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Technical Report

Asset Management in a Down Market: A Suggested Valuation-Underwriting Process

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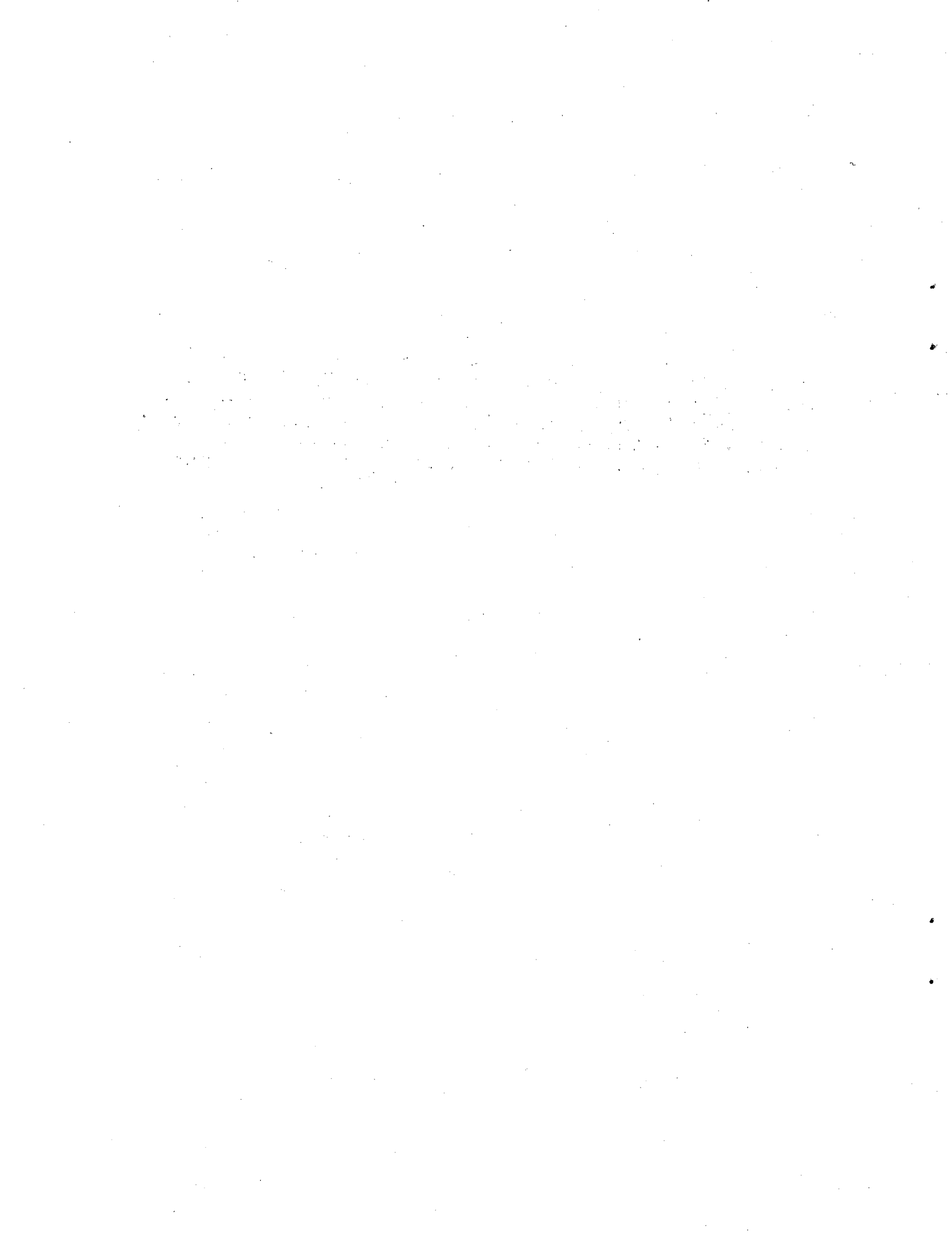
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Summary

Appraisers and underwriters face a classic dilemma when a property's short-term market price is above or below its long-term market value. By linking the concept of value to the individual risk levels of each factor in the dilemma—rents, wages, interest rates and profits—a valuation-underwriting model can be created. The model prioritizes the factors to aid valuation and to identify solvency potential for involved parties. In so doing, solvency, not value, is emphasized until equity value can be accumulated.



An alternative to the traditional valuation model can be used in loan underwriting. The alternative model helps solve the collateralization problem of equating fixed financial contracts with cyclical property values.

The model is presented as a case study based on previous consulting experiences. The example case illustrates property that performs much better than comparable properties in the current down market. In this case, the traditional appraisal process based on a market standard would misdirect the equating of financial and real assets.

This case demonstrates several real estate problems. It stipulates that property can perform even in a down market. One problem is that real estate, by its physical nature and location, often differs from even its most comparable substitutes; therefore, creating a "general model" has been perceived as difficult. Real estate analysis is thus characterized by *ad hoc* problem solving. However, even *ad hoc* situations can be addressed through a general process. Traditional appraisal technique has attempted to achieve a standard of consistency if not uniformity. This model broadens the appraisal process to better fit the market. Given the emphasis on equating financial to real assets, the proposed model allows a more general approach to problem solving.

Premise of the Valuation-Underwriting Model

Although the model has practical applications, its basis is theoretical. Its premise lies in the realization that when Adam Smith (the father of economics) developed a theory of value he also developed a parallel theory of distribution. The theory of value explains why an object has worth and is the basis for many real estate decisions.¹ The theory of distribution concerns the recognition and pricing of returns to the various factors of production. The current theory of distribution determines

- *rents* to land and other resources,
- *wages* to various kinds of labor,
- *interest rates* on capital assets and

- *profits* as a return to entrepreneurship and risk taking.²

Equal emphasis on the theories of value and distribution links the valuation-underwriting decision to criteria based on solvency and value.

The Problem and the Approach

Linking the theories of value and distribution permits an alternative economic view to valuation. In valuation, the fact that a good's price is determined by what someone will pay cannot be ignored. However, the two theories are circular: the worth of a commodity is influenced in part by the cost of producing it and the allocation of factors of production to a good is influenced by the price consumers will pay. This means that the cost of the factors of production influences the price asked for a commodity.

At the same time, the price of the factors of production is influenced by the general market of producers competing for the same resources. Real estate development forces up the price of labor, architecture, materials, the interest rate and so on. Real estate is developed at a high price because its perceived return is high.

The relationship of the commodity to factors of production holds if supply and demand in all markets are in equilibrium. Smith recognized this as possible in the long run, and he called this value the *natural price*.³ Today it is called *market value*.

The problem at any given time is that supply and demand for the commodity and the factors of production might not be in equilibrium. Disequilibrium is represented by a short-term market price that is above or below its long-term market value. The dilemma for the appraiser and underwriter is that the productivity and thus the cash generated by a specific enterprise might differ from general market perceptions at any time. This dilemma forms the classic dichotomy of asset fundamentals versus market activity and has plagued real asset and financial asset interaction throughout history. A solution to the difference might be found in the way financial contracts are structured for the asset.

Valuation-Underwriting Model

Given the theory of distribution, many real estate problems can be considered as multiple levels in veneer. By looking at layers of the problem, several assets can be identified in any real estate transaction.

The varying risk contingencies lenders traditionally have dealt with in real estate loans may be considered as different factors, resources, assets or commodities themselves. These components may have

values and risk levels that differ from the actual real estate product. Lumping a composite asset into one residual product helps explain why many people in financial distress expect to be bailed out by real property.

During periods of inflation, reliance on real estate may not be unreasonable. In the current down market, however, it has led to a dumping of properties on the market, often via foreclosure.

The proposed alternative valuation and underwriting requires identification of component assets and their risk levels. The following valuation case illustrates refinancing of a successful property penalized by institutional procedure in a down market.

The property is an apartment complex located near a major state university. It has had a 98 percent occupancy rate throughout its ten-year history. Its two most recent years of operation were successful despite the distressed economy. By appraisal standards (especially to fit the "Fannie Mae" form) the property must be compared to various market standards, such as a 33 percent vacancy. Also, the property must be appraised using a concept of market or economic rent. The contract or actual rent has been above market level for the last four years.

Economic rents are used in appraisal, but appraisers often give actual expenses more weight than market standards. This weighting is done if the actual expenses are higher because appraisers perceive a problem with the property or its management. Part of the success of the project has been its high standard of maintenance and repair that resulted in above-market operating expenses and reserves for replacement and repairs. *The net result of using a market standard for rent and an above-market standard for expenses is a lower net operating income (NOI) than may*

actually exist. This is a problem for a lender when determining the property's value for loan purposes because a debt coverage ratio is often the decision criterion. The debt coverage ratio bases the amount of financing on the property's ability to carry the periodic debt.⁴

The traditional approach reduces income solvency and value. Reduced solvency lowers the basis for refinancing the property. *The result is that a superior performing property is penalized in the financial and real estate market.*

Traditional appraisal and underwriting are based on "typical or average" management, expenses, performance and so on. Assumptions of mediocrity are rational when seeking a conservative perspective. A conservative view might not always be appropriate, however. Perhaps the objective instead should be the actual situation or problem. In terms of this case study, the appropriate question to ask is why the property is performing better than the market. This inquiry is aided by examining the priorities that make up a property or a business.

In his valuation techniques of the 1930s, Babcock delineated income properties and properties used in the production of income. In the latter, business profits are allocated between real estate and the business.⁵ In Babcock's taxonomy, an apartment is an income property because it generates a return for the privilege of occupying the space. A movie theater, however, is an example of realty used in the production of income. In this case, the use of space is more akin to a license to participate in an activity, but the real estate itself is still an integral part of the business.

The relationship of real estate to the activities it houses helps explain why one property performs better than the market (especially a down market). Success can

be traced to a perception of uniqueness or a monopoly for a given property. Certain attributes such as location are recognized as unique in an otherwise competitive market. *In this case, comparable analysis revealed no locational pattern of preference. No physical property attributes other than maintenance could be identified to explain consumer preference for the subject property.*

Superior performance also results when the property is marketed as offering more than mere space. In this particular case, management sells the notion of the life-style associated with residents who are primarily college students. This same entitlement is possible at any complex within the subject's trade area. Life-style is a commodity over and above the shelter offered by the property. It is not a cost because management itself offers limited recreational events.

If monopoly results from superior marketing and management, then the traditional appraisal form is limited. Superior returns might be the result of management or entrepreneurial effort, in which case comparison based on the assumption of average management is inappropriate.

Implications of this alternative perspective are illustrated by an analysis of this property under a traditional appraisal format and a format considering the theory of distribution.

Traditional Appraisal Approach

The property is near a large university and has 103 units containing a leasable area of 51,500 square feet. The actual rental return averages about \$.65 per square foot per month. The typical return to the comparables in the area is \$.53 per square foot per month. Typical vacancy in the area is 33 percent. The subject is 2 percent vacant. The subject has an expense ratio of 50 percent of gross income. Five percent of the gross income is allo-

cated to management. However, the management return is included in the 50 percent expense ratio. The market trend is 4 percent for management out of a total of 38 percent for the overall property expenses. The debt coverage ratio (DCR) for refinancing is 1.2 and the interest rate is 9.5 percent, amortized over 25 years and paid monthly. A desired equity dividend (Re) is 6 percent (cash-on-cash return).

The following examples demonstrate the need for an alternative. They are based on the synthesis of the subject and market data illustrated in Table 1.

In Example 1, the appraiser weighs the market and actual property data (Examples 2 and 3) and arrives at a synthesis of the subject's contract rent of \$.65 per square foot per month and the market trend of \$.53 per square foot rent per month.

An appraiser would adjust the comparable rents up because of the subject's superior performance. Despite this adjustment, the appraiser would give greater weight to

the market rent as the probable return to the property over time. The estimated rent is \$.55 per square foot per month in the example that follows. The appraiser has in effect used the market as the base rather than the subject, contrary to the standards of the appraisal process but consistent with appraisal analysis. The logic behind this is that if the property were offered for sale in the current market, competition would cause a drop in rents. These expectations are based on the principle of regression in appraisal and Gresham's Law in economics. (See the appendix for further discussion of these concepts.)

Lenders and investors often think that appraisers are not realistic in their reliance on valuation principles. They see the property's performance and consider market weighting to be akin to alchemy. The reasons for compliance with the principle of regression and Gresham's Law are appropriate. The problem is the emphasis and use of the market, rather than the subject property, as the basis for comparison.

Table 1. Case Information

Factors	Example 1 Traditional Appraisal	Example 2 Market Data	Example 3 Property Data
Rents	\$.55/sq. ft./mo.	\$.53/sq. ft./mo.	\$.65/sq. ft./mo.
Vacancy	20%	33%	2%
Operating expense ratio	43%	38%	50%
Management expense*	5%	4%	5%
Case	Traditional appraisal	Equivalent real estate value	Investment analysis

*Included in operating expense ratio

Source: Real Estate Center at Texas A&M University

**Example 1:
Traditional Appraisal Case**

Gross Income (GI)	
51,500 at \$.55/sq. ft./mo. x 12	= \$339,900
less vacancy at 20 percent	= <u>-67,980</u>
Effective gross income	271,920
less expenses at 43 percent of GI	= <u>-146,157</u>
Net Operating Income (NOI)	= \$125,763

Financing and market value are calculated as follows:

$$\text{Debt Service (DS)} = \frac{\text{NOI}}{\text{DCR}} = \frac{\$125,763}{1.2}$$

$$\text{DS} = \$104,802.50$$

The debt service divided by the mortgage constant (R_m , capitalization rate of the debt component) equals the amount of the possible refinancing mortgage. The R_m can be found in mortgage tables or developed with a financial calculator. It is based on monthly payments of 9.5 percent interest amortizing over 25 years.

The mortgage constant is .104844. The refinanced loan amount (V_m) is:

$$V_m = \frac{\text{DS}}{R_m} = \frac{\$104,802.50}{.104844} = \$999,604.17$$

The equity amount is:

$$\text{NOI} - \text{DS} = \text{equity income or cash throw-off (CTO)}$$

$$\$125,763 - \$104,802.50 = \$20,960.50$$

$$\text{Equity amount} = \frac{\text{CTO}}{R_e} = \frac{\$20,960.50}{.06} = \$349,341.66$$

The value of the property based on a traditional analysis is:

$$\text{Debt amount} = \$999,604.17$$

$$\text{Equity amount} = 349,341.66$$

$$\text{Market value} = \underline{\$1,348,945.83}$$

Say \$1,350,000

**Alternative Model:
Market Value Based
on Equivalency Standard**

The suggested valuation technique involves two income appraisal analyses: a market appraisal that assumes direct equivalency between the comparables and the subject without the judgmental modifiers used in the traditional approach and a technique that is property specific. The property-specific technique approximates an accounting or investment analysis approach.

The market approach establishes the property's competitive worth in an over-supplied or down market. Investment analysis considers the property's actual performance and implicitly considers the contribution of management (or any unique attribute). A comparison of the two enables a test of property performance in the current market.

**Example 2:
Real Estate Market Value
Equivalency Standard**

Straight market worth is delineated first.

Gross income	
51,500 at \$.53/sq. ft./mo. x 12	= \$327,540.00
less vacancy at 33 percent	= <u>-108,088.20</u>
Effective gross income	= 219,451.80
less expenses at 38 percent of GI	= <u>-124,465.20</u>
NOI	= \$94,986.60

Financing and market value are calculated as follows:

$$\text{DS} = \frac{\text{NOI}}{\text{DCR}} = \frac{\$94,986.60}{1.2} = \$79,155.50$$

$$\text{Mortgage amount} = \frac{\text{DS}}{R_m} = \frac{\$79,155.50}{.104844} = \$754,983.59$$

The equity amount is:

$$\text{NOI} - \text{DS} = \text{CTO}$$

$$\$94,986.60 - \$79,155.50 = \$15,831.10$$

$$\text{Equity amount} = \frac{\text{CTO}}{\text{Re}} = \frac{\$15,831.10}{.06} = \$263,851.66$$

The value of the property based on a straight market comparison is:

Debt amount	=	\$754,983.59
Equity amount	=	263,851.66
Real estate market value	=	\$1,018,835.25
		Say \$1,019,000

$$\text{Equity amount} = \frac{\text{CTO}}{\text{Re}} = \frac{\$32,136}{.06} = \$535,600$$

Value of the property based on actual performance:

Debt amount	=	\$1,532,562.67
Equity amount	=	535,600.00
Investment value	=	\$2,068,162.67
		Say \$2,068,000

Alternative Model: Investment Value

Investment valuation is based on the property's actual income performance. The investment value represents the contribution of attributes, such as management, that vary from typical market standards.

The subject is 98 percent occupied. The average per square foot rental is \$.65 per square foot per month. The actual expense ratio is 50 percent. Both rents and expenses are above market.

Example 3: Investment Analysis or Enterprise Value

Gross income		
51,500 at \$.65/sq. ft./mo. x 12	=	\$401,700
less vacancy at 2 percent	=	-8,034
Effective gross income	=	393,666
less expenses at 50 percent of GI	=	-200,850
NOI =		\$192,816

Financing and market value are calculated as follows:

$$\text{DS} = \frac{\text{NOI}}{\text{DCR}} = \frac{\$192,816}{1.2} = \$160,680$$

Mortgage amount based on actual performance:

$$\frac{\text{DS}}{\text{Rm}} = \frac{\$160,680}{.104844} = \$1,532,562.67$$

The equity amount is:

$$\text{NOI} - \text{DS} = \text{CTO}$$

$$\$192,816 - \$160,680 = \$32,136$$

Decision Process of the Valuation-Underwriting Model

The proposed model gives insight into three areas of the assets collateralized and the underwriting risk considered. These areas are the varying NOIs produced under each scenario and the alternative debt amounts and values calculated under the assumptions of each analysis. Decision criteria are given in Table 2.

Classifying the decision criteria aids the underwriter. *The traditional appraisal procedure compares the superior performing subject property to less successful market comparables.* The principle of substitution requires upward and downward adjustments to the property where appropriate. The result of the adjustment process using a high level of subjective judgment is an NOI of \$125,763. The traditional approach would estimate an income of \$30,776.40 (\$125,763 - \$94,986.60) more than if the real estate had been judged equivalent (not just comparable) to competitive properties.

The principle of substitution assumes equivalence; that is, any other apartment complex is a direct alternative to the subject. In this case the superior rent and inferior expense ratio of the subject cancel out of the comparative process. This rigid application of substitution is appropriate because in a down market of excess supply, property cannot be expected to perform better than its competition,

**Table 2. Decision Criteria for Valuation
and Loan Underwriting in a Down Market**

Criterion	Example 1 Traditional Appraisal	Example 2 Equivalent Real Estate Value	Example 3 Investment Analysis
Net operating income	\$125,763.00	\$94,986.60	\$192,816.00
Debt	\$999,604.17	\$754,983.59	\$1,532,562.67
Value	\$1,350,000.00	\$1,019,000.00	\$2,068,000.00

Source: Real Estate Center at Texas A&M University

especially when it has no significantly different physical attributes. By comparing the traditional appraisal procedure to an equivalent real estate market value analysis, the lender would be loaning on \$30,776.40 of income not supported by the performance of comparable properties. The excess income could disappear if other management is employed.

The concern is whether the adjusted income concept used in traditional appraisal is appropriate in this type of market. The traditional benchmarks of a "normal market," such as a "typical return" or "stabilized income," are not appropriate given the problem. In a normal market the variation between a specific property and the market standard is expected to be small. In the current economy the traditional appraisal technique does not link an income projection representing a specific property's productivity to a value estimate based on the market standard of comparable property performance.

If economic events drive down the temporal market standard, then there must be a reason for a specific property's superior returns. If analysis indicates that superior returns are not tied to the property, the cause must be sought. The traditional appraisal process of simply adjusting the subject for superior performance does not explain the basis of an asset's value; it

only states that value exists. Analysts describe the value and its related risk. Risk analysis concerns the duration and expectations of change in the value source.

In this case study, excess income is attributed to the the property management's superior performance. Therefore a key question is, "If the property goes 'belly-up,' will management's contribution be redeemed in the market price paid or will the property's selling price be based on the operating standards of the comparable projects?" If this project fails, the best estimate of income documented for the property is \$94,986.60.

This income should be the basis for underwriting the realty because it is the basis for the lender's two decisions. First, the lender seeks a periodic income to cover the debt service. The more certain income is the typical income received by comparable properties. Second, the lender seeks an estimate of the potential sales price should default occur. The likely selling price will be based on comparable sales activity (\$1,019,000, not \$1,350,000). Therefore, market value of the realty collateral is based directly on comparable sales.

However, this specific property generates income higher than its market return, so it can carry a higher debt service payment than the comparables. Because that income is the same as a security and can

be measured, it is potential collateral for debt. The excess income results from management that is property specific in appraisal. The future sales price results from realty and is constrained by market forces. If a weak economy impairs the property's operation, for example, management will cease to be a factor. Two distinct assets (or securities) exist. Thus, the issue is how to estimate risk.

A counter argument is that superior management results in value over and above the realty's value. For example, real estate is management intensive and requires much "sweat equity" to succeed—or even survive—in a down market. Although important, management should not be treated as an integral part of the real estate. It is a separate asset or factor of production that must receive a return. Management and real property combine to create a value greater than the sum of their parts.

With this perspective, the appraiser must estimate the value of the combined factors. Traditional appraisal states that the excess value is a residual return or economic rent attributed to the land.^{6,7} Economists since Ricardo have recognized that any factor of production can be residual. Subsequent economists concluded that returns over and above wages to labor, market rent on land and interest return to capital can be attributed to the entrepreneur as profit. Kahn applied this modern theory of distribution to real estate and recognized its failure to compensate entrepreneurs. This oversight results in overcompensation of real estate.^{8,9}

Balance sheets show the potential for inequality in the ratio of assets to the financial structure. Intangible assets are defined as those elements of a business that cause customers to return and that usually enable a firm to generate profit in excess of that required for a reasonable return on all assets.¹⁰ It usually results

from a function of management, such as advertising or a good reputation. Some call it goodwill and others call it going concern value, among other things.^{11,12} All have identified it as non-depreciating (or nonamortizing) for tax purposes. It is the value created by a proven ongoing operation in which the physical real estate assets are an integral part of an ongoing business.¹³

Measuring Distributive Values

As Table 2 illustrates, the investment value using the actual operating returns and losses of the project is \$2,068,000. This is a contribution of \$1,049,000 greater than the realty value (\$2,068,000 - \$1,019,000). Using mortgage-equity analysis, the operation can support a loan of \$1,532,562.67 (Table 2). The loan based on the investment or enterprise value is \$777,579.10 greater than the collateralized real estate loan (\$1,532,562.67 - \$754,983.59). The strength of this loan is based on a net operating income of \$192,816 (investment or enterprise value). This income is \$97,830 more than the market rent supported by the comparables (\$192,816 - \$94,986). The basis for this return is the successful management. It should not be attributed to the real estate because the real estate will not generate the high investment return if the current management fails and the project must be sold against competitive apartments (as stated by the principle of substitution).

Therefore, rather than attribute \$244,620.58 (\$999,604.17 - \$754,983.59) to the collateralized debt of the real estate (which probably will not be recaptured if the project fails), *the lender might invest-gate giving a business or personal loan based on management's contribution.* The management component must be considered along with product, financing, market share and marketing effort in any loan. The risk and charges for a business loan

vary with the lender's perception of the operation's success, track record and credit worthiness.

Given this, the following three issues are considered in the underwriting process:

First is the value difference between the investment value and the real estate market value. The difference is:

$$\$2,068,000 - \$1,019,000 = \$1,049,000.$$

At a loan-to-value ratio of 75 percent, the value differences could support a loan of \$786,750.00 ($\$1,049,000 \times .75$).

The value difference of \$1,049,000 could be the basis for a business loan. However, this component fails to consider the risk associated with the indeterminable economic life of superior management. In this case, management has performed well in an up market and in the current down market. Risk loading and discounting of this overall value are necessary to appropriately underwrite management's contribution.

Second is the difference between the possible debt under the investment scenario and under the real estate market scenario. The difference is:

$$\$1,532,562.67 - \$754,983.59 = \$777,579.08$$

The property has carried a debt almost double that supported by the underlying collateral value of the real estate. If the incremental income of \$97,829.40 (issue 3) is pledged as security for the loan difference, then the yield to the lender is 11.95 percent, which exceeds the current market rate of 9.5 percent. However, the risk exposure of the 2.435 percent gain in return is not known. The risk involving the unknown economic life of successful management might be linked to the term of a typical business loan but should not be linked to the mortgage term. The business of successfully selling living space may not differ from selling any other good.

Third, the difference between the net operating income of the actual property production and the net operating income of the real estate based on market standards is the direct measure of superior management. The difference is:

$$\$192,816 - \$94,986.60 = \$97,829.40$$

This perspective involves the following alternatives:

- The entire excess income can be used as debt service payment for a business loan. In this example, the loan of \$490,983.12 was for 10 years at 15 percent. This loan and the real estate loan of \$754,983.59 make the total loan package \$1,245,966.71 with a weighted yield of 11.67 percent.
- The excess income of \$97,829.40 can be allocated between equity and debt. The 6 percent equity return of \$5,869.76 can be deducted from the income, leaving \$91,959.63 for debt service. This will support a debt of \$461,524.14 on business loan terms. The combined loans total \$1,216,507.73 with a weighted yield of 11.59 percent.
- The excess income can be allocated between an entrepreneurial return and additional debt. This entrepreneurial return is treated the same as the developer's return in the development of a subdivision. An 18 percent return is deducted from the periodic income stream (\$17,609.22) and the remainder (\$80,220.18) is used to establish the loan. The business loan is \$402,606.52 and the total loan is \$1,157,590.11. The weighted yield to the lender is 11.41 percent.

In these three situations, the loan package is greater and gives the lender a higher yield than the traditional appraisal-underwriting loan. The alternative also allows more capital to flow to successful projects.

Advantages of the Valuation-Underwriting Model

In practice, lenders recognize successful management and other intangible assets when underwriting real estate assets. However, as the traditional appraisal example shows, all the benefits are assigned to the real estate. Risk is shifted to the borrower or mortgage insurer because the contract gives the lender recourse against the borrower's other attachable assets. The loan should be limited to the realty's productivity, as proposed in the alternative model. This way, if misfortune occurs, the secured collateral is only the real estate despite the contingencies.

Experience shows that the existence of a deficiency and the collection of that deficiency are different issues. In traditional appraisals, the value created by other inputs is attributed to the real estate. *Failure to recognize the distributive or enterprise nature of the asset and the fact that each parcel of improved real estate is a business has resulted in the overvaluation of much real estate.*

Overvaluation to allow for factors other than real estate results in false accusations about the appraisers, the lenders, the parties in a transaction and the appraisal and underwriting process or both. This is misdirected negative energy. The real problem is identification of the assets and structuring and underwriting the loans.

The proposed model of decision making in a down market addresses these issues. It is based on the theory of distribution, a concept concerned with the rewards and allocation of factors of production. The theory of distribution complements the theory of value. Distribution helps identify the assets involved in the problems of uncertain markets.

The model identifies the joint assets of a real estate project and gives alternative perspectives in estimating risk and return values in down markets. It identifies the potential for solvency of all parties involved and prioritizes the components to facilitate valuation in fluctuating markets. In many U.S. markets, solvency, not value, may be the major concern until equity value can be accumulated again.

Notes

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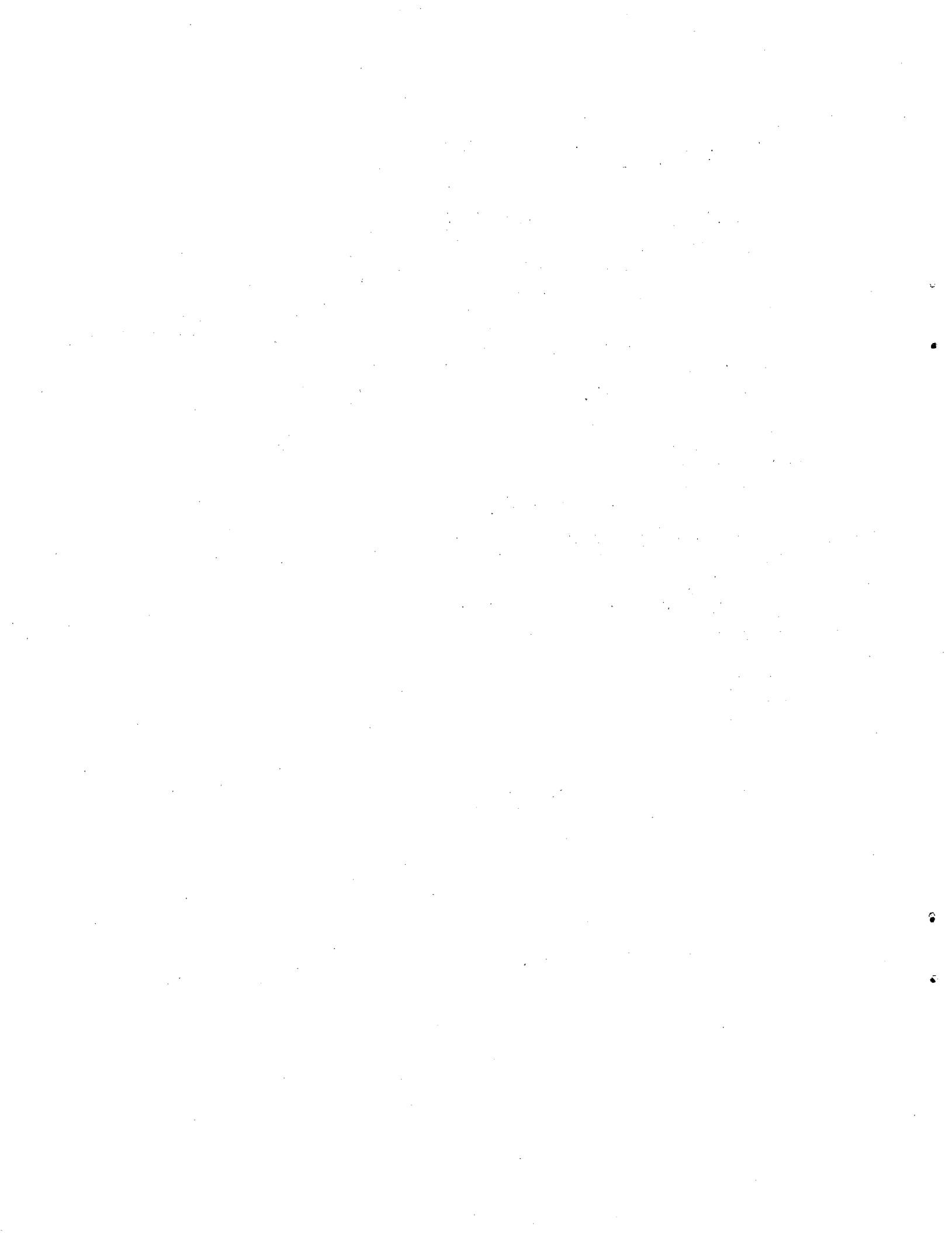
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Appendix



Basic Concepts

Principle of Regression

The principle of regression states that if an expensive property is located in a much less expensive neighborhood, then the value of the expensive property is brought down by its surroundings. The pressure may not drive the price down to the level of the typical house or structure, but it will be less than if it were in a neighborhood of comparable structures. An example is a \$100,000 house in a neighborhood of \$40,000 houses. The \$100,000 house may not drop in value to \$40,000, but it probably will sell for \$60,000 to \$80,000.

Gresham's Law

Gresham's Law in economics basically states that cheap money drives out more expensive money. For example, if several monetary standards are used in the same jurisdiction, the cheaper standard will replace the more expensive, just as silver will replace a gold standard and paper will replace a silver standard. In this report, the analogy is that since inferior management is rewarded by a 4 percent return while superior management receives only 5 percent, then the market standard will tend towards inferior management. If this subject property loses its current management, then it probably will earn only market rent and market vacancy.

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