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Comments Invited

**Financing Community Colleges Across the States:
An Economic Perspective**

by

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Financing Community Colleges Across the States: An Economic Perspective (DRAFT)

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1. Introduction

This paper will provide a brief overview of the issues concerning the public financing of community colleges across the 50 states from the viewpoint of the economist. Issues from the national, state and local campus perspectives will be considered. After an initial overview of national financing patterns, the focus will shift to four states, AZ, NC, NY, and CA, with occasional references to other states where appropriate. Conversations with college presidents and other public officials in these four states afford more detail into their funding formulas. Recommendations will be made on how financing can be made both efficient and equitable, while allowing the community college to fulfill its primary mission of open access to students.

The nation's 1,100 + community colleges are an important point of entry into the U.S. system of higher education. They enroll more first-time freshmen and more undergraduates than any other type of higher-education institution. The most recent data available shows that 55% of all new college students and about 45% of all undergraduates enrolled in credit programs in the U.S. were at 2-year colleges. Moreover, in 2001 community college enrollments were comprised of 46% of all of the African-Americans in higher education; 55% of the Hispanics; 46% of the Asian/Pacific Islanders; and 55% of the Native Americans. In addition, of the students with disabilities who attend public colleges and universities, two-thirds are enrolled in community colleges. When this diverse mix of students enters the community college, 41% of them need remediation. Thus we find that, compared to students from other sectors of higher education, those enrolled at the community college are more likely to be studying on a part-time basis, to come from lower income families, to be older, to be from minority groups, to be working, to be less well prepared for college, and to be less strongly attached to the need for obtaining a college education. In many ways, a majority of these students are on the margins of the system of higher education.

To its supporters, the open admissions community college is an important avenue for the social mobility of lower income students and for those previously denied access to higher education for a variety of reasons. The extension of higher education to these marginally attached students has been referred to as the democratization effect (Brint and Karabel, 1989) and has given the colleges the label of "democracies colleges" (Cohen, 1996, p. 5). To its critics, however, the community college leads to lower levels of educational attainment by diverting students from a 4-year college where they are more likely to have obtained a bachelor's degree (Brint and Karabel, 1989). The question of whether the community college increases access (democratization effect) or diverts students is largely beyond the scope of this paper but we will return to it briefly below.

Although it has its roots in the nineteenth century, the community college's guiding philosophy was expressed in the Truman Commission Report of 1947, which

recommended that a national system of "community" colleges be established that would be within commuting distance of every American (Cohen & Brower, 1996, p.13). This goal was largely accomplished after a spurt of growth in the 1960's when it was said that new colleges were opening at the rate of one a day. Another recommendation of the Truman Commission Report was that public education through grade 14 be made free of charge. While this recommendation has not been fulfilled, the 2-year public colleges do espouse a low tuition philosophy and do receive substantial public subsidies.

The brief picture of the 2-year college that we have given above is generalized from the nation as a whole. When we look at states individually we find a complex mixture of missions and funding patterns that reflect differing historical roots and traditions. For instance, approximately 30 states have comprehensive community colleges that offer both vocational and transfer programs. This is probably the most typical mindset that the public has about what the 2-year college does and the four states that have been chosen for close examination in this study fit into this category. The other 20 states have different organizational patterns. In Wisconsin the 2-year transfer colleges are branches of the University of Wisconsin, while technical education is handled by a separate system of 2-year colleges. Pennsylvania, Indiana and Georgia have similar but not identical organizations. Funding patterns tend to follow the governance and the mission assigned to the 2-year colleges in any particular state. With such a complex mixture, it is hard to devise a set of recommendations that apply to all states. Nevertheless, it is possible to isolate some general principles for use in guiding public policy, especially for the vast majority of states that have comprehensive, or close to comprehensive, community colleges.

Although the community colleges in each state are somewhat unique, most of them accept the following educational priorities:

- To maintain access through a low tuition policy and open admissions
- To provide programs that lead toward a bachelor's degree
- To provide vocational and technical education that lead to a job after two years
- To provide short-term training that meets the needs of the local labor market
- To provide remedial education and English-as-a-second language (ESL) training
- To provide contract training for local business and industry
- To provide non-credit courses in vocational and avocational areas for the local population

Of all of these priorities, the goal of open access has the highest priority. It has been pursued with an entrepreneurial zeal that has led to a multiplicity of educational goals and methods of delivery. Because of the primacy of open access, it will be important to measure the funding formulas that we will examine in this paper against this priority. In its quest to spread educational opportunity, the community college seeks to be a leader in providing education not only during traditional day-time hours on a campus, but also in the workplace, in the evening and early morning hours, on weekends and online. One of its leading observers, Terry O'Banion, has described the community college as "an

institution that places learning first and provides educational experiences for learners anytime and anywhere" (O'Banion, 1997, p. 47).

2. Economic perspective

When economists look for criteria that can guide the allocation of resources, they turn to the theoretical principles of equity and efficiency. These principles, as they relate to the financing of the community colleges, have been examined in detail by David Breneman and Susan Nelson in a study done for the Brookings Institution in 1981 entitled, *Financing Community Colleges: An Economic Perspective*. Although the outcomes data in this study is somewhat dated, it remains the best overall introduction to the issues involved and to what the economic perspective can contribute to this area of public finance. (Also see, Romano, 1986a.) Since both equity and efficiency will be referred to quite often in this paper, it will be helpful to provide a brief review of these principles.

2.1 Equity

Equity concerns in higher education often revolve around the questions of who benefits from it and who pays for it. Theories that would lead us to the most equitable solution to problems are less precise than those underlying the principles of efficiency and have to do with normative issues concerning fairness and the distribution of income in society. Because income in every society is unevenly divided, tax monies to support higher education might be justified on the grounds that not everyone has a fair opportunity to go to college (a normative judgment in itself). However, the right level of subsidy cannot be calculated in any precise way, and ultimately it becomes a political question related to how much the polity wants to redistribute income in the society, if at all. Our value judgment is that tax-financed subsidies that expand educational opportunities to underserved populations, and/or those that tend to redistribute income in favor of the poor, are to be preferred. Yet, to get a complete picture of equity we not only need to know which income groups benefit from public subsidies but also which groups pay for them. Given our value judgments, tax structures that are more progressive are preferred to those that are regressive.

Progressive tax structures take a higher percentage of the income of families at the top than at the bottom. Regressive taxes do the opposite. The federal tax structure is mildly progressive because of the progressive income tax. State and local tax structures are mostly regressive because their revenue comes mainly from property and sales taxes. While these general principles are agreed to by economists, when it come to ranking the progressivity of the tax structure for each state, we find a good deal of disagreement (Greene & Balkan, 1987; 1991; Kiefer, 1991). Some of this disagreement has to do with the incidence of different kinds of taxes (or who actually bears the burden of them), but generally we find that state governments that rely more on income taxes, like NY, have more progressive structures than those that rely more heavily on property taxes, such as New Hampshire. Local tax structures are the most regressive because they rely on property and sales taxes rather than income taxes. While arguments over tax structures are beyond the scope of this paper, we can conclude that if we want to finance higher

education out of tax revenue, in most cases it will be more equitable to use first federal, then state, and then local sources if the desired effect is to collect revenue in the most progressive or the least regressive manner.

It is probably fair to say that most of us would not favor a system of public finance that taxed the poor and gave the money back to the rich. That would be redistributing income in the wrong direction; yet that was one of the implications of the research done in the 1960's and early 70's that showed that a disproportionate share of the public funds used to support colleges were given to families in higher income brackets (Hansen and Weisbrod, 1969). The people who did not go to college were helping to support those who did go to college. Although these arguments have been tempered somewhat by more recent research, we still have a situation where "students with different family incomes have very different probabilities of entering college... and higher income youth can actually expect to receive larger public subsidies for their education than those from lower income families" (Kane, 1999, p. 39). Thus, to the extent that the state and local taxes used to support the community college are paid by lower income families and are not used by them in proportionally in attending, there is a redistribution of income from lower to higher income groups.

Looking at equity from another perspective, one of the standards often used is that equals should be treated equally. In an ideal world that would mean that the likelihood of attending and doing well in college, for students of similar ability, would be the same for students from low-income families as it would be for those from upper-income families. Or, we might argue that similar students taking similar programs should get the same subsidy whether they attend a 2-year or a 4-year public college. Likewise, if we are to treat equals equally, we should treat unequals in an appropriately unequal manner. For instance, concerning the public subsidies going to primary and secondary schools in districts with widely unequal tax bases, the state may give a greater subsidy to the poorer districts. While interdistrict equity is a huge issue at the elementary and secondary level, it is much less of an issue at the community college level. Still, to the extent that community colleges are financed from local taxes, the state should give some consideration to equalizing the financial resources available.

When we look more directly at the students who attend the community college we find that they are more likely to come from lower SES backgrounds. This is especially true for students enrolled in vocational programs (Bragg, 2001). If society wants to favor lower income groups by giving them greater educational opportunity, then a public subsidy to the community college is probably more likely to reach that group than a subsidy given to other types of colleges. However, given the fact that lower income groups still do not participate in higher education to the extent that the rich(er) families in society do, a "free" or very low tuition system which provides an across-the-board subsidy to all students redistributes income in the wrong direction. For this reason economists have argued that it would be better to charge a higher tuition to all and to target financial aid to those least able to afford it. Thus, a high tuition/high aid policy is more equitable than a low tuition policy applied to all.

2.2 Allocative efficiency

The most common conception of efficiency has to do with producing a good or service of a given quality at the lowest cost. Using resources in the lowest cost way is sometimes called technical efficiency in economics. For the public financing of higher education this might involved questions such as: are the costs of educating students lower at a community college than at a 4-year college, and do you get the same quality product at the end? On the campus level, technical efficiency would be promoted by providing incentives to use a given level of resources wisely.

However, efficiency is not concerned solely with the lowest cost alternative but also with how society's scarce resources are allocated in accordance with producers' and consumers' choices that balance the costs of producing a good or service against its presumed benefits.

Normally economists prefer to leave decisions about what to produce to individuals interacting through private markets. However, sometimes competitive private markets will result in the overproduction of some goods and services and the underproduction of others. This is what economists call a market failure. When we produce the "right" mix of output we have allocative efficiency. Markets might fail to produce the "right" mix because some of the costs and/or benefits are hidden in one way or another from the individual decision makers. The case for the public subsidy of education is based on this idea. Without it, it is argued, education would be underproduced and this would be inefficient. Of course, this idea can also lead to the conclusion that education is overproduced (Freeman, 1976). Educators may feel that this is impossible but the economist would argue that it would be so if the private cost of higher education, for say a year, was far less than the actual cost of the resources required to produce that year of education. At the present time the argument for overinvestment seems unlikely (Kane and Rouse, 1999).

In traditional public finance arguments, the idea that an efficient allocation of society's resources is improved by public subsidies to higher education is based on the principle of spillovers and on the idea of imperfect capital markets.

Spillovers--The theory of spillovers (sometimes called neighborhood or external effects) comes from the assumption that the benefits to education are not only private, that is, they flow to the individuals who get it, but are also social. It is assumed that private benefits can be captured by individuals in the form of higher incomes and therefore (equity concerns aside) should be paid for by them. Thus, it is said that individuals invest in themselves by going to college and reap the rewards of that investment through a higher lifetime income. Social benefits, however, are those that spill over to the larger society and cannot be captured by the individual. For example, more educated people seem to have a greater tolerance for other groups, have lower crime rates, are better able to participate in the democratic process, and are more likely to provide volunteer services which contribute to the "social capital" of the community. All of these contribute to an increase in the overall public good. When considering the costs and benefits of investing

in higher education, an individual would not consider these social benefits and this would cause the society to underinvest in this kind of activity. Therefore, since the spillovers from higher education are considered benefits to the entire society, we might expect society (through the public sector) to pay for them in some way.

Although little research has been done on this question with respect to the community college, our assumption is that the same sort of benefits ascribed to all of higher education can be extended to the community college as well. One interesting side note, however, is that the social benefits produced by higher education are generally assigned to what might be called "general education" rather than to the specialized technical education that is usually part of the community college mission. As Milton Friedman has said, "vocational and professional schooling has no neighborhood (external) effects of the kind attributed ... to general education" (Friedman, 1962, pp. 100-01).

Friedman's argument might be countered by suggesting that without a public subsidy, technicians will be underproduced. Since the cost of this training is higher than "general education," if left to the private market, a single producer would under-fund this type of training because workers might move to another firm before they could capture enough of the benefits. In fact, if we find that producers are unwilling to provide this type of training themselves, it might be evidence that this is the case.

In reviewing state funding patterns, it was found that 16 states provide an extra subsidy for the higher cost technical programs at the community college. This was not justified on efficiency grounds but resulted from a political decision to provide an indirect subsidy to producers in order to keep them in the state or to attract new firms into the state. In states such as North Carolina, part of the mission statement of the community college system is to provide just this type of a subsidy for the sake of economic development. In light of evidence to the contrary, we will assume that efficiency arguments can be used to justify subsidies to both general education and to specialized technical/vocational education at the community college. However, where very specific training facilities must be built to meet the needs of local employers, they should receive support from them or from other private sources. And finally, given the fact that students in vocational programs are from lower SES backgrounds, it may be that a public subsidy for this type of education is justified on both efficiency and equity grounds.

Stepping back from these theoretical arguments, we can say that for society as a whole, the overriding efficiency question, with respect to the community college, is whether the outcomes (benefits) of this type of education are worth the costs. Again, research on this question is limited, but the preponderance of evidence from studies done in the last 10 years indicates that both the private and the social rates of return are high enough to justify the cost even if students do not complete a degree (Romano, 1986a; Grubb, 1999; Kane & Rouse, 1999). However, these questions are beyond the scope of this paper. Instead we take the standard view that, aside from equity concerns, some degree of public subsidy to this type of higher education is justified on efficiency grounds and that, if left to private markets exclusively, it would be underproduced. For us, it is more important to

look at the source of that subsidy and the incentives that it might contain rather than its exact amount.

If we accept the idea that the justification for the public funding of community colleges is based partly on the idea of spillovers (or neighborhood effects), then we might argue for less of a subsidy for short-term training and avocational types of courses, because the benefits of these are largely private. On the other hand, we might argue for greater subsidies (low or no tuition) for ESL (for local residents but not international students) and remedial education because these have larger spillovers. The area of remedial education deserves special attention because the national trend is to shift more of this function to the community college. The leaders of the 2-year colleges are generally eager to accept this role because they argue that the goal of "access and remedial education are inseparable" (McCabe, 2000, p. 7). The limited evidence that we have on the impact of remedial programs indicates that the well-funded ones are cost-effective. That is, in the long run, the community saves money by investing in these programs. It appears that the social benefits generated from this type of education are greater than that from, say, general education and that remediation deserves full public funding (no tuition) with some time limits built in for completion of the program.

In an ideal world we would be able to separate out the private from the social benefits for each type of education and to let that influence, for instance, tuition charges at the community college. Or, if we had sufficient knowledge, we could separate the private from the local and the state benefits, with each paying in accordance with the benefits received. In reality we cannot be this precise, and the method of finance becomes a political decision which considers the mission of the community college in a particular state and the priorities assigned to this type of education in the budget process. (For an attempt to model this for higher education see Creedy, 1995.) What the theory of spillovers does allow us to say is that the "right" level of tuition for most courses is greater than zero but less than the full cost.

Imperfect capital markets-- Imperfect capital markets also contribute to the problem of underinvestment (inefficiency) in the production of educational services. If capital (money) markets were perfect, students who needed financial assistance would be able to obtain the funds for college by taking out a loan, using their future income stream as collateral. Money markets are imperfect since banks are not willing to take such risks, given the long time horizons involved and the uncertain outcome. Thus, government loan guarantees increase the efficiency with which resources are allocated by providing individuals with a method of making worthwhile investments in themselves through education. As with the spillover argument, public involvement in private markets helps to make sure that society does not underinvest in higher education.

Imperfect information-- A third rationale for public subsidies to higher education, on efficiency grounds, is suggested by Thomas Kane in an important study of the way we finance higher education in the U.S. (Kane, 1999). Kane has suggested that imperfect information is also something that will cause underinvestment in higher education.

According to Kane, some students have poor information about "how to apply to college [and negotiate the financial aid process] and what will be expected of them there" (p.13). This will cause particularly low-income students to underinvest in higher education without public intervention. Kane shows that improving access to information will not be enough to correct this problem. He suggests that encouraging the students on the margin to experiment with college would be improved by front-loading financial aid. He is not arguing for an increase in the total amount of federal and state aid but rather for a reallocation of existing dollars so "that the incremental gain in educational attainment (or, more accurately, in the public good generated by educational attainment) for each dollar of financial aid given college freshmen equals the incremental gain for each dollar of financial aid for college seniors" (p.13). This idea leads to the proposal to give larger grants to students in their first two years and smaller grants to them in the last two years of the typical 4-year degree program. In effect, front-loading aid, especially for the first year, gives students an incentive to try college and to overcome the often-difficult transition from high school to college. Since this recommendation seems to have particular relevance to the "students on the margin" that the community college typically serves, we will return to it later.

Now let's turn to another efficiency concern and investigate whether it is less expensive to educate students at the 2-year or the 4-year level.

2.3 Technical efficiency

Assume that a state's master plan calls for the diversion of some recent high school graduates, seeking a bachelor's degree, from its 4-year public colleges to its 2-year community colleges. Would it save any money? Outcomes aside, this might seem like an easy question to answer. Of course it is less expensive at the 2-year college. It is certainly less expensive for the student because the tuition is usually lower and the cost of housing can be kept down by living at home (although commuting costs may be higher). Since lost income is the major cost of going to college, we could also argue that the opportunity cost of lost income is lower because staying at home, where they are familiar with the local labor markets, makes it easier for students to work while they attend the local community college. But, if it is cheaper for the student is it also cheaper for the public sector to subsidize the student at this level? Probably, but this is less obvious. It depends on the state and how we measure costs.

Cecilia Rouse has shown us a quick way to estimate the differences in costs, on a national level, by looking at data from the National Center for Education Statistics (Rouse 1998). Table 1 adopts her method and updates her figures to those most recently available.

Table 1. Annual expenditures per student and average tuition & fee costs at public two-and four-year colleges, 1996-1997 (in thousands of 1996-97 dollars)

<u>Educational and general expenditures per full-time equivalent (FTE) student</u>						
	Total	Minus research & Public Service	Minus R, PS & fixed costs	Tuition & fees	Subsidy-1	Subsidy-2
	(1)	(2)	(3)	(4)	(5)	(6)
Two-year college	7020	6841	4567	1276	3291	5565
Four-year (public) college ^a	14,329	12,162	8175	2778	5397	9384
Four-year (public) college adjusted (lower division) ^b	9848	8359	5619	2778	2841	5581
Difference: 4-yr. minus 2-yr:						
Four-year college (unadjusted)	7309	5321	3608	1502	2106	3819
Four-year college (adjusted)	2828	1518	1052	1502	- 450	16

Source: *Digest of Education Statistics*, 2001, p. 393-95; 359-60, tables 316, 350-51.

Col. 1 = operating costs less capital costs.

Col. 3 = col. 1 minus research (R) and public service (PS) and fixed costs (administration, operation and maintenance of plant)

Col. 5= col. 3 minus col. 4

Col. 6= col. 2 minus col. 4

a= excludes research universities

b= 4-year college figures are adjusted to approximate the costs of lower-division instruction. Following Rouse, (1998, p. 615, Table 7) we assume that undergraduates comprise 90 percent of public college FTE enrollments, graduate students are weighted at 3.75, upper-division undergraduates at 1.5, and lower-division undergraduates at 1.0. This results in dividing the unadjusted 4-year college costs by 1.455. (See also Breneman and Nelson, 1981, p. 116, Table 3-8)

Looking at the first two figures in column 1, we can see the average total educational and general expenditure per FTE student for 2-year and 4-year colleges in all 50 states (\$7020 vs. \$14,329). These expenditures exclude capital costs, which are higher at the 4-year level. But clearly these cost figures are not strictly comparable since the 4-year college will have upper-division and graduate students who would be more expensive to educate. Following Rouse, and adjusting the 4-year figures for these factors, gives us a crude estimate of costs at the 2-year level compared with those at the lower-division level at the 4-year college (\$7020 vs. \$9848). Thus, looking at average costs, we can see that it is less expensive to educate students at the 2-year level.

Columns 2 and 3 in Table 1 subtract out various costs of operation in an attempt to narrow down the figures so that an estimation of the marginal (additional) cost of educating a student at each level can be calculated. Looking at column 3, Rouse (using 1992-93 figures) suggests that “the most conservative estimate.... indicates that it is almost twice as expensive to educate a full-time student in a 4-year as in a 2-year

college” (Rouse 1998, p. 614). Using up-dated figures for 1996-97, this would be \$8175 at the 4-year level vs. \$4567 at the 2-year level. But again, if we adjust the cost for the four-year college to reflect lower-division study, we get a different picture. This downward adjustment reduces the cost differences from \$3608 (4-year college unadjusted) to \$1052 (4-year college adjusted) per FTE. So, on a crude marginal cost basis, it appears to cost about \$1000 less to educate a lower-division student at a 2-year college, if we ignore capital costs.

In order to get an estimate of the public subsidy for both the 2 and the 4-year public college, not considering any financial aid, we must subtract the average tuition and fee costs paid by the students. For 1996-97 that average was \$1276 for the 2-year college and \$2778 for the public 4-year college. Column 5 (subsidy-1) uses Rouse's method for calculating the state subsidy. It results in subsidies going to 4-year colleges ranging from \$5397 to \$2841 compared to the \$3291 that goes to the 2-year college. The last two figures in column 5 show the differences.

However, it seems that column 6 (subsidy-2) incorporates a more realistic measure of costs than those used by Rouse. These subsidies are based on the average cost figures listed in column 2, which include the fixed costs of administration and the operation and maintenance of the plant. Excluding fixed costs is the typical procedure in economics when estimating marginal costs. It is justified when talking about the short run where, for instance, the diversion of students from the 4-year to the 2-year college would be considered temporary. But, if a state’s master plan does not see this diversion as temporary, we really should be looking at the long run, where all costs must be covered. As Gordon Winston has argued, " marginal cost looks a whole lot like average cost in higher education" (Winston, 1999, p. 33). If we include fixed costs as part of the average FTE cost, then a more realistic advantage for the community college is the \$1518 figure at the bottom of column 2. Once we start talking about the long run we should also include capital costs in our calculations. Following Rouse, capital costs were excluded from all of the figures in Table 1 because the existence of excess capacity was assumed. This is not a good assumption for the long run. Capital costs are higher for the 4-year than the 2-year college, if we include the costs of dormitory construction.

From this analysis, we conclude that the shift of bachelor-degree-seeking freshmen and sophomores from the 4-year to the 2-year college would save at least \$1000 to \$1500 per FTE. Of course, these are national averages. All states have different costs and tuition levels, but the method for calculating the costs and public subsidies would be the same as used here.

We can also see, by looking at the last figure at the bottom of column 6, that the subsidy going to the 2-year college student is almost exactly the same as that going to educating a similar student at the lower division in a 4-year college. This seems appropriate. Looking back at one of our principles of equity, we said that equals should be treated equally. In our crude approximations of cost presented in Table 1, we seem to be giving the same subsidy (subsidy-2) to educating undergraduates at both levels, and the difference in operating costs between the 2 and 4-year college is reflected in the higher tuition at the 4-

year college. Thus, aside from capital costs, the average state would save no money by shifting students to the 2-year college. The lower cost of educating students at this level is passed onto the student in the form of a lower tuition rate.

Critics will remind us that, even if it costs less to educate students at the 2-year college, we must also think about what we are getting for our money. We mentioned this briefly above and said that it is an important question with an incomplete answer at this time. The largely polemical arguments of the 1970's and 80's (as examples see Pincus, 1980; Brint and Karabel, 1989) that attending community colleges had a negative effect on educational attainment have been replaced by more rigorous studies as better data have become available. After a review of the evidence, Rouse states that "overall it appears that two-year colleges increase educational attainment by an amount equal to four-year colleges" (Rouse, 1998, p. 613). We are encouraged by other recent research that shows that educational attainment has been increased by the expansion of the community college and does not divert a significant number of students from their educational goals (Hilmer, 1997; Leigh and Gill, 1997; Grubb, 1999; Romano, 2003). A recent examination of this topic by Leigh and Gill (2003) concluded that "policymakers should not be overly influenced by [the negative] diversion effect arguments in designing the role of community colleges in state-level master plans for higher education" (p. 28).

If students are to be diverted from 4 to 2-year colleges for the sake of saving money, then more needs to be done to assure equal outcomes at both levels. Since most of the students diverted will be interested in obtaining a bachelor's degree, the transfer process must be made as smooth as possible. For this purpose it is better to have community colleges become part of the larger state university system, with guaranteed transfer, rather than stand alone operations which require students to negotiate the transfer process. (For a set of recommendations on how state policy can improve transfer, see Wellman, 2002).

Finally it must be said that the idea of technical efficiency at the campus level is also important. Ideally we want a system of finance that encourages colleges to produce a given level of service at the least possible cost. While firms in the private sector have the profit motive and competition to promote this kind of efficiency, colleges march to a somewhat different drummer. It is important that incentives be built into any system of college finance that encourages the wise use of the resources available.

We end this public finance approach with an awareness that equity and efficiency are sometimes conflicting goals and that trade-offs are often necessary. These trade-offs can only be decided within the political process, and each state will make different choices. However, the principles of equity and efficiency remain important tools that will inform our judgments about the existing pattern of finance. On the question of the appropriate level of tuition, for instance, we have concluded that a low or no-tuition policy for most courses is unjustified on both efficiency and equity grounds. We will return to this issue at the end of the paper.

3. State Patterns of Financing

Our analysis of existing funding patterns starts with a survey done by the Education Commission of the States (ECS) and published in November 2000. Appendix A contains the data of relevance to this study. In its survey, the ESC found that community colleges relied on five general sources of funds for their current operating budgets: federal, state, local, tuition and fees, and misc. other sources. Table 2 provides a brief definition of each of these sources and lists the states that reported receiving funding from those sources.

Table 2 Sources of funding for community colleges across the states

Federal--- All states except AR,CT,ID,IN,MD,MN,MT,ND,NE,NJ,RI,WY.

All Perkins funding for vocational education included in this category.

Does not include financial aid to students.

State-----All states. This includes only direct support to colleges not indirect support to students through financial aid.

Local -----All states except CT,HI,IN,LA,MA,ME,MN,NH,RI,TN,UT,VT,WA,WV.

These funds would usually come from the local county but may also come from a city or local school district(s).

Tuition ----& fees ----All states. The exact amount of tuition and fees paid for out-of-pocket is impossible to calculate since figures distributed by public agencies dealing with grants and loans to students include more than the cost of tuition and fees.

Other ---- All states except AL,CA,GA,ND,NH,NY,WI,WY.

Includes mostly federal aid and restricted funds other than Perkins.

Over the last 50 years the proportion of the operating budgets financed from these sources has shifted dramatically. In 1918 less than 100 public junior colleges existed and 94% of the money to run them came from local sources. As Table 3 shows, in 1997 the percentage from local governments had fallen to 19% while the proportion from the states and from tuition and fees grew.

Table 3 Percentage of Income from Various Sources for Public Two-Year Colleges, 1950-1997

	Year							
	1950 ^a	1959	1965	1975	1980	1990	1992	1997
Source								
Tuition and Fees	9%	11%	13%	15%	15%	18%	20%	21%
Federal Funds	1	1	4	8	5	5	5	5
State Funds	26	29	34	45	60	48	46	44
Local Funds	49	44	33	24	13	18	18	19
Private Gifts and Grants	0	0	1	1	1	1	1	1
Sales and Services	NA	12	6	6	3	7	7	6
Other	2	2	7	1	3	3	3	4

^a Includes local junior colleges only.

Source: Cohen & Brower, 1996, p. 140; and updated by author from: National Center for Education Statistics, 2001.

While Table 3 shows the national averages, when we examine the states individually we find a great deal of variation. We can extract some of this data to show the extremes that exist among the states. Looking at just the proportion of current operating budgets provided by the three main sources of funding, we find the patterns shown below in Tables 4-6.

Table 4 States with the highest and lowest dependence on local funding (% of operating budgets-- 1998-99)

<u>Highest</u>	<u>%</u>	<u>Lowest</u>	<u>% (14 states have none, followed by)</u>
AZ	57	KY	.01
WI	53	FL	.02
CA	44.5	NV	.28
IL	43.2	VA	.40
KS	40	CO	1.00

Table 5 States with the highest and lowest dependence on state funding (% of operating budgets-- 1998-99)

<u>Highest</u>	<u>%</u>	<u>Lowest</u>	<u>%</u>
NC	75.2	VT	14
AR	71	AZ	21
CT	71	WI	21
FL	68.5	NJ	24
TN	66.5	KS	24

**Table 6 States with the highest and lowest dependence on tuition and fees
(% of operating budgets-- 1998-99)**

<u>Highest</u>	<u>%</u>	<u>Lowest</u>	<u>%</u>
VT	81.3	CA	.80
NJ	42	NC	8.2
NH	40	GA	13.0
IA	38.9	AK	15.2
MN	36.5	WI	16.0

Compared with these national extremes, New York reports what seems to be the most even distribution of funding from these sources (1998-99). Aside from 5.7% funded from federal sources, the community colleges in NY get an average of 29% from the state, 31.3% from local governments and 34% from student tuition and fees.

The national average for these sources of funding for operating budgets is reported by ECS (2000) to be: state funds (39.4%), tuition and fees (19.9%), local funds (17.9%), federal funds (12.6%) and other sources (10.2%) (categories are slightly different than those used in Table 3 above).

From this survey AZ, NC, NY and CA have been selected for closer examination. They represent some of the extremes in the system of funding mixes for community college operating budgets. By studying the extremes we hope to highlight the efficiencies (or inefficiencies) and the impact on equity (or inequities) that tend to occur as a state moves from one mix of funding to another. In addition, we will want to examine whether the distribution of the burden of financing the community college compromises its mission, which is dominated by the goal of access. In Appendix A, a crude measure of access is presented. It looks at the enrollment in community colleges per 100,000 people in the 18-44 age group for each state. Using this measure CA rates number one in access at 9,567 students enrolled per 100K. Our other three states are rated #3 (AZ), #14 (NC) and #34 (NY). While many things will influence access, at the very least this ranking provides a crude measure of the extent to which each state uses its community colleges as an entry point to higher education.

To supplement the research, telephone interviews were conducted with campus presidents and business officers as well as chancellors and others at district offices in each of the four states and a few beyond. Questions were submitted in advance so that the interviews had some structure. Three general areas were probed; first, the continued commitment to open access in light of the current financial climate; second, the nature of the funding formulas in that state and their feeling about the ideal balance between tuition, state and local revenue; and third, the degree of budget flexibility permitted on the campus level. Budget flexibility is important if incentives are to be provided on the campus level to use a given level of funds efficiently

In the examination of each state that follows a brief description of the mission and governance of the community colleges in that state is provided. This is followed by a

brief description of the financing patterns and the results from the interviews. Finally a brief comment is given on the findings with respect to the goals of efficiency, equity and access. For each state a reference is made to the tax effort the state makes in supporting its community colleges. The tax effort scale used is one devised by F. King Alexander (Alexander, 2001). Alexander's tax effort principle is briefly described in Appendix B.

3.1 North Carolina

Mission and Governance

North Carolina (NC) has 58 community colleges that enroll 750,000 students (70% of them in non-credit programs). In terms of the number of colleges, this makes NC the third largest system in the nation. Campus mission statements and the state statutes that created the community college system convey the message that the colleges have a strong focus on workforce development that meets the needs of local employers (Harbour, 2002; Tollefson, 1999, pp-327-341). In fact, some of the interviews with college presidents from other states indicated that they envied the NC job training programs and the role that they seem to have played in attracting industry into the state. NC officials like to emphasize that they believe in subsidizing "training for specific jobs in specific companies" in the state (Tollefson, et al, 1999, p. 338). In addition to the standard academic program, the community colleges are also asked to provide adult basic education (K-8), adult high school diploma courses, and a GED program. This is not so typical nationally.

In all of the discussion over mission, little mention is made of transfer programs to 4-year colleges, although NC is considered to have a comprehensive system of community colleges. In fact, transfer programs began to grow once the community colleges went on a semester system in 1997-98 and signed a transfer articulation agreement with the University of North Carolina system. Still, a recent study done by the largest college in the state showed that only 32% of the entering students aged 16-32 indicated an interest in transferring while 62.5% wanted to improve their work skills (CPCC, 2003).

The community colleges in NC are not part of the University of NC system but have a separate state governing board that is appointed. Each college also has its own appointed board of trustees. Even though a small percentage of funding comes from local tax sources, all presidents interviewed felt that the local boards of each college made them responsive to the needs of the citizens in the areas they serve.

North Carolina, along with Florida, South Carolina and Washington are often cited as states that have strong community college systems that operate in a coordinated way to meet the needs of the states they serve (NCHEMS, 1999, p.19). With the emphasis on workforce training, NC has designed a funding mechanism that supports this primary mission.

Funding

North Carolina was selected for closer examination in this study because it is more heavily dependent on state funding than any other state, and as a consequence its dependence on tuition and fees is relatively low. According to the figures compiled by the Education Commission of the States (ECS) (see Appendix A), in 1998-99 NC community colleges received funding for their operating budgets in the following proportions: State= 75.2%; Local= 12.9%; Tuition & fees= 8.2%; and Other (mostly federal)= 3.7%. The most recent System Fact Book (2002) shows that for 2001-02, the state's share had dropped to 71.3% while that of tuition has increased to 12.2%. Considerable variations in these proportions can be found among the 58 colleges, mostly because of the variations in support from local counties. Thus, for 1998-99, the county contributions ranged from 5% to 20.4% and that of the state from 59.2% to 77.5% (Tollefson, 1999, p. 332). The tuition charge of \$34.25 per credit hour in 2002-03 was one of the lowest in the nation.

Tuition is uniform throughout the state although individual colleges may set some fees. Tuition revenues are all sent to the state and redistributed according to a funding formula. To help the smaller colleges, the state funds 100% of the first 750 FTE's with what is called a basic allotment. This number is based on what is felt adequate to fund the administrative and instructional support for the first 750 students (judged to be 30 positions). However, rather than being based on actual costs, the payment is negotiated each year with the state. For the 2002-03 year the basic allotment was \$1.6 million per campus regardless of size. After that, a somewhat complicated formula for 16 different program areas determines the level of FTE state support. These formulas allow for differential funding for items such as differences in program costs, and library and equipment needs. However, when separate funding is provided for special categories of expenditures, the reporting requirements on how the funds were used increase. If the state provides a special budget for library books, then a library accession list must be filed with the state, etc. The greater the percentage of state funds, then greater the reporting requirements and the less flexible and efficient the organization can be internally.

In NC, state FTE funds may not be used for utilities or plant maintenance. These costs must be paid from local sources. Local revenues may also be used for salary supplements in districts that can afford it. Capital projects require a match between local and state funds. For 1998-98 that match is reported to be 59% from local taxes and bonds and 41% from state sources (ECS, 2000, p. 14). In terms of state control over expenditures, NC has a fairly centralized system of control over its community colleges with all tuition money collected being sent to the central administration and detailed budgets for each campus developed and approved at the state level.

The state of North Carolina is one of 27 that require its community colleges to use performance indicators to measure outcomes. At present these indicators cover 12 categories ranging from passing rates for basic skills students and licensure exams to student and employer satisfaction ratings. In 2001, this program recognized five colleges

as superior and the colleges expected to get an extra one million dollars from the state. In fact, the state was not able to live up to its promise and only provided about ¼ of this amount. Since then the monetary rewards for meeting the performance goals has been suspended due to tight state budgets. The college presidents that were interviewed still expressed support for such a system and continue to submit the measures to the state.

While the state supports a high percentage of the operating budgets of its community colleges, the colleges still have one of the lowest average annual FTE per student expenditures among the 50 states, at \$4748. This low level of spending is a reflection, in part, of its low fiscal capacity, as measured by the state's per capita income. When we consider this capacity against its support for community colleges we find a relatively poor state making a very good effort. Thus, its tax effort, as measured by Alexander (2001), was rated at 175.1% in 2000-01. That is the third highest in the nation, just behind Maine and Louisiana, at 175.6% each (U.S. average 100%). (See Appendix B for an overview of Alexander's measure of tax effort.)

Results from Interviews

When asked about the importance of keeping tuition low, the community college presidents interviewed pointed to a state statute that mentions low tuition rates as a central precept of the North Carolina community college system. Open access was felt to be the most important goal and this extended to non-credit courses designed to promote economic development. Some said that they would support any financing system that gave their colleges more money. In more than any other state examined, presidents stressed the role that their colleges play in attracting and keeping industry and jobs in the state. Since colleges do not get to keep their tuition revenue, larger colleges complain that their students pay more than the colleges get back from the state. In an effort to equalize opportunity, the state distributes to the smaller rural colleges an amount larger than the tuition collected.

With such a high percentage of funds coming from the state, and colleges not being allowed to keep their tuition revenue, if the state budget is cut, colleges are forced to cut course sections. For the fall 2003 semester, Central Piedmont Community College in Charlotte is reported to have cut 250 sections due to a reduction in state funding. In some cases, students were crammed into existing sections (NC has no faculty unions) but in general student access was reduced. Presidents were more reluctant to cut workforce development programs than those in the liberal arts. If student tuition was higher and colleges were allowed to keep their tuition revenue, the presidents claimed that they would not have had to reduce access as much. On average, presidents seemed sympathetic to the idea of bring tuition up to national averages that are close to 25% of the operating budget.

All presidents complained about the limited flexibility they had on the campus level to affect efficiency. They do get to shift money among budget line although the amount that can be shifted out of faculty salary lines is limited by the state. Money from the operating budget cannot be carried over from one year to the next.

Comments

With 70-75% of the funding for the operating budgets coming from the state, we might expect to find a greater degree of state control over the community colleges in NC, and we do. In addition, because colleges cannot keep their own tuition revenue and because tuition is so low, in bad times the colleges are forced to restrict enrollments. This is not done by being more selective at admissions but by cutting course sections, usually in liberal arts transfer programs, and serving students who are first in the queue. The community college student is generally not as flexible as the full-time student at the 4-year level. Classes are often wrapped around a tight work and family schedule, and failure to get the right class at the right time means that some students with a great ability to benefit will be forced to walk away from college for that semester. This method of course rationing will lengthen the student's time to complete a program and lead to higher dropout rates. Of course, in the face of scarcity some type of rationing will always be necessary, but the one currently in use may not be the preferred way.

With such a high percentage of the funds coming from the state, NC rates higher on the equity scale than states that have a greater reliance on local funding. Moreover, it does appear that the poorer counties contribute a smaller share from their regressive tax base and that the state makes up the difference. NC gets high marks for equity but low marks for efficiency, partly because the tuition is too low to reflect the private benefits received. Access would also be improved if tuition were increased and part of the money put into a statewide fund for lower-income students. In addition, colleges should be allowed to keep their own tuition revenue and to carry over a limited amount of funds from year to year. This would provide an incentive to improve efficiency on the campus level.

It is interesting to note that the basic allotment, which supports the first 750 FTE's, is meant to benefit small rural colleges and improve access in those areas. But it might also be an incentive to develop small colleges. In fact, NC has 100 counties and 58 community colleges. Both of these numbers are rather high and may be related. Thus, each small county would seem to have an incentive to start a small college. In fact, a study done for the government of North Carolina to study the funding formula showed that the colleges in NC tended to be smaller than they are in most other states but that the cost savings to the state of merging 10 of them would be a rather modest \$3-7 million (MGT, 2003). Still, implicit in the current funding formula is the assumption that the larger colleges have some economies of scale.

3.2 California

Mission and Governance

California has the oldest and the largest system of community colleges in the nation and in fact is the largest system of higher education in the world. Its 72 district, 108-campus system enrolls 1.9 million students out of the total national community college enrollment of 5.5 million in credit programs. At times, the data from the CA system have so biased national figures that researchers have done their calculations with and without

CA included (Garms, 1977). California is also known for its ballot initiatives and propositions, which periodically shake the foundations of established policy.

The community colleges operate as a separate state agency governed by a Board appointed by the governor. Districts also have local Boards that are elected and control both the operating and the capital budgets of their colleges. These boards have often served as a stepping-stone for higher political office. In 1960 the colleges became part of the nation's first state-wide master plan for higher education in which the top 12.5% of high school graduates could be admitted to the research universities (UC), the next 33.3% to the state colleges (CSU) and the rest to the community colleges (CCs). The plan to divert students into the lower cost CCs worked better than expected and enrollments boomed.

Probably more than any other state, the CCs in California are governed by the philosophy that they should provide just about any type of education and training that the local community desires. The state's Master Plan specifically mentions that the community colleges must provide "everyone over the age of 18 an opportunity to achieve a degree, certificate, transfer-readiness, workforce preparation, family supportive income, remedial education and basic skills" (California, 2002). While transfer is an important part of that mission, a small percentage of community college students actually get degrees and transfer to 4-year colleges. These low graduation and transfer rates have attracted a lot of public attention in recent years and have put considerable pressure on some campuses to improve. Presidents respond with the usual arguments that students are not using their colleges for those purposes and that transcripts show that 20-50 % of the public 4-year graduates in the state have done some academic work at the community college level. In addition to the academic program, non-credit courses receive a great deal of emphasis and in some areas of the state K-12 adult education has been shifted from the public schools to the community college.

Enrollment growth in the CA system of higher education is one of the most dynamic and diverse in the U.S. Of the projected 715,000 new students by the year 2010, 530,000 are expected to enroll in the community colleges. Statewide planning documents refer to enrollment trends in terms such as "Title Wave 1" and "Title Wave II." State funding efforts are not expected to keep up with these numbers. From 1970 to 1996 the percentage of the state budget devoted to higher education dropped from 17% to 12% as other state priorities such as health care and corrections took precedence. The impact of these enrollment surges and funding problems has been intensively studied by The Rand Corporation (Benjamin & Carroll, 1997, Park & Lempert, 1998) and several statewide commissions. Breneman has reviewed several of these studies and has suggested that a new master plan is needed which integrates K-12 into the state's educational plan (Breneman, 1998).

Funding

The roots of the community college in CA go back to the 19th century and were closely tied to the local public school systems. Widely regarded as simply grades 13 and 14, the

idea that attendance should be tuition-free is probably more firmly entrenched in CA than in any other state. Proposition 13 passed in 1978 restricted the amount of funds that could be raised by local property taxes and placed a greater burden on the state to fund the colleges. In spite of this local funding still provides over 40 percent of the average community college budget. Several states followed California's lead in limiting the amount that could be raised by property taxes, including the neighboring state of Arizona.

According to the ECS survey in 1998-99, the combined operating budgets were financed from the following sources: Federal= 3.8%; State= 50.9%; Local= 44.5% and Tuition and Fees= 0.8%. Capital expenditures are funded by a combination of state and local taxes/bond issues. The state also supports non-credit courses at about one-half the rate of credit courses, which is more generous than most other states.

The statewide master plan passed in 1960 required the CCs to remain tuition-free. However, after lengthy debate in 1983, the state allowed the first tuition (actually called an enrollment fee) charges for the system. In 2002-03 the tuition charge of \$11 per credit was uniform throughout the state and is the lowest in the nation. Low-income students are entitled to a tuition waiver and about 50 % of the students statewide receive one. The state also has other financial aid programs for low-income students, including the Cal Grant program, which is a voucher payment that can be used at public or private colleges. For the 2003-04 fiscal year, the Governor proposed a tuition increase to \$24 per credit. The community colleges estimated that this would shut out more than 200,000 students, and after considerable lobbying the governor reduced his recommendation to \$18 a credit, a figure that is still estimated to reduce the student population by 100,000. At that low rate, students would still not be eligible for the maximum Pell grant awards.

The funding formula for the colleges is prescribed by Proposition 98. Passed in 1989, it was meant to guarantee a minimum level of funding for K-12 schools and the community colleges. The formula is a complicated one based on FTE's, per capita personal income and projections of state revenues. The community colleges were to get 10.93 % of Prop. 98 funds, but the state suspends the agreement when it cannot meet this goal. The community colleges complain that over the past 10 years this promise has been kept in only one year (1990-91) as more Prop. 98 funds have been shifted to the K-12 schools. To recapture the \$2.7 billion the colleges feel is due them over the last 10 years, the colleges have suggested that they might sue the state (Spence, 2002). Even with its multiple sources of funding, the average college expenditure per FTE in CA is still one of the lowest in the nation at \$4,017 (1998-99).

California has state-level performance targets that are linked to budget appropriations. The program, called Partnership for Excellence, accounts for 2-3% of most colleges' budgets, but has represented about 20% of any new funds given to the colleges in recent years. However, this funding has been cut rather deeply in the most recent budget. On the campus level, colleges are not allowed to keep their tuition revenue. Although colleges are allowed to carry over operating funds from one year to the next, these funds are normally kept at the district and not the campus level.

With its extensive network of community colleges, CA has the highest participation rate (one measure of access) of the state's population between ages 18 and 44 of any state (see Appendix A). On Alexander's scale of state tax effort, we find a relatively wealthy state providing above average support for its community colleges (see Appendix B).

Results from Interviews

All of those interviewed expressed strong support for the goal of open access and felt that a low tuition policy was part of that commitment in CA. Public comments to the contrary, however, most felt that current tuition levels were too low and should be closer to the "value received." Most felt that campus presidents would support higher tuition levels if they could keep the tuition rather than sending it to the state. However, most also seemed unwilling to tinker with the mix of funding sources in the current political climate, fearing that any change would be used to reduce their overall levels of funding.

Beyond this, the major complaint from the presidents was over the boom and bust swings in funding. This happened with the economic downturn in the early 1990's, followed by much better funding in the mid- to late 1990's and then another downturn in the economy and funding in the last couple of years. All emphasized that this unstable funding destroys planning activities and the rational allocation of resources. As we discovered in NC, when budgets are cut, colleges are forced to cut sections rather drastically because students don't carry enough tuition with them to cover the variable costs of instruction.

When asked about the desirability of replacing local funding with the state funding coming from a more progressive tax base, all argued against it. Their principle point here was that in economic downturns, local funding, based on property taxes, was more stable than state funding. Again, the current fiscal situation clouds all philosophical discussions over mission and long-range planning. The high level of state support has produced an over-regulated system and all wished for a greater degree of autonomy at the local level. When you add centralized controls to strong faculty unions, you have inflexibilities that lead to campus level inefficiencies

Comments

Funding patterns for the CA community colleges are both inefficient and inequitable, according to the criteria we are using. With the lowest tuition in the U.S., these charges recognize virtually no private benefits at all. In addition, equity is not well served since state and local subsidies are applied equally to both rich and poor students.

On the campus level, state controls over the budget prevent managers from making efficient decisions. Even at higher levels, administrators have difficulty dealing with the complex system of governance. Chancellor Thomas Nussbaum recently announced his retirement after a frustrating 17-year term saying that he was tired of the budget struggles and the inability to appoint his own senior staff. Steven Boilard, the director of the state higher education legislative analyst's office, said that California's "current system (of community college funding) makes Rube Goldberg look like a linear thinker"

(*Community College Week*, 2003, p.11). Actually part of the answer to funding problems in this state is simple - just raise tuition, not just to the \$24 per credit first proposed in the most recent budget, but to a level which is more reflective of the private benefits generated. This needs to be followed by a policy that puts part of that tuition increase into the state fund that provides financial aid to the neediest students. California needs to move from a low-tuition state to a high-tuition/high-aid state. This will save the state and/or local taxpayers money and be both more efficient and more equitable from an economic point of view.

Most of the studies done on public higher education in CA have recommended that the tuition be raised for all colleges, sometimes referred to as "shared responsibility" (CHEPC, 1996). A common recommendation is that tuition be set high enough to cover 15% of the community colleges' operating budgets; 30% of the budgets of the state universities and 40% of the research universities. The percentage suggested for the community colleges is still too low and over a period of time ought to be allowed to move closer to the national average but still below that for the 4-year colleges in the state. Raising tuition will also help to smooth out the boom and bust cycles of funding if it is used to reduce state funding. If higher tuition revenues substitute for local aid, then funding levels will vary more with enrollments and there will be less reliance on the regressive tax base of the local governments. Replacing local taxation with tuition revenues would be the preferred strategy in most districts.

Campus level decisions made under pressure, often in response to across the board cuts, may not make as much sense in the long run when weaker programs can be pruned using a more efficient planning process. Colleges need more flexibility in making budget decisions and need to find a way to de-politicize the governance process. Obviously, if tuition is to be raised, it is best done over several years in a gradual and predictable manner so that more rational decisions can be made by both students and colleges.

3.3 Arizona

Mission and Governance

Private 2-year colleges in Arizona date back to the 19th century but legislation creating a "junior college" system was not enacted until 1960. Today the state has 10 community college districts and 19 community colleges. Eighty percent of the state's population of 5.5 million people lives in the greater Phoenix or Tucson area. Maricopa Community College serves the greater Phoenix area with 10 campuses and Pima Community College serves the Tucson area with 5 campuses. Both have mission statements that reflect a comprehensive character emphasizing both transfer and technical/vocational education. However, the community colleges are not part of the Arizona university system and they have often had to struggle to articulate the transfer of credits (Burke and Elsner, 1997).

The state has 15 counties and the community colleges are allowed to operate outside of their districts in an attempt to reach underserved populations. Special funding provided in

1996 lead to the creation of the Arizona Learning Systems, a distance learning network designed to better serve poorer rural areas.

Each of the 10 community college districts is governed by a locally elected Board whose members serve a six-year term. A state Board was created in 1960 to coordinate the system. The local Boards set tuition, salaries and budgets and generally have a good deal of control over college operations. They also have limited taxing authority. Like the counties and cities, the community college districts are allowed (limited) by the state constitution to increase property tax levies by 2% over the previous year's levels. Attempts to exceed this constitutional limit through a special ballot initiative generally have failed.

Funding

According to the ECS survey revenue for operating costs comes from the following sources. Federal= 1%; State= 21%; Local= 57%; Tuition and Fees= 20% and Other= 1%.

This makes Arizona the state with the highest percentage of its budget coming from local taxes. The local share comes mainly from local property taxes, although Maricopa receives income in lieu of taxes from a nuclear plant. Tuition is set by the local Boards and can vary widely. In 1997-98 it ranged from \$652 to \$1,110 a year. Compared with other states, AZ may be considered a low-tuition low-aid state. State aid is adjusted for increasing enrollments based on FTE's, but some attempt is made to equalize support by providing more funding to districts with low assessment values. This means that rural colleges rely more on state aid than the two large urban colleges. Higher-cost technical programs are financed at the same rate as general education courses.

In an attempt to provide greater district autonomy, the state also allows the colleges some shifting of funds between capital budgets and operating costs. Twenty percent of each district's funds can be shifted between these two categories. This provides more flexibility than is found in most states. Additional budget flexibility is provided by allowing districts to carry over funds not expended into a fund balance. However, this fund balance has now become an expected source of revenue for the annual budget. In 1997-98, for instance, 22.5% of the operating budgets for the community colleges came from the fund balance (Tollesfson, 1999, p. 54).

Capital projects do not require a local match and a limited amount of money can be shifted from operating budgets for this purpose. To date, no performance-based funding system has been implemented in the state but some support for such a system exists.

As we found in CA, when state budgets are cut, the colleges are forced to cut class sections, rather drastically in some cases. Again, this is because the students do not bring enough tuition money with them to pay for the variable costs of instruction by adjuncts. These cuts seemed to be a little less severe than were found in CA, perhaps because tuition is slightly higher and the higher local contribution makes the operating budget less volatile.

On Alexander's tax effort scale, AZ is classified as a relatively poor state making a slightly below average effort to support its community colleges (see Appendix B).

Results from Interviews

All of those interviewed felt that open access was important in their state in view of the manpower needs of the future and the large influx of an undereducated Hispanic population. A no-tuition policy was not felt to be essential to open access. But, tuition at the current rate cannot cover the instructional costs of additional students and most felt that it should. Several mentioned that a tuition rate of about 25% of the operating budget would be sufficient compared to the current 20%.

Several mentioned that they felt that the low-tuition policy of the neighboring state of California was unjustified. This feeling was no doubt based on a philosophical difference and not on some perceived competition for students, since the market for community college students is almost exclusively local. All felt that local control and local funding were important if the colleges were to meet local needs. One person who had been a president in California said that once that state shifted to what was more of a state-funded system, the colleges felt less pressure to meet local needs. He felt that local funding should be preserved in both states.

Comments

More than 50 % of the revenue used to support the community colleges in AZ comes from property taxes. The state gets less than 40% of its revenue from personal and corporate income taxes (Arizona, 2002). This means that the funding of community colleges in this state comes from a very regressive tax base, although some attempt is made to equalize state aid for poorer districts. The idea that the current system of taxation might be extended to a statewide basis would make the system even more inequitable, since the additional population to be taxed would have a lower per capita income than those who benefit in the two major population centers.

Efficiency and equity would be better served if the state raised tuition and allocated some of the funds to provide scholarships for low-income students. It is not clear whether shifting the funding mix from the local to the state level in this state would reduce the regressive nature of community college funding in any material way.

3.4 New York

Mission and Governance

Higher education in New York is more heavily privatized than in most other states. Private 4-year colleges enroll about 36% of all undergraduates in the state, with public 4-year colleges enrolling 32% and community colleges 29%. As a consequence, starting in 1948, New York was one of the latecomers in the nation to implement a statewide system

of community colleges and the public contribution to funding the private sector is more generous than it is in most other states. (See Appendix B, Figure 4.)

New York has two separate community college systems, the State University of New York (SUNY), with 30 colleges, and the City University of New York (CUNY), with six colleges. This study covers only the SUNY colleges because CUNY did not respond to the ECS survey that provided the base for our data. Since the 30 colleges are considered integral units of the 64-campus SUNY system, SUNY advertises itself as the largest integrated public university system in the U.S., with 370,000 students, 200,000 of which are enrolled at the 2-year colleges. Unlike most states, the community colleges in NY enroll more full-time than part-time credit students. SUNY guarantees transfer within the SUNY system at the junior level to all AA and AS graduates but not to AAS and AOS (technical and vocational) graduates. This transfer guarantee does not apply to any specific 4-year college or program and admission decisions are still made on the campus level.

The mission statements of the 30 colleges have a lot in common and transfer programs are a central, sometimes the major, part of the overall role within the state. Unlike North Carolina, where workforce development is part of the enabling language, one finds less public support for this role in New York. One reason for this is that a statewide high school and adult level BOCES system offers GED and certain types of vocational workforce training. Since 1993-94, community college funding formulas have not favored technical and vocational education, but special competitive grants are still available from the state for non-credit workforce training programs that meet local needs.

Colleges are sponsored by local governing authorities. The most typical sponsor is the local county although five colleges are sponsored by two counties. Until legislation passed in 1988, some local sponsors had line-item control over college budgets. Even today, some still struggle under the tight control and political will of the local sponsor. Local boards govern the community colleges but have no taxing power. The boards have the authority to select the campus president and set tuition rates. While the SUNY system trustees set a tuition cap for the community colleges, pressure to exceed the cap usually works. Compared to CA and NC, New York has a more decentralized system of state control. However, in 1999 the community college presidents hired the National Center for Higher Education Management Systems (NCHEMS) to study the state-wide governance of their community colleges and to examine the pros and cons of breaking away from the SUNY system and setting up an independent state board (NCHEMS, 1999). The study did not recommend such a course of action but it did highlight some of the conflicts that the colleges had with local sponsors and the excessive regulatory process that inhibited the program flexibility of the colleges. The study concluded that "the current coordination and governing structure is a significant barrier to the future competitiveness of the colleges and their capacity to serve their regions and the people of New York" (p. 35).

Funding

According to the ECS study, New York has the most balanced funding pattern for its SUNY community colleges in the U.S. In 1998-99, the operating budgets were funded in the following proportions: State= 29%; Tuition and Fees= 34%; Local= 31.3%; Federal and other= 5.7%. The most recent figures show that the state's share has slipped to 28% while tuition now covers 38%.

From its beginning in 1948-49 to 1969-70, the state share of the community college operating budget was set at 33.3%. Compared to states like CA and NC, New York has always been a high-tuition state. In 1970 the state passed legislation that would allow its share to rise to 40% if the colleges adopted a Full Opportunity Program (FOP), which mandated that each college accept all recent high school graduates and returning veterans from their sponsoring area regardless of their academic qualifications. The share set for tuition was kept at 33.3% with the local share set at 26.7% for FOP colleges. By 1977-78 all colleges had met the FOP requirement of open admission. Supplemental and contract course aid allowed the 40% limit to be exceeded; but the state share has rarely been funded, and by 1995 the state was not even meeting its old goal of 1/3.

In addition to the state share falling below legal limits, at many colleges the local share had fallen below the 26.7% target. Due to the ability and willingness of the local sponsors to contribute, the local shares in 1997-98 ranged from 5.5% to 38.6% of the operating budgets of the colleges. But even these figures are inflated because local sponsors are allowed to count as part of their contribution the money appropriated out of the college fund balance, the charge-backs for students from non-sponsoring counties, and the out-of-state tuition above local rates (NCHEMS, 1999, p. 22). All of this state and local shortfall put pressure on tuition and has allowed a proliferation of new fees to be enacted at the campus level during the last 10 years.

In New York, state funding is enrollment-driven and provides a flat rate payment per FTE for all credit programs. This rate is negotiated each year within the political system. This method of funding provides an incentive to offer lower-cost general education programs and avoid the higher-cost technical and health-related programs that are more clearly tied to the needs of the local labor market. During the 1990's, the state eliminated supplemental funding for business and technical programs, disadvantaged students and most non-credit vocational and community education courses. If funding is supposed to follow mission, the state was sending its community colleges the wrong message.

For the community colleges, capital spending is shared on a 50-50 basis by the state and local sponsor, but the difficulty of appropriating local funding has been a problem. The state has also proposed a system of performance-based funding but little action has been taken in this direction.

For NY, the average expenditure per FTE is one of the highest in the nation (ECS, 2000, p. 20-21). It is roughly twice that of NC, but since tuition provides such a high percentage

of the college revenue, NY rates below NC in Alexander's tax effort scale. Thus, we find that NY is a wealthy state making a below average tax effort to support its community colleges (see Appendix B).

Results from Interviews

All of those interviewed expressed a commitment to open access but did not consider a low or no-tuition policy as part of that commitment. In light of the generous state financial aid package (called TAP), they felt that the neediest students would not be denied access. The major concern was over state funding and the rising proportion of the operating budgets paid for by tuition and fees. In fact, well before the current financial crises, the presidents brought pressure upon the state to live up to the 40% share promised in the legislation of 1970. A survey of presidents over the funding formula was conducted in 2000 and the results were distributed in June 2001. The survey showed a "rough consensus around the current funding partnership (40% state, 26.7% sponsor, 33.3% student)" (Brown, 2001). The presidents supported a plan that would bring the shares back to the desired level within a few years. In addition, the presidents expressed support for some type of incentive for local sponsors to maintain their support, a financing scheme to help smaller colleges, (one had existed in the past), and 100% state funding for capital projects. To date none of these recommendations have been implemented.

On the question of local aid there was some disagreement. Most said that in an ideal world they would like to do away with dependence on local aid for political reasons. That is, some, but not all, felt that compared to elected officials at the state level, many local politicians had little appreciation for the benefits of higher education and were reluctant to support it. None felt that severing the financial ties to the local area would jeopardize their ties to the local community as long as they retained local boards. While most would probably support a formula that allowed the state to take over the local share, none felt that this was feasible in the near future nor did they trust the state to live up to its agreement. In light of this, all argued that multiple sources of revenue were better than relying on just the state and tuition.

When asked about the degree of flexibility that presidents had on the campus level, New York came out as being quite flexible. Tuition, under the cap, is set by the local board and kept by the home campus. Monies can be shifted among lines without difficulty in most cases. This encourages efficiency on the campus level. While the pressure is still to spend what they have each year, unspent funds can accumulate in a fund balance and be used for the future. While a prudent manager would want to have some reserve, too high a fund balance is a sign that the college can get along on less each year. This is likely to be used as an argument by the local government to reduce its share.

Comments

Unlike the colleges in North Carolina, Arizona and California, in New York students bring enough tuition with them to pay the salaries of adjunct instructors. Since the budget

is more enrollment-driven the colleges can expand the course schedule, if needed, even in tight budget years. A back-of-the-envelope calculation during one interview showed that, on the margin, student tuition would bring in enough revenue to pay for the variable costs of instruction as long as class sections had a minimum of 15 students and were taught by adjunct faculty. Over the long run, however, this kind of thinking results in a decrease in the proportion of full-time teaching faculty and, some would argue, a decrease in educational quality. Nevertheless, a high-tuition, high-aid policy does allow the colleges to maintain their goal of open access during tight budget years. In NY there were noticeably fewer reductions in class offerings in difficult budget years than in the other three states examined.

4. Concluding Remarks and Recommendations

The U.S. came through the period of the 1990's with a remarkable degree of public support for higher education. But the 21st century started with a round of budget cuts that is likely to impact public colleges for many years to come. Writing in 1999, well before the current downturn in the economy, Hovey argued that, "the last five years have been about as good as it gets in state support of higher education" (Hovey, 1999, p. 8). But, he continues, even if the economy continues to grow at a high rate, most states will find it impossible to maintain this support within their existing tax structures. The reason for this is the well-documented fact that state and local tax revenues, which rely largely on regressive taxes, are less elastic than federal tax revenues, which depend more on the progressive income tax. Thus, if income rises due to economic growth, by say 10%, state and local tax revenues grow by less than 10% and federal tax revenues grow by more than 10%. Under these conditions, even in good times, the public demand for services will exceed the states', and especially the local governments', ability to finance those services. Given the fact that public higher education is not a top priority for state funding, colleges are in for a rough time. All of this can be expected, according to Hovey, even if the economy continues to expand at a rapid rate. But, if a downturn occurs, as it did starting in mid-2001, things will be even worse, since in periods of contraction higher education receives disproportionate cuts in state support.

In fact, with respect to community college funding and the business cycle, Betts and McFarland (1996) found a characteristically cyclical pattern of enrollment and funding. Looking at all regions of the country, they documented that in periods of recession, community college enrollments rose rapidly but, strapped by budget shortfalls, state support for the colleges did not. Thus, at the time when community colleges needed resources for worker retraining, funding stagnated or fell. They argued that this was not good countercyclical labor market policy.

Reflecting on the cyclical nature of community college funding, lends support for the view that tuition, backed by higher financial aid for lower income groups, should carry a greater burden of the share of paying for this service than it does at the present time. This will help finance the education and training of students at times when state support is lacking and when the colleges need it the most. Beyond this recommendation, there seems to be no single financing model that is suitable for all states. Each state must

decide for itself the best method, given its history and commitment. There are some general principles uncovered in this study, however, that will help to inform our judgments when changes in financing patterns are contemplated.

The following section will highlight some of the points made earlier and introduce a few new ones. This will be followed by a summary of the recommendations found in the paper. These recommendations respond to three general goals: to promote both efficiency and equity; to improve access; and to preserve student choice to the extent possible.

4.1 Costs

The cost to the student of attending college will always be lower when that student can live at home and commute to class, other things being equal. In most cases, this will give the community college a cost advantage over going to a 4-year college away from home. Costs are also lower at the community college because the tuition is usually lower due to the lower costs of operation. But, the opportunity costs of going to college might also be lower while living at home. This is because living in a familiar labor market makes it easier for young students to work while attending classes. For those who are already working, the flexibility of the community college schedule that offers classes at night, on weekends and even in the place of employment, also lowers the student cost of attending.

Now, what about the cost of educating that student once she arrives on campus? When we look at national data, it appears that it costs about \$1000 to \$1500 less to educate a student (one FTE for a year) for the first two years of college at a 2-year college, than it does at a 4-year college. Assuming equal results and following the principle of treating equals equally, the state should provide the same subsidy for a student to attend either type of college, thus allowing the cost saving to be passed on to the student in the form of a lower tuition rate. Our crude calculations, using national figures, show that this is approximately what is happening at the present time with the recognition that any given state might be different. In any case, it seems as a general principle that the price to the student of attending college should follow the pattern of costs. Thus, in states where the costs of educating students at the community college is lower than it is at the 4-year college, the tuition should be kept lower and the state should provide the same level of subsidy.

Shifting our focus to the campus level, our interviews have revealed a host of inefficiencies typical of public institutions. Clearly some states are worse than others but mandates from the top, inflexible governance structures and the lack of control over one's budget are typical. While accountability for public funds is always necessary, costs of operation can be held down if colleges are allowed to have more budget flexibility on the campus level. The ability to shift funds between budget lines will direct resources to areas where they are needed the most and the ability to accumulate a limited fund balance will allow the colleges to save for a rainy day and reduce the tendency to spend all that they have or lose it. Of the four states in this study, New York scored the highest in this kind of flexibility.

4.2 Tuition and fees

Looking at the principles of efficiency and equity, we have made the judgment that a high-tuition, high-aid policy is better than a no or low-tuition policy for most courses offered by the community college. However, the proportion of the operating budget that should be covered by tuition cannot be determined in any precise way. When Garms examined this issue in 1977, he recommended that the percentage be set at 50% but one of his stated goals was to preserve the private sector of higher education. When Breneman and Nelson examined the issue in 1981, they suggested that 33% of the operating budget might be covered by tuition. We have found nothing in the present study to improve on this estimate and conclude that the proper ratio is somewhere between 30 and 40 % rather than the current national average of 21 % (1998-99). This higher rate is a better reflection of the private benefits generated and a more equitable rate of tuition for those who can afford to pay for their education. The relatively wide range of 30 to 40 % is based on a crude estimate of the differing enrollment mixes that might be found among the nation's comprehensive community colleges.

Assuming that tuition is the same for all programs, where colleges have a greater number of transfer students taking general education courses, the state percentage of the operating budget would be less and the percentage left for tuition would be closer to the 40 % figure. At colleges where a large number of remedial and ESL courses receive full state support (no tuition), the percentage of the operating budget covered by tuition would be closer to the 30 % figure. Alternatively, colleges with a curriculum that is heavily weighted toward more expensive technical and allied health programs that are judged to be important to the local or regional economy will find that their budgets will rely less on tuition and more on state aid.

The relatively high tuition policy that we have advocated is predicated on a federal and state policy that keeps the financial aid pot full enough so that lower income students are not denied access. If colleges are obligated to raise their tuition they should be allowed to keep the revenue. This is just good business practice and helps to promote efficiencies on the campus level. Where tuition revenue is too low to provide for services in rural areas, the state must decide whether to keep these colleges open or to provide an additional subsidy. The practice in NC of providing turnkey funding for all colleges helps the small ones and is worthy of study by other states.

Many community college leaders will continue to argue that our relatively high tuition recommendation will have a negative impact on access. This may be so, but in the states that we have studied, access can also be compromised in lean budget years when students do not bring enough tuition revenue with them to cover the variable costs of instruction. In CA and NC when the state cut funding to the colleges the class schedule was cut much more drastically than in NY. By allowing colleges to keep their tuition revenue and tying state funding to FTE's, a colleges revenue will expand and contract with the student population.

One danger in accepting this higher tuition policy is that the lower income students attending the community college are probably more sensitive to the sticker price of entry (published rate of tuition) than the students attending 4-year colleges; or, alternatively, that tuition at the community college is the relevant price for those on the margin who might not attend college at all. This position has been suggested by some of the studies done on the elasticity of demand for college enrollment (Rouse, 1994; Kane, 1999; Kane and Rouse, 1999; Abou-Sayf, 2001).

Estimates of the price elasticity of demand vary widely but the ones used by Kane are often cited. Based on national data, Kane estimated that if community college tuition were to increase by \$1000 (in 1991 \$), enrollment would decline by 4.7% at the 2-year college, but increase by 1.8% at public 4-year colleges and 0.4% at private colleges. However, if public 4-year college tuition went up by \$1000, then CC enrollments would increase by 0.5%. Clearly the impact of tuition increases on enrollments depends, in part, on what is happening to the relative price of going to the CC. It also appears that large increases in tuition in any given year have a greater impact on enrollments than the same increase spread over a longer time period. A study done by Abou-Sayf for the state of Hawaii illustrates this point (Abou-Sayf, 2001). Hawaii is a particularly interesting state in which to conduct an elasticity study because its relative geographical isolation limits student mobility. Abou-Sayf studied tuition increases over the period 1985 to 1998 for public higher education in the state. He found that small but recurring increases had little impact on applications or freshman enrollments. However, sharp increases in any given year had a distinctly negative impact on both, especially at the community colleges.

The potentially negative effects on enrollment of tuition increases might be mitigated by changes in federal financial aid policies.

4.3 Federal funding

Federal support for community colleges is mostly provided through grants given to students such as Pell grants and federally sponsored loan programs for students and parents. These programs have increased student choice since money can be used in either public or private colleges. The position that we have taken, that tuition should be raised to cover 30-40% of the operating budgets of community colleges, is predicated on the assumption that a generous financial aid package will increase access for lower income students. Some changes are needed in the system of federal aid if this is to be realized.

In 1998-99 the federal government spent \$7.2 billion on Pell grants and 35% of all grants went to students at community colleges. However, from 1979 to 1996 the real value of Pell grants fell by 28% in response to a greatly expanded federal loan program (Rizzo and Ehrenberg, 2002). Community college students participated in the shift from grants to loans but to a lesser degree than students at public 4-year colleges. For some reason community college students have historically been reluctant to take out loans, and, in 1995-96, 56% of all entering students did not receive any type of grant or loan (Wei and Horn, 2002, Table 1a).

In addition to the shift on the federal level from grants to loans, over the past few years we have witnessed a great increase in tax-based incentives to help students pay for college. These include the creation of education IRA's and tax credits linked to tuition and fees. These programs have probably had a minimal impact on increasing the access of lower income students to higher education. While the impact on the federal budget of a Pell grant and a tax credit are the same, the political costs of a tax credit are less since the former requires legislators to vote for an increase in spending while the latter simply erodes tax revenues silently. In total, federal financial aid policy is moving in a direction that does not help the low-income students who want to attend the community college.

As pointed out earlier in this paper, federal financial aid programs help correct for imperfections in the capital market and improve allocative efficiency. However, as Kane (1999) has emphasized, increasing the money available for both loans and grants is not enough to increase the access to higher education for students from lower income families. These students, who disproportionately attend community colleges, suffer from a veil of ignorance when it comes to information about the processes of applying to college and for financial aid. They are more likely to be influenced by the published rates of college costs than the costs, net of financial aid. To close the information gap and to get more of these students to experiment with college, he suggests that we front-load Pell grants to give greater subsidies to students in the first year or two of college. In addition, he calls for a greater effort to publicize financial aid programs, to vastly simplify the financial aid process, to raise the borrowing limits on student loans and to use a broader income-contingent loan repayment program. Basing loan repayment on future income rather than past income, will allow us to simplify the process of applying for aid and is a system more suited to the typical community college entrant (Kane and Rouse, 1999, p. 8). Income contingent repayment would also increase the progressivity of the financial aid system.

Front-loading Pell grants is not a policy that will necessarily favor the community college over the 4-year college in competition for new high school graduates. However, it does allow the student a greater choice in deciding where to start college and that is important. Colleges are social institutions with communities and cultures of their own. One thing the sociology of education literature teaches us is that a critical factor in the academic success of students is the "fit" between the student and the college (for an attempt to model this see Akerlof and Kranton (2002)). Voucher programs at the college level, such as the Pell grants, allow a greater variety of choice and provide a better chance that students will identify with the culture they enter. Other things being equal, this will make better use of educational resources through lower attrition rates.

By restructuring the federal aid programs along the lines summarized by Kane, we can increase student choice and lower the cost of making the transition from high school to college. This will allow a greater number of lower income students to experiment with college and will allow us to raise the tuition levels at the community college without compromising access. For the students from middle and upper income families, it will mean requiring them to pay a slightly larger share of the cost of their education, a share that is closer to the value received.

4.4 Local funding

We have emphasized that the community college is populated by lower income students. Compared to other sectors of higher education, this is certainly true. Yet we know that higher income students also attend these colleges and that the lowest income groups in society don't attend college at all, or attend at much lower rates than those from other income groups. Therefore, it is still true that if taxes come disproportionately from lower income groups, as they do with regressive tax structures, then those with less income tend to subsidize those with more income. This is inequitable and where we have an opportunity to correct it we should do so. Local taxes are almost always more regressive than state taxes and thus eliminating the local funding for community colleges would advance the goal of equity. In an ideal world this should be done.

Higher education has historically been more of a state function than a local one, and currently 14 states do not rely on local tax revenues at all for supporting their community colleges. As a practical matter it will be difficult for colleges to give up any source of funding but, perhaps in the give and take negotiations between the state and local governments, the assumption of this responsibility can be traded off by the local governments for taking over responsibility in some other area. Politics will probably dictate that these changes take place during good times rather than recessions (Callan, 2002). In any case the elimination or reduction of local aid would be a desirable goal for the sake of equity. The national trends in funding, found in Table 3, show that local funding as a percentage of operating budgets has declined from 49% in 1950 to 19% in 1997. An acceleration of this trend, as a matter of policy, would be welcome if it can be replaced by a funding stream that is less regressive. In our analysis, that means higher tuition with part of that increase paid for from the loans and grants that are financed out of the more progressive federal tax structure.

4.5 State Funding

States support higher education through a low tuition policy and direct subsidies and through targeted financial aid. Providing a subsidy through low tuition benefits middle and upper income students to a greater extent than students from lower income families. This is even true at the community college level where up to 50% of the students, nationally, do not qualify for federal financial aid. Yet the state can still be expected to provide the majority of the funds to finance the operating budgets of the community colleges. Most of the funding from the states is driven by enrollments (FTE's) based on credit hours generated and this seems appropriate for the community college. Although such a method makes budget planning on the campus level more difficult, it does allow the colleges to maintain their open access policy. Ideally, when more students flow in, additional state funds come with them. In practice, few colleges are guaranteed a fixed FTE payment because the flat rate paid can be changed each year by the state legislature. Even then, funds will flow to colleges that are expanding and away from those that are contracting, usually with some built-in-budget-averaging that allows the losing colleges a little time to adjust.

A desirable change in state funding procedures would be to recognize that certain technical and vocational courses are more costly to run than general education courses. The survey done by the Education Commission of the States found that sixteen states considered program costs in their funding formula (ECS, 2000, Table 5). If the state places a priority on these programs it should provide a higher level of funding for them. Such a scheme is easily devised but should be kept as simple as possible, with possibly 4-5 categories of differential funding. The procedure used in Ohio, which divides student enrollments into 15 categories, is probably too complex while the one used in Arkansas seems better. It multiplies the base FTE funding by 1.0 for general education courses, 2.0 for basic skills courses and 2.4 for health education courses. Initial weights could be calculated to approximate the actual cost differences among programs and whether the courses are to receive full subsidies (no tuition is charged). These weights can be adjusted or negotiated each year as state priorities change.

In addition, based on the analysis of the private and social benefits generated, states should fully fund (no tuition) ESL (for residents) and remedial programs, with some time limits built in for completion by individual students. On the other hand, avocational and community education courses that generate mainly private benefits should be self-supporting.

Where local funding continues to provide an important share of the revenue for colleges, the state should give some consideration to equalizing the financial resources available across the state.

The growing trend for states to offer across-the-board vouchers to all students that graduate from high school with good academic performance works to the disadvantage of the low-income students who attend the community college. Programs such as the Georgia's HOPE scholarships benefit mostly middle and upper income students who would have attended college anyway. One of the stated purposes of these grants is to retain workers in their home state, but Groen (2003) has shown that such programs have a minor impact in assisting states to hold onto educated students. Rather, the appeal of these state merit scholarships appears to be political, since they benefit those groups who are more likely to vote as opposed to the less politically active lower income groups. State voucher programs such as TAP in NY and Cal Grants in CA are better equipped to both give students a broader choice of colleges and to direct some of the benefits to lower income families.

Performance funding. Nothing has been said up to this point about performance-based funding for community colleges because it is not an important source of their revenue. In recent years we have seen the increased use of these measures by states to influence campus budgets but it is more prevalent at the 4-year than at the 2-year level. Currently performance-based funding represents only about 2-3% of the overall support for all of higher education, but many state legislators feel that even this small percentage can bring about meaningful institutional change. When Burke and Minassians (2001) examined this issue they found that by 2001, 36 states (72%) had some type of link between state funding and campus performance. The ECS survey published in 2000 found that 27 states

(52%), including CA, AZ, and NC, required community colleges to report performance indicators, but only 10 linked these indicators directly to state budget allocations.

Of the four states we examined, only NY did not require its community colleges to report a standard set of performance indicators to the state. The community colleges in AZ are required to report on 14 different indicators, and in NC it is 12; but in neither of these states are indicators currently linked to funding. In contrast, the community colleges in CA do receive new money through the "Partnership for Excellence" program based on performance. The issue here, however, is not whether this trend will continue, or what form it will take, but whether it will represent a shift in emphasis for any significant share of the state support going to community colleges. This will probably not be the case. In periods of economic downturn we have already seen that in our small sample, the payments that were in place in NC have been suspended, and that those in CA have been drastically cut. In the current climate, it is unlikely that states will be able to find any new money to expand the programs any time in the near future.

While it is always possible that state legislators will impose performance indicators tied to funding without the promise of new funding, this also seems unlikely. What is more likely to happen is that more states will require the reporting of performance indicators but not link them to funding. This is the path of least resistance. Certainly community college presidents cannot say that they don't believe in accountability, but they may be expected to fight against any significant linking of the operating budget to performance. Where it is linked they are most likely to insist on the promise of new money to implement the program. Part of the resistance on the campus level is based on a different perception of what should be measured and the difficulty of measurement. Some of the most traditional outcomes, like graduation rates, are easy to measure but are more relevant to the 4-year than the 2-year colleges (see Dellow and Romano, 2002, on this issue). As Adelman has said, the 2-year college has "played a small role in credentialing" (Adelman, 1992, p. vi); but when you look at program completion, which includes the completion of a small cluster of job related courses, the completion rate "is an astounding 89%" (Adelman, 1998, p. 9).

Even using the more traditional measures of successful outcomes, the community college might well excel in the area that is the most difficult to measure: the value added to student learning. When we enter the realm of student learning, especially of general education, we come up against, not only the standard measurement problems, but, also against the question of whether the benefit to the college and the state is worth the cost of collecting the information.

Kane and Staiger (2002) have shown how imprecise measures of public school accountability can operate in "perverse ways" (p. 91) and we have no reason to believe that it would be any different for the measures that legislators might design for the community colleges. Thus, while states may continue to require the 2-year college to report on performance indicators, we are unlikely to see those indicators influence campus budgets to any great extent. Given the current state of knowledge on how to measure learning outcomes, this is all to the good.

5. Policy recommendations

Due to the lengthiness of this paper, the brief list below is provide to summarize our major policy recommendations concerning the financing of community colleges. The scattering of other recommendations and observations concerning governance, mission, etc., are not listed. Overall the goal has been to improve on the efficient allocation of society's resources and on their equitable impact. On a micro level, suggestions have been made on how a state can change its policies to improve the efficiency with which a campus uses with a given level of financial resources. Lastly there has been the important consideration of improving the access of students from lower income families and for preserving a student's college choice to the extent possible.

- Revenue from tuition and fees should cover 30 to 40% of the college operating budget. In most cases this will require colleges to raise their tuition, sometimes substantially. This should be done gradually over a period of years to lessen the negative impact on student access. This will allow the states and/or local governments to cut back on their direct subsidies to colleges but a portion of the money saved should be used to increase the financial aid available for lower income students. Tuition revenues should be high enough to cover the variable costs of instruction so that even in difficult budget years the class schedule can be expanded where demand warrants.
- Individual colleges should be allowed to keep their tuition revenue, should be allowed to shift funds among budget line without state approval and should be allowed to carry over current operating funds from one year to the next.
- Federal financial aid policies should be restructured along the lines suggested by Thomas Kane. Front-loading Pell grants, improving information about the availability of loans and grants, and making the repayment of loans more contingent on future income will help to preserve student choice and will afford a greater number of lower income students the opportunity to enter the system of higher education.
- Local funding should be phased out wherever possible. Where local funding remains an important source of revenue, state funding should give some consideration to compensating for the inequality in wealth among regions of the state.
- State aid should be based on FTE's with some type of averaging to protect colleges during downturns. Full funding (no tuition) should be provided for ESL (except for international students) and remedial education, with most non-credit courses receiving no subsidy. Higher levels of funding should be provided for more expensive technical/medical programs that the state feels are vital to the economic development of the region or state.
- States should provide the same subsidy to students at the 2-year colleges as they do to lower-division students at the 4-year level. The lower cost of operation at the 2-year level should be passed on to the student in the form of a lower tuition rate.

- State funding (bonding) for capital projects should be 100%. Training facilities designed to meet the specific needs of local employers should receive some support from them or from other private sources.

6. Alternative futures

It is no great secret that nationally the percentage of public colleges' operating budgets paid for by the public sector has been falling in recent years while that of tuition and fees has been increasing. Furthermore, higher education is receiving a lower share of the average state's education budgets. As Ehrenberg has shown, "state appropriations to higher education institutions are a declining share of state expenditures on education, which itself is a declining share of the state budget" (Ehrenberg, 2003, p. 3). Despite the high-tuition high-aid policy almost universally supported by economists, the amount of aid has not kept up with the rise in tuition at public universities. With continued cutbacks in the current political environment, many public colleges have begun to refer to themselves as state-assisted rather than state-supported. At the University of Michigan, the state only pays for 10% % of the operating budget. At the University of Virginia it is 13%. Talk of privatizing public colleges is now commonplace as tuition at some public universities approaches that of their private sector competitors (*Wall Street Journal*, April 18, 2003, B1). In such an environment it is interesting to speculate what might happen to the community colleges. Since we have looked at some of the extremes on the spectrum of financing, it might be interesting to look at two possible extreme scenarios for the future of community college financing.

6.1 Semi-privatization and declining access

The community college of Vermont, as it works today, might represent one scenario. Vermont is a small state with a long history of low political support for public sector spending. It has one community colleges enrolling approximately 2000 students. According to the crude measure of access presented in Appendix A, it ranks 45th out of 50, in student participation rates among the state's 18-44 year olds. Eighty-one percent of the operating budget for the community college of Vermont is financed by tuition with the state making up most of the balance. The colleges have no physical plant, as they typically use rented space to operate 12 study centers within the state. They have a small full-time administrative staff but no full-time faculty. Tuition and fees for 2003-04 is \$4480, which is almost double that of neighboring New York. With almost its entire operating budget covered by tuition revenues, costs are kept down by using adjunct faculty. Perhaps this is the wave of the future. This scenario suggests that tuition levels at public 4-year and 2-year colleges will look more and more those in the private sector. Community colleges will continue to keep their rates below that of the 4-year colleges by moving exclusively to the use of part-time faculty, a trend already well under way. Unless federal financial aid compensates for the lack of state aid, overall public college enrollments, including those at the community colleges, will fall; while those in the private sector will rise but by a smaller amount, causing the percentage of students going to college to level off or fall. It will be argued by some that we had been overinvesting in

higher education and that with 60% of the high school graduating classes entering college, this percentage has reached it's "natural level."

6.2 Full integration and improved access for some

An alternative scenario might see community college enrollments rise. If public support for universities keeps falling and public college tuition keeps going up, more students will be forced into the community college. With lower costs and tuition, some 2-year colleges will become 4-year colleges, a trend already underway in states like Florida. The public sectors will feel guilty about abandoning their support for the poorest students and decide to make the community college their sole answer to equal educational opportunity. Supported by studies which claim that the results are just as good and that it is cheaper to educate students at the 2-year college, politicians will decide to lower tuition at the community college or at least will allow the relative price to fall. With 90% of the nation's population within commuting distance of a community college, students will see that they can save money by living at home and enrollments will boom. When financial aid dollars are restricted, student choice will be more limited. At some point enrollment pressures will force the community colleges to be more selective or perhaps something like the California model will evolve where the queue is used as a screening device. As always, variations among states will exist with those seeing the pressure of population trends experiencing the greatest changes.

Under pressure from declining enrollments, the less than elite public 4-year colleges will find ways to ease the transition from the 2-year to the 4-year colleges, and community colleges will become more transfer-oriented and fully integrated within the system of higher education. A greater number of students on the margin will be squeezed out and vocational programs will decline or will be populated by reverse transfer students who already have bachelor's degrees. Whether community colleges will be able to retain their complex comprehensive mission within this environment is an open question.

-----And that my tireless reader is the end-----

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Appendix A
Community College Participation Rates and Funding Sources

Participation Rate (2000)		Percentage Breakdown of General Operating Funds (1998-99)					
STATE	N	Enrollment per 100K 18-44 year olds (rank)	FEDERAL*	STATE	LOCAL	TUITION & FEES	OTHER**
AK	2	444 (50)	0.60%	44.40%	16.90%	15.20%	22.90%
AL	29	4,095 (23)	22.04%	47.24%	9.71%	21.01%	
AR	20	3,089 (33)		71.00%	3.00%	22.00%	4.00%
AZ	19	8,697 (3)	1.00%	21.00%	57.00%	20.00%	1.00%
CA	106	9,567 (1)	3.80%	50.90%	44.50%	0.80%	
CO	15	4,339 (21)	16.00%	42.00%	1.00%	24.00%	17.00%
CT	12	3,119 (32)		71.00%		19.00%	10.00%
DE	3	3,846 (26)	5.00%	57.00%	11.00%	17.00%	10.00%
FL	28	5,379 (12)	0.25%	68.51%	0.02%	23.06%	8.00%
GA	27	2,077 (42)	10.00%	63.00%	14.00%	13.00%	
HI	7	4,962 (16)	2.70%	61.80%		16.80%	18.70%
IA	15	5,937 (9)	3.21%	45.66%	5.89%	38.97%	6.27%
ID	3	2,008 (44)		46.20%	30.10%	17.80%	5.90%
IL	48	6,778 (6)	0.08%	25.77%	43.24%	26.93%	3.97%
IN	14	2,087 (9)		62.30%		37.70%	0.00%
KS	20	6,298 (7)	2.00%	24.00%	40.00%	16.00%	18.00%
KY	14	2,704 (38)	15.61%	54.15%	0.01%	17.60%	12.63%
LA	45	2,419 (39)	17.00%	55.00%		21.00%	7.00%
MA	15	2,978 (35)	18.00%	42.00%		24.00%	16.00%
MD	15	4,015 (25)		26.90%	33.40%	35.70%	3.94%
ME	7	1,595 (47)	4.00%	46.00%		22.00%	28.00%
MI	28	4,917 (17)	0.30%	26.50%	25.00%	23.20%	25.00%
MN	26	4,745 (19)		62.40%		36.50%	1.10%
MO	18	3,656 (30)	2.00%	41.00%	26.00%	24.00%	7.00%
MS	15	5,394 (11)	5.09%	52.25%	12.48%	18.43%	11.75%
MT	7	1,289 (48)		43.00%	23.00%	20.00%	14.00%
NC	59	5,074 (14)	3.20%	75.20%	12.90%	8.20%	0.50%
ND	5	2,966 (36)		49.00%	23.00%	28.00%	
NE	7	5,372 (13)		35.00%	37.00%	21.00%	7.00%
NH	4	2,163 (40)	13.00%	47.00%		40.00%	
NJ	19	3,760 (28)		24.00%	30.00%	42.00%	4.00%
NM	19	7,366 (4)	1.80%	59.60%	25.30%	13.20%	0.10%
NV	3	5,531 (10)	7.78%	63.30%	0.28%	23.05%	5.59%
NY	39	3,069 (34)	5.70%	29.00%	31.30%	34.00%	
OH	37	3,579 (31)	2.71%	45.29%	16.73%	32.21%	3.05%
OK	12	4,050 (24)	0.20%	59.70%	11.90%	19.80%	8.40%
OR	13	6,142 (8)	11.50%	39.90%	19.90%	16.20%	12.50%
PA	16	2,066 (43)	6.20%	35.70%	18.30%	35.70%	4.10%
RI	1	3,735 (29)		63.00%		34.00%	3.00%
SC	21	4,270 (22)	19.00%	45.00%	10.00%	24.00%	3.00%
TN	14	3,788 (27)	0.60%	66.50%		29.90%	3.00%
TX	64	5,033 (15)	14.40%	37.90%	17.90%	19.90%	9.80%
UT	3	2,882 (37)	0.00%	52.00%		25.00%	23.00%
VA	24	4,719 (20)	7.80%	57.7%	0.40%	30.70%	3.40%
VT	1	1,891 (45)	0.30%	14.00%		81.30%	4.40%
WA	31	7,309 (5)	5.00%	59.00%		17.00%	19.00%
WI	17	4,846 (18)	4.00%	21.00%	53.00%	16.00%	
WV	3	915 (49)	22.00%	51.00%		21.00%	6.00%
WY	7	8,970 (2)		63.00%	18.00%	19.00%	

* Includes all Perkins funds.

** Includes federal aid and restricted funds other than Perkins.

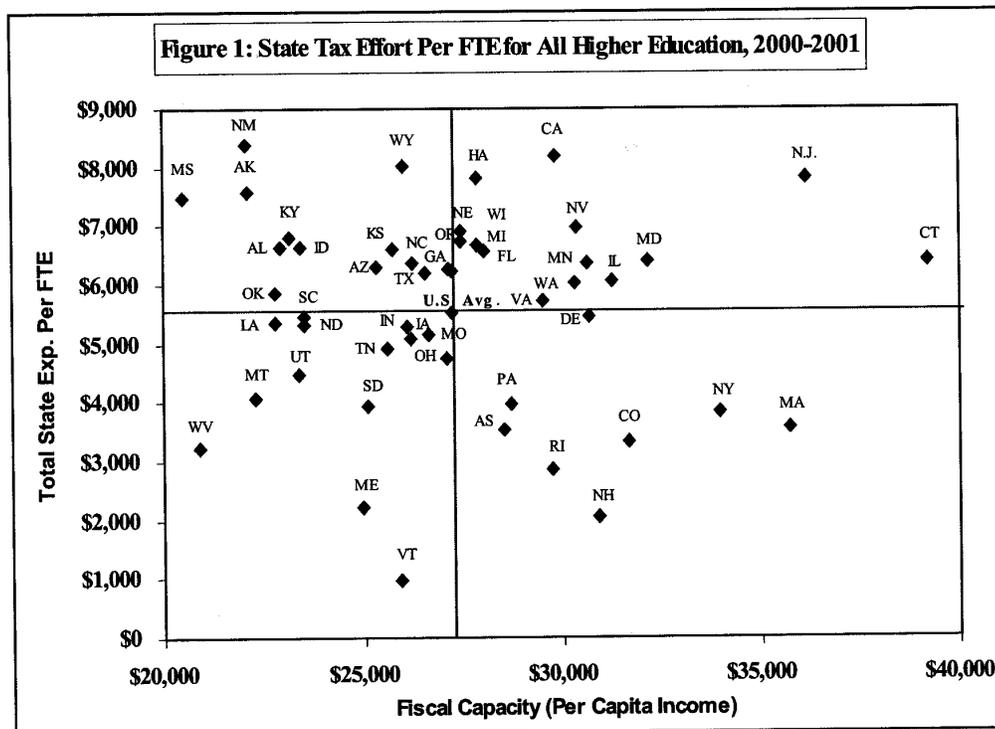
APPENDIX B State Tax Effort for Higher Education

from: Alexander, F. King (2001). "Disparities in State Tax Effort for Financing Higher Education." Paper presented at Cornell Higher Education Research Institute Conference: Financing Higher Education Institutions in the 21st Century. <www.ilr.cornell.edu/cheri>

In this paper Alexander highlights a state's willingness to support higher education in terms of its tax effort. The tax effort of the state "is defined as the extent to which a government uses its fiscal or tax capacity to support higher education" (p.4). In his ratings of the states, he compares the actual state expenditures (including state appropriations for operating expenses, local appropriations and state direct student aid assistance) on different sectors of higher education against each states fiscal capacity as measured by its wealth. If wealth is not considered, Alexander argues, "richer [states], putting forth the same tax effort as poorer [states], will always appear to be making a much greater fiscal effort" (p.2). Using this measure, he shows that in relative terms, for instance, a poor state such as Mississippi makes a greater effort in supporting higher education than a rich state such as New York.

The four tables below are taken directly from his paper.

Figure 1: State Tax Effort Per FTE for all of Higher Education by State

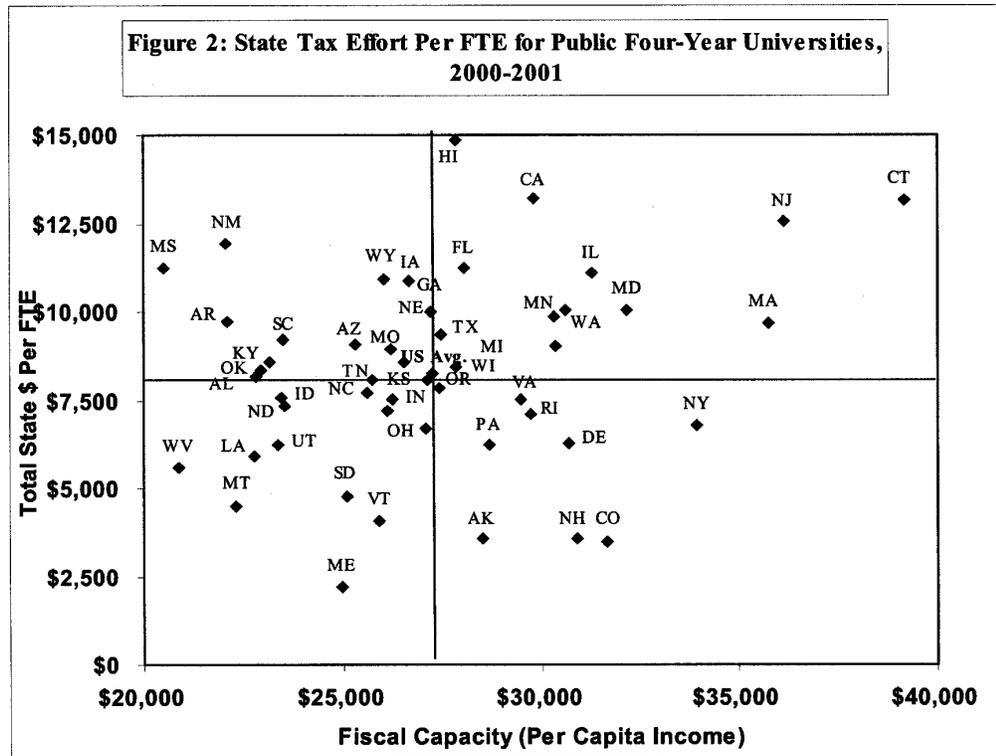


In Figure 1 the horizontal and vertical cross lines represent the national averages for 2000-01. The figures for total state expenditures per FTE include all sectors of higher education (public and private 4-year colleges and universities and 2-year public colleges). For Figures 1-4, "State tax effort for higher education spending by sector and per student are measured by combining state appropriations for operating expenses, local appropriations for operating expenses, and state student aid appropriations. ... Once aggregate state expenditures have been determined, state spending per FTE student by sector are calculated and adjusted to compensate for average state income disparities. Then the states are ranked by their ability and willingness to support varying higher education sectors" (p. 7).

Alexander's conclusions

After his analysis Alexander concludes that federal student aid policies discriminate against states that make the best effort to support their own public colleges since students are eligible for less aid (Alexander, 2001; Alexander, 1998). In contrast he feels that "any federal plan should provide fiscal incentives that reward states for maintaining above average tax effort in investing in higher education... rather than follow policies that exacerbate inequalities among states" (p. 17-19).

APPENDIX B State Tax Effort for Public 4-year Colleges (from Alexander, 2001)
Figure 2

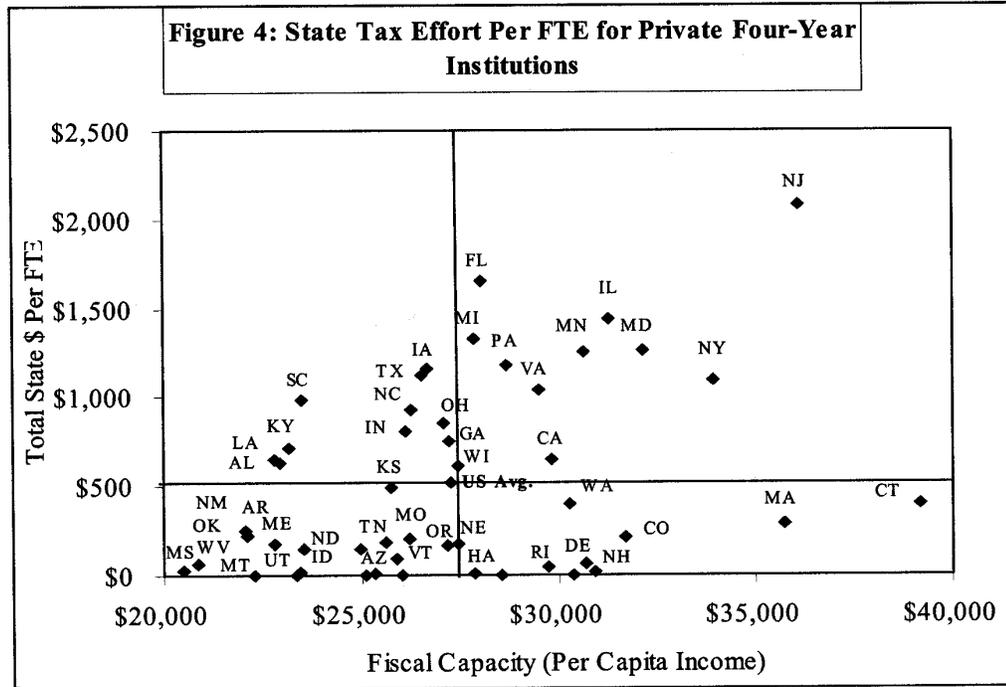


The national average for state (total public) expenditures per FTE for public 4-year colleges in 2000-01 was \$8,279. States in the upper left quadrant (including AZ) are relatively poor states making a good effort to support their colleges. Those in the lower right quadrant (including NY) are relatively rich states making a poor effort. Considering both of these factors, the index below ranks the highest and the lowest states according to their willingness to support their own 4-year public colleges.

Public Four-Year Universities

High Tax Effort States		Low Tax Effort States	
Mississippi	177.9%	Maine	28.9%
New Mexico	176.2%	Colorado	35.6%
Hawaii	176.5%	New Hampshire	37.6%
California	144.2%	Alaska	40.7%
Arkansas	142.8%	Vermont	51.1%
Wyoming	136.6%	South Dakota	61.7%
Iowa	132.8%	New York	64.8%
Florida	130.7%	Montana	65.3%
South Carolina	127.7%	Delaware	66.5%
Kentucky	120.6%	Pennsylvania	70.6%
U.S. Average 100%			

APPENDIX B State Tax Effort for Private 4-year Colleges (from Alexander, 2001)
Figure 4



The horizontal and vertical cross lines represent national averages for 2000-01. As might be expected, support for private higher education per FTE is well below that of state support for public colleges. However, a wide disparity still exists and differences in relative support changes the position of some states. New York, for instance, moves from being a wealthy state with below average support for its public colleges (Figures 2 & 3), to a rich state with above average support for its private colleges (upper right quadrant). The index below ranks the highest and lowest states according to their willingness to support private higher education in their state.

Private Four-Year Institutions

High Tax Effort States		Low Tax Effort States	
Florida	272.9%	Alaska, S. Dakota, Wyoming, & Nevada	0%
New Jersey	266.5%	Montana	.35%
Michigan	221.6%	Utah	.7%
Illinois	213.2%	Hawaii	1%
Iowa	208.7%	Arizona	2.32%
Texas	195.5%	New Hampshire	3%
South Carolina	193.2%	Idaho	3.43%
U.S. Average 100%			

