

When and Where Do Economic Conditions Affect Elections?
Evidence from the U.S. States

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Abstract

If voters use information about the economy to assess the competence of incumbents, a connection between economic conditions and incumbents' vote shares should only be discernable in places and at times where public policy might plausibly affect the economy, and where the assignment of government responsibility is relatively straightforward. Applying this logic to United States gubernatorial elections, we test two propositions. First, we expect that the connection between economic conditions and incumbent success is conditional on the structure of the state economy, because basic macroeconomic information is less useful to voters in states that are heavily dependent on income from farming and natural resources. Second, we expect this connection to have grown stronger in recent decades as the states have gained greater autonomy over economic development policy. We find strong support for the first proposition and weaker support for the second. Taken together, these results cast considerable doubt on previous findings that state-level economic conditions do not affect gubernatorial elections.

Most politicians and pundits take it for granted that the state of the economy plays a decisive role in electoral outcomes. Invariably, they see a strong economy as a boon for an incumbent's reelection hopes and a weak economy as a curse on them. These beliefs draw support from numerous studies that demonstrate a connection between national macroeconomic conditions in the United States and aggregate national election results (e.g., Kramer 1971; Fair 1978; Tufté 1978; Rosenstone 1983; Hibbs 1987; Erikson 1989; Holbrook 1991). However, researchers have been less successful in efforts to detect an analogous relationship between *state-level* economic conditions and *state-level* elections. In particular, several analyses of gubernatorial elections held prior to the mid 1980s find that gubernatorial vote shares are essentially impervious to fluctuations in state economic conditions (Kenney 1983; Peltzman 1987; Chubb 1988). This finding seems especially perplexing in an era when most governors devote tremendous resources to the economic well-being and development of their states. Why would governors focus so much attention on economics if not for the electoral rewards such attention presumably bestows?

In trying to resolve this empirical puzzle, we address a more general theoretical question. Under what conditions do economic outcomes affect election outcomes? While aggregate evidence of economic voting at the national level in the United States is strong, the cross-national empirical literature is mixed. A recent review concludes that “in different samples different economic variables sometimes matter for political outcomes, but the findings are far from robust” (Cheibub and Przeworski 1999, 230). This should not be surprising, given that voters possess different information and incentives in different political systems. For instance, Powell and Whitten (1993) demonstrate that the effect of economic performance on voting is weak in countries in which “policymaking responsibility is blurred between government and opposition,” and quite strong in countries where “responsibility is more sharply focused” (410).¹

¹ Anderson (2000) provides a review of similar findings, along with new evidence of the relationship between “clarity of responsibility” and economic voting.

Following a similar logic, Leyden and Borrelli (1995) suggest that the effect of economic performance on U.S. gubernatorial elections is conditional on whether the governor presides over a unified or divided government.²

Voters might consider a wide range of information when making assessments about incumbents and challengers. Whether they see and feel it directly or rely on media reports, voters seem to use information about the economy to assess the quality, or “type” (Fearon 1999) of incumbent politicians. Such information is only useful, however, if voters can reasonably attribute economic outcomes to the actions of incumbent individuals or parties.³ The studies cited above suggest that it is difficult for voters to establish a causal link between actions and outcomes under coalition or divided government. More generally, these results suggest that if voters are reasonably discerning, economic voting should not be a universal phenomenon. Rather, we should expect to see evidence of a relationship between economic data and electoral results only in places and at times where economic information is relatively easy to interpret, and where it can be plausibly connected with incumbent performance.

This paper uses evidence from the U.S. states to take this argument in a new direction. To begin, we consider the challenges voters in multi-tiered systems of government face in attempting to apportion policy-making responsibility for economic conditions. If local officials have little fiscal autonomy and merely implement policies determined by the central government, voters have few incentives to hold the local officials responsible for local economic outcomes. On the other hand, if local governments gain significant autonomous authority over economic development policies, voters have stronger incentives to use economic information to assess their performance. Accordingly, we suspect that the link between local economic performance and lower-level election results – if indeed there is one – depends on the extent to which lower-level

² Economic voting is also stronger during periods of unified government in France (Lewis-Beck and Nadeau 2000).

³ Business cycles add noise to such information, but voters might deal with this by simply expecting greater economic growth during good times and lesser growth during bad times (Manin, et al. 1999).

politicians actually have sufficient power and autonomy to plausibly affect macroeconomic conditions.

Even if all subnational governments in a multi-tiered system have similar fiscal and regulatory tools at their disposal, the usefulness of local economic information for voters might vary a great deal from one state to another depending on the character of the subnational economies. That is to say, apportioning responsibility for economic conditions can become even more complex when there are significant differences in the *structure* of local economies. For instance, if a jurisdiction is heavily dependent on the sale of products whose prices, and hence the well-being of the population, are largely determined by the unpredictable fluctuations of international markets, it makes little sense for voters to use information like income growth or unemployment to assess the performance of local politicians. Subnational units whose economic health relies on farm products and natural resources would seem to fit this mold; their economies are captive not only to international markets, but also, of course, to other uncontrollable forces such as the weather. We test this hypothesis about the importance of economic structure by introducing structure data into a simple model (described below) of incumbent vote share in state gubernatorial elections.

Furthermore, it is possible that the relative usefulness of information about the state economy has changed over time. Indeed, various studies suggest that transformations in the context of state-level political economy over the post-war period have made subnational economic information increasingly useful to U.S. voters in recent decades. In part as a result of federal devolution in the 1970s and 1980s, states have become increasingly autonomous economic domains and state officials have become increasingly active economic policymakers. As this context has changed over time, it seems possible that the relationship between state economic conditions and electoral outcomes may also have changed. With these insights in mind, we test the economic connection hypotheses by comparing elections in more recent years to those in more distant years to see whether the former reveal a stronger economic-electoral connection than the latter.

Section one introduces the problem of information, economic outcomes, and voting in multi-tiered systems. Section two outlines the basic model we use to estimate the effects of economic conditions on gubernatorial elections. Sections three and four develop the arguments about structural economic differences across states and changes over time, and estimate corresponding versions of our basic model. The final section concludes and discusses avenues for future research.

I. Economics and Elections at the Subnational Level

The presence of strong subnational governments introduces some of the same challenges to accountability presented by coalition or divided government. If two levels of government (henceforth “federal” and “state”) have authority over certain aspects of macroeconomic and economic development policy, or at least attempt to claim credit for fostering economic growth, voters may not know how to interpret information about the regional economy. While it is always difficult to differentiate between favorable cyclical or international circumstances and wise policy choices, the task is even more difficult if two levels of government are simultaneously claiming credit for success or shifting blame for failure. Voters in the states have at least four ways of responding to the credit-claiming attempts of state-level officials:

- (1) Evaluate the performance of state officials by considering state-level economic information only (i.e., evaluating state officials *independently* of federal officials).
- (2) Evaluate the performance of state officials by considering state-level economic information *relative* to national economic information (i.e., evaluating state officials by whether the state economy is better or worse than the overall national economy).
- (3) Use information about the national economy to punish and reward the party of the federal executive at all levels of government.
- (4) Eschew the use of economic information to evaluate state officials.

We posit that the strategy employed by voters will be shaped in predictable ways by the nature of the political and economic system. Of course, the idea that voters consider subnational economic conditions in *any* way (the first two strategies) is only plausible (and measurable) in countries where economic outcomes actually vary substantially across regions. For this reason, we might expect local elections in Liechtenstein to follow the third or fourth pattern, while the first two patterns might be present in India, Brazil, or the United States.

The usefulness of information about the regional economy might also be affected by the fiscal and policy autonomy of the subnational government sector. Consider a range of subnational sectors around the world. At one end of a continuum one might place the municipal government sector in Norway, where the taxing, spending, and regulatory activities of local governments are strictly regulated by the central government (Rattso 2000). It would be surprising to find that voters employ either of the first two strategies in Norway. One might place the German *Laender* (states) in the middle of such a continuum. On the one hand, the *Laender* have considerable expenditure autonomy and some *Land* governments do attempt to claim credit for economic development policies. But on the other hand, they have very little autonomy in setting the tax rate or base, and much of their revenue is dedicated to the implementation of federal legislation. Empirical work by Lohmann, Brady, and Rivers (1997) shows that voters in the German *Laender* employ the third strategy – they use national-level economic information to punish and reward the party of the federal chancellor in *Land* elections.⁴

At the opposite end of a “subnational autonomy” continuum one might place the U.S. states, Canadian provinces, and Swiss Cantons—arguably the most fiscally and politically autonomous subnational entities in the world. In each case, many of the constituent units predate the federal constitution that subsequently provided strong legal and institutional protections of the units’ autonomy. In each case, subnational governments engage in significant autonomous

⁴ German voters also have incentives to view *Land* elections through a federal lens because *Land* elections determine the make-up of the upper house of parliament.

economic development activities, and while they do not control monetary policy, they have wide-ranging control over fiscal and regulatory policy.

In most decentralized public sectors, intergovernmental transfers blur the link between central and local government accountability. As a result, local credit ratings often merely reflect assessments of the creditworthiness of the public sector as a whole. In contrast, the constituent units in the American, Canadian, and Swiss federations rely primarily on taxes that they legislate and collect themselves. Consequently, credit rating agencies clearly make *independent* assessments of the fiscal performance of each constituent unit in the American, Canadian, and Swiss federations. In other words, creditors view the subnationals as “sovereigns.”

While the average voter may not be as informed as a Standard and Poor’s analyst, there is no reason why voters should not also view subnational governments as “sovereigns” in these systems. In other words, the first two strategies, both of which involve assessment of local-level officials through the use of local economic information, seem to make sense in highly autonomous federated states. Yet for many years the accepted scholarly wisdom in the United States has suggested otherwise. In their studies of aggregate gubernatorial election results from the 1940s to the early 1980s, Kenney (1983), Peltzman (1987), and Chubb (1988) all find strong support for the notion that national economic conditions affect gubernatorial candidates’ electoral fortunes, but little evidence of an effect from state-level economic conditions. Moreover, the national effect is directly tied to the president: gubernatorial candidates of the president’s political party benefit when the national economy is strong and suffer when it is weak (gubernatorial candidates of the party opposite the president’s experience the reverse).⁵ In terms of the voting strategies outlines above, these studies find little evidence for strategies one or two, while – as in the German states – they report strong support for strategy three.

⁵ Using 1982 survey data on *individual* vote choice, Robert Stein (1990) reaches the similar conclusion that voters generally hold the president (and by extension, the president’s party) responsible for state economic conditions, and that governors are rewarded or penalized according to their partisan connection to the president.

The standard post-analysis explanation for these findings is that the state of the economy is a national matter that is the responsibility of national officials. According to Peltzman, for instance, the lack of a gubernatorial electoral effect from state economic conditions indicates that voters act “as if they understand that national rather than local politics have the dominant effect on their income” (1987, 296). In other words, previous studies interpret the economic-electoral connection at subnational levels as the product of a relatively sophisticated electorate that sees the economy as a national issue but treats subnational politicians as representatives of the national parties that direct it. We find these results and this conclusion surprising. Given the autonomy and strength of the U.S. states in comparative perspective, and considering the devolution and increased policy activism of the states in recent years, it seems likely that voters do indeed use state-level economic information to evaluate the performance of state officials. As we argued above, it is plausible (and perhaps likely) that the relationship between local economic conditions and local elections varies according to the structure of local economies, and furthermore that the relationship has changed over time, but we nevertheless expect a relationship to exist. Accordingly, we suspect that previous conclusions about the (lack of a) relationship between state-level economic conditions and gubernatorial election outcomes do not hold when we take into account (1) the structure of state economies – a critical factor that has heretofore been ignored, and (2) more recent elections. Before examining these possibilities, however, it is necessary to specify a basic model of the aggregate gubernatorial vote.

II. A Simple Model of Economic Conditions and the Gubernatorial Vote

Following previous research, we have constructed a simple model of the aggregate gubernatorial vote that puts potential economic influences at center stage.⁶ Our dependent variable is the incumbent party’s share of the two-party vote. Like other scholars before us, we

⁶ Both our model and the statistical technique we use to estimate it are similar to (and inspired by) those used by Peltzman (1987).

expect voters to associate economic policies and outcomes not merely with the particular *individual* in the governor's office, but with his or her *party* as well. Accordingly, when an incumbent governor does not run for reelection, the governor's party likely will shoulder responsibility for the governor's performance over the prior term. When an incumbent does run, he typically enjoys well-known advantages that make races with an incumbent notably different from open races. Therefore, we include in the model a dummy variable to indicate the presence of an incumbent candidate.

Because states vary in their general tendencies to support Democratic versus Republican candidates, we also include a variable for the incumbent party's "normal vote." A party's normal vote in a state serves as a measure of the partisan predisposition of the state, and indicates the degree of support a party candidate can typically expect to receive in the state. We operationalize the normal vote variable as the average share of the two-party vote received by the incumbent party in the immediately prior gubernatorial, senatorial, and presidential elections. The year in which a gubernatorial election occurs relative to the presidential election cycle is also likely to affect candidates' vote shares. Most states currently conduct gubernatorial elections in non-presidential election years. Such races may reflect the much discussed "midterm punishment" phenomenon whereby candidates from the president's party typically suffer because of voter weariness or displeasure with the president. In contrast, gubernatorial elections held in presidential election years may be affected by "presidential coattails." When a party's presidential candidate wins, other candidates on the same party ticket usually benefit. To control for these influences, we have added midterm punishment and presidential coattails variables to our model.

As discussed above, there are a variety of ways voters might use economic information to assess the performance of state officials. We have therefore specified two versions of the basic model. The first specification tests the possibility that in so far as economics play a role in gubernatorial election outcomes it is state economic conditions *alone* that matter (strategy one), while the second specification tests the possibility that economic conditions affect gubernatorial

elections according to the *relative* strength of the state economy vis-a-vis the national economy and/or that it is the president's management of the national economy that matters (strategies two and three). Our measures of national and state economic conditions are based on one-year growth rates of real per capita income (RPCI). Including economic indicators in the first specification is straightforward: a variable for one-year state growth in RPCI enters the model directly. Estimation of the second specification is somewhat more complex. To test the proposition that the relative strength of the state economy affects election outcomes, we use the difference between the state RPCI growth rate and the national RPCI growth rate. Again, the reasoning here is that voters may be inclined to evaluate governors not simply on the raw state RPCI growth rate (strategy one and the first specification), but instead on whether the governor brings about better or worse economic conditions than are present at the national level. To test the proposition that the president's management of the national economy affects election outcomes requires an interaction specification of the effects of the national economy. Accordingly, the national RPCI growth rate enters the model directly (to test for possible direct national economic effects on the gubernatorial vote), and interacted with a dummy variable that indicates whether the incumbent gubernatorial party is the same as the sitting president's party. A positive coefficient on the interaction term suggests that the electorate does indeed hold representative of the president's party responsible for the president's management of the national economy.

To estimate our model, we use the least squares dummy variables technique – also known as fixed-effects estimation – which is a common approach for analysis of panel data (i.e., cross-sectionally dominant pooled data). With this approach, the regression equation includes not only the substantive variables already described but also a set of dummy variables to represent each state (i.e., the cross-sections). These variables control between-state “unit” effects (that can contaminate the error term) by moving the unit effects from the error term into the dummy

variables.⁷ The actual estimates of the unit effects are of little theoretical interest, so we do not report them. Our dataset covers competitive gubernatorial elections⁸ in 47 states⁹ from 1940 to 1998.¹⁰ Table 1 summarizes the variables used in our basic model and reproduces the full equations for the two specifications of the model.

[TABLES 1 AND 2 ABOUT HERE]

The results for the two specifications of the basic model are reported in Table 2. As indicated by the r-squared values of .32, both specifications have a respectable overall fit – a fit similar to previous economic models of the gubernatorial vote. Moreover, in both specifications the non-economic variables mostly perform as expected. A party’s normal vote gives potential gubernatorial candidates an idea of how they may fare: the higher an incumbent party’s normal vote in a state, the greater the percentage of the two-party vote an incumbent party candidate can expect to receive.¹¹ Also unsurprising is the substantial incumbency advantage sitting governors enjoy. A governor who runs for reelection typically gets a boost of nearly six percentage points of the vote. In addition, the timing of a state’s gubernatorial election relative to the presidential election cycle proves important. When an election is held in a non-presidential year, candidates who share the president’s party affiliation will typically suffer a midterm punishment of more

⁷ See Stimson (1985) or Sayrs (1989) for general descriptions of the unit effects problem and the LSDV solution. Greene (1997) provides a more technical explication.

⁸ We define an election as “competitive” if both the major parties received at least 20 percent of the two party vote. In practice, this requirement serves to eliminate from the dataset several elections of the mid-century “solid south” period when Democratic candidates in many southern states routinely won by landslide margins.

⁹ We exclude Alaska and Hawaii. Also, the peculiarities of Louisiana’s nonpartisan primaries and runoff elections make its electoral results difficult to compare to other states.

¹⁰ The voting and incumbency data for 1940 to 1990 come from four ICPSR studies: *State-Level Congressional, Gubernatorial and Senatorial Election Data for the United States, 1824-1972* (ICPSR 0075), *State-Level Presidential Election Returns, 1824-1972* (ICPSR 0019), *General Election Data for the United States, 1950-1990* (ICPSR 0013), and *Candidate and Constituency Statistics of Elections in the United States, 1788-1990* (ICPSR 7757). Election and incumbency data for the 1990s was obtained from *America Votes*. For the income data, we used estimates made by the U.S. Department of Commerce’s Bureau of Economic Analysis (available online at <http://www.bea.doc.gov>).

¹¹ Estimation of either specification without an intercept (i.e., the regression line is forced through the origin) produces a coefficient of .92 for the normal vote. This suggests that a candidate for the incumbent party can expect to receive over 90 percent of the party’s normal vote.

than three percentage points of the vote. Gubernatorial elections do not, however, appear to be strongly affected by the presidential coattails phenomenon.

Neither are gubernatorial elections greatly impacted by state or national economic conditions – at least according to the results in Table 2. In Specification 1, the state economy “on its own” does not register a statistically significant effect (at the ten percent level or lower) on incumbent vote share. This result is consistent with strategy four, and with previous conclusions by Peltzman and others that voters do not appear to evaluate state officials based on absolute state economic conditions. In Specification 2, none of the three economic variables – the main effect for national RPCI growth, the interaction effect for national RPCI growth, and state RPCI growth relative to national growth – prove statistically significant at the five percent level. In fact, unlike previous studies the strongest economic effect we detect is for the state economy relative to the national economy. The relative state economy has a statistically significant effect at the ten percent level such that gubernatorial candidates of the incumbent party receive one-tenth a percentage point increase in vote share for every percentage point by which state RPCI growth exceeds national RPCI growth. Substantively, we consider this a rather minor impact.¹²

Furthermore, Table 2 does not inspire much confidence in the earlier conclusions (Peltzman, Chubb, etc.) that the president’s management of the national economy “dominates” gubernatorial elections (i.e., voters tend to use strategy three). For the period from 1940 to 1998, voters in the U.S. states do not appear to punish and reward governors for the president’s economic performance. Indeed, even when we estimate our model over the exact years examined by Peltzman (1949 to 1984) and Chubb (1940 to 1982), we still fail to detect much impact for the national economy (results not reported). One (at least partial) explanation for this discrepancy is that Peltzman and Chubb analyze a more limited selection of gubernatorial

¹² For instance, to obtain a one percentage point gain in vote share, a governor (or the incumbent party) would have to “grow” the state economy at a rate more than eight percentage points above the national growth rate – a rather demanding task.

elections than we have; they both exclude odd-year elections, and Peltzman further omits all races in which the governor was elected to a two-year term. In any event, all of these disparate results suggests that previous findings about the gubernatorial economic-electoral connection may be rather sensitive to data inclusion/exclusion decisions. Our results have the obvious advantage that they are based on a far larger number of observations than previous results. At the same time, however, the fact that our dataset covers such a long period – a period in which there have arguably been significant changes in the power and autonomy of state economic policy-makers – means we need to be particularly sensitive to the possibility that economic-electoral relationships have changed over time. We explore this possibility in section four.

III. Economic Structure and Economic Voting

Growth rates and other macroeconomic indicators are at best noisy indicators of government performance. Like professional economists, voters may possess widely divergent beliefs about the strength, or even the existence, of a relationship between government competence and economic growth. The plausibility of the relationship, and hence the usefulness of macroeconomic information for assessing incumbent performance, depends on the political and economic context. Earlier, we argued that a relationship between local economic outcomes and incumbent performance will simply not seem plausible to voters if local politicians lack wide-ranging fiscal and regulatory autonomy. As a result, voters would not be expected to use local economic information to assess incumbent performance. Perhaps they pay more attention to information about school performance, fiscal scale or balance, property values, or infrastructure.

In the same way, the plausibility of the relationship between economic outcomes and incumbent performance can be undermined by the structure of the local economy. States and regions in a country as vast and economically heterogeneous as the U.S. vary a great deal in the structures of their economies. We contend that economic voting at the local-level – using

information about local economic conditions to assess government performance – will seem more or less reasonable depending on the type of industries that power the local economic engine. From this perspective, perhaps the most important structural economic condition to consider is the degree to which state economies are tied to agriculture and natural resources. When agriculture, mining, and primary product exports dominate the economy, voters might reasonably believe that the performance of the state economy is driven largely by weather and international markets. In some states, like North Dakota, farming and associated activities clearly dominate the regional economy. If an entire year’s crop is destroyed by disease, drought, or flooding, the state’s overall growth rate might take a dramatic dive.¹³

We suspect that in such states, voters will realize that marginal changes in growth rates generally cannot be traced to the performance of the governor. Rather, the government policy decisions that most plausibly affect income levels are in the hands of federal officials – price supports, subsidies, energy policy, and land use. If most productive activity in the state is associated with fixed assets like agricultural or grazing land, mines, or oil reserves, incumbents may face fewer incentives to court mobile investment capital. In these contexts, it may be more useful to hold the governor accountable for her ability to attract farm subsidies from the federal government, or to influence federal regulations and land management policy. In other words, we believe that an economic-electoral connection at the state level is contingent on the structure of the state economy.

To test this proposition, we gathered economic profile data on each of the states.¹⁴ Using the classifications of the Bureau of Economic Analysis, we calculated the portion of each state’s yearly total industry earnings that was derived from farming, agricultural services, and mining. We refer to this as a “primary product” index. For Rhode Island, for example, the primary product index was quite stable throughout the period, hovering around one percent. For North

¹³ For example, North Dakota’s RPCI fell by 15 percent in 1980, a year in which the state suffered a severe drought.

¹⁴ State-level industry data is compiled by the Bureau of Economic Analysis (<http://www.bea.doc.gov>). The data we used comes from the BEA’s “Series SA05.”

Dakota, on the other hand, the index rises over 50 percent in some years and averages about 25 percent for the entire period. Moreover, because of the volatility of weather and agricultural prices there are sizable fluctuations in the index for states like North Dakota that have the highest reliance on primary products. For instance, during drought or flood years in North Dakota, the primary product index falls to around zero, making it indistinguishable from Rhode Island. Thus, the use of a primary product index that fluctuates from year-to-year can lead to occasional perverse (and facially invalid) classifications. To deal with this problem, we have created a five year moving average of the primary product index.

In the terms of our model of the economic-electoral connection, we expect that the primary product index mediates the impact of state RPCI growth on incumbent gubernatorial vote share. Specifically, we hypothesize that the strength of the connection between income growth and incumbent support is highest in states that are *least* dependent on farming, agricultural services, and mining. Therefore, we add to each specification of our basic model a multiplicative interaction term. In specification 1 the absolute growth rate of state RPCI is interacted with the (moving average) primary product index, and in specification 2 the growth in state RPCI *relative* to national RPCI is interacted with the (moving average) primary product index.

[TABLE 3 ABOUT HERE]

The results are presented in Table 3. Again, there is little evidence that *absolute* state economic conditions play a role in gubernatorial elections. In Specification 1, neither the state economy nor the interaction of the state economy and the primary product index are remotely close to statistical significance at traditional levels.¹⁵ However, in Specification 2, there is strong indication that *relative* state economic conditions impact election outcomes. The point estimates for the relative state economy and the interaction between the relative state economy and the

¹⁵ It is possible that multicollinearity – the state economy variable and the interaction variable (state economy and the primary product index) are correlated at .85 – has masked the significance of these factors. As is well known, multicollinearity typically produces estimates with large variances, and thus estimates in which we cannot place a great deal of confidence.

primary product index are .41 and -.01 respectively, and are statistically significant at the five percent level, both alone and jointly.¹⁶ Substantively, the magnitude of the relative state economy effect can be interpreted as follows. For every point increase in the percent of the state economy attributable to primary products, the slope of the state economy on the incumbent vote decreases by .01. The conditional effects of state economic structure on economic voting are displayed visually in Figure 1, which plots on the horizontal axis the primary product index, and on the vertical axis the effect on incumbent vote share of state RCPI growth one point greater than national RCPI growth. The solid line is the conditional effect, while the dotted lines provide a measure of uncertainty by depicting lower and upper bounds of the 95 percent confidence interval. Figure 1 shows that in a state with extremely minimal reliance on primary products – say Rhode Island at 1 percent – a state RPCI one point greater than the national RPCI will give the incumbent about four-tenths of an additional percentage point of the two party vote ($.41-.01 = .40$). In a state with 25 percent of the economy directly related to primary products – like North and South Dakota on average – a similar income boost will only give the incumbent an extra .16 percentage points ($.41-.25 = .16$).

[FIGURE 1 ABOUT HERE]

These results indicate that an aggregate state-level economic-electoral connection is most clearly discernable in states that are less dependent on primary products. This suggests that information about state income growth is not considered very useful by voters in states that *are* heavily dependent on such products. Instead, income growth might seem more plausibly related to government performance in states with more modern, diversified economies. The most high-profile economic development efforts of governors in recent decades – and the most vocal attempts to claim credit – involved the attraction of new investment and the creation of new jobs

¹⁶ Again, multicollinearity is at work: the relative state economy and the interaction variable are correlated at .9. That both estimates are nonetheless statistically significant at the five percent level may speak to the robustness of the estimates. As Johnston (1984) notes, one explanation for the detection of a highly significant individual estimate (or estimates) in the presence of serious multicollinearity is that “the true value [of the parameter being estimated] itself is so large even an estimate on the downside still shows up as significant” (249).

in nonfarm related sectors such as manufacturing and service. As we suggested above, such policies and rhetoric may have been less prevalent or convincing in natural-resource economies (which predominate in parts of the west and midwest¹⁷). Conversely, governors in states that are less dependent on primary products would appear particularly wise to champion policies that will improve the state economy, as their electoral fortunes may depend on it. For instance, a governor who can “grow” the state’s economy at a rate three to five percentage points above the national growth rate can expect as much as a two percent increase in vote share. This is easily enough to swing a close election in the incumbent’s favor.

IV. The Changing Nature of State Politics

The influence and autonomy of the states in the American federal system have waxed and waned throughout history, but few would disagree that the states are enjoying a major renaissance in recent decades, especially in the promotion of investment and economic development. As Brace (1991) shows, from 1968 to 1985 state forces had an increasing impact on state per capita income relative to national forces. This trend echoes the growing affinity – documented in several studies (Eisinger 1988; Fosler 1988; Osborne 1988) – that governors seem to have for indigenous economic development programs. For instance, Grady reports that in 33 of 46 state-of-the-state addresses delivered in 1988, governors “mentioned economic development as one of their top three priorities” (1991, 106). State governors now preside over large, sophisticated bureaucracies that they use in attempts to lure mobile investment capital to their states. Most of the states are very active in courting international investors, and many have opened permanent offices abroad. Attempts to claim credit for the concomitant job and

¹⁷ The ten states with the highest overall (moving average) primary product index are not surprising: South Dakota, North Dakota, Wyoming, Montana, Idaho, Iowa, West Virginia, Nebraska, Arkansas, and Oklahoma.

economic growth seem to dominate state-level electoral politics.¹⁸ Governors certainly appear to *believe* that their electoral fortunes are determined by state-level economic growth even if the empirical evidence from academic studies has not always supported this conclusion.

The puzzling failure to detect electoral effects from state economic conditions and the dissatisfying “national dominance” explanation of economic factors in subnational elections advanced by Peltzman and others has partly motivated several more recent analyses of the gubernatorial vote. Leyden and Borrelli (1995), using unemployment data an indicator of economic conditions, explore the effects of divided and unified government on the economic-electoral connection in the states. Niemi, et al. (1995), and Atkeson and Partin (1995) find evidence that state economic conditions are an important determinant of the *individual* vote choice. Viewed as a whole, these and other studies (e.g., Besley and Case 1995; Lowry, et al. 1998) suggest that earlier conclusions that the state economy plays little role in state elections may have been too hasty. But while these authors typically note the increased autonomy and activism present in state economics – and even present these trends as reasons to reconsider previous findings – none focus on whether the nature of the economic-electoral connection in gubernatorial elections has concurrently changed over time. It seems reasonable to suppose that as governors increasingly make the promotion of economic welfare a central component of their agendas, voters will respond in kind and assess them on their economic performance.

To test this proposition we reestimated the basic model described in section two in a way that explicitly looks for temporal changes in the economic-electoral relationship. Of course, there are a variety of ways this relationship may have changed over time, and thus a variety of ways of specifying the functional form of the time component. Two possibilities for how time might affect the economic-electoral relationship stand out. First, temporal change could have occurred in a roughly linear fashion such that the relationship grew stronger at approximately the

¹⁸ Although this type of credit-claiming seems to have grown more prevalent in recent years, by no means is it an entirely new phenomenon. Southern economic historians (e.g. Cobb 1982, Wright 1986) have shown that aggressive investment promotion has been central to gubernatorial reelection strategies since at least the 1940s.

same rate per year. Second, the relationship may have changed rather abruptly at a certain point in time, most likely in response to a “shock” to the system. Based on historical impressions, there are reasons to think either scenario plausible. Linear change in the economic-electoral relationship may reflect long-term trends of the increasing competitiveness of gubernatorial elections (one side-effect of the demise of the “solid south”), and the decreasing electoral pull of partisan affiliation. As more and more voters have opened themselves to the possibility of choosing candidates of either party, the economic performance of the incumbent party may have come to seem like an increasingly useful basis on which to premise that choice. A shock to the system change is consistent with the federal devolution that marked the 1970s and 1980s (e.g., Nixon’s “New Federalism”). Under this scenario, as the federal government suddenly relinquished more fiscal and economic power to the states, voters may have responded in kind by demanding more of the state leaders who came to possess new powers.

[TABLE 4 ABOUT HERE]

Table 4 presents abridged results for our analysis of the temporal change scenarios. Because we found greater statistical support for the shock scenario than for the linear change scenario, we have reported results only for the former. Furthermore, because the economic variables again prove statistically significant in Specification 2 but not in Specification 1, we only report results from Specification 2 (i.e., results on the impact of the *relative* state economy).¹⁹ Given our prior expectations about the importance of federal devolution in the early 1970s, we divided the dataset into two sections – 1940 to 1970, and 1971 to 1998²⁰ – and separately estimated Specification 2 for each time period. The results in Table 4 indicate that the economic-electoral relationship has indeed changed over time.²¹ In the years before 1971, state

¹⁹ Specification 2 estimates for the linear temporal change scenario, as well as Specification 1 estimates of both temporal change scenarios are available from the authors on request.

²⁰ Our selection of 1970 as the split point also finds support from Brace (1991) who argues that the economic autonomy of the states increased dramatically in the early 1970s. Additional cut-off years are discussed below.

²¹ Note also that the effects for normal vote and the presence of an incumbent candidate have changed over time. Specifically, normal vote has declined in importance, while incumbency has grown. These trends might be due to a

and national economic conditions had little to no impact on gubernatorial election outcomes. However, in years after 1970, gubernatorial candidates received almost one half a percentage point increase in vote share for every percentage point by which state RPCI growth exceeded the national growth rate. Unfortunately, these results are not particularly robust; if any cut-off year from 1965 to 1975 *other than 1970 or 1971* is used to divide the dataset, the estimate for the relative state economy in the later years is no longer statistically significant at the five percent level, and its magnitude drops as low as .27.

Although the results in Table 4 are informative, we consider them incomplete because they do not take into account differences in state economic structure. As we argued above, a proper understanding of the economic-electoral relationship at the state level must incorporate information about the economic structure of the states. Therefore, we again added a multiplicative interaction term for economic conditions and economic structure (the growth in state RPCI relative to national RPCI interacted with the moving average primary product index) to the basic model.

[TABLE 5 AND FIGURE 2 ABOUT HERE]

The results in Table 5 indicate that change over time in the economic-electoral relationship has been even more dramatic once the structure of state economies are considered. In the years before 1971, state economic conditions had at best a minimal effect on gubernatorial elections, even for states with little dependence on primary products. Specifically, the estimate for the relative state economy is .24, but it is not statistically significant at the 10 percent level. In the years after 1970, however, the story is quite different. An incumbent party candidate from a state with a low primary product index – again say Rhode Island at one percent – can expect a rather impressive .84 percentage point increase ($.87 - .03 = .84$) in vote share for every percentage point by which state RPCI growth exceeds national RPCI growth. Moreover, this result is very robust; for all cut-off years from 1965 to 1975, the state economy estimate is statistically

variety of factors, including greater electoral competitiveness in the south, greater emphasis (fostered by the media) on “personality” politics, and larger campaign finance war-chests.

significant at the five percent level and never below .76, and the state economy estimate and interaction term are always jointly significant at the five percent level. Figure 2 visually displays the rather striking conditional effects of primary product dependence for the post-1970 time period. Moving from left to right, Figure 2 shows that state economic conditions have a statistically significant effect (at the five percent level) on incumbent vote share for states with up to 16 percent of their earnings from primary products; for states with more than 16 percent, the conditional coefficient is statistically indistinguishable from zero. In short, there is little question that since at least the early 1970s state economic conditions have played an important role in gubernatorial elections in all but the most natural resource-dependent states.

V. Conclusions

Our empirical results can be summarized neatly. The most striking finding is that the relationship between economics and elections at the state level is mediated by the state's economic structure. More specifically, we find that signs of economic voting are most clearly discernable in states that rely the least on farming and natural resources. Previous studies reporting no relationship between state economic conditions and gubernatorial election results were most likely driven by the unusual economies of a few sparsely populated states.

Although the results are less striking, we also show that the relationship between state-level economic conditions and gubernatorial elections has grown stronger over time. As state governments have become more active in the promotion of investment and economic development, and gubernatorial candidates have attempted to claim more credit for economic growth, voters may have gained a new willingness to use economic information to assess the performance of governors. In fact, the two findings are likely related. As many states have made the transition away from agriculture to manufacturing, services, and other activities, the link between government competence and economic performance may have become more plausible, and voters might be more inclined to view state officials as "sovereign." Our finding

that in recent decades economic structure has become even more important for understanding the economic-electoral connection supports this interpretation.

Furthermore, our findings are consistent with recent comparative studies showing that economic voting is conditional on the clarity of governmental responsibility. Economic voting is not a universal phenomenon. Voters who wish to assess the competence of incumbent politicians face a difficult task – it is difficult to find objective, trustworthy information about government performance. Although it is noisy and difficult to interpret, economic information may under some conditions be the best alternative. Under other conditions, however, economic information is likely to prove less helpful. A low growth rate vis-à-vis other states might convey useful information about governmental performance to voters in Connecticut or Michigan, but similar data are probably of little use to voters in North Dakota or Montana.

Our approach also points the way towards an intriguing research agenda in comparative politics. First, future cross-national studies of economic voting might take into account the structure of national economies. Second, studies of economic voting might shed light on vexing questions about the accountability of government to citizens, especially in federal and multi-tiered political systems. If voters use economic information to hold subnational officials accountable, they may do so either by implicitly – and exclusively – tying them to the performance of the national executive, as in Germany; or, as in the United States, they may view subnational governments as relatively “sovereign” and hold subnational officials separately accountable for local outcomes. Future research might attempt to establish the political, economic, and fiscal conditions under which these strategies are most compatible with voters’ incentives and information.

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Table 1:
Variable Descriptions and Model Specification

Variable	Description
INCUMBENT VOTE	= the incumbent gubernatorial party's percentage share of the two-party vote
NORMAL VOTE	= the average share of the two-party vote received by the incumbent party in the immediately prior gubernatorial, senatorial, and presidential elections
INCUMBENT CANDIDATE	= 1 if the incumbent party fields an incumbent candidate = 0 otherwise
COATTAILS	= 1 in presidential election years when the incumbent party candidate shares a party affiliation with the winner of the concurrent presidential election = -1 in presidential election years when the incumbent party candidate does NOT share party affiliation with the winner of the concurrent presidential election = 0 in non-presidential election years
MIDTERM PUNISH	= 1 in non-presidential election years when the incumbent party candidate shares party affiliation with the sitting president = -1 in non-presidential election years when the incumbent party candidate does NOT share party affiliation with the sitting president = 0 in presidential election years
SAME PARTY	= 1 if the incumbent gubernatorial party is the same as the president's party = -1 if different
NATIONAL ECONOMY	= the percentage growth in national real per capita income
STATE ECONOMY	= the percentage growth in state real per capita income
RELATIVE STATE ECONOMY	= the percentage growth in state real per capita income minus the percentage growth in national real per capita income
[state dummy variables]	= 1 when the Republicans are the incumbent gubernatorial party in the state = -1 when the Democrats are the incumbent gubernatorial party in the state

Specification 1

INCUMBENT VOTE = $\alpha + \beta_1$ NORMAL VOTE + β_2 INCUMBENT CANDIDATE + β_3 COATTAILS + β_4 MIDTERM PUNISH + β_5 STATE ECONOMY + [state dummy variables] + ϵ .

Specification 2

INCUMBENT VOTE = $\alpha + \beta_1$ NORMAL VOTE + β_2 INCUMBENT CANDIDATE + β_3 COATTAILS + β_4 MIDTERM PUNISH + β_5 NATIONAL ECONOMY + β_6 (NATIONAL ECONOMY \times SAME PARTY) + β_7 RELATIVE STATE ECONOMY + [state dummy variables] + ϵ .

Table 2.
Gubernatorial Election Outcomes, 1940-1998

Dependent variable: Incumbent party's share of the two-party vote				
Independent Variables	<i>Specification 1</i>		<i>Specification 2</i>	
	Coefficients	t-values	Coefficients	t-values
Constant	29.4		29.1	
NORMAL VOTE	0.39	8.6 ***	0.40	8.7 ***
INCUMBENT CANDIDATE	5.81	10.1 ***	5.82	10.1 ***
MIDTERM-PUNISH	-3.41	-9.5 ***	-3.24	-8.5 ***
COATTAILS	0.67	1.5	0.84	1.8 *
STATE ECONOMY	0.07	1.5	—	
NATIONAL ECONOMY	—		0.02	0.3
NATIONAL ECONOMY × SAME PARTY	—		-0.10	-1.4
RELATIVE STATE ECONOMY	—		0.12	1.7 *
	<i>R-squared=.32</i> <i>N=817</i>		<i>R-squared=.32</i> <i>N=817</i>	

*** significant at .01; ** significant at .05; * significant at .10.

Note : The model also includes 47 state dummy variables (estimates not reported).

Table 3.
Economic Conditions and Gubernatorial Election Outcomes:
The Impact of State Economic Structure

Dependent variable: Incumbent party's share of the two-party vote				
Independent Variables	<i>Specification 1</i>		<i>Specification 2</i>	
	Coefficients	t-values	Coefficients	t-values
Constant	29.3		29.0	
NORMAL VOTE	0.39	8.6 ***	0.40	8.8 ***
INCUMBENT CANDIDATE	5.88	10.2 ***	5.87	10.2 ***
MIDTERM-PUNISH	-3.40	-9.4 ***	-3.28	-8.6 ***
COATTAILS	0.76	1.7	0.84	1.8 *
STATE ECONOMY	0.05	0.6	—	
STATE ECONOMY × PRIMARY PRODUCT INDEX	0.001	0.2	—	
NATIONAL ECONOMY	—		0.03	0.4
NATIONAL ECONOMY × SAME PARTY	—		-0.11	-1.5
RELATIVE STATE ECONOMY	—		0.41	2.6 **
RELATIVE STATE ECONOMY × PRIMARY PRODUCT INDEX	—		-0.01	-2.0 **
	<i>R-squared</i> =.32 <i>N</i> =815		<i>R-squared</i> =.33 <i>N</i> =815	

*** significant at .01; ** significant at .05; * significant at .10.

Note : The model also includes 47 state dummy variables (estimates not reported).

Table 4.
Economic Conditions and Gubernatorial Election Outcomes:
Changes Over Time

Dependent variable: Incumbent party's share of the two-party vote				
Independent Variables	1940-1970		1971-1998	
	Coefficients	t-values	Coefficients	t-values
Constant	29.5		42.6	
NORMAL VOTE	0.39	6.5 ***	0.11	1.3
INCUMBENT CANDIDATE	3.63	5.3 ***	9.47	9.8 ***
MIDTERM-PUNISH	-2.87	-6.1 ***	-3.08	-4.7 ***
COATTAILS	0.83	1.7 *	-0.14	0.1
NATIONAL ECONOMY	0.12	1.7 *	-0.05	-0.2
NATIONAL ECONOMY × SAME PARTY	-0.14	-1.9 *	0.39	1.6
RELATIVE STATE ECONOMY	0.10	1.5	0.43	2.0 **
	<i>R-squared</i> =.46 <i>N</i> =467		<i>R-squared</i> =.40 <i>N</i> =350	

*** significant at .01; ** significant at .05; * significant at .10.

Note : The model also includes 47 state dummy variables (estimates not reported).

Table 5.
Economic Conditions and Gubernatorial Election Outcomes:
State Economic Structure and Changes Over Time

Dependent variable: Incumbent party's share of the two-party vote				
Independent Variables	<i>1940-1970</i>		<i>1971-1998</i>	
	Coefficients	t-values	Coefficients	t-values
Constant	29.4		42.3	
NORMAL VOTE	0.39	6.6 ***	0.12	1.3
INCUMBENT CANDIDATE	3.69	5.4 ***	9.39	9.7 ***
MIDTERM-PUNISH	-2.92	-6.2 ***	-3.01	-4.6 ***
COATTAILS	0.85	1.8 *	-0.29	-0.3
NATIONAL ECONOMY	0.13	1.7 *	-0.04	-0.2
NATIONAL ECONOMY × SAME PARTY	-0.14	-1.9 *	0.38	1.5
RELATIVE STATE ECONOMY	0.24	1.4	0.87	2.3 **#
RELATIVE STATE ECONOMY × PRIMARY PRODUCT INDEX	-0.01	-0.9	-0.03	-1.5 #
	<i>R-squared=.46</i> <i>N=465</i>		<i>R-squared=.40</i> <i>N=350</i>	

*** significant at .01; ** significant at .05; * significant at .10; # jointly significant at .05

Note : The model also includes 47 state dummy variables (estimates not reported).

Figure 1: Conditional Effects of State Economic Structure on Economic Voting in U.S. Gubernatorial Elections, 1940-1998

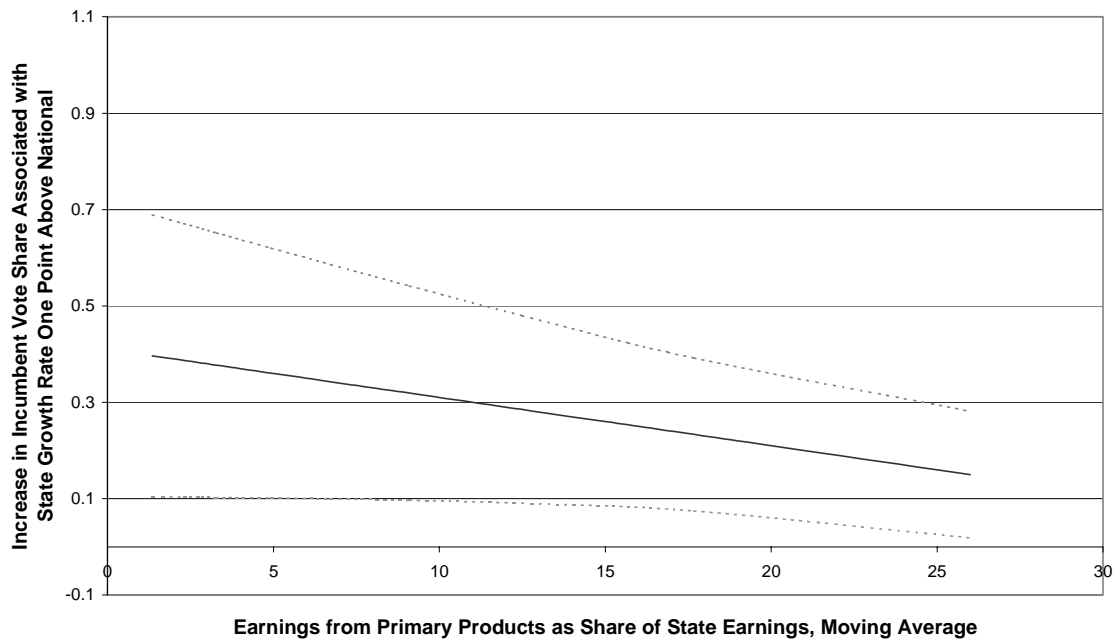


Figure 2: Conditional Effects of State Economic Structure on Economic Voting, 1971-1998

