

Academic Review and Critique of

“Financial Analysis of Real Property Investments” by William Poorvu

Introduction

The paper (“Financial Analysis of Real Property Investments”) by William Poorvu explores the complexities of analyzing potential real estate investments, offers insights into commonly used valuation methods, and shares common pitfalls in underwriting and assessing individual deal risk. Poorvu highlights both financial analysis and consideration of other potential risks in real estate which may include a long time horizon, lack of liquidity (during the hold period), market risks, political risks, and inflation expectations. Ultimately, this paper provides a framework for analyzing historical financials (establishing baseline data), projecting future trends, and searching for discontinuities which may present future risks or opportunities to create value as an investor.

Key Concepts, Methodology, and Frameworks

In review of the text, Poorvu summarizes key concepts, methodologies, and frameworks when analyzing real estate investments. This section seeks to elaborate and provide a concise overview of each topic discussed in the paper.

There are three components that should be considered when analyzing a real estate investment. The first is before-tax cash flow which includes revenues less operating expenses and debt service. The second is the tax effect the individual investment has on taxes payable by any given investor. The third are the future benefits or reversionary cash flows (sale or refinancing) to the investor on an after-tax basis. The note helps the reader understand how each of these helps establish valuation and rate of return with respect to the hold period (timeframe of investment).

Poorvu describes the process of underwriting and valuation through evaluation of “The Setup”, “Impact of Financial Structuring”, and “Measurements and Methods of Calculating Return”.

“The Setup”

The setup is described as using the income statement and cash flow statement to establish baseline data with which a valuation model is built. Once the baseline data is established, future cash flows can be projected based on current or historical trends from a macro perspective (i.e. – monetary policy, inflation, etc.) and a micro perspective (i.e. – local population and job growth, submarket rental consumer preferences, etc). The article also discusses discontinuities which are breaks in historical trends that will significantly affect the value of the property in the future. These can be unfavorable or favorable but can significantly affect value of the property. Some examples of discontinuities include new infrastructure development nearby, major corporate relocations to the area, and local zoning/ policy changes. The setup will ultimately help the purchaser understand the market value changes based on sensitivities run on each element of the setup (discussed later in this review) and to evaluate opportunity costs between investments (carry costs/ money at risk in one deal cannot be invested elsewhere). Poorvu notes that the setup should be analyzed on both a pre-tax and after tax basis.

The elements of the setup include gross revenues, vacancy, operating expenses, indirect expenses, and tax effects. There are nuances in the structure of each of these elements between different asset classes, which this review will highlight.

Gross Revenues

Gross revenues include base rent, expense reimbursements, and other income. The first step in evaluating base rent is to build a list of comparable properties. These comparable properties should have similar features (vintage/ age, quality/class of construction, size, type/asset class, etc.) and should have the same general submarket location. Sources such as real estate brokers and online sources such as CoStar can help build and analyze the competitive set. Poorvu describes two fundamental skills needed when analyzing comparables which include gathering the greatest amount of useful data and the ability to relate this data to the subject property. When determining how the subject property compares the aggregate submarket comparables, it is important to determine relative value. One should compare specific property attributes (access to transportation, amenities, deferred maintenance, aesthetic/ curb appeal, security, upgrades, views, parking, etc.) to the subject property and adjust base rent accordingly. The use of primary data (shopping the market) can help the investor better understand these nuances as they can command vastly different levels of rent. Once base rent has been established it is important to use trend analysis to project rent growth in subsequent years of the hold period. This can be done using historical leasing trends/ rent growth in the submarket competitive set to project future trends. However, it is important for the investor to consider discontinuities such as changes in government policy, future supply, public incentives, and infrastructure development that can significantly affect rent growth assumptions in a positive or negative manner. The structure of leases between residential and commercial real estate can vary considerably when calculating future rent assumptions. For example, multifamily properties typically have short-term leases (12 months or less) and may be more significantly affected by macro-economic or submarket supply shocks. Commercial properties, such as office complexes, may have longer term leases with rent escalation clauses that make them far less susceptible to short-term market volatility. However, the former residential properties may be able to take advantage of shorter-term adjustment of rents based on improving market fundamentals, which could have a significant impact on profitability. The latter should consider staggering long-term leases, so they do not end all at once and expose the project to significant risk in the event of a market downturn. These types of considerations should be noted when building the setup. Expense reimbursements for utilities, maintenance, taxes, and insurance can have a significant impact on top line revenues and should be analyzed against the competitive set as well. Other income can also be a significant source of revenue but should also be compared to the local market in terms of what is customary so that the subject property is not at a competitive disadvantage. Other income can include parking, furniture rental, utility fees, laundry, pet fees, and other ancillary chargebacks to the residents for additional services not covered by their base rent.

Vacancy is the second item of the setup that must be reviewed in detail. It is important to gather vacancy rates from the competitive set the investor establishes. Sources such as local property management companies and CoStar can help gather current and historical data regarding vacancies within the submarket. Poorvu notes that even when buying a fully occupied property, some level of vacancy allowance should be built into the setup to account for turnover and

frictional vacancy. For a stabilized market, it may be safe to assume a 5% frictional vacancy, but the investor should account for future supply that may cause additional structural vacancy during the hold period. It is extremely important for the investor to gather primary data by touring the competition, talking to sales associates, noting empty nameplates in office buildings, and counting “for sale” signs in a neighborhood. The base rent should be supportive of stabilized occupancy throughout the hold period as these two variables are closely intertwined. Bad debt and concessions should also be accounted for in overall revenues. When purchasing an existing property, one can rely on prior year income statements to understand consumer trends regarding bad debt. In ground-up developments, this may be more difficult so industry averages (i.e. 3%) may be a good rule of thumb. Once again, primary data from shopping competitive properties can help determine what concessions are being offered in the market. For office properties, tenant representatives are a good source for what concessions are being offered in the submarket.

Operating Expenses

Control of operating expenses is vital to the profitability of a real estate investment. Poorvu notes that an investor must do their own due diligence and not completely rely on expenses provided in an offering memorandum or T-12 income statement. Poorvu mentions the “experience exchange” which could be like publications like NMHC (National Multifamily Housing Council) or other industry benchmarks. It is important to use this as a source to begin investigating projections but to be careful in using area averages as the sole basis for projections. One of the key mistakes is leaving out a category of expense or underbudgeting for a specific category. Expenses can vary greatly depending on the size of the property and age or condition. Determining the level of deferred maintenance and capital expenditures can greatly affect ongoing repairs & maintenance, for example. The investor should be realistic in what level of expenses it will take to maintain the property to achieve the desired rent and competitive advantage within a submarket. Typical expense categories include real estate taxes, administrative, maintenance, repairs, utilities, and insurance. There can be subcategories within each category, so it is prudent for the investor to carefully consider these.

Real estate taxes are described by Poorvu as being “the single greatest source of uncertainty in property investment.” It is extremely important to research tax records and assessments for the potential investment and comparable properties. A rapidly growing city may need new infrastructure, schools, major public facilities, roads, utility infrastructure, and other upgrades. Contact city officials and research recent approvals of tax increases by municipalities to understand the property tax implications. Underestimated taxes can significantly reduce returns and potential valuation at reversion. One should also consider the strength of tax escalation clauses in leases if there are government approved rent controls in place. The investor must consider how the local government calculates and assesses property values/ taxes and the process of protesting.

Administrative expenses can include rental, advertising, and management expenses and other various consultants. All of these should be accounted for even if the owner plans to assume these roles themselves. It is often best to hire professional management to run the day-to-day operations as the next buyer will factor this into their underwriting anyways. Property management will help in leasing, rent collection, bad debt management, contract services management, maintenance/

repairs, marketing, and potentially other services as well. They are typically paid as a percentage of gross or net rent and lenders will always include an allowance for this to value a property. Additional consultants may include tax, legal, collections, environmental, regulatory, and design.

Maintenance, supplies, and contract services can vary greatly and may involve seasonality as well. The age of the building, quality of construction, quality of tenants, amount of known deferred maintenance, and maintenance history can all aid in determining the level of expenses that will be needed in this category. Simply relying on historical financial data in this category may significantly understate future expenses, so the investor must scrutinize the property during due diligence prior to purchase. Review current contracts and make sure all needed services are accounted for and are comprehensive enough to maintain the property. You may be able to find savings by contracting at lower prices with different companies, or you may realize assuming a current contract does not provide the level of service needed. Assuming competitive rents requires a certain level of maintenance that must be included in the setup.

Repairs may involve turnover costs or routine costs to fix hvac units, broken doors, faulty appliances, plumbing, electrical, or any other fixture. Using industry benchmark data may be helpful in underwriting these costs. It is also important to note that an investor may elect to improve the property through significant capital expenditures upfront and early in the life cycle of the investment. Value-add projects will employ this approach with the goal of increasing rent after the improvements are made. This will reduce ongoing repairs & maintenance which will increase net operating income and reversionary value at sale or refinance.

Replacement reserves are necessary to account for physical deterioration of major items such as roofs and mechanical equipment that may be nearing the end of their useful life. Lenders will require an amount (i.e. \$300/unit or door per year) that is set aside in a reserve account for these replacements. Investors may prefer to defer these expenses as far out as possible to increase their internal rate of return. Commercial and industrial properties must account for these replacement reserves and reserves for tenant improvements at lease end/ turnover. The former may include roof repairs, parking lot repairs, and lobby renovations. The latter may include any tenant improvement allowance for acquiring a new tenant or upgrades to retain the current tenant.

Utilities and insurance should be easy to estimate and obtain quotes from qualified companies. One should inquire about future utility rate increases and the quality of the electrical and plumbing at the property. Oftentimes, there are expense reimbursements for utilities that should be accounted for in revenue. Insurance costs have risen substantially in recent years and companies are excluding certain coverage in specific areas. An investor absolutely must do their due diligence in reviewing quotes not only for cost, but also for what items are covered in the case of an extraordinary event. Not having proper insurance coverage can create substantial losses if not accounted for before purchasing the property.

Other extraordinary expenses should be accounted for as well. Poorvu notes a few examples being security and fire protection.

Tax Effects

Poorvu provides detail into the tax implications of financing and depreciation on cash flow after taxes to the individual investor. Depreciation of real property is calculated as a constant annual amount over its useful life (27.5 years for residential and 39 years for commercial) and is deducted from operational cash flow in the calculation of annual income taxes. A mortgage is essentially the present value of an annuity stream of cash flows or the total monthly payment (principal and interest). The interest is also deducted from operational cash flow in the calculation of income taxes. In terms of mortgage financing, the total payment stays the same, but the amortized principal payment grows as a percentage of the total payment over time. So essentially deductible mortgage interest is reduced each year over the life of the loan. However, mortgage interest and principal are deducted from operational cash flow to determine cash flow after financing. By deducting income tax from cash flow after financing, one can determine their individual cash flow after taxes. Another interesting note is that when depreciation deduction exceeds amortization, tax shelter dollars are created. 1993 law lengthened depreciable life of assets which largely eliminated this tax loophole.

The investor should consider state/local income taxes, income tax bracket, offsetting losses, and change in IRS tax policy in the future for their overall tax implications.

Financial Structuring and Leverage

Leverage

Investors often use leverage to increase the return profile of their real estate projects. Ultimately, financing is accretive if the annual ROA or yield is greater than the cost of debt financing. For example, if a property has an unlevered yield (return on asset = free cash flow/ total asset cost) of 10% and the cost of debt (mortgage constant) is 8%, then the more leverage the investor can obtain, the higher the return. This is also known as positive leverage. The alternative would be using debt financing that creates negative leverage (not accretive). Negative leverage exists when the cost of debt exceeds the annual unlevered yield, in which case increasing levels of debt lead to decreasing levels of return (or losses). The use of negative leverage should generally be avoided unless it must be used to secure an asset and act as a bridge to refinancing in the future at a lower rate and/or increased ROA in the future. In either case, the use of leverage allows the investor to stretch their capital further and buy more property than they could with just the use of their equity. It is also important to note that the cost of debt is always lower than the cost of equity.

However, investors should use caution when using leverage as it inherently adds risk to any deal. Although positive leverage can amplify returns, it can also result in complete loss of equity. Typically, lenders have a debt service coverage ratio covenant in their loan documents, which requires the investor to maintain a certain level of operating income over and above total debt service (i.e. 1.25x dscr). If the investor falls below this threshold, the bank can call the note and take over the asset as security for the loan. This situation can result in total loss of equity if the property value is at or less than the amount of the loan (including other fees associated with foreclosure and sale). The senior lender always has priority for repayment.

The investor's "setup" should always include scenario analysis for a base case and downside case. The investor must make sure they can satisfy any lender requirements during the hold period when using leverage.

Measurements of Return

Valuation

There are three primary methods of determining the value of any given real estate property. There is the income approach, sales comparison approach (market approach), and cost approach. The primary method used for income producing properties is the income approach using the capitalization technique. The simple formula is using annual net operating income and dividing it by the capitalization rate. However, the method of determining net operating income the capitalization rate is of the utmost importance. Careful analysis of “the setup” (as discussed previously) can help the investor determine an appropriate net operating income to base their valuation. The capitalization rate is set by the market and recent transactions of a similar nature. Brokers and lenders are the most helpful in helping provide an appropriate cap rate as they have seen many recent transactions.

Future value (Reversion)

Poorvu identifies four categories that must be considered when assessing reversionary value at sale. These include operating changes, physical changes, financial changes, and market changes. Each of these will ultimately play a role in determining the net operating income and cap rate used to calculate the sales price at reversion. The future cash flows along with reversion can be used to determine the present value of an asset as well.

Methods of Calculating Return

The essay addresses several methods including return on asset, cash-on-cash return, payback period, net present value (npv), and internal rate of return. Return on assets is simply free cash flow divided by the property cost. Cash-on-cash return is cash flow after financing divided by equity (levered yield). A payback period is a simple benchmark return that measures the number of years it takes for the investor to recoup their equity investment. Net present value discounts projected future cash flows by applying a discount rate which typically is a blend of cost of debt and equity (weighted average cost of capital). The internal rate of return is also referred to as the discount rate where net present value equals zero. Investors often have a desired “hurdle rate” for potential investments which can also be referred to as their required internal rate of return.

Conclusion

“Financial Analysis of Real Property Investments” by William Poorvu provides an excellent summary of considerations when valuing a real estate investment. It provides a framework that helps investor’s analyze projected cash flows, assess financing risk/ reward, and ultimately how to determine a proper valuation to purchase an asset. The essay highlights the importance of assessing short and long-term opportunities and risks regarding real estate investing.

Works Cited

“Financial Analysis of Real Property Investments” by Willam J. Poorvu (Harvard Business School)