

Comparative Analysis of Unit Cost of Higher Education in State Universities of Punjab

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Abstract

Due to pressure of student unions the fees structure in many of the universities has hardly been revised in the last three decades even to take care of inflation. Although connotation towards cost recovery system is being discussed at many fronts, full-cost reinstatement is considered neither practicable nor desirable. Practically calculating the unit cost of education is very easy: add up the total cost direct and indirect and divide it by number of students and resultant figure will be average cost per student or per unit cost of education. But in practice there are issues related with collection of financial figures and calculation of per unit cost. University cost of education is higher in all the cases and fee charged is more. University needs to cut its non-productive expenses so as to cover up the deficiency. It is recommended to raise the fee structure in tune with cost being incurred by university. University is not even able to cover its variable cost from the course fee. The alternative way out is to increase the number of enrollments so as to cover its cost from revenue. Both of the universities are not working on break-even point analysis.

Keywords: Unit Cost of education, university cost recovery

1. Introduction:

In India government is reducing the magnitude of grants and universities are under pressure to manage the resources. Due to pressure of student unions the fees structure in many of the universities has hardly been revised in the last three decades even to take care of inflation. Students and parents have become so habitual to it that they have taken fewer fee as a matter of their privilege. They are ready to purchase branded products and other costly articles but not ready to pay increased fee. Threats of students' strikes or somehow political reasons in some cases are the reasons behind non revision of fee. Although connotation towards cost recovery system is being discussed at many fronts, full-cost reinstatement is considered neither practicable nor desirable. It is not considered practicable due to political pressure. It is not considered desirable as the beneficiaries consists of those people who are among nation's work force and voter's bank.

2. Review of literature

Human resources is the basis of 'wealth of nations.' Capital and natural resources are indirect factors of production while human beings are the direct factors who assimilate all natural resources, build socio-economic and political infrastructure and carry forward the agenda of economic development. (Harbison, 1973, p.3).

Formal education system is the exact method of improving human skills. There is tremendous growth in public spending on education sector in developing countries like India in recent years, especially in the field of higher education. The National Policy of Education has rightly heeded that, "higher education provides people with an opportunity to reflect on the critical social, economic, cultural, moral and spiritual issues facing humanity. It contributes to national development through dissemination of specialized knowledge and skills. It is therefore a crucial factor for survival (GOI,1986, p.14)."

Government grants constitute the most important source of funds for financing higher education. The state has been playing a leading role in the whole system of education with the objective to satisfy the constitutional obligation of building a socialistic pattern of society. Low priced higher educational opportunities have indeed been helpful in bringing about large scale changes in the lives of ordinary and poor people, although higher education has largely remained an elite-dominated centre of activity (Khadria, 1989, p.45).

All over the world the state makes massive funding for higher education. In many developed countries the higher education sector is comparatively self-reliant institutions, i.e. they do not take financial support from the state, centre or from any other funding agency. This situation is indifferent to the situation of India. Even in the well known private universities and institutions of the United States of America, the share of fees is less than 39% and in public institutions around 15%. In British Universities, it is less than 7% and in France, the corresponding figure is around 5% of the total expenditure of the educational institutions (Tilak,1997, p.73).

College tuition has risen sharply, reaching record highs, and college graduates are increasingly finding themselves saddled with debt from student loans used to finance their education. With the costs of university degree rising and the benefits in doubt, many are wondering whether earning a degree still pays. Jaison R. Abel(2014)

3. UNIT COST OF EDUCATION

The concept of unit cost of education is strategically important from the view point of education planners and policy makers. The costing concepts are applied to ascertain, define, calculate and ascertain the unit cost of education. Practically there are two types of costs i.e. monetary cost like capital and revenue expenses and non-monetary cost like depreciation and provisions. Costing organization may be a producer, wholesaler or a service provider. Somehow same kind of costing techniques are applied in all the concerns but there are some inherent difficulties in calculation of unit cost of education.

Practically calculating the unit cost of education is very easy: add up the total cost direct and indirect and divide it by number of students and resultant figure will be average cost per student or per unit cost of education. But in practice there are issues related with collection of financial figures and calculation of per unit cost. There are some other issues included while calculating the unit cost of education

- (i) calculation of cost of usage of fixed assets which are shown in financial statements of universities
- (ii) There is ambiguity about the treatment of financial aid and grants i.e. whether it should be taken as subsidies or as cost of education.

Difficulty in cost of allocation: many of the courses involve joint cost. It becomes difficult to apportion the joint or common cost to various courses.

This paper altercates for a treatment of all cost drivers that knock out expenditures in higher education. Pragmatically, there is difficulty in conceptual understanding of accounting for cost of some nonprofit making organization. It is for sure that accounting for nonprofit undertakings are different from the profit making undertakings. It is difficult to measure the cost especially in case of services of equipment's, land and buildings etc. to the unit cost of education.

4. Research Methodology

To examine the unit cost of higher education of selected programs in Punjabi university Patiala and GNDU Amritsar for the session 2014-15. The annual reports of Punjabi university Patiala have been used for the purpose of study. Data has been collected from university's website and through correspondence. Primary Data regarding number of students were collected from Punjabi University Statistical department and Examination Branch. Academic and financial data from the respective university annual accounts, budget estimates and annual reports have been collected. I also visited Punjabi university to get a field-level view and experience. Following points have been assumed for analysis:

1. No provision for depreciation on fixed assets have been made.
2. Number of students as provided by university examination department has been taken as basis for the purpose of apportionment of cost.
3. University incurs four types of expenditure which can be attributed to cost of a particular course.
4. For the purpose of calculation of cost of education courses have been divided into four categories i.e. Humanities and social sciences, Pure sciences, Economics and Business, and computers and technology.
5. Academic cost of all courses has been divided on the basis of number of students in all the branches and cost incurred by university on teaching and research of all the departments.
6. All the other expenses have been divided equally among all of the students.
7. Hostel expenses too have been divided equally among the students. As no data was available in annual reports regarding number of students residing in hostel among different streams.

5. Observations

5.1 Cost of Academics: Academic cost consists Teaching Department cost, Research Department Cost, Library, cost of improvement, Pension Fund etc. In Punjabi University Patiala Academic cost per unit is very high in all the courses. It is Rs.111875 (72.5%), Rs. 152045(78.24%), Rs. 93091 (68.76%) and Rs. 95519 (69.32%) per student in Humanities and social sciences, Pure sciences, Economics and Business, and computer and technology respectively (Table 1). Moreover, it is highest in Pure sciences. It implies that approximately more than two third of the course expenses are on academics. In GNDU academic cost per unit is Rs. 141502 (62.71%), Rs. 184278 (68.66%), Rs. 130516 (60.84%) and Rs. 100986 (54.55%) respectively (Table 2). It means that approximately 50-60% cost of course is due to academic cost.

5.2 Teaching Cost: Teaching cost is part of academic cost and major element of cost of course. In PUP cost of teaching per student is 55.5% , 67.26%, 46.53%, 47.89% of total academic cost respectively in Humanities and social sciences, Pure sciences, Economics and Business, and computer and technology groups. Cost per student is highest in Pure sciences due to less number of enrolments. Maximum students are enrolled in Economics and Business Group, consequently teaching cost is least of all the four courses both in term of percentage and absolute figure. In GNDU proportion of teaching cost in total academic cost is 43.5%, 56.58%, 38.69% and 20.77% respectively. Humanity group have highest teaching cost per unit due to low

enrollment.

5.3 Administration Cost: Cost of administration constitute expenditure on salary and other expense of administration department. In PUP administration cost per student is Rs. 10395 per student and 6-7% of total course cost. In contrary, it is Rs. 28084 approximately 12-13% of total cost per student.

5.4 Conduct of examination: Examination is an essential part of academics. It is mandatory to assess the learning and level of knowledge amongst students. Examination should be conducted in a transparent manner. Therefore, every university makes expenditure on its execution to make it full proof. This cost is to be covered from cost of course. In PUP Rs. 2435(1%) per student is incurred on conduct of examination in contrast to Rs.13649(7%) in GNDU.

5.5 Hostel Expenditure: Hostel facility is must to to accommodate students from faraway areas. Hostel expenditure per students is Rs. 13742 per student in PUP and Rs.1337 in GNDU. It implies GNDU is not making enough expenditure on upliftment of state of hostels.

5.6 Total Cost per student: Total cost of a course per student is sum total of Academic cost, Administration cost, Conduct of examination, Hostel expenditure and miscellaneous expense. Total cost of a course per student is Rs. 154159, Rs. 194329, Rs. 135375 and Rs. 137803 respectively in Humanities and social sciences courses, Pure sciences, Economics and Business, and computer and technology groups in PUP. On the other hand, cost per student in these respective courses is Rs. 225614, Rs. 268389, Rs. 214627 and Rs. 185097. Higher cost of education per student is in Pure sciences and humanity groups

6. Analysis:

It has been a cumbersome activity to make analysis of unit cost of education. After detailed analysis of unit cost of education of both universities then it has been observed that per student cost is highest in pure and applied sciences. But on an average universities charge fee around Rs. 30000- 60000 but cost to university happens to be Rs. 200000. In case of humanities group on an average the fee charged for a course is 15000-20000 in PUP and Rs. 10000-18000 in GNDU but its actual cost happens to be Rs.154,159 in PUP and Rs. 225,614 in GNDU. These courses are most expensive courses in terms of proportion of course fee charged to cost incurred by university. In PUP Actual cost of course is Rs. 135375 against Rs. 20000 being charged by university in Economics and business subjects. This cost is Rs. 214627 in GNDU against fee of Rs. 25000. Computer applications and technology courses are having less actual cost per student because of large number of students enrolled in these streams. It is Rs. 137803 and Rs. 185097 in PUP and GNDU respectively. (Table 3)

7. Recommendations and summing up:

From the above analysis it is concluded that

- (i) University cost of education is higher in all the cases and fee charged is more.
- (ii) University needs to cut its non-productive expenses so as to cover up the deficiency.
- (iii) It is recommended to raise the fee structure in tune with cost being incurred by university. University is not even able to cover its variable cost from the course fee.
- (iv) The alternative way out is to increase the number of enrollments so as to cover its cost form revenue.
- (v) Both of the universities are not working on break-even point analysis.

8. References

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Annexure

Table 1

Showing unit cost of education per student in courses of Punjabi University, Patiala

PUP (2014-15)								
Elements of Cost	Amount	Basis of Apportionment	Factor of Apportionment	HUMANITIES & SOCIAL SCIENCES	PURE & APPLIED SCIENCES	PROFESSIONAL COURSES		TOTAL
						ECONOMICS & BUSINESS	COMPUTER APPLICATION AND TECHNOLOGY	
		Students on Roll		4,455	2,441	3,225	4,268	
		Department Expenditure		276,652,280	249,641,370	139,694,690	195,234,400	
A. Academic Expenses (i) Teaching and Research Department	901,828,925							
(a) Teaching Department cost	861,222,740	apportioned on the basis of departments(Departmental Expenditure divided by departmental students)		62,099	102,270	43,316	45,744	
(b) Reasearch Department Cost	40,606,185	to be apportioned on the basis of no of students	(4455 : 2441 : 3225 : 4268)	2,822	2,822	2,822	2,822	
(ii) Regional Colleges	276,732,410	to be covered from all university students	14,389	19,232	19,232	19,232	19,232	
(iii) Distance Education Deptt.	139,342,190	not to be apportioned	–	–	–	–	–	139,342,190
(iv) Library	71,020,120	to be covered from all university students	14,389	4,936	4,936	4,936	4,936	71,020,120
(v) Improvement in Education	52,122,490	to be covered from all university students	14,389	3,622	3,622	3,622	3,622	52,122,490
(vi) Constitute Colleges	105,277,510	to be covered from constituent college students' only	–	–	–	–	–	105,277,510
(vii) Development of Punjabi Language	85,000,000	to be covered from all university students	14,389	5,907	5,907	5,907	5,907	85,000,000
(viii) Pension Fund	300,000,000	to be covered from all university students , constituent students, regional centres and distance education students	52,969	5,664	5,664	5,664	5,664	300,000,000
(ix)Expenditure on Research schemes	109,245,800	to be apportioned on the basis of no of students	(4455:2441:3225: 4268)	7,592	7,592	7,592	7,592	
Total A= (1 to ix)	2,833,152,570			111,875	152,045	93,091	95,519	
B. Administrative Cost	421,636,830	to be covered from all university students , constituent students, regional centres and distance education students		10,395	10,395	10,395	10,395	421,636,810
(i) Expenditure of Salary	372,685,610	to be covered from all university students , constituent students, regional centres and distance education students	52,969	7,036	7,036	7,036	7,036	
(ii) Other Expenditure	177,907,220	to be covered from all university students , constituent students, regional centres and distance education students	52,969	3,359	3,359	3,359	3,359	
C. conduct of Examination	128,956,000	to be covered from all university students , constituent students, regional centres and distance education students and affiliated colleges	52,969	2,435	2,435	2,435	2,435	128,956,000
D.Miscellaneous Expenses	832,246,340	to be covered from all university students , constituent students, regional centres and distance education students	52,969	15,712	15,712	15,712	15,712	832,246,340
Total (A+B+C+D)	1,382,839,170			140,416	180,587	121,633	124,061	
(E) Hostel expenditure	197,740,760	to be covered from all university students	14,389	13,742	13,742	13,742	13,742	
GRAND TOTAL				154,159	194,329	135,375	137,803	

(Source: Author's Work)

Table 2
Showing unit cost of education per student in courses of Guru Nanak Dev university, Amritsar
 2014-15(GNDU)

Elements of Cost	Amount	Basis of Apportionment	Factor of Apportionment	HUMANITIES & SOCIAL SCIENCES	PURE & APPLIED SCIENCES	PROFESSIONAL COURSES		Total
		Students on Roll				ECONOMICS & BUSINESS	COMPUTER APPLICATION AND TECHNOLOGY	
				121,886,000	241,491,000	110,968,000	55,615,000	529,960,000
A. Academic Expenses								
(i) Teaching and Research Department	529,960,000	apportioned on the basis of departments		61,496	104,271	50,509	20,979	
(ii) Allied Teaching Department (a) Physical Education	16,569,000	to be covered from university campus students	9,158	1,809	1,809	1,809	1,809	
(b) Library	61,657,000	to be covered from university campus students	9,158	6,733	6,733	6,733	6,733	
(iii) Non teaching Department	263,788,000	to be covered from all university students	12,672	20,817	20,817	20,817	20,817	
(iv) Improvement in Education	158,548,000	to be covered from university campus students	9,158	17,313	17,313	17,313	17,313	
(v) Regional Colleges	254,125,000	to be covered from students of regional colleges only	-	-	-	-	-	
(vi) Revision of pay scales and allowances	120,000,000	to be covered from university students	9,158	13,103	13,103	13,103	13,103	
(vii) Loans and advances	7,800,000	to be covered from university campus students	9,158	852	852	852	852	
(viii) Expenditure on Research	85,000	to be covered from university campus students	9,158	9	9	9	9	
(x) Teaching - Servicing departments	177,397,000	Joint cost to be divided in the ratio of number of students (1982:2316:2197:2651)	9,158	19,371	19,371	19,371	19,371	
Total A= (1+2+3)	1,589,929,000			141,502	184,278	130,516	100,986	
B. Administrative Cost								
B. Administrative Cost	355,881,000		12,672	28,084	28,084	28,084	28,084	
I. Central Administrative Expenses								
I. Central Administrative Expenses	13,319,000							
2. office administration General Charges and Misc. Expenses								
(i) Expenditure of Salary	11,616,000	to be covered from all university students , constituent students , regional centres and distance education students and affiliated colleges						
(ii) Other Expenditure	330,946,000							
C. Conduct of Examination								
C. Conduct of Examination	172,960,000	to be covered from all university students	12,672	13,649	13,649	13,649	13,649	
D. Miscellaneous Expenses								
D. Miscellaneous Expenses	520,075,000	to be covered from all university students	12,672	41,041	41,041	41,041	41,041	
Total (A+B+C+D)	2,651,093,000			224,277	267,052	213,290	183,760	
E. Hostel Expenditure								
E. Hostel Expenditure	12,248,000	Joint cost to be divided in the ratio of number of students (1982:2316:2197:2651)	9,158	1,337	1,337	1,337	1,337	
Transfer to building Fund	120,000,000	fixed Cost						
GRAND TOTAL	2,771,093,000			225,614	268,389	214,627	185,097	

(Source: Author's Work)

Table 3
Showing comparative analysis of course fee and unit cost

Courses	PUP		GNDU	
	Actual Cost of Course(Rs.)	Average Course Fee (Rs.)	Actual Cost of Course(Rs.)	Average Course Fee (Rs.)
HUMANITIES & SOCIAL SCIENCES	154,159	15,000 - 20,000	225,614	10,000 – 18,000
PURE & APPLIED SCIENCES	194,329	30,000 - 60,000	268,389	30,000 – 50,000
ECONOMICS & BUSINESS	135,375	20,000 – 30,000	214,627	25,000 – 35,000
COMPUTER APPLICATION AND TECHNOLOGY	137,803	30,000 – 60,000	185,097	40,000 – 60,000

- (Source: Author's Work)
- Actual course fee have been taken as range due to variation in fee structure of various colleges running under university.

Graph 1

