

TOWARDS A COHERENT THEORY OF VALUATION

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ABSTRACT

Having identified examples of problems arising from the lack of a coherent and defensible body of theory underpinning valuation, the grounding of valuation theory in economic theory and the concept of worth are briefly considered. Worth is then considered within finance theory together with the classification of risk influences.

Contending that valuation theory is a subset of finance theory, the concept of worth in valuation theory is juxtaposed against that in finance theory and the extent of commonality observed. Reflecting the apparent existence of a level of commonality, further development of valuation theory as a subset of finance theory would appear worthwhile for subsequent empirical testing.

Keywords: Valuation, value, price, worth, risk, systematic, unsystematic, idiosyncratic

INTRODUCTION

This paper seeks to contribute to the debate concerning the coherence and defensibility of existing valuation theory through the conceptual exploration of potentially new theory. As such, this paper does not seek to empirically test existing theory through opinion surveys or econometrics but, instead, seeks to generate potentially new theory through the analysis of existing theory and advancement of knowledge through the application of logic and deduction. Without conceptual exploration to generate potential new theory first, followed then by the determination of validity through empirical testing, the theory of valuation will not be extended.

With the current state of valuation theory already represented through international standards, journals and texts, the application of logic and deduction is contended to comprise a valid approach to the extension of knowledge. As potentially new theory, it is likely at this stage to be considered at best unsettling, probably heretical and at worst allegedly wrong. However, following debate and review, such potential new theory may be tested empirically and either supported or refuted.

VALUATION THEORY – OUTLINE OF THE PROBLEM

Valuation theory, such as it is, is built upon a limited foundation of economic theory and in isolation of other relevant theory such as finance theory. Valuation theory is incomplete, lacking a robust grounding in principles and insufficiently broad to provide a firm foundation capable of handling different eventualities.

As a result, when new market events arise or new methodology is developed, valuation theory is insufficiently mature to accommodate same. When the property market downturn late last century created a different environment for valuation, the underlying theory was insufficiently robust and so new concepts were invented to accommodate the phenomena observed including:

- “investment value” (Property Economic Taskforce in Mackmin and Emary (2000));
- “abnormal uncertainty” (Mallinson Report in Mallinson and French (2000)); and
- “ERP” (Mallinson Report in McParland et al (2000))

rather than accepting that this was simply a part of the property market cycle that should be capable of accommodation through the application of valuation theory. McParland et al (2000), in considering the Mallinson Report, question:

“whether the move towards numerous terms is desirable, or whether it is purely an excuse for valuers to avoid the need to come to grips with what is meant by value”

Similarly, valuation theory was insufficiently robust to accommodate Discounted Cash Flow as a new methodology, leading to the protracted (and essentially futile) debate over whether it was a method of valuation or of analysis.

Essentially, valuation theory has evolved in relative isolation both conceptually and geographically. Conceptually, within Commonwealth countries generally, property emerged as a built environment discipline with a foundation in building construction that branched into town and country planning. With the advent of town and country planning came constraints on supply which led to the development of valuation based on limited economics and still within the built environment discipline. Accordingly, it may be contended that valuation was largely isolated from broader economic theory including finance theory.

Geographically, whilst elements of valuation theory may be common (such as the reliance on price in exchange), significant variations in terminology and methodology have developed in different parts of the world. Further, as the global market for property emerges requiring a global market for valuation, French and Wiseman (2003) note that

valuation theory based on comparison can only be relied upon where there is a degree of uniformity in the markets with global differences and differences within markets (such as lease lengths) meaning such uniformity becomes challenged. Accordingly, it may be contended that valuation theory is currently insufficiently robust to accommodate differences between markets geographically.

The lack of a coherent body of theory underpinning valuation not only limits the ability of valuation to accommodate significant changes in markets or methodology, but also to accommodate different applications globally. Valuation theory that only works for certain market conditions using certain methods in certain parts of the world is clearly fundamentally flawed.

Such flaws in valuation theory may be expected to be progressively further exposed by the fast growing international property funds management industry. Significantly, Hutchison and Nanthakumaran (2000) note that the management of property portfolios by the larger institutional investors is being driven increasingly by modern investment management techniques that are well established in the management of equity portfolios and grounded in finance theory. Similarly, Baum and MacGregor (1992) note that client demand centres on objective advice which places property in the context of the wider economy and which uses the vocabulary and analytical techniques of other markets.

Operating from a common platform globally using investment management techniques grounded in finance theory, the international property funds management industry employs investment management techniques for property portfolios that are firmly grounded in finance theory and economic theory using the vocabulary and techniques of finance theory and economic theory.

The problem, therefore, is the absence of a coherent and defensible body of theory underpinning valuation capable of accommodating significant changes in markets or methodology and different applications globally. With income producing property now demonstrably a global asset class, the problem is increasingly pressing. It is contended, therefore, that a coherent and defensible theory of valuation is required which links explicitly to finance theory and economic theory that underpins all asset classes.

ECONOMIC THEORY

Brown (1995) argues that valuation is essentially a matter of economics, with valuation models requiring an economic reference point. Significantly, however, following a consideration of basic economic theory, the theoretical underpinning for valuation education often moves swiftly to the concepts of supply and demand, their intersection at price and the central role of price in exchange within a market. Accordingly, whilst valuation theory sits notionally within economic theory, there is little theoretical interplay beyond the notions of supply and demand.

Small (2006) argues that while the market is the prime focus for observation in economic theory, both supply and demand are not fundamental but understood to be themselves the outcomes of causal explanations. Recognising that the theory of the firm may be used to generate the supply curve and that demand may be the outcome of a utility maximisation calculus somehow carried out, with the positive reality that supply and demand do appear to constitute actual and quantifiable tendencies in the behaviour of parties engaging in trade, Small (2006) argues that supply and demand are not yet fully understood as outcomes of causal explanations.

Having briefly and superficially considered supply and demand, the theoretical underpinning for valuation education then quickly gives way to practice with consideration of comparison of price. French and Wiseman (2003) note that, historically, valuation models have relied upon comparison as the principal tool of analysis such that valuers do not attempt to analyse the worth of a property from first principles or from the viewpoint of the valuation user:

“The purpose of any method of valuation . . . is to model the thought process of the players in the market.”

The Parker (2006)s contend that the aim of a valuation is to determine that price at which it is expected a property might change hands in the free market. The model should therefore attempt to reflect how the vendors and purchasers in that market could assess the worth of that property to them.

Within the framework of economic theory, worth may be contended to be the benefit that an owner draws from ownership of a property. As such, an evaluation of worth may differ between an owner (vendor) and a range of potential owners (purchasers) depending on their differing situations concerning influences such as leverage, tax, utility, etc. Such multiple and differing evaluations of worth reflect the imperfection of the market, being a condition precedent to a transaction occurring. Whilst the point at which the transaction occurs represents the intersection of supply and demand in this instance, it provides the observer with little information concerning the level of imperfection of the market whose intersection it represents nor the nature and significance of the influences leading to the respective assessments of worth by the parties to the transaction.

Accordingly, in the context of property, that part of economic theory upon which greatest reliance is placed may not itself be complete.

FINANCE THEORY AS A SUBSET OF ECONOMIC THEORY

Finance theory may also be argued to be a matter of economics. Whilst both finance theory and valuation theory are subsets of economic theory, each has essentially developed in isolation of the other – though finance theory, unlike valuation theory, may be contended to have developed within the framework of economic theory. For the

purposes of this paper, it is contended that finance theory is a subset of economic theory and that valuation theory may be considered a subset of finance theory.

Finance theory approaches valuation as a question of worth through such approaches as capitalisation and the Capital Asset Pricing Model (CAPM). Within capitalisation, where an asset has a capital cost of P and returns an income of R, its relative worth may be expressed as:

$$P = R/i$$

or:

$$i = R/P$$

where i represents the rate of return. Small (2006) notes that longstanding questions in economic and finance theory comprise which of the relationships is prior and which is the independent variable?

When approached as a question of worth, the former relationship is prior with a given required rate of return and income determining price. Accordingly, finance theory defines the value of an asset as the present value of its future returns. This may be contrasted with the approach of comparative price in exchange where the latter relationship is prior with the given price and income determining the rate of return.

Through the CAPM, the rate of return of an asset is linked to the risk of an asset, with the lowest risk attracting the lowest rate of return and the highest risk attracting the highest rate of return. With long term Government bonds generally considered to offer the lowest level of risk, the rate of return for assets becomes linked to the interest rate structure of an economy.

The CAPM also extends to an explicit consideration of the components of risk, using the aggregation of influences on returns at various levels to classify types of risk. The classification of risk then becomes a key foundation for another subset of finance theory, being modern portfolio theory.

Accordingly, for the determination of worth, the CAPM contributes to the identification of i within the interest rate structure of an economy.

VALUATION THEORY AS A SUBSET OF FINANCE THEORY

With valuation theory and finance theory developing in isolation, a wide conceptual gap has evolved between price in exchange and assessment of worth as the basis for determining value. However, valuation theory has also evolved to include a concept of worth within the lexicon of valuation terminology. It is proposed, therefore, to juxtapose this aspect of valuation theory and finance theory and observe the extent of commonality

as an indicator of the extent to which valuation theory may be capable of being interpreted as a subset of finance theory.

DISCUSSION OF FINANCE THEORY TERMS

Within finance theory, it may be contended that worth is determined by i and that i is influenced by interest rate structure and risk. Central to finance theory is the concept of risk as the movement in returns, which is commonly approached in the finance texts through the use of the statistical function, variance. Some texts (see for example, Elton and Gruber (1987) and Brealey and Myers (1981)) devote practically no attention to the description or discussion of risk and launch immediately into the statistical concept as a pre-cursor to the introduction of the systematic/unsystematic risk distinction. Reilly (1989) breaks variance into systematic variance and unsystematic variance with Haugen (1993) referring to the latter as residual variance.

Significantly, the proponents of the Arbitrage Pricing Theory adopt a third classification of risk, entitled Idiosyncratic Risk, attributable to those “influences that are not systematic to the economy as a whole, influences that impinge upon individual firms or particular industries but are not directly related to overall economic conditions” (Roll and Ross (1984)). Ross et al (1988) note that the term idiosyncratic was used merely to stress that the information within the idiosyncratic term is limited to the specific company or asset alone. This is distinguished from unsystematic risk which is argued to be capable of referring to a group of companies or assets.

Accordingly, it may be contended that unsystematic risk comprises those influences which affect the returns of an industry group or asset class whereas idiosyncratic risk comprises only those influences which affect the returns of a particular company or asset. Haugen (1993) reinforces this proposition when noting that all covariances between rates of return for securities will be attributable to the identified factors leaving the residual idiosyncratic factor uncorrelated between companies.

Detailed attention to risk classifications within the literature is, however, both limited and inconsistent, with the basic classifications of systematic and unsystematic risk attributed a variety of names by the various Parker (2006)s. In order to meaningfully distinguish between systematic and unsystematic risk influences, the contributions of the various Parker (2006)s reviewed (above) may be collated and a framework developed which may be summarised as follows:

Systematic Risk

Economy wide, asset class wide and industry wide influences of a descending, hierarchical character, common to all companies, pervasive and beyond the control of an individual company;

Unsystematic Risk

Industry wide and company specific influences of a descending, hierarchical nature limited to either individual companies or groups of companies and so pervasive only at the industry level and potentially within the partial control of the company; and

Idiosyncratic Risk

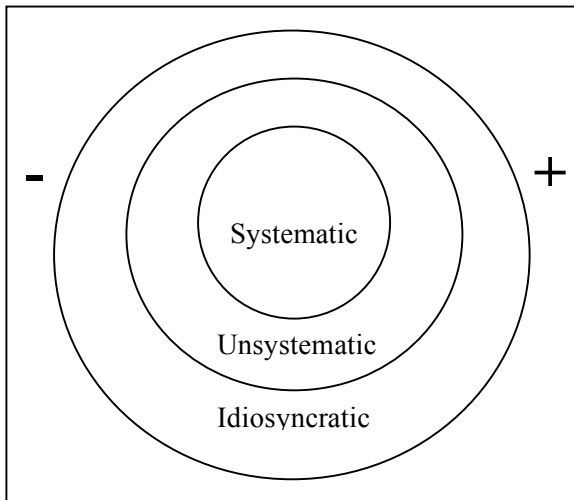
Risk specific to an individual company or asset.

It may be contended, therefore, that the following finance theory risk classification may be proposed:

- Systematic Risk
- Unsystematic Risk
- Idiosyncratic Risk

for application to the relevant asset classes for the determination of *i* as a contributor to the determination of worth, as illustrated in Figure 1.

Figure 1: Risk Spectrum



Source: Parker (2006)

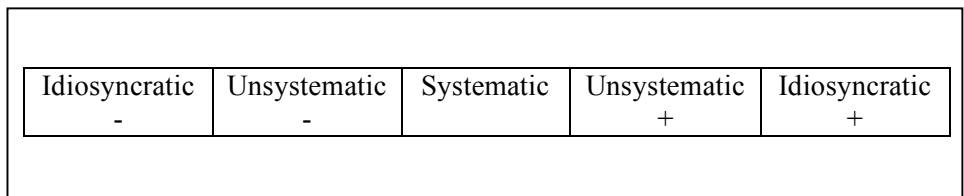
With the inclusion of industry in both systematic and unsystematic risk, it is not clear where the role of systematic risk gives way to that of unsystematic risk if, in fact, it does. Arguably, systematic and unsystematic may be names adopted merely to distinguish between those factors which are incorporated within capital market pricing concepts and those which are isolated, consistent with the role of the market in finance theory. Conversely, in the absence of a consideration of idiosyncratic risk, company is included in unsystematic risk.

It may be contended, therefore, that variation in returns is a function of a wide range of contributing influences, including a proportion which may be attributable to the characteristics of the individual asset, with those of the industry and economy being common to each of those assets within that particular class or sub-sector.

The review of literature concerning systematic, unsystematic and idiosyncratic risk may be of most use in highlighting that sources of variation in return may be grouped by their differing levels of pervasiveness. Given that the return of an asset comprises a combination of separate sources of return, each of which may vary, the classification of factors which may vary into a hierarchy is potentially very helpful.

It may be contended that contributing influences to sources of return and variance in return may be considered as a continuum as illustrated in Figure 2.

Figure 2: Risk Continuum



Source: Parker (2006)

Accordingly, in the assessment of worth, it may be contended that the influences on risk may be grouped as contributors to i.

Discussion of Valuation Theory Terms

The globalisation of business has driven major advances in international harmonisation in a variety of areas, including the introduction of common international accounting standards and international valuation standards (IVS 2003) with the effect of globally codifying part of valuation theory. Accordingly, to investigate the concepts underlying the terminology of valuation theory, it is proposed to use the definition of terms published by IVSC in International Valuation Standards, (IVS 2003) including:

Value: “The price most likely to be concluded by the buyers and sellers of a good or service that is available for purchase. Value establishes the hypothetical or notional price that buyers and sellers are most likely to conclude for the good or service. Value is not a fact, but an estimate of the likely price to be paid for a good or service at a given time in accordance with a particular definition of value.” (page 465)

and the further definitions of:

Market Value: “The estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arm’s-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently, and without compulsion.” (page 421)

Worth: “The worth or value of a property to a particular investor, or class of investors, for identified investment objectives.”

“This subjective concept relates specific property to a specific investor or group of investors with identifiable investment objectives and/or criteria. The term investment value should not be confused with the Market Value of an investment property.”
The term, investment value, is North American usage; worth is Commonwealth usage.” (pages 110 and 412)

Non-Market Based Valuation: “An investor may apply a rate of return that is non-market and particular only to that investor. In applying an income capitalisation approach to determine the price that investor is willing to pay for a particular investment based on the investor’s anticipated rate of return, a Valuer arrives at an estimate of Investment Value or Worth rather than Market Value.” (page 46)

Special Value: “A term relating to an extraordinary element of value over and above Market Value. Special Value could arise, for example, by physical, functional, or economic association of a property with some other property such as the adjoining property. It is an increment of value that could be applicable to a particular owner or user or prospective owner or user, of the property rather than to the market at large; that is, special value is applicable only to a purchaser with a special interest.” (page 113)

Philosophically grounded in a hypothetical exchange, current valuation theory contends that value is an estimated amount that may be paid by one party to another in a market (either transactional or economic utility based), being the estimated manifestation of where supply and demand may intersect:

“The economic concept of value reflects a market’s view of the benefits that accrue to one who owns the goods or receives the services as of the effective date of the valuation.” (IVS 2003, p36)

“Besides the ability to be bought and sold by market participants, ie, buyers and sellers, the value of a good or service may derive from the alternative economic utility or functions associated with it or it may reflect unusual or atypical market conditions.” (IVS 2003, p89)

The concept of value being based on “a market’s view of the benefits that accrue” is contended to be significant as a relative measure. A property with lesser benefits may have lower value and a property with greater benefits may have higher value. This is consistent with a view of lesser benefits being considered as greater risks and greater benefits as lesser risks.

Within the definition of value, IVSC defines three principal sub-sets of value being market value, worth and special value.

Market Value

Philosophically grounded in a hypothetical exchange, market value in valuation theory is an estimated amount that may be paid by one party to another in a market based on a prescribed set of generalised assumptions, being the estimated manifestation of where supply and demand may intersect:

“The concept of Market Value reflects the collective perceptions and actions of a market and is the basis for valuing most resources in market-based economies. The professionally derived Market Value is an objective valuation of identified ownership rights to specific property as of a given date.” (IVS 2003, p421)

“The Market Value of real estate is a representation of its market-recognised utility rather than its purely physical status.” (IVS 2003, p37)

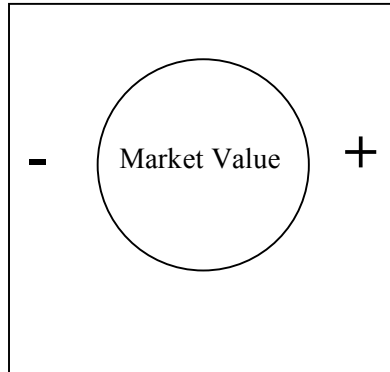
“The utility of assets to a given enterprise or individual may differ from that which would be recognised by the market or by a particular industry.”

“Implicit within this definition is the concept of a general market comprising the activity and motivation of many participants rather than the preconceived view or vested interest of a particular individual.” (IVS 2003, p38)

Concerning the prescribed set of generalised assumptions, McParland et al (2000) focus on the competitive conditions that are assumed within the definition of open market value. Such assumptions include more than one buyer and seller, rational behaviour among participants, normal sale conditions (not a forced sale) and all other terms and conditions of the sale also being normal. Baum and Mackmin (1990) consider market value as the most probable selling price as between a willing buyer and a willing seller under normal market conditions and assumes a sale to the most probable purchaser.

Whilst a sub-set of value, market value appears to be a wide grouping based on a prescribed set of generalised assumptions. It may be contended, therefore, that market value may be at the centre of a value spectrum with the point estimate of value conventionally determined by valuers being, in most cases, at the midpoint of market value as illustrated in Figure 3.

Figure 3: Value Spectrum – Market Value



Source: Parker (2006)

Worth

Philosophically grounded in a hypothetical exchange, worth in valuation theory is an estimated amount that may be paid by one party to another in a market based on specific assumptions, being the estimated manifestation of where supply and demand may intersect for that individual instance:

“Non-market based valuations . . . ” “An investor may apply a rate of return that is non-market and particular only to that investor. In applying an income capitalisation approach to determine the price that investor is willing to pay for a particular investment based on the investor’s anticipated rate of return, a Valuer arrives at an estimate of Investment Value or Worth rather than Market Value.” (IVS 2003, p46)

A link to underlying economic theory is provided by TEGOVA (1997):

“The concept of worth is based on a subjective, non-market derived assessment of economic utility to an undertaking of an asset.”

McParland et al (2000) note that a worth calculation is based on a combination of market information and client specific information. Further, Mackmin and Emary (2000) observe that a buy/sell decision is based on an opinion that the exchange price is below/above an opinion of worth (with “noise” comprising different opinions of value/worth around an exchange price), placing worth within the value continuum but distinct from market value. Such an approach suggests that worth is an assessment specific to an individual, a view proposed by McParland et al (2000). The concept of worth is based on a subjective, non-market derived assessment of economic utility of an asset and is calculated through

the appraisal of estimated cost and benefits accruing to the investor over time, discounted in accordance with the investors internally derived criteria.

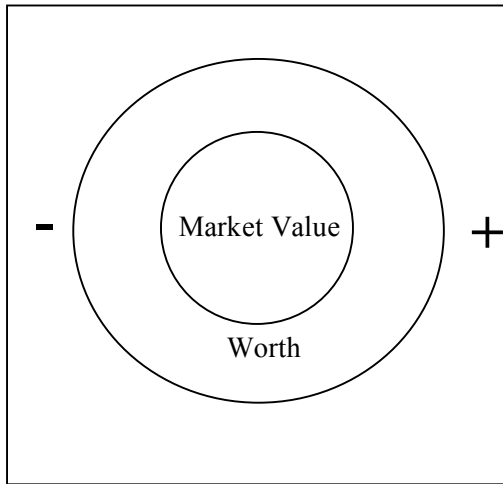
Alternatively, Mackmin and Emary (2000) distinguish between “individual worth” (being the maximum bid price of an individual purchaser who takes into account the information and analytical tools available to him/her) and “market worth” (being the price at which a property would sell in a competitive market where buyers and sellers were using all the available information). The difference between “market worth” and “market value” may be found in the former applying to a group who share a common feature (such as a common tax advantage, common objectives, common investment criteria, common holding period, common cost of capital, etc) rather than the market as a whole.

It may, therefore, be contended that when the common assumptions become sufficiently broad, an assessment of worth becomes an assessment of market value.

It may also be contended that worth may apply to a small group rather than only to an individual. For example, a small group of superannuation funds with broadly common tax advantage, common objectives, common investment criteria, common holding period, common cost of capital, etc, may assess a level of worth which is greater than or less than market value.

Whilst a sub-set of value, worth appears to be a narrow grouping based on shared, common features that may be more or less than market value. It may be contended, therefore, that worth sits either side of market value in a value spectrum as illustrated in Figure 4.

Figure 4: Value Spectrum - Worth



Source: Parker (2006)

Special Value

Philosophically grounded in a hypothetical exchange, special value in valuation theory is an estimated amount that may be paid by one party to another in a market based on specific assumptions, being the estimated manifestation of where supply and demand may intersect for that individual instance:

“A term relating to an extraordinary element of value over and above Market Value. Special Value could arise, for example, by physical, functional, or economic association of a property with some other property such as the adjoining property. It is an increment of value that could be applicable to a particular owner or user or prospective owner or user, of the property rather than to the market at large; that is, special value is applicable only to a purchaser with a special interest.”

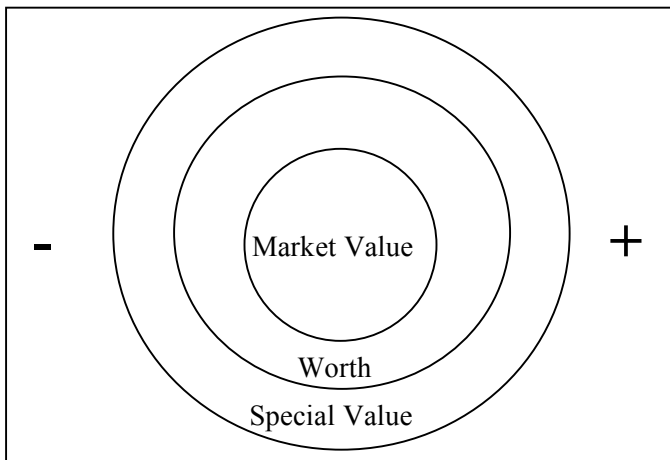
“Special value may accrue to a property by reason of a unique location, a temporary situation under exceptional market conditions, or a premium payable by a purchaser having a special interest.”

Similar to worth, whilst within the value continuum, special value is clearly capable of being greater than market value but appears to only be manifest for an individual rather than for a group.

Whilst generally considered to be in excess of market value, it may be contended that special value may be less than market value although a transaction at that point may be unlikely to occur.

Whilst a sub-set of value, special value appears to be an individual event based on a prescribed set of specific assumptions that may be more or less than market value. It may be contended, therefore, that special value sits either side of worth in a value spectrum as illustrated in Figure 5.

Figure 5: Value Spectrum – Special Value



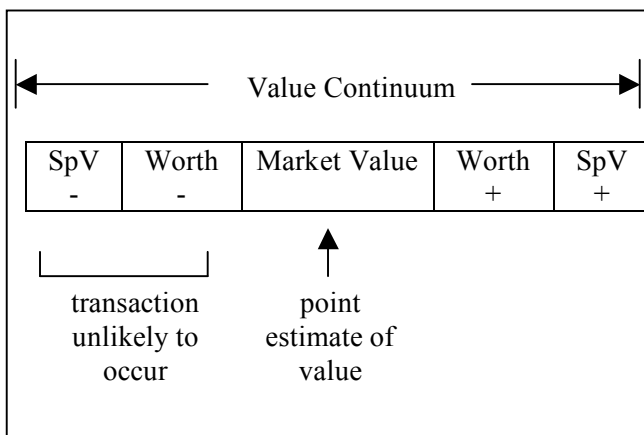
Source: Parker (2006)

Generally, it may be contended that value would rise from market value as the lowest, through worth to special value as the highest with transactions unlikely to occur at special value or worth below market value.

Conversely, the parties upon which the assumptions underlying the valuation are based increases from the minimum of one for special value, through a group for worth to the maximum number for market value.

Whilst not defined as such, it may be proposed that the various terms identified are each descriptive of particular points within the value spectrum that may be considered as a value continuum. Accordingly, each is an exercise in the application of the same theoretical framework, but subject to differing application assumptions as illustrated in Figure 6.

Figure 6: Value Continuum



Source: Parker (2006)

Within the value continuum, the principal variable may be contended to be the number of parties to whom the assumptions apply. Accordingly, it may be contended that the classifications of special value, worth and market value are spurious with each simply being a form of worth with a differing number of assumptions and parties to whom the assumptions apply.

Juxtaposition of Valuation Theory and Finance Theory

It was contended, above, that the discussion of terms relating to valuation theory may be summarised as:

Market Value	defined general assumptions for an homogenised group
Worth	defined specific assumptions for an individual or group
Special Value	defined specific assumptions for an individual

with each potentially being forms of worth for which a differing number of assumptions and parties apply.

This provides a framework for valuation theory comprising a progression of assumptions or influences from the general to the specific which mirrors the progression of assumptions or influences from the general to the specific that underlies risk classification as a determinant of i and hence worth within finance theory as illustrated in Table 1.

Table 1: Juxtaposition of Valuation Theory With Finance Theory

Level	Application	Risk	Value
General	Theoretical Market	Systematic	Market Value
↓	Practical Market	Systematic	Market Value / Worth
↓	Asset Class/Industry Group/Company	Unsystematic	Worth
Specific	Company/Asset	Idiosyncratic	Worth/Special Value

Source: Parker (2006)

When both are considered in the context of concepts of worth, the value continuum suggested by valuation theory may be juxtaposed with the risk continuum suggested by finance theory as illustrated in Figure 7:

Figure 7: Juxtaposition of Value Continuum From Valuation Theory With Risk Continuum From Finance Theory

SpV -	Worth -	Market Value	Worth +	SpV +
Idio -	Unsys -	Systematic	Unsys +	Idio +

Source: Parker (2006)

Accordingly, whilst valuation theory developed in a vacuum from finance theory, there may be contended to be apparent commonality with:

- market value representing worth subject to the impact of systematic return influences contributing to i ;
- worth representing the impact of unsystematic return influences contributing to i ; and
- special value representing worth subject to the impact of idiosyncratic return influences contributing to i .

CONCLUSION

Through the juxtaposition of the concept of worth in valuation theory and finance theory, a level of commonality was identified suggesting that valuation theory may be capable of interpretation as a subset of finance theory.

By seeking to use finance theory to inform valuation theory, a defensible and coherent valuation theory may be developed which links explicitly to that finance theory and economic theory underpinning other asset classes and is capable of accommodating significant changes in property markets or methodology and different applications globally.

Further conceptual development of new valuation theory as a subset of finance theory would, therefore, appear worthwhile. Following debate and review, such potential new theory may be then tested empirically and either supported or refuted.

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