

JAMES A. GRAASKAMP COLLECTION OF TEACHING MATERIALS

III. REAL ESTATE DEPARTMENT ADMINISTRATION

I. Committee Work

3. Committee Work Appointments - Various Years.

MEMORANDUM

TO: Professors Ratcliff, Udell, McCoy

FROM: Professor Graaskamp

RE: Summer Research and Publications Project

DATE: February 28, 1966

I. The Research Product

Real estate lenders and investors have indicated strong interest in a technique for projecting cash flow guidelines during the planning and financing stages of commercial real estate, specifically apartments. A cash flow model of apartment house finance has been built and tested on the Commerce School computer, and it would be possible to adapt the inputs and outputs of this model to the data generally available to the equity-developer or lending-investor. The model combines the elements of land cost, improvement costs, occupancy rates, rent levels, operating expenses, financing costs, real estate taxes, income taxes, amortization elements, and financing ratios to measure investment returns on equity, over selected time periods.

It is proposed that a manual, data input forms, and standard punch card program for the typical 1401 computer, found in financial institutions or data processing service firms, be prepared for the use of those involved in the financial planning of multi-family buildings. Hopefully such a standard program, available at the price of a book, would allow any investor or mortgage lender, particularly the smaller, less-sophisticated institutions, to plug-in data for their situation into the model program to be run on a local bank or bookkeeping service machine. Perhaps, if the Fortran program proved to be in wide demand, a second Cobol program could be provided for those with access to such computers.

II. Elements of Multi-Family Financial Model

A. Capital Cost Inputs

1. Cost of living area, furnishing living area, bathroom area, and kitchen area per square foot.
2. Up to six combinations of rental units consisting of living area, bathroom area, kitchen area, and furnishings as desired.
3. Number of each unit combination in project.
4. Public space area provided for corridors, stairways, laundries, and storage as a ratio of total unit combination areas.
5. Cost per square foot of public area.
6. Cost of elevators per twenty-five units.
7. Site costs.

8. Site improvement costs including parking (covered or paved) per unit.
9. Indirect capital costs of construction or acquisition as a percentage of all physical improvement costs and land.

Machine would then compute total capital budget for selected alternative designs which could include townhouse, garden, walk-up, or elevator apartments depending on inputs for public space, elevators, and site improvements.

B. Proposed Financing Package

1. First mortgage ratio with period interest rate and period term for amortized mortgage.
2. Second mortgage ratio, if any, with period interest rate and period term for amortized mortgage.
3. Chattel mortgage ratio, if any, with period interest rate and period term for amortized mortgage.

C. Rental Income Based on Investor Market Analysis

1. Period rent for each unit combination.
2. Occupancy factor per period as a ratio of gross potential rent.
3. Number of each unit combination in project (staging of development could be handled by analyzing each stage separately and combining results manually).
4. Rate of growth or decline of rent levels from period to period.

D. Operating Expense Rates Based on User Experience

1. Fixed costs of operation (excluding real estate taxes) per unit.
2. Variable costs of operation per unit in relation to occupancy.
3. Rate of period increase or decline of fixed and variable expenses.
4. Real estate taxes as a product of total construction costs, local equalization rate, and local tax rate.
5. Rate of period increase or decrease in local real estate taxes.
6. Compute period interest requirement for proposed financing package.

E. Analysis of Cash Flow

1. Compute depreciation offset per period on three different bases (straight-line, declining balance, and sum of digits, methods) and with alternative breakout of special property such as furniture and/or elevators.

2. Compute net taxable income per period.
3. Net cash flow to investor as sum of depreciation, after tax income, and deduction for principle amortization.
4. Calculation of default ratio (operating expenses, real estate taxes, interest, and principal repayment divided by gross income).
5. Calculation of gross cash yield on net depreciated book value.
6. Calculation of cumulative present value of cash to investor and the ratio of capital recovery to initial equity at desired rate of return.
7. Calculations of effective yield assuming resale at the end of each period for a given percentage of original cost, ala Ellwood.

F. The Research Study Methodology

1. The first step in the process of adjusting or modifying the present working model (which is substantially as outlined above) would be to check on the outputs and format desired by investors and lenders.
2. With inputs and outputs adjusted to the types of data readily available to the users, the existing program would be restructured in algebra and then in the Fortran language.
3. Given a working model, a manual would be prepared showing the user how to prepare his data, fill in a standard data form for card punching, and how to adjust the combinations of inputs to test his particular alternatives.
4. Given several typed copies of a manual, the use of the model approach to financial analysis would be tested for a week by several experienced lending or investing organizations. The instruction manual could then be de-bugged.
5. Finally the manual could be prepared for printing. It could contain all necessary programming instructions, and in addition, it may be possible to furnish a pre-punched card program with instructions as to adaptation to any particular type of machine.

G. Personnel and Budget

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|--------------------------------------------------------------------------------------------------------|--------|
| 1. One half-time research appointment for Professor Graaskamp for eight-weeks summer program | \$ 900 |
| 2. Fortran programmer at \$3.50 per hour, half-time, for maximum of eight weeks | \$ 560 |
| 3. Half-time research assistant | \$ 450 |

4. Transportation expenses to Milwaukee for meetings with Northwestern Mutual, First Federal Savings and Loan, and large Milwaukee investors . . .	\$ 40
5. Preparation of manuscript by Bureau of Business Research	\$ 250
6. Printing of manuscript and pre-punched cards (Bureau of Business Research) . . .	\$2000
7. Total computer time (3 hours) . . .	\$ 300
8. Total estimated budget . . .	\$4500

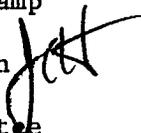
Faculty salary and research assistant costs should be available from existing Real Estate Department funds. Hopefully preparation and manuscript costs would be available from the Bureau of Business Research, which would also receive possible sales proceeds of manuals. Therefore financing is needed for programming, computer time, and transportation expense.

It would be desirable to reformulate the simulation program during the present semester to provide as much time as possible for testing and publication details during the summer. It is further desired to use the simulation model as a game type program in the current Real Estate Investment Seminar 238-248 as the final problem of the semester.

June 11, 1986

M E M O R A N D U M

TO: James A. Graaskamp

FROM: James C. Hickman 

SUBJECT: Building Committee

The School of Business has a standing Building Committee. Associate Dean W. A. Strang chairs the committee. I hope you will accept immediate appointment to this committee. Because of your experience in planning and construction, the committee can benefit from your membership.

Please acknowledge your acceptance or rejection of this assignment. I hope you will accept.

rg

xc: W. A. Strang

SCHOOL OF BUSINESS

FACULTY AND STAFF COMMITTEES 1987-88

Academic Planning Council

Aldag, Bilkey, Blakely, Brieske, Ford, Hickman (chair), Johannes, A. C. Johnson, Matthews, Nevin, Strang, Williams, and an assistant professor to be elected.

Administrative Committee

Aldag, Bilkey, Blakely, Brieske, Ford, Hickman (chair), Johannes, Joseph, Matthews, Strang, Williams

Affirmative Action Committee

Anderson, Baron, Hausch, Ihle, Lobo, R. U. Miller (chair), Udell

Awards Committee *

Benjamin (ex-officio), Bower, Filley (chair), Formisano, Krainer, Matsumura, Rothschild, Schuette, Siciliano

Business Statistics Committee

Finster, Frees, R. B. Miller (chair)

Computer Committee

Brieske (ex-officio), Cho, Dunham, Krueger, Lazimy, Masshardt (ex-officio), W. C. Stevenson, Wemmerlov (chair)

Continuing Education Planning Committee

Benjamin (ex-officio), Berry, Bock, Graaskamp, Joseph, Marien, Rittenberg, Strang (chair), Wemmerlov

Executive Program Committee

Berry, Dunham, Finster, Johannes, McConkey (chair), Nair, Peter

* S. Ogilby will join the Awards Committee when considering the Tate Award. She was the 1987 winner.

PROGRAM DIRECTORS

Arts Administration program - Prieve
Diversified program - Aubey
Health Services Fiscal Management program - Bower
Health Services Administration program - A. C. Johnson
Honors program - Krainer
M.B.A. program - Blakely
Ph.D. program - Blakely
Public Management program - Heneman

ADVISERS FOR STUDENT ORGANIZATIONS

Actuarial Club - Schuette
AIESEC International - Aubey, Bilkey
Administrative Management Society - Stearns
American Production and Inventory Control Society (APICS) - Matthews, Wemmerlov
American Society for Personnel Administration (ASPA) - Olson
Association of Minority Students in Business - Fine, Tuttle, Anderson

Beta Alpha Psi - Brieske
Beta Gamma Sigma - Bock

Data Processing Management Association (DPMA) - Lazimy
Delta Sigma Pi - Haase

Entrepreneur Club - Filley, Pricer

Finance Society - DeBondt

Graduate Business Association - Senbet

Health Care Fiscal Management Student Association - Bower

Insurance Society - Anderson, Formisano

Mu Kappa Tau - Nevin

Phi Chi Theta - Formisano

Real Estate Association - Graaskamp
Rho Mu Sigma - Stampfl

Student Faculty Board - Aubey

Undergraduate Minority Business Society - Davis