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ANALYZING THE ECONOMIC FEASIBILITY
OF RENTAL APARTMENTS IN RURAL AREAS
USING MULTIPLAN ON THE IBMPC

DRAFT

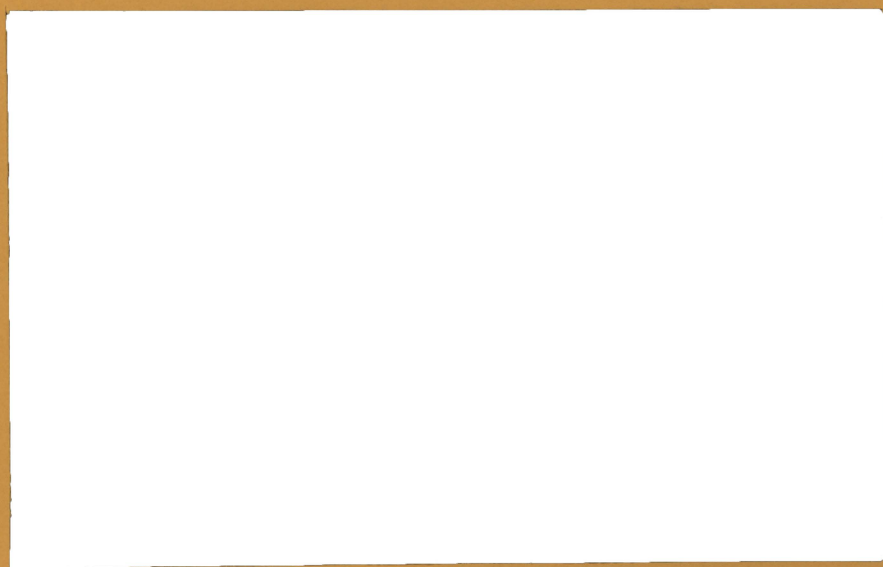
Bill Elder
John Dumont
John Kuehn

Report No. 70

June 27, 1984

**OFFICE OF SOCIAL AND
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ANALYZING THE ECONOMIC FEASIBILITY OF
CD0007.MP RENTAL APARTMENTS IN RURAL AREAS (VER 1.1)
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D R A F T JUNE 14, 1984

PURPOSE

This Multiplan application creates a model for estimating the annual costs and monthly break-even rental per apartment for rural areas.

AUTHORS

The program was developed by the Office of Social and Economic Data Analysis in cooperation with the Department of Community Development at UMC and Dr. John Kuehn of the U.S. Department of Agriculture.

CONTACT PERSON

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DESCRIPTION OF THE MODEL

This model describes the use of a Multiplan template to estimate the annual costs and break-even monthly rental rates per apartment for rural areas. Costs of rental housing can be grouped into three categories: operating, capital and total annual costs. Operating cost analysis includes the cost "without utilities furnished" and "with utilities furnished". Capital cost includes total land cost and total construction cost. All these costs are used in the budget analysis to estimate total annual costs and break-even monthly rental rates. This model provides a simplified procedure to estimate proposed establishment of rental apartments in a rural area. Decisionmakers can evaluate the feasibility of a budget with all the information given by this model.

REFERENCES

"Analyzing the Feasibility of Rural Apartments in the Great Plains: A Guide for Local Decisionmakers," by Joseph F. Schmidt, Gerald A. Doeksen, Jack Frye, and John C. Maxey. Economic Development Division, Economic Research Service, U.S. Department of Agriculture. Agriculture Information Bulletin No. 397.

PROGRAM INSTRUCTIONS

1. Bring up Multiplan from a system diskette. After the Multiplan screen appears, insert the template diskette into drive A. You may wish to load a formatted storage diskette into drive B. To run the analysis, Transfer/Load file CD0007.MP.

2. A Brief introduction is part of the multiplan template. The introduction briefly describes the purpose of the model and cell names of the cost factors to be used in this model:

DESCRIPTION	CELL NAME
number of units	units
operating cost inflation factor	inflation
operating unit costs	opcost
land cost	land
initial investment LAND	investL
interest rate LAND	rateL
length of loan LAND	loanL
square feet per unit	sqft
building cost per sq. ft.	bldgcost
initial investment BLDG	investB
interest rate BLDG	rateB
length of loan BLDG	loanB
return on investment	roi

3. Enter the number of apartments you wish to consider. The number of apartments is used in the model to simply multiply cost factors. No consideration is given to possible economies of scale. Enter, as a rate, the inflation factor you wish to use. The parameter estimates given for the operating unit costs have been adjusted to 1983 price levels. The inflation factor will increase operating cost estimates only. For example, a factor of 1.10 will result in a 10% operating cost increase. Adjustments to capital costs are up to the user. Changing the number of apartments and the inflation factor are two ways to quickly assess alternative models.

4. Total operating costs are printed in Part A. The analysis includes the cost "with utilities" and "without utilities". There are seven categories: (1) owner's overhead (2) insurance (3) real estate taxes (4) fees (5) repairs (6) miscellaneous supplies and (7) other.

5. Total capital costs are printed in Part B. There are two categories: land costs and construction cost. For land costs, enter the total land cost, the initial investment, the interest rate and the length of the loan. The amount financed, the amortization factor and the annual cost will be calculated. For construction costs, enter the square feet per unit, the cost of construction per square foot, the initial investment, the interest rate and length of the loan. The building cost, amount financed, amortization factor and annual cost will be calculated.

6. Total annual costs are printed in Part C. The table shows the total estimated annual cost without and with utilities respectively.

7. Part D prints estimated break-even monthly rental rates. You must input a return on investment factor as a rate. The program calculates and prints the results of both total annual cost only and total annual cost plus return on investment for the "with utilities" and "without utilities" options at different rates of occupancy.

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MISSOURI COOPERATIVE EXTENSION SERVICE ***** COMMUNITY DEVELOPMENT

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ANALYZING THE ECONOMIC FEASIBILITY OF RENTAL APARTMENTS IN RURAL AREAS

CD0007.MP (VER 1.1)

Number of Apartment Units ==>20

Inflation Factor ==>1.00

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PART A: OPERATING COSTS

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COST ITEM	BASE UNIT COSTS	ADJUSTED UNIT COSTS	ADJUSTED ANNUAL COST
Owner's Overhead	\$59.40	\$59.40	\$1188.00
Insurance	\$146.30	\$146.30	\$2926.00
Real Estate Taxes	\$259.60	\$259.60	\$5192.00
Fees	\$49.50	\$49.50	\$990.00
Repairs	\$96.80	\$96.80	\$1936.00
Miscellaneous Supplies	\$33.00	\$33.00	\$660.00
Other	\$309.10	\$309.10	\$6182.00
TOTAL (WITHOUT UTILITIES)	\$953.70	\$953.70	\$19074.00
Utilities Only	\$821.70	\$821.70	\$16434.00
TOTAL (WITH UTILITIES)	\$1775.40	\$1775.40	\$35508.00

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PART B: CAPITAL COST

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COST ITEM	UNIT COSTS	ANNUAL COST
Total Land Cost:		\$3840.37
a) Land Cost	\$35000.00	
b) Initial Investment	\$1750.00	
c) Amount Financed	\$33250.00	
d) Interest Rate	0.115	
e) Length of Loan (Yrs)	50	
f) Amortization Factor	0.11550	
Total Construction Cost:		\$46084.44
a) Building Cost:	\$420000.00	
1) sq. ft. per unit	\$700.00	
2) cost per sq. ft.	\$30.00	
b) Initial Investment	\$21000.00	
c) Amount Financed	\$399000.00	
d) Interest Rate	0.115	
e) Length of Loan (Yrs)	50	
f) Amortization Factor	0.11550	
TOTAL ESTIMATED ANNUAL CAPITAL COST		\$49924.81

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PART C: TOTAL ANNUAL COSTS

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TOTAL ESTIMATE ANNUAL COSTS	ANNUAL COST
A. WITHOUT UTILITIES	\$68998.81
B. WITH UTILITIES	\$85432.81

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PART D: ESTIMATED BREAK-EVEN MONTHLY RENTAL RATES

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Return on Investment (as a RATE) ==>0.15

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MONTHLY RENTAL RATE OPTIONS

PERCENT OCCUPANCY	TOTAL ANNUAL COST ONLY		TOTAL ANNUAL COST PLUS RETURN ON INVESTMENT	
	W/OUT UTIL.	WITH UTIL.	W/OUT UTIL.	WITH UTIL.
100.0	\$287.50	\$355.97	\$301.71	\$370.19
95.0	\$302.63	\$374.71	\$317.59	\$389.67
90.0	\$319.44	\$395.52	\$335.24	\$411.32
85.0	\$338.23	\$418.79	\$354.96	\$435.52
80.0	\$359.37	\$444.96	\$377.14	\$462.74
75.0	\$383.33	\$474.63	\$402.29	\$493.59
70.0	\$410.71	\$508.53	\$431.02	\$528.84

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Digitization Information Page

Local identifier Report [number]

Source information

Format	Book
Content type	Text with Images
Source ID	Gift Copy not added to the Collection
Notes	Printed single-sided; Cover has cut-out showing title on the next page Pages are unbound, stapled on top left; Both front and back covers are orange color (#FF9900)

Capture information

Date captured	October 2019
Scanner manufacturer	Fujitsu
Scanner model	fi-7460
Scanning system software	ScandAll Pro v. 2.1.5 Premium
Optical resolution	600 dpi
Color settings	8 bit grayscale
File types	tiff
Notes	Cover scanned separately with Opticbook

Derivatives - Access copy

Compression	Tiff: LZW compression
Editing software	Adobe Photoshop CC
Resolution	600 dpi
Color	8 bit grayscale
File types	pdf created from tiff
Notes	Images cropped, straightened, darkened