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Legislator voting and shirking: A critical review of the literature

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1. Introduction

Over the last two decades there has been increasing academic interest in answering two sets of questions. What determines how legislators vote on bills, amendments, and motions? How can shirking by legislators be identified and is this shirking significant? These questions are obviously related. However, as evidenced by the large number of research papers whose results appear contradictory, this relationship neither has been clarified nor has the research been critically summarized in such a way as to determine the weight of the evidence on these individual questions.

The purpose of this literature review is to critically trace the evolution of the theoretical and empirical analysis of legislator voting and shirking. As is always the case, research did not proceed in a straight line but instead followed branching paths, some of which were incorporated in later analyses while others were discarded. Therefore, except for an initial overview, we generally reject a purely chronological approach in favor of a critical analysis and synthesis of research on related topics. Our objective is to tie together this related research so as to make sense of what has been learned about voting and shirking and, consequently, to identify the interesting questions still to be satisfactorily addressed. We view 1979 as a watershed year and, with the exception of a handful of articles, focus on research from this year onward.

A large portion of the literature on voting and shirking is concerned with how a politician's ideology affects his behavior. This discussion fits into three categories: 1) a politician's personal ideology causes him to deviate from the interests of his constituents, 2) politicians do not deviate from the interests of their constituents and thus the role of personal ideology is minimal or nonexistent, and 3) a politician's personal ideology is important in ensuring that politi-

cians do not deviate from their constituents' interests when politicians no longer face the threat of reelection. A lively debate also has ensued over who these constituents are and how they express their preferences. In sum, the theoretical and empirical work has taken almost every conceivable position. Evidence that politicians do not deviate from their constituents' interest (i.e., shirk) has been interpreted as proving either that personal ideology by politicians is important or that it is not depending on the author. However, the overwhelming evidence points to four conclusions: 1) for the vast majority of cases politicians are representing their constituents' interests in terms of how they vote when they do vote; 2) even in those few specifications where statistically significant evidence exists that politicians vote against their constituents' interests, it is economically trivial; 3) when politicians no longer face the threat of reelection, they vote less frequently; and 4) whenever even small deviations in voting patterns occur, it results in the politician quickly being removed from office. These findings contradict many commonly held beliefs such as politicians having short-run time horizons.

The paper proceeds in the following manner. Section 2 gives an overview of the different views of legislator shirking and the explicit or implicit models of legislator voting and electoral competition underlying these views. Section 3 reviews the models of shirking as an ideological consumption good, while Section 4 considers the empirical testing of the ideological consumption hypothesis with particular focus on the roles of reputation and political sorting as potential constraints on shirking. Section 5 views legislator voting as the outcome of a decision-making process involving tradeoffs between the interests of campaign contributors as well as constituents. Shirking, in terms of forsaking constituents' interests, is now in terms of non-ideological shirking whose purpose is actually to increase reelection probability. The interesting and complementary literature on contributor behavior is also reviewed. Section 6 considers a fundamental question for any analysis of legislator voting and shirking. What constituency does the legislator really represent? This question indirectly asks what the underlying model of electoral competition is. In Section 7, we give our assessment of the progress towards explaining the voting behavior of legislators and our assessment of the relevant directions for future research.

2. Defining legislator shirking

What is meant by a legislator "shirking" or engaging in "opportunistic behavior"? Both political scientists and economists define shirking as the failure by the legislator to act in the interests of his constituents. This definition is extremely vague. Who are the constituents whose interests are served by a faithful legislator? Is he supposed to serve faithfully all or just some subset of constituents? Is the group to be served defined arbitrarily or as a natural outcome

of the electoral competition? Once elected, what incentives exist for a legislator to deviate from the role of a faithful servant? Clearly these questions are related. It is our contention that the different views of shirking that appear in the literature and the different analyses of why shirking takes place reflect different underlying models of electoral competition and, by extension, legislator voting. In this section we present a brief synopsis of the different views of shirking, the explicit or implicit models of electoral competition behind these views, and the corresponding incentives for legislators to shirk. In later sections we discuss in more detail the specific theoretical analyses of legislator voting and shirking along with the relevant empirical testing.

One view of legislator voting and shirking is that legislators have policy preferences that differ from those of their constituents and that this difference can cause legislators to vote against the interests of their constituents, which are implicitly defined as the interests of the median voter in the political jurisdiction. Shirking is viewed therefore as an ideological consumption good. As such, the amount of shirking should vary inversely with the cost of shirking, which takes the form of reduced probability of reelection.

A second view considers legislators to be electoral support-maximizers. A legislator looks to a subset of his constituents for reelection. Failure to serve the median voter exclusively is neither non-optimal from the viewpoint of the legislator nor sufficient grounds for a claim of shirking. However, the support-maximizing legislator may rationally forsake the interests of some constituents in exchange for other forms of electoral support, such as campaign contributions. In this context, models of campaign contributions are relevant to a determination of the likely extent of shirking.

Shirking thus results from the inability of the political market to efficiently sort into office those politicians who value either the support-maximizing policy or the policy supported by the median voter.

3. Ideological consumption models of shirking

Prior to the 1970s the research on the determination of legislator voting was conducted by political scientists. Their studies generally indicated that voting was primarily a function of the legislator's ideology, typically measured by interest group ratings such as Americans for Democratic Action (ADA) and Americans for Conservative Action (ACA) scores. Constituent economic interests were declared to be at best secondary influences. The question of why legislators having a particular ideology were elected and reelected from a given political jurisdiction was ignored. Not surprisingly, economists initially looked towards constraints rather than ideology to explain voting. Stigler's (1971) initial approach assumed that political ideology was not important,

and that political behavior could be explained by economic self-interest.¹ To Stigler the choice was stark. On the one side is the rational theory of political behavior – regulations which are adopted solely based upon the cost-benefit calculations made by politicians in deciding the relative support that they will receive from different courses of action. On the other side is either the public goods theory of the state or the notion that “the political process defies rational explanation” (p. 3).² It is under this notion that the process is unexplainable that Stigler (1971: 3) placed the role of ideology:

‘politics’ is an imponderable, a constantly and unpredictably shifting mixture of forces of the most diverse nature, comprehending acts of great moral virtue (the emancipation of slaves) and of the most vulgar venality (the congressman feathering his own nest).

Early empirical work by economists rallied around this flag that Stigler raised. In one particularly well-known piece, Silberman and Durden (1976) ran a probit regression of voting on 1973 minimum wage legislation on variables chosen to reflect constituent economic interests of union workers, small business owners, low-wage workers, and teenage workers. All coefficients are significant, and all have the expected sign except the coefficient of low-wage workers, which has no expectation of sign because some low-wage workers benefit from minimum wage laws by receiving higher wages while others lose by becoming unemployed. They interpret the positive coefficient for low-wage workers as indicating that the preferences of the beneficiaries carried greater weight with legislators than the preferences of the losers.

Soon thoughts surfaced that ideology or some better measure of constituency interests was being left out of the discussion. Finding Silberman and Durden’s (1976) results “somewhat surprising,” Kau and Rubin (1978: 337) were motivated to conduct a time-series analysis of voting on minimum wage legislation using probit analysis.³ They do, however, select a different specification from Silberman and Durden. Of particular interest is their following the political science approach by including ADA scores as an explanatory variable. The positive coefficients of ADA and average hourly wages are significant and stable in the regressions run for voting in 1949, 1955, 1961, 1966, and 1974, which is in sharp contrast to the other independent variables. The positive coefficient of average hourly wages directly contradicts Silberman and Durden. They interpret the positive coefficient of ADA as possibly reflecting a congressman’s ideology or possibly serving to monitor membership in a congressional coalition. Their inclusion of the ADA variable was in line with the research of political scientists but the uncertainty of interpretation did introduce a note of caution regarding the information conveyed by voting regressions.

However, Kau and Rubin’s first paper did not push the question very

far. The inclusion of the ADA variable was simply to proxy for other left-out variables and eliminate any biases in estimating Silberman and Durden's coefficient for low-wage workers.⁴ No attempt was made to try and explain the economic importance of ideology. In fact, their discussion of ideology was limited to only one sentence. Kau and Rubin's (1979) following paper took the next important step. In 1979, they pursued this line of reasoning in an influential paper designed to "separate out the factors – self-interest [constituent interest], logrolling, and ideology – which actually determine voting" (p. 365). Most importantly, in terms of influence on future research, they introduced a methodological technique not previously applied to studies of voting. Given that ideological rating scores of congressmen, such as ADA scores, may themselves be at least partly determined by constituent economic interests, they realized that voting regressions including ADA and constituent economic variables as independent variables likely would generate multicollinearity problems. Their solution was to first separately regress ADA scores on these economic variables and then use the calculated residual, rather than the ADA score itself, as one of the independent variables in the voting regression. Multicollinearity is eliminated because the ADA residual is orthogonal to the economic variables. Kau and Rubin were aware that possible omitted variable problems still remained.

The numerous voting regressions then run, however, still generally produced significant coefficients of the ADA residual. Whether this significance reflected ideology, membership in a congressional voting coalition, or omitted economic variables was left unanswered. The proper intellectual caution of Kau and Rubin was shortly replaced by the claims of many researchers that this ideology variable residual represented legislator-specific ideology or a divergence of the ideology of the legislator from the ideology that his constituents desire him to have.

In defense of the position staked out by Stigler, Peltzman (1984, 1985) attempts to challenge Kau and Rubin's earlier findings, and concludes that while ideology is relevant, these previous studies have exaggerated its importance. His 1984 paper controls more completely than any previous study for constituent characteristics by specifically looking at the characteristics of those who actually voted for a senator rather than the district's average values.⁵ Even so, the ideological variable's effect was reduced but not eliminated. His 1985 work classifies noneconomic ideological factors as "history" and not "ideology."⁶ However, this point loses some of its force when he acknowledges that, "[O]ne could allude to regional differences in ideology as easily as to 'historical inertia'..." (p. 666).

Kau and Rubin's (and to a lesser extent Peltzman's) findings were consistent with the analysis of Wittman (1983). He argues that candidates have policy preferences and therefore are willing to take campaign positions that reflect a

tradeoff between the utility received from implementing these announced policies if elected and the probability of election.⁷ The candidate is assumed to maximize the expected policy outcome of the election. Personal policy preferences matter in that “candidates with policy preferences are not as responsive to the interests of the voters as candidates who are interested in only winning” (p. 145).⁸ The frequent contrast to the spatial model suggested by Hotelling (1929) and later systematically applied by Downs (1957) implies that maximizing the probability of winning means taking a campaign position identical to the ideal position of the median voter.

Wittman’s argument is empirically explored by two similar two-stage methodologies for measuring legislator shirking (Carson and Oppenheimer, 1984; and Kalt and Zupan, 1984). The first stage borrows from Kau and Rubin, but, in place of Kau and Rubin’s caution, these later papers interpret the ADA residual as legislator-specific ideology. Ideological rating scores of the legislators, such as ADA scores, are regressed on average characteristics of the constituents of the legislator’s political jurisdiction. The fitted value for each legislator is interpreted as the ideological score desired by his constituents, and the residual is interpreted therefore as a measure of legislator-specific ideology. The second-stage attempts to identify the influence of legislator-specific ideology on voting on a specific bill. Legislators’ votes on the bill are logically regressed on constituent characteristics relevant to the economic implications of the bill and the fitted value and residual from the first-stage ideology regression. A significant coefficient of the first-stage ideology residual in the second-stage voting regression is interpreted as shirking – i.e., voting on the bill being influenced by legislator-specific ideology.

Implicitly underlying this two-stage methodology is the spatial model of electoral competition. Specifically, each candidate can maximize his probability of election by adopting the ideal position of the median voter as his campaign position.⁹ Borrowing from the industrial organization literature and the language of the law, the median voter is designated as the principal and the legislator as his agent (Carson and Oppenheimer, 1984; and Kalt and Zupan 1984).¹⁰ A non-zero residual in the ideology regression indicates a divergence of the ideological preferences of the legislator and the median voter. A legislator’s voting that is influenced by this divergence constitutes shirking. Consequently, shirking is treated as an ideological consumption activity.

To summarize, those who believe that politicians have ideological preferences expect to find that measures of a politician’s innate preferences predict how he will deviate from his constituents’ interests. Even those economists on the other side of this debate, such as Peltzman, accept this argument and attempt to show that once other factors are accounted for ideological residuals explain little of how politicians vote. There is, however, a third alternative that suggests “that ideology can prevent rather than cause opportunistic behavior”

(Lott, 1987a: 169), and that the absence of politicians deviating from their constituents' interests is perfectly consistent with politicians having strongly held policy preferences.^{11,12}

Prior to this third alternative, all economists on both sides of the debate over ideology argued that opportunistic behavior by politicians is limited solely by the threat of reelection. When politicians decide to retire and no longer face the threat of reelection, ideological politicians engage in more on the job consumption by voting for what they believe in, while nonideologues are more likely to sell their votes to the highest bidder (e.g., Barro, 1973). However, this shirking can be eliminated if voters are able to place into office those politicians who have the same policy preferences as the voters. If voters are successful in doing this, it is costly for ideologues not to vote their constituency's preferences during their last term in office since doing so will lower their own utility. Fortunately, these differences in preferences have ways of revealing themselves to voters. For instance, those politicians whose preferences deviate relatively more will find it more costly, in terms of foregone utility, to pursue their constituents' interests. Consequently, these legislators will face a lower probability of reelection and tend to be sorted out of office.

4. Empirical tests of whether politicians' behavior is motivated by their personal ideology: Shirking versus sorting

4.1. Ideological consumption and the reelection constraint

Kalt and Zupan (1984) use the two-stage procedure to analyze voting by senators from the 1977 – 78 U.S. Congress on environmental legislation regulating the strip mining of coal. The ideological rating score they use is from the League of Conservation Voters (LCV). The coefficient of the residual of the first-stage ideology regression is highly significant in the second stage voting regression. Kalt and Zupan interpret this significant coefficient as reflecting the influence that senators' ideological preferences have on their voting. They claim that senators engage in ideological shirking or “discretionary consumption ... in the form of rational altruistic-ideological promotions of self-defined notions of the public interest” (p. 298). However, this claim is problematic, because this ideology residual could very well be proxying for left-out constituency interest variables (Peltzman, 1984). If so, it is not particularly surprising that these left-out constituency interests would help predict how politicians vote.

To investigate whether voting by legislators has a purely consumption component, the literature has focused on whether political behavior changes in certain systematic ways as the cost of the politician's consuming positions

that he intrinsically values changes. The bulk of the literature concerned with testing the ideology-as-a-consumption-good hypothesis has focused on: 1) the degree to which legislator voting is influenced by the reelection constraint; and 2) the degree to which the sign and magnitude of the first-stage ideology regression residual are artifacts of economists' assumptions about the electoral process. The history of this first approach dates at least as far back as Barro (1973), Becker and Stigler (1974), and Amacher and Boyes (1978).¹³ More generally, "Just as tastes as well as opportunities affect ordinary consumption decisions, a legislator's ideology should affect his ... votes. Economic analysis of voting consists of propositions about how votes are affected by *changes* in the perceived costs of those choices" (Nelson and Silberberg, 1987: 16). Entry barriers have also been extensively discussed as the political market failure which allows for divergences between politicians and their constituents to be created in the first place.¹⁴ The second issue constitutes a litmus test of Carson and Oppenheimer's and Kalt and Zupan's methodologies. That is, does this first stage regression really measure the unexplained beliefs of the politician being examined?

One of the first studies to directly test this ideology-as-a-consumption-good hypothesis was Nelson and Silberberg's (1987).¹⁵ It is presumed to be relatively more costly for a politician to deviate from his constituency's interests on specific spending bills, where the benefits from the legislation are well defined and known to all parties, than it is to deviate on general expenditure bills "since the final distribution of funds is not generally known at the time of the vote" (p. 17). They argue that their finding that a senators' personal ideology better explains his voting on general as opposed to specific defense expenditure bills is consistent with politicians indulging in more ideological consumption as the cost of that consumption declines.¹⁶

There are at least two problems with their arguments. First, it does not seem particularly surprising to find that a broad index like the Americans for Democratic Action variable that Nelson and Silberberg (1987) use better explains general decisions to vote for more or less total defense expenditures than it explains a specific decision to vote for the purchase of Lockheed C-5 aircraft instead of Boeing 747's. A liberal senator from Washington state might work hard to secure funding for Boeing, yet simultaneously favor diverting more defense spending to domestic programs than do other conservative senators. In terms of Peltzman's (1984) discussion involving left-out constituent interests, the ADA variable better proxies the left-out constituency interests which help explain general votes such as whether to support more defense spending than votes for a specific project. Second, if senators have reputations, it is not obvious why it matters that the final distribution of funds is not known for a while. If voters eventually learn that their senator failed to represent them, opponents will be sure to take advantage of those failures.

A different approach, what we will call the ideology-ensuring-performance hypothesis, considers how the cost of opportunistic behavior changes when politicians no longer face the threat of reelection (Lott, 1987a). If it is really just the threat of reelection that ensures politicians represent their constituents, congressmen who are serving their last term in political office are more likely to shirk because voters can no longer punish them at the next election. However, in contrast to the ideology-as-consumption approach, the ideology-ensuring-performance hypothesis argues that this last period problem can be prevented to the extent that voters elect those politicians who intrinsically value the same political outcomes as these voters. If a politician who values the same outcomes as the voters attempts to deviate from their interests during the last period, the politician will be lowering his own level of utility.¹⁷ This hypothesis argues that a politician having a strongly held ideology consistent with the ideology that the constituents desire has a competitive advantage in electoral competition. Since the politician derives personal benefit from undertaking those activities that the constituents would like to see continue during the last period, this politician can produce these activities at a lower cost than other politicians whose ideologies do not coincide with those of the constituents. Whether political markets can properly sort those politicians who value the same things as their constituents into office is an empirical question. A race exists between the rate at which entry barriers are created in political markets and how quickly voters can determine the preferences of politicians.¹⁸

In place of the two-stage residual approach, we examine the sorting process's efficiency and the effect that changing the costs of shirking has on political behavior by analyzing the relative changes in non-retiring and retiring congressmen's voting during the 94th Congress (1975 – 76) and the 95th Congress (1977 – 78) (Lott, 1987a). Using six different ideological group rankings, changes in voting patterns are shown by using either the difference or absolute value of the difference in congressman's ideological voting scores during the two congresses. While the first measure provides information on any systematic changes in politicians' views (i.e., whether they are becoming more conservative or liberal), the second measure provides information on the degree of dispersion. Whether or not changing constituency interests are controlled for, Lott finds no significant evidence in 199 of 216 regressions of congressmen altering their voting patterns when they retire. When significant differences did occur, the magnitudes were at most only a couple percentage points. Other evidence on voting behavior shows that the relative conservative-liberal ranking of politicians remains stable over time. The lack of evidence for a last-period problem suggests that electoral competition efficiently sorts politicians.

One may argue that this evidence also is consistent with the hypothesis that

congressmen consistently shirk throughout their careers. Such an argument is implicitly based on the premise that electoral competition is virtually nonexistent. The last-period problem, perhaps because of unravelling, becomes effectively the “every-period” problem. One solution to sorting out these extreme alternative hypotheses of either complete shirking or its complete absense is to look at other dimensions of shirking.

There is indeed some evidence that last-period shirking takes the form of reduced attendance rates (Lott, 1987a, 1990). Thus while politicians do not alter how they vote when they do vote during their last period, they do tend to vote about 11 percent less frequently. One explanation is that politicians not only intrinsically value certain policy positions but they also value both winning elections and leisure. If political markets successfully sort into office those politicians who value the same policies as their constituents, politicians will continue supporting those policies even when they no longer face the threat of reelection, but they will do so with less fervor since the politicians now only get the return to pleasing themselves. If at the margin the costs of shirking are reduced during the last period and politicians are shirking in terms of how they voted when they did vote, we should observe movement in both and not just the single attendance rate measure of shirking.

Other evidence suggests that while lame-duck congressmen have been found to vote differently from returning congressmen on a 1982 domestic content bill (McArthur and Marks, 1988), later work implies that removing the threat of reelection does not alter how congressmen or Senators voted on congressional pay raises (McArthur, 1989).¹⁹

The earlier approach of defining legislator-specific ideology as the residual of their first-stage ideology regression was then more closely tied to the changing costs of the politician pursuing his own political preferences (Kalt and Zupan, 1990). This was accomplished by regressing the absolute values of the first-stage ideology regression residuals for the 1977–78 Senate on independent variables presumed to reflect the marginal cost of shirking. While the empirical results were statistically significant, there are some rather unintuitive and inconsistent implications. For instance, they imply that politicians with more tenure tend to shirk more the closer that they get to reelection. Or, that increased entry barriers increase shirking when reelection is less than 3 years away, but decrease shirking when reelection is more than 3 years off. However, even when the effects are consistent with the ideological consumption argument, the economic importance of these variables is very small – often implying changes in voting behavior of one percentage point or less. Using this residual approach, Zupan (1990) provides a comparative analysis of changes in the absolute value of ADA residuals between 1977 and 1978 for retiring and non-retiring members of the House of Representatives. Evidence from one of his specifications provides evidence of last period shirking.²⁰

Van Beek (1991) also uses the residual approach for the same set of congressmen and for the same time period as Zupan (1990), but he greatly expands this analysis of the last-period problem. He examines the effect of the timing of the retirement decision on changes in four separate ideology scores (ADA, ACA, LCV, NTU). A congressman that decides to retire late in 1978 will exhibit less of an increase in shirking between his 1977 and 1978 vote scores than one who decides to retire in either December 1977 or January 1978. Two variables control for this: the first one indicates the number of months during 1978 he decided to retire prior to November 1978 and the second one indicates the number of months prior to January 1978 that the congressman decided to retire. In none of the forty regressions that he provided is either of the coefficients for the months variables significant, and 30 percent of the time the coefficients are not of the expected sign. Evidence for last-period shirking is completely absent. He also was unable to find any evidence which indicated that politicians voted differently when they aspired to run for the Senate or a governorship.

All of this section's preceding empirical studies suffer from the same underlying methodological weakness: it is impossible to use cross-sectional data to determine how political voting changes over time (Lott and Reed, 1989). For example, a negative relationship between tenure and shirking for some periods of tenure found in those few regressions that find significant results might arise because of sorting in political markets. Every individual politician might end up shirking more over the course of his political career as the cost of lost future time in elective office is reduced, but a cross-sectional regression might end up showing a negative relationship between tenure and shirking because those politicians who survive for longer periods of time are the ones who tend to shirk relatively little. The final results depend upon how quickly those politicians whose interests deviate from those of the voters are sorted out of office relative to the rate at which entry barriers are created.

Comparing the behavior of individual politicians over time differs substantially from examining differences across politicians. Special interest voting indexes consistently indicate that the standard deviations for the sample as a whole, across individuals within a term, or across the mean values of individuals over their terms, are 3 to 5 times larger than the average standard deviation of an individual congressman's voting index over the course of his career (Lott and Bronars, 1993: 128).²¹

In order to eliminate the shortcomings of previous cross-sectional analysis, Zupan (1990: 168) provides time series evidence on the changing behavior of members of the House of Representatives between two years, 1977 and 1978. Unfortunately, however, the two specifications that he produced provide even less time series evidence than the 216 specifications provided by Lott (1987) which looked at how behavior changed across two congressional terms. Van Beek's (1991) study was also limited to the change that occurred between just

two years. The important point is that all of these three studies are flawed for they all fail to get at the time series issues involved in sorting. As later empirical evidence has made clear, there is a big difference between analyzing cross-sectional variation in voting between two terms and how an individual politician's voting varies over time.

In addressing the sorting problem, time series data using the Americans for Democratic Action index of senatorial voting for 1963 to 1985 indicates that those who are defeated for reelection deviated from the interests of their constituents by the small amount of 1.27 percentage points (Lott and Davis, 1992).²² Both regression analysis and non-parametric tests using time series data for five different interest group congressional ideological voting scores from 1975 to 1990 reveal that voting behavior of individual congressmen is extremely stable over time (Lott and Bronars, 1993).²³ Again, the only group of congressmen that did have significant changes in voting behavior was the class that failed to win reelection. There was no significant evidence of either a last-period effect on congressional voting or an effect of a congressman's tenure on voting. Broader voting indexes which encompass all congressional votes continue to find that how politicians vote remains unaltered when the threat of reelection is removed (Poole and Romer, 1993). Not only do these studies find virtually no evidence of shirking, but the response of the electorate to the deviant voting behavior they do find is consistent with a political system that efficiently sorts politicians.

Recent studies using the two-stage residual approach pool together time-series and cross-sectional Senate data (Goff and Grier, 1993; and Wright, 1993). While their results are consistent with political sorting occurring relatively quickly, the findings differ across the papers. Wright's results indicate that most of this sorting occurs through the primary elections, and that legislators who deviate from the desires of their constituents face an average reduction of 5 percent in political support. Using a very similar approach to Wright, Goff and Grier, however, find no relationship between shirking and electoral support. These types of results are thus consistent with either sorting occurring extremely quickly or not at all (Lott, 1987a: 182; see also Goff and Grier, 1993: 18), and additional evidence like how politicians behave on other dimensions is necessary to resolve that question. Both Wright (1993: 120) and Goff and Grier (1993: 18) point out that these insignificant results might simply arise from the much smaller data set used by Goff and Grier (eight versus twenty-one years).²⁴ However, as we will discuss in Section 4.2, it is difficult to know what to make of these last two studies because both rely on the residual method of measuring shirking.

An important caveat should be added to any evaluation of empirical work in this area, and that is defining shirking is actually more complicated than simply identifying whether politicians deviate from their consti-

tuents' ideal preferences. Deviations in how a politician votes from his constituents' interests are not in and of themselves sufficient to indicate the presence of shirking. It is costly to determine what the constituency's interests are and to see how those interests change over time. Principals do not expect their agents to devote infinite resources to determining the proper course of action – resources should only be devoted up to the point where marginal costs equal the marginal benefits. In other words, even from the point of view of the principal, there is an optimal positive amount of time when the principal wants the agent to deviate from the principal's interests. As Demsetz (1969) points out in another context, nirvana is certainly not the relevant alternative unless we actually believe that opportunity costs are zero. The existence of deviations from constituent interests are thus a necessary but not sufficient condition to indicate that shirking is indeed occurring.²⁵ Economists must talk about what are economically important deviations and not just what effects are statistically significant.

Some conclusions can be drawn from these studies of legislators. The overwhelming majority of regressions indicate that when politicians vote they are representing their constituents' interests. Politicians continue to vote in the same way that they have previously, though less frequently, when they no longer face the threat of reelection. While in those few instances where statistically significant shirking is discovered in terms of how legislators vote, it is economically very small – usually no more than a percentage point or two change in voting indexes. Whenever shirking does occur, it appears to result in the politician being sorted out of office quickly.

4.2. Weaknesses with the residual measures of shirking approach

The two-stage residual approach has enjoyed remarkable acceptance, and it has been employed in a wide range of papers (e.g., Davis and Porter, 1989; Gohmann and Oshsfeldt, 1991; Van Beek, 1991; and Wright, 1993). Yet, the conclusion that the ideology residual reflects legislator-specific ideology has been challenged both theoretically and empirically by a number of researchers. The hypothesis that the absolute value of the ideology residual is a senator-specific ideological consumption good because its magnitude varies inversely with the opportunity cost of such consumption is frequently inconsistent with the empirical findings. Specifically, the implied partial derivatives (including direct and interaction terms) of Kalt and Zupan's regressions are often indicative of ideological consumption varying directly with opportunity cost (Lott and Davis, 1992: 462 – 464). In brief, the "demand curve" is upward sloping. Furthermore, when the partial derivatives do significantly indicate an inverse relationship, the implied magnitude is economically trivial.

Perhaps more importantly, the interpretation of the ideology residual as senator-specific ideology is questionable on theoretical grounds (Lott and Davis, 1992: 464 – 465). Since the first-stage ideology regression is estimated so as to minimize the sum of the squared errors, the residuals must be positive for some congressmen and negative for others. This is the case even if congressmen are all more liberal or all more conservative than their constituents. If all are in fact more liberal, what is the interpretation of a negative residual? It may be that the congressman's liberalism does not exceed his constituents' by as much as the average congressman's does. If so, then how can one interpret a significant coefficient of the first-stage ideology residual in the second-stage voting regression as shirking or, for that matter, as anything?

Another fundamental econometric problem arises from using an index of votes (e.g., ADA) as a proxy for ideology in order to explain other votes on individual bills or amendments (Jackson and Kingdon, 1992). The problem is that both the votes comprising the index and the individual vote in question are likely to be similarly determined by a set of factors not fully captured by the explanatory variables actually employed. If this is the case, the estimated coefficients of the constituent interest variables therefore are likely biased downward and the estimated coefficient of the voting index is likely biased upwards in the voting regression. The source of the bias is similar to that found when a system of simultaneous equations is estimated individually using ordinary least squares regression methods. The estimated voting regression is really providing information on how closely the vote in question and the voting index are related, not on the independent influence of ideology on voting. Regressing the voting index on constituency variables and then using the residual as an explanatory variable in the subsequent voting regression does not eliminate the bias. Problems of omitted variables and covariances among stochastic terms in the votes in the voting index and the vote being explained still exist. Therefore, “we have no confidence that the residual represents members’ [legislators’] ideologies” (Jackson and Kingdon, 1992: 813).

Finally, the sign and magnitude of the first-stage ideology residual is nothing more than an artifact of the median voter model of electoral competition that constitutes the implicit conceptual framework of the Carson and Oppenheimer and Kalt and Zupan methodologies (Bender, 1994; Goff and Grier, 1993; and Jung, Kenny and Lott, 1994).²⁶ The median voter framework is simply unable to explain many of the phenomena – in particular, the frequent occurrence of two senators from the same state taking widely divergent positions. Does this imply that one or both of the senators is shirking? As we will discuss in Section 6, it is indeed quite possible that any state’s two senators specialize in serving different constituencies in the state. The relevant question is: Who are a legislator’s relevant constituents?

4.3. Political reputation and the last-period problem

One major theme through much of this literature is that a politician's reputation represents a sunk investment to ensure subsequent performance in the same sense as Klein and Leffler's (1981) discussion of firm brand name.²⁷ Cheating politicians are supposedly punished by being removed from office and thus losing the quasi-rents from this investment in reputation. Dougan and Munger rely (1989: 126, fn. 15) on Telser's (1980) discussion of an uncertain end point in order to avoid the unravelling problem.

Others such as Kalt and Zupan (1990: 119 – 120) and Lott (1987a: 182) emphasize reputation because of the presence of entry barriers and the fact that these barriers affect the costs of politicians deviating from their constituents interests. Sunk nontransferable investments in communicating a politician's positions or preferences to voters can create differential costs of producing support between incumbents and their potential challengers.²⁸ However, Kalt and Zupan (1990: 120 and fn. 40) also assume that Klein and Leffler's (1981) model of how firms guarantee their performance explains how politicians guarantee their promises.

Yet, firms and politicians differ in their ability to resell this sunk investment which guarantees performance.²⁹ While a retiring owner of a firm will not cheat in his last period since it will reduce the price he can obtain by selling his firm's brand name, politicians are less constrained to cheat since evidence indicates that politicians are much more limited in their ability to resell their political reputation (Coats and Dalton, 1992; Lott, 1987b; and Yen, Coats and Dalton, 1992). Even though politician's children do enter political office at high rates compared with other professions, the vast majority of politicians do not pass on their brand name to their offspring (Laband and Lentz, 1985; and Lott, 1987a) and endorsements provide only a partial method of transferring reputation – there seems to be a huge difference between being endorsed by Ronald Reagan for the Presidency and running *as* Ronald Reagan.

The relatively high rate at which politicians' children follow them into political office is itself consistent with limited transferability of political brandname. If a politician's child exhibits preferences similar to the parent's, this inability to transfer reputation to those outside a political family implies that children will follow their parents' footsteps into these careers at relatively high rates. If the asset is nontransferable to those outside the family, the return on that asset is only preserved if the child stays in the profession.

If the threatened loss of this sunk investment insures performance, the question is why politicians will not always shirk in terms of how they vote when politicians know that they are in their last period and no longer face reelection. In addition, authors who advocate this position leave unaddressed such puzzles as why politicians sometimes announce before their last election that it will be

their last one or what happens when there are limits on the number of terms associated with such offices as governorships, mayoralties, and the Presidency.³⁰ Telser's (1980) point cannot be applicable to these last two cases. In addition, we must also wonder to what extent voters can anticipate that the next term will be a politician's last, even when he does not announce this publicly. Voters should never vote for a politician that they know for certain is facing reelection for the last time.³¹ Yet, the unravelling problem has even broader implications since politicians face finite life spans. We know with certainty that a politician will not be in office when he is 120 years old and thus political markets that relied on sunk investments to guarantee political performance face a certain end point and thus face an unravelling problem.

Many mechanisms have been suggested for solving this unravelling problem (such as the threat of post-elective office employment of the politician or his children, the politician's ideological beliefs, or strong long-lived political parties), but none of these other stories relies on the threat of reelection to individual candidates. To the extent that any one of these solutions are accepted, reliance on the threat posed by repeat elections must be weakened or eliminated.

Despite sunk investments providing a plausible method of guaranteeing quality by firms, there are severe limitations to applying that discussion to political markets. Economists have seemed too willing simply to transpose our models of firms on to that for politicians.³² The next section reviews the theoretical and empirical work on non-ideological shirking.

5. Non-ideological shirking

Shirking, defined as the failure of a legislator to act in the interests of his constituents, does not necessarily require that the legislator abandon his constituents in pursuit of his own personal ideological desires. Indeed, any action that can benefit the legislator at the expense of his constituents is a potential source of shirking. For example, as noted in the previous section, during a politician's last term we observe him voting in the same way as he did previously whenever he does vote, but that he does reduce the rate at which he votes. The literature has attempted to explain shirking through lower attendance rates in purely nonideological terms based upon a desire for leisure. In this section we discuss these other sources along with the models that incorporate them and the associated empirical work.

A legislator's personal ideology is one factor that potentially can influence his voting because voting in accordance with personal ideology increases the legislator's utility and consequently the value to him of holding office. Other factors, such as constituents' interests and offers of campaign contributions by

special interest groups, also can influence the legislator's voting. However, in contrast to personal ideology, these other factors influence voting through the reelection constraint. For example, a legislator may vote against his constituents' interests or against his personal ideology or both in return for a sufficiently large campaign contribution from a special interest group. In short a legislator simply is maximizing the expected value of his office by making the standard trade-offs at the margin between all those factors affecting the value of office and the probability of reelection (Bender, 1991).^{33,34}

It seems unlikely, however, that the role of personal ideology in the legislator's constrained maximization problem is preeminent or even important. As argued in Section 4, a politician whose ideology is not consistent with his constituents' interest is at an electoral disadvantage. The relevant empirical research, particularly regarding the last period, is consistent with a political market that sorts out such politicians. The surviving politicians do not face the trade-off between personal and constituent ideology. Therefore, it is not surprising that there has developed a literature analyzing nonideological shirking which focuses on trade-offs between factors influencing only the probability of reelection.

In particular, campaign spending can help a legislator obtain more votes from constituents in a world in which voters rationally possess less than full information. Special interest groups are willing to offer campaign contributions to induce a legislator to vote a particular way on a bill, and the legislator is willing to accept the contribution if his net change in votes (i.e., the sum of the change in constituents' votes from altering his position on the bill and the change in constituents' votes from the increase in campaign spending) is positive. The relationships between legislator, constituents, and contributors are simultaneous in nature and are amenable to being modelled and estimated as a simultaneous equations system of voting on bills by congressmen, contributions to congressmen by interest groups, and voting for congressmen by constituents.

Chappell (1982) develops and estimates such a simultaneous probit-Tobit model for eight congressional bills which affect interest groups and concludes that ideology and constituent interests, but not contributions, determine congressional voting.^{35,36} Kau, Keenan, and Rubin (1982) estimate a similar model of simultaneous equations and conclude that voting with constituent desires is rewarded on election day, thereby implying that the political system is good at sorting politicians. Eleven years later Kau and Rubin (1993) estimate a similar simultaneous system and reach similar conclusions. Of particular interest, they specifically distinguish ideological and nonideological shirking as follows: "[c]onceptually, issues of ideology and of shirking should be separated. It is possible to have shirking without ideologically based voting. For example, a representative might vote in response to contributions received from

various special interests, and thus shirk with respect to his constituents' desire, but in a way unrelated to ideology. Indeed, we find this behavior in our empirical analysis" (p. 155). Such "self-interested economic, not ideological, shirking" (p. 159) is undertaken to increase reelection probability rather than to indulge personal ideological preferences. Based on their estimated regressions, and consistent with the evidence of Section 4, Kau and Rubin conclude that "if ideological shirking exists, it is of relatively minor importance..." (p. 170). The political market sorts politicians.

Even if congressmen accept campaign contributions from interest groups in exchange for voting as the interest groups desire, atomistic voters can still make it costly for their congressmen to deviate from serving their interests. Since a congressman in deciding how to vote on a bill might frequently have to weight the loss in votes from constituents by voting against their interests against the gain in votes produced with the campaign contributions offered by another interest group, a congressman's opportunity cost (i.e., minimum required campaign contribution) of voting with the interest group varies directly with the harm done to constituent interests. For example, the opportunity cost of a congressman from rural Kansas voting for wheat price supports is zero, whereas it is nontrivial for a congressman from New York City. Competition among congressmen pushes the supply price of the congressman's vote to his opportunity cost. Since an interest group needs only a majority to pass or defeat a bill and attempts to minimize the cost of obtaining this majority, the interest group can rank congressmen by supply price and make contributions to congressmen with supply prices less than or equal to the median supply price (Denzau and Munger, 1986; Antle and Johnson, 1991; and Grier and Munger, 1991).

Previous research using ordinary least squares or Tobit regressions does not test this hypothesis. It is not rational for PACs to allocate their funds to either those whose constituencies strongly support or oppose the policy. Simply regressing voting patterns on contributions does not allow political action committee (PAC) contributions to be directed towards politicians representing relatively indifferent constituencies. One alternative is to see if politicians representing median constituencies are the ones who are most targeted for contributions (Stratmann, 1992).^{37,38}

Although this empirical evidence on contributions implies that the amount of shirking induced by interest group campaign contributions is minimized, this research gives no indication of the actual amount of shirking. Indeed, the view that campaign contributions by interest groups can be used to alter a politician's voting pattern and the claim that ideological sorting works well in political markets appear to be at odds with each other. This conflict is important only if the amount of shirking is nontrivial.³⁹ If campaign contributions alter how congressmen vote, we should observe instability in congressmen's voting records over time as interest groups compete for congressmen's votes or we

should observe congressmen changing their votes in their last terms when campaign contribution did not matter. As documented in the previous section, we observe neither. While campaign contributions may induce shirking, the empirical evidence indicates that such shirking is not at all important.

However, there is a difficult task facing any test which examines how campaign contributions affect a politician's voting behavior. The test must determine whether contributions are given to alter a politician's behavior or to help elect those politicians who already value the same things as the contributors. Normally, introducing any notion of rational expectations makes it impossible to distinguish between these two hypotheses. New contributions made prior to a politician changing his votes can imply either that the contributors correctly anticipated the change or that the contributions created it. One way to solve this dilemma is to investigate whether the elimination of campaign contributions when a politician retires alters his voting behavior (Bronars and Lott, 1993). If politicians are ideologues who have compromised their positions to receive contributions, the decision not to seek reelection should remove the threat that displeasing contributors brings and we should observe politicians altering their voting behavior. The evidence, constructed along the lines of the last period tests discussed in Section 4.1, strongly finds that politicians do not vote differently on those issues for which they had been receiving contributions nor do those who had been receiving the largest contributions change their behavior relative to others. There is thus little evidence provided by this literature that supports the claim of political shirking.

In any case, as the next section will show, the question of whether campaign contributions create shirking is eliminated when a politician's constituency is defined broadly enough to include not only his geographical constituents, but also such things as the legislator's party, president, and contributors.

6. The electoral constituency

A topic that we have touched on but not directly addressed is the precise composition of the congressman's constituency. This need not simply be all the residents of the political jurisdiction, and there are theoretical and empirical reasons that it is not. It is useful to distinguish between a congressman's geographical constituency (i.e., the voters residing in his congressional district) and his reelection constituency (i.e., those voters in the district that he expects will vote for him). It is this subset of the voters that the congressman counts on for support, and it is this subset that the congressman must serve (Fenno, 1978).

As discussed in Sections 2, 3, and 4 of this paper, there are researchers who

explicitly or implicitly reject the notion of an electoral constituency in favor of a median voter model of elections. The problem with the median voter model is that it cannot explain and, indeed, is inconsistent with the common phenomenon of a state having two senators with widely different overall ideological voting records.⁴⁰ It can even be argued that all electoral voting models that predict convergence of the candidates' campaign positions are inconsistent with the observed behavior of candidates and voters.⁴¹

The argument that a legislator represents the interests of his reelection constituency rather than his geographical constituency is consistent with a state's two senators having different voting records. The goal is to develop a systematic way of identifying the reelection constituency. Recently several, not necessarily mutually exclusive, attempts have been made. The empirical work has naturally focused on the voting records of a state's two senators.

One attempt is based on the notion of the uncovered set. If a two-candidate election is characterized by more than one dimension of issues and by the absence of a Condorcet winner, the optimal campaign positions of the candidates are limited to the set of undominated positions known as the uncovered set.⁴² The size of the uncovered set varies directly with the heterogeneity of the voters' preferences (McKelvey, 1986). A state with senators having different voting records may simply have senators who have chosen different points in the uncovered set. Evidence for this hypothesis is provided by showing that the difference in voting records is a direct function of the heterogeneity of voters' preferences (Goff and Grier, 1993). Specifically, the absolute value of the difference in a state's senators' ADA scores is significantly and positively related to the standard deviation of the Conservative Coalition voting scores of the state's U.S. House delegation.

The threat of entry of a third-party candidate also can induce the two major-party candidates to adopt positions on either side of the ideal point of the median voter because failure to do so by a candidate will result in his being "squeezed" by the third-party candidate. The equilibrium distance between the major-party candidates varies directly with the variance of the density function of the constituents' ideological preferences, and the Hotelling-Downs result of the candidates' positions converging to the median voter's ideal point holds only in the limiting case of the variance approaching zero (Palfrey, 1984).⁴³

The absolute difference in ADA scores of senators from the same state increases as the variance of the constituents' ideological preferences increases and decreases as it becomes more difficult for third party candidates to obtain ballot status, though the latter effect only explains a relatively small portion of the difference (Bender, 1994). The voting records of individual senators also are tied less closely to average constituent characteristics and more closely to party affiliation as the variance of the density function increases. However, the

fitted value of the ADA score for each senator is calculated with the same coefficient values. This implies, and analysis of annual regressions of senators' ADA scores confirms, that the residuals from the first-stage ideology regressions of Carson-Oppenheimer and Kalt-Zupan tend to be negative (positive) for the more conservative Republican senators and positive (negative) for the more liberal Democratic senators in states with relatively high (low) variance of the density function. More importantly for our earlier discussions of the inherent problems with the two-stage residual approach, this systematic relationship between the sign of the first-stage residual and party affiliation implies that the two-stage procedure is biased towards finding shirking if senators do in fact serve the interests of their reelection constituencies.⁴⁴

Peltzman (1984) distinguishes between the geographical and electoral constituencies in yet another way. He assumes that a legislator attempts to maximize probability of reelection and argues that he does so by serving subgroups of constituents so as to maximize electoral support.⁴⁵ It is these subgroups that comprise what Peltzman refers to as the legislator's constituency.

Peltzman's argument is a variation of Hotelling's. Whereas Hotelling had candidates' platforms (virtually) converging to the median voter's preferred position and voters voting for the candidate whose platform is closest to their preferred positions, Peltzman argues that one candidate serves the interests of those voters with preferred positions to the right of the median voter and the other candidate serves the interests of those to the left. As Peltzman (1984: 183) illustrates with his one-dimensional example, "... if preferences are related to income, party A might offer to benefit the median-income voter and those richer at the expense of the poor, while B offers to vote for redistribution from the super-median rich to the poor." The reasoning extends to all the relevant attributes of the voters in addition to income.

A modification of Peltzman's model can be used to explain why senators from the same state often have different voting records (Jung, Kenny and Lott, 1994).⁴⁶ Given well-defined constituencies, diminishing marginal utility of income, and the costliness of any individual politician creating transfers across all interest groups, political success in any election reduces the winning constituency's and increases the losing constituency's efforts to win future political contests. Even if a coalition of voters values its first senator more than a competing group values its first senator, diminishing returns can result in this coalition not valuing its second senator as much as the competing group values its first.

These different constituencies can be identified by regressing the difference in each state's two senators vote shares on every county's residents' characteristics. A significant coefficient is interpreted as the senators' having different supporters in terms of that characteristic – e.g., a significantly positive coefficient of median income implies that one senator is supported by relatively high

income voters and the other by relatively low income voters. Jung et al. find that in 81 percent of the states the two senators were elected by significantly different electoral coalitions. Additional regression analysis indicates that differences in the ADA scores of senators from the same state are systematically related to differences in electoral coalitions.

There is also the question of whether all members of a constituency should be weighted equally. Just as the industrial organization literature has distinguished between the internal and external constituencies for a firm (owners and consumers), one can distinguish between those constituencies for a political party (e.g., party members and potential voters) (Demsetz, 1989b).⁴⁷ Just as an owner of a newspaper may forego pleasing his customers and forfeit profits so as to push a political agenda (Demsetz, 1989a; and Demsetz and Lehn, 1985), so might politicians deviate from their geographical constituents interests so as to please party members. However, unlike the earlier discussion where a politician serves his own preferences in place of his constituents, this notion does not imply that opportunistic behavior exists.⁴⁸

Recent empirical evidence confirms not only the different constituencies a politician must satisfy, but also the different amounts of attention the support maximizing politician must give to each of these different groups. For example, not only does shirking affect a politician's support in primary and general elections differently (Wright, 1993), but evidence of shirking from the two stage residual approach disappears when measures of these broader constituency groups through either campaign donations (Fort, Hallagan, Morong and Stegner, 1993) or a congressman's president (Langbein, 1993) are controlled for.

While these last three studies make a very important point about how constituencies should be defined, the weaknesses of the two stage residual approach discussed in Section 4.2 affects the general applicability of their results. The few weak and inconsistent findings of shirking using the residual approach might have simply been a result of chance and the inclusion of almost any additional variables may be enough to affect it.

A final complication arises because not only is it important to identify the correct constituencies, but also the level of government transfers which will maximize constituents' support depends on the outcomes of other elections and the voting behavior of other politicians. For example, shirking by a politician can largely be neutralized by its effect on other elections. If a shirking politician provides more than the support-maximizing level of wealth transfers, that reduces the efforts of those benefiting from the transfers to elect other politicians who support their positions at the same time it increases the efforts by those who are net losers — lowering the support maximizing level of transfers in other elections. Aggregating over all politicians with the same constituency, the political market thus tends towards producing the support-

maximizing level of transfers. The efficiency of an individual politician's actions thus cannot be understood without looking at how his actions balance off the positions of other politicians (Jung, Kenny and Lott, 1994).⁴⁹

To summarize, the empirical evidence thus indicates that geographical and electoral constituencies are not coincident and that legislator voting is a function of the electoral constituency's interests. Models of electoral competition predicting convergence of candidate positions to the ideal point of the median voter (or any other voter) do not appear to be valid representations of electoral competition nor do they appear to be able to explain how legislators vote. The task at hand is to specify more accurately the electoral constituency. It is also obvious that if we are concerned about how well political markets operate, economists must examine more than simply whether individual politicians have deviated from their constituents' interests.

7. Conclusions

We set out to critically review the progress in answering two related questions: what determines how legislators vote and how can shirking by legislators be measured? In the first category, the hypothesis that legislators shirk in order to indulge their personal ideological preferences has led researchers astray. The theoretical underpinning is shaky on two counts. First, legislators who indulge their preferences at the expense of their constituents' preferences put themselves at a competitive electoral disadvantage. Second, the original two-stage procedure used to measure ideological shirking is severely flawed. Among many other problems, the residual measure of shirking implicitly assumes that the median voter is the relevant constituent-principal for the legislator-agent.

The empirical research overwhelmingly shows the risks that shirking politicians face. A large number of papers strongly indicate that congressmen's voting records are quite stable over time and do not respond to incentives that presumably induce shirking. Even small deviations result in the politician being removed from office. The evidence is consistent with political markets efficiently sorting politicians.

The presumption that a faithful representative serves the median voter is simply inconsistent with the empirical evidence. The common occurrence of a state having two distinctly different senators is an awkward phenomenon for the median voter model, which predicts that candidates' platforms will converge. Alternative models distinguish between a senator's geographical and electoral constituencies. Although different in approach, recent research emphasizes this distinction, and it offers empirical explanations for the spatial separation of a state's senators. Measurement of shirking can no longer be treated as a mechanical procedure which routinely includes the average values

of a district's residents' characteristics. Therefore, further delineation of electoral constituencies appears as a useful task for theoretical and empirical analysis.

Legislators face both the constraint of voters' interests and the campaign contributions of interest groups. While the simultaneous behavior of the actors in the political market is clear, the specifications of the structural equations are in need of theoretical refinement. Recent research on contributor behavior provides needed insight into the optimizing behavior of contributors. Yet, whether one believes that contributors should be included in any definition of a legislator's constituency, this work suggests either that the shirking induced by campaign contributions is minimized or nonexistent. Incorporating this work on contributor behavior as well as the work on electoral constituencies into a simultaneous-equations model appears to be a promising direction for research.

While better and more complete answers to the question of what determines legislator voting will no doubt be forthcoming, the theory and evidence regarding this subject tends to move in the appealing (to economists) direction of revealing the similarities between the behaviors of political and economic actors. Whether the indication of legislator shirking can progress beyond an examination of the consistency over time of the legislator's voting record is problematical. A different but related subject that this review has just touched on in passing is the efficiency of the political market as opposed to the faithfulness of the individual legislator-agents. Shirking by individual legislators tells us nothing about how well political markets as a whole work.

We hope future research will do more than identify whether opportunistic behavior by politicians exists. Still larger samples or improved techniques may ultimately show that politicians alter their behavior when the cost of shirking declines, and we should expect some level of shirking to exist since it is not costless to monitor political behavior. Yet, if significant shirking by individual politicians is eventually identified, there are strong reasons to suspect that such shirking is offset by changes in which politicians are elected to other offices. Testing this would then be the next obvious step since the ultimate motivation for this research has not been to see whether some politicians shirk but to determine how well political markets function as a whole.

The effort to identify shirking by individual politicians has created a mistaken emphasis for yet one additional reason. As Demsetz (1969) points out in another context, market failure – whether in economic or political markets – cannot be defined as simply occurring because some cost exists. The question is really what is the alternative to the mechanism being examined, and *Nirvana* is certainly not one of those alternatives. Without comparing the relative alternatives, research has no policy implications. The task is now to build upon these insights into how well political markets guarantee performance by comparing them with other markets such as the ones in which firms operate.

Notes

1. Kau and Rubin (1993: 152), who wrote some of the first papers to start this literature, credit Stigler (1971) with creating their initial interest in the literature being reviewed here.
2. Peltzman (1976, 1980) and Becker (1976, 1983, and 1985) have greatly advanced these early arguments by Stigler (1971), but still stayed true to his desire to avoid people's feelings about ideology.
3. Ironically, Danielson and Rubin (1977) accept Silberman and Durden's (1976) results and even try to find evidence that confirms their approach in other congressional votes. In examining how congressmen vote on energy regulation (primarily decontrol of crude oil prices), Danielson and Rubin find that economic interests, party affiliation, and what part of the country they represent explained a great deal of how politicians voted. They leave open the question, however, about why party affiliation and geography explain so much of how a politician votes. As they write (p. 128), "Why they (the politicians) did so has not been subjected to test."
4. Bennett and DiLorenzo (1982) adopt an approach similar to Kau and Rubin (1978) in trying to explain how politicians spend their staff budget allocations. The crucial difference, however, is that Bennett and DiLorenzo claim that the voting indexes they include do represent a politician's personal preferences. Bennett and DiLorenzo successively include the Americans for Democratic Action, AFL-CIO, and American Conservative Union voting indexes and finally party affiliation to explain the percentage of a Senator's budget which is returned unspent to the Federal treasury. They find that more conservative Senators return a greater proportion of their budgets and they take this as evidence that conservative politicians are indulging their personal preferences for fiscal frugality. While Bennett and DiLorenzo do try to control for other variables which proxy for constituency desires for frugality, their measures of Senatorial preferences are still quite likely to be picking up unmeasured constituency values. Their paper is the first study which analyzed the spending behavior of politicians for funds under their direct control. (See also Kau and Rubin (1982 and 1984).)
5. Richardson and Munger (1990) confirm Peltzman's (1984) argument and provide evidence that politicians well represent those who vote at the expense of those who do not vote.
6. Nelson (1994) provides a very interesting argument that our ideologies arise in part from economic trade-offs that we faced in the past. It may be costly for groups to change values that served them well in the past quickly. His point is that Peltzman's distinction between these two concepts makes no sense.
7. Wittman (1983) assumes that the candidate keeps his campaign promises if elected.
8. Six years later Wittman (1989) retreats substantially from this position in terms of its relevance to the working of the political market. Specifically, he states (p. 1397): "Elected officials can be viewed as agents and the voters as their principals. There is always the potential for opportunism by agents (e.g., not working hard, taking bribes, or adopting positions contrary to those that would be adopted if the voters were fully informed). Here, I argue that competition, reputation, monitoring, and optimal contract design reduce opportunistic behavior in the political sector and that principal-agent problems may be no more severe than in the private sector." He further states (p. 1398): "Competitors can gain great advantage by providing evidence of the opposition's shirking." See also Wittman (1977).
9. Actually the first-stage ideology regression is based on the legislator's satisfying the interest of the mean constituent rather than the median voter. This likely reflects problems of data availability. Furthermore, if the density function of voters' ideal positions is symmetric, then the positions of the median and mean voter coincide. Richardson and Munger (1990) make an additional distinction between the median voter and the median constituent.
10. Although common in the literature, the term "principal" is used loosely given the atomistic nature of constituency.

11. See also Lott (1986: 91, fn. 2), Lott and Reed (1989), Kau and Rubin (1993: 155), and Wright (1993: 106) for similar discussions. As we will discuss in Section 4.3, Dougan and Munger's (1989) approach differs from this approach because they believe that it is the sunk investment that a politician makes which guarantees his future performance. Dougan and Munger view past votes as creating this sunk investment, while Lott believes that past behavior provides a signal about the politician's preferences. Dougan and Munger's arguments thus firmly fit in with those papers which view opportunistic behavior as being limited by the threat of reelection. Bernhardt and Ingberman's (1985) paper should be mentioned in a discussion of an incumbent's reputation providing an electoral advantage, but the paper does not deal with the questions of whether a politician's ideological beliefs create or prevent opportunistic behavior by politicians.
12. Explanations which involve mechanisms other than ideology to prevent opportunistic behavior when a politician no longer faces the threat of reelection have been advanced. Alesina (1988) points to the possibility of side-payments between a vice-president and president. The president is thus constrained to continue performing his duties during his last term in office. However, because of potential free-riding problems, it is not exactly clear when this story applies. Presumably, if the president does his job during his last term, his entire political party benefits. The vice-presidential candidate is then at a disadvantage relative to any competitors that he faces because he will have to not only make this side payment but also to make campaign expenditures whereas his competitors must only make these campaign expenditures. While Alesina does not address this issue, presumably this problem could be solved in a country like Mexico where the president selects his successor for his party's presidential nomination. Alternatively, it might be the party which makes the side payment to the president. While this last point has not been empirically studied for the presidency, data for congressmen have been used to test whether individuals retiring from political office behave any differently when they or their children later receive government or lobbying jobs. Data for the politician's offspring also examines whether they later ran for political office. In none of these cases does future employment seem to effect political behavior (Lott, 1987a).
13. Earlier empirical work attempted to show that the cost of shirking varied with respect to the time a senator enjoys until his next reelection (Amacher and Boyes, 1978).
14. A large literature on entry barriers in political markets has sprung up. This literature includes Crain (1977), Coats and Dalton (1992), Hersch and McDougall (1994), Kalt and Zupan (1990: 119), Lott (1986, 1987a, 1987b, 1989), Netter (1985), and Yen, Coats and Dalton (1992).
15. Two earlier studies very briefly consider the notion of a politician's demand curve for the consumption good of personal ideology. Peltzman (1984: 210) interprets his results as being consistent with the law of demand. He finds evidence that measures of a politician's ideology tended to play a more important role when examining how politicians voted on social policy issues like abortion or school prayer but not in explaining votes on "run-of-the-mill economic issues." He states that "one way to read this result is that, if shirking is at all important, it is subject to the law of demand: the less that is bought, the higher the price (wealth gain or loss to principals)." Yet it is not clear why voters care less intensely about issues like abortion or school prayer than they do about regulatory issues which involve direct dollar transfers. Nor is it obvious that the psychic cost to a politician selling out his principles is greater in one case than the other. What Peltzman may be finding is that constituent characteristics may be more useful for identifying constituents' economic interests than social preferences. If so, then left-out variables, for which measures of a politician's ideology are proxies, may be more important for social than economic issues.

Kalt and Zupan (1984: 297 – 298) also provide some evidence that they interpret as being consistent with the law of demand. They find that while 5 out of the 67 senators not up for reelection "voted against" their personal ideology as measured by the League of Conservation

Voters index, 3 out of the 33 senators up for reelection also voted against this measure of personal ideology. While this difference goes in the predicted direction, the difference between 7 and 9 percent is hardly significant. Kalt and Zupan are only able to claim a significant result by dividing the number of senators who voted against their ideologies by the subset of senators for which the regressions incorrectly predicted their votes.

To our knowledge, these were the only two papers which attempted to provide evidence which was "consistent" with this ideology-as-a-consumption-good hypothesis prior to 1987.

16. Davis and Porter (1989) also examine the ideology-as-a-consumption-good hypothesis by testing for how shirking varies over politicians life-cycle. For other work see McGuire and Ohsfeldt (1991) and Parker (1989).
17. Because of the last period problem, risk averse voters may prefer a politician with strong ideological preferences with whom they disagree to some extent over a politician who tells the voters what they desire but who does not hold those positions very strongly.
18. Lott and Reed (1989) develop a formal model of the political sorting process in which finite-lived politicians have policy preferences that may differ from those of their electorates. Shirk-ing politicians are likely to be removed from office by the electoral process. The observed amount of shirking at a given moment varies inversely with the speed of the sorting process. (See also Francis, Kenny, Morton, and Schmidt (1994).)
19. Dougan and Munger (1989) provide empirical evidence that the threat of an upcoming election does not affect how a politician votes. Unfortunately, their empirical work is definitely biased towards not finding political shirking because of the way that they measure changes in the voting index (see Lott and Davis, 1992: 465 – 467). When some of the biases inherent are controlled for their results do, however, continue to hold true.
20. There is some question concerning what new information was added by this regression. As Van Beek (1991) writes, "Only one of these two specifications found some evidence that those who decided to retire during their last year in office changed their voting patterns between their second-to-last and last years in office. This single specification where Zupan found shirking is most closely analogous to the measure used by Lott in Table 3.B titled ADAACHA (the absolute change in the ADA index between the 94th and 95th Congresses). Interestingly, this is also the only measure looking at absolute changes in a voting index for which Lott had already found a statistically significant result." The numerous specifications reported by Van Beek were unable to confirm Zupan's conclusions. Both Van Beek and Zupan, however, use the residual approach first employed by Carson and Oppenheimer (1984).
21. The voting indexes used are the American Conservative Union, Americans for Democratic Action, National Security Council, National Taxpayers Union, and the AFL-CIO's COPE index.
22. Additional evidence using cross-sectional Congressional data for 1980 indicates that politicians who deviate from their constituents interests are removed from office and provides support for the notion of efficient sorting in political markets (Kau and Rubin, 1993).
23. Recent research using the National Taxpayers' Union index for 1975 to 1990 provides additional evidence of politicians' voting consistency over time (Reed and Schansberg, 1993).
24. As Wright (1993) also points out, part of this insignificance may simply result from the particular specification employed by Goff and Grier which relies on highly correlated lagged values. In turn, Goff and Grier (1993) claim that Wright's (1993) results may be misspecified because he is unable to control for the level of campaign expenditures in an election.
25. It is interesting to compare this work on shirking where the cost of shirking is not related to changes in behavior with other public choice work where constraints on political behavior continually find statistically significant and economically important results (Crain and Tollison, 1990: 3 – 42). There is no other area of public choice research where so many papers regularly report no relationship between changes in constraints and changes in political behavior. The implication is that the political markets are indeed working very effectively in sorting out deviant politicians. The reelection constraint appears to work so well that those that have been sorted find it relatively costless to stay within the constraint.

26. There is the implicit assumption in these two stage models that if two senators from the same state vote differently, at least one of the two senators must be voting differently from the interests of his constituents. (See Higgs, 1989, for a discussion that makes this assumption explicit.) One reason that this might not be true is simply because constituencies have diminishing marginal returns to electing an additional senator to represent them. If constituency A doesn't value the second senator who supports its positions as much as the first senator that it elects, it is quite possible that a second constituency B will value its first senator more than constituency A values its second but less than A values its first. For example, if the Democrats in a state have already won one of the two senate seats, they may not be willing to work as hard as they would have otherwise to win the second seat. Diminishing marginal returns to getting another senator may simply follow from diminishing marginal utility of income. For example, if constituency A increases its expected dollar transfer at a constant rate with each additional senator that they get elected, diminishing marginal utility of income implies that it will not value a second senator as much as it did its first (Jung, Kenny and Lott, 1994). The original basis for this argument can be found in Crain and Tollison (1976). Davis (1989) tries to explain why a state will elect senators from different parties based upon the return to getting influence within each party, but does not explain why the senators from each state will differ in terms of their view.
27. The view that it is the threatened removal from office which guarantees performance has been widely held in the literature (e.g., Nelson, 1976; Telser, 1976). Later papers include Dougan and Munger (1989) and Kalt and Zupan (1990).
28. Dougan and Munger (1989: 126 – 129) view their major contribution as identifying the sunk investment used to guarantee a politician's performance as his ideological label. However, while Dougan and Munger include a politician's intrinsic policy preferences in his utility function, they fail to explore how these preferences outside of their notion of sunk investments guarantee the future performance of politicians. Nor is there direct recognition of how the costs to creating reputation vary with the ideological beliefs of a politician. However, they do reference both Klein and Leffler's and Telser's (1980) discussion relating how it is the threatened removal from office which disciplines political behavior.
29. Dick and Lott (1993b) provide some qualifications to this argument by showing that sometimes even customers for private firms must rely on the preference of the firm's owners in order to guarantee performance.
30. See Fremling and Lott (1988) and Dick and Lott (1993a) for related discussions.
31. Telser's (1980) argument does not help when politicians are in their last period and know it, announce their retirement prior to their last election, face restraints on the number of terms allowed, or face voters who guess with a high degree of certainty when the politician will retire. Telser (1976) implicitly recognizes the inability of applying the argument in his 1980 piece to individual politicians when he emphasizes the role of long-lived political parties.
32. Similar complaints can be made against Coughlin (1986) and Ferejohn (1986). Crain and Goff (1986) implicitly argue against this approach when they claim that politicians are search and not experience goods.
33. Bender (1991) tests his model by analyzing congressional voting on two proposed amendments in 1974 to the Federal Election Campaign Act with vastly different impacts on reelection probabilities. He finds that congressmen are willing to trade off both their own and their constituents' ideological preferences in exchange for a sufficiently large increase in reelection probability. This research complements Bender (1988) and is a clear example of shirking for nonideological reasons. (See Fiorina (1974 and 1977) for a discussion of the outputs politicians produce.)
34. Chappell (1981b) investigates a potential trade-off involving a direct wealth transfer – whether a congressman's vote on a bill is influenced by the impact of the bill on his private financial interests. Chappell finds no support for this hypothesis but does point out that his

- data are limited in both scope and precision. Langbein (1993) hypothesizes that a congressman may sacrifice his constituents' interests to some degree to maintain a favorable reputation among the constituents by supporting a popular president, and she finds evidence consistent with her hypothesis. Her hypothesis is clearly related to the arguments of Peltzman (1984) and Dougan and Munger (1989) regarding the importance of investment in reputation by consistent ideological voting.
35. Voting and contributions for one of those bills, the 1977 cargo preferences bill, is analyzed in detail in Chappell (1981a).
 36. In contrast to Chappell's (1982) results suggesting no influence of contributions on voting, Stratmann (1991) uses the simultaneous probit-Tobit method to estimate a system of voting and contribution equations and finds that political action committee (PAC) contributions significantly influenced voting on 8 of 10 narrowly focused bills. Stratmann attributes the contrast in part to the broad scope of the bills in Chappell's study on the grounds that the impacts on the voting of contributions by competing interest groups may have cancelled out each other. Stratmann also allows for the possibility that interest groups contributions need not necessarily be monotonic functions of constituency characteristics. We discuss this last point in more detail later in this section.
 37. Other work has provided evidence that special interest groups tend to give relatively large contributions to the chairmen of committees (Grier and Munger, 1991).
 38. In a related and interesting analysis of vote trading by legislators, Philipson and Snyder (1992) argue that if offers to sell votes reflect reservations prices and bids represent marginal willingness to pay, then such vote trading (presumably facilitated by "floor managers" or party leaders) results in a Pareto superior outcome. A logical implication of their analysis is that to the extent that the reservation prices and bid prices are determined by constituent interests, the apparent shirking implied by an individual vote may in fact be part of a larger group of votes that actually furthers constituent interests more than in the absence of vote trading.
 39. There is also the question whether deviations caused by campaign contributions should even be considered as shirking. After all, why shouldn't campaign contributions be taken into account in evaluating the intensity or importance of individual preferences as much as voting? Incidentally, almost all political contributions are made by groups to congressmen who have members of that group living in the congressmen's districts. (Our discussion in Section 6 also deals with the problem of what is the relevant constituency which is being let down.)
 40. Some researchers have argued that such phenomena can be explained by shirking. For example, Hallagan (1989) builds a model of shirking as an explanation but his interesting preliminary empirical findings offer no support. Higgs (1989: 176) offers no explanation but simply asserts: "... both [of a state's senators] represent the same constituency. Whenever a state's two senators cast votes that disagree, we know that one of them is voting against the constituency preference." He further argues that even identical voting does not rule out the possibility that both senators are voting against constituency preference.
 41. Stigler (1972) argues that the Hotelling-based convergence of candidates' campaign positions to the ideal point of the median voter raises the question of why there should be more than one candidate. Peltzman (1984) raises the corollary questions of why voters should vote and, if they do, why they should not choose among candidates randomly. Romer and Rosenthal (1984) go further by making the general argument that empirical evidence contradicts all those formal voting models that predict candidate convergence to any position. These voting models include two-candidate deterministic voting models in one-dimensional issue space and two-candidate probabilistic voting models. See Mueller (1989: Ch. 10 and 11) for a concise survey and discussion of these models.
 42. See Mueller (1989: 185 – 189) for a more detailed analysis of the uncovered set.
 43. The industrial organization literature offers intellectual antecedents to Palfrey's analysis.

- Eaton and Lipsey (1975) argue that firms will generally be spatially separated in equilibrium, and, of particular relevance to Palfrey (1984), Prescott and Visscher (1977) show that firms will be spatially separated when they anticipate entry by new firms.
44. Furthermore, if geographical and electoral constituencies were coincident, as Kalt and Zupan implicitly assume, then Kalt and Zupan first-stage ideology regressions would exhibit stable coefficients across stratified samples of senators. Goff and Grier reject the null hypothesis of stable coefficients. Bender's (1994) results using stratified samples complement this approach.
45. One sees the genesis of this approach in Peltzman's (1976) analysis of regulation.
46. See also Crain and Tollison (1976), Kenny and Morton (1992), and Fort, Hallagan and Stegner (1991) for interesting related discussions. While Crain and Tollison do not deal with questions of shirking, they do discuss how achieving political success affects both the winning and losing coalitions' efforts in future elections. Crain, et al. (1986) discuss the gains to specializing in creating transfers which serves as an important building block for explaining why State Senators vote so differently.
47. As an extreme example of this tension between the internal (party members) and external (other voters) constituencies facing a politician, Demsetz (1989b: 268) points to the Libertarian and Socialist parties as being "less willing to compromise their ideological positions to win office than are the Democrat and Republican parties."
- Wright (1993: 106) makes a related observation when he points out, "... previous studies suggest that ideological activity may manifest itself as legislative behavior that deviates from constituent interests. What is often overlooked is that this empirical approach requires researcher to determine the legislator's relevant constituency. In reality, a constituency could be defined to include any group or set of groups – voters, contributors, political parties – that is important to a legislator's reelection efforts."
48. The evidence offered for this hypothesis is that the market share for firms like General Motors and Ford varies less over time than the shares for the Democrats and Republicans. The notion being that internal preferences matter more in political markets than economic markets (Demsetz, 1989b). Yet, the evidence that we discussed in Section 4 is also relevant for this hypothesis.
49. There are only a few papers that look at whether there are systematic effects on congressional voting of shirking. Lott (1987), Reed and Schansberg (1993), and Lott and Bronars (1993) find no systematic changes in voting patterns as the costs of shirking change. The two stage residual approach cannot address this question because the first stage constrains conservative "shirking" to be balanced off by liberal "shirking."

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