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The Political Dynamics of Higher Education Policy

Despite the growing demand for higher education in the United States, there has been a steady decrease in public financial support as a share of states' income, as a policy priority, and as a share of overall institutional costs (Toutkoushian, 2009). In fact, as the private benefits going to those who attend college keep growing, as politicians realize that higher education can find funds elsewhere, and as fiscal pressures build to focus on other public needs, the fairness of and very need for government subsidies for higher education have come under scrutiny (Kane, Orszag, & Apostolov, 2005; McLendon & Mokher, 2009; Vedder, 2007). These trends have been followed by increased demand for accountability and the reshaping of the nature of the relationship between institutions and state governments (Zumeta, 2000). Most importantly, following broader trends in U.S. politics, higher education policy debates have become more contentious and polarized, with a growing focus on the instrumental benefits of higher education, to the detriment of the collective *and* redistributional roles of public investments in the tertiary sector (McCarty, Poole, & Rosenthal, 2006; McMahon, 2009; St. John & Parsons, 2004).

While the policy shift in favor of the growing role of the private sector and private financing in higher education has received a lot of atten-

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tion, scholars and policymakers have been less interested in questions such as: Why are governments' overall amounts and type of spending on higher education often misaligned with national and subnational economic *and* social needs? How do political dynamics affect the cost-sharing implications of some of the policy solutions currently adopted in the tertiary sector? Why do we see a rise in preferences for narrow vocational education programs, when employers increasingly demand workers with a broader and flexible range of skills? (Bauerlein, 2010). To answer these, one must sort out the links between political preferences, political-economic institutions, and higher education policy.

Indeed, recent scholarship has shown that politics matters in higher education policy outcomes, but much less is known about how it matters. The effects of public opinion, politicians' preferences, and political institutions vary according to the context, timing, and nature of the higher education policy under evaluation (Barrilleaux, Holbrook, & Langer, 2002; Besley & Case, 2003; Rigby, 2007). In this paper, I take on one piece of this process and ask the question: How does the distribution of political preferences shape higher education policy decisions?

I argue that an explanation of how politics matters may be found in the multidimensional character of higher education as both a provider of public and private goods and its diverse sources of financial support. Government spending on and regulation of higher education disproportionately transfers resources across different income groups, from the general population to those that have access to these educational services (Doyle, 2007b; Heller, 2005). At the same time, government spending on universities also provides collective benefits, some of which are clear public goods (e.g., cancer research). Either of these two characteristics may become more salient (i.e., important to politicians and the general public) and have effects on who supports various types of funding or regulation at a particular point in time.

Informed by the theoretical positive political economy literature, I propose an analytical framework to help understand political dynamics in higher education policy. The next section presents the model and, informed by recent higher education scholarship, describes how spatial models of political competition may be applied to higher education issues. The third section offers an application of the model by exploring the relationship between the distribution of political preferences in the California state legislature and higher education spending decisions. The last section concludes with a discussion of the potential applications of this analytical framework for higher education research and policy.

Theoretical Framework: A Spatial Representation of Higher Education

Spatial models of politics have been part of the toolset of economists and political scientists for more than a generation. The median voter model continues to be the "workhorse" of political economists and the foundation of a large body of literature assuming that competition for office leads candidates and parties to choose policies that most closely align with the interests of the median voter (Besley & Case, 2003). Refined versions of this framework have been successfully used to explain the politics of policy dynamics in various contexts, including fiscal policy, policy gridlock, abortion, and health care policy (Ainsworth & Hall, 2011; Alt & Lowry, 2000; McCarty et al., 2006; Volden, 2006).[1] Nonetheless, the median voter model is not yet a common theoretical framework in higher education scholarship (Doyle, 2007b). As a result, I describe it in more detail here through an example.

Assuming that there is only one issue-area that politicians argue about, e.g., the rate of taxation (from 0 to 100%), every legislator has a preference about what the tax rate should be. This preference may be attributed to personal ideology, constituent preferences or a combination of factors. Then, if we draw a line segment from 0 to 100 and place each legislator at his or her ideal point, such that someone who prefers a tax rate of 50% is at the halfway point on the line, someone who prefers 25% is halfway between 0 and that point and so on. If the actual tax rate is exactly at a legislator's ideal point, he or she is satisfied. As the actual tax rate moves away from the legislator's ideal point in either direction, the legislator becomes increasingly unsatisfied. If a legislator prefers 25%, he or she is equally unsatisfied if the actual rate is 20% or 30%, as they are the same distance away from his or her ideal, and he or she is even more unsatisfied if the actual rate is 15% or 35%. The technical phrase for this phenomenon is that legislators have symmetric single-peaked preferences.

Now, using these ideal points, we can make predictions about legislator voting behavior. Suppose that there are five legislators with varying tax rate preferences (one prefers 10%, another 20%, a third 30%, a fourth 40%, and the last 50%) and that the status quo tax rate is 42%. If a bill comes before the legislature cutting taxes to 25%, it will pass with three votes: the three legislators who prefer 10%, 20%, and 30% will all vote yes, as the bill moves the actual tax rate closer to their ideal points; the 40% and 50% legislators will vote no, as the bill moves the tax rate away from their ideal points. A "low-tax" coalition has formed to pass this bill.

If the legislators consider another issue-area, we simply add another dimension to our spatial model. Say the legislators now decide to imple-

ment a tariff on imported goods; we add an "up-down" dimension to our "left-right" dimension to get a two-dimensional Cartesian plane, and legislator ideal points can be mapped based on tax preferences ("left-right") and tariff preferences ("up-down"). Additional issue-areas can be mapped to additional dimensions, such that each issue can be associated with one dimension in the space (Hinich & Munger, 1997). The policy space ultimately depends on which policy issues are salient, how issue-areas are linked, and which sample of legislators is included. For example, although liberal state legislators in the northeastern states usually favor more spending on financial aid, the opposite is true in western states due to size of postsecondary enrollment in private institutions (Doyle, in press).

Based on assumptions about behavior and preferences in the spatial model, Poole and Rosenthal (2007), using scaling methods, have developed a nonpartisan measure of the ideological positions of legislators. The authors gathered historical data on roll call votes for the U.S. Congress and were able to produce scores for all legislators that are comparable over time. Their extensive empirical analyses of voting patterns over 200 years have shown that most issues fall within the standard left-right continuum, that is, conflict over redistribution or the extent to which governments should interfere in markets. Legislators tend to "bunch together" into a group favoring redistribution or into a group opposing it. This means that, when analyzing two different policy areas, legislators close to each other in the "space" are likely to support the same set of policies. For example, legislators in favor of universal health care usually vote for increases in spending on welfare programs.

Figure 1 presents two hypothetical distributions of legislators in the standard left-right continuum. The first shows a larger concentration of moderates whereas the second presents a hypothetical legislature with members at the extremes of the political spectrum. The latter constitutes a polarized legislature, in which there are wider differences in policy preferences among its members. The political and policy implications of each distribution have been the center of much of the recent scholarship in U.S. politics and comparative political economy (Bartels, 2008; McCarthy et al., 2006; Smith, 2007).

Using the standard left-right economic dimension as a reference, Figure 2 presents a hypothetical distribution of ordered policy preferences in higher education. On the extreme left, a hypothetical legislator supports, for example, significant government investment in higher education, an extensive system of public universities, free tuition, and open access. In sum, higher education would be provided in the same fashion as K–12 education, which governments have a responsibility to

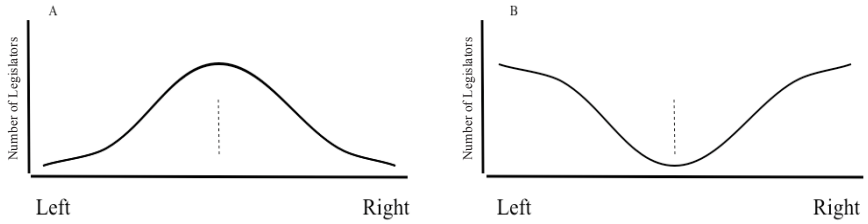

FIG. 1. A hypothetical distribution of legislators with more moderate members compared to one with a more polarized membership.

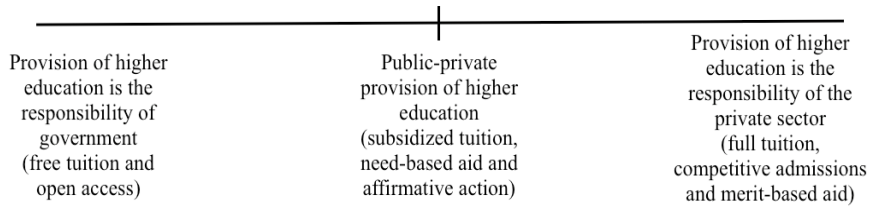

FIG. 2. An illustration of the one-dimensional higher education policy space, reflecting the standard left-right ideological spectrum from more to less government intervention in the economy (spending, provision of services, regulation).

offer to all. This set of preferences aligns with a social justice orientation in educational priorities that favors the least advantaged in society, informed by the work of political theorists such as John Rawls (St. John & Parsons, 2004).

In comparison, a hypothetical moderate legislator would be more likely to support a version of the current U.S. system of public, private non-profit, and private for-profit universities.[2] In this case, public funding would be coupled with private sources of support for students. Affirmative action in admissions would be common practice, as would government regulation of the private sector. Finally, an extreme conservative would support only the private provision of higher education, merit-based aid programs (if any), and admission to universities only on a competitive basis. Here, the theoretical foundations for these preferences have their origins in the utilitarian tradition from economics.

There are many issue dimensions in higher education, but most of the time policy preferences align with what will be called herein a "redistributive dimension" (i.e., policies invariably involve some transfer of

resources from one group of constituents to another through government spending, subsidization, or regulation). Poole and Rosenthal's (2007) work provides ample evidence to support this assumption. McCarty, Poole, and Rosenthal (2006) also show the growing salience of income in determining voter and legislators' preferences, making contemporary legislation disproportionately focused on redistributive issues (i.e., financial aid for low-income students). As a result, one can assume that a legislator who supports a public system of universities is also likely to favor spending on need-based aid for students. Conversely, a legislator who thinks that universities are too liberal or inefficient is also likely to support merit-based financial aid.

The one-dimensional representation of conflict over redistribution provides a powerful and parsimonious tool by which to understand how politicians make choices in higher education policy. However, by using the standard left-right ideological continuum, inconsistent policy positions emerge in many instances. For example, conservatives may not support increases in the funding for need-based aid programs in postsecondary education because they either dislike programs targeting the poor, in principle, or they believe that support for higher education should be based on merit.[3] Alternatively, conservatives may prefer spending on need-based student aid to spending on public universities, based on the argument that market mechanisms of financing higher education are preferable to the public provision of services by governments.

Another classic example of apparent ideological overlap is public spending on community colleges. Within the higher education budget across states, community colleges tend to receive support from both sides of the political spectrum, and spending levels are much more likely to be protected during recessions (Callan, 2002; Center for the Study of Education Policy, 2006). However, there are differences in motivations behind this apparent agreement over spending priorities. Liberals support community colleges because they consider these institutions to be a fundamental instrument of access to higher education, and hence social mobility, for lower-income students. In contrast, conservatives tend to support community colleges due to their cost-effectiveness and contribution to workforce development.

I propose that, unlike many other policy areas, to understand political competition in higher education, one must concurrently consider two issue dimensions: the aforementioned "redistributive dimension" and what will be called herein a "public good" dimension. Given that higher education provides both public and private goods leading to public and private benefits, policymakers keep these two dimensions in mind, or consider them separately conditional on economic or political circum-

stances, whenever they make decisions related to spending and regulation. Indeed, economists of higher education have pointed out the difficulty in identifying the public/private costs and benefits, within each function of higher education, and the inevitable trade-offs between price, size of public subsidy and quality (Archibald & Feldman, 2010).

In the first case (the redistributive dimension), there is a transfer of resources, through taxation or regulation, from the whole population to a particular group, specifically college students and their families. This transfer can be more or less regressive. The distributional outcome depends on the overall tax system and how states choose to spend on higher education, either by subsidizing various types of institutions or students through need-based or merit-based aid or by providing tax breaks (Doyle, 2007b; Heller, 2005). This dimension also can encompass policy choices that involve more or less government intervention in the higher education sector. For example, the establishment of performance-based accountability requirements influences institutional goals and priorities, hence affecting spending patterns (Alexander, 2000).

In the second case (the public good dimension), politicians take into consideration that the transfer of resources from taxpayers to higher education produces benefits for the whole population through positive externalities and other collective benefits. These may include classic public goods, such as medical breakthroughs, or collective goods, such as less income inequality and poverty or more state economic growth and development (Aghion et al., 2005; Boix, 2003).[4] Other perceived public benefits of higher education include better social indicators (e.g., less crime, better health, a bigger tax base, civic engagement) in states or countries with higher levels of education (Baum & Ma, 2007).

Figure 3 provides a representation of the two issue dimensions using the spatial analogy. Here, two hypothetical legislators could be at the same level, that is, in agreement over preferred policy positions, in the vertical dimension of the graph. In this case, they agree on overall financial support for higher education. In contrast, they can differ on how to spend the allocated resources, which would be represented by different positions in the horizontal dimension. One might prefer targeted redistributive policies, reflected by choosing to spend on need-based aid combined with higher tuition, while the other might support low tuition for all students. The former would be located closer to the center of the spectrum, as compared to the latter. Alternatively, two hypothetical conservative legislators may agree that any higher education spending should take place through market mechanisms (preference for spending on student aid over spending on public universities) but differ in their views over the share of public funds that should be committed to

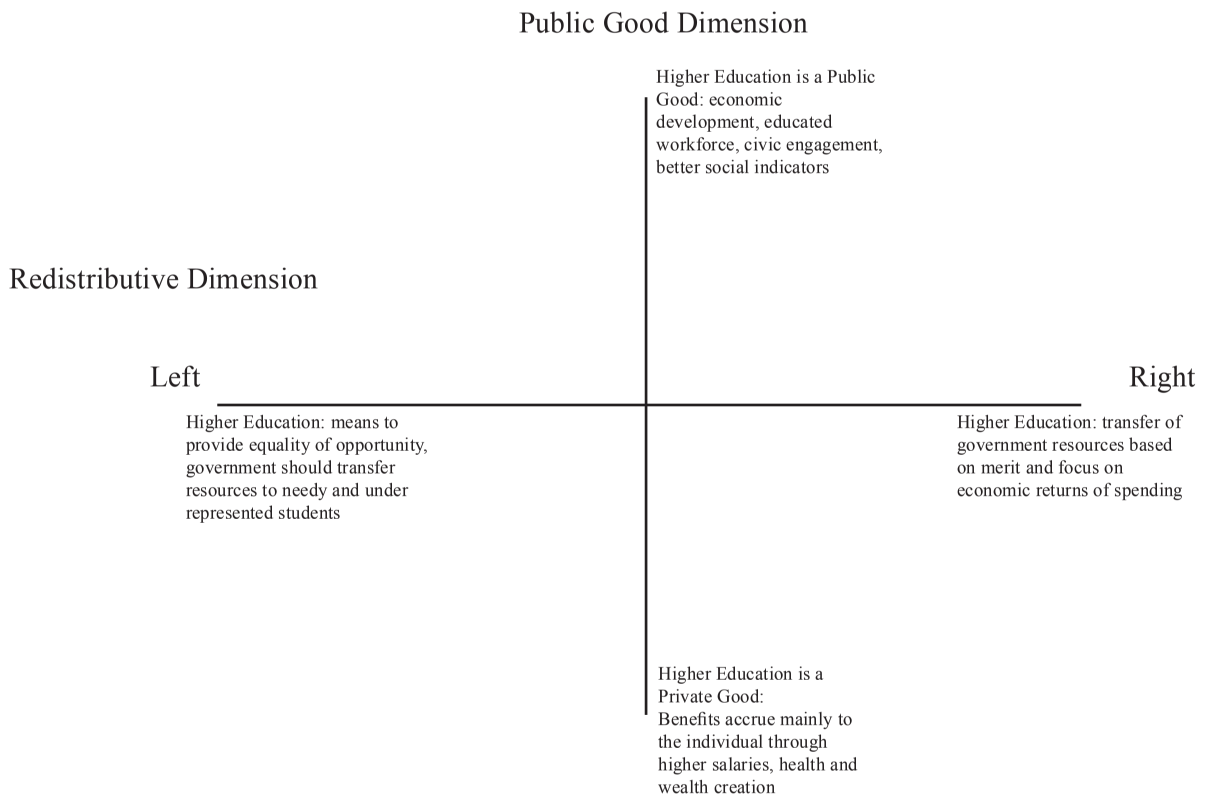

FIG. 3. An illustration of the two-dimensional higher education policy space. The "redistributive dimension" reflects the standard left-right ideological spectrum from more to less government intervention in the economy. The "public good" dimension represents legislators' policy preferences over higher education as a producer of economic externalities and public benefits.

higher education. In this case, the former would be placed rightward in the upper right quadrant while the other also rightward but in the lower right quadrant.[5]

This representation of higher education policymaking helps explain one of the most puzzling characteristics of political dynamics in this field: the great instability of partisan and ideological positions across states/countries and over time. A multidimensional approach leads to a much more complex web of possible political coalitions and cyclical changes in discourse on the role and relevance of higher education and, most importantly, on determining who should pay for it. This framework may serve as a starting point for more complex analyses that incorporate the mediating effects of institutional constraints and political competition (Besley & Case, 2003; Porterba, 1994; Rizzo, 2006). In the next section, I present an application of the model and explore how political ideology may affect state higher education spending decisions and budgetary trade-offs.

Empirical Illustration: Ideology and State Support

Recent scholarly research has shown that there are clear ideological and partisan differences in legislators' views on higher education issues. Doyle (2010) estimated U.S. senators' preferences based on roll call votes and found that, as previously shown by Poole and Rosenthal (2007), for other policy areas, their ideal points fall along a recognizable left-right continuum. Despite these results, research on the political determinants of higher education spending still offers conflicting evidence about the direction and relevance of the relationship between political ideology and various measures of state spending on higher education (see McLendon et al., in press, for an comprehensive review).

The usual hypothesis put forth in this literature is that liberals are more likely to spend on higher education in absolute terms and as a share of states' budgets (Archibald & Feldman, 2006; McLendon et al., 2009; Nicholson-Crotty & Meier, 2003; Tandberg, 2010a; Weerts & Ronca, in press). Many of these contributions use a measure of the ideology of a state's citizens rather than the ideological preferences of state legislators (Berry, Ringquist, Fording, & Hanson, 1998). The assumption is that there is a clear relationship between public opinion and legislators' choices about spending and policy (Erickson, Wright, & McIver, 1993). The effect of the preferences of legislators themselves is tested through various measures of partisanship (share of the legislature or unified institutional control). The findings from these studies vary widely, without a discernible pattern for the direction or relevance of the relationship.

There are three limitations to this empirical strategy. First, research in political science has shown that citizen and legislator ideological preferences may diverge due to the nature of electoral institutions in the U.S. (Cox & Katz, 2002) and that partisanship and legislators' ideological preferences may not be aligned, depending on the legislature and the period under consideration (McCarthy et al., 2006). As a result, the impact of legislators' ideological preferences on spending decisions varies with political institutions, and outcomes frequently diverge from the preferences of the median voter (Besley & Case, 2003).

Second, both liberals and conservatives may favor more spending but for different reasons. It may be that liberals see universities as a necessary condition for social mobility, but they also can favor K–12 spending or perceive higher education spending as a transfer of resources to middle- and upper-middle-income families. Alternatively, conservatives may focus on the economic benefits of higher education (e.g., state economic growth, technological competitiveness), preferring to spend on workforce development rather than on welfare; or, as argued by Doyle (2007b), their strategy may be a conscious one for the purpose of subsidizing specific groups of the population.

Finally, as argued here, political competition in higher education happens in a multidimensional policy space. As such, the role of political ideology in spending decisions may vary, depending on the relative salience of the redistributive versus public good dimensions, which are affected by variables such as economic conditions, electoral cycles, and competing policy priorities as well as by the distribution of legislators across the ideological continuum.

Assuming that the relative salience of the two dimensions is constant, one can focus on the relationship between political ideology and state spending, given a different distribution of ideological positions.[6] As shown in Figure 1, the distribution of political preferences can be more or less polarized, that is, there may be more legislators who hold extreme positions on issues (e.g., "higher education is mainly a private good," "spending on student aid should be based on merit alone") or a higher concentration of moderates (e.g., "financing of higher education should happen through a combination of public and private sources"). Here, polarization describes how much liberals and conservatives diverge on their policy preferences and not how electorally vulnerable legislators are or how closely divided the legislature is.

A more polarized distribution of political preferences has a few important implications, which are extensively documented in the political science literature (McCarthy et al., 2006). For example, there is an increase in the political clout of single-issue groups and shifts of focus

toward single issues, instead of the broader trade-offs involved in policymaking. There is an increase in political gridlock, limiting the likelihood of policy change or policy choices that involve complex coalition building (Rigby & Wright, 2008). In higher education, examples of the emergence of powerful single-issue groups can be found in the growing contentiousness of the debates over affirmative action in admissions and in state tuition for illegal immigrants.

Polarization of political preferences also leads to an increase in legislative gridlock and disagreement over various spending choices. In light of the model proposed here and empirical evidence in the political science and higher education literatures, the growing polarization of political preferences has, hypothetically, two main implications for higher education spending decisions. First, as politicians move to the extremes of the ideological spectrum, political competition takes place mainly in the redistributive dimension, while the public good dimension of higher education becomes less salient. As a result, there is less overlap in policy preferences between conservatives and liberals, leaving less room for compromise. Second, the very idea of higher education's being a public good comes into question, giving clout to the argument that subsidies should be more targeted (Vedder, 2007).

In sum, polarization of political preferences leads to what can be understood as one-dimensional thinking. Here, preferences become more limited as well as focused on single issues. Multidimensional thinking, in which there is room to assess the various trade-offs involved in state spending decisions in regard to higher education, becomes much less common. Both Democrats and Republicans in a polarized environment will look at the redistributive dimension over the public good dimension, and because higher education is not a platform issue for either party (that is, each party has ideological reasons both to support and to oppose higher education spending), there will be decreased support for higher education (McLendon & Mokher, 2009; Rigby & Wright, 2008).

Figures 4 and 5 show how the political polarization of ideological preferences can be represented in the higher education policy space. Figure 4 is a hypothetical distribution of preferences where there is more overlap in the distribution of liberal and conservative legislators, that is, some have similar policy positions on higher education issues. Figure 5 presents a hypothetical highly polarized distribution of ideological preferences, whereby liberals view higher education spending as a public good but also believe that spending should transfer resources to the lower-income segments of the population. Conservatives in this scenario think that public funding for higher education should be minimal

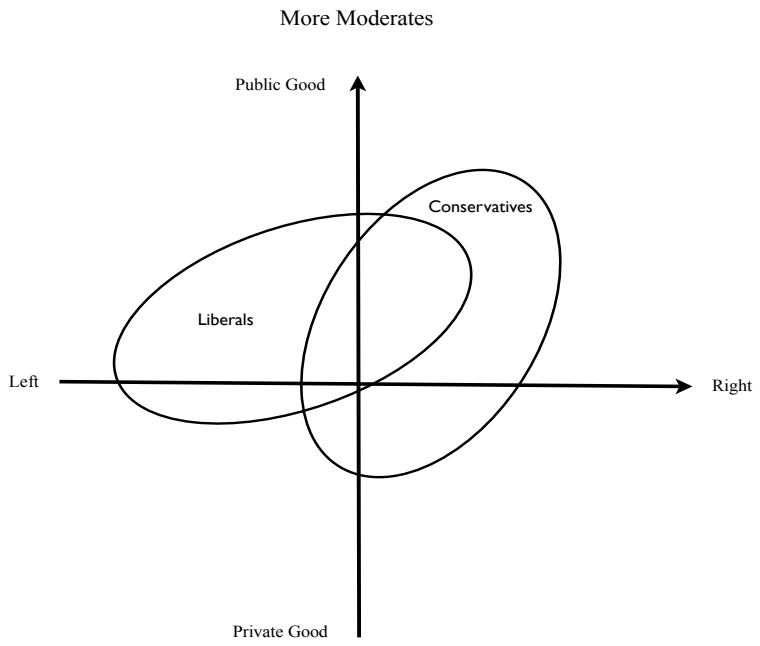

FIG. 4. Hypothetical distribution of legislators' policy preferences in a two-dimensional space.

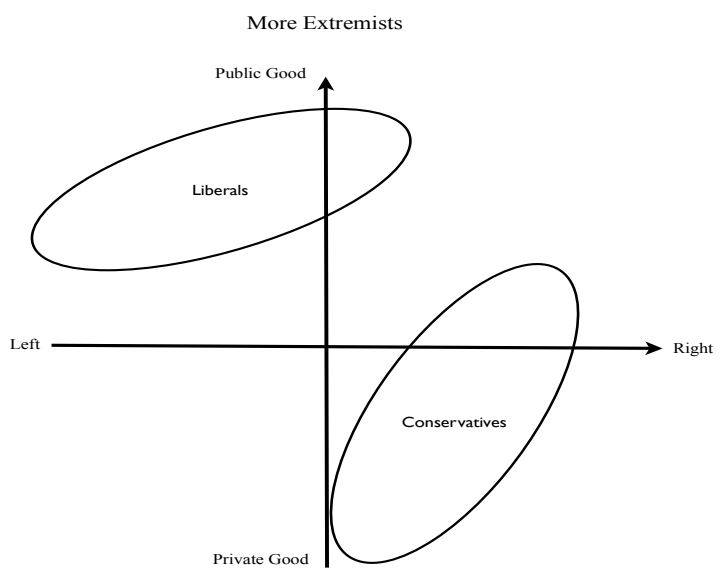

FIG. 5. The effects of hypothetical increase in polarization on the distribution of legislators' policy preferences in a two-dimensional space.

and that any public funding should follow more market-oriented models of financing.

Based on the previous discussion, one can expect that, as political polarization increases, states' commitment to higher education as a share of income and of states' budgets will decrease. I test this argument here using California data from 1976 to 2006. California has led the national trend, whereby the electorate has become more partisan and ideologically polarized (Jacobson, 2004). It is, in many ways, a microcosm of the U.S. as a whole. California has achieved high levels of partisanship, most legislatures' general elections are predetermined, and there is no serious contest in assembly general elections by the two parties (Masket, 2009). Rather, there is a weakening of the electoral connection (Fiorina, 1999).

California is presently also the only state for which roll-call data are available for an extended period of years. As a result, I was able to obtain *state-level* legislative ideology scores, making it a much more representative measure of trends in political preferences, independent of partisanship. Having a Democratic-controlled legislature throughout this period has also enhanced my confidence in the importance of the relationship between political polarization and state higher education support trends observed.

Data

Data for the illustration provided in this section come from various sources. A table containing a description and sources can be found in the Appendix.

Dependent Variables

This paper uses two measures of state support for higher education. The first measure is the share allocated to higher education in California's state budget, more specifically, total higher education appropriations as a share of state general fund expenditures. This variable tracks yearly change in the share of the state budget allocated to current operations for higher education; hence, it does not include capital expenditures or debt services. This is a commonly used proxy measure for higher education's position relative to a state's other policy priorities (Tandberg, 2010b).

Looking at the relative share of the budget allocated to higher education reveals the explicit and implicit trade-offs faced by legislators when formulating the budget (Gordon, 2007). Certainly, funding requirements from ballot initiatives and federal-state partnerships in entitlement

spending increasingly mandate specific levels of funding, which should lessen the amount of discretionary funding available; yet, California legislators have shown a willingness to borrow and spend beyond their revenue base. In allocating money, legislators reveal their latent preferences about how much they value each spending category, including higher education.

Most importantly, this measure also can be construed as a preliminary indicator of the redistributive dimension of higher education. That is, as legislators decide budget priorities, they also reveal their preferences regarding how to allocate resources across the various policy areas. They also reveal their preferences in regard to the trade-offs between providing collective or particularized benefits through policy expenditures (Jacoby & Schneider, 2001). This trade-off at one point in time is what I capture with the relative share dependent variable.

The second is a common measure of overall state commitment to higher education widely used in the literature: tax fund appropriations per $1,000 of state personal income. This measure tracks, in real terms, how much of the state's wealth the California government is allocating to higher education. I use it as a proxy measure for the public good dimension discussed in the model.[7] Like most used indicators for state commitment to higher education, this measure has limitations. Increases in personal income observed in the past three decades have many causes unrelated to higher education, thus, one must be cautious. However, it remains a good proxy for my goals to ascertain legislators' willingness to commit a share of overall income in a particular point in time.

Independent Variables

The key variable in the hypothesis set forth here is the level of political polarization in the California state legislature. To measure legislators' ideological and policy differences, I use Poole and Rosenthal's (2007) method of analyzing the roll-call votes.[8] Employing a technique similar to factor analysis, the authors constructed coordinate variables that place each member of the legislature in a vote-predicting space (DW-NOMINATE scores). Essentially, each legislator is given a score, which lines them up on a single dimension, and like-minded legislators get scores that group together. The first dimension scores locate most legislators' ideological divisions on major issues quite well. The great advantage of this measure is that it is comparable across legislatures and over time, permitting consistent analyses of cross-sectional and time trends.

The polarization measure comes from looking at the distance between the average party scores. First, I take the average the DW-NOMINATE scores of all Democratic state representatives, then the average of all

Republican state representatives. Then I calculate the distance between these two (the absolute value of the difference between the Republican and the Democratic average). The data for California follow the national trend of increasingly polarized legislative bodies (Gordon et al., 2004; Jacobson, 2004).

Democratic Party Strength is a continuous measure of the proportion of Democrats in both chambers of the legislature. Most of the higher education literature on party effects on spending decisions hypothesizes that Democrats are more likely to spend than are Republicans (McLendon et al., 2009). Here, the variable controls for independent partisan effects.

Although the main variable of interest is political polarization, I control for the separate effect of Government Ideology as well. The variable is the average of the DW-NOMINATE scores for the entire legislature. However, the proposed model leads to the hypothesis that political ideology matters only insofar as how it is distributed and not as determined by the mean or median position of the overall legislature. The model also includes standard measures controlling for economic cycles and the nature of budgeting in higher education. These variables are State Revenue per Capita, Unemployment, and Tuition at four-year institutions (lagged).

Other potentially relevant variables explored in the literature are not reported here because they were insignificant across various specifications, and their inclusion in the model did not change, in any substantive way, the findings (party of the governor, unified democratic control, public postsecondary enrollment, and share of the population 18–24).

Methods and Results

The model presented here is a time-series regression analysis using a Newey-West covariance matrix to account for the autocorrelation common in datasets with government spending variables (Greene, 2005). This estimation technique provides standard errors that are robust to the presence of autocorrelation. Other applicable estimation techniques were attempted as robustness checks (regression with a lagged dependent variable, Prais-Winsten, AR (1), and first-difference regression) in an effort to control in other ways for autocorrelation, heteroskedasticity, and other common structures in time-series data. Importantly, the main findings remained consistent across specifications. Tables 1 and 2 present the results.

The results confirm the hypothesized relationship between political polarization on higher education spending, both as a share of the state's

TABLE 1

The Impact of Polarization on State Higher Education Spending 1976–2006

	HE Share (1)	HE Share (2)	Approp (1)	Approp (2)
(Intercept)	0.1862***	0.1807***	23.8725***	20.1841***
	(0.0131)	(0.0119)	(4.5377)	(4.6753)
Unemployment	-0.0005	-0.0007	-0.2527**	-0.2984***
	(0.0010)	(0.0009)	(0.0774)	(0.0734)
State revenue per capita (in $1000)	-0.0009	-0.0019	0.1940	-0.0513
	(0.0018)	(0.0016)	(0.2979)	(0.2286)
Lagged tuition (in $1000)	-0.0088***	-0.0079***	-0.8839***	-0.7322***
	(0.0009)	(0.0009)	(0.1616)	(0.1409)
Polarization (Mean party scores)	0.0416***		7.8851***	
	(0.0044)		(2.0309)	
Legislator ideology	-0.0000	0.0000	-0.0010	-0.0010
	(0.0000)	(0.0000)	(0.0042)	(0.0039)
Democratic strength	-0.0483**	-0.0341†	-3.4876	1.6301
	(0.0166)	(0.0169)	(5.5888)	(5.1621)
Polarization (Median party scores)		-0.0431***		-6.5519**
		(0.0057)		(2.1701)
N	30	30	30	30
R^2	0.9650	0.9649	0.9113	0.8867
Adj. R^2	0.9559	0.9558	0.8881	0.8572
Resid. Sd	0.0035	0.0035	0.6005	0.6784

Note. Robust standard errors in parentheses

† significant at $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

TABLE 2
Robustness Checks for Table 1

	HE Share				Appropriations			
	Prais-Winsten	AR(1)	Lagged DV	First-Differenced	Prais-Winsten	AR(1)	Lagged DV	First-Differenced
(Intercept)	0.1851***	0.1903***	0.1486***	-0.0000	21.3086***	18.7776***	14.5467***	-0.0533
	(0.0247)	(0.0278)	(0.0253)	(0.0008)	(4.1594)	(4.4154)	(1.5661)	(0.1516)
Unemployment	-0.0006	-0.0007	-0.0010	0.0001	-0.2746*	-0.2694*	-0.3036***	-0.2656
	(0.0006)	(0.0006)	(0.0009)	(0.0009)	(0.1069)	(0.1130)	(0.0657)	(0.1586)
State revenue per capita (in $1000)	0.0017	-0.0043*	-0.0014	-0.0011	0.0263	-0.1669	-0.0944	-0.1685
	(0.0018)	(0.0019)	(0.0015)	(0.0026)	(0.3008)	(0.3161)	(0.1617)	(0.4793)
Lagged tuition (in $1000)	-0.0083***	-0.0050***	-0.0054*	-0.0000*	-0.8107***	-0.7504***	-0.3140*	-0.0003
	(0.0011)	(0.0015)	(0.0024)	(0.0000)	(0.1884)	(0.2304)	(0.1498)	(0.0004)
Polarization (Mean party scores)	-0.0412**	-0.0385*	-0.0367***	-0.375†	-6.5685**	-4.2690†	-5.2723***	-1.5568
	(0.0116)	(0.0175)	(0.0043)	(0.0211)	(1.9857)	(2.4974)	(0.7777)	(3.8712)
Legislator ideology	0.0000	0.0000	0.0000	0.0001*	-0.0010	-0.0011	-0.0003	0.0016
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0048)	(0.0041)	(0.0031)	(0.0042)
Democratic strength	0.0435	0.0556†	0.0479**	0.0654*	0.3462	1.0984	0.5329	0.0650
	(0.0301)	(0.0284)	(0.0141)	(0.0300)	(4.9908)	(4.8790)	(2.2226)	(5.4959)
Lagged HE share			0.3268				0.4644***	
			(0.2085)				(0.1083)	

Note. Robust standard errors in parentheses
† significant at $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

budget and per $1,000 of state personal income. The fact that different measures of higher education spending showed evidence of a statistically significant relationship offers preliminary support for the argument that, as politicians become more polarized, higher education becomes a loser in the competition for states' funds.[9]

Another finding from the analysis is that Democratic strength in the California legislature is a significant and negative predictor of the share of state expenditures appropriated to higher education. This means that, as the share of Democrats in the legislature increases, higher education's share of the budget diminishes. There are two possible hypotheses for this observed pattern. First, it may be the case that Democrats indeed prefer expenditures on programs clearly targeted toward low-income constituents (e.g., welfare, K–12 education). As the Democratic share of the state legislature increases, these preferences are reflected in spending choices. Alternatively, as political competition in the legislature increases, there is pressure for compromise in spending priorities. As argued earlier in this paper, the ability to compromise is fundamental for decisions related to higher education. This result invites further quantitative and qualitative investigation. A study by Weerts and Ronca (in press) offers empirical evidence for both arguments in comprehensive comparative analysis of state support for higher education by Carnegie class.

In comparison, Democratic strength turned out to be insignificant and negative in the second dependent variable, overall state commitment to higher education. Because spending levels are much more sensitive to economic conditions, it is expected that political variables turn out to be weaker predictors in the model. Nevertheless, this result reinforces the argument that Democrats in California are less likely to support higher education compared to their Republican counterparts. The mechanisms explaining this effect require further investigation.

Legislators' ideology was negative and insignificant in both models. In light of previous research, this is not surprising. However, the negative coefficient points to differences between the effects of state citizens' liberalism, found to be positive elsewhere, and legislators' liberalism on higher education spending (Doyle, 2007b). Research in political science on the relationship between public opinion and policy decisions can be a rich source to help to understand these mechanisms. Jacoby and Schneider (2001) have shown that the impact of public opinion on policy usually happens through the partisanship of states' citizens and not through their ideology. Doyle (2007a) has investigated these relationships at the federal level, but they remain unexplored at the state level in the area of higher education.

Overall, the results provide preliminary evidence supporting the argument that political effects in higher education, due to this policy area's multidimensionality, are conditional. As states make regulatory and spending decisions, there are competing levels of priorities, both within higher education and between higher education and other state policy areas. The empirical illustration suggests that the role of ideological polarization in higher education's budgetary fortunes seems to be more relevant than had been previously assumed.

What is the mechanism? Assuming *all else constant*, if political competition in higher education is represented in a two-dimensional space, and not in the usual single left-right economic dimension (Poole & Rosenthal, 2007), then changes in political-economic circumstances (e.g., recessions, rise in income inequality, constituent and legislative ideological polarization) will affect not only overall preferences over redistribution but also the relative salience of the public benefits of investments in higher education. That is, while legislators may consider that investment in higher education produces collective benefits, it is their disagreement over how to redistribute resources that comes to the forefront. If legislators become more ideologically polarized, then the increased difficulty in reaching compromises will disproportionately affect discretionary and/or less "important" policy expenditures.

Conclusion

There has been a welcome re-emergence of research on the politics and political economy of higher education. This paper contributes to this effort by proposing a theoretical framework to expand our understanding of the political dynamics of higher education policy. It highlights that the complexity of the higher education sector, as a provider of both public and private goods, funded by public and private sources, and often presenting barriers to entry based on academic merit or socioeconomic status, is a source of instability in political coalitions and produces ideologically inconsistent combinations of policy preferences.

The paper also advances the argument that the distribution of political preferences has a significant, but often overlooked, impact on higher education spending decisions. Although further comparative research is needed, it is clear that dichotomous variables such as partisan control or composite variables of ideological orientation fall short in explaining the political dynamics of state spending on higher education. Inconsistency of findings present in the literature may be explained by the instability in political preferences in a multidimensional policy space.

Another implication is that scholars must now take an additional step and focus their efforts on understanding the causal mechanisms linking different state characteristics and higher education policies. While we now have comprehensive frameworks to help us sort out broader patterns, we still know very little about how each of the proposed explanatory variables interact, specifically, whether different combinations of political or economic variables can lead to the same results or whether some of these relationships are systematic, linear, and/or symmetric (King, Keohane, & Verba, 2004; Tandberg, 2010b).

Another practical implication of the theoretical argument set forth here is that policymakers must take into account how policies inevitably change in the legislative process. A better understanding of how political institutions, political preferences, and constituency demands influence policy outcomes in higher education enables advocates and policymakers to act strategically and to shape policy accordingly in a way that leads to more desirable outcomes. Scholars must continue to invest time and resources in policy research that offers relevant and applicable interventions leading to greater student access and success. However, we must also direct our attention to the various stages of the higher education policy process, policy feedback from particular financing, and regulatory choices and their redistributive consequences.

In the context of applied higher education scholarship, this framework can bring a fresh perspective to explain existing concerns in the field or to help uncover new or unexplored questions. For example, why are some Hispanic voters and legislators against offering in-state tuition charges to undocumented students? Why does the same legislator or policymaker support a particular policy at a particular point in time but then take the opposite position later on? Why do some states favor merit over need criteria in the design of student financial aid programs?

Finally, we must acknowledge that redistribution through higher educations subsidies, in addition to any other set of economic and social objectives that governments establish at a particular point in time. While there is more agreement across various stakeholder groups over the need to increase postsecondary opportunity for all, the same is not true in regard to how to finance (i.e., public vs. private provision, institutional vs. student support, or access vs. excellence), regulate (i.e., accountability rules, oversight of institutional aid policies, or input vs. output measures for performance), or prioritize among competing alternatives (i.e., vocational vs. liberal arts education or need vs. merit-based financial aid policies). These cannot be ignored when making recommendations of best policy practices in the postsecondary sector.

While themes such as human capital accumulation, efficiency and accountability are at the forefront of current higher education policy de-

bates, the two underlying fundamental questions remain: "Who should pay?" and "Who should benefit?" Neither can be answered without rigorous empirical research on democratic processes and political-economic institutions. In this regard, this paper makes a theoretical contribution to the emerging literature on the political economy of higher education.

Notes

[1] Ansolabehere (2006) discusses in detail how political economists have responded to challenges to the spatial framework: "the theory is, in many respects, a work in progress, and its development has proceeded in response to critiques of the consistence of the theory and empirical failings of its predictions" (p. 30).

[2] The median policy position would be dependent on which higher education issue is under consideration (e.g., funding, regulation, admissions, financial aid).

[3] Merit-based aid to students may be a reward for past accomplishments or an incentive to produce desirable behavior, for example, academic achievement in college, specific choice of professions, or staying in their home state after graduation.

[4] Evidence of a causal relationship between state spending on higher education and economic growth is still the subject of debate (Wolf, 2002). However, a recent paper shows evidence of a positive relationship between these two variables if the type of spending fits the economic characteristics of a particular state. States close to the "technological frontier" benefit from investments in research universities, whereas states below the average level of technological development observe growth when spending focuses on vocational education (Aghion et al., 2005).

[5] As in many other policy areas, one can think of additional dimensions of higher education. One could be a "social issues/moral dimension" close to the common representation in analytical political science (Hinich & Munger, 1997). In this case, the main issue would be the relative distribution of liberal and conservative scholars in universities and the perceived relevance of the research and teaching conducted at these institutions. There is widespread anecdotal and empirical evidence that faculty is disproportionately liberal leaning and that this trend has affected the amount of support that legislators are willing to give to public universities in some states (Schmidt, 2005). Only further empirical analysis using historical roll call votes on higher education policy matters will make it possible to assess the relevance of additional issue dimensions. However, Poole and Rosenthal's (2007) work provides strong support for the assumption made here that most issues in higher education overlap within the standard left-right economic dimension.

[6] Dar & Spence (2009) relaxes this assumption and explores how different political variables, when there are shifts in dimensional salience, affect state higher education spending decisions, through a time-series, cross-sectional analysis of 48 states.

[7] Dar (2009) provides a more refined version of how to measure the public good dimension by splitting up the higher education budget and looking at support for research-intensive universities.

[8] I thank Seth Masket and Jeff Lewis for graciously sharing the California DW-NOMINATE data (1976 to 2004) as well as Matt Spence and James Lo for providing assistance in calculating the 2005–2006 scores.

[9] As a robustness check, I tried a measure of polarization based on the absolute difference between the median Democratic and median Republican positions. This measure is denoted as Polarization (based on median). The findings were not substantively different from using Polarization (based on mean).

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APPENDIX

Sources, Description of Variables, and Descriptive Statistics

Variable	Description	Source
Dependent Variables		
Higher education share	Total higher education appropriations/general fund expenditures	State Government Finances 1900-2004. File provided by the Census Bureau Staff [January 2006] and Grapevine/Center for Study of Education Policy, Illinois State University
State commitment to higher education	State tax funds appropriations / $1,000 of personal income	www.postsecondaryopportunity.org. Data compiled from Grapevine and the Bureau of Economic Analysis.
Controls		
Tuition (lagged one year)	Average in-state tuition at public four-year institutions (2000 dollars-CPU-I)	State of Washington Higher Education Coordinating Board. Data provided in electronic format by Kathy Raudenbush.
Enrollment	Total enrollment per FTE	National Center for Education Statistics Digest of Education Statistics (various years, thousands)
Population 18–24 years old	Proportion of the population 18–24 years old	Census Bureau Population Estimates http://www.censu.gov/popest/archives/ Bureau of the Census: Current Population Surveys various years
Median income	State median household income (2000 dollars-CPU-I)	http://www.census.gov/hhes/income/histinc/h08.html
Unemployment state revenue per capita	Unemployment rate (January) Total state revenue per capita (2000 dollars-CPU-I)	Bureau of Labor Statistics, State Government Finances 1900–2004. File provided by the Census Bureau Staff (January 2006)
Political Variables		
Democratic governor	Party of governor (1 = Democrat 0 = Republican)	ICPSR # 0016 *The Book of the States* (various years)
State legislators average ideology	Average DW-NOMINATE scores for the California State Assembly	http://adric.sscnetucla.edu/california/ Data provided by Seth Masket and Jeff Lewis
Political polarization	Average DW-NOMINATE scores for the California State Assembly political polarization of California legislature-absolute value of the difference between the Republican and Democratic DW-NOMINATE	http://adric.sscnetucla.edu/california/ Data provided by Seth Masket and Jeff Lewis
Democratic Party strength	Percentage of the total 2-party seats held by Democrats in the state's lower and upper chambers. Indicator is the average of the proportion of Democrats in both chambers. Range: 0 to 100 (measure proposed by Smith 1997 and used as a proxy for political competition by Besley and Case 2003)	ICPSR # 0016 *The Book of the States* (various years)

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