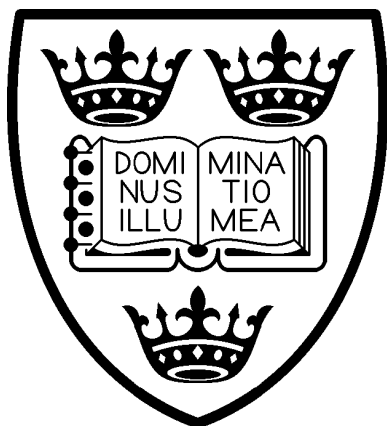




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**PERCEPTION VS REALITY: HOW DOES
THE BRITISH ELECTORATE EVALUATE
ECONOMIC PERFORMANCE OF
INCUMBENT GOVERNMENTS IN THE
POST WAR PERIOD?**

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Perception vs Reality: How does the British electorate evaluate economic performance of incumbent governments in the post war period?

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Abstract:

Rational retrospective voting models have dominated the literature on election forecasting and the economic vote since they were first proposed by Anthony Downs in 1957. The theory views voters as appraisers of incumbent government's past performance, which acts as the principal source of information individuals use when making their vote. Pure retrospective voting requires far less of the electorate in order to hold a government accountable and empirical work based on this theory has been very adept at predicting election outcomes and explaining individual voting decisions. In terms of the time period assessed to form judgements on past performance however, there is a surprising disconnect between the theoretical line of thought and actual testing. The sensible assumption of retrospective voting models is that voters, looking to judge a government's past performance, should assess changes in their own welfare over an entire term of office, with little or no discounting of past events. The majority of empirical studies however, focus on economic performance over shorter time horizons, usually within a year of an election. There have only been a handful of studies attempting to empirically test the correct temporal relationship between changes in economic indicators and election outcomes, despite its importance for retrospective voting models and democratic accountability. This working paper empirically tests over which time horizons changes in macroeconomic fundamentals continue to have a significant bearing on election outcomes in Post War Britain. It finds that longer-term measures of economic change, over entire government terms, are better at predicting changes in incumbent's vote shares than shorter-term measures, closer to the election period. This has important consequences for future voting models and is a promising result for democratic accountability.

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Introduction

In April 2015 Paul Krugman deliberated in his regular New York Times column a puzzling contradiction; that despite dismal economic performance, under the then UK Conservative led coalition government, measured over the entire term of office, the Conservatives were being lauded as the “guardians of prosperity, the people who really know how to run the economy”¹. In spite of a clear consensus in economic voting literature, that poor economic performance is linked with a decline in support for the incumbent party, the Conservatives continued to poll well and subsequently won a slim majority during the national election on 7th May 2015. The answer Krugman gave to this conundrum, and one he reiterated at a panel discussion at the Saïd Business School in Oxford shortly after², was that “Voters have fairly short memories, and they judge economic policy, not by long-term results, but by recent growth.”³

If, as Krugman alludes to, long-term economic performance has no relationship with election outcomes; the assumptions of retrospective voting models, which have dominated empirical studies into election outcomes, would be challenged and the accountability of democracy, limited. This working paper aims to empirically test Krugman’s premise and establish over which time horizons changes in macroeconomic fundamentals continue to have a significant bearing on election outcomes in Post War Britain. It is an attempt to ascertain if the electorate behaves rationally and assesses changes in its welfare over entire government tenures.

¹ P. Krugman, ‘Economics and Elections’, NY Times, accessed 15 June 2015
http://www.nytimes.com/2015/04/06/opinion/paul-krugman-economics-and-elections.html?_r=0

² P. Krugman, ‘panel discussion at Saïd Business School on the economic possibilities for the new Government’, 14 May 2015 <https://www.youtube.com/watch?v=bVU0LpZrLlk>

³ P. Krugman, ‘Economics and Elections’, NY Times, accessed 15 June 2015

There is a clear consensus in the literature that changes in economic fundamentals over the short-term (close to an election) have a large impact on election outcomes; however the longer term (an entire governments term) is not necessarily assumed irrelevant as Krugman asserts. In most studies, longer-term performance is ignored or discounted, but rarely explicitly stated as being inconsequential. If voters are rationally assessing the competence of a government's economic management, why should economic performance in the first year of office, be treated any differently to that of the last?

The “bread and peace” model developed by Hibbs (2000) assumes rational voters implementing a retrospective sanctioning strategy should “evaluate performance over the incumbent's entire term of office, with little or no backward time discounting of performance outcomes.”⁴ There is however, little empirical evidence, especially outside the US, on the relationship between longer-term measures of economic performance, over entire terms of office, and election outcomes. Economic performance is measured almost exclusively over the short-term from the date of an election. Kramer (1971) measures changes in both the election and preceding year; Erikson (1989) in just the election year; Tufte (1978) and Frey and Schneider (1978) in the year before an election; Goodhart and Bhansali (1970) in the 6 months prior to an election; and many others.

In 2004, Achen and Bartels could not find evidence of any published empirical works “relating presidential election outcomes to a simple average of economic performance over each incumbent's entire term of office”⁵. Although the focus on short-term measures implies they are more significant, there is very little empirical evidence testing the temporal (time related) relationship between election outcomes and past performance. Without this we

⁴ D. Hibbs, ‘Bread and peace voting in U.S. presidential elections’, *Public Choice*, 104(1–2) (2000), p.7

⁵ C.H. Achen, & L. M. Bartels, ‘Musical chairs: Pocketbook voting and the limits of democratic accountability’, *Annual Meeting of the American Political Science Association*, Chicago, ILH, (2004), p.16

cannot say if the correct relationship should be focused on the short-term or long-term, discounted or not.

The ability to successfully assess government's past performance by making simple judgements over changes in your own welfare and the welfare of those around you, despite limited knowledge, is a crucial assumption in the works on retrospective voting (Downs (1957), Key (1960) Kramer (1971) Fiorina (1981) and many other studies). Achen and Bartels (2004) say, "The theory seems to rescue voters from the charge that they are too uninformed or too disengaged to play a meaningful role in the democratic process"⁶. In the same paper, "Musical Chairs: Pocketbook Voting and the Limits of Democratic Accountability", they tested post war presidential election outcomes in the US against changes in real disposable income and GDP per capita across various time horizons and found "Long-term economic growth, whether in real income or GDP, contributes little or nothing to the incumbent party's electoral prospects"⁷.

Although their results are not proof, they challenge the notion that voters can establish rational retrospective verdicts on governments past economic performance and implies they are unable to assess changes in their own welfare over longer periods of time. This may not only give governments incentive to manipulate the economy for political gain, as argued in political business cycle literature (Tufte (1978), Nordhaus (1975)), but could also limit incentives to implement successful economic policy during earlier years of a government's tenure. As Krugman says "the politically smart thing might well be to impose a pointless depression on your country for much of your time in office, solely to leave room for a roaring recovery just before voters go to the polls."⁸

⁶ C.H. Achen, & L. M. Bartels, (2004), p.4

⁷ Ibid, p.19

⁸ P. Krugman, 'Economics and Elections', NY Times, accessed 15 June 2015

The potential impact of such findings for democratic accountability and retrospective voting models is worrying. The importance of the question and the lack of attempts to empirically test the impact of economic fundamentals on election outcomes over various time horizons provide the impetus for this study.

Literature review

What determines the way people vote?

Since the mid-20th Century, the question of “what determines election outcomes?” has produced an overwhelming number of studies offering a vast array of, and often contradictory, answers. A rare example of agreement amongst most authors however, is the salience of the economic vote. That is the importance the voter gives to economic performance in their decision to vote for a political party.⁹ Although the causal path between the macro economy and individual vote decision is still debated; the clear consensus in the literature is that the economy matters. As Edward Tufte remarked in his seminal work, “Political Control of the Economy”, “When you think economics, think elections; when you think elections, think economics.”¹⁰

The aim of this paper is to test various temporal relationships between the economy and changes in electoral outcomes to uncover how myopic the British public are. This question has been inadequately tested and therefore inadequately answered by the literature so far. The lack of coverage for what seems like such an important question in the workability of voting models and democratic accountability is surprising. Achen and Bartels suspect “analysts have simply given up on what should work because it doesn’t work.”¹¹ Yet without the evidence, an answer cannot be reached.

The vast number of empirical models attempting to test the relationship between the economy and elections are based on an evolving theoretical history as to how, why and what

⁹ R.M. Duch, ‘Comparative Studies of the Economy and the Vote’, in Boix, C. & Stokes, S. C., (ed.), ‘The Oxford Handbook of Comparative Politics’, (Oxford, 2009), p.805

¹⁰ E.Tufte, ‘Political Control of the Economy’, (Princeton: Princeton University Press, 1978), p. 65

¹¹ C.H. Achen, & L.M. Bartels, (2004), p.16.

affects the way people vote. Early attempts to explain these relationships saw party identification/partisanship as a key concept. In their 1960 classic “The American Voter”, Campbell et al. used these concepts to try and explain vote retention of US parties over long time periods.¹² Similarly, Butler and Stokes (1969) saw individuals in Britain as developing enduring attachments to political parties based on the social characteristics of the individual such as class or religion, as well as socialisation effects of their environment such as the workplace or school.¹³ Thus, changes in voting patterns were driven by social change.

Although these theories never claimed that partisanship could explain total variation in voting, they saw electoral change as a slow gradual process. This notion was soon challenged by the likes of Crewe, Sarlvik and Alt (1977) who observed the declining power of party identification in individuals’ voting decisions in the 1970s¹⁴, and Franklin (1985)¹⁵ who observed a weakening of the link between the vote and social class, which continued to weaken towards the end of the 20th century.¹⁶ Crewe (1974) found that changes in British voting-patterns were representative of “persistent decline in the combined major party share of the electorate and an accelerating volatility of support between the Labour and Conservative parties....adding up to a growing erosion of public commitment to the two major parties in Britain”.¹⁷

Based on these studies, analysts’ started to move away from voting models that relied on sociological factors to explain election outcomes and towards those that could account for

¹² A. Campbell, P.E. Converse, W.E. Miller & D.E. Stokes, ‘The American Voter’, (New York: John Wiley & Sons, 1960), p.121

¹³ D. Butler & D. Stokes, ‘*Political Change in Britain: Forces Shaping Electoral Choice*’, (New York: St. Martin’s Press, 1969), Ch.3

¹⁴ I. Crewe, B. Sarlvik & J. Alt, J. ‘Partisan Dealignment in Britain, 1964-1974’, *British Journal of Political Science*, 7(2) (1977), p.142

¹⁵ M. Franklin, ‘*The Decline of Class Voting in Britain*’, (Oxford: Oxford University Press, 1985)

¹⁶ D. Clarke, ‘Political Choice in Britain’, (Oxford, 2004), p.6.

¹⁷ I. Crewe, ‘Do Butler and Stokes Really Explain Political Change in Britain?’, *European Journal of Political Research*, 2 (1974), pp.82-83

the instability in voting patterns. These models typically included variables such as leader and party images, issue perceptions, and assessments of economic performance. These models saw voters as making “summary judgements based on perceptions of the likely competence of competing parties' managerial teams.”¹⁸ In terms of the economy, Butler and Stokes (1969) concluded that, “voters reward the Government for the conditions they welcome and punish the Government for the conditions they dislike.”¹⁹

Another hurdle, which voting analysts were forced to overcome, was the revelation of how uninformed the general electorate was. In “The American Voter”, Campbell et al. (1960) argued that in order to qualify as an issue orientated, responsible voter, you were required to pass an issue-based test, expressing opinions on an issue, demonstrating knowledge of government and opposition policy on it, and using that knowledge to inform your vote.²⁰ They found a “general impoverishment of political thought in a large proportion of the electorate,” which seriously questioned the workability of models that required the public to actively engage with politics and damaged the accountability of the democratic process.²¹ As Achen and Bartels say, “The development of survey research destroyed simplistic defences of democracy.”²² These results led many to the conclusion that the typical American citizen was an irresponsible political actor influenced by party identification and interpersonal relations.²³

In light of this, less demanding theories of voter competence began to emerge that portrayed voters as behaving rationally in spite of limited information by making simple retrospective judgements of incumbent governments. The first person to develop a rational model of voter choice was Anthony Downs (1957). Downs believed it was more rational for a

¹⁸ D. Clarke, ‘Political Choice in Britain’, (Oxford, 2004), p.6

¹⁹ D. Butler & D. Stokes, (1969), p.392

²⁰ A. Campbell, P.E. Converse, W.E. Miller & D.E. Stokes, (1960), Ch.8

²¹ A. Campbell, et al. (1960), p.543

²² C.H. Achen, & L. M. Bartels, (2004), p.3

²³ M.P. Fiorina, ‘Retrospective Voting in American National Elections’, (New Haven, CT: Yale University Press, 1981), p.10

voter to base his voting decision on current events than on future ones. “Among citizens who decide how to vote on the basis of issues, the record of each party, and especially the incumbent, during the election period just ending, are more important to their decisions than party promises about the future.”²⁴ Or as Kramer (1971) put it, “The past performance of the incumbent party in particular, gives some indication of what it would do if returned to office, and of the effectiveness of its policies and personnel.”²⁵ The concept of partisanship can be defined under this rational choice theory as the concept of the “standing vote” in which voters develop a habit of voting for a party early on in life and continually update that “standing” position based on new information of performance.²⁶

Retrospective voting is a rational choice for voters as it is cheaper to acquire knowledge of past performance than the future. As Downs stated, “Decision making consumes time and resources, affecting the amount of information purchased by voters.”²⁷ Under a “Downsian” voting model, retrospective voting is a means to prospective voting and based on the assumption that political parties are consistent with the policies they implement over time, which makes the past a good guide to the future.²⁸ This rational choice model is best described as a “selection mode” in which retrospective voters select the leaders who will perform most competently after being elected, and as part of that selection process use past performance of the incumbent.²⁹

In contrast, V.O. Key (1966) in “The Responsible Electorate”, proposed a simpler “reward-punishment/sanctioning model” that treated the electorate as purely retrospective

²⁴ A. Downs, ‘An Economic Theory of Democracy’, (New York: Harper and Row, 1957), p.298

²⁵ G.H. Kramer, ‘Short-term Fluctuations in U.S. Voting Behavior: 1896-1964’, *American Political Science Review*, 65 (1971), p.134

²⁶ D. Sanders, ‘Party identification, economic perceptions and voting in British general elections 1974-97’, *Electoral studies*, 22 (2003b), p.241

²⁷ A. Downs, (1957), pp.218-19

²⁸ M.P. Fiorina, 1981, pp.12-13

²⁹ A. Healy & N. Malhotra, ‘Retrospective Voting Reconsidered’, *Annual Review of Political Science*, 16 (2013), p.288

actors that took past performance as an indicator of government's competence without expecting temporal consistency of policy.³⁰ Key's widely quoted assertion is that that "Voters are not fools"³¹. For Key;

"The patterns of flow of the major streams of shifting voters graphically reflect the electorate in its great and perhaps principal role as an appraiser of past events, past performance and past actions. It judges retrospectively; it commands prospectively only insofar as it expresses either approval or disapproval of that which has happened before.... Voters may reject what they have known; or they may approve what they have known. They are not likely to be attracted in great numbers by promises of the novel or unknown."³²

Pure retrospective voting thus requires far less of the electorate in order to hold governments accountable for their actions and removes the significance of policy debates.³³

In theory, retrospective sanctioning models work because they reinforce the incentives of future incumbents to maximize voters' welfare. Ferejohn (1986) explained how voting on issues gave politicians little incentive to do what they promise, but by paying attention to past performance, voters are able to motivate officeholders to pay attention to their interests. It solves the moral hazard problem. Thus, the electorate will discipline future governments even if they cannot assign responsibility of certain events to direct government action.³⁴ Under this extension, a rational electorate will punish the incumbent party when

³⁰ M.P. Fiorina, (1981), p.13

³¹ V.O. Key Jr., 'The Responsible Electorate: Rationality in Presidential Voting 1936-1960', (Cambridge, MA: Harvard University Press, 1966), p.7

³² V.O. Key Jr., (1966), p.61

³³ M.P. Fiorina, (1981), p.9

³⁴ J. Ferejohn, 'Incumbent performance and electoral control', Public Choice, 50 (1986), p.7

times are bad, “despite the fact that the past is past, and regardless of why times are bad, simply in order to discipline future incumbents.”³⁵

Under rational, retrospective sanctioning models, despite a lack of political knowledge, “Citizens need only calculate the changes in their own welfare....in order to ascertain whether the incumbents have performed poorly or well”.³⁶As Achen and Bartels said, “The theory seems to rescue voters from the charge that they are too uninformed or too disengaged to play a meaningful role in the democratic process”³⁷

The model specification and empirical analysis of this working paper has been informed by the theoretical development of voting models discussed above. Retrospective voting models have dominated the literature on economic voting since the 1970s when they were first used to empirically test the relationship between the economy and election outcomes, yet in one aspect, there is a surprising disconnect between theory and testing. A crucial part of assessing changes in personal and or social welfare is obviously the time period over which it is assessed. The sensible assumption of retrospective voting models is that voters want to maximise the present discounted value of their future income stream.³⁸ The best way to do this is to assess long-term economic welfare over a given incumbent’s tenure. As Hibbs says “incentive structure of pure retrospective voting implies...that growth rate news is evaluated over the whole term of office with low (or no) backward discounting”³⁹. The majority of empirical studies on economic voting however do not follow this theoretical line of thought. Instead studies tend to focus on recent economic performance as an indicator of past economic performance.

³⁵ C.H. Achen, & L. M. Bartels, (2004), p.15

³⁶ M.P. Fiorina, (1981), p.5

³⁷ C.H. Achen, & L. M. Bartels, (2004), p.4

³⁸ Ibid, p.15-16

³⁹ D. Hibbs, (2000), p.158

The Economic Vote

The most important application of retrospective voting theory has been in the realm of economics. Voters are assumed to want to maximise their expected utility of which economic performance is a crucial component as it influences both personal and social welfare. The economy is often termed a “valence” issue; meaning that voter’s views are not distributed along a scale; instead there is broad agreement as to the correct outcome.⁴⁰ For the economy people are assumed to always want prosperity over hardship and there is a large body of evidence indicating that voters reward incumbent politicians for good economic times and punish them for bad times (Kramer 1971; Markus 1988; Lewis-Beck 1988; and many others). Although details of the causal path and county/time variant effects are still disputed the consensus is that the effect of economic voting is real and substantial.⁴¹

In attempting to evaluate such a broad literature, it is important to distinguish between two categories of study, and what each is able to discern. Broadly speaking, scholars have approached the economic vote with either; aggregate studies looking at the effect of objective macroeconomic performance indicators on election outcomes or party support, or individual level studies using survey data on voters subjective evaluations of national and personal economic conditions and their influence on individual decisions.⁴² As Markus (1988) explains, aggregate macroeconomic indicators may be strongly related to national election outcomes but they cannot explain individual voter behaviour as the measure is fixed across voters.⁴³

⁴⁰ M.P. Fiorina, (1981), p.17

⁴¹ C.H. Achen, & L. M. Bartels, (2004), p.4

⁴² M.C. Stewart & H.D. Clarke, ‘Economic evaluations, prime minister approval and governing party support: Rival models considered’, *British Journal of political science*, 25 (1995), p.146

⁴³ G. Markus, ‘The Impact of Personal and National Economic Conditions on the Presidential Vote: A Pooled Cross-Sectional Analysis’, *American Journal of Political Science*, 32 (1988), p.142

Studies based solely on aggregate measures cannot distinguish whether the macro economy enters into the individual's vote choice by impacting his/her personal economic well-being or "pocket-book", (it is egocentric), or the nation's economic health, (it is sociotropic), or both.⁴⁴ Hibbs (2000) assumed that "voters perceive government policy action and competence as having small effects on cross-sectional income dispersion by comparison to the political signal carried by cyclical variations of mean incomes."⁴⁵ Simplified, this means that voters are "sociotropic". They appraise governments by assessing national measures of real personal disposable income and policies that represent permanent changes to the trajectory of those incomes.⁴⁶ Sociotropic voting does not have to be altruistic however. It is fully in keeping with the rational choice model as citizens may perceive improved macroeconomic conditions as being beneficial personally, in the long run.⁴⁷

Individual studies seem to confirm the assumption that people do not view the macro economy as determining their personal financial position. Markus (1988) found that the effect of national economic conditions, namely the annual rate of change in real disposable personal income per capita occurring in the year of the presidential election, had a statistically and substantially significant effect on individuals' vote choices in eight U.S presidential contests between 1956 and 1984, consistent with the sociotropic thesis.⁴⁸ Fiorina (1981), found the relationship between individual perceptions of changing financial position and president votes was poor, but indicated that the inability to separate the proportion of this change attributed to the government was a problem.⁴⁹ Lewis Beck (1988) attempted to solve this issue by using a survey of individual voter choice that separated government and non-

⁴⁴ C.J. Anderson, 'The end of economic voting? Contingency dilemmas and the limits of democratic accountability', *Annual Review of Political Science*, 10 (2007), p.274

⁴⁵ D. Hibbs, (2000), p.158

⁴⁶ Ibid, p.158

⁴⁷ D.R.Kinder & D. R. Kiewiet, 'Sociotropic politics', *British Journal of Political Science*, 1 1981, p.131

⁴⁸ G. Markus, (1988), pp.145-6

⁴⁹ M.P. Fiorina, (1981), p.27

government induced components by asking “what kind of “effect” government policies had on household finances.” In a study of 5 European countries, Lewis Beck found no direct effects of pocket book (egocentric) voting at the individual level; instead European economic voters assessed the national economic situation and evaluated collective economic performance and policy. Of the 5 European countries studied, shifts in economic evaluations had the largest impact on incumbent votes in Britain.⁵⁰ Harrop (1988) argues that in Britain the government is held responsible for the national economy and the capacity to raise revenue through effective macro-economic management, rather than personal finances; because voters recognise family well-being is influenced by personal factors.⁵¹

Sanders also found that, with the exception of taxation and interest rates, other macro variables do not have significant effects on personal economic expectations.⁵² However Sanders (1987) found that changes in measurements of the national economy (exchange rate, public sector borrowing rate and unemployment rate), were able to explain 87% of the variance in government popularity during the 1982 Falklands War independent of the Falklands War Factor.⁵³ This indicates that the macro economy still enters into the voting decision even if not through personal financial evaluations or expectations. In testing Sanders personal expectations model against others, Stewart and Clarke (1995) found that it performed equally as well as other models in predicting government support, such as personal retrospective evaluations, national retrospective economic evaluations and national

⁵⁰ M.S. Lewis-Beck, 'Economics and Elections: The Major Western Democracies', (Ann Arbor, MI: University of Michigan Press, 1988), p.63

⁵¹ M. Harrop, 'Voting and the Electorate', in Drucker, H., Dunleavy, P., Gamble, A. & Peele, G., (eds.), *Developments in British Politics - 2*, (London, 1988), p.54

⁵² D. Sanders, 'Government popularity and the next general election', *Political Quarterly*, 62 (2) (1991), pp.240-241

⁵³ D. Sanders, D. Marsh, H. Ward & T. Fletcher, 'Government Popularity and the Falklands war', *British Journal of Political science*, 17 (1987), p.296

prospective expectation models, all of which produced statistically significant results and were used to correctly predict the 1992 general election outcome in Britain.⁵⁴

This study is not an attempt to explain the causal path between the macro economy and individual's vote choices. Nor is it aimed at establishing which economic indicators best forecast election outcomes. The principal aim is to test various temporal (time-related) relationships between the economy and changes in electoral outcomes. The causal relationship between the macro economy and the individual voter's decision is clearly important, however for this study all that matters is that a relationship exists.

Another question that individual level studies are better equipped to answer is the extent to which the macro economy enters into the vote decision retrospectively or prospectively. Many individual level studies find that the macro economy affects government support indirectly through people's perceptions and expectations of the future. Sanders (1999) found objective economic conditions shape voters' subjective perceptions about the economy and therefore alter their preparedness to vote for the government.⁵⁵ Fiorina (1981) found that both retrospective assessments and prospective expectations of incumbents affected voters' decisions, but agrees retrospective experiences, or perceived experiences, inform future expectations.⁵⁶ Lewis-Beck (1988) found a significant role for prospective expectations of the coming year. However, the introduction of a "leadership quality" variable, to counter the possibility that prospective voting merely reflects partisan rationalisation, reduced the effect of prospective voting to the same as retrospective voting. Lewis-Beck finds that prospective evaluations are in part projections of retrospective evaluations. In Britain voters' evaluations of government's past performance has a larger

⁵⁴ M.C. Stewart & H.D. Clarke, (1995), p.152

⁵⁵ D. Sanders, 'The real economy and the perceived economy in popularity functions: how much do voters need to know?: A study of British data, 1974–97', *Electoral Studies*, 19 (1999), p.287

⁵⁶ M.P. Fiorina, (1981), p.197

coefficient than prospective evaluations and is just as significant at the 1% level.⁵⁷ Evidence from these individual studies provides support for the retrospective model of economic voting and the model specification used in this working paper.

Kramer (1971) was one of the first to empirically test the relationship between economic conditions and election outcomes under a rational retrospective model in which the voter is considered an information-processing individual who proceeds by collecting readily available information on incumbents past economic performance. Kramer found that changes in real per capita incomes in the election year, and preceding year, bore positive and significant impacts on incumbent party votes in the U. S. House of Representatives, over the period 1896-1964. However inflation and changes in unemployment appeared to have little or no electoral importance once real income growth rates were accounted for. A 10% “decrease in per capita real personal income would cost the incumbent administration 4 or 5 % of the congressional vote”.⁵⁸ In line with Key’s hypothesis he finds that “election outcomes are in substantial part responsive to objective changes occurring under the incumbent party; they are not irrational, or random, or solely the product of past loyalties and habits, or of campaign rhetoric and merchandising.”⁵⁹

In one of the few instances where economic variables are tested over multiple time horizons, Stigler (1973) ran robustness tests on Kramer’s 1971 study. Since economic theory indicates that forecasts should reflect accumulated past experiences, Stigler asked, “why not view the change in vote as a better measure of the effects of changes in economic conditions since the last election?”⁶⁰ In measuring income and inflation over a two year period from the preceding US congressional election, he found that “income changes continue to be

⁵⁷ M.S. Lewis-Beck, (1988), p.130-131

⁵⁸ G.H. Kramer, (1971), p.40

⁵⁹ Ibid, p.40

⁶⁰ G. Stigler, ‘General economic conditions and national elections’, American Economic Review, Papers and Proceedings, 63 (1973), p.164

significant upon the share of vote received by the incumbent party.”⁶¹ When testing if the share of votes received by the incumbent party was responsive to a weighted average of past performance of real incomes in the previous five congressional terms however, no statistically significant relationships were found.⁶² This indicates that, although voters may consider longer periods of an incumbent’s term when forming retrospective views, they do not consider multiple terms.

Fair (1978) also tested the effect of economic variables over multiple time horizons. He looked at the effects of four economic variables on presidential votes, during the year of the election, in the two-year period before the election, in the three-year period before the election, and over the entire four-year period, producing 16 possible measures of economic performance.⁶³ The two models that fit best were, the growth rate of real GNP/capita in the year of the election and the change in unemployment in the year of the election. From this Fair concludes that “Economic events as measured by the change in real economic activity in the year of the election do appear to have an important effect on votes for president”⁶⁴ and that “Voters appear to have a very high discount rate, probably infinite.”⁶⁵ Fair was fairly critical of his own results, highlighting the limitations of only 16 observations and the limited amount of information that could be drawn from such aggregate time series data. However as a tool for forecasting elections it provided a useful framework. Fair went on to use this model in subsequent papers to forecast future election outcomes⁶⁶, however he faced criticism from

⁶¹ G. Stigler, (1973), p.164

⁶² Ibid, pp.165-66

⁶³ R.C. Fair, ‘The effect of economic events on votes for President’, *Review of Economics and Statistics*, 60 (1978), p.167

⁶⁴ R.C. Fair, (1978), p.171

⁶⁵ Ibid, p.171

⁶⁶ R.C. Fair, ‘Econometrics and presidential elections’, *Journal of Economic Perspectives*, 10 (1996)

Bartels (1997) who highlighted that Fair's choice of model specification seemed "to have been guided by goodness-of-fit rather than by political or economic considerations".⁶⁷

Stigler (1973) and Fair (1978) were the only two early studies found that systematically tested the effects of macroeconomic changes over multiple time horizons to try and establish the correct temporal relationship between those changes and election outcomes. Despite two contrasting conclusions being drawn, subsequent work was dominated by measures of short-term changes in economic fundamentals. A number of studies focussed in Britain show great variation in the macro indicators used to forecast election outcomes, but what is clear is the consistent use of short-time horizons with those indicators.

Goodhart and Bhansali (1970) used a monthly measure of unemployment and retail price inflation as predictors of government popularity and found that popularity in Britain between 1947 and 1968 was determined by the annual inflation rate and unemployment rate 6 months prior to being surveyed.⁶⁸ Whiteley (1986) also found unemployment, inflation and the devaluation of the pound to be statistically significant predictors of government popularity in Britain,⁶⁹ where as Norpoth (1987) tested monthly incumbent popularity figures during the Thatcher period 1979 – 1985 and found only unemployment to be strongly significant and inflation not significant at all.⁷⁰ In the US, Erikson (1989) found that election year growth in per capita incomes and relative candidate evaluations could account for 90% of the variance in presidential election outcomes.⁷¹

⁶⁷ L. Bartels, 'Correspondence: Economics and elections', *Journal of Economic Perspectives*, 11 (1997), p.195

⁶⁸ C.A.E. Goodhart & R.J. Bhansali, 'Political economy', *Political Studies*, 18 (1970), p.86

⁶⁹ P. Whiteley, 'Inflation, Unemployment and Government Popularity: A Dynamic Model for the United States, Britain and West Germany', *Electoral Studies*, 3 (1984), p.55

⁷⁰ H. Norpoth, 'Guns and butter and government popularity in Great Britain', *American political science review*, 81 (1987), p.953

⁷¹ R.S. Erikson, 'Economic Conditions and the Presidential Vote', *American Political Science Review*, 83 (1989), p.568

Frey and Schneider (1978) found highly significant relationships between the incumbent party lead in the polls between 1959 and 1974 in Britain and, the annual rate of inflation, the rate of unemployment and the real rate of growth over the previous year.⁷² Chrystal and Alt (1981) however, estimated a similar model over an extended period of just 3 years and found only the growth rate of real disposable income was close to significant.⁷³ Miller and Mackie (1973) came to a different conclusion all together, that changes in incumbent popularity were a product of election cycles, independent of economic variables, in which popularity declines during the midterm before increasing before an election.⁷⁴

Of all the macroeconomic indicators linked with election outcomes, growth of real disposable income per capita is most consistently found to have the strongest and most stable relationship with government popularity and election outcomes. As Hibbs says this is because it is the “broadest single aggregate measure of changes in voters' economic wellbeing.”⁷⁵ Increases in real disposable income per capita are associated with increases in utility of individuals and society as a whole. As a measure it accounts for “inflation, taxes, government transfer payments and population growth, and tends to move with changes in unemployment”,⁷⁶ all measures affecting individual and social utility. Inflation and unemployment produce much more unstable and inconsistent evidence. For this working paper, which aims to test for the correct temporal relationship between the economy and election outcomes, it is important to minimise doubt as to the salience of the macro indicator being used. Based on the evidence reviewed so far, real disposable income stands out as being the measure most able to do this.

⁷² B.S. Frey & F. Schneider, ‘A Politico-Economic Model of the UK’, *Economic Journal*, 88 (1978), p.246

⁷³ K.A. Chrystal & J.E. Alt, ‘Some Problems in Formulating and Testing a Politico- Economic Model of the United Kingdom’, *Economic Journal*, 91 (1981), p.731

⁷⁴ W.L. Miller & M. Mackie, ‘The electoral cycle and the asymmetry of government and the opposition popularity: an alternative model of the relationship between economic conditions and political popularity’, *Political Studies*, 621 (1973), p.278

⁷⁵ D. Hibbs, (2000), p.149

⁷⁶ *ibid*, p.149

Despite a significant amount of variation, the overall consensus formed so far is that electoral outcomes can be forecast using *recent* economic performance of incumbents.⁷⁷ One of the most prominent scholars on the economic vote, Douglas Hibbs, instead advocates a geometrically weighted model of economic performance founded on the theory that “political support is based on an administration’s cumulative performance and not just election-year records”⁷⁸. In a study of macroeconomic performance and mass political support in the United States, Great Britain and Germany, Hibbs found that the “lag weight rate of decay parameter”, or discount rate, for Britain was 0.89. This implies that people in Britain weigh past performance very heavily in making current political judgements, more so than the US where the same rate of decay was 0.84. Hibbs concluded that “there appears to be a somewhat larger retrospective element in the British public’s performance evaluations.”⁷⁹

Hibbs finds that the growth rate of unemployment, the acceleration of inflation, the growth rate of real per capita personal disposable income and the change in the dollars-per-pound exchange rate were all statistically significant and correctly signed. The \$ exchange rate is hypothesised to enter into the conscious of the British public as a matter of national prestige even though in the long run this change reflects, in part, relative inflation performance.⁸⁰

In a later study Hibbs found “aggregate votes for Presidents in post-war elections were determined entirely by the weighted-average in growth of real disposable personal income per capita during the incumbent party’s term and the cumulative numbers of American military personnel killed in action as a result of U.S. intervention in the Korean and

⁷⁷ R.M. Duch, (2009), p.808

⁷⁸ D. HIBBS, ‘President Reagan’s mandate from the 1980 elections: a shift to the right?’, *American Politics Quarterly*, 10 (1982a), p.392

⁷⁹ D. Hibbs, ‘On the demand for economic outcomes: macroeconomic performance and mass political support in the United States, Great Britain and Germany’, *Journal of Politics*, 44 (1982b), p.448

⁸⁰ D. Hibbs, (1982b), p.437

Vietnamese civil wars.”⁸¹ He found that a 1% increase in per capita real disposable personal income growth, sustained over a term, will yield a 4% increase in the incumbent party's vote share, from a constant of 46%. Hibbs says that this gives incumbents a bias in winning elections, as maintaining a 1% increase in per capita real disposable personal income growth is half the US mean growth rate of 1.9%. Since voters have more information on the incumbent than the opposition, they are more likely to re-elect an incumbent.⁸² Hibbs finds that under this “Bread and Peace” model, after accounting for changes in real disposable income and military casualties, the rate of inflation and unemployment have no effect on voting outcomes.⁸³

A more important finding from this study is the estimated weighting parameter of 0.95, meaning that election outcomes are practically influenced by real income growth over the entire term of an incumbent party. This model indicates “rather little voter myopia by the standards of the literature”.⁸⁴ In examining a total of 48 different regression models employing a variety of economic and political variables, Bartels and Zaller (2001) found that the single best-performing model was a version of Douglas Hibbs’ (2000) “Bread and Peace” model.⁸⁵

In, “Musical Chairs: Pocketbook Voting and the Limits of Democratic Accountability”, however, Achen and Bartels tested post war presidential election outcomes in the US against changes in real disposable income and GDP per capita across various time horizons of the incumbent’s term of office. What they found was that the electorate does not weigh economic performance equally and that “Long-term economic growth, whether in real

⁸¹ D. Hibbs, (2000), p.149

⁸² *ibid*, p.151

⁸³ *ibid*, p.158

⁸⁴ *ibid*, p.152

⁸⁵ Bartels, L.M. & Zaller, J., ‘Presidential vote models: a recount’, *PS: Political Science and Politics*, 34 (2001)

income or GDP, contributes little or nothing to the incumbent party's electoral prospects"⁸⁶. In fact, they were able to account for post War presidential election outcomes with a high degree of accuracy based simply on how long the incumbent party had been in power and changes in real income six months prior to Election Day.⁸⁷

Owen and Nuesser (2012) found a contrasting result in a working paper based on the UK. For rates of unemployment, British voters were most responsive to changes in the middle, specifically years 3 and 4, of a government's term of office.⁸⁸ Although the relationship was only tested over the 2005 and 2010 elections, it provides an indication that voters take into account longer term economic performance, adding important evidence to the debate on temporal relationships. Lewis Beck (1988) also found significant path flows from the economic performance at the start of a government's tenure to the year preceding an election; however they did not span government terms indicating "that the more immediate economic experiences and expectations are more salient for the voter."⁸⁹

One body of literature in economic voting focuses on the political business cycle. That is governments' attempts to influence myopic voters with policies that boost economic performance in the election year. In his seminal work, Tufte (1978) found that changes of 1% in real disposable income per capita in the year before congressional elections was associated with a national change of 0.6% increase in the midterm vote for the president's party. In national election years a 1.0% change in real disposable income per capita produced 1.1%

⁸⁶ C.H. Achen, & L. M. Bartels, (2004), p.19

⁸⁷ L. Bartels, 'Obama Toes the Line', The Monkey Cage, accessed on 13 June 2015
<http://themonkeycage.org/2013/01/obama-toes-the-line/>

⁸⁸ A. Owen & A. Nuesser, 'Beyond economic voting: Government performance in noneconomic policy domains and elections in the UK', Work. Pap, (Prepared for the 84th Annual Conference of the Canadian Political Science Association University of Alberta, June 13-15, 2012), p.16

⁸⁹ M.S. Lewis-Beck, (1988), p.124

change in the incumbent's national vote.⁹⁰ Tufte's work however, is based on the assumption that short-run economic fluctuations are very important politically. Tufte's main investigation is into cycles of economic performance between election and non-election years and he does not formally investigate whether the assumption that the short-term matters more, is correct. Tufte asks the question "Do politician's act on assumptions of myopic voter behaviour?"⁹¹, but does not attempt to answer the more important question of whether the behavioural assumption is correct.

What is clear from the review so far is that the majority of empirical studies trying to establish a relationship between the economy and elections, with the notable exception of Hibbs (2000, 2004, 1982b) use a short-term measure for economic performance. Assessing economic performance in the year before an election appears accepted as a sign of rationality amongst the electorate, however, given there seems to be little theoretical basis for solely using short-term economic change, the lack of explanation behind using only this measure is surprising. Models just looking at short-term economic performance are not necessarily wrong, and voters factoring election year performance into their decision is not irrational. Only accounting for election year performance, however, may be considered irrational.

The wealth of evidence supporting the relationship between the short-term economy and election outcomes is therefore not a complete answer to the question "Do voters retrospectively assess governments past performance?" It is a partial answer that is quite obviously limited to the time period tested. If you test government performance over the year before an election, you can only establish if voters judge performance in that year. It is not clear from the vast majority of the literature if the relationship between the short-term real economy and voting patterns is assumed to hold over longer periods of time, simply because

⁹⁰ E. Tufte, (1978), p.100, p.119

⁹¹ *ibid*, p.9

it is never mentioned, let alone tested. As Healy, A. and Malhotra, N. (2013) suggest, the right question should not be “Do voters react to government performance or not?”, but, “Are voters reacting in the right way?”⁹² This is an important question for democratic accountability and is the question this study will attempt to answer.

Extensions to the rational retrospective model

Despite the strong evidence between macroeconomic indicators, especially growth in real disposable income, and election outcomes, results continue to vary between countries and between election years. Duch & Stevenson (2008) show how various institutional factors such as the extent of political control of the economy, the distribution of policy-making responsibility; and the pattern of concentration for future policy making responsibility, can affect the magnitude of the economic vote between countries.⁹³ This is not a problem for a single country study such as this; however, Alvarez, Nagler and Bowler (2000) highlighted a problem of the purely rational retrospective model in multiparty parliamentary systems such as Britain. Under such a model, in which only past performance of the incumbent is considered, the choice between multiple non-incumbent parties cannot be explained.⁹⁴

In a study of the 1987 British election, Alvarez, Nagler and Bowler (2000) used a model that combined voters' retrospective economic evaluations, the consideration of issue positions and the issue preferences of voters. They found that in 1987, “economic factors appear to enter strongly into the choice between the Conservatives and Labour but less strongly into the decision to vote for the Alliance” which was based on issue positions

⁹² A. Healy & N. Malhotra, (2013), p.287

⁹³ , R.M. Duch & R.T. Stevenson, ‘The Economic Vote: How Political and Economic Institutions Condition Election Results’, (Cambridge University Press, 2008), p.338

⁹⁴ R.M. Alvarez, J. Nagler & S.Bowler, ‘Issues, economics and the dynamics of multiparty elections’, American Political science review, 94 (2000), p.131

between themselves and Labour.⁹⁵ Importantly for this study, it was still retrospective economic evaluations that determine support for the incumbent. Further to this, Alvarez, Nagler and Willette (2000) found that issue positions were often outweighed by economic perceptions in election outcomes. Although changing issue positions of individuals had a large effect on individual vote choice, changing issue positions of parties had little effect on aggregate vote shares because parties move in a crowded space.⁹⁶

Although pure, rational, retrospective theory is a good way to model how voters assess incumbents, it is unrealistic to think that voters do not try and assess opposition parties as well. It has been argued that pure retrospective models underestimate the extent to which voters perceive the world in non-rational terms. By not incorporating non-rational factors into models, empirical attempts to explain voting behaviour are unsatisfactory.⁹⁷ This has led many scholars turning to broader theories of rationality that place emphasis on the “heuristics or cognitive shortcuts that individuals employ in order to make electoral choices under conditions of uncertainty.”⁹⁸

Achen and Baters (2004) believe that retrospective theory, as it stands, “fails to do justice to the very considerable logical and informational difficulties faced by retrospective voters”⁹⁹ Experimental research indicates that the economic vote is likely to be contingent on both cognitive limitations and emotional bias. For retrospective voting to effectively motivate incumbents, citizens must be competent evaluators of past performance.¹⁰⁰ Healy, A. and Malhotra find however, that “Voters do not merely lack knowledge; they appear to make substantial, consistent, and correlated errors, often holding politicians accountable for actions

⁹⁵ R.M. Alvarez, J. Nagler & S.Bowler, (2000), pp.131 – 134.

⁹⁶ R.M. Alvarez, J. Nagler & J.R. Willette, ‘Measuring the relative impact of issues and the economy in democratic elections’, *Electoral studies*, 19 (2000), p.140

⁹⁷ D. Clarke, ‘Political Choice in Britain’, (Oxford, 2004), p.8

⁹⁸ *ibid*, p.9

⁹⁹ C.H. Achen, & L. M. Bartels, (2004), p.5

¹⁰⁰ S.J. Hill, G.A. Huber & G.S. Lenz, ‘Sources of bias in retrospective decision-making: experimental evidence on voters’ limitations in controlling incumbents’, *American Political Science Review*, 106 (2012), p.720

beyond their control.... Moreover, these errors are consistent with psychological biases that influence people's decisions in domains outside of politics".¹⁰¹ By considering cognitive and emotional biases, voters may find it difficult to process all relevant information and instead rely on cognitive shortcuts when faced with difficult problems.¹⁰²

The types of shortcuts typically modelled include subjective perceptions of party leaders and opposition competence. In a study of British voters' competency judgements between 1964 and 2001, Clark (2004), focussed on perceptions of party leaders and views of parties' perceived economic management skills and found both played an important role in the determination of electoral choice.¹⁰³ Clarke says that "competence aspects of the valence model are especially important for understanding developments in British party politics during the 1990s" finding that, "people voted Conservative in 1992 for lack of a plausible alternative rather than because of any deep conviction that the party deserved their support as a reward for its previous performance in office."¹⁰⁴ Clark's model does not make the same strict assumptions about voter rationality that pure retrospective models use. Instead he allows voters to make "sensible" decisions about the performance of incumbents and opposition parties to reduce the costs of collecting information. He says "Voters use partisanship and leader images as cognitive shortcuts to make judgements about which party is most competent to govern."¹⁰⁵

Harrop (1988) agrees that "perceived competence is key to understanding the general elections of the 1980's...disunity and incompetence in the Labour leadership destroyed Labours credibility on its own natural issues and allowed opponents to push their agenda".¹⁰⁶ Perceptions of competence clearly take into account retrospective economic evaluations of

¹⁰¹ A. Healy & N. Malhotra, (2013), pp.286-87

¹⁰² Ibid, pp.286-87

¹⁰³ D. Clarke, 'Political Choice in Britain', (Oxford, 2004), p.59

¹⁰⁴ ibid, pp.61-62

¹⁰⁵ ibid, p.317

¹⁰⁶ M. Harrop, (1988), p.52

incumbents, but they also include evaluations of the opposition, which cannot be formed through retrospective performance judgements.

Another potential factor that is often quoted as having a significant bearing on the incumbent vote is the length of incumbent tenure. As Zaller (2004) explains this is what might be called “incumbent party fatigue”. The longer a party has been in power the more likely it is that “political innovators will give way to less skilful successors, scandals will accumulate and the more the opposition will break with the old ways to gain power.¹⁰⁷ Achen and Bartels (2004) find government tenure to have a negative impact on incumbents’ popular vote margins.¹⁰⁸ However these studies are based on studies in the US, in which Presidents can only stand for two terms before stepping down. The same is not true in Britain and so the relationship may not be the same. In fact, Harrop (1988) says that in the 1980s, “The longer the conservatives continued in office the harder it was for the opposition to present itself as a realistic alternative”.¹⁰⁹ Under this hypothesis, the longer a government is in power the harder it is for the electorate to establish opposition parties’ capability of governance, giving an advantage to the incumbent.

Possibly the most important cognitive limitation for this working paper is a psychological tendency for people to weigh recent events more heavily than past ones, described by Hill et al. (2012) as “End Bias”.¹¹⁰ This may give theoretical credence to past studies of retrospective voting and “do justice” to the difficulties faced by voters, but it does not inspire any more confidence in the democratic process and the accountability of governments to the public.

¹⁰⁷ J. Zaller, ‘Floating Voters in U.S. Presidential Elections’, In Saris, W.E. & Sniderman, P.M., (ed.), *Studies in Public Opinion: Attitudes, Nonattitudes, Measurement Error, and Change*, (Princeton, NJ: Princeton University Press, 2004), p.17

¹⁰⁸ C.H. Achen, & L. M. Bartels, (2004), p.49

¹⁰⁹ M. Harrop, (1988), p.52

¹¹⁰ S.J. Hill, G.A. Huber & G.S. Lenz, (2012), p.725

In a simplified experimental game setting, Hill et al. showed that voters focus on recent, rather than cumulative, incumbent performance. MacKuen, Erikson, and Stimson (1992) point out, this behaviour may be consistent with rational choice models if voters see election-year performance as a better judge of an incumbent's ability to produce post-election growth,¹¹¹ but evidence based on psychology experiments indicates election-year emphasis comes from a pure cognitive bias. Hill et al. (2012) finds that people do not track their own utility over time and cannot retrospectively access it. Instead they “substitute an alternate attribute of their experience that is salient, such as how that experience ended or the peak pleasure or pain experienced”¹¹². Healy & Lenz (2012) come to a slightly different conclusion that voters don't simply fail to remember earlier conditions or perceive the election year as more informative, instead voters intend to judge governments on overall performance rather than election-year conditions, but overall performance during the term is not readily available to them. Subjects appear to focus on the election-year economy because that attribute is an easily available substitute for the overall growth for which they are searching.¹¹³ This “end-heuristic” “reflects a general tendency for people to simplify retrospective assessments by substituting conditions at the end for the whole.”¹¹⁴ This gives us some hope that, given access to the right information, the democratic process can remain accountable.

Despite this growing literature on cognitive bias and the potential impact on economic voting models, only a handful of studies have actually tested if such biases appear in the aggregate data (Stigler (1973), Fair (1978), Achen and Bartels (2004), Owen and Nuesser (2012)). These studies come to different conclusions as to how voters use past performance to

¹¹¹ MacKuen, M.B., Erikson, R.S. Stimson, & J.A., ‘Peasants or Bankers? The American Electorate and the U.S. Economy’, *American Political Science Review*, 86(3) (1992), p.598

¹¹² S.J. Hill, G.A. Huber & G.S. Lenz, (2012), p.725

¹¹³ A. Healy & G. Lenz, ‘Substituting the end for the whole: why voters respond primarily to the election-year economy’, *Work. pap., Dep. Polit. Sci., Univ. Calif., Berkeley* (2012), p.32

¹¹⁴ A. Healy & G. Lenz, (2012), p.32

assess incumbent's success or failure and inference is often limited by a lack of data. Establishing the correct temporal relationship between the economy and elections is clearly of methodological and practical importance and study into this relationship, using real life data should be expanded. This provides the impetus for the following empirical analysis.

Methodology and Model Specification

The next step is to construct a formal econometric model from which a regression analysis can be run allowing us to test the temporal effects of the macro-economy on election outcomes.

An important methodological point to reiterate is that this study is not concerned with explaining the role of the macro economy in the individual voting decision, but rather the impact the economy has on election outcomes and crucially, over which time horizons. It is an attempt to ascertain if changes in economic welfare are assessed over entire government tenures or over shorter periods of time. The summary regression analysis cannot explain individual behaviour, but it can be used to forecast election results.¹¹⁵ Based on the literature review it can be concluded that although the exact causal path may be disputed, the effect of the economy on voting decisions is real and substantial.¹¹⁶ For the purpose of this study, it is assumed that the macro economy enters in the voter's utility function in a sociotropic and retrospective fashion.¹¹⁷

The model used in this study is based on both the theoretical premise of retrospective voting and past empirical work putting these theories into practice. The model assumes rational voters aimed at maximising their own and society's welfare. The model uses a definition similar to that used by Clarke (2004), in which voters' use past performance to assess the incumbent parties' ability to govern, but also cognitive shortcuts, such as, perceptions of party leaders, to assess the capability of the opposition to govern, for whom

¹¹⁵ M.P. Fiorina, (1981), p.183

¹¹⁶ C.H. Achen, & L. M. Bartels, (2004), p.4

¹¹⁷ D. Hibbs, (2000), p.158

retrospective assessments are not available.¹¹⁸ This is a broader definition of rationality than under a pure “Keyesian” model. The need to assess opposition parties is a realistic assumption of voters’ behaviour and a crucial addition to the model in multiparty parliamentary systems like Britain (Clarke (2004), Harrop (1988), Alvarez, Nagler and Bowler (2000)).

Summarised below is the relevant information surrounding how each variable under investigation was obtained and a brief discussion into why it has been chosen based on previous theory and empirical studies evaluated in the literature review.

This study uses aggregated national data, disaggregated to Regional and County levels. These land areas are based on the Office for National Statistics (ONS) statistical regions as of 2011, which can be observed in Figure 1, in the Appendix.

Figure 1: United Kingdom: NUTS1 Levels 1, 2 and 3, 2011

For the few studies looking at the impact of economic indicators on election outcomes over various time horizons, the lack of data points has been a concern for inferring meaningful results. The use of disaggregated data to lower geographical units of analysis will help overcome the risk of making faulty inferences from the nation to the citizen.¹¹⁹ However, data at this geographical level is only available at yearly intervals from 1983 onwards. Achen and Bartels (2004) find that changes in real disposable income have their largest impact on election outcomes only 6 months before an election, which this paper will not be able to test, however temporal patterns will still be established.

¹¹⁸ D. Clarke, ‘Political Choice in Britain’, (Oxford, 2004), p.317

¹¹⁹ J.R. Owens & G.C. Olson, ‘Economic fluctuations and congressional elections’, American Journal of Political Science, 24 (1980)

Dependant variable: Change in incumbent vote share

The dependent variable is measured by the Change in incumbent vote share between consecutive national general elections. The data was obtained from *Electoral Calculous*¹²⁰ which provides historic data on British elections at the constituency level. This data was aggregated to both the regional and county levels, accounting for changes in name and boundaries, which occurred periodically over the period under consideration, but principally for the 1983, 1997 and 2010 elections. The data for Wales, Scotland and London is the same at both levels of aggregation because constituencies span either multiple counties or multiple boroughs meaning the election data cannot be accurately assigned to each county/borough.

It is important to understand why changes in incumbent vote share is being used rather than other commonly used dependent variables such as incumbent popular vote margin. The use of popular vote margins between two parties is a problem for countries with multiparty systems. Simply looking at popular vote margins does not tell us if the incumbent has gained votes or the main opposition party has lost votes because these lost votes can flow between multiple parties and not just to the incumbent. This makes it hard to isolate the gains from an incumbent's performance. By using changes in incumbent's share of the vote, shifting votes between other parties because of a weak opposition will not affect the incumbent's vote share. Thus we can be more certain that changes are as a result of incumbent performance.

¹²⁰ Historical election data from 1983 to 2010, 'Historical data Excel Pivot Tables', Electoral Calculus, accessed 10 July 2015, <http://www.electoralcalculus.co.uk/flatfile.html>

Independent variable: Changes in Real disposable Household income/capita

Evidence has shown that the economy plays a large, if not the largest role, in voter's retrospective evaluations of governments. The most consistent and best fitting of these economic indicators is real disposable income (Kramer 1971, Stigler 1973, Alt and Crystal 1981, Hibbs 2000 and others). As Hibbs says, it is the "broadest single aggregate measure of changes in voters' economic wellbeing....it accounts for inflation, taxes, government transfer payments and population growth, and tends to move with changes in unemployment."¹²¹ Therefore changes in real disposable household income (RDHI) will act as the principal variable from which inferences of temporal relationships will be drawn.

Data for nominal disposable household income per capita was obtained from the ONS and is available yearly between 1983 and 2010 at the regional and county levels.¹²² This data was then adjusted to account for inflation using 1983 as the base year to create a measure of real disposable household income per capita (RDHI/capita).

Two long-term measures of real disposable household income per capita are used. The first is the average yearly growth rate over each government's tenure measured from the election year back to the year following the previous election. The second is the total change in real disposable household income per capita over each government's tenure measured over the same period. The short-term measures of economic growth are measured as calendar year changes in real disposable household income per capita during each government's tenure.

¹²¹ D. Hibbs, (2000), p.149

¹²² Office for National Statistics, Regional Accounts Data, 1971-1999 [computer file]. 8th Edition. Colchester, Essex: UK Data Archive [distributor], December 2002. SN: 4010, accessed 23 July 2015
<http://dx.doi.org/10.5255/UKDA-SN-4010-1>.
Office for Nation Statistics, NUTS1 Regional GDHI, 1997-2013 (Excel sheet 269Kb), accessed 10 July 2015,
<http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-386452>

Control Variables

Based on the literature review it is hypothesised that factors other than pure retrospective assessments of incumbent governments may affect the incumbent vote. In order to isolate the temporal effects of RDHI/capita and specify the model correctly it is important to take these into account.

The first of these control variables is a measure of the main opposition's capability of forming a strong government. In every case this is either Labour, at an election in which the Conservatives are in power (1987-1997) or the Conservatives, at an election in which Labour are in power (2001-2010). As has been discussed (Clarke 2004, Harrop 1988) opposition capability is often cited as a reason for British incumbent success, rather than good past performance, especially during the conservative wins of the 1980's.¹²³

Measures of opposition capability were obtained from the British Election Study (BES) pre-election surveys over the period under consideration.¹²⁴ Ideally a question of opposition economic competence or opposition leader likeability would have been used, but inconsistent questioning and measurement scales meant this could not be incorporated reliably across the period. Instead this measure is based on the question "Would you describe the following political parties as...capable or not capable of strong government", which allows respondents to answer either, capable, not capable or don't know. Answers from each survey were aggregated and an average on a scale from minus 1 to 1 was established, minus 1 representing an opposition not capable of strong government and 1 representing an opposition capable of strong government. This measure is hypothesised to take into account both opposition leader qualities and economic competence. It is a national measure that has been

¹²³ D. Clarke, (2004), M. Harrop, (1988)

¹²⁴ British Election Study, Pre-Election Cross Section surveys 1987-2010, accessed 11 August 2015, <http://www.britishelectionstudy.com/data-objects/cross-sectional-data/>

equally applied to regions and counties. Measures for incumbent capability were not included to avoid problems of endogeneity with economic variables.

The second control variable is a measure of government tenure. Government tenure was obtained from Electoral Calculous¹²⁵ and is simply a measure of how long the incumbent has been in power, in years. This again is applied equally over each region and county. Current evidence on the impact of government tenure comes predominantly from the US under an alternative parliamentary system. Although empirical evidence (Achen and Bartels 2004, Zaller 2004) finds a negative relationship between tenure and incumbent popular vote margins in the US, the relationship may not hold in the UK. As Harrop (1988) argues the longer an incumbent has been in power “the harder it is for the opposition to present itself as a realistic alternative”.¹²⁶

¹²⁵ Historical election data from 1983 to 2010, ‘Historical data Excel Pivot Tables’, Electoral Calculus, accessed 10 July 2015, <http://www.electoralcalculus.co.uk/flatfile.html>

¹²⁶ M. Harrop, (1988), p.52

Empirical Analysis and Evaluation

Figure 2 in the appendix plots both yearly changes in real disposable household income per capita, as well as the average growth in the same measure over each government's term. Some important characteristics for this analysis emerge from the graph. It is noticeable that there is a large amount of volatility in the yearly growth rates between counties and between years within each government's administration. This lack of temporal continuity implies using individual years as a measure to determine average government past performance, or total changes in welfare over a term, is not reliable. This is the reason why rational retrospective models assume little or no time discounting amongst voters. Evaluating only short-term growth is akin to pulling a number out of a hat and basing evaluations of performance on this arbitrary figure. If this is found to be true it would be damaging for the democratic process. There is also a slight decrease in the average growth rate of each term over the period being considered which may make it harder for incumbent governments to maintain office if average growth is found to have a significant effect on election outcomes.

Figure 2: Income Growth by UK Government's Term of Office

Regression Analysis

Table 1 presents the results of the county level regression analysis exploring the temporal relationships between changes in real disposable household income per capita and the change in incumbent vote shares (In percentage points) across British NUTS2 geographical areas from 1983 until 2010. Two control variables, incumbent party's tenure (in

years) and the perceived capability of the main Opposition measured on a scale from minus 1 to 1, are included in each of the six regressions presented,

Before any regression analysis was carried out, standard tests for normality and stationarity were completed and found to satisfy the necessary assumptions.¹²⁷ The use of panel data also required the model to be tested for significant county or temporal effects that may require a fixed or random effects model to be used. All regressions in table 1 were subjected to two tests; the Hausman test, to decide between fixed and random effects models; and the Breusch-Pagan Lagrange multiplier test, which identifies either a random effects model or a pooled OLS model as correct. In all cases, p values implied no significant panel effects and therefore simple pooled OLS regression was identified as the correct model to use.¹²⁸ A sense check confirmed only fractional changes in coefficients and standard errors under Fixed and Random effects models.

The systematic testing follows a similar pattern to that followed by Achen and Bartels (2004), in which long-term and short-term measures are regressed separately, and then together, to identify their significance on incumbent vote shares.¹²⁹

¹²⁷ UCLA: Academic Technology Services, 'Chapter 2 - Regression Diagnostics' accessed 16 August 2015 <http://www.ats.ucla.edu/stat/stata/webbooks/reg/chapter2/statareg2.htm>

¹²⁸ O. Torres-Reyna, 'Panel Data Analysis Fixed and Random Effects using Stata', accessed on 15 August 2015, <http://www.princeton.edu/~otorres/Panel101.pdf>

¹²⁹ C.H. Achen, & L. M. Bartels, (2004), p.17

Table 1: The Effects of Long-Term and Short-Term Pre-Election Growth on Incumbents Vote Shares in British NUTS2 Counties

	1	2	3	4	5	6
	Pre-Election Real HDI Growth (Av.)			Pre-Election Real HDI Growth (Total)		
	Long-term	Short-term	Both	Long-term	Short-term	Both
Average Δ RHD/ Capita	1.029*** (.1037) T=9.92		1.123*** (.176) T=6.37			
Δ RHD/ Capita, Election Year		.730*** (.112) T= 6.51	.109 (.149)			
Total Δ RHD/ Capita				.329*** (.030)		.316*** (.052) T=6.05
Δ RHD/ Capita, Election Year					.730*** (.112) T= 6.51	.060 (.159) T=0.37
Incumbent Tenure	.0059*** (.001)	.0047*** (.001)	.006*** (.001)	.005*** (.001)	.0047*** (.001)	.005*** (.001)
Opposition Capability	-.119*** (.008)	-.108*** (.018)	-.105*** (.016)	-.100*** (.017)	-.108*** (.018)	-.100*** (.017)
Constant	-.112*** (.009)	-.094*** (.012)	-.114*** (.010)	-.103*** (.010)	-.094*** (.012)	-.104*** (.011)
MSE	.02049	.0231	.02055	.02061	.0231	.02067
R ²	0.7909	0.5668	0.6593	0.6551	0.5668	0.6554
N	186	155	155	155	155	155
Standard errors in parentheses, p<0.10, ** p<0.05, *** p<0.01						

The results presented in column 1 of table 1 show the regression analysis of long-term economic performance, measured by the average change in real household disposable income per capita over the incumbent's term of office (the time each government may be held reasonably accountable) on the incumbents change in vote share. The estimated effect of long-term growth is positive, as would be expected, and also significant at the 1% level, implying long-term growth plays a positive role in determining incumbent vote share. An R² value of 0.79 implies a very good fit to the model.

The coefficient is modest; implying an increase in the average growth rate of RDHI/capita of 1% over an incumbent's tenure would increase their share of the vote by

1.029%. This may seem trivial, but it is important to remember a rise in vote share for incumbent means a loss of votes for another/other party(s). If the entire increase in incumbent vote came from the second largest party this would amount to a 2.058 % swing in the incumbents favour, all other things being equal. The difference between the lowest average growth rate (-0.4% in the West Midlands in 2005) to the highest average growth rate (6.2% in the Essex in 1987) implies a swing -0.41% to 6.4%. An increase of 6.4% in incumbent vote share could amount to a potential 12.8% change between itself and the main opposition, certainly not trivial.

Incumbent tenure and opposition capability are also significant at the 1% level. Opposition capability has a substantial effect on the incumbent vote share. The lowest negative perception of any main opposition over the period was -0.33 which would result in a gain of 3.8% in the incumbent party's vote share.

Incumbent tenure has a positive effect on incumbent vote share, implying a 2.3% gain in vote share for every additional 4 years the government spends in office. This contradicts the US evidence on incumbent tenure presented by Achen and Bartels (2004) and Zaller (2004) but lends support to Harrop's proposition that the longer a government stays in power the harder it is for the public to assess economic competence of the opposition, giving incumbents an advantage.¹³⁰

The large negative constant means that if all the predictor variables were zero (no growth in RDHI per capita, 0 years of incumbent tenure and a neutral assessment of opposition economic competence) incumbent tenure would decline by quite a substantial 11.2%. This may be indicative of what Crewe (1974) says is a "growing erosion of public

¹³⁰ M. Harrop, (1988), p.52

commitment to the two major parties in Britain”¹³¹ in the Post War period, however it may be a result of the time period under investigation. For instance, when Labour gained power in 1997, they gained 43.21% of the national vote. This was 9.43 percentage points above their average vote achieved in the previous 5 elections (33.78%). In 2001 Labour’s share was still 6.12 percentage points above their moving 5 year average (34.58%) but this had fallen to just below average in 2005. Declining vote shares in this example may be viewed as a return to normality. Labour’s unnaturally high share of the vote in 1997 will clearly have impacted the magnitude of the negative constant in this regression. Unfortunately data limitations stopped the period under study being extended. Establishing exactly why incumbent shares tend to fall is beyond the scope of this study. The crucial relationship between the economy and the vote can still be independently assessed and crucially the temporal relationship established.

Column 2 in Table 1 presents the results from the regression analysis of short-term economic performance, measured by the change in real household disposable income per capita over the election year. It appears short-term growth has a smaller effect on incumbents vote shares than its opposite long-term measure. The coefficient is smaller, at 0.730, but is also significant at the 1% level. The MSE (Mean Squared Error) of the model is slightly larger than under the long-term model and the overall fit has declined substantially to 0.5668. The impact of opposition capability and incumbent tenure remain significant at the 1% level although they both have a smaller impact on incumbent vote shares.

The regression analysis presented in column 3 of Table 1 includes both the long-term and short-term measures in RDHI/capita growth. Here it is clear that long-term growth correlates far better with changes in an incumbent’s share of the vote than the short-term. The coefficient of average change in RDHI/capita has increased to 1.123 and is still significant at

¹³¹ I. Crewe, ‘Do Butler and Stokes Really Explain Political Change in Britain?’, *European Journal of Political Research*, 2 (1974), p.83

the 1% level, whereas the estimated effect of RDHI growth in the election year has become insignificant. The overall fit of the model is slightly worse than the first model which ignored short-term growth.

There is a worry that the model might suffer from multicollinearity as growth in the election year forms part of the average growth in RDHI over the period. A high degree of multicollinearity between the coefficients may cause them to become unstable and inflate the standard errors. All VIF (variance inflation factor) tests for multicollinearity however, yielded values less than 10, indicating no severe problems of multicollinearity.¹³²

Columns 4 to 6 in table 1 present a similar systematic test for temporal effects of RDHI/capita with total changes in growth over an incumbent's tenure acting as the long-term measure. With this new variable the same patterns are found. In column 4, the regression using only the long-term measure produces a statistical and substantially significant result. The lower coefficient (0.329) relative to average growth is indicative of the larger values representative of total growth. The fit of the model is not as good as the model in column 1, with an R^2 value of 0.6551, however it still out performs the short-term model in terms of fit and MSE. Column 5 is a repeat of column 2 for ease of comparison, while column 6 presents both long-term and short-term measures. It is clear to see from column 6 that when both short and long-term measures of growth are implemented, the short-term again becomes insignificant whereas the long-term coefficient has decreased by only 0.013 and is still significant at the 1% level. The overall fit of the model is roughly the same as that in column 4 with a slight increase in MSE.

These results suggest that it is long-term measures of economic performance that matter for determining changes in incumbent vote shares, although on their own, short-term

¹³² UCLA: Academic Technology Services, 'Chapter 2 - Regression Diagnostics' accessed 16 August 2015 <http://www.ats.ucla.edu/stat/stata/webbooks/reg/chapter2/statareg2.htm>

growth in the year of an election has a statistically significant effect. These results are promising for the democratic process and to borrow a phrase from Achen and Bartels (2004), appear to “rescue voters from the charge that they are unable to assess changes in their own welfare.”¹³³ The robustness of these results was checked against combinations of change in RDHI/per capita over various time horizons, the results of which are presented below in table 2.

Table 2: Analysis of changes in incumbent vote share in response to changes in RDHI/capita in British NUTS2 counties.

	1	2	3	4	5	6	7	8	9
Average Δ RDHI/Capita				1.11*** (.195)	1.094*** (.156)	1.110*** (.180)			
Total Δ RDHI/Capita							.365*** (.076)	.339*** (.044)	.301*** (.043)
Δ RDHI/capita Election Year-1	.587*** (.089)			.080 (.138)			-.102 (.193)		
Δ RDHI/capita Election Year-2		.436*** (.089)			-.0698 (.114)			-.052 (.160)	
Δ RDHI/capita Election Year-3			.334*** (.093)			-.119 (.120)			.134 (.175)
Incumbent Tenure	.010 (.002)	.005 (.001)	.003 (.001)	.006*** (.002)	.006*** (.001)	.007*** (.001)	.004 (.002)	.005*** (.001)	.004* (.002)
Opposition Capability	-.210 (.023)	-.119 (.009)	-.107 (.010)	-.119*** (.030)	-.117*** (.008)	-.127*** (.010)	-.083** (.041)	-.102*** (.019)	-.090** (.037)
Constant	-.144 (.017)	-.086 (.010)	-.082 (.010)	-.120*** (.0171)	-.111*** (.009)	-.120*** (.010)	-.093*** (.022)	-.103*** (.010)	-.098 (.020)
MSE	.02267	.02281	.0222	.02056	.02053	.02065	.02065	.02067	.02083
R2	0.5828	0.7409	0.7416	0.6591	0.7913	0.7779	0.6562	0.6554	0.6373
N	155	186	155	155	186	155	155	155	124
Standard errors in parentheses, p<0.10, ** p<0.05, *** p<0.01									

¹³³ C.H. Achen, & L. M. Bartels, (2004), p.4

The regression output in columns 1, 2 and 3 measures the effects of short-term changes in RDHI/capita in the year before the election, two years before the election and 3 years before the election respectively. Comparing these in conjunction with column 2 in table 1, it is clear to see steadily decreasing coefficients from 0.730 to 0.334, all of which are significant at the 1% level. This implies a discounting of past performance similar to that proposed by Hibbs (2000) in his “Bread and Peace model”.¹³⁴

The same patterns we saw in table 1 emerge in each of our robustness checks. When combining each short-term measure with each long-term measure (both average and total tenure growth in RDHI/capita) the short-term measure becomes statistically insignificant while the long-term measures all stay significant at least at the 1% level. None of these models substantially improves the fit of either of the long-term models presented in columns 1 and 4 of table 1.

The main finding is that long-term growth in RDHI per capita (measured either by average or total growth over a government’s tenure) is a better predictor of changes in an incumbent’s vote share than short-term yearly measures. Each year individually however, also has a statistically significant impact on incumbent vote share. This is what would be expected if voters are assessing performance over the entire government term and would also explain why when combined with longer term measures the short-term measures become insignificant. These findings do not necessarily discredit other works that have only used short-term aggregate measures of economic performance to forecast election outcomes or government popularity, as performance in an election year is a large part of the assessment of past performance; but based on this evidence a more accurate way to model this relationship would be with longer term or weighted measures. This supports the findings of previous work by Stigler (1983) Hibbs (1982b), and Owen and Nuesser (2012). For individual survey

¹³⁴ D. Hibbs, (2000), p.7

studies, the implication is that questions relating voting intentions to past performance over an entire term should be included.

The decreasing coefficients of short-term changes in RDHI/capita moving back in time from an election, lends support to the Hibbs model that uses a geometrically weighted model of economic performance. Hibbs' (2000) "Bread and Peace" model estimated a weighing parameter of 0.95, meaning the election outcomes were practically influenced by real income growth over the entire term of an incumbent party. In a review of election models, Bartels and Zaller (2001) found this to be the single best-performing of 48 models, which supports this paper's findings that the longer term is what matters most for determining election outcomes in Britain, indicating the public are not very myopic.

To further check the robustness of the results the same regressions were run at the Regional level (NUTS level 1). Tables 3 and 4 are located in the appendix and present the results which are summarised here.

The results in column 1 of table 3 show the estimated effect of long-term growth is positive and significant at the 1% level. It has a more modest impact on incumbent vote shares implying an increase in the average growth rate of RDHI/capita of 1% over a government's tenure would increase the share of the vote by 0.585%. An R^2 value of 0.820 implies a very good fit to the model and is higher than that presented in column 1 of table 1 at the county level, but the reduced observations may affect the inference of the results. Incumbent tenure and opposition capability are also significant at the 1% level and are signed the same way as in table 1. Column 2 in table 3 shows the impact of short-term, election year, growth in RDHI/capita on incumbents vote shares. The coefficient, 0.776, is significant at the 1% level and is larger than that of the long-term measure, implying it has a larger effect than average growth in RDHI per capita. The overall fit of the model however, has declined

to 0.704. As in table 1, once long and short-term measures are combined in column 3 of Table 3, the coefficient of long-term average growth almost doubles to 0.585 and is still significant at the 1% level, whereas the estimated effect of growth in the election year becomes insignificant. Again the overall fit of the model is slightly worse than the first, which ignored short-term growth. Columns 4 to 6 in Table 3 present the same systematic testing of long and short-term measures using total growth in RDHI per capita over the government's tenure instead. The same result, longer-term growth matters more than short-term growth in determining incumbent changes in vote shares, is found. Table 4 conducts the same robustness tests as table 2 and again finds; diminishing coefficients in the yearly measures of RDHI/capita growth, although at a faster pace than in table 2; and the continued importance of long-term measures over short-term ones. Column 5 of table 4 is the only anomaly of all the results presented. The regional regression using both the average growth rate of RDHI per capita and change in that measure two years prior to the election year, produces insignificant results for both measures. It is unclear why this is the case, but given the number of other successful robustness checks and consistency in relationship it can be safely ignored.

All the results presented in this working paper appear to make works on the political business cycle somewhat redundant as they rely on the theory of voter myopia. However, if governments still hold a belief that voters are myopic there is still scope to test whether governments are attempting to engineer political business cycles even if they do not work. Lewis-Beck's (1988) review of work by Tufte and Nordhaus however, found poor evidence to support electoral cycles of economic outcomes. He found that of the countries reviewed, Britain offered the strongest case of no cycle between 1947 and 1972. This makes intuitive sense; given our results imply long sightedness of the British public in evaluating performance.

A clear point of departure from these findings are those found by Fair (1978), Bartels (2008) and Achen and Bartels (2004) the latter of which found short-term measures, specifically the 6 months before an election, were what mattered for US presidential popular vote margins.¹³⁵ There are several possible reasons for this divergence; firstly the use of quarterly data allowed them to isolate smaller periods of time, which this study was not able to do given data limitations; secondly, their model is run at the national level limiting the number of data points and possibly what can be inferred from the results. In an attempt to overcome this, data in this study was disaggregated to both regional and county levels. Thirdly, Achen and Bartels study the US, whereas this study focuses on Britain. As Duch and Stevenson (2008) found, the magnitude of the economic vote is dependent on the political and economic contexts of each country.¹³⁶ Work by Lewis-Beck (1988) and Hibbs (2000, 1982b) has identified that the British public may be less myopic than the US public. As Hibbs says, “there appears to be a somewhat larger retrospective element in the British public's performance evaluations”¹³⁷. These results are also in keeping with those found in Owen and Nuesser’s (2010) working paper on the temporal relationship between unemployment election outcomes in the UK.¹³⁸ A key area for further research is to perform comparative tests between countries for temporal relationships between economic indicators and the vote.

Another key observation is that the public’s perception of the opposition has a significant bearing on changes in the vote. This implies voters do not base their decisions solely on incumbent performance but also attempt to evaluate other parties. This seems very logical and would be a positive and realistic extension to current models. Clarke’s (2004),

¹³⁵ C.H. Achen, & L. M. Bartels, (2004), p.19

¹³⁶ R.M. Duch & R.T. Stevenson, (2008), p.338

¹³⁷ D. Hibbs, (1982*b*), p.448

¹³⁸ A. Owen & A. Nuesser, (2012), p.16

broader definition of rationality¹³⁹ seems to better represent how voters actually evaluate performance and form opinions on who to vote for.

These results seem to defy the experimental evidence that finds voters inability to track or retrospectively access their own utility over time.¹⁴⁰ They may however be explained based on the findings of Healy & Lenz (2012) that voters' intention is to judge governments on overall performance rather than election-year conditions if such information was available.¹⁴¹ Accounting for this heuristic indicates that voters perhaps are able to access the correct information about long-term performance, possibly through the media or incumbents/opposition themselves.

¹³⁹ D. Clarke, 'Political Choice in Britain', (Oxford, 2004), p.317

¹⁴⁰ S.J. Hill, G.A. Huber & G.S. Lenz, (2012)

¹⁴¹ A. Healy & G. Lenz, (2012)

Conclusion

The aim of this working paper was to establish over which time horizons changes in macroeconomic fundamentals continue to have a significant bearing on election outcomes in Post War Britain, to indicate how the British public retrospectively assesses incumbent economic performance. It was motivated by a distinct lack of empirical studies attempting to establish the correct temporal relationship between the macro economy and election outcomes despite its obvious importance for voting models and democratic accountability. Most works to date have simply used a short-term measure of economic performance (Kramer (1971) Erikson (1989), Tufte (1978), Frey and Schneider (1978) and others) and assumed this to be a rational perception of past performance, despite rational retrospective theory indicating entire government terms are what should matter.

Contrary to what was cited by Krugman in 2015, it appears that the British public are not so easily fooled by myopic policies and perfectly capable of assessing long-term performance of incumbent governments. Both average, and total, changes in real disposable household income per capita perform better at predicting changes in incumbent government's vote shares than narrower measures, based on changes in individual years during a given term of office. This supports the findings of previous works on temporal relationships by Stigler (1983), Hibbs (1982b), and Owen and Nuesser (2012) and also confirms the well-established relationship between real disposable incomes and election outcomes, as found by Kramer (1971), Markus (1988) and Chrystal and Alt (1981). Evidence presented also indicates that the public employs a certain level of discounting into its assessment of past performance, pointing to the use of a weighted average model, proposed by Douglas Hibbs (2000), as

potentially the correct way of modelling the relationship between past economic performance and voting outcomes.

Although these results do not necessarily discredit the forecasting ability of models that have attempted to predict election outcomes by using changes in economic conditions closer to elections, it does imply that they are not specified correctly. For individual studies trying to ascertain the precise causal link between changes in macroeconomic conditions and voting decisions, the results of this working paper may prove more problematic. Future survey analysis should thus incorporate questions relating voter choice to changes in macroeconomic indicators over entire government terms.

A secondary finding is that perceptions of opposition parties can have sizeable impacts on incumbent party votes. This lends support to voting models that use a broader definition of rationality (Clarke (2004), Alvarez, Nagler and Bowler (2000)). Future studies should allow for a more realistic modelling of the vote decision, allowing for rational judgements of opposition parties using cognitive shortcuts such as; perceptions of leaders or party capability.

It must be noted that the results presented in this working paper are by no means conclusive in establishing the temporal relationship between the economy and the vote. The study covers only a small period of British history, using one principal measure of economic performance, at yearly intervals. Further work should attempt to extend the time period under investigation, (although data limitations have been a constant problem for aggregate voting studies) and following in the work of Duch and Stevenson (2008), encompass multiple countries for comparative study.

This working paper has contributed to a small but important area of the economic voting literature. In conclusion, the results support the notion that voters are able to assess

performance of government's entire terms of office when making retrospective judgements and that they matter more than simply changes close to an election. This is promising for both the theoretical principles of retrospective voting and accountability of the democratic process.

Appendix

Figure 1: United Kingdom: NUTS1 Levels 1, 2 and 3, 2011

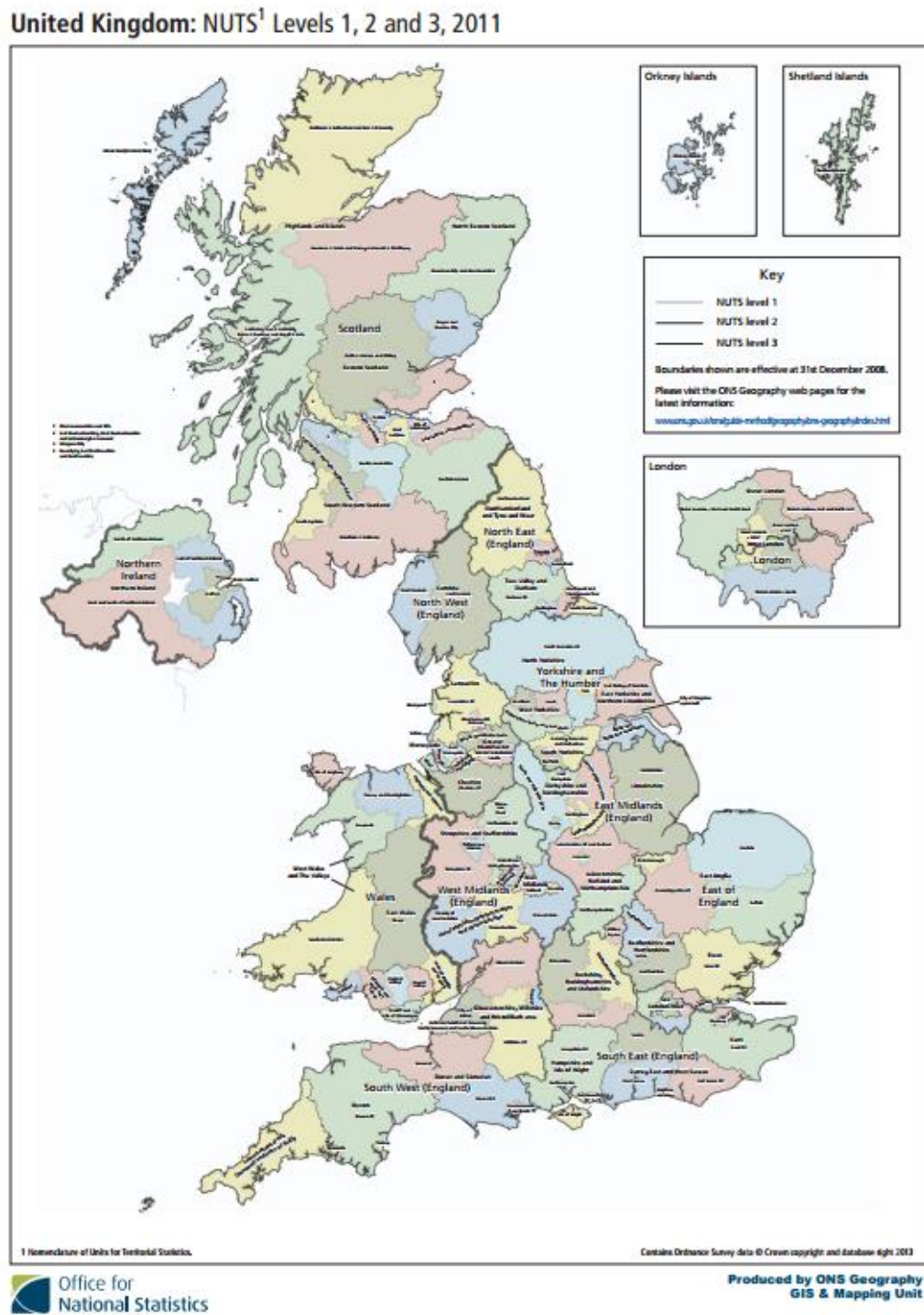


Figure 2: Income Growth by UK Government's Term of Office

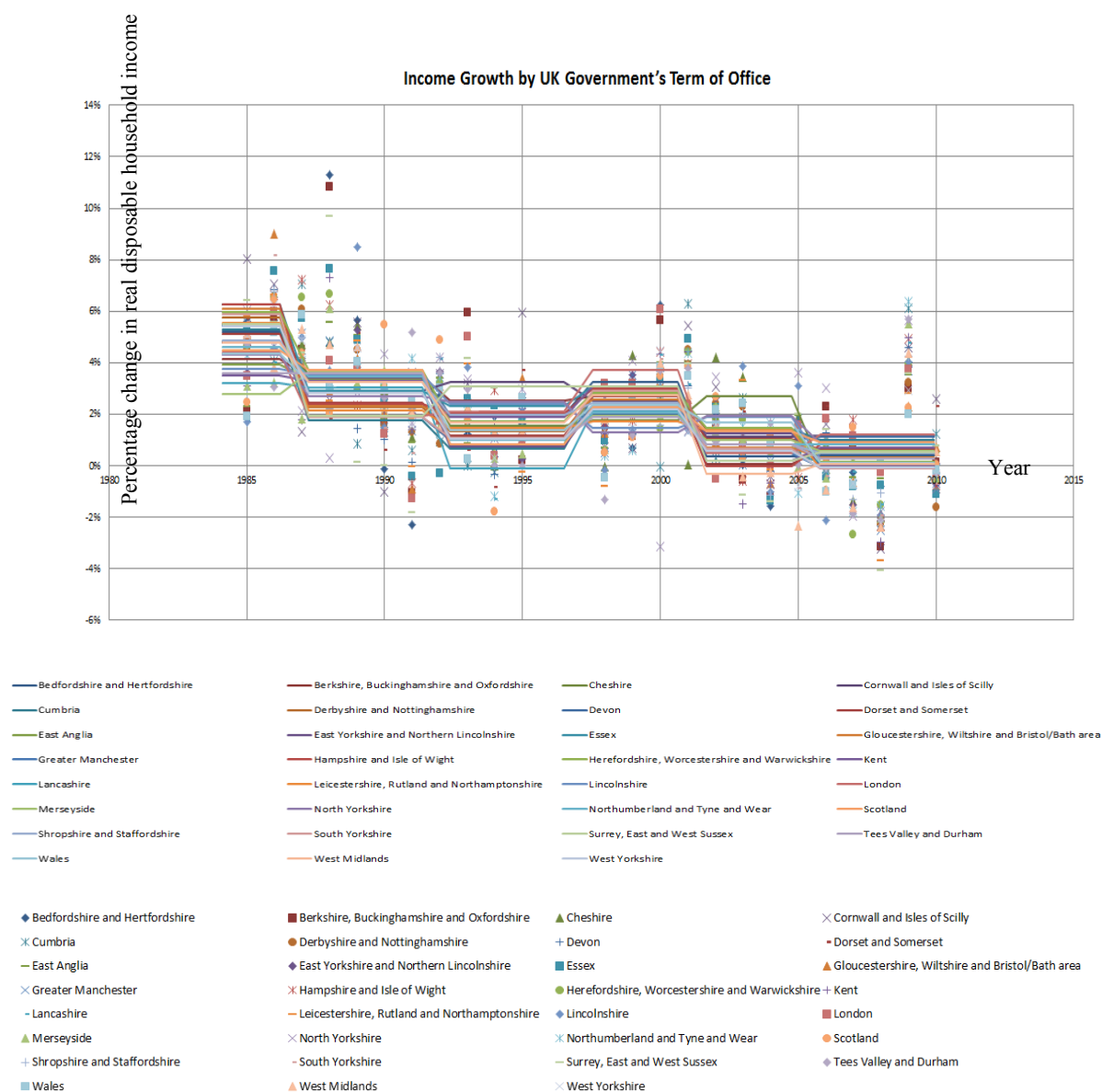


Table 3: The Effects of Long-Term and Short-Term Pre-Election Growth on Incumbents
Vote Shares in British NUTS1 Regions

	1	2	3	4	5	6
	Pre-Election Real HDI Growth (Av.)			Pre-Election Real HDI Growth (Total)		
	Long-term	Short-term	Both	Long-term	Short Term	Both
Average Δ RHDl/ Capita	.585*** (.193) t = 3.04		1.051** (.412) T = 2.55			
Δ RHDl/capita Election Year		.776*** (0.152) t = 5.09	.023 (.298) T = 0.08			
Total Δ RHDl/ Capita				.200*** (.0490)		.317*** (.106) T = 2.98
Δ RHDl/capita Election Year					.776*** (0.152) t = 5.09	-.0500 (.272) T = 0.855
Incumbent Tenure	.005*** (.001)	.005*** (.001)	.004*** (.001)	.004*** (.001)	.005*** (.001)	.003*** (.001)
Opposition Capability	-.116*** (.012)	-.087*** (.0160)	-.073*** (.017)	-.108*** (.011)	-.087*** (.0160)	-.074*** (.017)
Constant	-.101*** (-.101)	-.101*** (.009)	-.102*** (.009)	-.0966*** (-.097)	-.101*** (.009)	-.094*** (.009)
MSE	.0188	.0187	.0173	.0184	.0187	.01731
R ²	0.820	0.704	0.752	0.827	0.704	0.7524
N	65	54	54	65	54	54
Standard errors in parentheses, p<0.10, ** p<0.05, *** p<0.01						

Table 4: Analysis of changes in incumbent vote share in response to changes in RDHI/capita in British NUTS1 regions

	1	2	3	4	5	6
Average Δ RDHI/Capita					.328 (.140)	.572* (.317)
Total Δ RDHI/Capita			.154** (.076) T=2.04	.227*** (.080) T= 2.85		
Δ RDHI/capita Election Year-1	.341*** (.105) T=3.25		.113 (.158) T=0.72		.203 (.260)	
Δ RDHI/capita Election Year-2		.316*** (.118) T=2.67		-.086 (.180) T=-0.48		.0127 (.193)
Incumbent Tenure	.006*** (.001)	.005*** (.001)	.004*** (.001)	.004*** (.001)	.005*** (.001)	.005*** (.001)
Opposition Capability	-.140*** (.009)	-.124*** (.009)	-.116*** (.016)	-.108*** (.012)	-.127*** (.015)	-.116*** (.012)
Constant	-.113*** (.010)	-.096*** (.009)	-.102*** (.011)	-.097*** (.009)	-.109*** (.010)	-.101*** (.009)
MSE	.01872	.0194	.01844	.01848	.01866	.01891
R ²	0.8201	0.8069	0.8285	0.8278	0.8243	0.8195
N	65	65	65	65	65	65
Standard errors in parentheses, p<0.10, ** p<0.05, *** p<0.01						

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