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An Assessment of Differential Funding

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Introduction

In the latter half of 2003, the Assembly Higher Education Committee held a series of hearings on higher education finance. The primary objective of these hearings was to identify potential reforms to the state's existing finance practices. Differential funding—providing separate funding rates for distinct categories of students—was among the reform options selected for further study. Subsequent to the hearing on this topic, the Higher Education Committee requested that our office examine differential funding. In this report, we:

- Describe various types of differential funding.
- Discuss the potential benefits and potential drawbacks of differential funding.
- Identify issues that the Legislature should consider if it decides to institute a more differentiated funding system in California.

Types of Differential Funding

Funding enrollment growth is one of the most basic finance practices states perform when budgeting for public higher education. Enrollment growth funding tends to be based upon various per student funding rates multiplied by the number of associated full-time equivalent (FTE) students. For example, a state might provide a single per student funding rate of $7,000 for all 1,000 additional FTE students it expects to enroll in its public higher education institutions in the upcoming year, or it might offer $5,000 each for 700 additional undergraduates and $10,000 each for 300 additional graduate students. Although no state has a funding system as simple as either of these examples, some states, such as California, have few enrollment categories and therefore use only a few distinct per student funding rates. Most other states have more differentiated funding systems with more enrollment categories—each with a unique per student funding rate.

California's Existing Funding Practices Make Few Distinctions Among Enrollments

Using one of the least differentiated funding systems in the country, California currently distinguishes among enrollments based only upon (1) whether the student is in a credit or noncredit course and (2) which higher education segment the student attends. These factors yield four distinct per student funding rates. Figure 1 shows the 2003-04 rates.

Differential Funding by Credit Status. California uses a different funding rate for students enrolled in credit and noncredit courses. Credit courses generally offer collegiate-level instruction whereas noncredit courses provide precollegiate instruction such as basic skills, immigrant education, and English as a Second Language. Students taking noncredit courses do not earn college credit and do not pay education fees. Noncredit courses are offered only by the California Community Colleges (CCC). As Figure 1 shows, the per student funding rate for CCC noncredit courses is significantly lower than all the for-credit funding rates.

Figure 1

California Differentiates Funding By Credit Status and Segment

2003-04

	State Funding Per Additional Student
Noncredit	
California Community Colleges (CCC)	$2,114
Credit	
CCC[a]	$4,056
California State University (UC)[b]	6,594
University of California[b,c]	9,030

a Reflects statewide average funding rate. Actual funding rates vary by district.

b Reflects marginal funding rate.

c As we discuss later in this report, UC actually receives more funding per unit of graduate instruction than undergraduate instruction. This is because UC defines a graduate full-time equivalent student with 24 semester units rather than 30 semester units (the standard used for all other students).

Differential Funding by Segment. Among credit courses, the state provides a different per student funding rate for each of the three public higher education segments. As Figure 1 shows, the state provides the highest funding rate for students at the University of California (UC), a lower rate at the California State University (CSU), and the lowest rate at CCC.

California Could Modify Funding Practices to Make Additional Enrollment Distinctions

In addition to these current distinctions, California could distinguish among enrollments based upon many other factors. The most common factors states use to further differentiate among enrollments are education level, academic program, and instructional delivery.

Differential Funding by Education Level. This funding approach provides a different funding rate for students at different education levels. Figure 2 illustrates several options. The most common practice among states is to provide a different funding rate for lower division students, upper division students, and graduate students. Under this approach, funding rates increase as students advance to higher educational levels, reflecting the higher costs typically incurred at those levels.

Figure 2

California Could Differentiate Funding by Education Level

Example 1	Example 2	Example 3
Undergraduate students	Undergraduate students	Undergraduate students
Graduate students	• Lower division	• Freshmen
	• Upper division	• Sophomores
	Graduate students	• Juniors
		• Seniors
		Graduate students
		• Postbaccaluareate
		• Master's
		• Professional degree

Differential Funding by Program. This funding approach provides different funding rates for students in different academic programs. Figure 3 lists just a few of the many available options. Among the more common methods are distinguishing based upon a program's cost or its alignment with the

state's workforce priorities. Under these approaches, funding rates would be higher for more costly programs and for programs that are viewed as more critical to the state's workforce needs.

Figure 3

California Could Differentiate Funding By Academic Program

Example 1	Example 2	Example 3
High-cost programs	Fine and performing arts	Fine and performing arts
Low-cost programs	Humanities and social science	Humanities
	Mathematics and science	Social science
		Mathematics
		Physical science
		Life science
		Business
		Law
		Optometry
		Pharmacy
		Medicine

Differential Funding by Mode of Instructional Delivery. This funding approach provides separate funding rates for different modes of instruction. Figure 4 lists some examples. One of the more common practices is to distinguish between lecture and laboratory courses. Because they often require expensive equipment and materials, as well as a lower student-faculty ratio, laboratory-intensive courses typically are much more costly than lecture-based courses and therefore are associated with higher funding rates.

A Modified Funding System Could Be Based on Any Combination of These Factors. The five forms of differential funding described above—differentiation by credit status, segment, education level, academic program, and mode of instructional delivery—are not mutually exclusive. That is, California could redesign its enrollment funding system around any combination of these factors. For example, it might retain its existing distinctions and incorporate new funding rates for undergraduates and graduate students enrolled in lecture-based and laboratory-based courses. Alternatively, it might incorporate new funding rates for lower division, upper division, and graduate students enrolled in high-cost and low-cost programs. Myriad combinations are possible. To illustrate the

Figure 4

California Could Differentiate by Instructional Delivery

Example 1	Example 2	Example 3
Lecture	Lecture	Lecture
Laboratory	Seminar	Discussion group
	Laboratory	Seminar
	Clinical work	Laboratory
		Clinical work on-campus
		Clinical work off-campus
		Independent study
		Field work
		Supervised activities

possibilities, Figure 5 shows the enrollment funding systems currently used by three other states. (The gray box also describes a differential funding model the state previously used for CSU. That model had many more enrollment categories than the current funding model.)

Figure 5

Other States' Funding Practices Illustrate the Myriad Options

(Enrollment categories used for most recent budget period, listed from lowest to highest rate within each category.)

Ohio

Undergraduate	Graduate—Master's
Introductory social sciences	Law, business, education
Introductory humanities	Humanities, social science
Business, public service	Sciences
Introductory sciences	**Graduate—Doctoral**
Advanced social sciences	Humanities, social sciences
Advanced humanities	Sciences
Engineering, health, natural science	**Graduate—Medical**
Advanced sciences	Dentistry, veterinary medicine, optometry
	Medical schools

New Mexico

Lower Division	Graduate
Tier I. General academic and developmental courses, fine arts, foreign language, education, social science, business, science and office occupations, mathematics	*Tier I.* Foreign language, education, social science, business, law, letters
Tier II. Agriculture, biology, physical science, trades and technologies	*Tier II.* Agriculture, biology, fine arts, mathematics, health
Tier III. Engineering, health occupations	*Tier III.* Engineering, physical science
Upper Division	
Tier I. Fine arts, foreign language, education, social science, business, mathematics	
Tier II. Agriculture, biology, health	
Tier III. Engineering, physical science	

Continued

Texas

State Technical Colleges, Community Colleges, and State Colleges[a]	Universities
Psychology, social sciences, history	**Lower Division, Upper Division[b]**
Mathematics	Physical training
Consumer and homemaking education	Vocational training
English language, literature, philosophy, humanities, interdisciplinary	Teacher education practice
Protection services, public administration	Technology
Biology, physical sciences, science technology	Other (see general list below)
Foreign languages	**Master's**
Business management, marketing, administrative services	Optometry
Construction trades	Technology
Engineering-related	Other (see general list below)
Health occupations—vocational nursing	**Doctoral**
Computer and information sciences	Optometry
Health occupations—other	Other (see general list below)
Physical education and fitness	**General List[c]**
Communications	Teacher education
Agriculture	Liberal arts
Mechanics and repairers—diesel, aviation mechanics, transportation	Library science
Mechanics and repairers—electronics	Home economics
Visual and performing arts	Business administration
Architecture	Social services
Mechanics and repairers—automotive	Health services
Health occupations—dental assistance, medical laboratories, Associate-degree nursing	Nursing
Health occupations—respiratory therapy	Fine arts
Engineering	Agriculture
Health occupations—dental hygiene	Science
Career pilot	Engineering
	Pharmacy
	Special Professional
	Law
	Optometry
	Pharmacy
	Veterinary medicine

[a] All three systems use the same classifications, but each has its own funding rates.

[b] Lower division and upper division use the same classifications, but the upper division funding rates are higher.

[c] All the above education levels use these same classifications, but higher levels receive higher funding rates.

For More Than Three Decades CSU Used Mode-and-Level Funding Model

From 1960 through 1992, the California State University's (CSU) enrollment funding took into account education levels and instructional modes. After having agreed with the Department of Finance upon a budget-year enrollment target, CSU would calculate the associated cost by examining how existing students were distributed across three education levels—lower division, upper division, and graduate school—and 16 "instructional modes" (including lecture, seminar, laboratory I and laboratory II, clinical laboratory, independent study, and field work). Each specific enrollment category (for example, lower division lecture courses) had an associated student-faculty ratio and an implicit per student funding rate. The amount of enrollment funding the state provided, therefore, was much more sensitive to changes among certain types of instruction than today's funding system. Indeed, under the mode-and-level approach, funding could decrease even if enrollments increased (and vice versa), given the specific distribution of new students across the various mode-and-level categories. (This actually happened in 1985-86—lower division enrollment increased, generating an overall shift toward lower cost instruction and a corresponding reduction in state funding.) As part of a major restructuring of CSU's budget development process, the mode-and-level approach was discontinued at the systemwide level beginning in 1993-94. The major reform effort was intended to simplify CSU's budget development process, reduce the reliance on budget formulas, and increase the system's budget discretion.

Advantages and Disadvantages of Differential Funding

As illustrated above, states have many differential funding options, and funding systems range from those with little differentiation (like California's system) to those with substantial differentiation (like Texas' system). For California, as for all states, the salient policy question is not *whether* to adopt differential funding (which the state already does on a limited basis) but rather *how extensively* to differentiate funding. This involves weighing the advantages and disadvantages of more differentiated funding systems and striking an appropriate balance between accountability and flexibility.

Potential Advantages

The most common reason states adopt more differentiated funding systems is to account more accurately for specific differences in education costs (such as those relating to faculty compensation and workload, class size, and the use of instructional tech-

nology, equipment, and facilities). As long as the funding system is not overly complex or rigid, instituting a more differentiated system can increase transparency, strengthen accountability, and ensure comparable funding for comparable services.

Differential Funding Can Increase Transparency. Implementing a more differentiated funding system requires budget makers to obtain more accurate and detailed cost data. These data are used to develop funding rates for each of the different enrollment categories. As part of the annual budget process, the Legislature would adopt these rates as well as specify the number of students to be funded in each of the categories. This increased transparency has two important advantages. First, it helps budget makers set more specific higher education objectives and better align their funding decisions with their education priorities. Second, it also provides the public a clearer understanding of what its tax dollars are purchasing. For example, rather than funding 5,000 additional college students at a single rate—without reference to the types of students served or instruction provided—the budget could specify that these additional students be enrolled in nursing, teacher education, and science programs. Having made its objectives clear to the segments and the public, the Legislature then could use detailed cost data to provide the corresponding amount of funding needed to meet its specific objectives.

Differential Funding Can Strengthen Accountability. Because more differentiated funding systems result in more refined budgeting, they also can strengthen accountability—helping both the state to hold public higher education segments accountable and the public to hold the state accountable. For example, in a more differentiated funding system, the state could decide to increase the number of lower division students and decrease the number of professional school students. If a higher education segment did not meet the workload objectives specified in the annual budget, the state then could make a corresponding funding adjustment. Similarly, the public could hold the state accountable for the more specific education priorities it adopts in the annual budget act.

Differential Funding Can Ensure Comparable Funding for Comparable Services. Because more differentiated funding systems employ more refined enrollment categories, they also can promote more comparable treatment of students by providing the same funding rate for comparable education services. Moreover, they can ensure comparable treatment even among higher education segments and campuses. For example, a state might have a single lower division funding rate—providing public community colleges and four-year universities with the same rate for their lower division students.

Potential Disadvantages of Differential Funding

Although more differentiated funding systems can yield the benefits described above, they also have potential drawbacks. Depending upon how they are designed, some differential funding systems may create more complexity without improving the budget process. In particular, too many enrollment categories can result in too little local flexibility and too much administrative burden.

Too Many Enrollment Distinctions Can Result in Too Little Local Flexibility. Although the primary goal of differential funding is to enhance accountability by refining the budget process and rooting it in more accurate cost data, too many enrollment categories can be counterproductive. Having too many enrollment categories reduces local flexibility without notably improving accountability. Suppose, for example, that a funding system has separate enrollment categories for lower division courses in public policy, political science, economics, and history. In a certain budget year, suppose the state decides to increase enrollments in public policy programs but reduce enrollments in economics. Because of the constraints facing social science departments (including student preferences and faculty tenure), it might be difficult for a department to make all the corresponding course changes before the beginning of the upcoming school year. Because effective differential funding systems (by design) have fiscal repercussions, the result would be a segment losing funding for both economics (due to the state's initial decision to reduce associated enrollments) and public policy (due to the segment's subsequent inability to increase associated enrollments).

Too Many Enrollment Distinctions Can Result in Too Much Administrative Burden. Too many enrollment categories also can be counterproductive by increasing administrative workload without any notable strengthening of accountability. Because more differentiated funding systems require campuses, the segments, and state-level budget staff to track more detailed education costs and student enrollment, having numerous narrowly defined enrollment categories would result in considerable administrative cost. In the example above, budget staff at all levels would need to track costs and enrollments in four social science categories and numerous other categories in other disciplines. Yet, differentiating among enrollments at this level of specificity is unlikely to strengthen accountability. Indeed, it might even hamper accountability by obscuring more meaningful distinctions. For example, the public is less likely to be interested in such narrow enrollment categories as the number of students receiving public policy versus economics instruction than in broader categories such as undergraduate and graduate instruction.

Issues for Legislative Consideration

Because California's existing funding system relies on few enrollment categories, a more differentiated system could increase transparency, strengthen accountability, and ensure comparable funding for comparable services. Moreover, a new system could be designed initially to be cost neutral—with higher funding rates for certain enrollment categories being offset by lower funding rates for other categories. The new funding system, however, would need to be constructed carefully to ensure that accountability actually was strengthened and an appropriate level of local flexibility retained.

In developing a more differentiated system, the Legislature has several design elements to consider. Below, we describe five major decision points.

Determine Enrollment Categories. The Legislature first would need to determine the enrollment categories that would become the backbone of the new funding system.

Because too many categories can adversely affect campuses' ability to respond to student needs without significantly enhancing accountability, we would suggest limiting the number of additional enrollment categories and selecting categories based only on significant cost differences. For example, California could have different funding rates for undergraduate and graduate students. Among graduate programs, the Legislature could further differentiate based on major cost differences—such as the difference between business administration and veterinary medicine.

Define FTE Student. The Legislature also would need to decide whether to use a single definition of FTE student that applied to all enrollment categories or different definitions for different enrollment categories. This is one of the most important but least transparent aspects of enrollment funding. The definition of an FTE student is so crucial because it directly affects funding per student—the fewer units defining an FTE, the higher the per unit funding rate. One FTE-related debate revolves around the definition of FTE for undergraduates compared to graduate students, with some states associating a graduate FTE student with fewer units than an undergraduate FTE student. (This currently is the practice at UC. Please see the nearby gray box for more detail.)

Defining Full-Time Student

California actually has two definitions of full-time equivalent (FTE) student—a special definition for the University of California (UC) graduate students and a standard definition for all other students. Currently, California defines a UC graduate FTE student as 24 semester units (or 36 quarter units) whereas it defines an FTE student for all other enrollment categories as 30 semester units (or 45 quarter units). This results in the state providing more funding per unit of UC graduate instruction than for all other units of instruction. For example, in 2003-04, the state provided UC with $376 per semester unit of graduate instruction and $301 per semester unit of undergraduate instruction. (This practice has been a source of concern for the California State University, as its graduate students are subject to the standard FTE definition.)

Develop Formula to Calculate Per Student Funding Rates. Having selected enrollment categories and decided upon associated FTE definitions, the Legislature then would need to develop one or more formulae that could be used to determine the funding rate for each enrollment category. A finance working group could be convened to pursue this task, as was done earlier to craft the state's existing marginal cost methodology for UC and CSU. (Please see the nearby gray box for a description of the existing marginal cost methodology.) In designing the formula, the working group would need to decide which cost factors to include and how to account for cost differences

among the enrollment categories. For example, the group would need to determine if equipment costs should be reflected in the formula, how to account for these costs, and how to reflect cost variations among enrollment categories. In addition to these cost-related decisions, the group would need to decide how to apply student fee revenue toward a portion of the identified education costs.

Existing Funding Methodology Includes Eight Cost Factors

In the mid-1990s, as a result of a supplemental reporting requirement, the University of California (UC), the California State University (CSU), the Department of Finance, and the LAO formed a working group to improve the method used to fund enrollment. The result was a marginal cost methodology that estimated the amount of funding needed to support each additional full-time equivalent student at UC and CSU. Today, the state continues to use virtually the same marginal cost formula. This formula accounts for eight cost factors (listed in the figure below). Each factor is itself associated with a specific method for determining related per student costs. The figure below displays a simplified version of the marginal cost calculations used to derive per student funding rates for UC and CSU in 2003-04.

Existing Marginal Cost Formula Determines Funding Rate for Additional UC and CSU Students[a]

2003-04

Basic Cost Components (Based on 2002-03 Costs)	UC	CSU
Faculty salary	$2,876	$2,514
Faculty benefits	559	632
Teaching assistants	643	269
Instructional equipment	292	143
Instructional support	3,693	1,068
Academic support	808	1,212
Student services	935	878
Institutional support	1,007	1,097
Total cost per student[b]	**$10,812**	**$7,813**
Less portion funded from student fee revenue	-$1,782	-$1,219
State funding rate per student[b]	**$9,030**	**$6,594**

a The California Community Colleges (CCC) do not have a comparable enrollment growth funding model. Instead, CCC funds additional students at the average cost, as derived by apportionment funding.

b Reflects funding per full-time equivalent student. The UC numbers do not add exactly due to rounding.

Collect Accurate Baseline Data. Before implementing the new system, accurate baseline data would need to be collected. This exercise is crucial because greater transparency is meaningful only if underlying data are accurate and the state understands the implications of adopting various per student funding rates. To obtain such data, we suggest the Legislature commission an independent study or audit. This study would need to determine how much the segments currently expend on the various cost factors in the selected enrollment categories. Current expenditures in these enrollment categories could be assessed, with initial funding rates being derived directly or modified to better reflect current education priorities. Thereafter, these initial rates could be adjusted annually.

Establish Clear Budget Expectations and Link With Consequences. As with all policy matters, another vital design element in a more differentiated funding system is establishing clear budget expectations. The Legislature could establish clear expectations by including language in the annual budget bill that: (1) links each funding rate with the number of students the state expects to serve in that particular enrollment category, (2) requires basic reporting on expenditures, and (3) adjusts funding consistent with outcomes. These expectations must be linked with the political will to enforce them. Without these expenditure expectations and the will to enforce them, more differentiated funding systems are merely a complicated allocation system without any practical results or benefits. For example, consider a situation where the Legislature provided additional funding to increase teacher education enrollments, but the higher education segments decided instead to increase enrollment in engineering. If the state imposed no repercussions, then the more costly and complex differentiated funding system would be of little or no additional benefit and a less differentiated system could be used without any worse effect.

CONCLUSION

Differential funding obviously is only one of many reform options the Legislature might implement for higher education. Before implementing some version of differential funding and eliciting detailed expenditure data from each of the segments, we recommend the Legislature consider the design issues discussed above. We think differential funding does have the potential to increase transparency and strengthen accountability, but we think the option also has potential drawbacks that the Legislature would want to consider when devising any new funding system.

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