

# An Exploratory Analysis of Higher Education Financial

## **Challenges and Innovations**

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Abstract: A critical financial challenge and hence, an assessment of financial management of academic institutions in the U.S. are the main research problem motivating this task. There seems to be easier funding and expansion in good economic conditions and unwilling or often wrong contractions in challenging economic conditions. The quality and accessibility of higher education have been a central issue for the academic industry. An analysis of various innovative ways in which academic institutions may plan for some cost-saving and revenue-raising strategies simultaneously through a form of "funds-for-results" approach is adopted in this research. Although a metric system of measurement of productivity of faculty members' efforts has been always both controversial and challenging, some sort of competition for acquiring scarce resources could push the industry toward more productivity and responsiveness. The nature of this study is more of an exploratory one than hypothesis testing, while the literature and published data would provide some lights and practical exploration. The research questions here address effective cost-saving and/or revenue raising methods, productivity indexation and measurement, and an effective university-community sustainable partnership. State governments' more efficient allocation of limited budgets toward some better educational infrastructure and human capital investments is also highlighted.

**Key words:** financial challenges; innovation; cost-benefit; university budgets; present value **JEL codes:** G

### JEL Coues: O

## **1. Introduction**

The ongoing challenges of financial management of institutions of higher education have repeatedly come into various budgetary inadequacies or even some crises. While education at all levels has been recognized to be one of the most essential investments for a sustainable growth and development, an appropriate strategic financial planning for it has historically come to the amaze for most states. The author recommends that universities and colleges should focus on a long-term strategic fiscal planning as opposed to a short-run year-to-year or a biannual budgetary planning. Some more appropriate cost-benefit analysis at both private and social levels, given more flexibilities involved, would be expected to be more favorable and successful.

According to an article published by The Economist (August 4, 2012), "Universities have been spending like

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students in a bar who think a Rockefeller will pick up the tab. In the past two years the University of Chicago has built a spiffy new library (where the books are cleverly retrieved by robots), a new arts center and a ten-story hospital building. It has also opened a new campus in Beijing." Universities think that those big investments will attract good students and staff, more registration, higher tuition income, more donations and government support. Moreover, administrators have increased their own share of outlays and bureaucracy at both private and public research universities, as depicted in the following figure.



Figure 1 A Contrast of % of Total Spending in "Administrative & Support" vs. "Student Services" Per Enrolment for 1995 and 2010, Extracted from Economist, August 4, 2012

As always expected of any business organization, the supply of ultimate output, in this case, high-quality higher education, must be the center piece of whatever a sustainable organization is concerned about. Lean management theories of financial stability, in which value creation is the main agenda have proven to be in a clear conflict with such liberally luxurious bureaucratic expansions. Power expansion has always been in conflict with what is the optimal allocation of resources. Those in position of power, not elected or subject to approval of stakeholders, could more possibly (than otherwise) make policies and decisions that would primarily benefit their power base and individual welfare and ease of professional life than what it would take to enhance the collective welfare and job satisfaction of their employees and ultimate clientele.

In this research, the author is making an effort in tackling the ongoing budgetary challenges of academic institutions by focusing on teaching, scholarship, research and development (R&D), and business aspects of the matter. Obviously, the first three aspects have strong effects on the last one and vice versa. Quality of service, defined in good environment for effective teaching, research and scholarship, and R&D planning, would bring about more students and various types of revenues in tuitions, grants, campus-side businesses, and community donations. On the other end, good business planning and strategies would create enough funds to support high quality services, as mentioned above.

William K. Blazer's *Lean Higher Education: Increasing the Value and Performance of University Processes* (2010) has provided an extensive and comprehensive analysis through some applied examples Lean Management in almost all performance aspects of higher education. Applying Lean Higher Education (LHE) notion, he

recommends a well-designed structure to support LHE through the Office of LHE. He has analyzed issues from freshman move-in process to curriculum proposal. While discussing the Lean Principles, he has covered successful examples, such as University of Central Oklahoma, University of Iowa, University of New Orleans, Bowling Green State University, University of Scranton, and Rensselaer Polytechnic Institute. He has started his work by the following research-motivating problem, which is a clear warning:

"For most American colleges and universities, the pendulum has swung from heyday of growth, prosperity, and public favor to new times that call for institutions to adapt themselves to current, harsher realities.... The challenges of institutional change presented by the new environment are daunting. For institutions to be successful, change must be both intentional and continual." (p. 1)

Waugh (1998) in his "Conflicting Values and Cultures: The Managerial Threat to University Governance", claimed that while business aspects of running an academic institution while focusing on customers' best benefits are necessary and that in many cases, universities have saved so much costs, it has been unfortunate that most decisions in friction with academic culture and faculty, were predominantly made through corporate-type managerial style. Deans and department chairpersons were directed by the upper administrations to restructure most of their processes in faculty participation and decision making. He emphatically warns that this is a cultural change which is a clear deviation in which the main purpose of academic institutions which was based on the role and participation of faculty in determination of academic priorities and requirements is undermined. So, reducing costs at any expense is what his research is set to criticize. He criticizes the strategic planning approaches of most universities in which faculty are considered as customers and stakeholders as opposed to the technological core of the institution. They are simply the deliverers of services to students and must be trained to do it in the best possible way.

On the same lines, the importance of "people" in lean management is transparent through the following definition of lean principle by Wikipedia (2014):

".....'Continuous Improvement' and 'Respect for People.' The 'Respect for People' principle is almost always ignored by senior management, resulting in zero-sum (win-lose) outcomes for people and inferior results. In other words, one party gains at another party's expense, and the losers are much less willing to participate in continuous improvement. This outcome impedes teamwork and information flows, and discourages daily efforts by administration, faculty, and staff to improve processes. In order to function properly, Lean management must be understood and practiced in a non-zero-sum (win-win) manner. It is not up to the discretion of senior administrators to ignore the 'Respect for People' principle. This principle is required in order to sustain continuous improvement." (p.1)

Like almost all other business organizations, the financial managerial skills of the high-level executives are most critical in how effectively and optimally running an institution in a sustainable fashion. Most institutions studied by the author rely on one finance person, who is in charge of all financial affairs of the entire institution with an understandable ultimate control of the president or one of the executive vice presidents. While, in many cases that approach has worked well for a long time, there are little published research works that would offer a critical assessment and/or examination of other alternative settings for more optimal (not necessarily conservative or liberal) process of policy making and implementation of those policies. The author, reviewing plans and policies of many American and international academic institutions, as well as several academic financial stagnations and frustrations, has come to an inevitable junction in which offering at least another alternative economic analysis would be most compelling, if not necessarily the best solution. This approach has nothing to do with one or the other specific academic institution. On the contrary, it is more general and a kind of universal

problem. A new approach in financial management could at least help provide some sort of managerial control over some local if not global confinements encountered by a typical academic institution. Obviously, the well-known Total Quality Management (TQM) theories can be applied here in formulating the new ideas and processes that would be conducive to a higher level of financial stability and generally, a more sustainable academic center.

The author challenges many standard methods of business planning, which are fashionably leaning on economic conditions. The obsolete methods are often highlighted by poor finances in challenging times, and too liberal expenses, investments, and hiring in better times. Experienced farmers have learned in a hard way how to manage their farming business more sustainably in both good years (with good weather) and bad years. Many academic institutions have never learned that simple lesson in a meaningful way. Most of them take one of the two extreme policy choices, summarized in either too conservative or too liberal financial paths. Even in doing that, more of politics than economics and rules of efficiency prevail at the end of the day. Applying some repeatedly-experimented economic theories of business cycles and financial fluctuations, the aforementioned policies (too conservative in bad times and too liberal in good times) have proven to be more of cycle intensifying than remedial.

California is one of the states that have recently decided to provide more support for the higher education at all levels of California Community Colleges (CCC), California State University (CSU) system and University of California (UC) system. The Governor's budget, as reported by MAC Taylor Legislative Analyst (February 12, 2013), has been highlighted by a support of \$11.9 billion in General Fund support for higher education in 2013-14, which is \$1.4 billion or 13% above the revised current level. "After making adjustments for enrollment and accounting changes that otherwise would distort year-to-year comparisons, programmatic per-student funding increases 4 percent at UC, 7 percent at CSU, and 10 percent at CCC." (Ibid, p. 3)

Obviously, the California case is a happy story for all the stakeholders till next notice, when the economy goes south again. California and its diversified colleges and universities must decide how to avoid the same fiasco that is easily expected in alternative economic conditions. Unlike many commercial business, selling themselves to China, Japan, Germany, or whoever the more highly bidders could be, should not be in the future plans. Universities are supposed to be the center of teaching and inspiration for more reliable financial management of private businesses and government enterprises. If they meet this primary expectation, they may attract more trust and funds from the public, government entities, and even international sources.

The critical structure of an academic high rise is proposed to be financial management of teaching, scholarship, R&D planning, business organization, business management, and again financial management at the end of that chain-wise managerial process. This priority order will be discussed in the rest of this paper.

In conclusion of this section, one has to notice that there are two sides on whether or not an academic institution should be operated and managed exactly like any for-profit business organization. On the business side, any competitively-run organization would be expected to be more efficient and responsive to its clientele, which is a great outcome to pursue. On the academic side, most academicians are hesitant to see that academic values, unbiased scientific theories, academic freedom, free communication, etc., could be potentially and/or partially curtailed and restricted through some pecuniary bottom-line concerns. That may be the case mostly when there may appear some conflicts between purely academic and purely business aspects of running an academic institution in the contexts of admissions, assessment, evaluations, expansions, etc. Moreover, "lean" may mean differently for academic and nonacademic aspects of business. Yet lean management has its own overwhelmingly

high values and rewards, when applied in almost any organization, given the well-recognized scarcity of resources and unlimited ambitions of labor and management across the board.

#### **1.1 Universities and Teaching**

Hospitals are expected to provide the best healthcare, banks are supposed to provide the best banking and some sorts of financial services, and by the same token, universities are supposed to provide the best teaching that they can. Teaching itself is broken into two inseparable components, teaching of courses and teaching of scholarly as well as applied research. All other things that are perhaps temporarily more important at times would come next within a sustainable strategy. College students, who come first from the neighborhood high schools or the other side of the globe, are in urgent need for good instruction, inspiration, mentorship, and in the final analysis, applied knowledge. Some universities go extra miles to ignore the quality of their teachers' teaching skills as long as they are good researchers and scholars. It might be appropriate in some cases where a balance between scholarship and teaching is absolutely necessary from both academic and business perspectives. In that setting they recruit a mixture of best teachers with their best researchers to keep the balance. However, professors and their immediate services represent the main face of an academic institution. Students' learning is most manageable through caring skillful instructors, who are capable of providing most effective learning opportunities to them.

A published report (The Economist, August 2012) shows how low the instruction budget for the U.S. academic institutions has been compared to the other three categories of "long-term debt", "interest payments", and "property, plant, and equipment".

The same report, citing Bain, indicates that the problem for even top universities, like Harvard, Yale, Cornell and Georgetown have been so noticeable to bring them on an unsustainable path in recent years, though all have big endowments to cushion themselves.

According to Jeff Denneen, a Bain consultant (cited in The Economist, August 04, 2012, p. 32),

"Higher education has not delivered extra value to match the extra costs, he says. Indeed, the average student is studying for fewer hours and learning less than in the past. Grade inflation only partially masks these trends. Mr. Denneen agrees that the bubble will burst, though he does not say messily."

According to an estimate by the Chancellor's Office at the University of California, colleges could save on average roughly \$100,000 each per year if they were to leverage economies of scale in this way.

Everything but education US higher-education cost base 2002-08 Annual average % increase									
Long-term debt	0	2	4	6	8	10	12		
Interest payment	ts								
Property, plant and equipment									
Instruction									
Sources: BLS; IPEDS	Sources: BLS; IPEDS; Bain & Company								

Figure 2 Four Categories of Costs for the 2002-2008 Period, Extracted from Economist, August 4, 2012

#### 1.2 Universities and Scholarship

Without scholarship, an academic institution would not be a complete university. Research and publications of new ideas are basically the vital component of maintaining knowledge renewable and updated relative to the growing needs of liberty, civilization, and technological advances. Teaching the same textbook materials again and again, in absence of good scholarship, would be a disservice to students, faculty, and society at large. The preferred and selected current textbooks or clusters of published peer-reviewed research works adopted for various courses were only the results of hard work and active scholarship of the current year, last year, or a few years back. This productivity of renewed and applied knowledge must not stop at any point if cures for various known or unknown diseases are supposed to be explored. Easier and faster transportation, cleaner environment, more ethical responses to various societal problems and issues, better financial instruments and derivatives, more effective economic policies, etc., are all more possible and successful if our learning institutions are dedicated to (best teaching and) ongoing research and scholarship.

Additionally, the R&D, often recognized as a great investment in quality and quantity enhancement at many institutions, are basically and supposedly learned at universities, where research methods and explorations are taught. The sensitive role of academic institutions in teaching and learning R&D, economic growth, and positive societal change then is not easily measureable.

#### 1.3 Universities and R&D Planning

There are assessments by some faculty members that some of funds allocated to research and development are mismanaged through political challenges and certain dilemmas, encountered by many institutions. The scarce resources are wasted in a temporary and transitory allocation of funds and even released times for certain faculty members of some institutions with some arbitrarily-defined short-lasting expectations, which can be easily challenged. The author argues that it is most possibly more efficient if an institution provides a clear and published policy in which a sustainable and effective long-term strategic set of goals for the institution and its various departments is established, like those set for promotion and tenure. This clear definition of long-term (effective for 4-5 years) expectations set for the faculty who were awarded with the funds, would be conducive to two useful outcomes: one is the guided support for their productivity (benefiting students and the academy) and hence, promotion and tenure for them, and the other is rightfully stopping any waste by depriving those, who would not be productive or efficiently using the scarce resources. In the end there will be more funds left for more fruitful performances. This approach is what is known as "funds for results".

One mandatory budgetary commitment for the involving institution would be a long-term (effective for 4-5 years) research budget allocation for each faculty member, released in 4-5 continual components that are annually awarded. The advantage of this method is realized in the saving of the administrative labor time, the active-faculty's times and efforts spent many times on short-term annually made and submitted applications, review of applications, and inadvertently-encountered mismatches of each year. The faculty who are serious about research would apply and most possibly get the funds and would commit themselves to the expected outcomes, which would be required to report annually and at the end of each 4-5-year period. Obviously, each year there could be new applications submitted in the same way as those already applied and funded for 4-5 years.

A research center at many institutions is another idea in which faculty, who are less interested or capable would get guidance and assistance from the more active ones. In that way scholarship and research can be done more and more. Also, it would be a great source of income and fund raising to provide services to the businesses in the community.

#### **1.4 Universities and Community Partnership**

When universities demonstrate how useful the institution is for the corresponding communities, businesses, and households, there are often favorable financial surprises such as donations, student recruitment opportunities, and various investments in those universities. Universities bring about more culture, education, intellectual contributions, infrastructure, and economic development. In some communities universities are major recruiters, creating income, expenditures, more production, and even more jobs. There are often highly experienced business leaders, engineers, or other experts in communities, who would happily provide some training opportunities for students. They may cooperate with university faculty and administrators in shaping the curriculum towards more applied education, as needed for their businesses.

The author is recommending some solutions in addition to what some institutions have been adopting that can improve universities' budgets in the long run, as summarized below:

(1) All-You-Can-Get Approach: Seeking donations from leading businesses and corporations with several stipulated benefits, including free consultation by the expert faculty through the university, and/or providing the corresponding business donors a certain block of course hours to be used and registered for in each semester. The consulting services would be then designated as faculty's applied-learning and professional development services. That would potentially save the academic institution a great deal, given its rich diverse bank of faculty expertise. As to the course hours, in case the institution is not inclined to offer extra classes, the currently offering courses could fit into larger classes. In this way, the institution would have a noticeable potential for saving. Charging a company a lump sum fee for sending their employees to register for the university's classes.

(2) An Ongoing Credit for Internship: One of the best ways in bringing more employees of some professional businesses into registration sites is to review their currently applicable job descriptions and offer them some credits of 1-3 hours per upper-level course of Applied Learning. The total number of hours in such course designations could be determined by each specific academic department. This would incentivize many to come for further education. Universities may provide a dichotomized study plans, including but not limited to a regular degree program and a vocational shorter-term certification programs to be recognized and rewarded by the involving businesses through a prior joint planning and negotiations.

(3) Investment in Newness Capital: Faculty researchers, and consultants are (or could be encouraged through certain policy-designation clauses) constantly in touch with new ideas in their fields that can be provided to donors on a "user-fee" or "all-you-can-get" approach for certain amounts of donations each year. New & innovative ideas could provide some tangible opportunities for businesses' more profitable operations.

(4) Regular part-time services of an academic institution's Faculty and/or staff could be supplied to certain companies for certain fees that otherwise would be too costly for the corresponding businesses to hire in the highly-specialized comparable job markets. This would provide the faculty and staff a secondary and different source of employment, which could add to their job satisfaction and productivity. Also, it would provide a more sustainable partnership between the two organizations. The universally lower compensations prevailing in academia could be more tolerable by the involving faculty and staff though those supplemental employment opportunities. This, if implemented, needs to be clearly defined and incorporated into the university's policy, where some annual evaluation criteria be established and placed in.

(5) Providing Discounts for a Company's Employees' High Registration Blocks: This would be also a potential and mutually beneficial business relationship that would be strategically useful. The discounts could again be compensated by enlarging class sizes, if necessary in times of budgetary hardship.

#### 1.5 Universities and Financial Management: A Case Study

Average cost of college per student since 1983	The cost tuition as a percent of median annual earnings	Student debt	Private students	lenders'	loans	to
3 times the inflation rate (200% of the	23% (2001)	More than	\$20 hillion (neals level in 2		al in 200	101
inflation rate)	38% (2010)	\$1 trillion	\$20 billion (peak level in 2008)			(60

Table 1	Universities'	Financial	Problems
	C		

Sources: The Economist, August 4, 2012, p. 33.

Business decisions in some universities are predominantly made by either one financially-trained individual subject to presidents' approval or mainly by presidents. In either case, a lack of financial optimality has been often observed by many experts. This is obviously not just true of universities but also other more specialized businesses as well as financial firms. The point of this discussion is not just finding faults in one or the other decision maker. For better financial decisions to be made, this author recommends some more collective decision-making practices, in which some financially-specialized faculty could be involved. When reviewing some universities' practices, elements of financial engineering are lacking. Some heavily conservative funds management approaches are adopted by some administrators. Private banking and corporate banking that have been increasingly attractive in the recent years could provide life-saving techniques of wealth management that are highly profitable.

Some examples of systematic specialization and allocation of financial management of universities' operations are summarized below:

Institution	The Financial Office	Main Responsibilities
Montclair State University (MSU)	Office of Budget & Planning	Responsible for the development and monitoring of making, and developing innovative solutions to challenging problems.
Utah State University(USU)	Office of Budget and Planning	The mission of the Office of Budget and Planning is to provide the primary support to and the development of innovative solutions to challenging problems.
Virginia Tech University	Vice President for Finance and Chief Financial Officer	Providing the primary support to university leadership in identifying, decision making and develops innovative solutions to challenging problems
Weber State University	Budget Office	Extensive financial planning, and the development of innovative solutions to challenging problems

 Table 2
 Financial Management Operation at Selected Universities

Major MSU's Office of Budget & Planning's Responsibilities include:

- Prepare the annual budget submission to the State.
- Develop and monitor the University's annual budget.
- Fulfill internal and external budgeting reporting requirements.
- Process budget transfers and funding requests for new programs and new initiatives.
- Review capital project requests and monitor capital budget expenditures.
- Provide financial analysis for departments and the University.
- Link University budgets with strategic planning.

#### 2. An Example of Some Innovative Policies to Manage Success

#### 2.1 Bridge to Retirement Program Adopted by a Regional University in Missouri (RMU)

RMU has adopted "The Bridge to Retirement Program" which is designated for faculty, who want to continue to do some teaching after retirement. Retired faculty members under MOSERS can be employed at an institution in the same retirement system as long as it is less than half time. The compensation within this program would be in addition to the retirement amount. The bridge to retirement assignment usually begins the semester after the faculty member retires.

A stipend of \$30,000 plus \$6,000 for healthcare will be a separate compensation which would be added to retirement income, separately received. The author recommends that the policy should allow a growth rate of 2%-3% annually to catch up with inflation. To clarify, in AY of 2012-2013 the figures of 30,000 and 6,000 would grow at least to \$30,600 and \$6,120 in 2014 for RMU.

There is a need to explain if MOSERS-determined retirement income would be increased at all after one or more years of such additional compensations are earned. The author's hunch is that it would not be increased; clarification in either way would help. Also, it has to be explained that the aforementioned extra income would be taxable.

The author also proposes that there should be some differential payments for different levels of pre-retirement incomes as a more effective incentive for differently-paid faculty. This would be most logically justified for both parties. The institution (and students) would, e.g., be benefitted by more productive and higher quality instruction as a reward to a correspondingly higher pay. The faculty, on higher pay schedules, would have a more appropriate cost-benefit basis for deciding to use this extra benefit when a differential-pay policy is adopted.

The author recommends that his recommended differential payment could be additionally applicable to some extra criteria, such as research being continually expected, some extra services that the institution or the community may need could be added to a standard policy for extra pay. Some faculty mentorship could be provided by experienced retired faculty, and useful seminars could be offered by experts to the campus and external community. Such a different consideration could be subjected to negotiation between the administration and the retiring faculty.

This author suggests that the advantage of this policy would be temporary for one or two years and most advantageous for older faculty, with no serious plans for continued work for any longer period. Those who are considering retirement but could work much longer, such as 5-10 more years, this policy would not be a real encouragement to go for retirement any earlier. That is so simply because a more permanent income enhancement for times (not too far from now) would be necessary when one would not be able to do any remedial activity in an enhancement of one's prospective earnings capacity.

The author proposes that RMU may offer the hypothetical senior faculty member \$150,000-\$200,000 in addition to her regular salary for the next academic year, with a condition that it would be her last year of service at RMU. The costs and benefits would be easily summarized, involving certain assumptions as listed:

She would work at least 10 more years to create more current and retirement income thereafter. Her income and the alternative substitute faculty's income on the average would be calculated through the following formula for each year: t = 1 to 10 years:

Her full income, including fringe benefits:  $$135,000(1+.03)^{10} = $135,000(1.3439164) = 181,428.71$ , and her substitute's (to be newly hired faculty's) full income, including fringe benefits:  $$75,000(1+.03)^{10} = $100,793.73$ 

The difference would be RMU's saving only in the tenth year: \$80,634.98. For all other 9 years back to this year, the difference would be summarized in Tables 3, and 4:

Table 4 is estimated based on application of the present value formula: For a given amount of salary,  $S_t$ , to be receivable in t periods from now,

$$PV(S_t) = \frac{S_t}{(1+i)^t} \tag{1}$$

Please see the separately formatted page for Table 3.

Table 3	RMU Will Save Every	Year the Difference	(Last Row) in	<b>Every Year's</b>	<b>Current Price Levels</b>
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	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Senior Faculty's Income & Fringe Benefits (IFB)	135000	139050	143222	147518	151944	156502	161197	166033	171014	176144	181429	1547624
New Faculty-Substitute's IFB	75000	77250	79568	81955	84413	86946	89554	92241	95008	97858	100794	859793
RMU's Saving	60000	61800	63654	65563	67531	69556	71643	73792	76006	78286	80635	687,831

Assumptions: (1) The RMU salary raise for the next 10 years on the average would be 3%; (2) Her substitute would be paid \$77,250 a year, starting 2014-2015.

For periods of t = 1-10 years,  $S_t =$  Annual salary in various t periods.

PV of a 10-year stream of income (salaries) = 
$$\sum_{t=1}^{10} \frac{s_t}{(1+i)^t} = \frac{s_1}{(1+i)^1} + \frac{s_2}{(1+i)^2} + \dots + \frac{s_{10}}{(1+i)^{10}}$$
 (2)

No	Year	Senior Faculty's Salaries & Fringe Benfits	Junior Faculty's(Sub's)	PV Factor	PV (Senior Faculty)	PV (The Junior Sub's)	RMU's SAVING (PV of the difference)
1	2014-2015	135000	75000	0.9708	131058	72810	58248
2	2015-2016	139050	77250	0.9426	131069	72815.9	58252.7
3	2016-2017	143222	79568	0.91514	131068	72815.9	58252.3
4	2017-2018	147518	81955	0.8885	131070	72817	58252.7
5	2018-2019	151944	84413	0.8626	131067	72814.7	58252.2
6	2019-2020	156502	86946	0.8375	131070	72817.3	58253.2
7	2020-2021	161197	89554	0.8131	131069	72816.4	58252.9
8	2021-2022	166033	92241	0.7894	131066	72815	58251.4
9	2022-2023	171014	95008	0.7664	131065	72814.1	58251
10	2023-2024	176144	97858	0.74409	131067	72815.2	58251.8
11	2024-2025						
If Retiring	Total	1,547,624	859,793	8.53013	1,310,669	728,151.5	582,517.5

 Table 4
 The Discounted Present Value of What RMU Will Save

Assumptions:

1. The RMU salary raise for the next 10 years on the average would be 3%,

2. The substitute (Junior Faculty) would be paid \$75,000 a year, starting hypothetically in AY of 2013-2014.

3. Interest rate to calculate discount factor is on the average 3% as well.

So, the discounted present value of RMU's 10-year saving would be \$582,518.2. The present net value of the author's proposal is that much. If RMU provides the senior faculty with \$200,000 as an incentive for early retirement in one year from now, it will save a present value of \$382,518.20 over the next 10 years. Please keep in mind that in reality, if the author's proposal is acceptable, the effective starting period is not 2014-2015 but 2015-2016. The nature of calculations would not be different in consideration of any 10-year period.

#### 2.2 Proposition

(1) A lump sum raise of \$150,000 to 200,000 for the next year would make the senior faculty member's retirement at the end of the next academic year comfortable considering financial aspects. Though, to make it mutually beneficial to RMU and the senior faculty member, the senior faculty member would possibly rather have \$50,000-66,667 a year for 3 consecutive years, if there is a way to reduce his or her income tax. In that case, he or she would be working only in the first (next) year. In the other two subsequent years, there would be two more equal installment payments of the same amount with no more working.

(2) A three-year package of \$50,000-66,667 a year extra income in excess of what all would earn after a general raise, if any, every year, would be his or her second choice.

(3) Any other amounts or combinations of payments that could be mutually agreeable would save the institution so much of money.

This is what is called a strategic longer-term cost planning by a university administration that looks into several years in advance to save more money against the factor of time.

## 3. Conclusions & Summary

This research is motivated by a critical assessment of financial management of academic institutions in the U.S. There seems to be easier funding and expansion in good economic conditions and unwilling or often inappropriate contractions in challenging economic conditions. For example, the 2013-14 California Governor's budget provides \$11.9 billion in General Fund support for higher education. This budgetary challenge has not been equally met by many other governors. Hence, the quality and accessibility of higher education have been a central issue for the academic industry. The author in this research has provided some analyses of various innovative ways in which academic institutions may plan for some cost-saving and revenue-raising strategies simultaneously through a form of "funds-for- results" approach.

The author proposes that, although a metric system of measurement of productivity of faculty members' efforts has been always both controversial and challenging, some sort of competition for acquiring scarce resources could push the industry toward more productivity and responsiveness. A possible problem with this approach might be a tangible loss of currently employed and/or some prospective educators to other higher-paying industries. Various institutions may assess the cost of incentive pay for early retirement of some educators on high salaries to be replaced by lower-pay entry-level aspiring educators. Fund raising, outsourcing, distance education alternatives, community partnership, business incubators, grant seeking as a venue to more promotion and tenure for faculty, etc., would be among alternative activities that may provide some strategic solution to the current invisibility of brighter years for higher education. The nature of this study is more of an exploratory one than hypothesis testing, while the literature and published data would provide some lights and practical exploration. Some examples are provided in how a college or university can establish some institutional-community sustainable partnership.

Finally, an example of financial internalization of externalities is provided with some actual present-value calculations of costs-benefits strategies for the academic institutions to replace the more senior faculty with less expensive junior faculty through mutually beneficial planning.

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