

ENROLLMENT BEHAVIOR AND EDUCATIONAL FEE POLICY

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Abstract

The likely effects of educational fee policies on undergraduate enrollment and fee revenue are explored by examining two methods of charging educational fees: a plateau or flat-fee system and a linear system. Two very different campuses of a university system have been chosen to demonstrate these effects. The results indicate distinct differences in enrollment behavior between the two methods and also between the effects experienced at two campuses serving distinctly different student bodies.

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Introduction

The subject of fee policies at higher education institutions has been one of much concern and debate on campuses since the late 1980s. The educational fee pricing method chosen by an institution can have an impact on many areas of a college or university, including enrollment, distribution of student credit hours (SCH), the amount of revenue from fees, and students' time to completion. The two primary methods of charging fees are a plateau or flat-fee system and a linear system.

At the University of Missouri, the debate over student fee pricing has led to several policy changes over the past fifteen years. These changes provide an excellent basis upon which to study the consequences of fee policy. In the early 1980s, the University used a combination of the two methods, charging per credit hour up to 11 hours and a flat rate for enrollment at or above a plateau of 12 hours. In fall 1983, the plateau was increased from 12 hours to 14, meaning students would pay for 2 more credit hours than they had the previous semester for a load of 15 hours or more.

One of the main advantages of a plateau system is that it gives students the opportunity to take classes for personal enrichment without adding to their educational costs. This allows the student a more well-rounded and balanced education, rather than an education solely in his or her major. In addition, the plateau system in theory should lessen students' time to degree completion. A student may be more

forced to continue it although it is not needed. The university assumes the burden of cost for these extra

a linear system, student credit hour loads began to decline. A portion of this study will compare these previous findings to subsequent years to determine if these trends continued. Another portion of this paper will examine enrollments of the period 1991 through 1997, when the University saw a change from differentiated pricing to a system of one rate for each credit hour taken, regardless of level, to determine what effect this change had and to what degree a second fee policy change affected previous enrollment trends.

The University of Missouri is not the only institution to initiate changes in educational fee policy based on similar analyses of the plateau and linear systems. In fall 1991, after years of declining undergraduate credit hour loads in a linear fee structure, Indiana University adopted a flat-fee system for enrollment of twelve to seventeen credit hours. Like Missouri, Indiana University is a multi-campus system with a residential campus, an urban campus, as well as several other campuses. While the main residential campus in Bloomington adopted a flat-fee system, the other campuses remained on a per credit hour fee system. Since the change to a plateau fee policy in 1991, Indiana-Bloomington has experienced record highs each year in average credit hour loads at the undergraduate level, rising from 14.3 for full-time undergraduates in 1990-91 to 14.9 in 1997-98. The percentage of undergraduates taking 14 to 16 hours has risen from 56% in 1990-91 to 61% in 1997-98.

Each educational fee structure has its merits as well as its drawbacks. As a general rule, Ihlanfeldt (1981) cites the following as some of the objectives to be sought by any institution when deciding on a fee pricing system: 1) There should be no price disincentives to discourage students from taking additional courses to enhance their education; 2) Financial pressure on students to graduate earlier than they wish should be minimal; 3) Subsidization of nonaccelerating students by those students who have chosen to accelerate should be minimal; and 4) Management should seek simplicity, ease, and low cost of administration to save overhead costs for educational purposes. These goals should be kept in mind in weighing the effects of a policy to determine the best policy for each institution.

Method

This study examines undergraduate enrollment and fee policies at two very different campuses of a university system. The traditional residential campus, University of Missouri-Columbia, had an average undergraduate enrollment of about 17,000 students taking approximately 230,000 student credit hours

Results

The historical trends in distribution of student credit hours are shown in Table 1 and Table 2. Two policy changes are to be examined here. The first comparison to be made is between the distribution of credit hours in a flat-fee structure with a plateau of fourteen SCH with that in a linear system. The second policy change to be examined occurred between fall 1991 and fall 1992, when the Uniurr...rsity

**Table 1. Cumulative Percentage Distribution of Fall Semester Undergraduate Student Load
University of Missouri - Columbia**

# of SCH	Plateau = 14 SCH			Linear with Upper and Lower Division Rates						Straight Linear					
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
> or = 18	5	5	5	3	3	3	2	2	2	2	2	2	2	2	2
> or = 17	13	12	11	9	8	7	6	6	6	6	5	5	6	6	6

The mean loads in each division, lower and upper, are shown in Tables 3 and 4, along with the proportion of SCH and headcount enrolled in the upper division. An examination of the differences in enrollment behavior between the plateau and linear systems again show more profound changes at UMC than at UMSL. The policy change of 1992 which eliminated fee differentiation did not seem to have much of an effect on the overall distribution of SCH. However, when enrollments are viewed separately as lower-division and upper-division, the results are somewhat different.

- At UM-Columbia the 1985 mean load in each division (lower and upper) was nearly equal. With the change to a linear structure, not only did the average loads drop overall, but the gap between the mean load in the lower-division and that of the upper-division also widened, with the upper division enrollment dropping more steadily than that in the lower division. This trend continued through fall 1997.

**Table 3. Fall Semester Undergraduate Credit Hour Enrollment by Level
University of Missouri - Columbia**

Because the compositions of the two campuses are very different in terms of attendance, it is worthwhile to examine the effects of an undifferentiated fee structure on the proportion of full-time and part-time enrollment, as shown in Table 5 and Table 6.

- UM-Columbia had essentially no change in the distribution of part-time and full-time headcount enrollment in the lower-division from 1991 to 1997. Upper-division enrollment changed only slightly, with the percentage of part-time upper-division enrollment increasing slightly from 1992 to 1995 before declining back to previous levels in 1996 and 1997.
- The percentage enrolled in the upper division at UM-St. Louis increased following the fee policy change of 1992. However, this increase did not continue, and the proportions returned to previous levels by 1997.

**Table 5. Fall Semester Distribution of Headcount Enrollment by Level and Load
University of Missouri - Columbia**

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To address the issue of the effects of fee policy change on the University's student fee income, a simplified method was developed, using the fall 1985 semester as the basis of comparison, that would show the differential between what was actually experienced and what could have been expected had the University continued with a flat-fee structure. It is assumed in this model that total enrollment and year-to-year percentage increases in fees would have remained as were actually experienced, regardless of which policy was in place. A full-time load of fifteen credit hours under the linear fee structure would have been equal to the amount charged for a full load of fourteen SCH in the plateau structure. While this results in higher per credit hour rates than were actually experienced in the years the linear policy has been in effect, it ensures that the total fees for a full-time load increased by the appropriate percentage from year to year, maintaining a relative burden on part-time students who would still pay per credit hour in the plateau system. Tables 7 and 8 show actual versus model SCH and fee revenue for each campus.

- In the plateau model, UMC would have seen steady increases in both student credit hour enrollments and in revenue from student fees. However, the difference per student credit hour affects revenue negatively.
- UM-St. Louis also would have experienced increased student credit hours in the plateau system. The differences fluctuate from as much as 3,200 in 1992 to only 500 in 1994. Fee revenue in the model plateau structure shows an increase over actual revenue of about \$400,000 each year.

**Table 7. Fall Semester Fee Income Differential
University of Missouri - Columbia**

The most striking results are shown in Tables 9 and 10 in an examination of students' time to degree completion in a plateau system and in a linear fee policy. The members of the fall 1981 freshman class enrolled and completed their degrees during a time when the plateau policy was in effect and set at fourteen SCH. The University first implemented its linear fee policy in fall 1986, so the freshmen classes of 1985 through 1991 were enrolled primarily under this fee structure.

- At both campuses, the freshman class of 1981 had a much larger percentage of students who graduated within four years. At UM-Columbia, 62% of graduates did so in four years in the plateau system compared to around 50% in the years in which a linear fee policy was in effect. At UM-St. Louis, the percentage of students graduating within four years was 40% in the plateau system compared to a range of 23 to 32% in the linear system.

**Table 9. Time to Degree Completion for Degree-Seeking Freshmen Who Graduate Within Six Years
University of Missouri - Columbia**

	Plateau = 14 SCH			Linear with Upper and Lower Division Rates				Straight Linear					
	Fall 1979 Class As of Fall 1985	Fall 1980 Class As of Fall 1986	Fall 1981 Class As of Fall 1987	Fall 1982 Class As of Fall 1988	Fall 1983 Class As of Fall 1989	Fall 1984 Class As of Fall 1990	Fall 1985 Class As of Fall 1991	Fall 1986 Class As of Fall 1992	Fall 1987 Class As of Fall 1993	Fall 1988 Class As of Fall 1994	Fall 1989 Class As of Fall 1995	Fall 1990 Class As of Fall 1996	Fall 1991 Class As of Fall 1997
Completed in:													
4 Years	64%	62%	62%	60%	57%	58%	53%	52%					

Conclusion

The enrollment comparison between a plateau system and a linear system showed dramatic results. The distribution of SCH was much more top heavy in 1985, when the flat-fee policy was in effect. Under the plateau system, 74% of students at UMC were enrolled in fourteen or more SCH. This percentage dropped to 61% by 1991 and declined even further to only 55% by 1997. UM-St. Louis, where SCH distribution was already on the lower end in 1985, experienced a further shift to smaller student loads, especially in those taking between thirteen and sixteen hours. The figures at both campuses indicate that students had more incentive to take larger loads under the plateau policy.

Consequences of this incentive to take increased loads may be illustrated in Tables 9 and 10, which show time to degree completion for degree-seeking freshmen. Clearly, more students graduated in four years under a plateau fee structure than under the linear policy. Even though UM-Columbia has 90% of its students attending full-time, the number of students graduating in four years is much lower than it was under a plateau system with nearly the same proportion of full-time attendance. Even UM-St. Louis, where one would expect longer times to degree completion because of the large part-time enrollment, has also experienced far fewer students graduating in four years under a linear system than under the plateau system.

Shortened times to degree completion can be an advantage for the student, the state, and the institution. The obvious advantage for the student of graduating in less time is that the fewer years spent in school, the sooner he or she can get a job and start earning a salary. In the same respect, the state benefits from students graduating in less time as the state job market demands qualified candidates to be readily available. Finally, the institution could benefit from having students graduate in less time. Forecasts of large numbers of new high school graduates provide an opportunity for a college or

However, a fee policy which encourages acceleration also results in some subsidization of nonaccelerating students by those who choose to graduate earlier (Ihlanfeldt). A price must be paid for this subsidization either by raising the cost for the current or next generation of students or by increasing the number of students enrolled. Which of these options does an institution choose? Raising fees is certainly not a popular choice, and increasing enrollments just for the sake of preventing subsidization may raise concerns about overhead costs and the quality of students. The fee income differential model illustrated in Tables 7 and 8 may shed some light on this subject.

Despite its limitations, the model developed here demonstrates the likely effects of a fee policy change on revenue from student educational fees. Applying the student credit hour distribution of 1985 to the actual total enrollment of each subsequent year yielded the model number of SCHs. This resulted in larger numbers of SCH than were actually experienced. The fee rates to apply to SCHs were derived by taking the amount charged for a full-time load of fifteen hours in the linear policy and using it as the amount that would be charged for a full plateau system load of fourteen hours. This resulted in higher per credit hour rates than were actually assessed in the linear structure, but it covers the cost of acceleration by full-time students by placing a higher cost on those taking less than fourteen hours. Because the burden of subsidization is placed on the part-time student, the difference per SCH is much higher at UM-St. Louis than at UM-Columbia. The plateau fee policy favors institutions with a large full-time enrollment. If the plateau is set at fourteen credit hours, students must take at least fifteen hours to gain any advantage from the plateau system. Conversely, linear pricing favors those students who take credit hour loads of less than full-time. Students not interested in earning a degree but rather in taking classes to enhance particular skills may find a linear pricing structure better fits their needs.

The fee policy change in 1992 from a linear system with different rates for lower- and upper-division courses to an undifferentiated linear structure did not seem to have much of an effect on overall enrollment at either campus. The changes that did occur following the elimination of fee differentiation were slight and could very well be attributed to some factor other than a change in fee policy. The conclusions reached here focus on enrollment changes as direct results of changes in policy.

UM-Columbia, the traditional residential campus, appears to have been affected very little by the policy change of 1992 when differentiation was eliminated. The lower-division, upper-division and total mean loads varied by only 0.1 SCH from 1991 to 1997. The percentage of enrollment in upper-division courses initially increased in 1992, then began a decline that continued through 1996, and increased again in 1997. These results do not produce a sustaining trend, perhaps because students here have less choice over which division (upper or lower) they enroll in. Being mostly full-time students, they move along at a certain rate toward graduation, and it is inevitable that they take upper division courses in about their third year. Enrollment at UM-St. Louis, on the other hand, is mostly part-time and much more dependent upon economic conditions, so enrollment change could be expected from undifferentiating rates. UM-St. Louis experienced a slight increase in the mean load of upper-division courses, but a decrease in the percentage of enrollment at the upper level from 1993 to 1997. The increased student load at the upper level is not surprising. The lower cost of upper-level courses means students enrolled in the upper level should be able to afford more classes. However, the declining percentage of enrollment at the upper level does not follow this logic. One would typically assume that lower fees would increase accessibility for students, resulting in a larger enrollment in upper-division courses. However, this was not the observed behavior.

One of the reasons for differentiated prices, as cited by the 1991 Student Fee Task Force, was that lower rates for freshman/sophomore level courses would be more attractive to those who might be leaning toward attending a regional or community college. The 1994 study *Student Load and Tuition Policy Report* indicates that when differentiated pricing was initiated in 1986, the percentage of students enrolled in the lower level actually decreased at UMSL. Perhaps these results indicate that the fee rates of courses reflect the perceived quality of the courses. When the credit hour rate of lower-division courses was reduced, the perception may have been that the quality of the class was equal to that of a lower priced alternative. This gave the University campus no advantage over the alternatives. Students could choose to attend a community college for the first two years and, in the perception of the cost, get the same education as what they could have received at UMSL. When rates were undifferentiated in 1992, the

perception of the lower-division courses may have risen, resulting in the gradual increases each year in the percentage of enrollment at the lower level. Therefore, the decline in upper-division enrollment following undifferentiation does not suggest a negative result, but rather a positive change for lower-level enrollment.

The breakdowns of SCH by level and load in Tables 5 and 6 reveal a modest change in the proportions attending full-time and part-time. A closer examination of upper level enrollments shows that the fee policy change in 1992 may have caused a shift in the percentage of full-time attendance at the upper level. Because of the different natures of the campuses, the uniform change in fee policy had different effects at each campus, with each attracting a type of student atypical of the normal student body. The traditional campus (UMC) with primarily full-time enrollment saw a slight shift to more part-time attendance at the upper level. Students not attending college full time saw the fee policy change as an opportunity to take classes part-time at a lower cost, somewhat of a bargain price in comparison to the previous rate. The urban campus at UMSL, where part-time enrollment was the norm, experienced more full-time attendance at the upper level. Students who were already attending part-time saw the rate change as an opportunity to take more classes without significantly increasing their costs, moving their previous part-time status to full-time.

different according to the needs and goals of the individual campus. Ihlanfeldt warns that the aims of an educational fee pricing system cannot be achieved unless the nature of the student body is considered. In addition, Ihlanfeldt states “there is no one desirable pricing policy for all institutions, but there is a single best pricing policy for each institution if the marginal costs and price supports are considered.”

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