

Defining Commercial Property Income and Appreciation Returns for Comparability to Stock Market-Based Measures

by

Michael S. Young

Vice President and Director of Quantitative Research
The RREEF Funds

101 California Street, San Francisco, California 94111
phone: 415-781-3300 / fax: 415-781-2229 / e-mail: MYoung@RREEF.com

and

David M. Geltner

Professor of Real Estate, Department of Finance
University of Cincinnati

428 Lindner Hall, P.O. Box 210195, Cincinnati, Ohio 45221-0195
phone: 513-556-7071 / fax: 513-556-4891 / e-mail: David.Geltner@uc.edu

and

Willard McIntosh

Managing Director-Research
Prudential Real Estate Investors

8 Campus Drive, Parsippany, New Jersey 07054
phone: 201-683-1793 / fax: 201-683-1794 / e-mail: Willard.McIntosh@prudential.com

and

Douglas M. Poutasse

Senior Vice President
AEW Capital Management

225 Franklin Street, Boston, Massachusetts 02110-2803
phone: 617-261-9559 / fax: 617-261-9555 / e-mail: dpoutass@aew.com

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In 1994 the NCREIF Property Index (NPI) reported an income return of 9.16% and an appreciation return of -2.28%. During that same period the NAREIT Index reported a dividend yield of 8.04% and share price appreciation of -6.45%. Such historical performance data are widely published, and the temptation is strong to compare the numbers at face value. Yet, sophisticated analysts are aware of several problems in attempting to directly compare property market-based return figures with stock market based returns. For example, the problem of “smoothing” in the volatility of property market-based indices has been extensively written about in the academic literature.

In this article, we put the spotlight on another problem, that of comparability of the *components* of the total return, the so-called income and appreciation returns. We suggest that the reported NCREIF income return is typically some two points higher, and the appreciation return some two points lower, than would be the case if these components were reported in a manner more comparable to stock market-based measures.

The breakout of the total return into an income component designed to represent current yield, and an appreciation component designed to represent capital growth, provides important information for investment analysis and planning. While the total return (which is the sum of these two components) is no doubt the single most important return statistic, many investors are particularly interested in how that total return is split between current income and capital.

For example, investors with current and ongoing cash flow obligations on the liability sides of their balance sheets may depend on the current yield of their investments to meet such obligations. In contrast, investors who do not face near-term cash obligation or liquidity pressures, as well as investors who are subject to ordinary income taxes, may regard investment income as a nuisance and/or a tax-liability, while viewing unrealized capital growth as desirable for obtaining long-term investment targets. In principle, current yield can be converted to growth via reinvestment, and growth can be converted to income via partial sale of the assets, but such conversion is not without cost, especially in the case of direct property investments.

Given the importance of accurately measuring the income and appreciation components of the return, analysts dealing with mixed-asset portfolios should carefully consider the meaning and true comparability of these return components—as defined in the typical indexes used to measure such performance in public versus private asset markets. The NCREIF Property Index was established more than a decade ago to facilitate understanding of commercial real estate performance in a mixed-asset context. The NPI indeed provides much useful information for comparing the performance of privately traded institutional commercial property with traditional asset classes such as stocks and bonds, as well as with the performance of publicly traded real estate investment vehicles, or REITs. However, analysts using the NPI to compare real estate return *components*

with those obtained by publicly traded assets should be aware of some important differences in definition and meaning.

We will describe and attempt to quantify this difference. We will also argue that the NPI's definition of income and appreciation returns could be misleading from some perspectives, especially in comparison with stock market-based measures. The NPI may make commercial property investments look like higher yield and lower growth investments than is actually the case. We will suggest a simple alternative definition of the breakout of income and appreciation returns within the NPI total return, which we believe would more accurately reflect comparability to stock market-based indexes.

Definition of Income and Appreciation Returns

Among financial economists, the following definition has become standard for measuring the total period-by-period returns when the periods are defined as relatively short intervals of time (say, a year or less):

$$r_t = \frac{CF_t + V_t - V_{t-1}}{V_{t-1}} \quad (1)$$

where r_t is the total return during period t ; CF_t is the net cash flow generated by the asset during period t , V_t is the market value of the asset at the end of period t ; and V_{t-1} is the asset value at the end of the preceding period $t-1$ (i.e., at the beginning of period t). The total return represented in Equation (1) is readily broken out into the income and appreciation components as follows:

$$y_t = \frac{CF_t}{V_{t-1}} \quad (2)$$

where y_t is the current yield or income return component, and

$$g_t = \frac{V_t - V_{t-1}}{V_{t-1}} = \frac{V_t}{V_{t-1}} - 1 \quad (3)$$

where g_t is the growth or capital gain component, referred to in real estate as the appreciation return. Obviously, $y_t + g_t = r_t$.

Applying these definitions to publicly traded assets, such as stocks and REITs, is quite straightforward. V_t is the share price (adjusted for any stock splits or stock dividends), and CF_t is the amount per share of any dividend paid out during period t . These are in fact the definitions used to construct the widely used stock market-based indexes of investment performance, such as the S&P 500, the various small stock indexes, and the NAREIT Index.

Because of the ambiguity involved in attempting to equate the above definitions to privately held real estate assets, NCREIF has adopted somewhat different definitions in the NPI. For example, the denominator in each of the return measures is defined somewhat differently.¹ However, this difference in denominators has little quantitative impact in practice and is not the

1 The denominator in the NCREIF return formula is defined as:

$$V_{t-1} + (1/2) CI_t - (1/2) PS_t - (1/3) NOI_t$$

where CI is capital improvement expenditures, PS is partial sales receipts, and NOI is net operating income, all during calendar quarter "t." The rationale for this denominator is described in: Giliberto [1994]. In essence, under the simplifying assumptions that net income is realized monthly, and capital improvement expenditures and partial sales receipts are realized at the midpoint of the calendar quarter, this denominator allows the return formula to more accurately approximate the internal rate of return achieved by the properties during the calendar quarter.

focus of the present article.² The most important difference in practice between the NCREIF definition of the return *components* and the standard financial economics definitions described above lies in the treatment of capital improvement expenditures. NCREIF defines the income return based on the “net operating income” (NOI) of the property, without subtracting capital improvement expenditures. Instead, capital improvement expenditures are subtracted from the end-of-period appraised value of the asset.

For practical purposes, with respect to comparison with stock market-based index return component measures, we may define the NCREIF returns as follows, where NOI_t is the net operating income and CI_t is the capital improvement expenditure during period t .

The total return is essentially the same as that represented by Equation (1) for the stock market-based indexes:

$$r_t = \frac{NOI_t - CI_t + V_t - V_{t-1}}{V_{t-1}} \quad (1A)$$

Comparability becomes problematical in the breakout between income and appreciation returns :

$$y_t^N = \frac{NOI_t}{V_{t-1}} \quad (2A)$$

$$g_t^N = \frac{(V_t - CI_t) - V_{t-1}}{V_{t-1}} = \frac{(V_t - CI_t)}{V_{t-1}} - 1 \quad (3A)$$

where the superscripted y_t^N and g_t^N designate the NCREIF definitions of the income and appreciation returns, respectively.

Thus, a direct comparison between the NPI income return and a stock market-based index income return implies that property NOI accrued during the period as a fraction of property value at the beginning of the period is in some sense comparable to dividends paid out during the period as a fraction of share value at the beginning of the period. Similarly, a comparison of the appreciation returns implies that end-of-period property value less capital improvement expenditures spent on the property during the period, as a fraction of beginning-of-period property value, is comparable to end-of-period share price as a fraction of beginning-of-period share price.

Rationale for the NCREIF Definitions

The definition of the income return component used in the NPI treats capital improvement expenditures as though such expenditures do not reduce the investor’s income return. In this sense, the NPI income return may be more akin to an accrual-based earnings return, except that NOI is not net of depreciation expenses. On this basis, it might make more sense to compare NPI income returns to earnings-per-share (as a fraction of share price) in stock market-based indexes, rather than to cash flow-based current yield measures. However, earnings-per-share measures are less widely used as investment performance measures, partly because they are of less direct interest to yield-oriented investors. Investors who tend to be most concerned with the income component of

² Another obvious difference is that, by necessity, NCREIF must generally rely on appraised values rather than market prices of properties. Thus, V_t is the appraised value as of the end of period t . This difference, which has been the subject of much literature elsewhere, is not treated in this article.

the return often require current cash flow to achieve their investment purposes; earnings, as such, are of only “academic” interest.

Similarly, by deducting capital improvement expenditures from the end-of-period property value, the NPI appreciation return does not attempt to measure the change in property value during the period, *per se*. Rather, it seeks to measure only the component of any such change that was due to real estate market forces and the natural depreciation of the building—both essentially external forces beyond the property managers’ control.

The NPI definitions of income and appreciation return probably reflect some traditional real estate perspectives, which differ from the perspectives traditionally taken in the securities industry. For example, defining income return based on the NOI rather than net cash flow results in a measure that is similar to the classical appraisal construct known as the cap rate (capitalization rate). The cap rate is typically defined as the NOI divided by property value. The definition of appreciation return based purely on external forces, ignoring physical improvements made by property management, also relates to the classical appraisal concept of functional and economic obsolescence. Obsolescence is defined in appraisal terminology as a component of depreciation of property value below its construction cost due to the physical nature of the property and the conditions in the rental market in which the property is located.

Treatment of Capital Expenditures in Stock Market-Based Indexes

Although the above concepts and perspectives are familiar to many traditional real estate analysts, they are foreign to most security analysts and financial economists. Yet one of the NPI’s purposes is presumably to provide investment performance measures for analyzing real estate from a multiasset portfolio perspective, i.e., from a perspective more reflective of the securities markets and the financial economics discipline. With this in mind, let us consider how capital improvements are (implicitly) treated in stock market-based indices. This can be done by means of a simplified numerical example.

Consider the sample case of XYZ Corporation, an industrial corporation making widgets, traded on the stock market. At the beginning of the first quarter of 1994, a sample year, XYZ had a market value of \$100 million and had 10 million shares of common stock outstanding. During the first quarter of that year XYZ generates \$10 million in earnings from the sale of widgets and spends \$5 million on capital improvements to its widget-making factories. The construction of the capital improvements is not completed until after the first quarter, so none of the earnings during the first quarter are attributable to the capital improvements. The market perceives that the capital improvements are 0-NPV investments for the firm. (That is, the capital expenditures will lead to earnings and risk similar to what has been achieved by the firm’s plant in the past. The capital improvements may simply be scale-expanding additions in a constant returns-to-scale industry, or may be a means to rejuvenate aging but constant technology plant. For simplicity, and to illustrate the point, also assume there are no other reasons for market value to change, and the firm pays out all its earnings, so the ending market value of the firm is \$105 million.)

Exhibit 1 presents treatment of the capital improvement expenditures and the resulting impact on the income and appreciation return components for XYZ Corporation stock. Clearly the key issue is whether the capital improvements were financed internally or externally. In Case I, the capital improvements were financed internally. That is, they were paid for entirely from funds generated by XYZ Corporation from normal operations (selling widgets). XYZ Corporate

management has direct control of these funds and therefore authorized the capital improvement expenditures. In this case, the capital improvement expenditures have reduced the income return to the stockholders down to 5% but increased the appreciation return (gain in share price) by the same 5%.

Case I is contrasted with Cases II and III, which involve external financing of the capital improvements. In Case II, debt financing has been used, while in Case III, equity financing has been used via a secondary offering of additional shares of stock. In both of these cases, the money for the capital improvements was obtained by going to sources beyond XYZ Corporation itself. Thus, the ability to obtain the capital for the improvements was not entirely under the control of the XYZ Corporation managers. They had to go to the capital markets and, in effect, request additional capital. Internal corporate management cannot dictate the terms in which external capital will be provided. In both Cases II and III, the capital improvement expenditures do not reduce the income return to XYZ stock (it remains at 10%), and XYZ stock value does not experience any capital gain in value as a result of the improvements (the appreciation return is zero).

Notice that in all cases in Exhibit 1 (whether capital improvements are externally or internally financed), the total return to the XYZ stockholders is the same (10%). The only distinction is how that total return is split between the current income versus capital appreciation components. And in all cases the *physical* result is the same: XYZ's widget-making capacity has been expanded by 5%.

Exhibit 1 reveals that capital improvement expenditures are treated essentially the same in determining the income and appreciation components of the return to XYZ for Cases II and III (internal financing) as they are in the NCREIF definitions. That is, the capital improvement expenditures are not subtracted from the company earnings in determining the income return, but are instead subtracted from what would otherwise be the end-of-period share value of the stock. With external financing, XYZ's current earnings from operations are entirely paid out as dividends to its shareholders, but prior shareholders' claims on the newly expanded or improved assets are diluted by the claims of the new investors (debt or equity) who provided the money for the capital improvements.

This illustration suggests that if we are going to view the NCREIF income and appreciation return definitions as being comparable to stock market-based index definitions, we must, in effect, view property capital improvements as being entirely externally financed. In what sense might this be the case?

The answer is suggested by the accounting community. Accountants point out that the NPI represents returns to individual properties and that individual properties, unlike the corporations whose shares trade in the stock market, are generally not separate legal or accounting entities that maintain books of accounts according to the principles of accounting. From an accountant's perspective, the assets tracked by the NPI are comparable not to the stocks tracked by the S&P 500, but to the physical assets held by the corporations included in the S&P 500. As the properties themselves are not legal or accounting entities, they can hold no cash themselves. Any cash they generate is therefore, by definition, immediately distributed out of the property level, to whatever entity owns the property. (Typically, in the case of NCREIF properties, the owner would be a fund or separate account.) Thus, NOI equates to net cash flow (from the property level), and any and all capital improvements are therefore, by definition, financed externally.

The Financial Economics Perspective

The accounting perspective described above would seem to be the way to allow the NCREIF income and appreciation return definitions to equate to the corresponding stock market-based current yield and capital gain measures. But now consider an alternative perspective, which we believe may better represent that of the financial economics community and many security analysts. This alternative perspective suggests that a different definition of the real estate income and appreciation returns would probably improve the comparability between real estate and corresponding stock market-based measures.

Consider the reality of what types of expenditures are classed as capital improvements in most NCREIF properties, and how these expenditure decisions are made. As a general rule, these expenditures are only occasionally for what could be called scale-expanding or substantial rehabilitation projects (i.e., real estate development). Most capital improvement expenditures involve more routine and mundane items, such as new roofs, new HVAC, landscaping, etc. Many capital improvement expenditures are directly related to leasing, such as tenant improvement expenditures (so-called TIs), and even leasing broker commissions (which are often capitalized rather than expensed in NCREIF properties).³

For these routine types of capital improvement expenditures, the *decision* to undertake the expenditure (and how much to spend, and when to spend it) is, we argue, generally in the hands of the investment advisor, not the investor. This would be particularly true for properties held in commingled funds. For properties held in separate accounts, the investor may in some cases technically have control over most funds used for capital improvements, but the advisor and property manager will often exercise strong influence over the decision to use funds generated from the operation of the properties for the improvement of those properties.⁴ Except in the case of scale-expanding or major rehabilitation projects, external financing is rarely used to supply the funds for capital improvement expenditures. (Here, external is defined as the bringing in of new equity or debt investors, or the contribution of new capital by the original investors.) In other words, it seems likely that most of what is classified as capital improvement expenditures for most NCREIF properties is derived, in essence, from the operating funds generated by those properties themselves. This means that, in effect, these funds are not really available for distribution beyond the property level to the investors.

If this is true, then Case I in Exhibit 1 (internal financing) would come closer to representing the reality for NCREIF properties and investors than would Case II or III.⁵ Note that in Case I,

3 See the accompanying article by Jeff Fisher in this issue of *Real Estate Finance*, which examines the nature of capital improvement expenditures for a large sample of malls. Even though malls are arguably a type of property in which scale-expanding projects would be most common during the historical period in question, Fisher finds that expansions make up only a minority of mall capital improvement expenditures.

4 No prudent property owner, investor, or manager would deny that basic and routine capital improvement expenditures are necessary.

5 The economist tends to define external as “beyond existing firm management control.” The distinguishing characteristic of Case II and/or III in Exhibit 1 would be viewed as the fact that in those cases the firm’s management did not obtain the funds by fiat, or by allocation of internal funds over which they already had control. Instead, they went to the marketplace, to the limited liability investor level, to obtain the funds for the capital improvements. (Although cash is fungible, the fact that the dividends—the amount distributed to the pre-existing investors—remained the same in Cases II and III as they would have with no capital improvement expenditures, suggests that the additional funds raised went, in effect, to the capital improvements.)

the capital improvement expenditures reduce the income return, but not the appreciation return. In effect, capital improvement expenditures are subtracted from current earnings from operations prior to calculation of the income return, but are not subtracted from the end-of-period value of the shares in calculating the appreciation return. Thus, under this alternative perspective, the NCREIF definitions of income and appreciation returns are not directly comparable to their counterparts reported for stock market-based indexes. For comparability to the stock market, we would alter the NCREIF definitions by subtracting capital expenditures from the income rather than from the appreciation returns, as follows:

$$y_t^F = \frac{NOI_t - CI_t}{V_{t-1}} \quad (2B)$$

$$g_t^F = \frac{V_t - V_{t-1}}{V_{t-1}} = \frac{V_t}{V_{t-1}} - 1 \quad (3B)$$

where the superscripted y_t^F and g_t^F designate the financial economics-based alternative definitions. Note that the total return, defined as: $r_t = y_t^F + g_t^F$, remains the same. Only the breakout between income and appreciation is changed.⁶

Effect within the Historical NCREIF Index

The previous sections have described two alternative ways of defining the income and appreciation return components within the NPI. These alternative definitions represent the two polar extremes of how capital improvement expenditures could be treated in the NCREIF returns. The first method, represented by Equations (2A) and (3A), is the way the NPI is currently defined and published. This approach has been characterized as the accounting perspective, and would, (for comparability to stock market-based indexes), attribute all capital improvement expenditures as being externally financed.

The second method, represented by Equations (2B) and (3B), is the other extreme, attributing all capital improvement expenditures to internal financing. We have labeled this alternative the financial economics perspective. The truth no doubt lies somewhere between these two extremes. In any case, both perspectives are of interest. It is therefore useful to examine the difference between these alternative definitions within the historical NCREIF Property Index returns.

Exhibits 2 through 6 portray the historical results for the period from the inception of the NPI in the first quarter of 1978 through the first quarter of 1994. The exhibits label returns defined by the present NPI definition as the *Old* or *Current Formula* and the returns defined by the alternative (financial economics) definition as *New*. Exhibit 2 shows the summary quarterly return statistics for all properties over the entire historical period. Exhibit 3 traces out these quarterly return components for all properties over the 1978-1994 period. Exhibit 4 presents the annual return statistics for the current and new return formulas.⁷ Exhibits 5 and 6 graphically

⁶ Another feature of these alternative definitions is that, as in Case I of Exhibit 1, the appreciation return better reflects what is happening to the *physical* capital underlying the investment. In general, *all* capital improvement expenditures (even for routine items) increase the value of the property over *what it would otherwise be* without the expenditure. Otherwise, at least from the property owner's perspective, there would be no reason for making the expenditure.

⁷ The statistics for the total return are slightly different between the current and new returns because the new formula includes not only the changed breakout between the income and appreciation components, but also contains a simplified denominator that includes only the V_{t-1} term, as is common in stock market indexes. As noted previously, the current NCREIF return formulas use a

portray the rolling four-quarter income and appreciation returns, respectively, over the entire historical period, for each of the five NCREIF property type classifications, as well as for all of the properties together.

Examination of the exhibits reveals that the new formulas have three principal effects, as compared to the current NCREIF definitions:

1. reduced periodic *income return*,
2. increased periodic *income return dispersion*, and
3. increased periodic *capital return*.

As depicted graphically in the middle panel of Exhibit 3, the new formula results in an income return component notably smaller and more volatile than the current formula. The difference between the two yield or income return measures depicted in the middle panel of Exhibit 3 is in the capital improvement expenditures shown for each quarter as a fraction of market value. This averages 63 basis points, or the equivalent of 2.5% of property value per year, a sizable amount.⁸

On the other hand, as the bottom panel of Exhibit 3 shows, the new formula causes the capital return component of the NPI to display more growth or less loss of capital value over time. The current NPI formula depicts real estate as more of a wasting asset than it really is, given the effect of managers' spending on capital improvements. Accumulating the appreciation return components to produce an implied property value-level index makes this point dramatically clear. Under the current NCREIF definition of the appreciation return, by the first quarter of 1994 a property value index is barely 6% above where it started out at the end of 1977, as measured in *nominal* values (i.e., including inflation). With the alternative definition, however, the property value index is 60% higher than where it started.⁹ It seems likely that this second index better reflects the reality of property values, and the capital value underlying investors' real estate holdings.

Exhibits 5 and 6 reveal interesting differences in the pattern of capital expenditures across property types. Capital expenditures are smallest and have the least important impact on return measures for apartment buildings. As apartments are not subject to long-term leases, leasing expenses such as TIs and commissions are relatively minor for this property type. Warehouses display a prominent peaking of capital expenditures during the 1981-1982 and 1990-1991 recessions. As one would expect leasing expenses to rise during recessions when rental demand is soft (especially in the industrial sector, which is more sensitive to the business cycle), this could be evidence that most of the warehouse capital expenditures were for leasing expenses such as TIs.

more complicated definition of the denominator, so as to technically approximate more closely to an IRR. It is interesting to note that this difference in the denominator has virtually no noticeable effect. Thus, the differences between the income and appreciation components in all the exhibits are due entirely to the differences in the definitions of the numerators, as described in Equations (2A) and (3A) versus (2B) and (3B).

⁸ As noted, some of these expenditures would be for expansion or major rehabilitation projects for which external financing would probably be the best assumption.

⁹ This is still substantially less value increase than inflation, as the CPI increased by 137% over the same period of time, indicating a real decline in NCREIF property values during the fifteen years from 1978 through 1993, even with capital improvements accounted for.

Retail properties have the largest capital expenditures and have the most variability in those expenditures.¹⁰

Conclusion

We have presented the essential differences between two alternative methods of defining the breakout between income and appreciation return within the NCREIF Index. We have attempted to elucidate the rationale, at least at a theoretical level, behind the current definitions. We have also presented alternative definitions that, in the case of the income return, we believe would more realistically portray the actual cash available for distribution to investors as a fraction of their current asset value. In the case of the appreciation return, we believe our alternative definition more accurately portrays the actual price path of properties over time, and hence present a more realistic picture of capital preservation in real estate investments, given the reality of capital improvements to the properties. We believe the alternative return component definitions are more comparable to the corresponding definitions used in stock market-based indexes, such as the S&P 500 and the NAREIT Index. In any case, the *Current* and *New* return definitions examined empirically here should bracket the truth, which probably lies somewhere between these two extremes.

References

Giliberto, S.M. "The Inside Story on Rates of Return," *Real Estate Finance* 11, 1 (Spring 1994), pp. 51-54.

¹⁰ For further evidence and insights regarding retail capital expenditures, see Jeff Fisher's article in this issue of *Real Estate Finance*. It appears that much of the spike in capital expenditures in 1981-1982 is attributable to a few malls that were undergoing major expansions.

Exhibit 1

Numerical Example: XYZ Corp. (publicly traded stock) (all figures in millions except value per share and returns)

Case I: Internal Financing

Beginning Balance Sheet (Market Values):

<i>Assets:</i>		<i>Liabilities & Equity:</i>	
Plant & Equipment	\$ 100	Stockholder Equity	\$ 100
		shares outstanding = 10	
		value per share = \$ 10.00	

Sources & Uses of Cash during Quarter:

<i>Sources:</i>		<i>Uses:</i>	
Earnings from Oper.	\$ 10	Capital Improvements.	\$ 5
		Dividends	5

Ending Balance Sheet (Market Values):

<i>Assets:</i>		<i>Liabilities & Equity:</i>	
Plant & Equipment	\$ 105	Stockholder Equity.	\$ 105
		shares outstanding = 10	
		value per share = \$ 10.50	

Total return = 10%, Capital return = 5%, Income return = 5%

Case II: External Financing with Debt

Beginning Balance Sheet (Market Values):

<i>Assets:</i>		<i>Liabilities & Equity:</i>	
Plant & Equipment	\$ 100	Stockholder Equity	\$ 100
		shares outstanding = 10	
		value per share = \$ 10.00	

Sources & Uses of Cash during Quarter:

<i>Sources:</i>		<i>Uses:</i>	
Earnings from Oper.	\$ 10	Capital Improvements	\$ 5
Loan proceeds	5	Dividends.	10

Ending Balance Sheet (Market Values):

<i>Assets:</i>		<i>Liabilities & Equity:</i>	
Plant & Equipment	\$ 105	Debt.	\$ 5
		Stockholder Equity	100
		shares outstanding = 10	
		value per share = \$ 10.00	

Total return = 10%, Capital return = 0%, Income return = 10%

Exhibit 1 (continued)

Numerical Example: XYZ Corp. (publicly traded stock)
(all figures in millions except value per share and returns)

Case III: External Financing with Equity

Beginning Balance Sheet (Market Values):

<i>Assets:</i>		<i>Liabilities & Equity:</i>	
Plant & Equipment	\$ 100	Stockholder Equity	\$ 100
		shares outstanding =	10
		value per share =	\$ 10.00

Sources & Uses of Cash during Quarter:

<i>Sources:</i>		<i>Uses:</i>	
Earnings from Oper.	\$ 10	Capital Improvements	\$ 5
Stock Issue Proceeds	5	Dividends	10

Ending Balance Sheet (Market Values):

<i>Assets:</i>		<i>Liabilities & Equity:</i>	
Plant & Equipment	\$ 105	Stockholder Equity	\$ 105
		shares outstanding =	10.5
		value per share =	\$ 10.00

Total return* = 10%, Capital return* = 0%, Income return* = 10%

**Refers to return on 10 million old shares, assuming ex dividend date is prior to new stock issuance date.*

Exhibit 2

Quarterly Return Statistics Using Current and New Formulas
NPI, All Properties, 1978:1 to 1994:1

	Total Return		Income Return		Capital Return	
	Current	New	Current	New	Current	New
Mean	1.98%	1.98%	1.87%	1.24%	0.11%	0.74%
Standard Dev.	2.03	2.03	0.18	0.32	1.97	1.95
Maximum	6.19	6.16	2.29	2.06	4.03	4.77
Minimum	-5.20	-5.19	1.58	0.48	-6.91	-6.22
Percentiles:						
95th	5.31%	5.29%	2.18%	1.75%	3.38%	4.13%
75th	3.07	3.05	2.02	1.43	1.27	1.75
50th (median)	1.84	1.84	1.85	1.19	0.13	0.73
25th	1.27	1.27	1.71	1.04	-0.41	0.19
5th	-0.82	-0.81	1.63	0.76	-2.82	-2.29
Interquartile range	1.80%	1.79%	0.31%	0.39%	1.56%	1.56%
Correlation:						
Current formula	1.000	1.000	1.000	0.711	1.000	0.993
New formula	1.000	1.000	0.711	1.000	0.993	1.000

Exhibit 3
 NPI All Property Quarterly Returns, 1978.1 to 1994.1

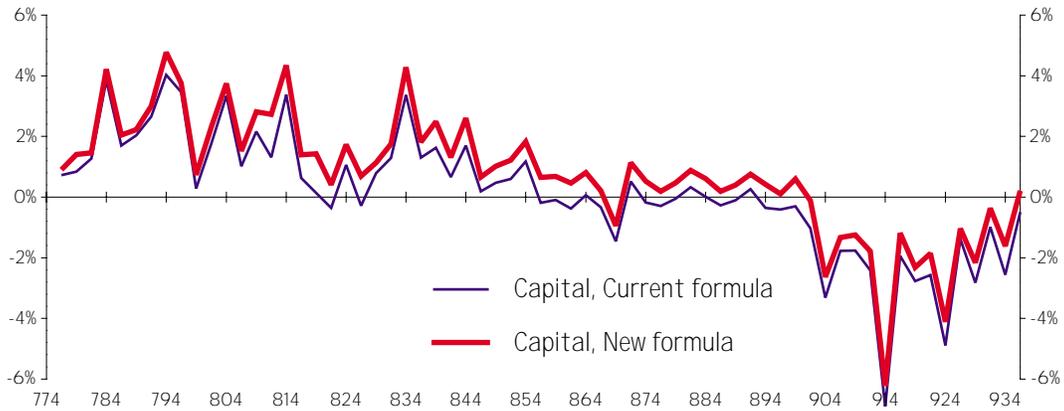
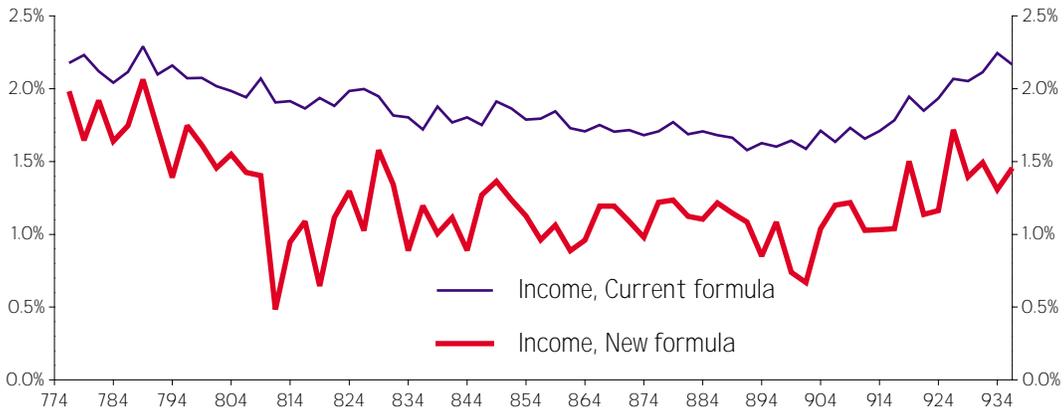
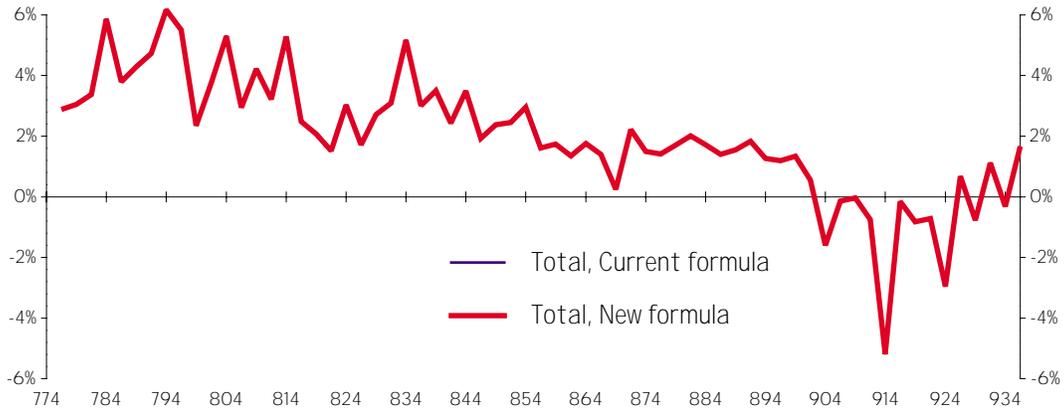


Exhibit 4

**Annualized Return Statistics Using Current and New Formulas
NPI by Property Type and All Properties, 1978:1 to 1994:1**

	Total Return		Income Return		Capital Return	
	Current	New	Current	New	Current	New
Office:						
Mean	6.62%	6.59%	7.33%	4.77%	-0.68%	1.76%
Standard Dev.	6.39	6.37	0.45	0.76	6.30	6.14
Retail:						
Mean	9.21	9.19	7.67	4.27	1.46	4.77
Standard Dev.	3.08	3.08	0.43	1.32	2.95	3.17
Warehouse:						
Mean	8.98	8.94	7.97	5.45	0.96	3.36
Standard Dev.	3.60	3.59	0.28	1.17	3.56	3.71
R&D/Office:						
Mean	8.77	8.73	8.31	6.18	0.44	2.43
Standard Dev.	4.82	4.80	0.35	1.10	4.78	4.80
Apartment:						
Mean	11.15	11.09	7.73	6.58	3.24	4.31
Standard Dev.	4.27	4.24	0.44	0.65	4.17	4.14
<hr/>						
All Properties:						
Mean	8.17%	8.14%	7.70%	5.04%	0.45%	2.99%
Standard Dev.	4.07	4.05	0.37	0.64	3.94	3.91

Exhibit 5
 Rolling Four-Quarter Income Returns
 NPI All Properties and by Property Type, 1978:4 to 1994:1

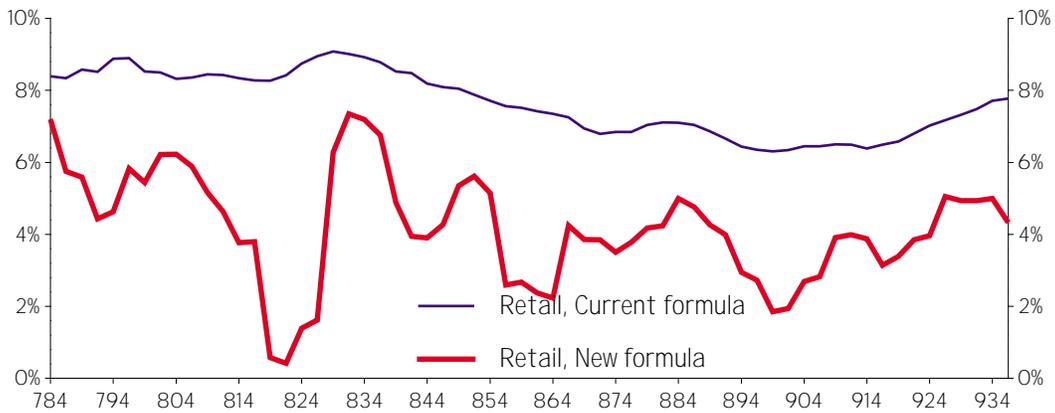
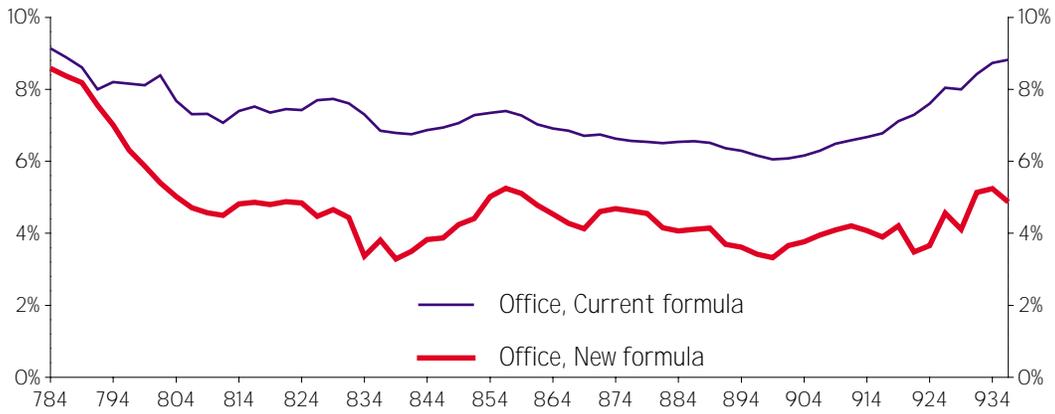
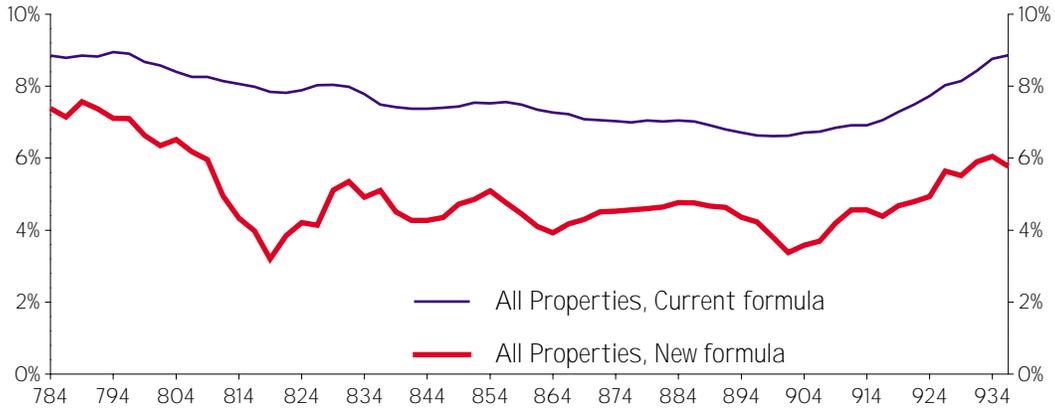


Exhibit 5 (continued)
 Rolling Four-Quarter Income Returns
 NPI All Properties and by Property Type, 1978:4 to 1994:1

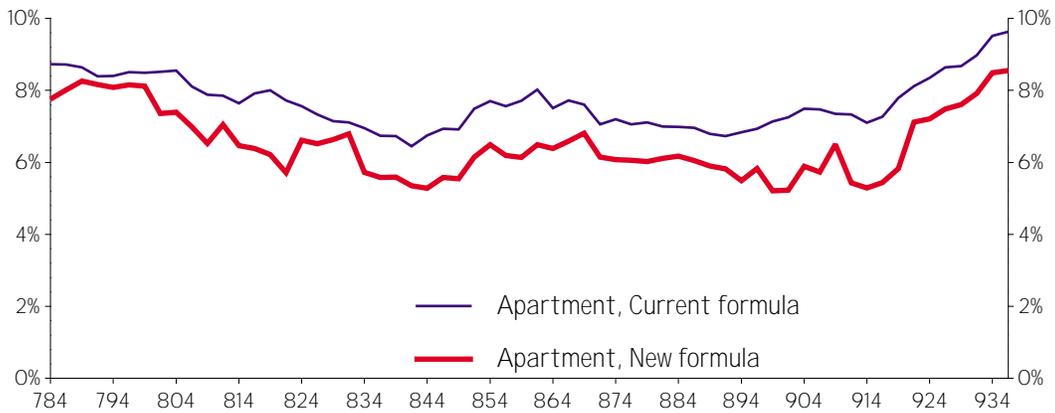
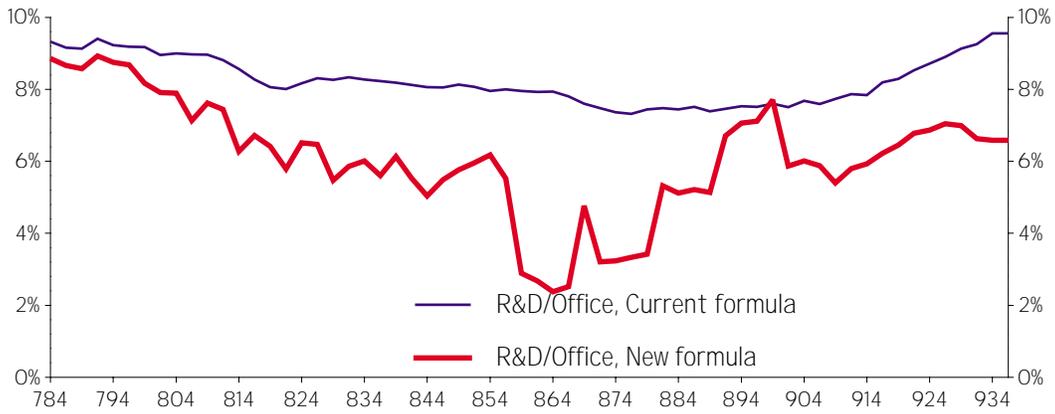
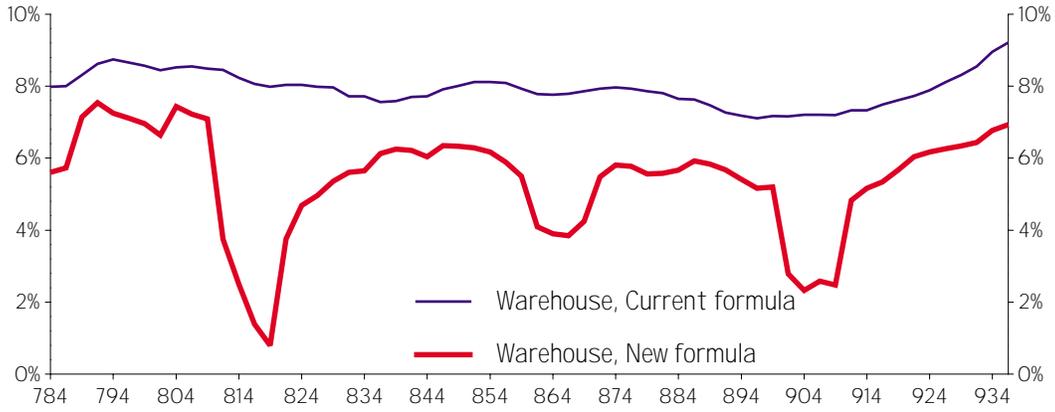


Exhibit 6
 Rolling Four-Quarter Capital Returns
 NPI All Properties and by Property Type, 1978:4 to 1994:1

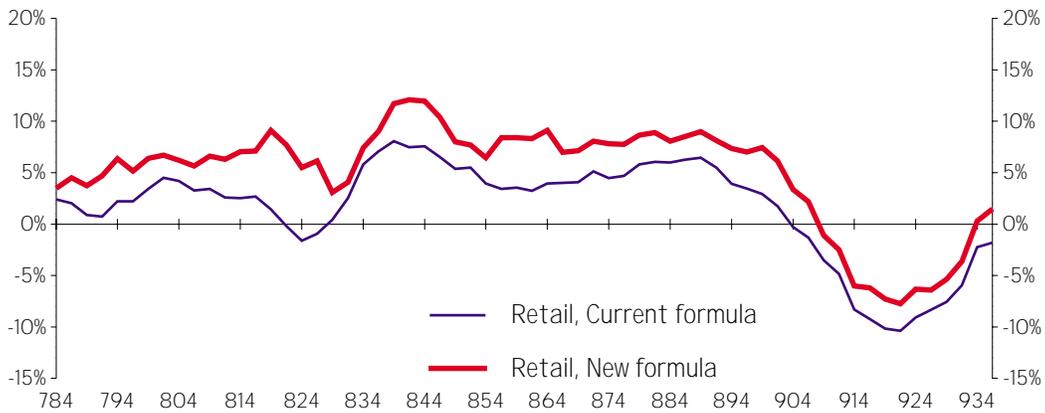
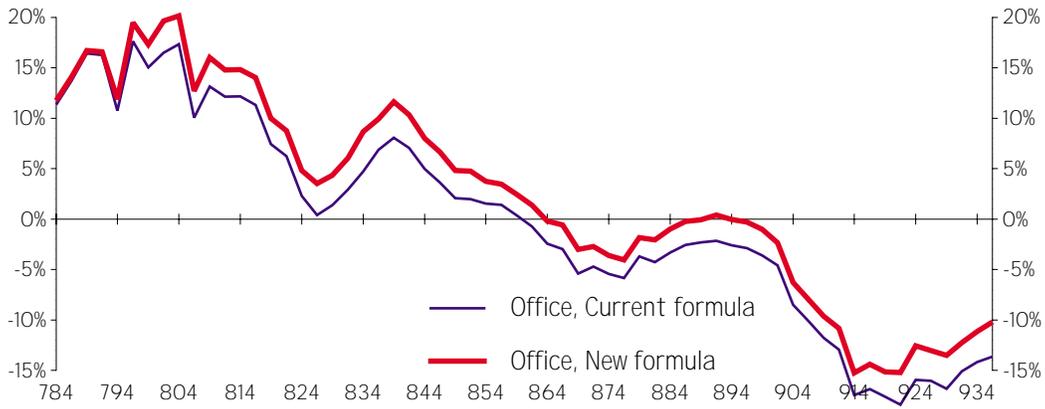


Exhibit 6 (continued)
 Rolling Four-Quarter Capital Returns
 NPI All Properties and by Property Type, 1978:4 to 1994:1

