ABSTRACT

Entrepreneurial profit, entrepreneurial incentive, and external obsolescence are contentious issues. Estimates of entrepreneurial profit and incentive and external obsolescence are difficult to support empirically. This article employs macroeconomic data to demonstrate that entrepreneurial profit and incentive, and external obsolescence are real phenomena and uses the data to reveal an inverse relationship between the entrepreneurial profit and incentive and the external obsolescence. This article shows that entrepreneurial profit and incentive and external obsolescence are cyclical and that a certain type of entrepreneurial incentive exists even when there is obsolescence.

Defining and Supporting Entrepreneurial Profit, Entrepreneurial Incentive, and External Obsolescence

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Estimating entrepreneurial profit,[1] entrepreneurial incentive,[2] and external obsolescence[3] continues to be a contentious issue. Those appraisers who incorporate estimates of entrepreneurial profit, entrepreneurial incentive, and external obsolescence find the task of empirically supporting their estimates to be problematic. This in turn adds support to opponents' view that entrepreneurial profit, entrepreneurial incentive, and external obsolescence are not as measured or are not applicable concepts. This often leaves users of appraisals, such as those involved in legal disputes, with irreconcilable value differences.

This article employs macroeconomic data to demonstrate that entrepreneurial profit, entrepreneurial incentive, and external obsolescence are real phenomena. Further, the article uses this data to reveal that there is an inverse

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1. The *Dictionary of Real Estate Appraisal* defines *entrepreneurial profit* as (1) a market-derived figure that represents the amount an entrepreneur receives for his or her contribution to a project and risk; the difference between the total cost of a property (cost of development) and its market value (property value after completion), which represents the entrepreneur's compensation for the risk and expertise associated with development; or (2) in economics, the actual return on successful management practices, often identified with coordination, the fourth factor of production following land, labor, and capital; also called *entrepreneurial return* or *entrepreneurial reward*. See Appraisal Institute, *The Dictionary of Real Estate Appraisal,* 4th ed. (Chicago: Appraisal Institute, 2002), 96. For a discussion of the related concepts of entrepreneurial incentive, developer's profit, contractor's profit, profit, and project profit, see Appraisal Institute, *The Appraisal of Real Estate*, 13th ed. (Chicago: Appraisal Institute, 2008), 388–391.

2. *Entrepreneurial incentive* is "a market-derived figure that represents the amount an entrepreneur expects to receive for his or her contribution to a project and risk." See *The Dictionary of Real Estate Appraisal*, 4th ed., 96; and *The Appraisal of Real Estate*, 13th ed., 389.

3. *External obsolescence* is "an element of depreciation; a defect, usually incurable, caused by negative influences outside a site and generally incurable on the part of the owner, landlord, or tenant." *The Dictionary of Real Estate Appraisal*, 4th ed., 106. It is also sometimes referred to as *economic obsolescence* or *locational obsolescence*.

relationship between any entrepreneurial profit and incentive and any external obsolescence, and that these are cyclical in nature. The article also demonstrates that certain incentives are required even when there is obsolescence. Finally, the article suggests that appraisers ought to revise their concepts of and terminology relating to entrepreneurial profit, entrepreneurial incentive, and external obsolescence to better reflect the actuality and to better communicate their opinions.

The most recent appraisal literature discussing this topic–the latest edition of *The Appraisal of Real Estate*–distinguishes between entrepreneurial profit and entrepreneurial incentive. Entrepreneurial profit is the total profit actually received and entrepreneurial incentive is the total profit that was anticipated or expected.[4] Entrepreneurial profit is similar to an accountant's statement on profit, in that it is what actually occurs and is a residual (value minus costs). But, as will be explained later, the costs used in the residual for entrepreneurial profit should include at least the minimum required incentive. Sometimes all of the entrepreneurial incentive is not realized when entrepreneurial profit turns out to be lower than the entrepreneurial incentive that was anticipated.

Macro Data

In addition to employing paired sales analyses and other traditional types of appraisal comparison analyses, appraisers, as economists, may employ macroeconomic analyses to estimate value or some part of the valuation exercise. One can describe appraisal of individual properties as a microeconomic activity; however, appraisers often use macroeconomic, real estate industry-wide, and aggregated data. Such data includes demographics and labor data; the Consumer Price Index (CPI); market-wide vacancy and rental rate surveys; capitalization rate surveys; mortgage and Wall Street statistics; cost surveys; and market-wide sales statistics. Whether used in inferred or fundamental analyses, professional care must be exercised when projecting the characteristics of the macroeconomic data onto the microeconomic activity. Nonetheless, when carefully done, such projections are appropriate and worthwhile. In this article, macroeconomic data on the value and cost of real estate will be used to measure the waning and waxing of entrepreneurial profits, entrepreneurial incentives, and external obsolescence over time.

Study Methodology

Market value indices were gathered from the National Council of Real Estate Investment Fiduciaries (NCREIF) and compared to the cost of construction indices from Marshall and Swift. The NCREIF Property Index (NPI) data on market values is a widely respected and used index within the real estate industry.[5] Based in part on full analysis appraisals, the NPI market values are considered to be high-quality macroeconomic data. The Marshall Valuation Service (MVS) cost manual on cost of construction for apartment and office buildings is another widely respected and used resource within the real estate industry.[6]

The NPI data was limited to garden apartments and central business district offices in order to best compare the NPI market value data to MVS cost data for similar property types. The NPI data included national averages and information on market values, building square footage, and age of the buildings. This data was gathered for every year beginning in 1978 for the offices and beginning in 1988 for the apartments. The NPI market value data is presented in Figures 1 and 2 as the solid line.

On the cost side, the base costs were computed for good-quality construction, Class A offices from Section 15 of the MVS, and for good-quality construction, Class C multifamily apartments from Section 12 of the MVS. Various adjustments and refinements were made in order to best match the character of the NPI data. Refinements were made to the costs, including for number of stories (offices only), elevators (offices only), partial basements, HVAC, sprinklers, and current costs.

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4. *The Appraisal of Real Estate*, 13th ed., 388–391, 398.

5. See "Frequently Asked Questions: About NCREIF and About the NCREIF Property Index (NPI)," http://www.ncreif.com, accessed on December 19, 2008, and http://www.ncreif.com/pdf/Users_Guide_to_NPI.pdf. The NPI is comprised exclusively of operating properties acquired, at least in part, on behalf of tax-exempt institutions and held in a fiduciary environment. Started in 1977, the NPI currently includes over 4,500 properties with a gross fair market value of over $175 billion. Properties in the NPI are accounted for using market value accounting standards, not historical cost. The NCREIF Property Index measures performance at the property level without considering investment or capital structure arrangements. NCREIF requires that properties included in the NPI be valued at least quarterly, either internally or externally, using standard commercial real estate appraisal methodology. Each property must be independently appraised a minimum of once every three years.

6. The Marshall Valuation Service, published by Marshall and Shift, is a manual for computing—using various methods—the costs to construct buildings, building elements, and improvements of various types; it was first published in 1932. For more information see http://www.marshallswift.com.

The compounding additions were made in the following order. First, other soft/indirect costs not already accounted for in MVS calculator costs were added on at a rate of 10% for offices and apartments. Next, site improvements costs were added on at a rate of 5% for offices and apartments. Then, land values were added on at a rate of 25% for offices and apartments. Next, lease-up costs for both offices and apartments were added, based on the assumption that continuous and uniform absorption would take 12 months, and the offices required an annual return of 8% based on average annual occupancy [(0%+100%)/2×8%=4%]. The 2008 costs for offices and apartments were then indexed to compute the costs for every year since 1978 and 1988, respectively, using the current cost multipliers and historical cost indices in Section 98 of the MVS. Physical depreciation was computed based on the effective average age of the buildings and using the economic lives estimated in Section 97 of the MVS. The effective age was estimated at 90% of actual age for offices and apartments. No adjustment for functional obsolescence was deemed necessary. This replacement cost data is presented in Figures 1 and 2 as the dashed line.

The only cost approach adjustments not completed are the adjustments for entrepreneurial profit/incentive and external obsolescence. The MVS cost data includes contractor profits, but does not include entrepreneurial profit/incentive, and each are distinct. Appraisal theory holds that the costs computed as described are equal to market value except for the impact of entrepreneurial profit/incentive and external obsolescence. Any attempt to reconcile these cost approach values to actual, fully computed market values from the sales comparison or income capitalization approaches, arm's-length sale prices, or the NPI data would fail because the described cost approach is incomplete by the amounts of the entrepreneurial profit/incentive and external obsolescence. Appraisal theory also holds that by using a residual technique, one can calculate the combined impact on value of entrepreneurial profit/incentive

and external obsolescence by deducting the previously computed, incomplete cost approach values from the NPI market values. This theory forms the basis of feasibility measurement: a project is feasible when the value minus total costs, including adjustments for entrepreneurial incentive and external obsolescence, is greater than zero.[7]

Results
The residual values from the NPI and MVS data reveal several significant observations concerning profit, incentives, and obsolescence.

Periodically, Very Large Profits
There are periods when market values exceed the incomplete cost approach values, sometimes by wide margins. In Figures 1 and 2, this is represented by the areas below the solid line (market value) and above the dashed and dotted lines. Appraisers often use a rule of thumb that entrepreneurial profit/incentive is in the range of 15% to 20%.[8] The dotted line in Figure 1 depicts a cost approach value indication assuming a 15% entrepreneurial incentive for offices, and in Figure 2, the dotted line depicts a 7.5% entrepreneurial incentive for apartments. These graphs indicate that at times the rate of profit is dramatically higher than the appraisers' rule of thumb for entrepreneurial profit/incentive (shown in Figures 1 and 2 as the areas below the solid line and above the dotted lines).
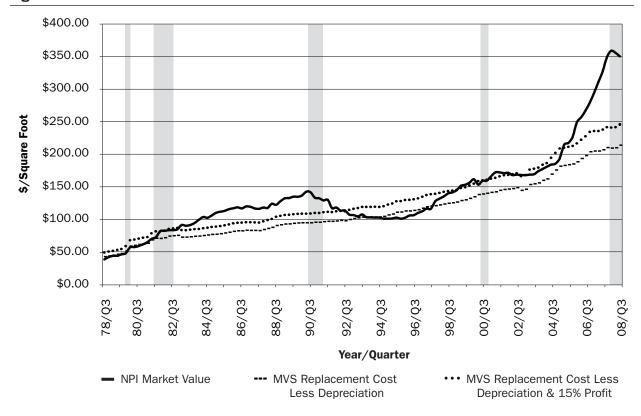
Incentive and Obsolescence Related
Figures 1 and 2 show that entrepreneurial incentive and external obsolescence are inversely related and that they both are related to economic cycles. These graphs also show that there are periods where the incomplete cost approach values are higher than the market values, as represented by the areas that are above the solid line (market value) and below the dashed and dotted lines. These periods suffer external obsolescence, as defined. The exact amount of external obsolescence depends on whether one

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7. *Economic feasibility* is defined as "the ability of a project or an enterprise to meet defined investment objectives; an investment's ability to produce sufficient revenue to pay all expenses and charges and to provide a reasonable return on and recapture of the money invested. In reference to a service or residential property where revenue is not a fundamental consideration, economic soundness is based on the need for and desirability of the property for a particular purpose. An investment property is economically feasible if its prospective earning power is sufficient to pay a fair rate of return on its complete cost (including indirect costs), i.e., the estimated value at completion equals or exceeds the estimated cost. *The Dictionary of Real Estate Appraisal*, 4th ed., 91–92.
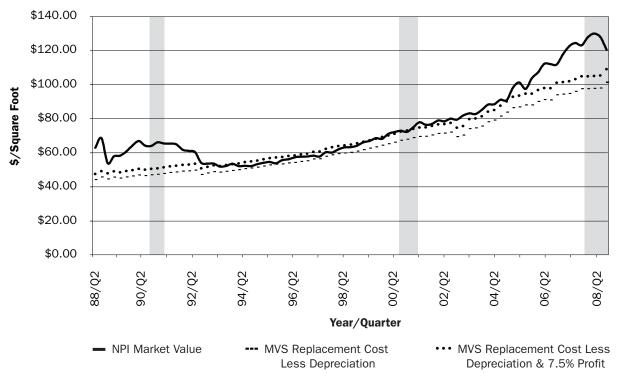
8. The Korpacz Real Estate Investor Survey, published by PricewaterhouseCoopers LLP, often reports subdivision land developer's profit in the range of 10% to 25%. The Korpacz survey defines *developer's profit* as a market-derived figure that reflects the amount a developer expects to receive for his or her contribution to a project. The definitions used in the appraiser's rule of thumb and in the Korpacz survey differ. The appraiser's rule of thumb is a capitalization rate (a rate applied to one year's income or cost) and the Korpacz developer's profit is a discount rate (a rate applied to multiple years of income or cost). Entrepreneurial profit can be appropriately defined either as a capitalization rate or as a discount rate; see *The Appraisal of Real Estate*, 13th ed., 372, 375.

Figure 1 Offices—Values vs. Costs

Shaded areas indicate recessions.

Figure 2 Apartments—Values vs. Costs

Shaded areas indicate recessions.

assumes that some incentive should or should not be added to the incomplete cost approach values before they are deducted from the market values.[9] The exact amount depends on whether one computes obsolescence as the difference between the market value and the replacement cost less depreciation, or as the difference between the market value and the replacement cost less depreciation plus profit. The latter indicates a larger and more frequent external obsolescence and assumes a minimum required profit/incentive.

Discussion

These observations raise several issues that can be resolved with clarification of the terminology. Appraisal terminology would better describe the actual macroeconomic data if it distinguished between the minimum required incentive and those occasions when profit exceeds the minimum required incentive. Several terms have been used in economic discourse to describe the profit above the minimum required amount, including *surplus profit*,[10] *excess profit*, and *windfall profit*. However, these terms may include unwanted connotations, and they do not technically distinguish the portion of profit that is the minimum required to incentivize from the portion that is above the minimum required incentive. The closest defined term in appraisal literature is *hurdle rate*,[11] which is meant to describe the required minimum entrepreneurial incentive before an entrepreneur would enter into a project. The use of clearer descriptive terms can avoid any judgment as to the appropriateness of the level of the total profit or incentive. Specifically, the term *extra-minimum entrepreneurial incentive* (EMEI) describes that portion of entrepreneurial profit that is above the *required minimum entrepreneurial incentive* (RMEI), which is also known as the hurdle rate.

In Figures 1 and 2, the RMEI is represented by the difference between the dotted line (replacement cost less depreciation plus RMEI) and the dashed line (replacement cost less depreciation). The EMEI is represented by the difference between the solid line

(market value) and the dotted line, but only when the solid line is higher than the dotted line. When the market value is lower than the replacement cost less depreciation plus RMEI, there is no EMEI and there is external obsolescence. On those occasions, external obsolescence is equal to the difference between replacement cost less depreciation plus RMEI and the market value. Entrepreneurial profit is represented in Figures 1 and 2 by the difference between the solid line (market value) and the dashed line (replacement cost), but only when the solid line is higher than the dashed line.

While no business sets an upper limit on the profit it is willing to enjoy, prudent business practice requires that every business have a required minimum incentive, below which the entrepreneur will not undertake the activity. The RMEI is the least amount that an entrepreneur would accept for the effort and risks entailed in the activity. Of course, in actuality, some projects end up yielding more profit than the RMEI and others less. When they yield less profit than RMEI, appraisers describe this condition as external obsolescence. When they yield more than the RMEI, the amount above the required minimum is extra-minimum entrepreneurial incentive. The RMEI is a required cost and must be included in every cost approach to determine market value, whether or not there is external obsolescence. The EMEI is an occasional cost and needs to be included in a cost approach to determine market value only when there is no external obsolescence. Cost approach values that exclude the EMEI when it exists cannot be reconciled with sales comparison and income capitalization approach values, which intrinsically include EMEI.

RMEI Not Reduced by External Obsolescence

Table 1 depicts four valuation scenarios where market values decline.[12] Note that since RMEI is a required cost in all market valuations, it is included in each scenario. The RMEI is the cost of entrepreneurship and is one of the basic economic means of production,[13] which

9. *The Appraisal of Real Estate*, 13th ed., 383, states as follows: "A proposed development is considered financially feasible when market value exceeds total building and development costs plus a reasonable, market-supported estimate of entrepreneurial incentive (i.e., the anticipate profit necessary for an entrepreneur to proceed with the project)."

10. *The Dictionary of Real Estate Appraisal*, 4th ed., 284, defines *surplus profits* as "the amount by which the net income of a business exceeds a reasonable return upon its capital requirements." This definition alludes to the notion that profit is sometimes comprised simultaneously of the expected minimum and other profits in excess of the minimum profits, but it may also connote a pejorative unreasonableness. If the word "reasonable" were replace with the words "required minimum," then this definition would be precisely as is intended in this article.

11. See discussion in Thomas R. Gould, Jr., and Halbert C. Smith, "Entrepreneurial Profit Incentive and Marketwide External Obsolescence: Are They Mutually Exclusive?" *The Appraisal Journal* (January 1995): 53–59.

12. This table is similar to Table 1 used by Gould, Jr., and Smith. The difference is that the current table divides profit into two categories, RMEI and EMEI.

13. *The Appraisal of Real Estate*, 13th ed., 285.

include land, labor, and capital. Entrepreneurship is nothing more than a type of labor and capital that is required for production. Sometimes entrepreneurs contribute only their special knowledge, experience, connections, leadership, and vision (a sweat equity or labor contributor). Sometimes they contribute cash or equity, but no labor (a passive partner). Both types of entrepreneurs expect to receive a profit on their respective contribution. Often entrepreneurs contribute labor and equity, and expect a combined return adequate for both contributions.

As a required cost of construction, the RMEI must be included in all cost approaches to determine market value, whether or not external obsolescence exists. The RMEI must be greater than zero. If external obsolescence exists, it must be deducted from the total of all required costs, including RMEI. When there is external obsolescence, it could be allocated to the RMEI, as appropriate for any other cost category, based on risks, ability to be depreciated, first rights/liens bases, etc. Note that when there is an EMEI there is never external obsolescence and vice versa. Thus, entrepreneurial profit is not mutually exclusive of external obsolescence, but they are inversely related, down to the floor of RMEI.

In Table 1, Scenario Three under some previous definitions would have been measured to be profitable and feasible, because it would have yielded an accountant's profit of $5 (market value of $115 minus cost of $110). But this definition does not account for all the profit needed to satisfy the entrepreneur's required minimum incentive. As indicated by Table 1, Figure 1, and Figure 2, there are occasions when a project would operate with what accountants define

as a profit, but the required entrepreneurial incentive is not sufficient to declare the project feasible since not all means of production, namely entrepreneurial incentive, are satisfied.

Entrepreneurs have expectations of profits, even when their projects fail. Profits do not always materialize, but the expectation of a profit remains. If profits decline somewhat, the entrepreneur may still be motivated to develop. If profits decline significantly, there may still be an accounting profit, but the accounting profit may not be sufficient to motivate the entrepreneur. The minimum profit/incentive required to motivation an entrepreneur is a requirement of development. As a requirement, it is not eliminated even when accounting profits are low or less than zero. Therefore, appraisers must compute their external obsolescence from the cost plus the minimum expectation of profit, RMEI, down to the cost plus the actual profit or loss; an example of this is shown in Scenario Four in Table 1.

Estimated Profits

To further compare accounting profit to RMEI and EMEI, average historical accounting profits were estimated using the NPI and MVS databases. *Accounting profit* here is defined as the NPI market value, minus MVS replacement cost less physical depreciation and functional obsolescence, divided by MVS replacement cost less physical depreciation and functional obsolescence; it excludes those periods that suffered external obsolescence. Periods with external obsolescence are defined as any quarter in which (1) the NPI was 4% lower than the MVS replacement cost less depreciation, (2) the National

Table 1 Cost Approach to Market Value Reconciliation

	Formula	Scenario One	Scenario Two	Scenario Three	Scenario Four
Market value	*a*	$135	$125	$115	$105
Incomplete cost approach value (before profit and obsolescence)	*b*	$110	$110	$110	$110
Accounting profit (Loss)	= *a* − *b*	$25	$15	$5	−$5
Accountant's profitability	= if *a* ≥ *b*	Yes	Yes	Yes	No
RMEI	*c*	$15	$15	$15	$15
EMEI	*d*	$10	$0	$0	$0
Entrepreneurial profit	= *c* + *d*	$25	$15	$15	$15
Incomplete cost approach value (after profit and before obsolescence)	*e* = *b* + *c* + *d*	$135	$125	$125	$125
Project feasibility	= if *a* ≥ *e*	Yes	Yes	No	No
External obsolescence	*e*	$0	$0	−$10	−$20
Completed cost approach value	*f* = *b* + *c* + *d* + *e*	$135	$125	$115	$105
Entrepreneurial profit plus external obsolescence [accounting profit (loss)]	= *c* + *d* + *e*	$25	$15	$5	−$5

Bureau of Economic Research had indicated that there was a recession, (3) the vacancy rates were higher than 13% for offices or 9% for apartments or were continuously increasing, or (4) the Federal Reserve listed average home mortgage interest rates at higher than 12%. The average historical accounting profits for offices and profits are shown in Table 2.

A review of the profits indicates a wide range of performance, but three distinct cycles of healthy performance are evident for each property class. Office profits are evident for the periods fourth quarter 1985 to fourth quarter 1987, fourth quarter 1997 to first quarter 2001, and first quarter 2006 to third quarter 2007. Apartment profits are evident for the periods second quarter 1991 to third quarter 1993, fourth quarter 1997 to first quarter 2001, and second quarter 2002 to third quarter 2007. The results are shown in Table 3.

Generally, profits increased during each of these cycles. Based on the nature of the economics of each cycle, the first and last cycle for each property class are judged to include EMEI, especially towards the end of each cycle. One can deduce that the fourth quarter 1997 to first quarter 2001 cycle reflects only or almost only RMEI. Therefore, one can estimate that the RMEI for offices is in the 6% to 20% range, or approximately 15%, and the RMEI for apartments is in the 4.5% to 8% range, or approximately 7.5%. Once the RMEI has been estimated, the EMEI and external obsolescence can be estimated as shown in Tables 4 and 5.

Historical Examples

In the 1989 first quarter, the NPI market value for offices was $132 per square foot, while the cost value, without profit was only $93 per square foot, and with a 15% profit was $106 per square foot. Obviously, at this time, there was no external obsolescence, because the market value was higher than the cost value, even when cost is defined as including a 15% profit. At this time, the accounting profit was 42%. Using the long-term average RMEI for offices (Table 4), the EMEI is calculated to be 27% (42% minus 15%). This was a very profitable time for developers.

From the third quarter 1998 to March 2001, the official beginning of a recession, accounting profits ranged from 11% to 20%, and averaged 16%. Given the limits on the precision of data, it may not be wise based solely on the data and analysis in this article to conclude that either EMEI or external obsolescence

Table 2 Accounting Profits

	Offices	Apartments
Mean	27.6%	13.5%
Median	20.1%	10.9%
Geometric mean	23.1%	11.4%
Standard deviation	15.3%	8.4%
Skewness	27.6%	114.6%
Minimum	5.5%	4.2%
Maximum	58.5%	35.1%
Count	29	37

Table 3 Average Profits in Healthy Economic Cycles

Period	Offices	Apartments
85/Q4 to 87/Q4	42.3%	
91/Q2 to 93/Q3		17.2%
97/Q4 to 01/Q1	13.9%	
97/Q4 to 01/Q1		7.2%
02/Q2 to 07/Q3		16.4%
06/Q1 to 07/Q3	41.7%	

Table 4 RMEI and EMEI

	Offices	Apartments
RMEI	15.0%	7.5%
EMEI		
Typical	8.1%	3.9%
Minimum	0.0%	0.0%
Maximum	43.5%	27.6%

Table 5 External Obsolescence

	Offices	Apartments
Mean	13.2%	4.5%
Median	15.6%	4.8%
Geometric mean	9.3%	3.5%
Standard deviation	7.5%	2.4%
Skewness	–33.1%	–23.5%
Minimum	0.2%	0.2%
Maximum	25.1%	8.9%
Count	48	34

existed during this period. It is likely that RMEI varies from the long-term average (15%) with changes in the broader economy, such as changes on returns in stocks and bonds, and other alternative investments. However, it is reasonable to conclude that developers were achieving or nearly achieving their RMEI during the third quarter 1998 to March 2001, and/or were suffering little to no external obsolescence. This period was a modestly profitable time.

Alternatively, from the second quarter 2003 to first quarter 2005, accounting profits ranged from 7% to 12%, and averaged 9%. Given the long-term average RMEI of 15%, it is concluded that developers were underperforming and suffered external obsolescence averaging 6% (15% minus 9%). This was not a profitable period for developments.

Similarly, apartments suffered external obsolescence for a long period between the first quarter 1994 and fourth quarter 1998, where the accounting profits ranged from 1% to 6% and averaged 4%. Interestingly, no quarter during this period had an accounting loss. Under the old definitions of external obsolescence, there would be no external obsolescence during this period. This data demonstrates the problem with the old definitions, since most real estate analysts recognize this period as a difficult period for developers.

The analysis indicates that the profits and incentives are smaller for apartments than for offices. The data shows that apartments fell below their RMEI only 31% of the time and never had an accounting loss. However, offices fell below their RMEI 47% of the time and had accounting losses 21% of the time. This indicates that offices are riskier developments than apartments.

Conclusions

Appraisal theory and literature, up to this point, have not distinguished between the required minimum entrepreneurial incentive and extra-minimum entrepreneurial incentive. Theory and literature have not discerned whether external obsolescence is defined as market value less total cost excluding RMEI or market value less total cost including RMEI, and have not explicitly linked entrepreneurial profit and external obsolescence. Macroeconomic data shows that entrepreneurial incentive actually exists, and economic theory indicates that it is composed of two types, namely the required minimum entrepreneurial incentive (RMEI) and the extra-minimum entrepreneurial incentive (EMEI), depending on the health of the market. In very strong markets, entrepreneurs earn more than their minimum requirement; they earn the RMEI and an EMEI. When markets are in balance, they earn only their RMEI. When the market is unhealthy, EMEI is eliminated and external obsolescence is created. External obsolescence and EMEI are mutually exclusive over economic cycles. However, even when markets are unhealthy, business still requires a minimum incentive in order to commence the business. So, the RMEI is not subject to reduction in a cost approach, even when markets are unhealthy and external obsolescence exists. An appraiser's entrepreneurial profit differs from an accountant's or economist's definition of profit. Entrepreneurial profit is a required cost of construction, which is necessarily comprised of the RMEI and potentially comprised of an EMEI, while accounting profit (loss) is the residual of value minus costs excluding all profit. Accounting profit can be measured as RMEI plus EMEI, if any, minus economic obsolescence, if any.

Additional Reading

Anglyn, William Ted. "Analyzing 'Unearned' Entrepreneurial Profit." *The Appraisal Journal* (July 1992): 366–379.

Bottum, MacKenzie S. "Estimating Economic Obsolescence in Supply-Saturated Office Markets." *The Appraisal Journal* (October 1988): 519–525.

Galleshaw, Mark. "Market-Wide External Obsolescence." *The Appraisal Journal* (October 1991): 451–455.

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Web Connections

Internet resources suggested by the Lum Library

Building Owners and Managers Association International–Experience Exchange Report
  http://www.boma.org/Resources/benchmarking/Pages/default.aspx

Institute of Real Estate Management–Income and Expense Analysis Reports
  http://www.irem.org

Marshall & Swift–Marshall Valuation Service
  http://www.marshallswift.com

McGraw-Hill Construction–Dodge Reports
  http://www.fwdodge.com/Reports

National Council of Real Estate Investment Fiduciaries–NCREIF Property Index
  http://www.ncreif.com

RSMeans Cost Data
  http://rsmeans.reedconstructiondata.com