

The annual amount per student required to retire a loan depends on four factors: (1) the amount of the loan, which is dependent on construction costs per student; (2) the rate of interest; (3) the amortization period; and (4) the months of occupancy.

### 1. *Construction Costs per Student:*

There is some evidence that students do better in single rooms. However, construction costs per student are substantially reduced by providing for two students per room. All residences should, however, contain some single rooms.

The revenue from meals should cover the capital as well as the operating costs of the dining room. All residences, however, should include in addition some non-revenue-producing areas such as Common Rooms, recreation areas, study facilities, warden's quarters, all of which add to the construction costs per student.

Construction costs per student also depend on the nature of the construction, i.e. design and cost of materials used.

Estimates of construction costs per student vary considerably, and reflect different values attached to the factors referred to above. Nine months ago the Honourable Senator from Banff received reports from a number of universities regarding their plans for building student residences. Four of them indicated the probable capacity and costs of these residences. Capacity totalled 1,830 for which costs were estimated at \$11,545,000, or an average of \$6,305 for the housing of each student. However, estimates varied from \$5,000 to \$10,000 per student.

### 2. *Rates of Interest and Amortization Period:*

The relations of the rate of interest and the period of amortization to annual costs is obvious.

### 3. *Occupancy:*

Students normally occupy their rooms for about  $7\frac{1}{2}$  months each year. However, universities which operate summer schools, usually for about six weeks, can extend the occupancy to some 9 months; and if they open their residences for conferences or institutes, additional revenue can be obtained.

Considering these several factors, it may be assumed that the universities can expect 100% occupancy for the equivalent of 9 months each year.

In Appendix II we have set out the monthly amount required to amortize the cost of construction of residences, at various costs of construction per student, at various rates of interest, assuming 9 months' occupancy, over 20, 30, and 40 years.

How much can the universities expect to charge students per month? Present rates which do not cover capital costs are about \$60 per month for room and board. The maximum which could be added to this charge is \$20 per month, giving a total monthly rate for room and board of \$80. Assuming a rate of interest of  $4\frac{1}{2}\%$  with amortization over 40 years, the cost of construction per student could not exceed about \$3,500 per student. If the rate of interest were 3% (again over 40 years) the initial cost might be about \$4,000.

The conclusion drawn from a study made at the University of British Columbia was that, at a cost of \$4,000 per student, the annual net revenues would carry (a) close to two-thirds of the annual cost on interest and amortization at an interest rate of 3% and (b) about one-half the annual cost of interest and amortization at an interest rate of  $4\frac{1}{2}\%$ . (This is referred to in, Appendix III).

It is clear that the operation of student residences on a self-liquidating basis will require either quite low rates of interest, or quite low construction costs per student, or some contribution by way of grant or gift.