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The VP-Function: A Review

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INTRODUCTION

From decades of scholarship, we know that the economy matters for government support and election outcomes. Key generalizations are now possible. As the economy improves, support for the incumbent increases. When the economy declines, support decreases. Statistical models assessing the relationship between the economy and the incumbent *vote share* are referred to as ‘vote functions’. The same underlying logic that leads the public to reward or punish incumbents at the polls applies to understanding government approval or *popularity*. These ‘popularity functions’ differ from vote functions in that popularity is measured monthly or quarterly, while elections occur much less frequently. Because similar forces are at play in both types of studies, scholars refer to these studies collectively as ‘VP-Functions’.

Is the strength of the economic vote always the same across countries and over time? In recent years, a burgeoning literature has explored this question, paying special attention to how a country’s economic and political context conditions the economic vote. Through this research, we have learned that specific political and economic contexts alter the power of the economic vote in predictable ways. For example, in countries with presidential systems, where just one person can hold the highest office, voters can easily identify who is responsible for the state of the country’s affairs. In these systems, economic voting will be stronger than in countries with coalition governments comprised of multiple parties. Other political conditions we review include accountability under divided government,

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assignment of responsibility in countries that belong to the European Union, and economic voting during the post-communist transitions.

More recently, attention has turned to how economic contexts condition the economic vote. Just as political institutions vary from country to country, so does the level of economic development, the extent of the welfare state, and financial and trade integration. In a time of increased globalization, where a recession in one country can spill over to key trading partners, do voters hold governments accountable for economic conditions that might be beyond their leader's control? Will voters in developing countries give the same weight to the same economic indicators as voters in advanced economies? And in states where the government provides a well-crafted safety net, does this security mute or magnify the economic vote?

These questions guide this essay. We will see that contextual effects shape the economic vote in the ways we anticipate. Certain conditions magnify the economic vote, while others dampen its effects. But, before looking at these conditions in greater detail, we first review the main aspects of the field's evolution. This will provide the necessary theoretical background to appreciate the advances in identifying and assessing how context matters in linking the economy and the vote.

THE ORIGINS AND DEVELOPMENT OF VP-FUNCTION RESEARCH

The foundations

The theoretical foundations for vote and popularity functions emerged a half century ago in classic works by Campbell et al. (1960), Downs (1957), and Key (1966). *The American Voter* (Campbell et al., 1960) devoted a full chapter to the survey analysis of economic evaluations and party choice. The questions they raised, including voters' time horizon, whether personal finances or the national economy mattered more, and how to measure the economy, had lasting impacts on the development of the economic voting field (Lewis-Beck and Stegmaier 2009). Downs (1957) and Key (1966) provided the theoretical arguments for the direction of the public's gaze. Downs contended that voters would evaluate the candidates and their electoral platforms and cast their vote in support of the party based on what it promised to deliver. Key took a different perspective, arguing that voters would assess what the incumbent had accomplished and reward or punish accordingly.

The first aggregate-level vote and popularity function studies were conducted in Britain and the U.S. Goodhart and Bhansali (1970: 43) set out to develop a 'political preference function' for Great Britain. Recognizing that the number of past elections was too small for statistical analysis, they sought to understand what factors moved party popularity using monthly public opinion polls.

The dependent variable – support for the government – is a standard question that continues to be used with minor variations today: 'If there were a General Election tomorrow, which party would you support?' (Goodhart and Bhansali, 1970: 50). Upon testing a variety of macroeconomic measures, they found the rate of price inflation and the six-month lagged level of unemployment impact popularity. They also observed a boost in party support immediately following an election victory – the 'honeymoon effect', as we now call it – 'followed by a steady but slow erosion of its popularity which in turn is reversed in the run-up to the next election' (Goodhart and Bhansali, 1970: 85).

Following closely on the heels of Goodhart and Bhansali's (1970) study, Kramer (1971) developed a vote-function for U.S. congressional elections covering elections from 1896 to 1964. The change in per capita real personal income had the strongest impact on the congressional vote for the incumbent president's party. Holding other factors constant, he estimates that 'a 10% decrease in per capita real personal income would cost the incumbent administration 4 or 5 percent of the congressional vote' (Kramer, 1971: 141). Kramer underscores the importance of this finding, writing: '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' (Kramer, 1971: 140).

With these five works, the contours of the field were established. They represent studies at the individual and aggregate level, popularity functions, vote functions, and the questions about what economic evaluations and conditions matter most. They also represent studies in different institutional settings: voting behavior in U.S. presidential elections, U.S. congressional elections, and British government support. Later research more closely considers whether voters are retrospective or prospective, whether they vote according to their pocketbook or follow the national economy (Fiorina, 1981; Kiewiet, 1983; Tufte, 1978), how political events and war impact presidential approval (Mueller, 1973) and the use of VP-functions for election prediction (Fair, 1978). The publication of Lewis-Beck's (1988) cross-national study on the major western democracies launched comparative economic voting research. It is this body of comparative work that has provided insight into how political institutions and the economic context affect the link between the economy and incumbent support.

With the focus of this essay on contemporary advances in VP-functions, we limit our discussion of the debates in the field's evolution to the most fundamental questions: sociotropic vs. pocketbook voting; retrospective vs. prospective voting, asymmetric economic voting, and accounting for political events. For further treatment of the full range of questions in the VP-function literature, see Nannestad and Paldam (1994) and Lewis-Beck and Stegmaier (2013). Lewis-Beck and Stegmaier (2000; 2007) review the literature with a focus on country-specific results, and Stegmaier and Lewis-Beck (2013) offer an annotated bibliography of key works organized by theme.

Fundamental issues

Whether the public evaluates past performance or looks toward the future has been a matter of considerable study. Survey research typically taps into the retrospective dimension, with questions about the economy over the past year, while questions about economic expectations over the coming year capture the prospective aspect. In terms of aggregate studies, macroeconomic indicators or aggregated evaluations from surveys measure the past, whereas future economic expectations are measured as aggregated prospective assessments from surveys (Price and Sanders, 1995) or available indices of consumer sentiments (MacKuen et al., 1992). While some studies do show a prospective economic vote (Lockerbie, 2008; MacKuen et al., 1992), much work suggests that its effect is equal to or less than retrospective voting (Anderson et al., 2003; Clarke and Stewart, 1994; Lewis-Beck, 1988; Norpoth, 1996).

In addition to the time dimension, the question of pocketbook evaluations vs. national economic conditions has loomed large. Kiewiet (1983) finds that in U.S. presidential and congressional elections, pocketbook effects are minimal and dwarfed by sociotropic (national) evaluations. This finding has held in other contexts as well (Anderson, 2000), even in places such as Denmark, where it was subject to stronger theoretical challenges. Nannestad and Paldam (1997) argued that in Denmark's economic environment of cradle-to-grave social welfare provision, the pocketbook would prevail. However, Stubager et al. (2014) have found that the Danes are just like the rest of the economically developed democracies. The national economy matters most.

Another question is whether punishment operates more strongly than reward. The notion of asymmetry in the economic vote holds intuitive appeal. The media may pay more attention to negative economic news, and poor economic performance can increase the saliency of the economy relative to other issues. So, do we see more punishment than reward? Bloom and Price (1975) found that voters punish more than reward, but some later comparative research indicates that this is not how individual voters behave. Lewis-Beck (1988: 79), in his five-nation European study, found 'no evidence' that voters were 'motivated more by "bad times" than by "good times"'. But other studies have argued that voters, at least those who are risk averse, will tend more to bad news, such as a faltering economy (Soroka, 2006). In an investigation of Danish elections, Nannestad and Paldam (1997) claimed that 'worse' evaluations of the economy had a bigger impact on government popularity than 'better' evaluations. In contrast, Haller and Norpoth (1997), writing at the same time, report that news about the economy does not influence opinions about the economy. However, a current study by Dassonneville and Lewis-Beck (2014a), investigating a large cross-sectional time series of European nations, concludes that under conditions of crisis bad economic times affect incumbent support more than good economic times. In sum, the evidence on the asymmetry hypothesis remains mixed.

Economic conditions and evaluations play prominent roles in VP-functions but researchers must also account for certain political factors for correct model specification. Typically, a lagged version of the dependent variable, AR(1), is included to account for previous support levels. Scholars have identified honeymoon effects, when the newly elected government enjoys high levels of support, as well as the cost of ruling, which accounts for the steady decline in support the longer the party governs. 'Rally round the flag' events such as the September 11, 2001, terrorist attacks in the U.S., and other significant events or scandals that shock government support, are included. The challenge lies in creating efficient and systematic ways to identify such events (Bytzek, 2011; Newman and Forcehimes, 2010). Often events are coded as dummy variables, taking on the value of one when the event occurs, but other authors have accounted for wartime casualties (Geys, 2010; Mueller, 1973; Sidman and Norpoth, 2012) and defense spending with more refined measures (Bankert and Norpoth, 2013; Geys, 2010).

POLITICAL CONTEXT

Clarity of responsibility

In order for the public to issue reward or punishment for economic conditions they need to identify who is responsible. In presidential systems such as that of the U.S., the president and his party are held accountable. In multiparty parliamentary systems, however, with coalitions of parties forming the government, clarity is muddled. Lewis-Beck (1986) observed that the magnitude of the economic vote is impacted by the number of parties in government. The more parties, the weaker the effect. Powell and Whitten (1993) coined the phrase 'clarity of responsibility' in their cross-national study which utilized a clarity index (measuring factors such as minority governments, number of parties in the government, and weak party cohesion) to more broadly test the argument. When they divide the 19 countries into those where policymaking responsibility is clear and where it is blurred, they find stark differences in the economic vote. Where responsibility is clear, 'the effects are strong and consistent', but, where it is blurred, 'the effects are very weak' (Powell and Whitten, 1993: 410).

Powell and Whitten (1993) include the presence of bicameral opposition in their index and note that divided government in the U.S. or times of cohabitation in France (when the president and prime minister are from different parties) could similarly confound the clarity of responsibility. U.S. and French election studies have further tested who is held accountable under these less clear conditions. In the U.S., Norpoth (2001) studied this question using survey data from the 1992 and 1996 presidential elections. Both elections feature divided government, but with party control of the presidency and congress switched. Norpoth finds unequivocal evidence that voters hold the president liable for economic conditions. In the case of France, Lewis-Beck (1997) finds that who is held responsible differs depending on whether there is cohabitation or not. When the French president and prime minister are from the same party, voters reward/punish the president, but when the two are from different parties the prime minister is the target. (See Silva and Whitten, this *Handbook*, Volume 1, for further discussion of this.)

Germany presents an ideal case to test who voters target in coalition governments. In the post-unification era Germany has had a variety of coalition arrangements, including grand coalitions between the two largest parties, the Social Democratic Party (SPD) and the Christian Democratic Party (CDU/CSU). Using *Politbarometer* election year data back to the 1980s, Debus et al. (2014) demonstrate that the party of the chancellor reaps all the reward from positive economic evaluations. The other coalition party, regardless of which party it is, does not benefit. This finding is corroborated at the aggregate level by Williams et al. (forthcoming). They relax what they term 'the constant economic vote restriction' by modeling party support for the parties separately, yet simultaneously. In doing so, they are able to identify which parties are impacted by economic conditions when controlling the chancellorship, when serving in the coalition, or in opposition. They find that the SPD and the CDU/CSU are the most impacted, both when serving as chancellor and when in opposition. The Free Democrats (FDP), despite its economic policy emphasis, and the Greens are unaffected by economic evaluations when in or out of government. Interestingly, and consistent with Debus et al. (2014), under grand coalitions only the chancellor's party gets credit.

In the context of U.S. elections, research has also looked at how contests featuring an incumbent candidate differ from those that are open seat races. Norpoth (2002) looked at presidential elections with a sitting president running for re-election compared with those without from 1872 to 2000. He finds that the economy impacted vote shares for the incumbent president when he was running for re-election, but it had no impact when the incumbent was not contesting the election. Likewise, Lasley and Stegmaier (2001) test the effect of national economic conditions on senate races, looking separately at races with an incumbent and open seats. They find that declines in the national unemployment rate benefit incumbent candidates from the president's party, but have no impact in open seat races.

Attribution of responsibility within the European Union

We have seen how the size of the economic vote depends on the domestic political context and level of clarity. The question of who is responsible can also be muddled when there are different levels of government. Of particular interest recently has been how the European Union has affected the assignment of responsibility for economic conditions in the member nations. Do voters still target their national government, or are national leaders able to effectively divert blame to EU policies and leaders?

In a comprehensive survey analysis of citizens in all 27 EU countries, Hobolt and Tilley (2014) examine the relative assignment of responsibility to the national government compared with the EU across five policy areas, including the economy. They create a 'net EU attribution' measure from two survey questions that ask respondents how much responsibility they attribute to the national government and the EU, both on a 0–10 scale. With regard to the economy, on average, people assign more responsibility to the national government (score of 7.2) than to the EU (score of 5.7), yielding a 'net EU attribution' score of -1.5 (Hobolt and Tilley, 2014: 803). Each country's position in or out of the Eurozone affects how much responsibility citizens attribute to the EU. Those in countries that are not Eurozone members 'attribute significantly less responsibility to the EU than citizens within the Eurozone' (Hobolt and Tilley, 2014: 805). Additionally, the assignment of credit/blame depends on the respondent's support of the EU. 'For an individual who strongly supports the EU, the effect of moving from the worst to best economic outlook reduces his net responsibility score by 1.3 points', but among Euroskeptics the economic change does not alter their net EU attribution (Hobolt and Tilley, 2014: 808–9).

In an experimental study in Britain, Hobolt et al. (2013) examine how citizens assign responsibility to the British government or the EU. They argue that, in multi-level systems, 'people lack sufficient information to accurately judge who is responsible for policy decisions at different levels of government' (Hobolt et al., 2013: 154). In this context, voters might be influenced by their predispositions. In general, when it comes to the economy, the British attribute more responsibility to their national government (mean of 6.83 on a 0–10 scale) than to the EU (4.59) (Hobolt et al., 2013: 164). Both people's partisan leanings and their support for the EU color how they assign responsibility. When receiving positive economic information from the government, supporters of the governing party will credit it. With negative news, supporters of the governing party will deflect blame. Likewise, upon positive news, supporters of the EU will credit that institution and, when the news is bad, EU opponents will blame the EU. Thus, how British voters assign responsibility and reward/punish the government depends on their partisanship and views of the EU.

Other evidence that perceptions of the EU affect the economic vote comes from Southern Europe. Costa Lobo and Lewis-Beck (2012), using 2009 survey data from Spain, Portugal, Italy, and Greece, first establish that retrospective sociotropic evaluations impact the vote in each country. People who hold positive economic assessments are more likely to vote for the incumbent than those who report negative evaluations. Then, to establish how the economic vote is conditioned by views of the EU's level of responsibility for economic conditions, Costa Lobo and Lewis-Beck interact an 'EU responsible' dummy variable with economic evaluations. The findings are clear. Among those who perceive that the EU is responsible for economic conditions, the national economic vote is diminished.

The economic crisis in Europe has heightened the public's awareness of the EU's influence on national economic conditions, as incumbent politicians have tried to shift blame for the economic recession to the EU and other international actors. This more complex political and economic environment of multi-level government, a common currency, and the economic crisis has generated much new research. We refer the reader to special issues which provide compilations of research papers devoted to these topics: 'The Economic Voter and Economic Crisis' in *Acta Politica* (Dassonneville and Lewis-Beck, 2014b); 'Economics and Elections: Effects Deep and Wide' in *Electoral Studies* (Lewis-Beck and Whitten, 2013); 'Financial Crisis, Austerity, and Electoral Politics' in the *Journal of Elections, Public Opinion and Parties* (Magalhães, 2014), and 'Economic Crisis and Elections: The European Periphery' in *Electoral Studies* (Lewis-Beck et al., 2012).

Post-Communist transitions

The bulk of the VP-function literature has focused on advanced democracies. These countries, with established party systems, publics socialized in democracy, and a long enough history of elections, provide scholars with relatively stable contexts to test electoral theories. However, the democratic transitions of Central and Eastern European countries offer fertile ground to test our knowledge (see Lewis-Beck and Stegmaier, 2008 for a review). As the countries moved from communist-style economies that guaranteed jobs for everyone to the competition of the free market, one of the most striking changes was the rapid rise in unemployment. For many in the region this change introduced a level of economic insecurity they had not experienced before. Thus, it comes as no surprise that unemployment rates strongly affected party support levels. However, should increases in unemployment lead to punishment of the incumbent party, or, in the context of initial free market reforms and nascent party systems, did voters think of unemployment as a policy issue? Works by Pacek (1994) and Fidrmuc (2000) categorized the parties according to their position on economic reforms. If voters were concerned about the increases in unemployment and the policies of pro-reform parties were unlikely to reduce the problem, then they would vote against the pro-reformers. Much evidence of this was found in the early years of the free market transitions in the region (Fidrmuc, 2000; Pacek, 1994).

Is there a point at which voters in these societies will switch from considering unemployment as a policy issue to considering it as a valence issue for which to reward or punish the incumbent? In a study of support for the left-wing Hungary Socialist Party (MSZP), Stegmaier and Lewis-Beck (2009) find that as unemployment increased in the 1990s so did support for the MSZP. This included years in which the party was in and out of government. But by the 2000s the MSZP, in government, lost support as unemployment increased. The authors conclude '[o]ver time Hungarian economic voters have moved from a policy-oriented, to an incumbency-oriented stance. In other words, they have learned' (Stegmaier and Lewis-Beck, 2009: 776).

Another study on the impact of unemployment rates, but this time in the Czech Republic, is that of Coffey (2013). In this work, she proposes a theory of pain tolerance. The idea is that voters will tolerate economic conditions up to a point, after which they will punish the incumbent. During the period of her study, 1995–2008, the unemployment rate ranged from 4.2 percent to 9.5 percent (Coffey, 2013: 434). Using rolling regression analysis, she finds that the pain threshold for unemployment is 8.8 percent. Once unemployment exceeds this level, the party of the prime minister will be punished.

As the Stegmaier and Lewis-Beck (2009) and Coffey (2013) studies demonstrate, citizens in the region appear to be learning incumbency-oriented economic voting. Other studies have also identified this. Lippényi et al. (2013) hypothesize that in Central and Eastern Europe it will take voters time to understand how the free market works and how government policies affect the economy, and to learn about the parties. Over time, as voters become more informed, they will increasingly hold the government accountable. Thus, we should see stronger effects of economic evaluations. Using 41 surveys from the region, covering 1998 to 2008, they find that both national and pocketbook evaluations affect support for the incumbent parties in the expected manner. And, as expected, the effects increased over the decade. Roberts (2008), in a cross-national study of incumbent vote, finds, like others, that unemployment matters much more than growth or inflation in explaining election results. To test for learning, he splits the sample of elections at 1998. He finds that 'unemployment has a considerably stronger and significant effect after 1998' compared to before (Roberts, 2008: 541). After further analysis he concludes: 'voters do become better at punishing parties and governments for poor economic results later in the transition, though even early in the transition they are not entirely incapable of doing so' (Roberts, 2008: 541).

The VP-function in Russia and China

We will look at Russia separately from the other post-communist countries because, although it started the transition to democracy in the 1990s, the progress has reversed over the past decade. Today it is considered a hybrid regime. Like the Central and East European countries, Russia embarked on economic liberalization reforms in the early 1990s, following a 'shock therapy' course that caused severe economic dislocation which, over time, reduced the public's support for rapid economic reform and free-market values (Stegmaier and Erb, 2005). The economic pain felt by the population was reflected in the sharp drop in Yeltsin's popularity from 81 percent (in 1991) to 8 percent by the end of his presidency in 1999 (Treisman, 2011: 590). Research at the individual and aggregate levels indicates that Yeltsin's approval was significantly impacted by economic evaluations (Hesli and Bashkirova, 2001; Mishler and Willerton, 2003; Treisman, 2011). Survey results show that the national economy also impacted vote choice in the 1995 Russian duma elections (Colton, 1996).

Even under Putin the economy seems to impact presidential approval. While Yeltsin's approval slid south, Putin's approval from the first year of his presidency surged from 31 percent to 87 percent and remained consistently high through 2008 (Treisman, 2011: 590, 592). Treisman (2011) tests whether Yeltsin's plunging approval was the result of declining economic conditions, whereas the surge and subsequent stability of Putin's was driven by economic prosperity. Analyzing aggregated bimonthly survey data from the Russian Center for Public Opinion Research (VCIOM), he concludes that '[Y]eltsin's ignominious slide and Putin's eight years of adulation seem largely predetermined by the economic conditions each inherited' (Treisman, 2011: 607).

In a recent piece, Treisman (2014) accounts for Putin's sudden drop in popularity in 2011 (a drop from 79 percent in 2010 to 63 percent in 2011). Comparing survey responses between these two years, he observes a sharp drop in support for Putin among those who perceived both the national economy and family financial conditions as bad. In 2010, among those who believed the national economy was in 'bad' or 'very bad' condition, a surprising 51 percent answered that they supported Putin. However, one year later this had dropped to 21 percent. Similarly, among those who perceived their family's finances as 'bad' or 'very bad', Putin's approval fell from 53 percent to 34 percent.

What do we know about the economy and government approval in non-democratic regimes? This question is very difficult to test, due to the lack of reliable data from these countries. However, one such study, involving an analysis of Chinese survey data (Lewis-Beck et al., 2014), tests how respondents' sociodemographic characteristics, political attitudes, and views on performance issues affect their level of satisfaction with the central government. The authors find that, among the performance issues, those who favor greater commitment to private business ownership (economic liberalism) and those who are frustrated with the current defense posture are less satisfied with the government. However, it appears that respondents who are satisfied with the county and village governments are more satisfied with the central government. With their empirical findings, Lewis-Beck et al. (2014) conclude that VP-function can be applied to non-democratic nations such as China. However, they add the caveat that their models differ from the classic VP-function because certain explanatory variables are heavily influenced by the non-democratic political institutions in the country. Additionally, the Chinese survey offers only unconventional economic measures, which limits comparison with VP-function research elsewhere.

ECONOMIC CONTEXT

Economic development

We know much about economic voting in advanced democracies, but less is known about how the economy affects government support in developing democracies

(Lewis-Beck and Ratto, 2013; Stegmaier and Lewis-Beck, 2013). Do voters in low-income countries give equal weight to the same economic conditions as voters in advanced economies? Remmer (1991) addresses this question by looking at how economic conditions impacted the results of presidential elections in 21 Latin American countries. Just as one would expect in developed nations, she finds that the economic crisis decreased support for the incumbent governments. In a later study covering 39 Latin American presidential elections from 13 countries, Benton (2005) finds similar results. Latin American voters punish the incumbents after years of economic hardship.

While the Remmer (1991) and Benton (2005) studies are cross-national, aggregate-level analysis, Lewis-Beck and Ratto (2013) investigate the relationship at the individual level using surveys from 12 Latin American countries. Their dependent variable is vote intention (for or against the incumbent) and the key independent variable is the sociotropic retrospective economic evaluation. Their results show that voters reward incumbents for national economic improvements and punish for economic decline.

Singer and Carlin (2013) ask if the level of economic development in a country affects whether voters vote according to their pocketbooks or to the state of the country's economy. They argue that pocketbook voting could be widespread in the poorest countries because voters may not have the resources to cope with even small financial fluctuations. Furthermore, voters in developing countries may be mobilized by political elites or parties in the form of vote buying, patronage, and pork. In other words, poor voters are more likely to prefer private goods of stable individual financial conditions over the public goods of a strong national economy (Singer and Carlin, 2013: 733). The authors analyze Latinobarometer surveys conducted in 18 countries from 1995 to 2009. They find that, although sociotropic evaluations appear to have a greater influence than egotropic ones, the effect of egotropic voting appears to be 'more prevalent at the lowest levels of development than in other contexts' (Singer and Carlin, 2013: 740).

While the evidence indicates that Latin Americans are indeed economic voters, do voters in other developing countries incorporate the economy into their voting calculus? In a cross-national study of African countries, Bratton et al. (2012) find that, although Africans are motivated by ethnic solidarities in vote choice, economic interests appeared as the uppermost factor in African voters' minds (Bratton et al., 2012: 47). More specifically, voters considered the government's performance in handling economic management, unemployment, inflation, and income distribution and reward or punish accordingly. The authors find one deviation from conventional wisdom, however, in that Africans are prospective rather than retrospective voters.

In a truly global study of developing countries, Gelineau (2013) studies vote intention and approval using public opinion surveys from 51 countries covering Latin America, Sub-Saharan Africa, South and East Asia, and the Arab world. The author finds that voters in the developing world are much like citizens in the developed world. They credit and blame incumbents according to their perceptions of economic performance. A 'one-unit decline in economic assessments produces a drop of 5 percentage points in vote intentions' and an eight percentage point drop in approval (Gelineau, 2013: 422). This study, with a much broader sample of countries, corroborates Lewis-Beck and Ratto's (2013) finding that voters in low-income countries are much like those in developed nations. The economy matters as they evaluate their incumbent leaders.

The level of the welfare state

Another question in the literature is whether the level of welfare state benefits affects the economic vote. The core argument here is that in countries with expansive benefits voters are shielded from national economic cycles through a broad variety of benefits such as health care, child care, and income maintenance programs such as unemployment benefits. In an early study on this topic Pacek and Radcliff (1995) analyze how the welfare state affects the economic vote using pooled time series data for 17 countries between 1960 and 1987. They find that in countries with more generous welfare systems the economy plays a minor role in voters' choices. However, in countries with low to moderate levels of welfare spending economic issues become more salient, especially when the economy is strong compared with when it is not faring well.

In addition to considering how the entirety of the welfare state might condition the economic vote, scholars have looked at the impact of certain types of welfare benefits. Singer (2011) examines this question across U.S. states. Specifically, he considers whether differences in Aid to Families with Dependent Children (AFDC) and unemployment insurance programs across the states affect the relationship between economic conditions and support for the president's party in state legislative elections during the 1970s and 1980s. He finds that as AFDC benefits increase the economic vote decreases (the economic vote disappears in states where real AFDC benefits are about $775 or more per month), while unemployment benefits do not change the size of the economic vote (Singer, 2011: 490). In explaining this difference, Singer suggests that AFDC is more visible to voters because it covers more people and requires more government spending, whereas unemployment insurance programs target only the newly unemployed through short-term support (Singer, 2011: 490).

Scholars have also examined whether living in a strong welfare state shifts the nature of the economic vote from sociotropic to pocketbook. The classic work on this question comes from Nannestad and Paldam (1995; 1997). They look at economic voting in the quintessential welfare state, Denmark. Their research found that the Danes are much more oriented toward the pocketbook. In an effort to explain this finding they contend that, in welfare states, citizens hold the government responsible for the economy of the individual. In this way, they argue that '[i]t is rational if welfare man blames the government if it fails to shield him against the economic consequences of whatever happened to him' (1997: 136). This finding, labeled as the 'Danish puzzle' (Stubager et al., 2014), implies that egocentric voting should manifest itself in countries with well-developed welfare systems.

Stubager et al. (2014) reconsider Nannestad and Paldam's (1995) findings. Using the same dataset, they empirically test the 'Pocketbook of the Welfare Man' argument. After incorporating a standard sociotropic item and splitting the combined structural party identification variable into its constituent parts, they find that sociotropic effects surpass egocentric effects. Thus, it appears that Danish voters, even though they live in a strong welfare state, are just like voters in other democracies.

Relative economic voting: Benchmarking

Much of the research on how the economy enters into the calculus of government support uses measures of the level or change in domestic macroeconomic conditions, or evaluations of national or household conditions. But perhaps voters engage in comparison, much like we do in everyday life. Are we keeping up with the Joneses? How is our country's economy performing relative to that of our neighbors?

In a study best known for measuring the clarity of responsibility, Powell and Whitten (1993) calculate relative macroeconomic measures. For the comparison, they use the international average levels of growth, inflation, and unemployment. Using election data from 19 advanced democracies between 1969 and 1988, their multivariate analysis shows that in countries with clearer responsibility comparative GDP growth is statistically significant in the expected direction. When the country's growth exceeds the international average, the incumbent is rewarded. Furthermore, under conditions of clearer responsibility, the effects of comparative unemployment and inflation operate in ways consistent with the priorities of parties on the left and right. They find that '[i]n the nations with clear responsibility, the left and center governments are sharply penalized by unemployment, about .6% of the vote … for each percentage above the international average' (Powell and Whitten, 1993: 408). Furthermore, incumbent parties on the right are penalized for inflation above the international average.

Jérôme et al. (2001: 101, 110, 121) propose a 'modèle intereuropéen' of economic voting that takes into account the impact of relative economic performance between countries. In particular, they explore how citizens of two rival countries – France and Germany – weigh their different economies in arriving at a vote choice. They show, for example, that to the extent French economic growth exceeds the German growth, the ruling coalition in the French National Assembly can expect to gain votes (i.e. each percentage point increase in the GDP should yield a vote gain of about four percentage points). And, it works the other way. When German economic growth exceeds the French growth, the government will take more votes in German Bundestag elections. However, that impact is less, suggesting reasonably, that the French are more concerned with German growth than vice versa.

Kayser and Peress (2012) expand on the argument of relative economic voting, contending that voters consider the broader international economic context as they decide whether to punish their own governments for economic contractions. If many countries are in recession, then voters might be less likely to punish their own government for an economic downturn. ‘Voters, in short, benchmark across borders’ (Kayser and Peress, 2012: 661). In their estimations, they test the effect of national growth and unemployment, the international measure (the benchmark) for these conditions, and the country’s deviation from the benchmark (subtracting the international performance from the national measure) on the incumbent vote. They find that voters ‘respond to the deviation from the international growth benchmark [and] they do not respond to the international benchmark itself’ (Kayser and Peress, 2012: 680). Further, the deviation from the benchmark has a stronger effect than the national measure. Interestingly, benchmarking occurs only with economic growth and not with unemployment. Kayser and Peress (2012) show that the media is an important mechanism for benchmarking, since it provides citizens with information about their country’s relative economic performance.

In a related argument, Hansen et al. (2014) postulate that voters assess national economic outcomes relative to those of neighboring countries and that voters reward/punish asymmetrically when they evaluate cross-national gains/losses. To test these propositions, they conducted a choice experiment using the 2011 Danish National Election Study. They include survey items asking about the relative wealth of Danes compared with Swedes because they are frequently contrasted in the media. The empirical evidence supports both hypotheses: Danes put considerable weight on how their economy performs relative to Sweden and respond significantly to being worse off rather than better off relative to Swedes. These findings lead Hansen et al. (2014) to conclude that voters rely on relative economic conditions as a yardstick for their own economy and that ‘[t]his cross-national comparison is solely driven by a strong loss aversion’.

Globalization and trade openness

In the previous sections we have considered how a country’s economic situation, relative to other countries, affects the economic vote. We now turn to globalization and the depth of a country’s integration in the world economy (Hellwig, 2014; Kayser, 2007). In the pre-globalization era domestic fiscal and monetary policy could move the economy in fairly predictable ways. Today, with increased interdependence, policymakers must also contend with the economic oscillations of their neighbors and trading partners. These external economic forces mean that countries in regional trade agreements and those with similar levels of economic development experience greater economic synchronization, or co-movement, than in pre-globalization times (Hirata et al., 2013; Kose et al., 2012).

Does this regional economic synchronization result in the cross-national synchronization of support for parties of the left or right? Kayser (2009) addresses this question in the European context. Using semiannual Eurobarometer data, he finds that electoral support for left- or right-wing parties covaries across these countries. In particular, similar unemployment rates in the region produce similar shifts in support for parties associated with higher taxation and spending. He further identifies that the international business cycle generates the co-movement in partisan support across the region.

If politicians in highly integrated economies have less control over the direction of their nation's economic situation, has this weakened the link between the economy and the vote? Hellwig and Samuels (2007) test this question. Using data covering 560 elections from 75 countries from 1975 to 2002, they assess the relationship between incumbent vote share and the change in GDP per capita conditioned on exposure to the global economy. The findings show that increased trade and capital flows as a share of GDP reduce the positive effect of GDP on the incumbent's vote share.

In related studies, Hellwig (2007a; 2007b) examines how increased globalization affects citizens' attributions of responsibility and perceptions of policymaking capacity. Following the argument that globalization constrains politicians, Hellwig (2007a) asserts that ordinary citizens become less certain in evaluating government performance as the economy integrates into the global market. The empirical findings in Britain, Denmark, France, and the U.S. support this. When the market is more integrated, the attribution of accountability for policy outcomes becomes unclear. Therefore, volatility in government support increases. In another study, Hellwig (2007b) examines how globalization affects confidence in incumbents' policymaking capacity in France from 1985 to 2002. He finds that increased trade and capital inflows reduce public confidence in the president and increase volatility in evaluations of the president and prime minister's ability to address the problems facing the country.

With regard to public confidence in the incumbent's job performance, Duch and Stevenson (2010) further examine perceptions of political competency in dealing with economic shocks. They argue that '[r]ational voters are motivated by the desire to select the most competent candidates: voters use information about economic outcomes to assess the future competencies of competing candidates' (Duch and Stevenson, 2010: 106). The individual-level analysis from a six-nation survey shows that voters are well aware of macroeconomic variability. Moreover, voters appear to distinguish whether unexpected economic changes are related to incumbent incompetence or to an exogenous shock. Economic voting becomes strong in the former, but decreases in the latter. However, in distinguishing the cause of economic changes, Hayes et al. (2015) find that 'in countries with a long tradition of democracy, educated voters, and free media' voters are better able to discern whether the economic change is due to domestic politics or international factors (Hayes et al., 2015: 270).

While the standard models of electoral accountability have considered the government as the sole object of the reward–punishment mechanism, Alcaniz and Hellwig (2011) suggest that voters in developing countries might perceive more actors involved in their economy. Using *Latinobarometer* data from 2002 and 2003, the authors identify three targets of blame: elected officials (public–domestic), civil society (private–domestic), and extra-national groups (public and private international actors). Based on insight from the structural dependency theory, the authors assess how trade openness, IMF involvement, and foreign debt affect the assignment of responsibility to these targets. In their central analysis, the authors find that trade openness tends to decrease government responsibility while it increases the accountability of civil society and international actors. Similarly, the longer a country has been under an IMF agreement the less the public holds the government accountable, but the more they target civil society and international actors. Foreign debt increases the responsibility of both government and international actors but decreases that of civil society. The implications of the study are in line with the above mentioned competency argument. '[V] oters receive signals from the global economy and are sufficiently aware of their government's (lack) of political control as well as of their country's ties to international structures so as to reallocate blame (and credit) accordingly' (Alcaniz and Hellwig, 2011: 405).

ELECTION FORECASTING WITH VP-FUNCTIONS

One important extension of VP-functions that has received a good amount of media publicity in recent years is its application to election forecasting (For more relevant reading here, see the election forecasting chapters 34 and 35 in this *Handbook* by, respectively, Ford et al. and Bélanger and Trotter.). The stability and power of the economic vote, even when controlling for other political factors, enables us to not only explain the results of elections but to use these models to predict elections (for recent reviews, see Lewis-Beck and Stegmaier, 2014; Stegmaier and Norpoth, 2013). Election forecasting models originated in the late 1970s with Fair's (1978) model forecasting U.S. presidential elections using macroeconomic measures. Today, presidential models based on electoral theory measure the economy in a variety of ways, objectively and subjectively, and typically incorporate non-economic political factors. For example, forecasts for the 2012 presidential election included the number of terms in office and partisan polarization (Abramowitz, 2012), presidential popularity (Lewis-Beck and Tien, 2012a), the convention bump (Campbell, 2012), and military fatalities (Hibbs, 2012).

In addition to presidential election forecasting in the U.S., vote functions have been used to predict presidential elections in France (Foucault and Nadeau, 2012;

Lewis-Beck and Rice, 1992). Foucault and Nadeau (2012) use local (*départe-ment*) data on unemployment, candidate support in previous presidential elections, and partisanship, in addition to candidate popularity at the national level, to predict whether the presidential candidate of the right will win or lose in the second round. By focusing on the candidate of the right the authors address the challenge of predicting who will win the highest office in a multiparty system. In 2012, Foucault and Nadeau correctly predicted that President Sarkozy (the candidate of the right) would lose the election.

VP-functions have also been applied to predicting parliamentary elections. Such forecasting models are found in a number of European countries, including Britain (Lewis-Beck et al., 2011; Sanders, 2005; Stegmaier and Williams, 2016), Germany (Jérôme et al., 2013; Norpoth and Gschwend, 2003), and Spain (Magalhães et al., 2012). Moving past the single country approach, Lewis-Beck and Dassonneville (2015) create a synthetic forecasting model which they apply to France, Germany, and the UK. This synthetic model combines the traditional political economy model, where government approval and economic conditions are measured six months before the election, with updated vote intention polls. They find that the structural model, by itself, performs best in terms of lead and accuracy, but that incorporating vote intention polls assists in accounting for campaign effects that the structural model cannot capture. Another recent effort to forecast elections across a group of countries appears in Jérôme et al. (2015), who forecast the 15 core nations of the EU. They focus on predicting the changing political color of this core, building a model for the 'classical right' in 'Euroland'. In addition, these authors explore the extent to which a leading nation – France – might buck the forecasted trend in 2015.

In addition to forecasting in much-studied democracies, theoretically driven models have been tested in countries that are less often subject to election analysis. For example, Akarca (2011) used a vote function model to predict the 2011 Turkish parliamentary elections. His model, predicting support for the incumbent Justice and Development Party (AKP), bases itself on previous AKP vote share, economic growth, inflation, the cost of ruling, and political realignments. The model estimates that the AKP would garner 44.23 percent of the vote. They actually won 46.58 percent, which is within the 95% confidence interval of the forecast. In another under-studied country, Japan, Lewis-Beck and Tien's (2012b) forecasting model includes change in GDP and prime minister approval, as well as a unique variable, the number of days since the last election, to account for strategic election timing. These two examples of Turkey and Japan show that theoretically based forecasting models travel well, especially when modelers account for country-specific factors.

CONCLUSIONS AND FUTURE RESEARCH

We have shown the VP-function to be alive and well. The economy moves government support in different ways, across countries and over time, in predictable patterns. We have demonstrated that contextual factors, political and economic, condition the economic vote. Much has been learned. But more can be. While we have given several topics considerable coverage, that does not mean we have answered everything. For example, we need to know more about economic voting in countries that are poor, in crisis, or vulnerable to benchmarking. With regard to newer areas of inquiry, several could be listed. Consider the place of the economic issue on the agenda of electoral issues: none stands 'as highly or as consistently with vote choice' (Lewis-Beck, 1988: 157). Why do economic issues have such enduring importance? Some contend that the economic vote has an inherent stability (Bellucci and Lewis-Beck, 2011). But that makes a hotly contested point. Is its stability inherent or, at best, only apparent?

VP-function work has almost all been on valence economic voting, where citizens hold a consensus on the desirability of a good economy. But what about the effects of positional economic issues, where there is wide disagreement over economic policy? As a case in point, take progressive taxation, an issue where a variety of opinions exist. There are just a few relevant studies, but they suggest the importance of policy-oriented economic voting (here see the founding argument made by Kiewiet (1983)). A further, little-exploited notion concerns economic voting as patrimonial – i.e. voters act to protect their assets. In a major national election study of the 2010 UK general election, these three dimensions of the economic vote – valence, position, patrimony – are shown to act independently on the British voter (Lewis-Beck et al., 2013). Comparative investigations of these dimensions in the context of growing national income inequality offer rich veins for the economic voting scholar to mine; and there are others that we leave the reader to discover.

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