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**Changing Investment Valuation Practices in the UK**

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**Abstract**

This paper makes the case for doing research on the history of investment valuation. It adopts a cultural economy approach that suggests that economies and markets are constructed, not given; and that economic practices – such as those involving calculations like property investment valuations – do not just operate the economy, they constitute the economy. The core of the argument is that, at any given time, certain calculative practices predominate. They embody particular rationales and they legitimate and facilitate certain ways of doing things: in other words, they reflect power relations in society. Changes in calculative practices may provide evidence of wider structural changes. Consequently, their histories are important.

The paper considers the evolution, organisation and forms of calculative practices in the UK, in particular the evolution of investment valuation practice during the last century. It is anticipated that this examination will provide a framework within which to analyse and interpret the history of particular practices, including other valuations such as for development situations. The paper concludes with a consideration of some aspects of property valuation and appraisal to show how they relate to the general discussion and how valuation may make a good subject for a critical history.

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## Introduction

This paper makes the case for doing research on the history of valuation. It works from the general to the particular in order to establish the importance of looking at the latter. It adopts a cultural economy approach.<sup>1</sup> Cultural economy holds that economies and markets are constructed, not given; and that economic practices – such as those involving calculations like property investment valuations and development appraisals – do not just operate the economy, they constitute the economy. The core of the argument is that, at any given time, certain calculative practices predominate. They embody particular rationales and they legitimate and facilitate certain ways of doing things: in other words, they reflect power relations in society. Changes in calculative practices may provide evidence of wider structural changes. Consequently, their histories are important. The paper develops a framework within which to analyse and interpret the history of particular practices by considering the organisation and evolution of calculative practices. It concludes with a consideration of some aspects of property valuation and appraisal to show how they relate to the general discussion and how valuation may make a good subject for a critical history.

## The Economy and Society

A constant concern of the paper is the relations between the economic and the social and between economics and the economy. Our starting point is the conceptualisation of economic abstraction developed by Polanyi (1957a and b); in particular, his consideration of the interrelations between the economic and the social in different contexts. Polanyi (1957b) argued that there were three main means by which the economy might be integrated with society: reciprocity, redistribution and exchange. He stressed the degree to which modern capitalism was a special case (Wilk, 1996). Firstly, because the capitalist economy is embedded in markets which, in turn, depend upon exchange. The principles of reciprocity and redistribution, and the possibility of alternative institutional hosts for the economy are (largely) excluded from the system. Secondly, because capitalism fuses the substantive and formal dimensions of economics: the former deriving from fact and the latter from logic (Polanyi, 1957b). The material acts of making a living are (assumed to be) based upon the exercise of rational economic logic. In non-capitalist cultures economic activities may be driven by other values and logics: blood-ties, religious obligation, fealty and so on. Economic activities occur but the concept of ‘the economy’ is in abeyance (Polanyi, 1957a, p. 71).

Underpinning abstraction is the process of ‘dis-embedding’ (Polanyi, 1957a, p.68), wherein economic activities became distanced and distinguished from the network of social and other operations in which they are pursued (Parry, 1986), particularly from the political and governmental system. Consequently, only those relationships defined by the economic activity itself are important. This abstraction occurs in both the practical/substantive and conceptual/formal realms of the economy. Carrier (1998) argues that the character and behaviour of these realms is mutually reinforcing because economic practice shapes economic thought and vice-versa. Consequently

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<sup>1</sup> This does not rule out the use of a behaviouralist approach, whether it follows the tenets of old or new institutional economics, because it embodies and extends such an approach.

the world comes increasingly to be seen in terms of economic concepts and models, and these are taken to be what underlies and shapes the world: a virtual reality.

“Perceiving a virtual reality becomes a virtualism when people take this virtual reality to be not just a parsimonious description of what is really happening, but prescriptive of what the world ought to be. That is, when they seek to make the world conform to their virtual vision.” (Carrier, 1998, p. 2).

Carrier (1998) attributes the growing strength of abstraction and virtualism to both formal and substantive trends. Regarding the former, he highlights the development of neo-classical economics in the second half of the twentieth century and its dominant mode of inquiry; and gives as an example the difference between old and new institutional economics. Regarding the latter, he cites the growing influence of the economics discipline itself. Thus, because of neo-classicism's growing dominance in the discipline, the abstract economic viewpoint has been adopted by more and more people and institutions. This conception of the economy carries great force. One of its greatest strengths - and weaknesses - is that evidence that appears to undermine it may also be construed as an indication that it has not been applied with sufficient rigour. Miller (1998) gives the example of structural adjustment in the developing world, where ensuing problems arise from a failure to conform to the model, not from the model's inadequacy.

"Where the existing world does not conform to the academic model, the onus is not on changing the model, testing it against the world, but on changing the world, testing it against the model." (Miller, 1998, p. 196).

### **Calculations and the Making of Markets**

Cultural economy offers a perspective from which to explore the relation between economics and the economy. DuGay and Pryke (2002) argue that the material practices that constitute economic discourse do not just operate and characterise markets and economies, they are markets and economies. In other words, markets are constructed, not given (Callon, 1998). If this is so, the logic underpinning material practices - such as valuations and other calculations that support market transactions - will actively shape economic form; and economic theory will help to make markets through its articulation in these practices.

The analysis of the nature and effects of calculative practices is based on some broad principles (Law, 2002). First, that the autonomous, rational decision-maker of mainstream economics is always incomplete, so other logics co-exist with that of economic liberalism. Second, that calculative practices, subjects and cultures are elements of materially heterogeneous relations. To understand such relations therefore requires an exploration of the strategies and styles of practices. Third - and given the first two points - that analysis will involve disentangling the complex interactions of competing economic logics and their related practices.

### *Calculative Practices*

There are three distinct dimensions to calculative practices (Miller, 1994): their technologies (including specific techniques), their rationales and their relations with the wider economic domain. Particular technologies require actions to conform to the calculations to which they will be subject. For example, the introduction of DCF analysis of investments altered the way that opportunities were represented (to) and assessed by managers. In turn, calculative technologies are mobilised by underlying rationales through which economic processes are made operable. For example, choice may be exercised through managerial decisions based upon evaluations of investment opportunities. This rationale - that the technology enables the making of choices in markets - provides support for its further elaboration and diffusion. By this means, calculative practices (re)constitute the economic domain. Theoretical, economic abstractions are made real in particular forms such as discounted cash flows (rather than building rents), collections of assets (rather than buildings) and so on. In this way, valuation techniques may become distanced from the materiality of buildings and cities and the weight given to other types of approach may be reduced (Guy & Henneberry, 2005).

The three dimensions of practice are interrelated (Miller, 1994). The objectives of calculative technologies depend upon rationales, while the emergence of new rationales may prompt the development of new calculative methods. Similarly, changes in the conceptualisation of 'the economy' may result from or result in changes in calculative technologies and their rationales. Existing understandings may become problematic when new calculative practices are introduced. The political economy of calculative practice may also be affected. Such practices are vehicles for the exercise of power: partial and biased mechanisms that further the interests of some classes or groups over others. Change may alter the reciprocal relationship between calculative systems and their organisational environments. Established systems tend to stabilise organisations by providing standardised frames of reference and behaviour. Instability may arise from either source.

Thus, calculative practices may be seen as cultural artefacts that legitimate and facilitate certain ways of organising and running firms, other organisations, the economy and wider society. Different results arise from different calculations that, in turn, are conditioned by their institutional and social contexts. Consequently, "norms of calculation can ... be seen as always potentially threatened by the existence of alternative and competing norms." (Miller 1994, p. 13) The way in which new calculative practices arise and become established may, therefore, provide evidence of shifts in the wider operational environment.

Mathematics and statistics generally (Barnes 1998) and applied calculative practices in particular (Miller and Napier 1993) can be shown to be powerfully influenced by, and to influence, the wider society in which they are set (Miller, 2001). Particular techniques, such as DCF analysis, are not developed and applied solely as part of a natural, rational, instrumental march of intellectual progress (as Parker, 1968, might have it). They may be used "... as ideological weapons in struggles over the distribution of income and wealth" (Tinker and Neimark, 1988, p. 55). Indeed, the assemblage of calculative practices that constitute established business and professional activities is constantly changing. Techniques that were marginal and novel become accepted and mainstream as social and organisational contexts evolve

(Miller, 1998). Consequently, critical histories of calculative practices may reveal much about their roles in bolstering or challenging the status quo.

### *The organisation of calculative practices*

Carrier (1998) identifies three ways in which calculative practices are organised: through firms, through (higher) education and through professional bodies. Firms seek a world in which all markets are open and everything is marketable. Business school qualifications, while their focus is practical, are based on models and theories that are abstract and generic. They represent the latest word on how best to run a business and are essential for a successful business career. They help to reinforce an elaborate material culture embodying a range of logics and practices. This culture includes specialist communities and people who produce and disseminate knowledge, understandings and capabilities. Such groups and individuals are often denoted as 'professionals'. Professional bodies, especially those representing management consultants, accountants and surveyors, encourage the standardisation of commercial and economic practice – extending the power and reach of market capitalism (Miller, 2002).

The relations between professional bodies and other organisations has long been a focus of study.

“The strength of professionalism as an influence upon behaviour is due to the fact that the professional attitudes the employee brings to the job – produced by ... prior training – are continually reinforced by ... associations with other members of his [sic] professional group. Professionalism results then, from the combined influence of prior training and association with an outside group – the profession.” (Simon et al., 1950, p. 77).

There are two key dimensions to the relation between professions and other organisations: the nature and standing of the profession and the 'location' of the professional reference group in relation to the organisation (Hill, 1972)<sup>2</sup>. Some well-established professions have high status and tenets that are not subject to easy external challenge. The law and medicine are examples. Other professions, such as accounting and surveying, are more recently established and have a weaker base in expertise or social status. The latter are more likely to identify with and to share business assumptions and mores – and to reinforce rather than to challenge them.

Accountancy, through its standards and procedures and its engagement with core business activities, exerts a strengthening, centralising force on the conduct of business and, therefore, on business itself. In addition, many of the concerns of accountancy relate to those of surveying (for example, investment and valuation). Consequently, the accountancy literature offers a useful lens through which to view calculative practice.

Miller (1994) approaches accountancy from a perspective that is compatible with economic virtualism. He presents it as a social and institutional practice, part of and

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<sup>2</sup> Though he was writing about professions active in public bureaucracies, Hill's (1972) points have general relevance.

forming social relations. Accountancy influences and is influenced by a wide range of agents, agencies, institutions and processes. It transforms them to achieve specific ends through the complex interplay between calculations and management. Particular understandings and approaches to action are embodied in accounting. Actors and agents must accept and respond to the 'real' elements of accounting practice through which these understandings are represented: financial flows, costs and incomes, profits and losses. We can begin to penetrate this nexus of theory, conceptualisation, practice and management by considering a particular calculative technique. This is the use of NPV calculations for the evaluation of investments - because of its relevance to property investment and development decision-making.

Miller (2001, pp 388-391) argues that the crucial elements of an NPV calculation are the timing of future cash returns and the cost of capital; and that decisions may be based on a simple rule - "only projects with a positive NPV are acceptable" (Miller, 2001, p. 390). This combination of characteristics gave power and influence to the technique. It (apparently) replaced intuition and subjectivity with calculation based on rigorous financial reasoning. It required the individual manager to consider the time value of money and capital productivity (and opportunity cost). Its widespread adoption and application was closely linked to the development of a vocabulary of DCF. It contributed to the installation of an economic norm within firms. It made hitherto un-noted decisions and projects visible, calculable and comparable. And this last feature - comparability (of NPVs across a wide range of different projects) - exposed managers, their employers and the objects of their calculation to competition from others. Finally, "NPV calculations sought to render the future knowable, calculable and amenable to control". (Miller, 2001, p. 391).

### ***The practice of investment valuation***

As a part of the economy and the wider business world, property was not immune from the changes affecting calculative practices more generally. Indeed, the adoption of DCF techniques and the use of NPV calculations in property investment decision-making is an important strand in the evolution of valuation practice.

Hitherto, consideration of that process has focused on the technical merits of approaches to valuation and the major UK textbooks were mainly authored by leading property practitioners rather than by academics until after the 1960s (see, for example, various editions of the standard valuation text *Modern Methods of Valuation*, first edition (Lawrence and May, 1943) through to the sixth edition (Lawrence Rees and Briton, 1971)). Very few academic institutions taught real estate subjects, including valuation, until the development of the Polytechnic sector in the UK in the 1960s and 1970s. These contributions paid little or no attention to a broader finance perspective of investment appraisal.

The development of new degree courses in the 1970s also led to a changing authorship of the basic texts by the new academics (see for example, Millington, 1975; Enever, 1977; Richmond, 1975). Although most such texts were fairly descriptive property based applications of the investment method of valuation it was in this decade that the academic framework of the modern methods was to gain momentum in the UK; these developments are set out later in this paper.

Histories of the property sector (see, for example, Marriott, 1967; Rose, 1985; Ross-Goobey, 1992; and Scott, 1996), while they offer a broader treatment, pay relatively little attention to changes in valuation practices. Neither literature considers valuation's constitutive role in the property market as a social practice that affects and is affected by the complex of actors, processes and institutions with which it engages. The paper begins to address this issue.

### **Research Methodology**

Our working hypothesis is based on two tenets of cultural economy (as discussed above). Firstly, that calculative practices are never merely techniques but also embody and reinforce dominant social relations. Secondly – and consequently – that any history of such a practice will give some indication of shifts in the underlying distribution of power. Translating this into property valuation terms, our initial assumptions are as follows. The first is that the rise of finance capital and the financialisation of the economy has resulted in its calculative practices (including DCF techniques and the use of NPV calculations) becoming the norm in the property sector. The secondly is that the sector's business, education and professional organisations have acted in concert to support this change. Using this as a basic framework, we construct a historiography in two stages.

First, we consider the evolution of investment valuation since 1900. . The treatment of the period up to the early 1980s is drawn from the previous work of one of the authors (Crosby, 1985). This work was based upon a combination of direct and indirect, primary and secondary sources (Jordanova, 2000) including valuation textbooks, cases heard before the lands tribunal and other courts dealing with property disputes, and research into the records of an individual firm. It provides the most comprehensive review of the historical development of investment valuation technique in the UK. Chapter 3 of Crosby (1985) deals with the period from around 1900 to 1960, a pivotal date in the history of property investment with the emergence of the reverse yield gap between Government bonds and property capitalisation rates. Chapter 4 identifies the changes in investors' perceptions that led to the reversal of the yield gap and describes the eventual impact that had on the application of technique in the property investment market in the period between 1960 and the early 1980s. Thus the influence of practitioners, academics and the profession are identified within the context of the wider economic environment. The period from the early to mid 1980s to the present day is wholly based on indirect, secondary sources, (Howell and Prevenier, 2001) - mainly academic and practitioner authored articles and papers, although the authors were personally involved in these developments. A number of these sources also include surveys of valuation practice, such as Crosby (1990) and French (1996). The narrative is inevitably influenced by our adopted position (Iggers, 1997) but offers an acceptable history (Munslow, 1997).

In the subsequent discussion, we pay particular attention to the evolution of investment valuation practice because of the evidence that this may offer of shifting power relations. To do so, we use Lépinay's (2002) guidance on the process of contestation and change. His conceptualisation of the evolution of calculative practices stresses the conflict between their forms. Working in the field of finance, Lépinay (2002) considered the evolution of formulas. He developed a model of change that consists of four stages: formulation - formulas - formalism - form.

A formulation is the beginning of a new financial product. It is ill-defined; one of a host of potential developments. Its character is not fixed and may be altered through negotiation or competition. Once a formulation gains sufficient support - through the numbers and/or power of its supporters - it becomes a formula. Its influence and acceptance increases, reinforcing its credibility. However, formulas remain subject to significant threats from competing formulas which may displace them. Once the nature of a formula is fully defined and stabilized, it enters the stage of formalism. Its distinction makes a formalism concrete. It is clear what the formalism is, how its merits may be tested and demonstrated and what implications its introduction has for its operational environment. Consequently, it may more easily be defended against other formulas. A form is a fully established formula. It is the product of much investment by its developers and supporters. It is an accepted calculative technology that maintains and is maintained by its environment. It is subject to challenge from new formulas but can resist them from a position of strength.

The idiosyncrasy of Lépinay's expression highlights the emergent and contingent nature of the evolution of calculative technologies. It echoes the disruptive and challenging effects of change discussed earlier. It also alludes to the symbolic aspects of financial innovation. New forms of money and their associated financial instruments combine imaginative representations of what they might do with the rational calculation of their performance (Alan, 2002). Economic meaning is dependent upon what financial products express, represent or signify as much as upon their notation or image. These significations play a role in the battles between established and emerging formulas, such as that between growth implicit and growth explicit approaches to investment property valuation mentioned previously.

## **The Evolution of Investment Valuation Technique in the 20<sup>th</sup> Century**

### ***Introduction***

Crosby (1985) draws a picture of how investment valuation technique was taught and applied up to the early 1980s. Responding to suggestions by a number of commentators, such as Sykes (1983) and Trott (1980), that technique had not developed at all in the 20<sup>th</sup> century, he identified subtle changes through time based on academic and practitioner comment in the texts very slowly filtering through into practice application over extended time periods. The integration of dual rate and then tax adjustment into the valuation of leasehold interests is an example. On this basis, he discussed the likelihood that explicit cash flow valuations (which filled the academic literature of the period) would be fully integrated into practice in the future but, by the time they had been, they would most likely be already perceived to be outmoded by the development of more sophisticated technique.

Despite finding these subtle changes, he found the basic approach to valuation did not change in the period up to 1960. The valuation of standing investments was undertaken using a vertically sliced term and reversion model as set out in all the basic UK property valuation texts and criticised in Baum and Crosby (2007). Despite most textbooks (all through the 20<sup>th</sup> century) discussing the investment market origin of discount rates, applications in texts, cases and practice concentrated solely on yield

derivation via comparables of transactions in similar properties – a comparable approach rather than an investment approach.

One part of this history not fully developed in Crosby (1985) was the relationship between property market downturns and technique development. Due to the lack of historic property market indices, he developed a single location property market rental value index to identify different market states and this shows a number of boom and bust situations. The downturns are often related to major events such as the two world wars. However, there are two economically based exceptions, the depression of the early 1930s and the oil and secondary banking crisis of the early 1970s. There was no evidence in the data collected that the depression of the early 1930s impacted on the property valuation process or technique but there is evidence that the two later property market downturns in the early 1970s and 1990s had an impact.

### ***The changing economic environment after Second World War***

The most radical change in investment in the post second world war era was a perceptible rather than an actual change. Despite a long-term inflation trend throughout the 20<sup>th</sup> Century, investment yields tended to suggest that inflation was not endemic and was seen as a fluctuating phenomenon. However, following a sustained period of inflation after the war, in the post 1960 period, Crosby (1985) found evidence that capitalisation rates for property reacted to the general investor realisation that inflation was eroding the real value of the income because of the lack of rent revision opportunities in pre-1960 leases. The property market reaction was the relatively rapid introduction of rent reviews followed by an equally rapid reduction in the time period between reviews. By the early 1970s reviews are present in most long leases (not so in the pre 1960 period) and reduced quickly from 21 and 14 years in the 1960s to periods of 7 and 5 years by the early 1970s.

The next event was the 1970s property crash. As part of counter inflation measures the Conservative Government in the UK introduced a commercial property rent freeze with all rents frozen at their current level. This created a situation where investors realised that current income was more important than prospective increases at review. It has been suggested that the upwards only rent review was a product of this downturn but property market data suggests that, due to high inflation rates, rents did not fall within a standard rent review period (5-7 years at the time). So, where rents were reviewed after the downturn, they were generally reviewed upwards.

Regardless of the precise genesis of the upwards only rent review, the rent freeze would have focussed investors on the differential risk of the core current income and the potential reversionary uplift and this seems to have led to the introduction of horizontally sliced income streams with different capitalisation rates on the core and the top slice after reversion. By the late 1980s, a survey of practice by Crosby (1990) revealed the following breakdown of different applications of the conventional market valuation model in UK practice.

**Table 1: Market Valuation Techniques - Different Conventional Approaches**

Valuation approach used	Number of Respondents (%)				
	Term and Reversion	Equivalent Yield Vertical	Equivalent Yield Horizontal	Layer/ Hardcore	Other
Always	43(26.9)	3(1.9)	7(4.4)	8(5.0)	1(0.6)
Usually	52(32.5)	18(11.2)	25(15.6)	22(13.8)	1(0.6)
Occasionally	37(23.1)	47(29.4)	29(18.1)	56(35.0)	20(12.5)
Never	20(12.5)	77(48.1)	80(50.0)	64(40.0)	51(31.9)
No Response	8(5.0)	15(9.4)	19(11.9)	10(6.2)	87(54.4)
<b>Total</b>	160(100)	160(100)	160(100)	160(100)	160(100)

It appears from this information that term and reversion approaches dominated practice in the late 1980s. However, this was not actually true. A further piece of analysis was undertaken which indicated that, although the majority of valuers in the survey used the method, those valuers who specialised in investment valuation were those more likely to be using layer or equivalent yield techniques. Table 2 shows how the picture changed when the valuers answering always or usually to a method were matched with the number of valuations they undertook.

**Table 2: Number of Valuations by Each Method**

	No. of Respondents	No. of Valuations
<b>Term and reversion</b>	95(53%)	8,840(30%)
<b>EY vertically sliced</b>	21(12%)	2,850(9%)
<b>EY horizontally sliced</b>	32(18%)	9,395(32%)
<b>Layer</b>	30(17%)	8,595(29%)
<b>Total</b>	178* (100%)	29,680 (100%)

\*This total includes a number of the 160 respondents who answered usually or always to more than one approach.

The property market crash of the 1970s was also in a period after larger institutional and company entities had taken over from the local entrepreneurs who appear to have dominated local property markets in the pre 2<sup>nd</sup> World War period (Crosby, 1985). The rise of individual property entrepreneur developers in the immediate post war reconstruction phase who eventually became the founding fathers of the major UK

property companies, is very well documented (see, as indicated previously, Marriott, 1967; Rose, 1985; Ross-Goobey, 1992; and Scott, 1996). This was combined with increasing property investment by financial institutions in the same period and a significant rise in the amount of lending to the property sector, especially in the late 1980s (Scott, 1996). Given the expertise of some of these investors in alternative investment markets and the expertise of their advisors, it is not surprising that property values and valuations came under scrutiny from investors and advisors from outside the property market.

### ***Development of the Traditional v Cash Flow debate***

The criticism of valuations by Greenwell and Co (Walls, 1977) is typical but the valuers' self regulating body (RICS) had already responded to issues raised in the downturn by the initiation of Valuation Standards in 1974. But this did not stop a number of negligence claims, mainly by banks, against valuers, a phenomenon that extended through the next downturn in 1990 (Crosby and Murdoch, 1998). In the post 1970s downturn, the RICS also responded by initiating a high profile research project into valuation technique (Trott, 1980).

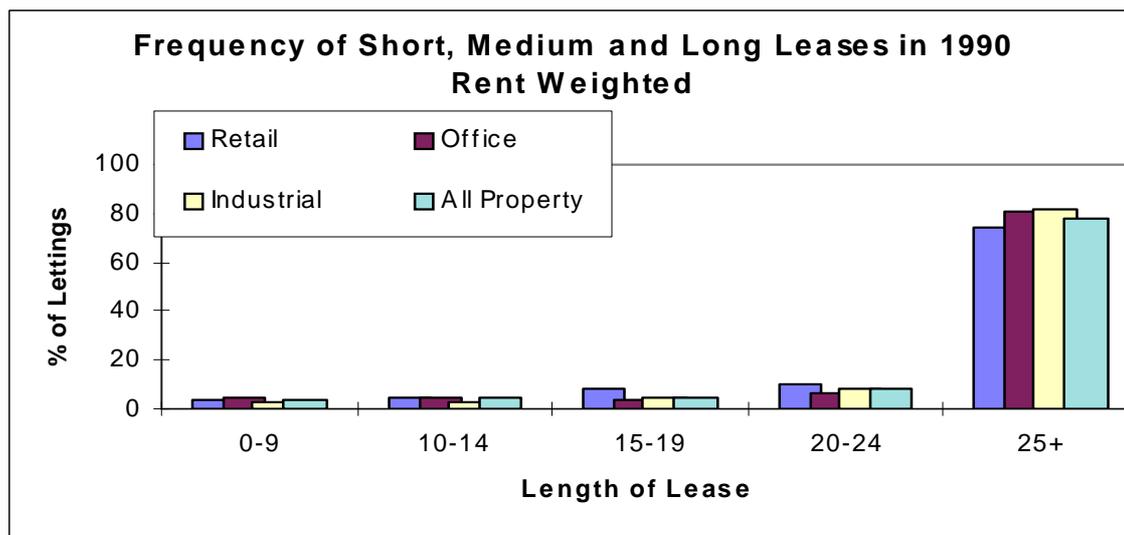
The academic response had preceded the property crash and, responding to the earlier economic changes highlighted by the reverse yield gap, Greaves (1972) and Wood (1972) both published PhDs examining property investment valuation methods in growth environments. These two laid the foundation for a flurry of academic output during the mid to late 1970s and early 1980s, all concentrating on explicit valuation approaches for a growth environment. White (1977) criticised valuers for following cook book routines and Marshall (1976) set out simple explicit cash flow examples which looked less complex than the approaches set out in Wood and Greaves. Fraser (1977) followed suit for leasehold investments. Wood's seminal work was largely dismissed by Trott as too complex although Crosby (1985) sought to reconcile the different approaches to what were essentially market valuation models taking growth prospects more explicitly into account. One objective of this work was an attempt to demystify Wood's real value approach.

Basic texts on the early 1970s did not include treatments of discounted cash flow (Lawrence, *et al*, 1971) but during the 1970s a number of new introductory texts were authored the new academic community, mentioned previously, some of which included treatments or at very least mentions of discounted cash flow (Millington, 1975; Enever, 1977; Richmond, 1975, Baum and Mackmin, 1979). By the 1980s, other texts and following editions of the previously mentioned texts all featured DCF (Millington, 1975; Enever, 1981; Richmond, 1985, Baum and Mackmin, 1981, Darlow, 1983). Chapters on discounted cash flow and developments in valuation methods appear in the 7<sup>th</sup> edition of *Modern Methods of Valuation*, the standard valuation text of the previous 35 years (Britton, *et al*, 1980). The latter chapter discussed purely investment valuation techniques but the example used in the DCF chapter was of a major refurbishment scheme so could be seen to be development related as well as investment.

However, all of these treatments seemed to accept that DCF was for analysis of price not market value. Market valuation, while not adopting the new cash flow approaches did change. As indicated previously, this change was from a vertically sliced to a horizontally sliced approach for reversionary investments; but still using capitalisation

rates obtained from comparables. It did not include any change to cash flow based approaches.

By 1990, given the high occupational demand fuelled by the building boom of the late 1980s, especially in London City offices, and helped by a significant increase in bank lending to the property industry, a significant proportion of the property market measured by Investment Property Databank (around 90% by value) was let on long 20-25 year leases at high rents fixed in the late 1980s with upwards only rent reviews (see Figure 1).



**Fig 1: Frequency of different UK Lease Lengths – Rent Weighted 1990**  
**Source: Investment Property Databank**

In the early 1990s, with lowering inflation causing greater nominal falls in value than experienced in the 1970s, rental values fell and failed to recover within the normal review period, which was still five years. The UK property industry discovered mass over-renting for the first time as a technical problem to be addressed.

Obviously this was not the first time that rental values had fallen and a valuation had to be undertaken with property let at rent higher than its rental value. Crosby (1985) recounts the solution to an over-rented valuation undertaken in 1942 where the pre war rent of £542 per annum net of repairs expired in 1946 but the 1942 rental value was thought to be only £417 per annum net. As the normal valuation approach of the time was a vertically sliced term and reversion approach, the valuer seems to have had no problem capitalising the income of £542 for 4 years at the cap rate and reverting to the lower rental value of £417, capitalised into perpetuity and deferred 4 years. Why did the same issue cause such a flurry of activity in the early 1990s?

Both academics (Crosby, French, Ward, and Booth) - individually and in collaboration - and practitioners (Goodchild, Epstein, Martin, Rich) addressed the

problem<sup>3</sup>. The practice problem was caused by the move to horizontal slicing. Practicing valuers attempted to adapt the horizontally sliced approach by adapting and reversing the layers. Academics and a number of practitioners were quick to point out that this did not work and part of the top layer was valued twice; once in the capitalisation of the top slice income until lease expiry and once implied within the capitalisation of the bottom slice at the cap rate. This double counting rendered the approach technically incorrect and the academics suggested that a growth explicit cash flow approach solved some of the problems regardless of whether the cash flow was over or under-rented. Cash flow based market valuation solutions were introduced to standard valuation software packages (KEL, Circle) in this period as a direct result of the industry search for solutions to their perceived problems with over-renting. French (1996) indicates that in 1995, while 95% of valuers included in a survey of practice used conventional investment valuation techniques for reversionary properties and only 10% used cash flow based techniques (5% used both), for over-rented properties this fell to 85% with 15% using cash flow based approaches (again 5% used both).

However, with the return of growth to property markets in the later 1990s and 2000s, the debates subsided. Although no survey has to our knowledge been undertaken since, discussions by the authors with valuers in UK practice would suggest that the demise of over-renting in the late 1990s and most of the 2000s saw valuation practice revert to its pre-1990 horizontally sliced, equivalent yield approach based on capitalisation rate. We cannot confirm this retrenchment of practice from secondary sources.

This does not mean that Crosby's (1985) prediction concerning cash flow integration into practice is wrong. Cash flow is now used routinely in the UK property market (Baum *et al*, 2000) but not for the market valuation role. In the aftermath of the 1970s crash and the discussion on technique precipitated by Greaves (1972) and Wood (1972), Greenwell and Co (Walls, 1977) and the RICS valuation research (Trott, 1980), the distinction between price, value and worth was debated. Baum *et al* (1996) discussed this distinction and it formed the basis for the Calculation of Worth Information Paper published jointly by the RICS and the Investment Property Forum (RICS/IPF, 1996). The distinction is that Market Value is the estimation or best attempt at observation of price in a market place. Worth is the estimation of the value to an investor. Conceptually this is the distinction between the value in exchange and the value in use, although there are issues with value in use being either value to an individual or to a group of investors. This concept of value in use has been defined for property valuation purposes as 'Investment Value' within international valuation standards.

One of the authors sat on the editorial board of the Red Book in the 1990s at the time that the Calculation of Worth was included for the first time and RICS/IPF paper was produced to support the inclusion. There was reluctance within this committee process for the approach to be called a valuation. The reason was to preserve the

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<sup>3</sup> See, for example, Booth (199?); Crosby (1992); Crosby, French and Ward (1997); Crosby & Goodchild (1992); Epstein (1993); French and Ward (1995; 1996); Goodchild (1992); Martin (1991); and Rich (1992).

integrity of the market valuation basis as being the observation of markets, undertaken by comparable based valuations. Cash flow was perceived to be an approach to analyse the observed price. This distinction appears to be widely accepted by the UK valuation profession – therefore the use of cash flow for market value determination appears to be minimal but is widespread in buy/sell decision-making comparing the price with worth or investment value to the individual purchaser. This does not mean that price is independent from prospective purchasers' and sellers' estimation of worth, just that the techniques used by valuers to estimate these two defined values are different.

The latest downturn has had similar impacts to the 1990 downturn. Both RICS and the Investment Property Forum have initiated debates, committees, responses, etc to the plethora of complaints concerning valuations, including questions such as: how can valuers use comparable methods if the market is not transacting frequently; can valuers use information from outside direct property markets such as indirect property based stock prices; and can they use cash flow techniques to undertake market valuations (Crosby *et al*, 2009; RICS, 2010). Valuation debates have taken centre stage at the major UK practitioner conference in 2008 and its mainland European counterpart in 2009 (EG Capital, 2008; IPE Real Estate, 2009).

To summarise, investment valuation has been the subject of major attention throughout the 20<sup>th</sup> century and the beginning of the 21<sup>st</sup> century. The attention was mainly from within the property community until the 1970s when in the aftermath of a changing ownership structure, property valuation attracted comment from advisors and investors in multi asset portfolios. Change to process and method was relatively slow during the first part of the 20<sup>th</sup> century but seems to have accelerated with an increasing regulatory control from 1974 onwards. The academic and practitioner community have addressed similar problems and interacted with these problems, the over-rented debate of the 1990s is probably the best evidence of that. But valuation technique remains doggedly grounded in comparisons and capitalisation rates despite the increasing commentary and critique and the increasing technology to support more sophisticated alternatives.

## Discussion

“Accounting practices create a particular way of understanding, representing and acting upon events and processes. They create the costs and returns that then become the basis for rewards and penalties. They define the profits and losses to which various parties react. They make up the financial flows that have come to achieve such a vital significance in contemporary society. Thus they provide a means for acting upon activities, individuals and objects in such a way that they may be transformed. Accounting, as one of the pre-eminent means of quantification in some societies, accords a specific type of visibility to events and processes and in so doing helps to transform them. By calculating and recording the costs of an activity one alters the way in which it is thought about and made amenable to intervention. Accounting practices require and inspire particular organisation forms and processes.” (Miller, 2001, p. 393)

If 'valuation' is substituted for 'accounting' and 'values' for 'costs', Miller's quote captures the role of valuation in the property market. That role is a fundamental one. Valuations are at the interface between economic abstractions and *real* estate (which is also mediated by the law – cf. legal interests in physical objects such as buildings). They define property assets in terms of values and returns; and, thereby, determine the bonuses of fund managers, the asset bases of companies in general and the profitability of property companies in particular. Given their significance, one might expect some congruence to exist between the rationale(s) for valuation and the character of this calculative practice; and for change in the one to induce change in the other. One would not be disappointed.

There has been a long-drawn-out debate concerning the relative merits of using, in the valuation of investment properties, either (i) the market's view of future performance through the application of the initial yield on rack rented property in the capitalisation rate; or (ii) growth explicit DCF models. The employment of the latter has grown inexorably (cf. Baum and Crosby, 1995; Brown and Matysiak, 2000). This has resulted in increasing prominence being given to target rates of return and the opportunity cost of capital, "... a rate of return ... sufficient to meet the competition of alternative investments ..." (Baum et al, 1997, p. 59). In addition, DCF valuations require "... the valuer to specify precisely what rental income and expenses are expected when, and for how long." (ibid, p. 59) Consequently, "Valuation ... requires the valuer to consider the future ..." (Baum et al 1997, p. 48). Comparability and futurity are inherent features of the approach: often to the discomfort of practitioners. The particularity of the character of real property - and, therefore, of the methods used to value it - is challenged. Property becomes just another asset. The 'art' of valuation is lost, valuation becomes instead the application of generic financial analyses to real property. Investment valuation techniques are now rooted in financial economics within the business school tradition. The rationales of finance capital are dominant.

More specifically, Lépinay's (2002) four-stage model of the development of calculative practices can be mapped onto the development of cash flow techniques for investment appraisal since the 1960s. The nature of the investment property asset changed in the early 1960s with the changing perception of investors followed by the changing structure of leases and the introduction of rent reviews. A long term fixed income bond type structure had been replaced with a more dynamic equity type investment capable of adjusting the cash flow to nominal rental value/cash flow change. The conventional model was constructed for use with fixed rents and reversions to prospective rental values which were not expected to be any different to the current rental value. The changing nature of the asset precipitated the call for changes to the approach.

Lépinay suggests change in four stages: the first is formulation. A formulation is the beginning of a new financial product and we can assume in this case the new product is the technique – cash flow. At first it is ill defined, one of a number of new possibilities. Others at the time included index linked sinking fund based approaches to terminable incomes and real value approaches, although these were reconciled with cash flow. Its character is not fixed and may be altered through negotiation or competition. The second stage is that it becomes a formula after it gains sufficient support. There is evidence to suggest substantial professional (the RICS Calculation

of Worth paper; the insertion of a definition of investment value in valuation standards) and practice support (Baum, *et al*, 2000 found that the cash flow approach was fully integrated into practice).

Formulas remain subject to significant threats from competing formulas that may displace them. The original applications of DCF technique were challenged throughout the 1970s, 1980s and 1990s. However, most of the challenges were based on input sophistication rather than on critiques of the principles underlying the approach. The third stage of development is formalism, achieved when the practice is fully defined and stabilized, and the fourth is form. The cash flow model is now quite fully formed and has reached this third stage. The final stage is form - a form is a fully established formula. Lépinay suggested that at this stage it is the product of significant investment by its developers and supporters. It is an accepted calculative technology that maintains and is maintained by its environment. It is subject to challenge from new formulas but can resist them from a position of strength. DCF is still being developed but for the role of appraising property investments it is close to conforming to this model.

For the major role of market value it has not achieved the same level of development. It is still at the second stage of formula. Although it gained some level of acceptance during the property market downturn of 1990 onwards, it was never accepted by the industry in general and in the bull market of the late 90s and early to mid-2000s it appears to have been largely ignored in favour of the conventional approach. There is an institutionalised comfort with the capitalisation rate approach within industry and the need for change is not accepted. In addition, the model has not been developed; the debate on alternatives to the application of short cut DCF to the valuation of over-rented property is evidence that it is still in the formula stage and its inability to supplant conventional techniques is evidence that it has not progressed beyond the second stage.

## **Conclusions**

This paper has sought to adopt a political economy approach to explain the evolution of the property investment appraisal model. The core of the argument is that, at any given time, certain calculative practices predominate. They embody particular rationales and they legitimate and facilitate certain ways of doing things: in other words, they reflect power relations in society. Changes in calculative practices may provide evidence of wider structural changes.

Lépinay (2002) provides us with a four stage development model; formulation - formulas - formalism - form; and we have attempted to map the evolution of technique onto this model. We have used the UK as a case study for this approach and the debates within the UK property community suggest two distinctive roles for property investment appraisal; estimation of exchange price in the market (market value) and estimation of the worth of the property to an investor or group of investors (investment value). Both concepts are fully defined and explained in mandatory valuation standards.

Applying a theoretical model to the actual events in practice is not straightforward. The real world rarely behaves as hypothesised and is generally more complicated and less neat. However, there is evidence to support the gradual development and establishment of cash flow approaches as a 'formalism' (indicating that the formula/method is well developed and understood and its implications are also well understood) and has possibly reached 'form' (a fully established and accepted formula/method).

But this does not amount to predominance/hegemony over the property sector. It is only fully established in the role of investment value and we would hypothesise from the literature and structure of ownership of the property investment market that it is used to advise the part of the market closest to the alternative financial markets; the financial institutions, companies and funds who invest in other financial assets and/or use capital from the financial markets.

In the role of market value it is clear that the evolution of cash flow is less well developed. We have placed it within the context of the Lepinay model at no more than the second stage; formulae. This suggests that it has gained some support but has not displaced the alternatives.

Our preliminary analysis of the development of technique was unable to identify the relative importance of the influence of business/practice, education/academics and the profession in the rise of DCF. Pre-1970, valuation education and practice was dominated by practice and the lack of an academic tradition in UK real estate valuation education up until the early 1970s is apparent from the lack of basic texts written by academics. It is only during the 1970s, particularly the work of Greaves and Wood, that the alternatives to growth implicit capitalisation rate based valuations were questioned by academics and it was not until the 1990s that the practitioners took a part in these debates, precipitated by the property crash of 1990, even though the practitioner based texts did appear to include some basic cash flow before that, however firmly bedded in the analysis of price rather than price discovery. The reluctance of the RICS to use the word valuation in the Red Book definition of 'Calculation' of Worth suggests a resistance by practice to cash flow approaches taking centre stage in the market valuation role.

However, before definitive conclusions could be drawn on the role of the stakeholders in the development of cash flow techniques, we need to understand in more detail the processes by which these actors engaged with DCF and the influence they exerted. This preliminary examination can only surmise on the roles from the secondary sources although one of the authors has been involved in RICS and IPF committees, including the Red Book editorial board in the 1990s and the Valuation Standards Board in the 2000s and has been party to the debates.

We feel that this attempt to map the evolution of cash flow approaches applied to property investment has provided useful insights into the process by which mathematical formulations evolve from ideas to mainstream application in practice. It identifies some of the drivers for change including the need for the inventors and supporters to engage with practice if they are to convince users of the merits of their formulation. However, the analysis is partial and preliminary – we have not for instance mapped the development of the technical tools and their influence in

providing the means by which users can operationalise the formulae/method. We believe this to be a crucial element in the evolution of cash flow in the UK property market.

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When valuing a company as a going concern there are three main valuation methods used: DCF analysis, comparable companies, and precedent. As shown in the diagram above, when valuing a business or asset, there are three different methods or approaches one can use. The Cost Approach looks at what it costs to rebuild or replace an asset. The cost approach method is useful in valuing real estate, property, or an investment security. It is not typically used by finance professionals to value a company that is a going concern. Next is the Market Approach, which is a form of relative valuation and frequently used in the industry. It includes Comparable Analysis and Precedent Transactions. The value of foreign investment in the UK has fallen slightly from its peak in 2008, although it increased by £796 billion in 2016 (the year of the EU referendum). However, just one-fifth of that rise was due to new investment in the UK (£155 billion). The rise was instead driven by currency and price changes. UK investment in emerging markets remains small relative to developed countries. Prime Minister Theresa May has announced plans to increase investment in Africa after Brexit during a recent visit. While UK investment in Africa has risen by 61% since 2008, investment in Europe has dropped by 20% in the same period. Yet UK investment in Europe was worth approximately 38 times as much as investment in Africa in 2017. change the balance of forces against them so that new groups can change regulation in order to capture its benefits for themselves. Thirdly, it can explore how regulation can protect particular constituencies via its economic effects. The approach when thus applied sees laws and economic outcomes as jointly determined by politics. This is a useful point briefly to review previous work on foreign investment in the UK. A notable feature of this work is how sparse and fragmentary it is – again a pointer to our conclusion. There. (2) – Many British firms had much to learn from foreign practices in the drive to be competitive. (3) There was concern over the high import content of goods produced by foreign companies. This web page is designed to support "Investment Valuation", the third edition. The publisher is John Wiley and Sons. You can navigate the site by either going to individual chapters and getting supporting material by chapter, or by going to the supporting material directly. Derivations and Discussion: These represent interesting questions that often come up in the context of the specified topic, with discussions and analyses. Readings: These are readings from business and academic publications that supplement the specific topic. Solutions: The solutions to each chapter are at the end of each chapter in the web site below. Powerpoint Presentations: These are power point presentations that are designed for use by instructors. You will need the password to download these as well.