, A. (2002), "What Can Economists Learn from Happiness Research?", *Journal of Economic Literature*, **XL** (2), 402–435.
GOLDEN, D. and POTERBA, J. (1980), "The Price of Popularity: The Political Business Cycle Re-examined", *American Journal of Political Science*, **24**, 694–714.
GRANATO, J., INGLEHART, R. and LEBLANG, D. (1996), "Cultural Values, Stable Democracy and Economic Development: Reply", *American Journal of Political Science*, **40** (3), 680–696.
GRIER, K. (1989), "On the Existence of a Political Monetary Cycle", *American Journal of Political Science*, **33**, 376–389.
GRUBER, J. and MULLAINATHAN, S. (2002), "Do Cigarette Taxes Make Smokers Happier?" (NBER Working Paper No. 8872).
HIBBS, D. (1977), "Political Parties and Macroeconomic Policy", *American Political Science Review*, **71**, 1467–1487.
HIBBS, D. (1987) *The American Political Economy: Macroeconomics and Electoral Politics* (Cambridge, MA: Harvard University Press).
HICKS, A. and SWANK, D. (1992), "Politics, Institutions and Welfare Spending in Industrialized Democracies, 1960–1982", *American Political Science Review*, **86**, 658–674.
INGLEHART, R. (1990) *Culture Shift* (Chicago: Chicago University Press).
INGLEHART, R. (1996), "The Diminishing Utility of Economic Growth: From Maximizing Security toward Maximizing Subjective Well-Being", *Critical Review*, **10** (4), 509–531.
INGLEHART, R., REIF, K. and MELICH, A. (1994), European Communities Studies, 1970–1992: Cumulative File, 3rd ICPSR version, Ann Arbor, MI.
KAHNEMAN, D. and THALER, R. (1991), "Economic Analysis and the Psychology of Utility: Applications to Compensation Policy", *American Economic Review*, **81** (2), 341–346.
KONOW, J. and EARLEY, J. (1999), "The Hedonistic Paradox: Is Homo-Economicus Happier?" (Mimeo, Loyola Marymount University, Department of Psychology).
MACKIE, T. and ROSE, R. (1982) *The International Almanac of Electoral History*, 3rd edition (London: Macmillan Press).
MAYER, S. and JENCKS, C. (1999), "The Social Consequences of Income Inequality" (Mimeo).
MORAWETZ, D. *et al.* (1977), "Income Distribution and Self-Rated Happiness: Some Empirical Evidence", *Economic Journal*, **87**, 511–522.
MOULTON, B. (1986), "Random Group Effects and the Precision of Regression Estimates", *Journal of Econometrics*, **32**, 385–397.
NG, Y.-K. (1996), "Happiness Surveys: Some Comparability Issues and an Exploratory Survey Based on Just Perceivable Increments", *Social Indicators Research*, **38**, 127.
NORDHAUS, W. (1975), "The Political Business Cycle", *Review of Economic Studies*, **42**, 169–190.
PAVOT, W. (1991), "Further Validation of the Satisfaction with Life Scale: Evidence for the Convergence of Well-Being Measures", *Journal of Personality Assessment*, **57**, 149–161.
RABIN, M. (1998), "Psychology and Economics", *Journal of Economic Literature*, **36**, 11–46.
ROGOFF, K. (1990), "Equilibrium Political Budget Cycles", *American Economic Review*, **80**, 21–36.
ROGOFF, K. and SIBERT, A. (1988), "Elections and Macroeconomic Cycles", *Review of Economic Studies*, **LV**, 1–16.
RORER, L. (1965), "The Great Response-Style Myth", *Psychological Bulletin*, **63**, 129–156.
ROUBINI, N. and SACHS, J. (1989), "Political and Economic Determinants of Budget Deficits in the Industrial Democracies", *European Economic Review*, **33**, 903–933.
SANDVITZ, E., DIENER, E. and SEIDLITZ, L. (1993), "Subjective Well-Being: The Convergence and Stability of Self and Non Self Report Measures", *Journal of Personality*, **61** (3), 317–342.
SHEDLER, J., MAYMAN, M. and MANIS, M. (1993), "The Illusion of Mental Health", *American Psychologist*, **48** (11), 1117–1131.
SHILLER, R. (1996), "Why Do People Dislike Inflation?" (NBER Working Paper, No. 5539).

SIEDLITZ, L., WYER, R. and DIENER, E. (1997), "Cognitive Correlates of Subjective Well-Being: The Processing of Valenced Events by Happy and Unhappy Persons", *Journal of Research in Personality*, **31** (1), 240–256.
SUTTON, S. and DAVIDSON, R. (1997), "Prefrontal Brain Symmetry: A Biological Substrate of the Behavioral Approach and Inhibition Systems", *Psychological Science*, **8** (3), 204–210.
THUROW, L. (1970), "Analyzing the American Income Distribution", *American Economic Review*, **60**, 261–269.
TINBERGEN, J. (1991), "On the Measurement of Welfare", *Journal of Econometrics*, **50** (7), 7–13.
VAN PRAAG, B. (1971), "The Welfare Function of Income in Belgium: An Empirical Investigation", *European Economic Review*, **2**, 337–369.
VAN PRAAG, B. (1991), "Ordinal and Cardinal Utility", *Journal of Econometrics*, **50** (7), 69–89.
WINKELMANN, L. and WINKELMANN, R. (1998), "Why are the Unemployed so Unhappy? Evidence from Panel Data", *Economica*, **65** (257), 1–15.