

A State of Decline?

Institutional and Demographic Factors Affecting State Expenditures on Library Programs

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University Honors in Political Science

Spring 2012

Abstract

Public libraries provide a crucial service that remains in constant peril of vanishing despite their growing need and evolving role in society. As state governments seek to save money by scaling back non-vital spending, libraries programs are often hit the hardest. Recognizing which factors are the greatest determinants of library spending levels may be crucial to understanding these institutions' vulnerability in an unfavorable economic climate. However, little to no research has ever examined library spending as a political issue. This research attempts to assemble a body of literature explaining the political dimension of libraries, establishing which factors may have a bearing on state library funding decisions. Various political science journal articles suggest over a dozen institutional and demographic characteristics that are crucial to state funding for fields related to libraries, such as education and technology; this research extrapolates on those to establish if they also apply to libraries. Each of these variables is run through a series of multivariate regression tests against the percent of state budgets allocated to public libraries from 2006, a relatively stable non-crisis year. Results indicate that state library expenditures have stability and traction, as they are treated as a stop-gap form of aid for local governments rather than as the primary source of funding. This implies that library advocacy groups should not focus on the state level if they hope to address the shrinking funds available to public libraries. Future research should investigate why libraries prioritize local funding, as well as whether the variables identified in this study apply at the local level.

Introduction

Library funding is steadily declining. Experts within the field of information science acknowledge that, especially during the current economic downturn, expenditures on library programs are decreasing (Powell 2011, 105). In July 2011, for instance, the Texas state government cut 88 percent of its library expenditures, effectively shuttering several library resource offices and forcing local branches “to re-examine and reconfigure nearly every facet of [their] services” (Kelley 2011). Yet even during these cutbacks, libraries are expanding their roles. Many hope to maintain relevance by adapting to new technology, such as e-readers. Others, such as the Bedford Public Library in Salem, New Hampshire, now serve social functions such as providing professional resources for the unemployed or access to the Internet for those who cannot otherwise afford it (Remillard 2011). In an age increasingly dominated by search engines and electronic information, libraries serve an important role as information outlets. If society values these functions, continued library funding matters more than ever.

This is an issue best addressed at the state and local level; the American Library Association acknowledges that federal grants play a comparatively small role in library funding compared to state expenditures (American Library Association a). However, surprisingly little research has examined the factors that affect state library funding. This research will attempt to fill that gap. If library professionals and legislators understand the variables at work, they can more effectively manage library expenditures – or at least understand what may contribute to changes in funding levels.

Research Question

How do state expenditures on library programs vary? This research specifically looks at how characteristics of the state legislature and state demographics can impact state spending on library programs.

Theory

Nearly no literature considers the factors affecting state library funding levels. The only studies about state library funding, such as the overview by Powell (2011), look at declining expenditure levels as a phenomenon and try to contextualize it rather than examining it as a political issue. Fortunately, many scholars have researched the determinants for funding in related fields. The American Library Association identifies arts, humanities, education, and technology as subjects with close fiscal ties to library programming (American Library Association a). As such, the most fruitful theories about state library funding come from studies that have examined these fields, as well as general overviews of how state expenditures vary. For the most part, these studies use empirical models and regression analysis to determine which variables most greatly influence state expenditures. Their results generally divide into two major categories. The actions and makeup of the state legislature – their professionalism, for instance, or the sizes of their various houses – may have a bearing on expenditures levels. A state's demographic or socioeconomic conditions and characteristic, including per capita income or population density, may also be responsible. These two approaches are not mutually exclusive; several articles, such as an important study by Richard Hofferbert and John Urice (1985) that examines a great number of library-related variables, suggest that both play a role in state funding.

This research discusses many variables that the literature frequently suggests can affect spending levels for fields related to library programming, such as per capita state income, inertial funding levels, and federal aid as forces that can influence state expenditures (Alm, Buschman, and Sjoquist 2009; Hofferbert and Urice 1985; McCarty and Schmidt 1997; Noonan 2007). Naturally, these variables are broader than some of the others mentioned. Nearly a dozen other, less immediately obvious factors, such as the strength of a given issue's professional lobby (Johnson 2001), appear in the literature as well. Since no research has yet looked at the impact of state characteristics on library funding, this study will focus on each possible institutional and demographic variable suggested by the literature in order to cast the widest possible net and determine which have the greatest influence on library expenditures.

Literature Review

As mentioned, most of the literature about state expenditures on cultural programs looks at either institutional or demographic factors. These factors are only tangential to ones that may affect library funding, but they reveal which aspects may be more important. That, in turn, informs this study's hypotheses. This literature review discusses which of those aspects are the most useful for this study, as well as which deserve additional research.

Institutional Factors

Among the many factors affecting cultural spending levels, perhaps the more significant may be what Hofferbert and Urice refer to as policy norms (Hofferbert and Urice 1985, 309). Previous funding in "social investments" such as education and the arts tends to stick and causes slow, incremental growth over time (Hofferbert and Urice 1985, 309; 326). Hofferbert and Urice

(1985) and Noonan (2007) demonstrate this institutional tendency. This suggests that library funding levels also gain traction at the state level based on previous expenditures. Additional research discusses the effects of higher levels of federal financial support with seemingly mixed results. Hofferbert and Urice show that increased federal funding bodes especially well for increased revenue for state art agencies (Hofferbert and Urice 1985, 311-312; 327). However, a regression analysis by McCarty and Schmidt determines that federal aid tends to crowd out and lower state expenditures on education and other miscellaneous fields (McCarty and Schmidt 1997, 278). This is not conflicting evidence; one study analyzes arts, while the other looks at education. Furthermore, both suggest that federal aid somehow influences state funding. Yet, given that library funding is often related to both these categories (and even the broader miscellaneous spending group), the positive or negative effect of federal aid on state financing of libraries cannot be easily determined through scholarship. The scholarly dispute behind the variable, as well as its relative accessibility and non-specificity, makes it an ideal candidate to test.

Hofferbert and Urice's comprehensive study of state arts programs reveals that funding might also be positively affected by what the authors call "legislative professionalism" (Hofferbert and Urice 1985, 327). State legislatures with greater staffs, longer sessions, more bills, and higher payrolls tend to produce greater expenditures on state arts programs. Political scientist John Grumm devised this measurement years before Hofferbert and Urice's study (1985). As such, despite its specific (and exclusive in the available literature) application to state arts funding, this measurement likely bears some influence on other spending categories as well. Hofferbert and Urice are the only authors to suggest this variable, though they base their measurements on a now-accepted standard for measuring professionalism. Hofferbert and Urice

provide a workable, measurable definition of the variable, but they do note that the data may be challenging to obtain based on what states choose to disclose (Hofferbert and Urice 1985, 319).

The literature also suggests that separate characteristics of each body of a legislature may contribute to varying levels of funding for library-related programming. Chen and Malhotra find that in bicameral legislatures, a larger upper chamber typically raises state expenditures. Conversely, more members in the lower chamber tend to deflate expenditure levels (Chen and Malhotra 2007, 670). These findings do not have much practical effect, but their research lays an important foundation for future studies of bicameralism by demonstrating that multiple legislative bodies can have separate effects on state funding. Noonan builds upon this to extrapolate on the previously observed effects of party competition on general levels of state expenditure (Noonan 2007). The author discovered that divided state governments – particularly ones where different parties control each legislative chamber – tend to increase funding for state arts and cultural agencies (Noonan 2007, 303). Special care should be taken to observe the institutional factors of each chamber separately.

Demographic Factors

While much of the literature suggests that the state legislature influences expenditure levels, many other studies assert that demographic and socioeconomic variables, such as the makeup of the constituency, have a more tangible effect on cultural spending levels. At the simplest and perhaps most obvious level, scholars agree that ideology and public opinion impact funding. John Merrifield explored this idea in his second article on factors that contribute to state-level expenditures (Merrifield 1998, 25). The author concluded that, consistent with his hypothesis, the public's ideology often influenced where state money went. Namely, if

populations support government intervention and are willing to pay for higher-quality services such as education, their states typically increase spending in those areas (Merrifield 1998, 42). Hofferbert and Urice attempted to provide a practical example of public opinion's influence on arts spending but came away without conclusive results: constituencies more supportive of the arts did not significantly correlate with any change in funding. Regardless, their research was driven by a hypothesis that Merrifield's research tentatively supports (Hofferbert and Urice 1985, 323). Given the variable's tentative results, its effects deserve further study.

Along similar lines, several articles pay attention to the effects of demography. Noonan observes slight increases in arts funding based on total population and population density (Noonan 2007, 301). Other studies (including Noonan's) draw attention to age, suggesting that older constituencies have less support for arts and education funding (Noonan 2007, 301; Murray, Rueben, and Carol 2007, 343). That variable has suspect application to libraries. Murray, Rueben, and Carol argue that seniors do not support education because they do not see personal benefits from those programs (Murray, Rueben, and Carol 2007, 343), but this does not necessarily apply to public libraries. These variables appear much less strongly connected to spending, especially so in their application to libraries specifically.

The literature identifies income levels as perhaps one of the greatest positive determinants of expenditure. In perhaps the boldest demonstration of this, Alm, Buschman, and Sjoquist (2009) studied the economic factors that may have contributed to varying levels of state and local education funding. Their research reveals that economic conditions account for much variation in spending, and within that, per capita income explains a great deal of the variation in education expenditures at the state level (Alm, Buschman, and Sjoquist 2009, 51). McCarty and Schmidt, who previously found a negative correlation between federal aid and state spending on

miscellaneous education, saw a positive connection between education and state income levels (McCarty and Schmidt 1997, 281). Even the perennially significant Hofferbert and Urice value per capita income. When studying the effects of an aggregated measure of socioeconomics, Hofferbert and Urice include higher income as a measurement of economic development. Consistent with their hypothesis, these variables do have an impact – if only a slight and less significant one compared to the claims made by Alm, Buschman, and Sjoquist (Hofferbert and Urice 1985, 316-318; 327). The varying effects of income levels across multiple relevant areas of spending demonstrate that these studies' hypothesis focused on the right variable. In library funding, per capita income also likely has a positive effect.

Technology Factors

The American Library Association acknowledges on its website that much federal support for state library expenditures comes from the federal Library Services and Technology Act (American Library Association a). As such, it would also be prudent to examine the factors that affect technology funding at the state level. Unfortunately, little literature exists on this subject apart from one major study. Nancy Jo Johnson's 2001 dissertation spends several hundred pages dissecting the factors responsible for influencing the Minnesota state government's support for information technology. In general, Johnson finds that more thorough, professional, and well-researched proposals and presentations on specific programs can help information technology specialists obtain better funding (Johnson 2001, 161). Johnson's problem statement suggests a human element to this as well, stating that the problem of increasing state expenditure rests on IT professionals rather than any demographic variables (Johnson 2001, 3-4). Naturally then, the strength of the professionals drafting proposals would have a great bearing on

the funds that information technology programs might obtain. This can be fairly easily extrapolated to apply to library programs: the strength of library professional organizations in a given state may influence the funds that libraries receive at the state level.

Since technology represents a smaller part of the library issue family (American Library Association a), professional agencies likely play a less important role than the aforementioned institutional and demographic factors. More specifically, since the American Library Association operates one office per state, the quantity of their resources seems evenly spread (American Library Association e). Any examination of the effectiveness of professional library agencies would involve determining the quality of their services – a quantitative task that falls outside the scope of this research project.

Research Design

This research project will examine state-level library funding as a percentage of overall spending from the year 2006 in each state. 2006 is a useful year, as it is relatively recent but still outside the disruptive effects of the current economic downturn. The literature reveals a number of factors that can affect funding for issues related to libraries at the state level. I hypothesize that in examining states, those that strongly demonstrate factors that indicate greater spending on culture, art, and education will allocate a higher percentage of total state-level expenditures towards library programs than those that do not demonstrate those factors as strongly. Within that, fourteen possible causal relationships exist that may explain state-level funding percentages.

1. In examining states, those with a higher percentage of library funding among all state expenditures from previous years will allocate a higher percentage of total state-level

expenditures towards library programs than those with a lower percentage of library funding among all state expenditures from previous years.

2. In examining states, those with higher per capita levels of federal aid for library programs will allocate a higher percentage of total state-level expenditures towards library programs than those with lower per capita levels of federal aid for library programs.
3. In examining states, those with higher levels of legislative professionalism will allocate a higher percentage of total state-level expenditures towards library programs than those with lower levels of legislative professionalism.
4. In examining states with bicameral legislatures, those with a higher ratio of members in the upper chamber to members in the lower chamber will allocate a higher percentage of total state-level expenditures towards library programs than those with a lower ratio of members in the upper chamber to members in the lower chamber.
5. In examining states, those with divided government between the executive and the legislature will allocate a higher percentage of total state-level expenditures towards library programs than those with unified government between the executive and the legislature.
6. In examining states, those with a Democratic legislature will allocate a higher percentage of total state-level expenditures towards library programs than those with a mixed partisan or Republican legislature.
7. In examining states, those with higher per capita income levels will allocate a higher percentage of total state-level expenditures towards library programs than those with lower per capita income levels.

8. In examining states, those with a greater percentage of the public supporting government spending will allocate a higher percentage of total state-level expenditures towards library programs than those with a lower percentage of the public supporting government spending.
9. In examining states, those with a higher population density will allocate a higher percentage of total state-level expenditures towards library programs than those with a lower population density.
10. In examining states, those with a lower median age will allocate a higher percentage of total state-level expenditures towards library programs than those with a higher median age.
11. In examining states, those with higher levels of education will allocate a higher percentage of total state-level expenditures towards library programs than those with lower levels of education.
12. In examining states, those with a higher median income will allocate a higher percentage of total state-level expenditures towards library programs than those with lower median incomes.
13. In examining states, those with a greater percentage of library expenditures at the local level compared to all over revenue sources will allocate a higher percentage of total state-level expenditures towards library programs than those with a lower percentage of library expenditures at the local level.
14. In examining states, those with a state political culture that more greatly favors the expanded role of government will allocate a higher percentage of total state-level

expenditures towards library programs than those with a state political culture that less favors the expanded government.

The Institute of Museum and Library Services has assembled reports on the sources of library funding from each state for 2006 and 2007. These datasets provide the dependent variable – state library funding levels – as well as two of the independent variables, funding from previous years and levels of federal aid in library funding (Institute of Museum and Library Services). Information from Table 431 of the United States Census’s 2006 Statistical Abstract provides overall state expenditure levels against which library expenses will be compared (U.S. Census Bureau 2006).

Data for each of the independent variables must come from a different source. Each state’s level of legislative professionalism, the third independent variable, was calculated in 2003 by the political scientist Peverill Squire (2007). This study will use Squire’s measure directly as an indicator of each state’s level of legislative professionalism. Many of the other variables, however, can be obtained from government sources. State websites, for instance, provide tallies of members for each chamber of their legislatures, as well as whether they have multiple chambers. This provides the data for the fourth independent variable. The fourth hypothesis requires some comparison, which Chen and Malhotra codify as a ratio between the number of seats in the lower chamber compared to the number in the upper chamber. Namely, a smaller “lower-to-upper” ratio indicates increased spending (Chen and Malhotra 2007, 659). For examining divided government, Table 400 of the United States Census’s 2006 Statistical Abstract mentions the party makeup of each legislative chamber (U.S. Census Bureau 2006). The National Governors Association, meanwhile, provides a list of governors from 2006 and their

party affiliations against which the data about party makeup of legislatures from the Census abstracts can be compared (National Governors Association). This same data will be used to determine the party in legislature in each state, the sixth independent variable. Presumably even outside of divided government, a more liberal, Democratic legislature would be more inclined to spend a larger portion of the budget on library programs.

Government data, particularly Census data, also provide much of the data for the demographic independent variables. The Department of Commerce's Bureau of Economic Analysis provides information on 2006 per capita income, the seventh independent variable (Bureau of Economic Analysis). The eighth independent variable, pro-government attitudes for each state, can be roughly garnered from an index of state liberalism compiled by Gerald C. Wright, Robert S. Erikson, and John P. McIver (1985) (their study is old, but a 2007 article by the same authors considered that information still valid and useable). Presumably, a state with a more liberal population would be more inclined to support increased state spending on a social program such as libraries. For determining population density, the ninth independent variable, the aforementioned Bureau of Economic Analysis report offers an accurate projection of population from 2006 (Bureau of Economic Analysis), while Table 18 of the Census statistics offers a list of state populations per square mile (U.S. Census Bureau 2006). Both these statistics can be used to determine state population density. The tenth independent variable, median age, presents a greater problem. Census data does not provide median age projections apart from the years when a census was conducted. However, this figure does not likely vary much over time and would not feasibly have been impacted by the economic downturn. As such, the Census Bureau's median age numbers from 2010 would be safe to use for this study (U.S. Census Bureau 2011, 7).

Four other demographic and institutional variables are not specifically suggested by the literature but nonetheless play an important role in this model. Education levels are the eleventh independent variable. The American Library Association identifies a connection between library and education issues (American Library Association a). Information about education levels can be approximated by the percentage of people in each state with a bachelor's degree, as listed in Table 218 of the Census abstracts. These numbers come from 2004, two years prior to the year used for the rest of this study, but 2004 provides the closest available, reliable data (U.S. Census Bureau 2006). The twelfth variable is median income. Unlike per capita income, median income does not specifically appear in the literature, but it can serve as a proxy for economic conditions. Higher median income generally indicates greater economic development, a variable that Hofferbert and Urice (1985) identify as important to arts funding. Table 689 in the Census abstract provides the unemployment rates for each state from 2003 (again, the closest year available) (U.S. Census Bureau 2006).

Additionally, the study will consider state spending levels in the context of the percent that each state spends on library programs locally. Given the substantial role that the American Library Association identifies that local funds play in library funding (American Library Association a), the amount that the state government spends may be dictated by how much local governments can cover by themselves. Again, the reports from the Institute of Museum and Library Services provide information about what percentage of total state library expenditures come from the local level. This variable is distinct and separate from the dependent variable. State library spending levels refer to percentage of state budgets that went towards library programs. This local spending variable references the total percentage of all library funding in a state that came from the local level – not accounting for the rest of the state's budget.

The final variable not specifically suggested by the literature, state political culture, reflects a 1984 study by D. J. Elazar that classified each state into one of three types of political culture. They include the “moralistic” view that the government should play a role in everyday life, the “individual” view that the government should only support private enterprise, and the “traditionalistic” view that government activities should generally only uphold the status quo. These attitudes do not match neatly to political ideology: many stereotypically liberal states share their political culture with more typically conservative states (Mead 2004, 274-275). Still, these cultural perspectives form a clear spectrum of intervention to non-intervention. This provides a different perspective on government culture, a variable that Merrifield (1998, 42) identifies as important. Presumably, states with a political culture that favors an increased role for government would be more likely to spend larger portions of their budgets on discretionary programs such as libraries. With data provided by Elazar as well as original research, Mead (2004, 275) categorized all fifty states by their presumed culture. This should provide a decent sense of whether political culture of a state, separate from ideology, has any bearing on its library expenditure levels.

To test the hypothesis, this study will use a multivariate linear regression analysis, similar to the models used in the literature. As stated, previous authors have used multivariate regression analysis to determine whether variables have a significant effect on funding levels (Alm, Buschman, and Sjoquist 2009; Hofferbert and Urice 1985; McCarty and Schmidt 1997). It follows that this study would employ the same method. This multiple linear regression will produce Pearson’s R coefficient as well as R-squared variance – two of the simpler and more common values a regression analysis can use – for all fourteen variables. Additionally, a general correlation test will be run to see which of the independent variables, if any, most closely

correlate with the percentage of total state funding spent on library funding. (In many of these tests, Alaska, the District of Columbia, Hawaii, and Nebraska are omitted for missing data.) Based on which variables have the greatest significance in the regression or have strong correlations with the dependent variable, separate tests will then be run exclusively measuring these variables. Since this research project may be among the first to study factors affecting state library funding, these comparatively simple regression tests are perhaps more effective for creating a baseline understanding of the subject.

Operationalization and Measurement of Concepts

The dependent variable for each of the hypotheses is the percentage of total state funding allocated towards library programs for each state. This will be measured as the quotient of state library funding levels from 2006 (as indicated in the reports compiled by the Institute of Museum and Library Services) divided by the total funding for each state for that same year. The first independent variable, previous levels of library funding, will be measured in the same way, though this variable will use data from 2005; the IMLS data contains this information as well. Federal aid from 2006, the second independent variable, will be measured by the dollar amounts provided in the aforementioned library expenditures reports. Legislative professionalism will be measured by a decimal value from 0 to 1, as reported by the Squire Index. Divided government will be measured as simple Boolean data based on comparisons between the party of the legislatures and the party of the governor: either a state had divided government in 2006 or it did not. Party in legislature is measured as an integer from 0 to 2, indicating both chambers of the state legislature contained a majority of Republicans, two different parties, or a majority of Democrats in 2006 (in that order). Dollar amounts for per capita income from 2006 are

specifically spelled out in the Bureau of Economic Analysis's survey. Population density will be measured using the people per square mile figure used in the Census data. In lieu of any projections, median age will be based upon the numbers provided by the 2010 Census.

Educational levels will be estimated based on the percentage of people in each state that had graduated from college with a bachelor's degree based on 2004 Census data. The median income will be based on projected values based on 2003 Census data. The percentage of local funding will be calculated as a quotient of the money spent on library programs at the local level in each state divided by the total amount of library funding in each state. This data will also be supplied by the Institute of Museum and Library Services. Lastly, state political culture will be measured as an integer on the scale between 0 and 2 based on each state's classification by Elazar and Mead. 0 represents traditional culture, 1 represents individualistic culture, and 2 represents moralistic culture. These values are coded upwards, as the higher values indicate a greater propensity for that state's government to intervene in a greater variety of affairs (which can include libraries).

Findings

The most basic tests reveal that nearly all of the fourteen variables identified in the literature, as well as those added for the sake of completion, do not accurately predict or explain varying levels in state library program expenditures. This is not to say that analysis did not produce any positive results: a regression test incorporating all fourteen variables actually explained 99.40% of all variation in the model (according to the r-squared value) (see Table 1). However, a single variable is responsible for the bulk of that explanation. Previous funding allocations, the variable that reflects policy norms and the notion that funding remains relatively

stable year-to-year, predicted state library funding levels with incredibly high accuracy and significance. In a correlation test alone, percentages of state library funding from 2005 match with percentages from 2006 by a coefficient of 0.95599. In a regression with all other variables, that variable maintains a highly significant p-value (statistically equivalent to 0). For comparison, the ratio of members in the lower chamber of the state legislature versus the upper chamber (as explained by Chen and Malhotra) has an especially low p-value of 0.83614 – the least significance of any variable. Most of the other variables in the regression follow a similar pattern of high p-values. Only one other variable in that regression, per capita income, boasts any statistical significance ($p = 0.002$).

The results are slightly more conclusive when the policy norms variable is removed from the regression. In a second regression with that factor removed, three other variables have significance with a p-value below 0.05 (see Table 2). These include per capita federal aid, party in legislature, and the percentage of library funds spent at the local level. These thirteen variables together produce a Pearson's r coefficient of 0.908 that, according to the R^2 value, explains 82.36% of all variance. This suggests some credibility behind the central hypothesis that factors affecting culture, education, and technology spending at the state level also tend to affect library spending.

A third regression containing only the three significant variables from the second regression reveals that these variables alone can explain 73.48% of all variance with a Pearson's r coefficient of 0.85719 (see Table 3). This suggests that these three variables, along with the aforementioned policy norms, contribute the most to explaining state-level library expenditures (per capita federal aid, however, is not significant in this model, with a p-value of 0.089). For

comparison, the ten least significant produce a regression that only explains 14.79% of variation with a Pearson's r coefficient of 0.38 (see Table 4).

Local library funding percentages deserve further scrutiny. An addition to its high significance level (a near-zero p -value) and the highest r coefficient of any of the other twelve variables, the percentage of library expenditures made locally correlates with state library levels with a coefficient of -0.8226 (see Table 6). This suggests a remarkably strong relationship between this variable and state-level library spending levels. In fact, in a regression by itself, local library funding percentages explain 66.94% of all variation (according to its r -squared value) with a Pearson's r coefficient of 0.8182 (see Table 5). This makes it, by far, the strongest variable for explaining state spending levels.

Analysis

The high number of factors that have no significant bearing on the dependent variable discounts the broader hypothesis that states which demonstrate factors associated with greater spending on culture, art, and education will allocate a higher percentage of total state-level expenditures towards library programs. The results of various regression tests and correlations show that most of the variables have weak and insignificant relationships with state library expenditure levels in 2006. Generally speaking, library spending is not determined by the same institutional and demographic factors that affect tangential issues.

That said, this study does identify four variables with a noticeable impact. Like other issues in state budgets, library funding is affected by policy norms. That is, the percentage of the state budget allocated towards library programs tends to improve year-to-year and generally does not decline as libraries gain traction in state budgets. Though not unexpected given the evidence

in the literature suggesting the importance of policy norms, this finding does suggest that library funding should remain relatively stable over time. This is of course uncertain: the evidence only applies to the changes from 2005 to 2006 and may not have strong external validity. This is especially true for extenuating circumstances such as the ongoing economic downturn.

Nonetheless, the results indicate that state library spending levels stay relatively stable between years and grow slowly, a trait that spending levels for other cultural and educational issues share. The results also suggest a small but significant relationship between Democratic control of state legislatures and state library expenditure levels. This meshes fairly well with the conventional wisdom that culture and education tend to be associated with the Democratic Party, as well as the literature suggesting the importance of state liberalism (Merrifield 1998, 42).

The most pertinent findings concern two variables, the level of per capita federal aid and the percentage of library spending made at the local level. Both have a highly significant, negative relationship with state library expenditure levels. Local level spending has an especially strong correlation, while federal aid appears to be only tangentially related. This makes sense given the limited role that federal funds play in library programs compared to state funds. These variables' negative relationships with state library funding contradict the hypothesis and the literature as well, but they also reveal perhaps a more surprising notion. These negative relationships reveal that as all other sources of funding increase (especially at the local level), state expenditures on libraries decrease. This data, if accurate, indicates that the state is not the locus of funding for libraries. This is especially true given that, as the data indicates, most public libraries receive upwards of 75% of their funding at the local level (Institute of Museum and Library Services). State funding matters significantly to the cultural, educational, and technology issues identified in the literature. In libraries, however, state expenditures play a secondary role

to local funding. Local library funding levels could plausibly dictate state spending levels. (Given the limited scope of this study, however, the factors responsible for changes in local spending levels are unknown.)

These findings make sense given the manner in which many states present their library funding data. To arbitrarily choose three states for the sake of example – Alabama, Arizona, and Georgia – all describe their levels of state expenditures on library programs as “state aid” or “state grants in aid” (Alabama Public Library Service 2011, 2; Arizona State Library 2010, 3; Georgia Public Library Service 2011, 1). In the view of these state library associations, state funding constitutes a form of aid, filling in the gaps that local governments and federal aid are unable to cover. State funding would understandably decrease as levels of local funding and federal aid increase, an effect consistent with the results of the various regression tests. Libraries deprioritize state library funding in how they conceptualize of those expenditures as aid rather than a primary source of revenue. As this study now identifies, they treat state funding this way as well, making states respond to the size of their local budgets rather than vice-versa.

Much of the research identified in the literature review assumes the importance of state library funding for culture, education, and technology programs; this study likewise assumed that since libraries are related to those issues, the state would play a significant role in its funding as well. This does not appear to be the case. State library expenditures resemble other issues only in that they remain relatively stable over time and are subject to policy traction. Otherwise, state library spending varies in relation to expenditures at the local and federal level rather than demographic variables.

Conclusions

This study has implications for future research as well as practical application for library associations. From a research perspective, this study highlights which aspects of library funding deserve greater examination. Seemingly no research has been conducted that examines state expenditures on library programs. Apparently, this focus has been well-placed. State library expenditures act as a form of aid to fill in the gaps that local governments are otherwise unable to fill with their own funds or with grants from other sources. Little room exists for an examination of government attributes and demographic variables at the state level, as those play an insignificant role compared to the necessity of aid for local governments. (In fact, based on a regression of this study's independent variables against the local library spending variable, none of the factors in this study have significant or strong explanatory value for the state-local divide.) Future focus should be directed towards understanding what affects spending at the local level. Perhaps some of the same variables identified in the literature review will apply at the local level; the wealth of literature implying the importance of demographic variables and legislative professionalism may still be relevant at the actual locus of library funding.

The results could of course vary wildly: the data collected for this research indicates that Ohio, for instance, spends all of its money on libraries at the state level, while New Hampshire focuses entirely at the local level. Yet understanding the importance of the local government in New Hampshire compared to Ohio could shed light on what cultural or political factors drive local library funding levels. This could be achieved as a more narrowly focused iteration of this research project. Many states disclose the finances of their public library system in great detail; California, for instance, lists the operating budgets and sources of income for each of the state's individual libraries (California State Library). Detailed demographic information about the areas

that each of these libraries serve could provide a starting point to see if variables such as per capita income matter locally – as well as whether the significant variables in this study continue to be relevant.

Additionally, the results provide a useful start for analysis of libraries in crisis situations. Earlier anecdotes explain that during tougher economic times, libraries are perhaps by necessity first on budget triage lists. There may be merit in determining whether, during such extenuating circumstances, local governments still carry the burden of library funding or if they are more likely to, say, decrease their budgets if state aid reaches higher levels. This study could be repeated for the years 2008 and 2009 to form a clearer picture of library budgets in crisis. Again, this timeframe was initially avoided in order to establish a basic understanding of library budgets change during normal economic conditions.

The findings also indicate how library associations should focus their lobbying efforts and advocacy. The American Library Association spends a great deal of resources on legislative advocacy, including a Legislative Action Center designed to help supporters and state library organizations argue for library-friendly policies to the government and media (American Library Association b). This includes organizing a National Library Legislative Day to petition Congress in person (American Library Association c) and a self-explanatory Office of Government Relations (American Library Association d). State offices have their own legislative activities as well, ranging from advocacy of open access and free speech issues to direct lobbying for spending (Indiana Library Federation 2004, 1-2). Some of these groups set realistic financial goals, such as the Indiana Library Federation's aim to fund a statewide agency to coordinate aid for local library programs (Indiana Library Federation 2004, 2). Others, such as the Colorado Association of Libraries, seem to extend their reach directly to state legislatures to support

library programs (Colorado Association of Libraries). As this study reveals, national and state library associations should vehemently not focus on attempting to raise funding levels for libraries at the state level. Their efforts are perhaps best focused on advocacy for library-related issues such as Internet access or refocusing their lobbying to the local level levels where, apparently, library funds are most directly affected. Perhaps even lobbying at the federal level or supporting compatible Democratic candidates (given the party in legislature variable) may be more effective.

At the very least, this study establishes a base-level understanding of what influences the variance in library spending levels among states. This fills a significant gap in the literature, which focused extensively on state spending for a plethora of issues except libraries. As it turns out, libraries do not share many characteristics with those fields apart from the traction and momentum of policy norms. Future research can examine library spending at a scale that is more directly relevant to their continued funding. Library organizations can use this information as well to refocus their lobbying efforts. The continued existence of public library programs may depend on understanding where their funding is most vulnerable – and in non-crisis situations, state governments are not the place to look.

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Appendix

Table 1

Regression Including All 14 Independent Variables

		Variable	P-value
Multiple R	0.99697	Policy norms	0.00*
R Square	0.99395	Per capita federal aid	0.26
Adjusted R Square	0.99131	Legislative professionalism	0.27
Standard Error	7.8E-05	Lower-to-upper legislative ratio	0.84
Observations	47**	Divided government	0.27
		Party in legislature	0.14
		Per capita income	0.00*
		State liberalism	0.63
		Population density	0.43
		Median age	0.06
		College graduation rate	0.28
		Median income	0.36
		Library funding percentage from local sources	0.08
		State political culture	0.62

* Indicates a statistically significant result.

** By necessity, this regression does not include Alaska, the District of Columbia, Hawaii, or Nebraska – states for which some data is missing.

Table 2

Regression of 13 Independent Variables (Policy Norms Removed)

		Variable	P-value
Multiple R	0.90754	Per capita federal aid	0.01*
R Square	0.82364	Legislative professionalism	0.20
Adjusted R Square	0.75416	Lower-to-upper legislative ratio	0.27
Standard Error	0.0004	Divided government	0.29
Observations	47**	Party in legislature	0.01*
		Per capita income	0.72
		State liberalism	0.41
		Population density	0.38
		Median age	0.15
		College graduation rate	0.63
		Median income	0.88
		Library funding percentage from local sources	0.00*
		State political culture	0.67

* Indicates a statistically significant result.

** By necessity, this regression does not include Alaska, the District of Columbia, Hawaii, or Nebraska – states for which some data is missing.

Table 3

Regression of the Three Most Significant Independent Variables (Not Including Policy Norms)

		Variable	P-value
Multiple R	0.85719	Per capita federal aid	0.09
R Square	0.73477	Party in legislature	0.05*
Adjusted R Square	0.71626	Library funding percentage from local sources	0.00*
Standard Error	0.0004		
Observations	47**		

* Indicates a statistically significant result.

** By necessity, this regression does not include Alaska, the District of Columbia, Hawaii, or Nebraska – states for which some data is missing.

Table 4

Regression of the Ten Least Significant Variables

		Variable	P-value
Multiple R	0.38454	Legislative professionalism	0.24
R Square	0.14787	Lower-to-upper legislative ratio	0.69
Adjusted R Square	-0.08883	Divided government	0.42
Standard Error	0.0009	Per capita income	0.45
Observations	47**	State liberalism	0.73
		Population density	0.54
		Median age	0.63
		College graduation rate	0.27
		Median income	0.43
		State political culture	0.65

* By necessity, this regression does not include Alaska, the District of Columbia, Hawaii, or Nebraska – states for which some data is missing.

Table 5

Regression of the Library Funding Percentage from Local Sources

		Variable	P-value
Multiple R	0.81818	Library funding percentage from local sources	0.00
R Square	0.66942		
Adjusted R Square	0.66267		
Standard Error	0.0005		
Observations	51		

* Indicates a statistically significant result.

Table 6

Correlation of All 14 Independent Variables

Variable	Correlation coefficient
Policy norms	0.99462
Per capita federal aid	-0.09198
Legislative professionalism	0.13574
Lower-to-upper legislative ratio	-0.06771
Divided government	-0.10956
Party in legislature	-0.09487
Per capita income	-0.03371
State liberalism	0.02158
Population density	0.16014
Median age	0.11548
College graduation rate	-0.13804
Unemployment rate	-0.02873
Library funding percentage from local sources	-0.82256
State political culture	-0.11940