

JAMES A. GRAASKAMP COLLECTION OF TEACHING MATERIALS

V. INDUSTRY SEMINARS AND SPEECHES - SHORT TERM

A. Appraisal Organizations

15. 1985

- a. "Emerging Trends in Real Estate Valuation", sponsored by South Central AIREA, March 22, 1985

South Central Regional Conference  
American Institute of Real Estate Appraisers  
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Westin Galleria Hotel  
Dallas, Texas

EMERGING TRENDS IN REAL ESTATE VALUATION

Presented by  
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- I. Appraisal is a specialty in the rapidly evolving information business in a society where a majority of the people are involved in information processing. Appraisers systematically collect information, organize, analyze and interpret the data, reach decisions and communicate essential information to a client.
  - A. Real estate appraisal is a pivotal benchmark for decisions involving social equity (eminent domain and real estate taxes) validation of value for regulatory purposes (loans and pension security), benchmarking of asset management performance (pensions and fixed assets on balance sheets), and counseling for allocation of land uses and cost effective capital allocation. Ethical issues pervade the process.
  - B. Information processing by appraisers is similar to the work of accountants, lawyers, investment counselors, and insurance people.
  - C. Unlike accountants and others, appraisers receive little help from their professional organizations in the form of position papers which define appropriate methods for a particular question.
    1. Financial Accounting Standards Board (FASB) that continually modifies generally accepted accounting principles to fit new problems such as mergers, current values of fixed assets, accounting for real estate operations, etc.
    2. Securities people have the SEC, Midwest Securities Associations, and various licensing agencies.
    3. The insurance education program is controlled by two independent organizations, the American College of Life Underwriters and the American College of Property and Casualty Underwriters.
    4. Appraisers have no such independent fixed point. Even the Eighth edition of the Institute's textbook disclaims any responsibility for being a standard.
  - D. As a result, most disputes about appraisal and the misuse of appraisal occur on six simple basics:
    1. Definition of real estate interests to be appraised
    2. Definition of highest and best use
    3. Definition of market value
    4. Definition of what constitutes market comparison
    5. What methods can be used to focus data on a problem?
    6. Who is responsible for integrating information into a cohesive statement of circumstances and forecasts?

- E. Because professional appraisal organizations make little effort to defend a standard and will define real estate and value any way desired by the client while hiding behind limiting conditions appraisal has become synonymous with disinformation.
1. Disinformation is military intelligence for providing information which appears to be correct in form and terminology so that the reader rationalizes to the wrong conclusion.
  2. Disinformation in appraisal is a conspiracy of cooperation between the appraiser and his client to satisfy regulators, provide cover against future charges of incompetence or achieve other objectives in terms of income taxes, real estate taxes, divorce settlements, etc.
- F. The information business has been further altered by low cost mini-computers which permit development of large data banks of unknown quality and word processing which carries boilerplate prose to industrial production standards.
1. Data banks lead to tempting misuse of statistics and software puts statistics in the hands of everybody.
  2. The Home Loan Bank disallowed appraisal by regression because:
    - a. Subject property was compared to the mean of the data base rather than a specific subset of comparables.
    - b. The appraiser had not personally inspected the properties or confirmed terms of sale with grantor/grantee.
    - c. Appraiser was not personally responsible for adjustments.
  3. The information business requires careful definition of the problem for which information must be collected, organized, and reduced to a conclusion.
  4. What are the ethics of data manipulation and communication?
- G. The professional appraiser must push his organizations to define basic standards and must push his client to define the basic problem in order that contemporary appraisal can utilize modern information technique.
1. Definitions have been reactive rather than proactive
  2. Appraiser must question client to move from problem perceived to the problem as understood.
  3. Clients will prescribe methods and assumptions germane to their purposes through letters of engagement.
  4. Appraisal will reorganize as Councils of users (those who pay the cost of appraisal error - not those who pay the fee) and appraisers with a common interest.
  5. Institutional regulators will prescribe appraisal standards, or as in the days of FHA, take over appraisal practice to protect their guarantys

- II. In the information game there are three approaches to value decision, according to Dilmore, are (2) ORDER, (2) CHANCE, (3) BEAUTY.
- A. ORDER assumes under everything is a universe in which the parts fit, information has a shape. Remember the test for color blindness, random dots in random colors until suddenly you see the red dots only as a letter or a number. As appraisers we look for the red dots. We try to organize data objectively which has been subjectively collective and perhaps naive.
- B. CHANCE acknowledges the possibility of alternative outcomes in our little closed system. Imprecision is inherent to behavioral science. No respectable scientist is afraid of the word error or variance. We know in part and see but through a glass darkly. We may be able to predict without always understanding cause and effect because of unknown cross-correlations.
- C. BEAUTY can be a legitimate basis for constructing a hypothesis - elegance is the ultimate intuitive choice, judgment, or gut response. Models may be elegant and not fully understood but useful but useful and sometimes dangerous like Ellwood, regression and cost.
- III. An elegant model for market comparison began with Ratcliff, evolved with Graaskamp and has been greatly improved by Dilmore for the appraisal of commercial property, vacant land and even condominiums.
- A. Assume prices have been adjusted for terms of sale and time, and possibly you may choose to abstract out land values.
- B. Search for an appropriate unit of comparison as a single variable in a linear regression by trying three or four unit concepts, such as:
1. Gross building area
  2. Net leasable area
  3. Cubage
  4. Two times the first floor area plus gross building area
  5. Barrels of cranberries rather than acres of cranberries
  6. Number of bedrooms rather than square feet
- C. Arrive at a price per unit as the first step in establishing a price algorithm.
- D. Identify property attributes which distinguish subject properties qualitatively from one another and develop a simple scoring system.
1. 5-3-1 is one method but scores may become multipliers and lead to distortion.

2. Dilmore prefers:	<u>Rating</u>	<u>Points</u>
	Excellent	26
	Good	20
	Average	15
	Fair	13
	Poor	10

EXHIBIT 1- A  
CORRELATION COEFFICIENTS AND R<sup>2</sup> OF SALES PRICE

Space Unit	Correlation	R <sup>2</sup>
First floor frontage (frt)	0.745	55.5%
Lot area	0.908	82.4
First floor (1st fl)	0.790	62.4
First floor + Upper floors (upp fl)	0.933	87.0
1st fl + .05 (upp fl)	0.919	84.5
2(1st fl) + upp fl	0.919	84.5
(1st fl) x (frt)	0.784	61.5
[1st fl + 0.5 (upp fl)] x (frt)	0.864	74.6
[2(1st fl) + upp fl] x (frt)	0.864	74.6
(1st fl + upp fl) x (frt)	0.874	76.4

EXHIBIT 1

RATGRAM STYLE

WOOLWORTH BUILDING  
SCALE FOR SCORING COMPARABLES ON  
IMPORTANT INVESTOR CONSIDERATIONS FOR  
OFFICE - RETAIL SPACE IN MADISON  
C-4 ZONING

LOCATION  
10%

5 = High visibility  
3 = Corner visibility limited  
1 = Inside lot

EXPANSION POTENTIAL  
30%

5 = Potential for significant  
increases of floor space  
3 = Flexible layouts due to  
bay spacing and elevator  
position  
1 = Inflexibility of layout due  
to old bearing walls and  
elevator shafts

CONDITION AT  
TIME OF PURCHASE  
25%

5 = Fully renovated and leased  
3 = Long-term retail leases in  
place. Serviceable as retail  
in tired space.  
1 = Vacant and in need of total  
rehabilitation. Short-term  
lease or large vacancy in  
need of total rehabilitation.

ELEVATORS AT  
TIME OF PURCHASE  
20%

5 = Two passenger and freight  
3 = Two passenger  
1 = One passenger

FENESTRATION ON UPPER LEVEL  
15%

5 = Large windows facing  
the Square  
3 = Limited window area  
1 = No windows

WOOLWORTH BUILDING  
 WEIGHTED MATRIX FOR COMPARABLE PROPERTIES  
 SCORE/WEIGHTED SCORE

ATTRIBUTE	WEIGHT	COMPARABLE NO. 1 30 N. CARROLL WOLFF KUBLY	COMPARABLE NO. 2 14 W. MIFFLIN	COMPARABLE NO. 3 5 & 7 E. MIFFLIN CENTRE SEVEN	COMPARABLE NO. 4 50 E. MIFFLIN EMPORIUM	COMPARABLE NO. 5 2 W. MIFFLIN WOOLWORTH	SUBJECT
LOCATION	10%	3/0.30	1/0.10	1/0.10	3/0.30	5/0.50	5/0.50
EXPANSION POTENTIAL AT TIME OF SALE	30%	3/0.90	1/0.30	1/0.30	5/1.50	3/0.90	3/0.90
CONDITION AT TIME OF SALE	25%	1/0.25	5/1.25	1/0.25	3/0.75	3/0.75	1/0.25
ELEVATORS IN PLACE	20%	5/1.00	3/0.60	1/0.20	3/0.60	1/0.20	1/0.20
FENESTRATION ON UPPER FLOORS	15%	1/0.15	5/0.75	5/0.75	1/0.15	3/0.45	3/0.45
=====							
TOTAL WEIGHTED SCORE	100%	2.60	3.00	1.60	3.30	2.80	2.30
=====							
ADJUSTED SELLING PRICE [1]		\$625,000	\$750,000	\$240,000	\$850,000	\$662,500	
DATE OF SALE		7/17/80	2/27/84	12/31/77	4/30/78	7/31/78	
GROSS BUILDING AREA (GBA)		41,000 SF	40,000 SF	26,000 SF	42,500 SF	39,000 SF	39,000 SF
ADJUSTED PRICE/GBA		\$15.24	\$18.75	\$ 9.23	\$20.00	\$16.99	
ADJUSTED PRICE/GBA/ WEIGHTED POINT SCORE		\$5.86	\$6.25	\$5.77	\$6.06	\$6.08	

EXHIBIT 2  
RATGRAM STYLE

[1] See Appendix \_ for assumptions and calculations to determine adjusted selling price.

# Attributes = 5

WOOLWORTH - RATGRAM STYLE  
1st RUN

Attribute Names, Prelim. Weights  
LOCATION 20  
EXPANSION POTENTIAL 20  
CONDITION AT TIME OF SALE 20  
ELEVATORS IN PLACE 20  
FENESTRATION ON UPPER FLOORS 20

# of Observations = 5

Observ. # 1 WOLFF-KUBLY-30 N. CARROLL Price 15.24

LOCATION 3  
EXPANSION POTENTIAL 3  
CONDITION AT TIME OF SALE 1  
ELEVATORS IN PLACE 5  
FENESTRATION ON UPPER FLOORS 1

Observ. # 2 14 0, MIFFLIN Price 18.75

LOCATION 1  
EXPANSION POTENTIAL 1  
CONDITION AT TIME OF SALE 5  
ELEVATORS IN PLACE 3  
FENESTRATION ON UPPER FLOORS 5

Observ. # 3 CENTRE SEVEN-5 & 7 N. PINKNEY Price 9.23

LOCATION 1  
EXPANSION POTENTIAL 1  
CONDITION AT TIME OF SALE 1  
ELEVATORS IN PLACE 1  
FENESTRATION ON UPPER FLOORS 5

Observ. # 4 EMPORIUM-50 E. MIFFLIN Price 20

LOCATION 3  
EXPANSION POTENTIAL 5  
CONDITION AT TIME OF SALE 3  
ELEVATORS IN PLACE 3  
FENESTRATION ON UPPER FLOORS 1

Observ. # 5 WOOLWORTH-2 W. MIFFLIN Price 16.99

LOCATION 5  
EXPANSION POTENTIAL 3  
CONDITION AT TIME OF SALE 3  
ELEVATORS IN PLACE 1  
FENESTRATION ON UPPER FLOORS 3

The Matrix:

20	20	20	20	20
10	10	10	10	10
15	15	15	15	15
25	25	25	25	25
30	30	30	30	30

Median = 5.861538  
Mean = 5.913863  
Standard Deviation = .5837666

Weights:

LOCATION = 20  
EXPANSION POTENTIAL = 20  
CONDITION AT TIME OF SALE = 20  
ELEVATORS IN PLACE = 20  
FENESTRATION ON UPPER FL = 20

Final Results:

Number of Combinations = 3125  
Number of Combinations Adding to 100% = 381

Median = 6.060606  
Mean = 6.00175  
Standard Deviation = .1893479

Weights:

LOCATION = 10  
EXPANSION POTENTIAL = 30  
CONDITION AT TIME OF SALE = 25  
ELEVATORS IN PLACE = 20  
FENESTRATION ON UPPER FL = 15



# Attributes = 5

WOOLWORTH - RATGRAM STYLE  
2nd RUN

Attribute Names: Prelim. Weights

- LOCATION 20
- EXPANSION POTENTIAL 20
- CONDITION AT TIME OF SALE 20
- ELEVATORS IN PLACE 20
- FENESTRATION ON UPPER FLOORS 20

# of Observations = 5

- Observ. # 1 WOLFF-KUBLY-30 N. CARROLL Price 15.24
  - LOCATION 3
  - EXPANSION POTENTIAL 3
  - CONDITION AT TIME OF SALE 1
  - ELEVATORS IN PLACE 5
  - FENESTRATION ON UPPER FLOORS 1
- Observ. # 2 14 W. MIFFLIN Price 18.75
  - LOCATION 1
  - EXPANSION POTENTIAL 1
  - CONDITION AT TIME OF SALE 5
  - ELEVATORS IN PLACE 3
  - FENESTRATION ON UPPER FLOORS 5
- Observ. # 3 CENTRE SEVEN-5 & 7 N. PINCKNEY Price 9.23
  - LOCATION 1
  - EXPANSION POTENTIAL 1
  - CONDITION AT TIME OF SALE 1
  - ELEVATORS IN PLACE 1
  - FENESTRATION ON UPPER FLOORS 5
- Observ. # 4 EMPORIUM-50 E. MIFFLIN Price 20
  - LOCATION 3
  - EXPANSION POTENTIAL 5
  - CONDITION AT TIME OF SALE 3
  - ELEVATORS IN PLACE 3
  - FENESTRATION ON UPPER FLOORS 1
- Observ. # 5 WOOLWORTH-2 W. MIFFLIN Price 16.99
  - LOCATION 5
  - EXPANSION POTENTIAL 3
  - CONDITION AT TIME OF SALE 3
  - ELEVATORS IN PLACE 1
  - FENESTRATION ON UPPER FLOORS 3

The Matrix:

10	30	25	20	15
0	20	15	10	5
5	25	20	15	10
15	35	30	25	20
20	40	35	30	25

Median = 6.060606  
 Mean = 6.00175  
 Standard Deviation = .1893479

Weights:

- LOCATION = 10
- EXPANSION POTENTIAL = 30
- CONDITION AT TIME OF SAL = 25
- ELEVATORS IN PLACE = 20
- FENESTRATION ON UPPER FL = 15

Final Results:

Number of Combinations = 3125  
 Number of Combinations Adding to 100% = 381

Median = 6.060606  
 Mean = 6.00175  
 Standard Deviation = .1893479

Weights:

- LOCATION = 10
- EXPANSION POTENTIAL = 30
- CONDITION AT TIME OF SAL = 25
- ELEVATORS IN PLACE = 20
- FENESTRATION ON UPPER FL = 15

EXHIBIT 4

WOOLWORTH - RATGRAM STYLE

CALCULATION OF MOST PROBABLE PRICE USING  
MEAN PRICE PER POINT EQUATION METHOD

COMPARABLE PROPERTY	SELLING PRICE PER SF OF GBA	POINT SCORE	PRICE PER SF OF GBA/ TOTAL WEIGHTED SCORE (x)
1	\$15.24	2.60	\$ 5.86
2	18.75	3.00	6.25
3	9.23	1.60	5.77
4	20.00	3.30	6.06
5	16.99	2.80	<u>6.08</u>
TOTAL			\$30.02

Total of Price Per SF of GBA = \$30.02  
Total Weighted Score

Mean Value ( $\bar{x}$ ) =  $30.02 \div 5 = \$6.00$

Standard Error of Mean Deviation =  $\frac{\sqrt{\sum (x-\bar{x})^2}}{\sqrt{n}}$  = \$0.09 where:

x	$\bar{x}$	$(x-\bar{x})$	$(x-\bar{x})^2$	n	n-1
\$5.86	\$6.00	= - \$0.14	0.0196	5	4
6.25	6.00	= 0.25	0.0625		
5.77	6.00	= - 0.23	0.0529		
6.06	6.00	= 0.06	0.0036		
6.08	6.00	= 0.08	<u>0.0064</u>		
			0.1450		

$$\frac{\sqrt{0.1450}}{\sqrt{5}} = \frac{0.190394}{2.23607} = 0.085147 \text{ or } \$0.09$$

EXHIBIT 4 (Continued)

Value Range of Price/Point Score: \$6.00 ± \$0.09

Since GBA of subject is 39,000 square feet and total weighted point score of subject is 2.3, then:

High

Estimate:  $\$6.09 \times 2.3 \times 39,000 \text{ SF} = \$546,273$  or \$550,000  
(\$14.01/SF)

Central

Tendency:  $\$6.00 \times 2.3 \times 39,000 \text{ SF} = \$538,200$  or \$540,000  
(\$13.80/SF)

Low

Estimate:  $\$5.91 \times 2.3 \times 39,000 \text{ SF} = \$530,127$  or \$530,000  
(\$13.59/SF)

JUSTIFICATION OF COMPARABLE PRICE FORMULA FOR  
 WOOLWORTH BUILDING  
 BY MEANS OF ANALYSIS OF VARIANCE OF ACTUAL SALE PRICE VS. PREDICTED PRICE  
 OF COMPARABLES USING MEAN PRICE PER POINT EQUATION METHOD

NO.	COMPARABLE PROPERTY	WEIGHTED POINT SCORE	MEAN PRICE PER POINT SCORE	PREDICTED PRICE/ SF GBA	ACTUAL PRICE/ SF GBA	VARIANCE	% OF VARIANCE TO ACTUAL PRICE
1	WOLFF KUBLY 30 N. Carroll Street	2.60	\$6.00	\$15.60	\$15.24	\$ 0.36	2.4%
2	14 W. Mifflin Street	3.00	6.00	18.00	18.75	- 0.75	4.0
3	CENTRE SEVEN 5 & 7 N. Pinckney Street	1.60	6.00	9.60	9.23	0.37	4.0
4	EMPORIUM 50 E. Mifflin Street	3.30	6.00	19.80	20.00	- 0.20	1.0
5	WOOLWORTH 2 W. Mifflin Street	2.80	6.00	16.80	16.99	- 0.19	1.1
NET VARIANCE						\$ - 0.41	

RATGRAM STYLE

EXHIBIT 5

EXHIBIT 6

WOOLWORTH BUILDING  
SCALE FOR SCORING COMPARABLES ON  
IMPORTANT INVESTOR CONSIDERATIONS FOR  
OFFICE - RETAIL SPACE IN MADISON  
C-4 ZONING  
DILMORE STYLE

LOCATION  
15%

26 = High visibility  
15 = Corner visibility limited  
10 = Inside lot

EXPANSION POTENTIAL  
30%

26 = Potential for significant  
increases of floor space  
15 = Flexible layouts due to  
bay spacing and elevator  
position  
10 = Inflexibility of layout due  
to old bearing walls and  
elevator shafts

CONDITION AT  
TIME OF PURCHASE  
40%

26 = Fully renovated and leased  
15 = Long-term retail leases in  
place. Serviceable as retail  
in tired space.  
10 = Vacant and in need of total  
rehabilitation. Short-term  
lease or large vacancy in  
need of total rehabilitation.

ELEVATORS AT  
TIME OF PURCHASE  
15%

26 = Two passenger and freight  
15 = Two passenger  
10 = One passenger

WOOLWORTH BUILDING  
 WEIGHTED MATRIX FOR COMPARABLE PROPERTIES  
 SCORE/WEIGHTED SCORE  
 DILMORE STYLE

ATTRIBUTE	WEIGHT	COMPARABLE NO. 1 30 N. CARROLL WOLFF KUBLY	COMPARABLE NO. 2 14 W. MIFFLIN	COMPARABLE NO. 3 5 & 7 E. MIFFLIN CENTRE SEVEN	COMPARABLE NO. 4 50 E. MIFFLIN EMPORIUM	COMPARABLE NO. 5 2 W. MIFFLIN WOOLWORTH	SUBJECT
LOCATION	15%	15/2.25	10/1.50	10/1.50	15/2.25	26/3.90	26/3.90
EXPANSION POTENTIAL AT TIME OF SALE	30%	15/4.50	10/3.00	10/3.00	26/7.80	15/4.50	15/4.50
CONDITION AT TIME OF SALE	40%	10/4.00	26/10.40	10/4.00	15/6.00	15/6.00	10/4.00
ELEVATORS IN PLACE	15%	26/3.90	15/2.25	10/1.50	15/2.25	10/1.50	10/1.50
=====							
TOTAL WEIGHTED SCORE	100%	14.65	17.15	10.00	18.30	15.90	13.90
=====							
ADJUSTED SELLING PRICE [1]		\$625,000	\$750,000	\$240,000	\$850,000	\$662,500	
DATE OF SALE		7/17/80	2/27/84	12/31/77	4/30/78	7/31/78	
GROSS BUILDING AREA (GBA)		41,000 SF	40,000 SF	26,000 SF	42,500 SF	39,000 SF	39,000 SF
ADJUSTED PRICE/GBA		\$15.24	\$18.75	\$ 9.23	\$20.00	\$16.99	
ADJUSTED PRICE/GBA + WEIGHTED POINT SCORE		\$1.04	\$1.09	\$0.92	\$1.09	\$1.07	

[1] See Appendix \_ for assumptions and calculations to determine adjusted selling price.

# Attributes = 5

WOOLWORTH - DILMORE STYLE  
1st RUN

Attribute Names, Prelim. Weights  
LOCATION 20  
EXPANSION POTENTIAL 20  
CONDITION AT TIME OF SALE 20  
ELEVATORS IN PLACE 20  
FENESTRATION ON UPPER FLOORS 20

# of Observations = 5

Observ. # 1 WOLFF-KUBLY Price 15.24  
LOCATION 15  
EXPANSION POTENTIAL 15  
CONDITION AT TIME OF SALE 10  
ELEVATORS IN PLACE 26  
FENESTRATION ON UPPER FLOORS 10  
Observ. # 2 14 W. MIFFLIN Price 18.75  
LOCATION 10  
EXPANSION POTENTIAL 10  
CONDITION AT TIME OF SALE 26  
ELEVATORS IN PLACE 15  
FENESTRATION ON UPPER FLOORS 26  
Observ. # 3 CENTRE SEVEN Price 9.23  
LOCATION 10  
EXPANSION POTENTIAL 10  
CONDITION AT TIME OF SALE 10  
ELEVATORS IN PLACE 10  
FENESTRATION ON UPPER FLOORS 26  
Observ. # 4 EMPORIUM Price 20  
LOCATION 15  
EXPANSION POTENTIAL 26  
CONDITION AT TIME OF SALE 15  
ELEVATORS IN PLACE 15  
FENESTRATION ON UPPER FLOORS 10  
Observ. # 5 WOOLWORTH Price 16.99  
LOCATION 26  
EXPANSION POTENTIAL 15  
CONDITION AT TIME OF SALE 15  
ELEVATORS IN PLACE 10  
FENESTRATION ON UPPER FLOORS 15

The Matrix:

20	20	20	20	20
10	10	10	10	10
15	15	15	15	15
25	25	25	25	25
30	30	30	30	30

Median = 1.048765  
Mean = 1.012559  
Standard Deviation = .1956356

Weights:

LOCATION = 20  
EXPANSION POTENTIAL = 20  
CONDITION AT TIME OF SALE = 20  
ELEVATORS IN PLACE = 20  
FENESTRATION ON UPPER FL = 20

Final Results:

Number of Combinations = 3125  
Number of Combinations Adding to 100% = 381

Median = 1.068553  
Mean = 1.024281  
Standard Deviation = .1314307

Weights:

LOCATION = 15  
EXPANSION POTENTIAL = 30  
CONDITION AT TIME OF SALE = 30  
ELEVATORS IN PLACE = 15  
FENESTRATION ON UPPER FL = 10

\*\*\*\* WOOLWORTH-DILMORE STYLE \*\*\*\*

EXHIBIT 8 (Continued)

# Attributes = 5

WOOLWORTH - DILMORE STYLE  
2nd RUN

Attribute Names, Prelim. Weights

LOCATION 20  
EXPANSION POTENTIAL 20  
CONDITION AT TIME OF SALE 20  
ELEVATORS IN PLACE 20  
FENESTRATION ON UPPER FLOORS 20

# of Observations = 5

Observ. # 1 WOLFF-KUBLY Price 15.24

LOCATION 15  
EXPANSION POTENTIAL 15  
CONDITION AT TIME OF SALE 10  
ELEVATORS IN PLACE 26  
FENESTRATION ON UPPER FLOORS 10

Observ. # 2 14 W. MIFFLIN Price 18.75

LOCATION 10  
EXPANSION POTENTIAL 10  
CONDITION AT TIME OF SALE 26  
ELEVATORS IN PLACE 15  
FENESTRATION ON UPPER FLOORS 26

Observ. # 3 CENTRE SEVEN Price 9.23

LOCATION 10  
EXPANSION POTENTIAL 10  
CONDITION AT TIME OF SALE 10  
ELEVATORS IN PLACE 10  
FENESTRATION ON UPPER FLOORS 26

Observ. # 4 EMPORIUM Price 20

LOCATION 15  
EXPANSION POTENTIAL 26  
CONDITION AT TIME OF SALE 15  
ELEVATORS IN PLACE 15  
FENESTRATION ON UPPER FLOORS 10

Observ. # 5 WOOLWORTH Price 16.99

LOCATION 26  
EXPANSION POTENTIAL 15  
CONDITION AT TIME OF SALE 15  
ELEVATORS IN PLACE 10  
FENESTRATION ON UPPER FLOORS 15

The Matrix:

15	30	30	15	10
5	20	20	5	0
10	25	25	10	5
20	35	35	20	15
25	40	40	25	20

Median = 1.068553  
Mean = 1.024281  
Standard Deviation = .1314337

Weights:

LOCATION = 15  
EXPANSION POTENTIAL = 30  
CONDITION AT TIME OF SAL = 30  
ELEVATORS IN PLACE = 15  
FENESTRATION ON UPPER FL = 10

Final Results:

Number of Combinations = 3125  
Number of Combinations Adding to 100% = 381

Median = 1.068553  
Mean = 1.043603  
Standard Deviation = 7.084803E-02

Weights:

LOCATION = 15  
EXPANSION POTENTIAL = 30  
CONDITION AT TIME OF SAL = 40  
ELEVATORS IN PLACE = 15  
FENESTRATION ON UPPER FL = 0



EXHIBIT 9

WOOLWORTH BUILDING  
 CALCULATION OF MOST PROBABLE PRICE USING  
 MEAN PRICE PER POINT EQUATION METHOD  
 DILMORE STYLE

COMPARABLE PROPERTY	SELLING PRICE PER SF OF GBA	POINT SCORE	PRICE PER SF OF GBA/ TOTAL WEIGHTED SCORE (x)
1	\$15.24	14.65	\$1.04
2	18.75	17.15	1.09
3	9.23	10.00	0.92
4	20.00	18.30	1.09
5	16.99	15.90	<u>1.07</u>
TOTAL			\$5.21

Total of  $\frac{\text{Price Per SF of GBA}}{\text{Total Weighted Score}} = \$5.21$

Mean Value ( $\bar{x}$ ) =  $\$5.21 \div 5 = \$1.04$

Standard Error of Mean Deviation =  $\frac{\sqrt{\sum (x - \bar{x})^2}}{\sqrt{n}}$  = \$0.03 where:

x	$\bar{x}$	$(x - \bar{x})$	$(x - \bar{x})^2$	n	n-1
\$1.04	<del>\$1.04</del>	= \$0.00	0.0000	5	4
1.09	1.04	= 0.05	0.0025		
0.92	1.04	= - 0.12	0.0144		
1.09	1.04	= 0.05	0.0025		
1.07	1.04	= 0.03	<u>0.0009</u>		
			0.0203		

$\frac{\sqrt{0.0203}}{\sqrt{5}} = \frac{0.071239}{2.23607} = 0.031859$  or \$0.03

EXHIBIT 9 (Continued)

Value Range of Price/Point Score: \$1.04 ± \$0.03

Since GBA of subject is 39,000 square feet and total weighted point score of subject is 13.90, then:

High  
 Estimate: \$1.07 x 13.90 x 39,000 SF = \$580,047 or \$580,000  
 (\$14.87/SF)

Central  
 Tendency: \$1.04 x 13.90 x 39,000 SF = \$563,784 or \$560,000  
 (\$14.46/SF)

Low  
 Estimate: \$1.01 x 13.90 x 39,000 SF = \$547,521 or \$550,000  
 (\$14.04/SF)

COMPARISON OF WOOLWORTH DEMONSTRATION -  
 RATGRAM STYLE  
 AND WOOLWORTH - DILMORE STYLE

	RATGRAM STYLE	DILMORE STYLE	% VARIANCE RATGRAM TO DILMORE
Estimated Value Central Tendency	\$540,000	\$560,000	3.7%

JUSTIFICATION OF COMPARABLE PRICE FORMULA FOR  
 WOOLWORTH BUILDING  
 BY MEANS OF ANALYSIS OF VARIANCE OF ACTUAL SALE PRICE VS. PREDICTED PRICE  
 OF COMPARABLES USING MEAN PRICE PER POINT EQUATION METHOD  
 DILMORE STYLE

NO.	COMPARABLE PROPERTY	WEIGHTED POINT SCORE	MEAN PRICE PER POINT SCORE	PREDICTED PRICE/ SF GBA	ACTUAL PRICE/ SF GBA	VARIANCE	% OF VARIANCE TO ACTUAL PRICE
1	WOLFF KUBLY 30 N. Carroll Street	14.65	\$1.04	\$15.24	\$15.24	\$ 0.00	0.0%
2	14 W. Mifflin Street	17.15	1.04	17.84	18.75	- 0.91	4.9
3	CENTRE SEVEN 5 & 7 N. Pinckney Street	10.00	1.04	10.40	9.23	1.17	12.7
4	EMPORIUM 50 E. Mifflin Street	18.30	1.04	19.03	20.00	- 0.97	4.9
5	WOOLWORTH 2 W. Mifflin Street	15.90	1.04	16.54	16.99	<u>- 0.45</u>	2.6
					NET VARIANCE	\$ - 1.16	

EXHIBIT 10

3. Develop a weighted point score by assigning weights to each category first on an intuitive basis and then refine to reduce dispersion of predictive prices for each comparable.
  4. The object is to create a algorithm which is the price per point per unit that best explains the comparable prices and is then applied to the subject property to estimate the central tendency and range of a predictive market comparison price.
- E. The system offers a number of advantages because:
1. It is easy for a reader or a jury to replicate appraisal judgments for establishing points.
  2. One can demonstrate that the pricing algorithm works for past sales and may therefore be relevant to the next sale of a similar property.
  3. Once a property has been rated it can stay in the data base unchanged since each property is not compared to the subject property but rather to a standard scale. As a result it is possible to build a data base for small office buildings, industrial land, free standing retail, etc., adding new sales as you go. The system is compatible with simple information processing and decision theory.
  4. An excellent book for appraisers is The Complete Problem Solver by John Hayes, published by Franklin Press Institute, 1981. It discusses various types of decision model for conditions certain, uncertain, or competitive. The weighted point system is one legitimate type of model.
  5. The use of non-parametric lattice statistics removes the subjectivity from the weighting system and may also eliminate attributes thought to be important but not required by the pricing model.
- F. We have used the system in tax court boards of review, and eminent domain. It reduces the range of error and is consistent with the objective of inference from past sales and identification of the red dots in the data.
- IV. More emphasis is now being placed on discounted cash flows than ever before but the tough data base information problem are in the definition and timing of revenues and expenses properly allocated to the real estate.
- A. First there is the question of which revenues are real estate revenues and which revenues should be assigned to personal property, tangible and intangible, or to management.
1. Real estate income is by the floor and management income is the spread between retail rates and wholesale rates.
  2. Revenue from sale of utilities and janitorial service is not real estate income, nor is the 15% management charge tacked on CAM.

3. Premium rents to be in a shopping center can be assigned, in part, to franchise revenue rather than real estate.
- B. The revenue section of an appraisal using the income approach requires a spread sheet of significant complexity, like that of FINSIM, which might be tabbed as follows:

Base rent on shops  
 Percentage rent on shops  
 Indexed increment on shop base  
 CAM from shops  
 Base rent on office building  
 Index on office space  
 Amortization of office tenant improvements  
 Reimbursables  
 Escalators  
 CAM  
 Parking on contract  
 Parking from public operation  
 Communication moorings  
 Equals: GROSS REVENUE  
 Less: Base rent vacancy loss  
       Reimbursable collection losses  
       Total CAM collections  
       Franchise fees  
 Equals: EFFECTIVE GROSS REVENUE  
 Less: Accrued operating expenses  
 Equals: Net income from operations  
 Less: Rent concession for renewals  
 Less: Leasing commissions  
 Less: Tenant improvements  
 Equals: Cash from operations

- C. Exhibit 11 details lease data, index revenue, reimbursement revenue, and percentage lease revenue as well as vacancy loss by rental space.
- D. Appraisers have never been trained as accountants so it is inevitable that there will be some merger of effort among accountants and appraisers. CPA's may provide a complete projection of cash flows which the appraiser will then put a value on. The CPA may be in the appraisal shop or the appraiser may be in the CPA shop.
- E. Appropriate expense reimbursements and charges will need to be analyzed by property managers, mechanical engineers, and in some cases structural engineers so that ultimately the appraisal shop will be a clinic of specialties in which the appraiser converts the technical data of other information specialties to a forecast of market value.

- V. There are many specialty areas where appraisers and those relying on appraisals need to define the desired product and parameters of appropriate appraisal discretion and assumptions. Several obvious ones are pensions, secondary mortgage market guarantors and eminent domain litigation. Standards will be imposed by the customer rather than the appraisal profession.
- A. Appraisal seminars are given to the wrong people. They should be given to those who purchase or rely on appraisals to teach them what to demand of their professional sources.
  - B. One device for control of a specialty is a standardized letter of engagement, such as provided in Exhibit 12. A few years ago this would have been seen as tampering with the appraiser; today it is correctly defining the appraisal problem.
    - 1. Definition of value
    - 2. Definition of interests to be appraised
    - 3. Definition of accounting procedures to be followed
    - 4. Definition of data to be reported
    - 5. Definition of appraisal models
  - C. Regulatory organizations will produce their own set of rules to direct the appraisal process for single family loans, farm loans, credit enhanced loans, tax exempt financing collateral, etc.

Discounted Cash Flow Analysis - Continued

		<u>Annual Cash Flow</u>		<u>Discount @ 17%</u>		<u>Present Worth</u>
Last 6 mos.	1982	\$ 189,758	x	.924500	=	\$ 175,431
	1983	\$ 364,022	x	.790171	=	\$ 287,640
	1984	\$ 410,013	x	.675360	=	\$ 276,906
	1985	\$ 457,118	x	.577230	=	\$ 263,862
	1986	\$ 454,429	x	.493359	=	\$ 224,197
	1987	\$ 579,334	x	.421674	=	\$ 244,290
	1988	\$ 574,943	x	.360405	=	\$ 207,212
	1989	\$ 591,365	x	.308039	=	\$ 182,163
	1990	\$ 624,054	x	.263281	=	\$ 164,302
	1991	\$ 659,043	x	.225026	=	\$ 148,302
Last 6 mos.	1992	\$ 323,726	x	.208037	=	\$ 67,347
	*Rev.	\$4,839,000	x	.208037	=	<u>\$1,006,000</u>
						\$3,247,652
						Rounded to
						\$3,200,000

## \* Projected 1992 Resale Price

The 1992 resale price was estimated by adding the last six months income of 1991 and the first six months income of 1992 and capitalizing the total income at 13-1/2%.

\$329,522	-	1991 (last six months)	
<u>\$323,726</u>	-	1992 (first six months)	
\$553,248	-	Capitalized @ 13-1/2%	\$4,838,866
	-	Estimated 1992 Sale Price	\$4,838,900