State Financing for Public Community Colleges: A Comparative Study of Fiscal Capacity and Tax Effort

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Journal of Education Finance, Volume 45, Number 2, Fall 2019, pp. 198-216 (Article)

Published by University of Illinois Press

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ABSTRACT

This study examines patterns of state financing in public community colleges. The focus of the study is to not only show the disparities that exist across the 50 states in terms of fiscal capacity to provide funding for community colleges, but also in the effort that is exerted to fund community colleges. The study combines the Bureau of Economic Analysis' (BEA) data on personal income by state with the IPEDS variables on state and local revenues to community colleges to allow for a relative comparison of tax capacity and then tax effort by state. Results show that it is not enough to assume that just because a state has high per capita income level, and even a high level of perceived willingness to contribute to their state's community colleges, that they will do so.

INTRODUCTION

The late Robert P. Pederson, a noted community college scholar and former senior editor of *Community College Week,* noted the changing landscapes of early community college funding in 2005:

> Our understanding of the funding of public junior colleges prior to 1940 has been strongly influenced by the ideology of current scholars. A close reading of the historical record reveals that early junior colleges were rarely subsidized by states. Rather, their costs were met by approximately equal contributions of local tax revenue and unaided tuition, in an era that can best be characterized as one of high tuition and low aid. (2005, 5)

Pederson's words ring true, sadly, today and provide a launching point for researchers to realize the significance of a comparative analysis that accounts for state by state funding differences. Pederson believed that it was the role of the

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federal government to ameliorate differences across the states. He also believed that it was the role of the 50 state governments to ameliorate differences across the local districts. However, vast differences exist in the funding of community colleges across the states, even accounting for enrollment and geographic setting, institutions across and within the different states are funded at very different rates relative to their counterparts.

The ever-changing landscape of community college finance requires consistent baseline data against which, best practices can be developed. Much has changed since Joliet Junior College opened its doors in 1901, but some things remain the same. Policy and economics continue to drive education finance. Higher education finance, and state level finance in particular, is becoming more volatile due to increasing competition for already scarce resources. This severe competition for resources has long been noted as a contributor to the national trend of state disinvestment. Many of the same budgetary competitors that were on the rise in the early 1990's are present today. All states can attest to the declining support for higher education in recent years, and many experts identify the vulnerability of higher education in state funding cuts due to its status as the largest discretionary item in state budgets (Delaney and Doyle 2011; Palmer 2008, 2013; Katsinas et al. 2005, 2017). This study uncovers the funding differences between the states, in order to inform policy analysis and provide a baseline for best practices for this important sector of higher education.

James Leland Johnson's doctoral dissertation calculated a net margin ratio between revenue and FTE expenditures. Johnson found that the relative financial position of rural community colleges declined between 1993 and 1997 (Johnson 1999). In 2006, Billy Roessler documented gaps in community college finance literature, consistent with the research gaps Pascarella and Terenzini (1998) called an "empirical black hole." Roessler's analyzed revenue and expenditure streams across all 50 states. His research spanned two decades from 1980-81 to 2000-01, and revealed differences in community college type, location, governance, revenues, and expenditures. Roessler also studied state disinvestment and the accompanying rise of tuition and fees, and found that state student aid was being cut along with appropriations for operating budgets. Roessler concluded that, "the mix of revenues received by community colleges differs by geography and type of governance" (189). In other words, state by state legislation and intrastate legislation varies greatly and it is useful for researches to consistently analyze these variations as a means of researching policy for best practices. This provides impetus for the study at hand.

In his 2013 study of *State Fiscal Support*, James Palmer, editor of the annual Grapevine studies that have documented state tax appropriations for public higher education operating budgets back to 1960, introduces a central theme of

consistent analysis. He argues that reports of national averages mask differences that exist in the revenue structures and amounts provided across states (Palmer 2013). The wide range of key revenue streams for U.S. community colleges has been documented by many researchers in the field, yet has rarely been consistently analyzed. The vital importance of recognizing the wide range between stated minimums and maximums across the funding stream mixtures of the 50 states cannot be understated, particularly when viewing state and local appropriations as a percentage of the states' total community college revenue. These stark differences surely mask disparities resulting in substantial differences that affect each states' institutions differently. For example, the percentage of total revenue derived from local tax appropriations at public community colleges in Colorado equals 0; in Arkansas it equals 6%; and in Wisconsin, appropriations from local taxes reflect 57% of total operating revenue at their community colleges (Authors).

Such differences are well-known by experts in the field—former American Association of Community Colleges' President George A. Boggs noted differences exist between community colleges in states with and states without local funding in 2003 (McCormick and Cox 2003). The need to analyze these differences still exists and, in fact, has been magnified due to the steep decline in state funding over the recent years. Furthermore, Palmer's analysis of past research and trend data accurately portrays the time period which coincides with the era of privatization. In his analysis, Palmer discusses how, "each state went its own way as policy-makers developed strategies for meeting this new fiscal obligation [of competition for scarce state resources]" (2013). Palmer provides a useful take on the funding landscape of 2008-09 and calls for further research necessary to inform policy-makers of the changing fiscal landscape.

Given the relatively small amount of federal dollars (excluding Pell Grants and Workforce Training dollars) that make up total operating budgets at public community colleges, analyzing state and local investments in the form of appropriations and student aid to public community colleges makes sense. With data from 2000-2001, F. King Alexander conducted a comparative study of state tax effort. In his 2003 article published in *New Directions for Institutional Research,* Alexander documents disparities across all 50 states in tax capacity and tax effort. Alexander believes that "state fiscal capacity and effort are vital and pivotal aspects of any definition of an equitable system and therefore, should frequently be considered when conducting comparative financial studies" (Alexander 2003). His 2003 study entitled, "Comparative Study of State Tax Effort and the Role of Federal Government Policy in Shaping Revenue Reliance Patterns" sheds light on state level financing for all of higher education. Including public and private, two- and four- year institutions, Alexander's analysis is unique and

pertinent to understanding the current fiscal landscape that higher education experiences. Realizing that community college education and workforce training has increased in relevancy and importance over the last decade, this particular study revisits Alexander's 2003 study with fiscal and enrollment data for public community colleges in FY 2013-14. It takes a deeper look into the differences and inequalities experienced across the different states, and is intended for reference by policy makers looking to develop comparative baseline data upon which best practices can be investigated and disseminated.

One would assume that a wealthy state has the capacity to levy taxes and provide additional funding for community colleges, but just because that capacity exists, it doesn't mean that they do. The purpose of this study is show that disparities exist across the 50 states in terms of fiscal capacity to provide funding for community colleges, but also in the effort that is exerted to fund community colleges. Analyzing each state's income on a per capita basis relative to the funding that is appropriated by state and local governments on a per student basis, one is able to compare and contrast state fiscal capacity and, in turn, state tax effort to support their community colleges as a means to answer the following research questions:

1. Do states with higher per capita income fund their community colleges more than states with low per capita income?
2. Do states with local funding provisions fund their community colleges more than states without local funding provisions?

STATE TAX EFFORT COMPARISONS

As numerous researchers and policy analysts note, since the passage of the Morill Act in 1862, tax revenue fuels all sectors of public higher education. A central theme can be noted in most community college literature concerning the development and coordination of community colleges. These institutions have experienced an expanding role in society since their inception and through state legislation have become an integral part of state finance. This finding is consistent with Raymond J. Young's (1950) belief that community colleges should be formally recognized in state legislation, and that community involvement is paramount. Furthermore, as recently as 2015, this concept was discussed in a book aimed at informing community college administrators of their varying revenue streams from government appropriations: "Government revenue originating from income taxes paid to the federal and most state governments, sales taxes paid to the states and many local authorities, or property taxes paid to local governments all are essential to the operation of all sectors of higher education" (Mullin et al. 2015, 13). A major point that tends to be overlooked in studies related to higher education finance however, is the fickle nature of the community

college sector. This study focuses on community colleges in an effort to fill this gap and provide useful information for policy makers, researchers, and administrators alike.

In 1972, Kent D. Halstead was commissioned by the U.S. Department of Health, Education, and Welfare to write an 870-page book, *Statewide Planning in Higher Education* (1972), that identified major statewide planning issues, problems, and solutions to promote greater efficiency and coordination at the state level. This book introduced many comparisons across the states, including the socioeconomic climate for support of education and the financial support of higher education. Halstead discussed the importance of these analyses:

> "Interstate comparisons, must, nevertheless, be regarded as a useful research instrument, albeit a technique not likely to provide definitive answers. Central to the usefulness of interstate comparisons is the concept of comparability. Comparison is the process of examining relative values to discover characteristic qualities, whether similar or dissimilar. The objects to be compared must share some common identity which equates similarities or differences, i.e. an identity which places them side by side to reveal their true relative character." (Halstead 1972, 46).

The above statement emphasizes the importance of this proposed study in terms of linking best practices to policy analysis. The ability to compare similar and dissimilar funding proportions across the nation by classifying and categorizing data for these important institutions, further presents the focus of this study in measuring the relative willingness or effort to support community colleges. In his 2003 article, F. King Alexander notes the use of tax effort as an important indicator to be used in comparing and monitoring changes at the state and local level.

Kern Alexander and Richard P. Salmon provided a useful roadmap to determining fiscal capacity and effort to support public education in their 1995 book *Public School Finance*. In the chapter regarding state fiscal capacity and effort, they note "considerable variation" among states and students relative to population size, adding, "the personal income per pupil rather than either population or children of school age population are superior measures for determining the state fiscal capacity to support the public schools" (Alexander and Salmon 1995, 161).

It is worth noting that local appropriations do not exist in every state. In fact, a recent analysis of 2013-14 community college finance data gathered from the National Center of Education Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS) by this researcher documents that 31 states receive

Table 1. Percentage of Total Revenue from Local Appropriations by State, 2013-2014

Less than 10% of Total Revenue comes from Local Appropriations					Over 10% of Total Revenue comes from Local Appropriations				
State	% from Local Approp.	# of Institutions Reporting	2014 FTE Enrollment	% of Total FTE	State	% from Local Approp.	# of Institutions Reporting	2014 FTE Enrollment	% of Total FTE
AK	0.0	0	NA	NA	OK	10.2	12	40,112	0.9
CO	0.0	14	49,774	1.1	OH	10.5	26	126,974	2.9
CT	0.0	14	33,874	0.8	ID	12.3	4	15,428	0.3
DE	0.0	0	NA	NA	IA	13.9	16	65,181	1.5
FL	0.0	28	330,142	7.5	WY	15.4	7	13,953	0.3
HI	0.0	6	16,255	0.4	MO	15.5	14	72,201	1.6
IN	0.0	1	67,265	1.5	OR	16.9	17	72,133	1.6
LA	0.0	15	48,592	1.1	NJ	17.0	19	122,456	2.8
MA	0.0	16	67,121	1.5	NY	22.0	35	236,382	5.3
ME	0.0	7	11,510	0.3	MD	25.9	16	87,126	2.0
MN	0.0	29	88,238	2.0	CA	26.8	107	781,853	17.7
ND	0.0	6	4,427	0.1	NM	28.6	17	47,328	1.1
NH	0.0	7	9,310	0.2	MI	28.7	22	119,318	2.7
NV	0.0	1	6,372	0.1	KS	30.5	25	56,502	1.3
RI	0.0	1	10,233	0.2	TX	33.5	57	429,662	9.7
SD	0.0	4	6,189	0.1	IL	37.2	48	244,796	5.5
TN	0.0	13	57,350	1.3	NE	38.1	6	29,728	0.7
UT	0.0	1	20,007	0.5	AZ	50.5	19	126,650	2.9
VT	0.0	1	3,314	0.1	WI	56.8	15	55,152	1.2
WA	0.0	32	49,051	1.1					
KY	0.0	16	52,830	1.2					
GA	0.0	24	88,487	2.0					
VA	0.2	23	120,829	2.7					
AL	0.3	25	66,035	1.5					
WV	0.6	9	10,848	0.2					
MT	4.4	6	5,430	0.1					
AR	5.5	22	38,805	0.9					
SC	7.8	20	73,147	1.7					
MS	8.9	15	65,003	1.5					
NC	9.1	58	188,694	4.3					
PA	9.5	20	94,597	2.1					
Total	-	434	1,683,729	38	Total	-	482	2,742,935	62

Notes: 1) Total Operating Revenue calculated through sum of all operating revenue categories defined by NCES Digest of Ed. Statistics (Snyder and Dillow, 2014). 2)Variable definitions as defined by Delta Cost Project Data Dictionary. 3)Percentages derived by total Local Appropriations for each State's community colleges divided by Total Operating Revenue for each State's community colleges. Local Appropriations represent amounts received from property or other taxes assessed directly by or for intuitions below the state level. Data retrieved on October 20, 2016 from Integrated Postsecondary Education Data System found at http://nces.ed.gov/ipeds/datacenter. 4) Megastates (CA, FL, GA, NY, NC, OH, NJ, TX) are listed in bold. Megastates are the eight states that accounted for approximately 50% of the state appropriations for higher education in FY 2013-14 (Palmer, 2017) (https://education.illinoisstate.edu/grapevine/tables/).

less than 10% of their total operating revenue for community colleges from local appropriations, while 19 states received more than 10% of their total operating revenue from local appropriations. In Wisconsin, for example, community colleges as much as 57% of their total operating revenue from local appropriations, hence the larger share of "perceived willingness."

Table 1 presents those states, and their respective share local appropriations (amounts received from property or other taxes assessed directly by or for an institution below the state level) as a percentage of total revenue for community colleges. James Palmer's 2008 study identified an even split of 25 and 25, whereas this 2013-14 analysis of the same data reveals a shift to 31 non-locally-funded state community college systems versus 19 locally-funded state systems. A key takeaway from this analysis is that the locally-funded states (defined as those with over 10% of their total community college operating budgets from local appropriations) enroll 62% of the entire community college student population on a FTE basis. Additionally, five of the eight Mega-States are locally-funded state systems. A Mega-State is defined by *Grapevine* as a consortium of states that account for over 50% of state appropriations for higher education. The Mega-States included in the locally-funded category enroll approximately 43% of the total FTE in that category. Consider these differences throughout this article as we explore the varying state fiscal capacities relative to the amount of dollars that they allocate. Just because a state is termed "locally-funded" it doesn't necessarily mean that they exert a high level of tax effort for their community colleges.

METHODOLOGICAL APPROACH

The foundation to conducting a comparative analysis is to organize data and information that is relative on all levels of calculation as a means to reveal similar and dissimilar characteristics. As stated by King Alexander in his 2003 article, "one of the most widely accepted approaches to determining how much tax effort states exert to support higher education is measured by spending per student relative to per capita income" (6). This section elaborates on Alexander's 2003 methodology which is followed closely in this study to provide a consistent illustration of the different tax bases across the nation and each state's effort to support community colleges.

Using the Bureau of Economic Analysis' (BEA) data on personal income by state along with the IPEDS variables on state and local revenues to community colleges will allow for a relative comparison of tax capacity and then tax effort by state. Aggregating all of the state data for each variable allows for a national average that, in turn, illustrates differences relative to each state and therefore comparable across all states. Alexander and Salmon's methodology referred to the Advisory Commission on Intergovernmental Relations (ACIR) 1962 study

entitled, "Measures of State and Local Fiscal Capacity and Tax Effort of State and Local Areas" to derive capacity and effort methodology. This study follows suit with those calculations for FY2013-14, and essentially measures the socio-economic strength of each state to support their community colleges and their effort to do so.

In order to uncover "tax effort" for a given state, the "tax capacity" must first be calculated. Fiscal capacity or tax capacity referenced by Alexander and Salmon refers to the tax base of a governmental entity measured in terms of income, wealth, or other fiscal measures of economic productivity. From a description standpoint, tax capacity refers to the ability of a state system to obtain revenues from their own sources through taxation. It is essentially a measurement of economic resources within a governmental unit which can be used to support public functions (Alexander and Salmon 1995). This research will build upon the works of Alexander and Salmon on public school finance, and King Alexander's analysis of higher education finance to analyze community college finance on a state- by state basis. Personal income (in thousands) was obtained from the U.S. Department of Commerce's Bureau of Economic Analysis. The BEA data are seasonally adjusted to reflect quarterly earnings and changes. The data are estimates, but are necessary to compute a given state's tax capacity. Then, FTE enrollment at community colleges gathered from NCES IPEDS is aggregated for each state along with personal income (in thousands). To compare the tax capacity across the states the data are then presented as a percentage relative to the national average. This means that the average tax capacity of all 48 states included in this study ($4,468.27) is used as a divisor to scale for relative tax capacity.

The broad definition of tax effort according to the ACIR refers to the ratio of revenue to the tax base (i.e. Revenue ÷ Tax Base = Effort). Here the tax base, is the state's tax capacity, or personal income. By aggregating state appropriations, local appropriations, state operating grants, local operating grants, and state student aid appropriations for each state we can represent "revenue" in the above mentioned equation. The state and local tax revenue data are totaled and divided by the state's respective FTE enrollment at public community colleges in order to compute a per FTE tax revenue. The "per FTE tax revenue" metric represents a variable that can be divided by the state's actual tax capacity to then derive tax effort. Thus, tax effort as a ratio of the state's tax capacity yields aggregated percentages that can be translated into high degrees of effort and low degrees of effort relative to each state's own tax base. Each state has a relative effort tied to its own capacity. To show effort on a national scale, the tax effort in each state represents the dividend used to divide by the national average effort of 171.27%. The data and findings are presented in the following section to provide discussion pertinent to relevant policies and practices that effect funding for commu-

nity colleges.

This study seeks to provide comparable data with reliable methodology that is consistent so that it can be re-calculated in the future. Limitations certainly exist. Comparing finance data across the states and within the states can be easily misconstrued. States vary greatly in population, natural resources, industry, climate, housing costs, and personal income. Higher education systems are quite different across the states as well. This study aggregates state data based on per student spending metrics and compares each state's capacity and effort as a percentage of the national average as to develop a position of relativity for comparison purposes.

STATE TAX EFFORT FOR PUBLIC COMMUNITY COLLEGES

As previously noted, many disparities exist among the states. From the presence or absence of local funding from property tax or sales taxes, states have different policies for appropriating resources to community colleges. Similarly, every state has a different method for obtaining appropriations from its citizens. Wealth across the states obviously varies. This is due to population, industry, natural resources location, and a variety of other factors including the willingness of the citizens to tax themselves and how valuable they perceive community college education to be. Thus the previously mentioned methodology has been useful in aggregating this data state by state to generate comparisons that are relative to the national average as a means of presenting rankings and practical findings that can inform policy making. While not within the scope of this study due to page and time restrictions, it is important to note that this analysis can and should be conducted within each state to identify the disparities that exist across the various local districts within a specified state.

Table 2 presents an analysis that has been routinely reported by Illinois State University's *Grapevine*. The ability to rank the states on appropriation per $1,000 of personal income presents an effective means of benchmarking a perceived willingness to support public higher education, including community colleges. State tax revenues for community colleges per $1,000 in personal income reveals disparities in the amount of funding to community colleges across and between the 48 states represented in this study. With a median amount of $12.81 on every $1,000 of personal income, states like Vermont (48), Colorado (47), New Jersey (46), and Louisiana (45) hover between $4.00 and $7.00 per $1,000 of personal income and are therefore perceived to have an "unwillingness" to increase taxes in support of their community colleges. States like Wisconsin (1), Wyoming (2), New Mexico (3), and North Dakota (4) are perceived to be very willing to tax themselves in support of their community colleges. The appropriations per $1,000 in personal income in those states are $33.20, $23.50, $20.98, and

Table 2 - Appropriations and Per capita Personal Income Rankings by State in 2013-14 Show "Perceived Willingness" to Fund Community Colleges

State	State and Local Tax Revenues per FTE	Rank	Per capita personal income	Rank	FTE Tax Revenues from State and Local Sources per $1,000 in personal income	Rank	State	State and Local Tax Revenues per FTE	Rank	Per capita personal income	Rank	FTE Tax Revenues from State and Local Sources per $1,000 in personal income	Rank
AL	$4,848	30	$37,551	45	$12.91	21	NC	$6,226	16	$39,977	37	$15.57	13
AR	$6,189	18	$38,178	41	$16.21	9	ND	$10,666	3	$58,307	4	$18.29	4
AZ	$6,049	22	$38,548	39	$15.69	12	NE	$7,912	4	$49,022	15	$16.14	10
CA	$7,365	10	$52,164	9	$14.12	16	NH	$4,825	32	$54,671	8	$8.83	37
CO	$2,378	47	$50,712	12	$4.69	47	NJ	$3,703	40	$58,782	3	$6.30	46
CT	$7,759	6	$67,937	1	$11.42	30	NM	$7,894	5	$37,621	44	$20.98	3
FL	$3,801	39	$43,575	26	$8.72	38	NV	$4,821	33	$41,224	34	$11.70	29
GA	$3,587	42	$39,566	38	$9.06	36	NY	$7,433	8	$57,800	5	$12.86	23
HI	$6,053	21	$47,247	19	$12.81	24	OH	$4,840	31	$42,904	27	$11.28	31
IA	$6,286	15	$44,964	25	$13.98	17	OK	$5,706	25	$45,688	23	$12.49	27
ID	$6,040	23	$37,821	42	$15.97	11	OR	$7,595	7	$42,461	28	$17.89	5
IL	$6,209	17	$49,331	14	$12.59	26	PA	$4,118	37	$48,832	17	$8.43	40
IN	$4,373	35	$41,254	33	$10.60	32	RI	$4,631	34	$48,889	16	$9.47	35
KS	$6,960	12	$47,053	20	$14.79	15	SC	$5,092	28	$37,426	46	$13.60	18
KY	$3,134	45	$37,664	43	$8.32	42	SD	$3,686	41	$46,258	22	$7.97	43
LA	$2,960	46	$42,346	29	$6.99	45	TN	$4,868	29	$40,878	36	$11.91	28
MA	$5,792	24	$60,936	2	$9.50	34	TX	$6,114	19	$46,486	21	$13.15	20
MD	$7,418	9	$54,892	7	$13.51	19	UT	$3,937	38	$38,323	40	$10.27	33
ME	$5,439	27	$42,144	30	$12.91	22	VA	$3,580	43	$50,899	11	$7.03	44
MI	$6,313	14	$41,659	32	$15.15	14	VT	$2,019	48	$48,058	18	$4.20	48
MN	$4,284	36	$50,070	13	$8.56	39	WA	$6,504	13	$51,314	10	$12.68	25
MO	$3,478	44	$41,709	31	$8.34	41	WI	$15,013	1	$45,224	24	$33.20	1
MS	$5,631	26	$34,600	48	$16.28	8	WV	$6,100	20	$36,408	47	$16.76	7
MT	$7,145	11	$41,115	35	$17.38	6	WY	$13,369	2	$56,881	6	$23.50	2
Avg.	$5,836		$45,987		$12.81		Avg.	$5,836		$45,987		$12.81	

Source: 1) Personal income data are for the 4th quarter of 2013. They are seasonal estimates from the Bureau of Economic Analysis, U.S. Department of Commerce. Retrieved on September 10, 2017. from https://bea.gov/itable/iTable.cfm?ReqID=70&step=1#reqid=70&step=1&isuri=1 2) State and Local Tax Revenues represent State Appropriations, Local Appropriations, State Operating Grants, Local Operating Grants, and State Grants directly to Students. Data retrieved on October 20, 2016 from the Integrated Postsecondary Education Data System found at http://nces.ed.gov/ipeds/datacenter. Note: Data are calculated by Dividing the Per capita Personal Income by the total State and Local Tax Revenues per FTE. Alaska and Delaware were not included in this study due to incomplete data.

$18.29 respectively. Additionally, Table 2 displays a ranking of states by personal income, or in other words, the relative wealth of the states and representative capacity per capita. Note the four "unwilling" states and their per capita income rank: Vermont (18), Colorado (12), New Jersey (3), and Louisiana (29). Now, note the states that have a perceived "willingness" to provide tax appropriations as a viable revenue stream for community colleges: Wisconsin (24), Wyoming (6), New Mexico (44), and North Dakota (4). These stark differences begin to shed light on the states that are doing more with less and less with more, but that is not all. Ranking states based solely on per capita income and total state and local revenues to their community colleges does not tell the entire story. While it is nice to see states that "have less and do more" their "perceived willingness" could be solely based on local funding provisions in state legislation or that they simply have more resources to appropriate.

Table 3 displays the per capita personal income (in thousands) divided by the total amount of state and local revenues per community college FTE student. This table is unique in that it highlights the 19 states that have local funding provisions which account for at least 10% of the total operating revenue for community colleges (Authors). Among the top 24 states in FTE appropriations per $1,000 in personal income, half are termed "locally-funded states," where at least 10% of the community colleges total operating revenue is derived solely from local appropriations. The main takeaway from this table is that local funding provisions do not necessarily mean that a state is appropriating an adequate amount of resources to its community college. While local funding certainly matters, especially in light of state disinvestment as a means of maintaining a solid revenue stream and offsetting some of the cost to the students (Authors), this table shows that local funding provisions do not make up for a perceived "unwillingness" to increase appropriations from tax revenue to community colleges. Simply put, local funding generally matters, but not always.

As a topic for further research, it would be interesting to revisit the high tuition and high aid model of funding with this dataset, in order to see just where some of these state community college systems are receiving their resources. It is fair to reconsider King Alexander's approach as described in the initial 2003 article in *New Directions for Community Colleges* that inspired this study. In his findings, Alexander posits that "federal policies on direct student aid have exacerbated inequalities between states because funds are disproportionately awarded to student attending institutions that have higher costs. States that do not restrict their public colleges and universities from increasing their reliance on tuition-based revenues are more likely to benefit disproportionately from federal funds for direct student aid [and vice versa]" (Alexander 2003, 22).

Table 4 accounts for state and local funding to community colleges per FTE

Table 3 - Local Funding Provisions Do Not Necessarily Translate to Perceived Willingness to Fund Community Colleges

State	FTE Tax Revenues from State and Local Sources per $1,000 in personal income	Rank	State	FTE Tax Revenues from State and Local Sources per $1,000 in personal income	Rank
*WI	$33.20	1	WA	$12.68	25
*WY	$23.50	2	*IL	$12.59	26
*NM	$20.98	3	*OK	$12.49	27
ND	$18.29	4	TN	$11.91	28
OR	$17.89	5	NV	$11.70	29
MT	$17.38	6	CT	$11.42	30
WV	$16.76	7	*OH	$11.28	31
MS	$16.28	8	IN	$10.60	32
AR	$16.21	9	UT	$10.27	33
*NE	$16.14	10	MA	$9.50	34
*ID	$15.97	11	RI	$9.47	35
*AZ	$15.69	12	GA	$9.06	36
NC	$15.57	13	NH	$8.83	37
*MI	$15.15	14	FL	$8.72	38
*KS	$14.79	15	MN	$8.56	39
*CA	$14.12	16	PA	$8.43	40
*IA	$13.98	17	*MO	$8.34	41
SC	$13.60	18	KY	$8.32	42
*MD	$13.51	19	SD	$7.97	43
*TX	$13.15	20	VA	$7.03	44
AL	$12.91	21	LA	$6.99	45
ME	$12.91	22	*NJ	$6.30	46
*NY	$12.86	23	CO	$4.69	47
HI	$12.81	24	VT	$4.20	48

Note: 1) *Shaded States Receive 10% or more of their total operating revenue from Local Appropriations. 2) Data are calculated by Dividing the Per capita Personal Income by the total State and Local Tax Revenues per FTE. Alaska and Delaware were not included in this study due to incomplete data.
Source: 1) Personal income data are for the 4th quarter of 2013. They are seasonal estimates from the Bureau of Economic Analysis, U.S. Department of Commerce. Retrieved on September 10, 2017. from https://bea.gov/itable/iTable.cfm?ReqID=70&step=1#reqid=70&step=1&isuri=1 2) State and Local Tax Revenues represent State Appropriations, Local Appropriations, State Operating Grants, Local Operating Grants, and State Grants directly to Students. Data retrieved on October 20, 2016 from Integrated Postsecondary Education Data System found at http://nces.ed.gov/ipeds/datacenter.

in order to depict the relative fiscal capacity and state tax effort across the forty-eight states included in this study. As mentioned earlier, the ratio of students to total population of a given state varies considerably, so it is useful to include enrollment factors to aggregate the data on a per student basis in order to gain a relative perspective on the financing capacity and effort. Furthermore, it is also essential that the capacity and effort are adjusted and presented as a percentage relative to the national average. It is worth noting that the 19 states receiv-

Table 4 - Disparities Across the United States in Capacity and Effort to Fund Community Colleges

State	Total State and Local Tax Revenue Per FTE	Relative Fiscal Capcity as a % of the US Average	Rank	State Tax Effort as a % of the US Average	Rank	State	Total State and Local Tax Revenue Per FTE	Relative Fiscal Capacity as a % of the US Average	Rank	State Tax Effort as a % of the US Average	Rank
AL	$4,847.79	62	35	103	19	NC	$6,225.65	47	45	172	6
AR	$6,189.09	65	34	124	14	ND	$10,665.85	221	2	63	28
AZ	$6,048.81	46	46	172	7	NE	$7,912.10	70	31	148	12
CA	$7,365.22	58	38	166	10	NH	$4,825.46	175	4	36	44
CO	$2,378.12	123	12	25	46	NJ	$3,703.12	96	20	50	39
CT	$7,759.07	161	6	63	30	NM	$7,893.63	37	47	278	2
FL	$3,801.04	59	36	85	23	NV	$4,821.30	391	1	16	47
GA	$3,586.51	101	18	46	40	NY	$7,432.67	108	15	90	21
HI	$6,053.36	92	21	86	22	OH	$4,840.45	88	24	72	26
IA	$6,285.98	48	44	171	8	OK	$5,705.63	99	19	75	25
ID	$6,039.79	86	26	91	20	OR	$7,594.94	53	43	189	4
IL	$6,209.09	58	37	140	13	PA	$4,118.01	148	7	36	43
IN	$4,372.88	91	23	63	29	RI	$4,630.60	113	13	54	38
KS	$6,959.68	54	40	168	9	SC	$5,091.64	56	39	120	16
KY	$3,133.85	71	30	58	33	SD	$3,686.41	135	10	36	45
LA	$2,960.13	91	22	43	41	TN	$4,867.87	105	17	61	31
MA	$5,791.68	137	9	55	36	TX	$6,113.91	66	33	122	15
MD	$7,417.72	87	25	112	17	UT	$3,936.97	127	11	41	42
ME	$5,439.44	109	14	65	27	VA	$3,580.28	79	27	60	32
MI	$6,313.01	78	29	106	18	VT	$2,018.76	203	3	13	48
MN	$4,284.11	69	32	81	24	WA	$6,504.12	54	41	158	11
MO	$3,478.04	78	28	58	34	WI	$15,012.83	106	16	185	5
MS	$5,631.47	36	48	206	3	WV	$6,100.19	139	8	57	35
MT	$7,145.30	174	5	54	37	WY	$13,369.43	53	42	327	1
Avg.	$5,836.31	100	-	100	-	Avg.	$5,836.31	100	-	100	-

Notes: 1) State and Local Tax Revenue per FTE generated using IPEDS FTE enrollment figures divided by the IPEDS Finance Variables listed under "source" below. 2) Tax Capacity (not displayed in this chart but used to derive relative fiscal capacity is calculated by dividing the State's personal income total by the state's total FTE at Public Community Colleges. 3) Relative Fiscal Capacity is the personal income per FTE as a percentage of the US average. 3) Unadjusted Tax Effort (not displayed in this chart, but used to derive relative tax effort) is the ratio of State and Local Tax revenue per FTE to State's Tax Capacity. 4) State Tax Effort is presented as a percentage relative to the US Average. Source: 1) Personal income data are for the 4th quarter of 2013. They are seasonal estimates from the Bureau of Economic Analysis, U.S. Department of Commerce. Retrieved on September 10, 2017. from https://bea.gov/itable/iTable.cfm?ReqID=70&step=1#reqid=70&step=1&isuri=1 2) State and Local Tax Revenues represent State Appropriations, Local Appropriations, State Operating Grants, Local Operating Grants, and State Grants directly to Students. Data retrieved on October 20, 2016 from the Integrated Postsecondary Education Data System found at http://nces.ed.gov/ipeds/datacenter.

ing local funding drew down $3,597 and $4,361 dollars, respectively from state and local appropriations per FTE. That represents 22% and 27% of those states' community colleges' total operating revenue per FTE. Conversely, the 31 non-locally-funded states saw $3,681 and $435 from state and local appropriations per FTE, respectively. That represents 33% and 4% of those states' community colleges' total operating revenue per FTE (Koh, forthcoming). Reiterating that differences surely exist in local funding provisions offers a lens to view table 2 though.

The first takeaway is represented by the stark differences in capacity and effort that this table depicts. It is interesting to note the states that have the capacity yet do not exert effort. Colorado, Vermont, New Hampshire, Nevada, and Montana all have a high relative tax capacity as a percent of the national average, yet they exert little tax effort when it comes to funding their community colleges as a percentage of the national average. Alternatively, Wyoming, New Mexico, Mississippi, Oregon, and Arizona exert a much higher tax effort relative to their capacity as a percentage of the national average. That requires looking at the difference in tax capacity compared to fiscal capacity. Similarly, the states with the highest ranking of effort follow suit through the top four (WY, NM, MS, OR) but then Wisconsin, North Carolina, and Arizona follow suit. The states of Mississippi, North Carolina, and Washington are considered non-locally-funded states under the 2013-14 update of the 2008 Grapevine methodology, so depicting them as high tax effort states with little capacity represents progress since King Alexander's analysis in 2003.

There are nine states with a smaller tax capacity but a markedly higher tax effort. It is worth noting that the latter three of these states (MS, NC, and WA) receive less than 10% of their total operating budgets for community colleges from local appropriations and are categorized as non- locally-funded states. New Mexico, Arizona, Iowa, Oregon, Wyoming, Kansas, Mississippi, North Carolina, and Washington all represent the bottom quartile of relative tax capacity as a percentage of the national average, yet they exert within the top quartile of tax effort to fund their community colleges. The funding models and policies in these states should be explored further to garner possible best practices. Some less wealthy states have little capacity yet still exert little effort thus increasing their chances to continue down their current path. For example, Kentucky ranks 30th in tax capacity and 33rd in tax effort. This all but guarantees a steady future, if not a decline, in regards to state funding relative to their capacity. Some more wealthy states have a great capacity to fund their community colleges, yet exert little to no effort. New Hampshire ranks fourth in terms of capacity, but their $4,825 per FTE funding from state and local sources represents a ranking of 44th in terms of effort. This typically reflects a high aid, high-tuition funding model.

Table 5 - Changes in State Tax Effort Disparities for Public Two-Year Colleges in 2000-01 compared to 2013-14

States with High Tax Effort Percentage in 2000-01			States with Low Tax Effort Percentage in 2000-01		
State	2000-01 (Alexander, 2003)	2013-14 (Koh, 2017)	State	2000- 01 (Alexander, 2003)	2013-14 (Koh, 2017)
Maine	176	65	Vermont & South Dakota	0 & 0	13 & 36
Louisiana	176	43	South Carolina	24	120
North Carolina	172	172	North Dakota	24	63
Wisconsin	163	185	Georgia	54	46
Kentucky	144	58	Maryland	56	112
Arkansas	140	124	New Jersey	67	50
Nebraska	139	148	New Hampshire	71	36
Utah	134	41	New York	75	90
Oregon	131	189	West Virginia	76	57
California	125	166	Tennessee	79	61
Delaware	122	NA	Connecticut	80	25
Michigan	122	106	Indiana	80	63
Kansas	118	168	Rhode Island	80	54
Iowa	117	171	Colorado	81	25
New Mexico	117	278	Ohio	82	72

Notes: 1) State and Local Tax Revenue per FTE generated using IPEDS FTE enrollment figures divided by the IPEDS Finance Variables listed under "source" below. 2) Tax Capacity (not displayed in this chart but used to derive relative fiscal capacity is calculated by dividing the State's personal income total by the state's total FTE at Public Community Colleges. 3) Relative Fiscal Capacity is the personal income per FTE as a percentage of the US average. 3) Unadjusted Tax Effort (not displayed in this chart, but used to derive relative tax effort) is the ratio of State and Local Tax revenue per FTE to State's Tax Capacity. 4) State Tax Effort is presented as a percentage relative to the US Average.
Source: 1) Personal income data are for the 4th quarter of 2013. They are seasonal estimates from the Bureau of Economic Analysis, U.S. Department of Commerce. Retrieved on September 10, 2017. from https://bea.gov/itable/iTable.cfm?ReqID=70&step=1#reqid=70&step=1&isuri=1 2) State and Local Tax Revenues represent State Appropriations, Local Appropriations, State Operating Grants, Local Operating Grants, and State Grants directly to Students. FTE represents Full-Time Equivalent Enrollment. Data retrieved on October 20, 2016 from Integrated Postsecondary Education Data System found at http://nces.ed.gov/ipeds/datacenter. 3)Alaska and Delaware were not included in this study due to incomplete data.

Table 5 depicts the same exact states that King Alexander referenced in his 2003 study for comparison purposes. This update shows improvement in six of the previously "low tax effort" states, as South Carolina, North Dakota, Maryland, New York, Vermont, and South Dakota all increased their financial support for public community colleges relative to the national average. This analysis also shows improvement in tax effort for states that were already termed "high tax effort" states in the 2003 analysis: New Mexico, Iowa, Kansas, California, Oregon, Nebraska, and Wisconsin all increased their state tax effort relative to the national average.

There were some states that are free falling in terms of effort relative to their capacity, however. Notable "high effort" states that fell and by which amount

they decreased include: Maine, which fell by 110%, Louisiana by 132%, Kentucky by 86% and Utah by 92%. Also, some of the "low effort" states saw declines in effort relative to capacity as a percent of the US average. The "low effort" states that fell the most were Connecticut, Colorado, and New Hampshire.

These findings suggest vast disparities in how states fund their community colleges. Recalling the research questions that bared the focus of this study, it is not enough to assume that just because a state has high per capita income level and even a high level of perceived willingness to contribute to their state's community colleges that they will do so. Additionally, just because a state has local funding provisions that does not necessarily mean that a state is appropriating an adequate amount of resources to its community colleges relative to the national average. Local funding certainly matters, but not always.

DISCUSSION

Noting the decline of state resources to higher education compounded with the increased competition from healthcare and corrections initiatives, public community colleges are certainly in a precarious position. Especially in light of the rising need for high skill workers in technical fields that do not require four-year degrees, community colleges are just as important as ever to the prosperity of the nation (D'amico et al. 2012). If the funding goal is to improve the outlook or at least maintain the current share of fiscal resources for these important institutions, it is imperative that policy makers are aware of the current funding landscape. Additionally, as King Alexander discusses in his 2003 article, some instances of federal support, like federal direct student aid, actually incent states to maintain flat or lower funding for their institutions in critical times of need. It seems entirely logical that federal support would, could and should be used as leverage to incentivize state's to maintain and invest in higher education and with that, community colleges. As a concluding recommendation to accompany this research, further exploration of this leveraged federal support is provided below.

King Alexander's 2003 article which informed this study was built around a discussion of the federal role in maximizing revenue for all higher education sectors. This 2017 study focuses on community colleges, yet the findings and the effects of new legislation leveraging other funding influences to maintain state funding levels remains the same. With such great disparities in existence across the nation, we must not be content in the current funding situation at our nation's community colleges. The ambiguous nature of tax capacity and tax effort in this sector of higher education calls for federal policies that attempt to preserve state funding to community colleges, especially considering the broadening missions in workforce and economic development seen recently. King Alexander

concluded his 2003 article by calling for Maintenance of Effort (MOE) provisions from the Federal Government through incentivized packages in the form of grants.

King Alexander, Thomas Harnisch, Daniel Hurley, and Robert Moran provide an update on the federal role in offsetting the current decline in state funding in the form of MOE provisions. Their 2010 article in the *Journal of Education Finance* documents the shift in state funding to the students and provides a useful description of those MOE provisions. MOE is a federal legislation that establishes "minimum funding thresholds that states must meet in order to receive specified federal funds" (Alexander et al. 2010). This incentivized approach to maintaining state effort in funding their public institutions was designed to at least maintain the pre-recession funding levels for higher education and deter the discretionary cuts that were bound to follow the 2008 recession. All in all, only three states budgeted right at the minimum threshold and the other were able to hold steady. This suggests that the incentive package was effective. Focused on the provision of affordable and equitable access across the nation, the conclusion drawn from this 2010 study revealed that MOE provisions stymied state budget cuts for higher education.

While the MOE provisions have seemingly protected state investments from what could have happened, that finding does not necessarily mean that states are continuing to provide adequate funding levels relative to their given fiscal capacities. The importance of community colleges to the economic vitality of each state by means of workforce development and industry recruitment ought to be considered at every level of funding. Considering a federal role in incentivizing a maintained and equitable funding level across the states would certainly take into account tax capacity and tax effort information to model the policies. Ideally, these policies would consider the findings in this study, or a similar one that reflect a particular philosophy in some of the poorer states. State funding philosophies, policies, and models in New Mexico, Arizona, Iowa, Oregon, Wyoming, Kansas, Mississippi, North Carolina, and Washington should be further analyzed for possible best practices. These states tend to exert more effort in funding their community colleges, even though they rank in the lowest quartile of tax capacity. Perhaps they recognize the importance of this sector in improving the socioeconomic conditions of that state as a whole, which would perpetuate in the years ahead. Furthermore, states that are exerting an increased tax effort are finding their community college revenues to be less tuition dependent and thus lifting up their students and families. Whatever the case in a given state, one thing is certain: disparities exist in funding for community colleges across the nation. It is the opinion of this researcher that the federal government

continue to implement and explore policies that incentivize states in time of economic downturn, and that times of economic improvement not be held against the community colleges. Why not strive for equitable and steadily maintained funding streams for the very institutions that play such a vital role in creating the workforce of the future?

Throughout this study, the importance of equitable funding across the states remains a critical factor in considering access to community colleges for economic development. That the federal and state governments should strive to identify and incentivize equitable funding, represents a stance taken by many researchers in the field. While disparities certainly exist across the 50 United States, it is well known that disparities also exist within each state at the local district level. Additionally, institution size and geospatial setting provide complexities in analyzing those local district revenues per capita and per FTE. Nevertheless, additional research to uncover those disparities relative to each institution and local district should be conducted. It is recommended that this study, conducted under the Mission-Driven Classification System (Shedd, 2017) and including local district analyses, could inform policy to enhance the effectiveness of state funding in creating a more equitable funding environment.

CONCLUSION

This study uncovered the vast differences across the states in funding for community colleges. Wealthy or poor, states do not necessarily fund their community colleges based on their relative financial position. Further research documenting the practices in states that exert high levels of tax effort even though they have a low level of tax capacity should be conducted. Additionally, the effects of any and all MOE provisions should continue to be researched and would inform best practices for policy. Examining the federal provisions granted through MOE and the relative funding levels prior to and after those provisions were granted in those states could allow for contrasts and comparisons to be made. All of these research suggestions would develop a research base to help provide further information necessary for increased maintenance of effort legislation on the federal level and hopefully a steadier funding stream to community colleges and the students they serve.

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