Valuers of UK Agricultural Land: an assessment of their performance, decision making and use of comparable evidence

MARK ANDREW SIMCOCK

SUBMITTED FOR THE AWARD OF PROFESSIONAL DOCTORATE IN THE BUILT ENVIRONMENT

UNIVERSITY OF SALFORD

SCHOOL OF THE BUILT ENVIRONMENT

2019

ABSTRACT

Establishing a market value for agricultural land in the UK is a complex and subjective task but it remains an important one as reliable and robust valuation figures remain vital to supporting good decision making in the management of land and property as well as for the functioning of the market economy particularly at times of greater volatility. It was established via literature review that nominal was known as to how robust and reliable the valuation figures for agricultural land were and secondly it was established that nominal was known as to how the valuers of agricultural land selected and used comparable evidence in determining those valuation figures. These two matters formed the research gap for this thesis.

One site based valuation exercise found that 78% of the 18 participating valuers valued agricultural land to within +/-10% of the mean valuation. In a second desk based valuation exercise, comprising two groups of 31 participating valuers, 68% of one group of participating valuers who were provided with comparable evidence that was indicative of a consistent market for agricultural land, were able to value agricultural land to within +/-10% of the mean valuation. In contrast, 32% of the second group who were provided with comparable evidence, that was indicative of an inconsistent market for agricultural land, were able to value agricultural land to within +/-10% of the mean valuation. The difference in performance between the two groups in the desk based valuation exercise could only be accounted for by the nature and interpretation of the comparable evidence. Given this, the thesis recommends that a more reliable and robust source or database of comparable evidence is needed.

An analysis of dictated protocols revealed that participating valuers typically adopted a five stage comparable valuation process when selecting and using comparable evidence to determine their opinion of value. These were Inspection, Evaluation, Selection, Adjustment and Valuation. This process has been developed into a Comparable Valuation Template for dissemination into practice and is presented as part of the findings of this thesis. In making decisions as to which alternative pieces of comparable evidence to select or reject participating valuers tended to make those decisions by evaluating the alternative pieces of comparable evidence. This was based on the attributes of those alternatives using a process aligned to the adaptive decision making Template. The most important attributes in the selection/rejection of comparable evidence of agricultural land were found to be Sale Price, Land Type/Quality, Plot Size and Distance from the land being valued.

Of those valuers who completed the consistent valuation desk based exercise, 45% rejected comparable evidence on the basis of one attribute alone, whilst only 3% from those who completed the inconsistent exercise did so. However, a majority of valuers from both groups used no more than three attributes to reject comparable evidence.

This research represents some novel insights into the performance of agricultural valuers and their ability to value agricultural land to within +/-10% of the mean valuation. It has been established that it is the selection and interpretation of the comparable evidence that effects this performance more so than either valuation experience or the time spent on the valuation task. It is recommended that a better way of sharing, collating and distributing comparable evidence would be mutually beneficial for the profession through the production and maintenance of a comparable evidence database to accommodate and store market evidence to be accessed by valuers.

CONTENTS

LIST OF TABLES

LIVE VALUATION EXERCISE

DESK BASED VALUATION EXERCISE

LIST OF FIGURES

LIST OF APPENDICES

GLOSSARY OF TERMS & ABBREVIATIONS

The terms below are terms that are referred to throughout this thesis. The definitions are those used for this thesis.

Abstraction Rights (Water)	Land owner with running water that runs adjacent to their land having the right to extract water and irrigate the land
Bare Agricultural Land	Agricultural land that is owned with vacant possession and that is not encumbered by any tenancy and has no buildings or property built upon it
Bracket or Margin of Error	A valuation figure falling within +/-10% of the mean, or a control, valuation
CAAV	Central Association of Agricultural Valuers
Comparable Evidence	An item(s) used during the valuation process as evidence of sales of agricultural land in support of the valuation of the agricultural land that is the subject of the valuation
Comparable Method of Valuation	A procedure, or method, in which a valuation figure is derived by comparing the agricultural land being valued to similar agricultural land that has been sold recently. The procedure makes adjustments to the sale prices of the comparable evidence to account for the identified differences between the comparable evidence and the land bring valued
Correct Valuation	The mean valuation
Development or Hope Value	Land having additional value due to having or the prospect of achieving planning consent for development on the land
Environmental Entry Level Stewardship Scheme (ELS)	A management agreement entered into by a landowner agreeing to manage the land in accordance with certain environmental measures for which the landowner receives a monetary payment
Land Grade	A measure of the quality of agricultural land. Grade 1 being the best and Grade 5 the worst
Negligent Valuation	A valuation that does not fall within +/-10% of the mean valuation

Nitrate Vulnerable Zone (NVZ)	A statutory requirement placed on the occupiers of agricultural land to limit the amount of nitrogen that they apply to land for which the landowner receives no monetary payment
RAU	Royal Agricultural University
Robust valuation	A valuation that is able to withstand rigorous scrutiny
RICS	Royal Institution of Chartered Surveyors
Subject Land	The agricultural land being valued
Valuer Performance	The ability of the valuer to produce a valuation to within +/-10% of the mean valuation within a group of valuations
Valuation Accuracy	A test that compares a valuation figure to the eventual sale price.
Valuation Variation	A test that looks at the valuers' ability to be able to value land and/or property at the same value as another valuer. This compares one valuation with another valuation rather than the eventual sale price
Valuation Bias	Arises when the valuations figures produced by valuers consistently over or under value the land and/or property
Value	regard that something is held to deserve, the importance, worth or usefulness of something or the estimated monetary worth of something

ACKNOWLEDGEMENTS

There are many people who have been of enormous professional and personal help in the development and writing of this thesis and I would like to thank each of them.

Firstly to Charles Cowap who put the idea of doing a doctoral qualification into my head in the first place, second to Barrie Florey who said yes when I asked the University to support and finance me on this doctoral journey. To Becky Payne and Susan Ragbourne who continued that support upon Barrie's retirement. Third, to my unofficial doctoral councillor, Julie Boone, who has been immeasurably helpful as I have collected and analysed data and then tried to write it up and make sense of it.

I have had four supervisors during my time working on this thesis and each of them has added something of value to the product, so many thanks to Selma Carson, Mark Shepherd, Paul Chynoweth and Joanna Poon.

Finally to my wife Katrina, and two children Elliot and Harriet who have had to put up with me spending every spare minute of my time working on this thesis which means there have been times I have not been there when I should have been.

CHAPTER 1 INTRODUCTION

1.1 Articulation of the Problem

Agricultural land accounts for 72% of the land mass in the UK being 17.5 million hectares of land being farmed (DEFRA, 2017). The value of that land rose by 273% between 2003 and 2013 (Savills, 2013). This level of growth has attracted a diverse range of purchasers to the market over and above the traditional commercial farmer who now only represent 43% of purchasers (Savills, 2016). This increased level of interest from non-farming purchasers could have been driven to some extent by the fiscal benefits in owning agricultural land seeing 100% relief from Inheritance Tax being available on the value of agricultural land making agricultural land a form of safe haven for investors. It could also have been driven by the guaranteed financial support payments being made, currently, under the Common Agricultural Policy (CAP) to the occupiers of agricultural land being the agricultural policy of the European Union. There has also been a growing interest from the lifestyle buyer, being buyers wanting to purchase property in the country with land for either recreational or equestrian type uses. The market for agricultural land and the factors driving the market value of agricultural land have therefore been diverse and complex. It is within that environment that the professional property valuer must interpret the market and seek to provide an opinion of the market value of agricultural land for their clients. Clients will use that advice to make investment and other property related decisions over the future use of that agricultural land. Accurate and reliable valuations are therefore required and such valuations are therefore the cornerstone of any functioning land and property market (Babawale, 2013). To that end there is little knowledge as to how well the valuer performs when it comes to providing accurate and reliable valuation figures for agricultural land compared to colleagues engaged with residential and/or commercial property. This is evidenced by residential and commercial property being the subject of valuation accuracy studies (Brown, 1985, IPD/Drivas Jonas, 1988, Matysiak & Wang, 1995, Blundell & Ward, 1999, Babawale, 2008) and valuation variation studies (Hager & Lord, 1985, Hutchinson et al., 1996 and Havard, 1999b) to date.

This study seeks to fill that research gap by engaging professional valuers in a valuation variation study which evaluates the “ability of participating valuers to produce the same valuation figure for the same property” (Babawale, 2013 p.387). The benchmark applied to participating valuers will be the ability of participating valuers to produce a valuation figure

to within +/- 10% of the mean valuation which is a performance standards established in law and in particular in the case of *Singer & Friedlander Ltd v John D. Wood & Co [1977]*. Having identified the existence of valuation variation, or not, the study will then seek to identify the nature and causes of any valuation variation identified.

Property valuers have at their disposal five traditional methods of valuation and when it comes to the valuation of agricultural land many valuers will utilise the comparable method of valuation to value agricultural land. The comparable method of valuation works by comparing the land being valued with evidence of recent sales of agricultural land in determining value. The method requires the valuer to identify and adjust the comparable evidence to account for any identified similarities and differences between the land being valued and the land that forms the comparable evidence. In selecting appropriate comparable evidence and in making adjustments to that comparable evidence the valuer must use their professional judgement, they must make decisions as to which is the best comparable evidence to choose and use and which comparable evidence can be rejected. It would appear that little is known about the way in which comparable evidence is used in the valuation of agricultural land even though it is probably the most used method of valuation. This is evidenced by work by only a few sources in this area being (Diaz, 199b) and (American Institute, 2001) that appear to examine this area and neither in relation to the valuation of agricultural land.

It is within that context that this study seeks to fill that research gap by engaging professional valuers in a valuation variation study to evaluate the professional judgements and decisions that they make in choosing and/or rejecting comparable evidence as well as evaluating the judgement and decisions exercised in adjusting evidence to account for the identified similarities and differences between the evidence and the land being valued.

A thesis map is provided in Figure 2 in an attempt to articulate the links between practice, the identified research gap and the theory relevant to this study.

1.2 Research Aim

In accordance with this the following research aim, objectives and questions have been developed.

The principal research **aim** is:

To evaluate the ability of the valuers of agricultural land in the UK to produce reliable valuation figures and to enumerate their decision making processes in the selection and use of comparable evidence within a valuation template.

1.3 Research Questions:

1. Does valuation variation exist amongst the valuers of agricultural land?
2. If valuation variation does exist, to what extent does it exist amongst the valuers of agricultural land?
3. What are the causes of valuation variation amongst the valuers of agricultural land?
4. What criteria do the valuers of agricultural land use to evaluate the comparable evidence available to them?
5. How do the valuers of agricultural land select or reject the comparable evidence they wish to use in forming their view as to value?
6. Do valuers of agricultural land change the way they select or reject comparable evidence when the valuation task becomes more complicated?
7. Do valuers of agricultural land change the way they select or reject comparable evidence when the environment within which the valuation is conducted becomes more complex?
8. How do the valuers of agricultural land use their selected comparable evidence to arrive at their valuation figure?

1.4 Research Objectives

1. To evaluate the extent to which valuation variation exists amongst professional valuers engaged with the valuation of agricultural land
2. To evaluate the causes of any valuation variation identified amongst professional valuers engaged with the valuation of agricultural land
3. To appraise how those engaged with the valuation of agricultural land evaluate, select and utilise comparable evidence in determining their valuation figures
4. To construct a valuation template that facilitates the evaluation, selection and utilisation of comparable evidence in the determination of valuation figures for agricultural land

5. To evaluate the application of descriptive decision theory in the selection of comparable evidence
6. To assess if the choice of decision heuristic changes when the valuation task or environment within which the valuation is conducted becomes more complex

1.5 Outline Methodology

The research strategy relating to this study explaining that a pragmatic philosophical approach has been adopted taking the form of an exploratory sequential mixed methods research approach. Saunders et al. (2012) argued that no single approach to research can ever give a complete picture of the world and so the research approach adopted seeks to utilise the benefits of both quantitative and qualitative research. The chapter sets out that the research took place within three phases. Phase 1 taking the form of unstructured interviews with four experienced agricultural valuers in order to explore the phenomenon under investigation. This was to provide data for the development of a research instrument in Phase 2 which was a comparable valuation exercise and which is referred to as the Live Valuation Exercise. This research instrument was then used in Phase 3 whereby participating valuers completed the valuation exercise by visiting and inspecting a piece of agricultural land before proceeding to make use of comparable evidence provided by the researcher to determine their valuation figure. This provided data in two forms, first it provided a valuation figure from each participant and second each valuer dictated their thought processes onto a tape which was subsequently transcribed.

1.6 Thesis Structure

The thesis begins with a review of literature, which in Chapter 2 examines the professional literature relevant to this study. It examines the valuation task and tries to explain that the valuation task is complex and subjective but remains a very important one. It seeks to review the case law on negligent valuations and how the courts determine whether a professional valuer has produced a negligent valuation indicating poor valuer performance. The chapter explores the regulatory environment within which valuation must take place and the guidance available to the professional valuer as they determine their valuation figures. The chapter argues that there is plenty of advice as to what should be undertaken and what should be taken into account with little guidance as to how it actually is done, which is something that this study sets out to explore. The chapter then sets out the rationale for the

focus on the valuation of agricultural land. This is followed by an exploration the literature in relation to valuer performance and the accuracy within which it has been found that the professional property valuer can value a property asset. The discussion focuses on two measures of accuracy, valuation accuracy and valuation variation. The former compares valuation figures to an eventual sale prices and the latter looks at the ability of the valuer to be able to value the property at the same value as another valuer (Babawale, 2013). The results, as will be explained, provide a mixed picture of the performance for the valuation profession. However, the study will argue that none of this relates to the valuation of agricultural land; hence seeking here to examine that issue and find out how well those valuing agricultural land perform.

Chapter 3 then reviews the literature in relation to the theoretical aspects of the study which are to be found in descriptive decision making theory being an examination of how decisions are *actually* taken rather than how decisions *should* be taken, the latter being associated with normative decision making theory. The chapter examines the research findings establishing the use of heuristic decision making strategies in valuation work. These being the way the valuer, when faced with large amounts of comparable evidence, seeks to utilise short cuts called heuristics to make decisions or choices. The chapter examines the work of Payne, Bettman & Johnson (1993) which argues that decision makers are sometimes adaptive in their choice of decision making strategy. When the decision task is more complex or the environment within which the decision is made is more complicated then Payne et al. (1993) argue that the decision maker will use a more information intensive decision making strategy than if the valuation task or environment were less complicated. These are the ideas that will be examined in relation to the decision task examined within this study relating to the choice over which comparable evidence to choose in the valuation of agricultural land and that are developed further in this study.

Chapter 4 sets out the research strategy relating to this study explaining that a pragmatic philosophical approach has been adopted taking the form of an exploratory sequential mixed methods research approach. Saunders et al. (2012) argued that no single approach to research can ever give a complete picture of the world and so the research approach adopted seeks to utilise the benefits of both quantitative and qualitative research. The chapter sets out that the research took place within three phases. Phase 1 taking the form of unstructured interviews with four experienced agricultural valuers in order to explore the phenomenon under investigation. This was to provide data for the development of a

research instrument in Phase 2 which was a comparable valuation exercise and which is referred to as the Live Valuation Exercise. This research instrument was then used in Phase 3 whereby participating valuers completed the valuation exercise by visiting and inspecting a piece of agricultural land before proceeding to make use of comparable evidence provided by the researcher to determine their valuation figure. This provided data in two forms, first it provided a valuation figure from each participant and second each valuer dictated their thought processes onto a tape which was subsequently transcribed.

Chapter 5 reports on Phase 1 of the research being the findings from four unstructured interviews from which the development of the research instrument, the live valuation exercise, was initially developed and then then completed within Chapter 6. Chapter 6 then reports on Phase 3 of the research being the findings from eighteen agricultural valuers who participated in and completed the live valuation exercise.

Chapter 7 then reports on an extended Phase 3 where the limitations of analysis from a sample of 18 valuations were acknowledged. In an attempt to obtain data from a wider range of participants Chapter 7 reports on the development of an extended valuation exercise referred to as the Desk Based Valuation Exercise. This was despatched to a wider range of 1104 potential participants. Chapter 7 then reports on the findings from the 62 valuer returns received from the desk based valuation exercise and attempts to triangulate the findings with those from the 18 valuer returns completed within the Live Valuation Exercise.

Chapter 8 proceeds to set out the findings and conclusions in relation to the research aim and objectives set out above as well as articulating the contributions to knowledge generated by this thesis and also the recommendations for professional practice, limitations and areas for further research.

The overall structure of the thesis is illustrated in Figure 1 and a thesis map is provided in Figure 2.

Figure 1 – Flow Chart illustrating Thesis Structure

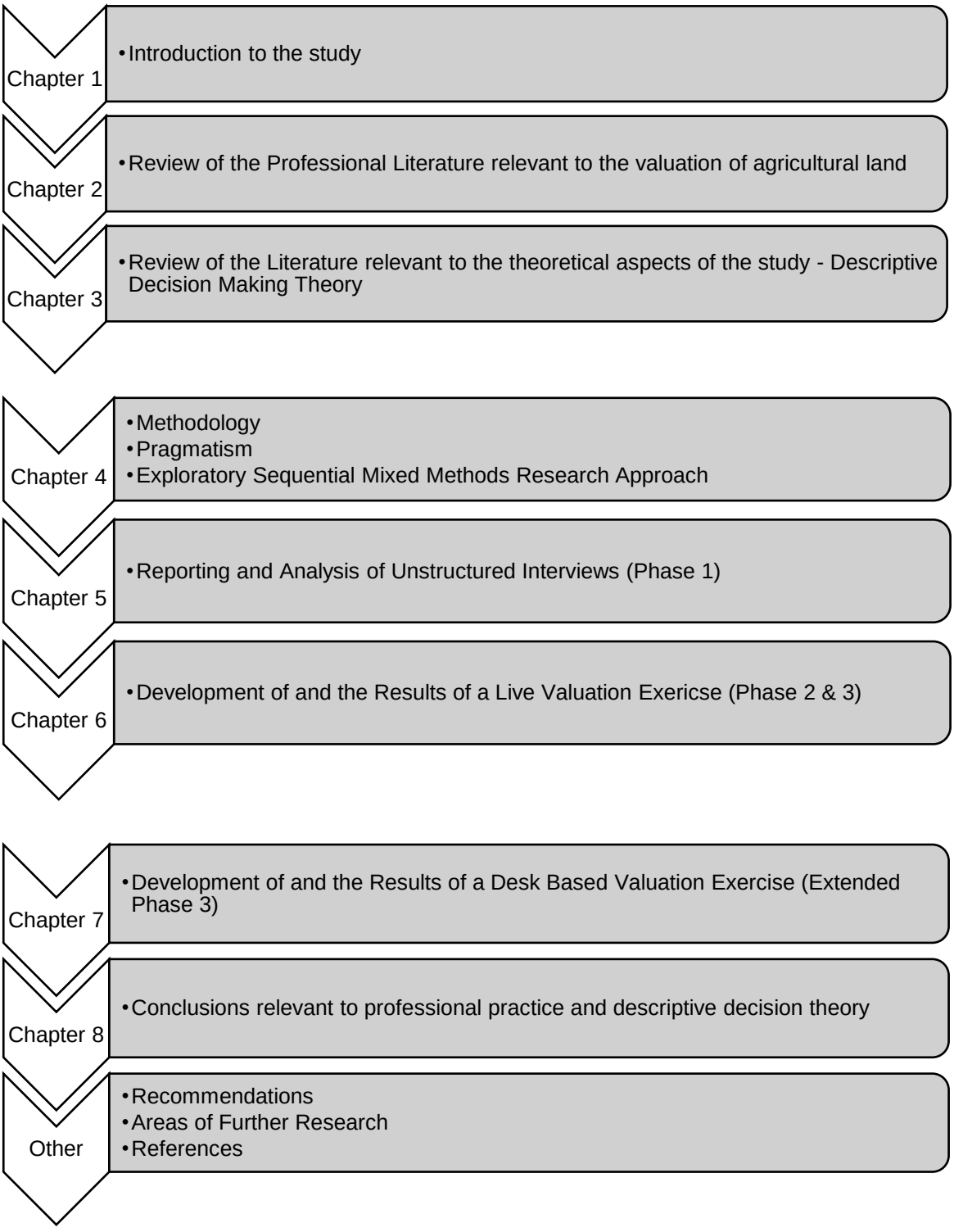
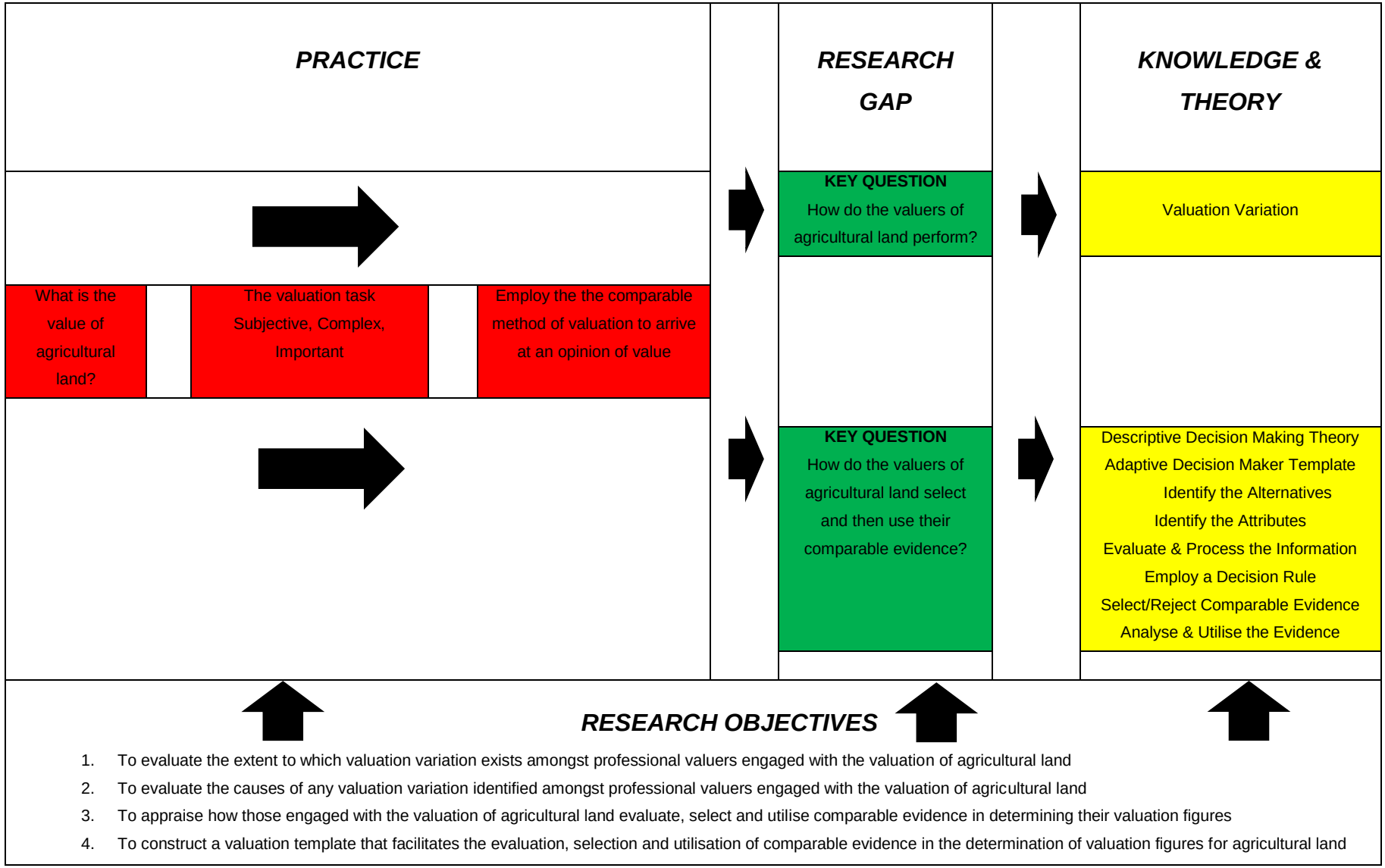


Figure 2: Thesis Map



CHAPTER 2 - REVIEW OF THE PROESSIONAL LITERATURE

This chapter seeks to evaluate the task that is at the heart of this study being the task that the professional valuer has in arriving at their opinion of value. It will firstly examine what value is and discuss the nature, complexity and importance of the valuation task. Secondly it will examine what expectations clients and the courts have as to their expectations in engaging the services of a professional person and in particular a professional property valuer. The chapter will examine the rule established in the courts referred to as the margin of error bracket, which the courts use to judge whether a valuation is negligent or not, it will then examine the parameters of the margin of error rule and finally the chapter will try to explain why valuers sometimes perform poorly and are found to be negligent. Alongside that the chapter will examine the literature relating to valuation accuracy and valuation variation which are the measures accepted to assess valuer performance. The chapter will review the professional guidance available to the practising professional valuer and its use and fitness for purpose and the chapter will also set out the rationale for the focus on the valuation task relating to agricultural land.

2.1 What is value and what is the nature of the valuation task?

Value is defined as the “regard that something is held to deserve, the importance, worth or usefulness of something” or “the estimated monetary worth of something” (Collins, 1996, p.598). The calculation of value will therefore require an assessment of the worth (monetary or otherwise), importance, usefulness of an asset by someone qualified and experienced to do so, but this definition also articulates the concept of value as something which is in the eye of the beholder. Individuals will have differing opinions of the worth, importance and usefulness of something and so any calculation of value will be subjective and any declaration of value can be no more than an opinion or an estimate at a point in time. This is illustrated by Millington (2000, p.8) who describes property valuation as “the art or science of estimating value for a specific purpose of a particular interest in property at a particular moment in time, taking into account all the features of the property market and also considering all the underlying economic factors of the market, including the range of alternative investments”.

The concepts of value and worth can have different meanings to different people but for those engaged in the valuation of land and property the main regulatory body for those

engaged in land and property work, the RICS, set specific definitions for both terms which will be the definitions relevant for this study.

Market Value is defined as the

> Estimated amount for which a property should exchange on the date of valuation between a willing seller and a willing buyer in an arms- length transaction after proper marketing wherein the parties had each acted knowledgably, prudently and without compulsion (RICS, 2014, p.53)

Worth, this is defined as

> Value of an asset to the owner or prospective owner for individual investment or operational objectives (RICS, 2014, p.55)

Blackledge (2017, p.33) describes property valuation as the process of providing "an informed, professional opinion on the value of a property at a given point in time". Millington (2006, p.8) goes on to describe the valuers task in that "valuation is not simply a mathematical process. It is much more than that, and probably the larger part of the valuation process depends on the valuer forming opinions. The valuer has to look at a wide range of facts and try to predict the future. It is almost necessary to become a crystal ball-gazer. One has to weigh up all the facts in a particular situation and then form opinions upon which a valuation will be based"

Millington (2006, p.9) goes on to say that the valuation process is a mix of both science and art in that "the scientific part of valuation is the analysis of data and the mathematical calculations of value: the art is the skill of knowing which information to use to assist one's valuation, and the process of making judgements and forming opinion."

This is supported by Blackledge (2017, p.29) who argues that valuers "….also exercise subjective opinion based on their knowledge of the market and their interpretation of the facts…."

The Royal Institution of Chartered Surveyors (RICS, 2017a para 1) describe themselves as "The global professional body promoting and enforcing the highest international standards in the valuation, management and development of land, real estate, construction and infrastructure." RICS (2014) states that any valuation can only be a snapshot at a point in time and is a probability assessment seeing the valuer making a judgment as to the most likely value on the date of valuation and that valuations are "pure judgement, virtually unprovable judgement" (RICS, 2014, p.17) on the part of the professional valuer. The

subjective and uncertain nature of the valuation task was discussed in the Mallinson Report (RICS, 1994). It explained the challenges it created for the practising valuer in that any valuation can only be an estimate at a point in time and as such will always attract a degree of uncertainty.

It refers to there being “ample room for differences of opinion” and that “from this sea of uncertainty the valuer is required to produce a single figure” (RICS, 1994, p.14). Bowles et al., (2001, p.145) stated that the valuation process is “predisposed to both imprecision and inaccuracy”. That provides the professional land and property valuer with a problem in that traditionally the valuer has been required to provide a single numerical figure when valuing land or property. The problem with providing such a single valuation figure is that clients then tend to treat those valuation figures as a statement of objective fact rather than an expression of the opinion of the valuer (Mallinson & French, 2000).

2.2 The importance of the valuation task

The subjectivity of the valuation task has consequences for the valuation profession because as Adair et al., (1996) argued the market confidence in the ability of the valuer to accurately predict market price is central to the confidence in which the valuation profession is held and as Babawale (2013) stated valuations are critical to the successful functioning of the property market. McAllister (1995, p.203) shares this view when he stated that “valuations provide the basis of property performance measurement and other investment advice. Historic performance measures are used as part of the decision making process about asset allocation and investment policies. If these measures are not reliable, decisions may be based on misleading information”. The investment market in property cannot operate efficiently unless reliable and accurate valuation advice is produced (Havard, 1995).

2.3 The complexity of the valuation task

The complexity of the valuation task was illustrated by the following:

> The valuation of real property is invariably complex, demanding valuers to assemble, analyse and apply a large amount of data. The valuation process goes beyond mere substitution of data into a mathematically proven formula. Considerable judgement is involved. Valuation does not take place in a vacuum, valuers work within a series of complex and interacting Templates including that provided by the enabling laws, the regulatory bodies, the firm the valuer works for, the property characteristics, and an array of market participants. Valuers themselves differ in their training, experience

> and exposure. All these factors ultimately impact on the work of the valuer and invariably on the accuracy of his valuations (Babawale & Omirin, 2011, p.20).

Adair et al., (1996, p.20) explain that a valuer's skill is therefore in the "recognition, selection and adjustment of market evidence based on a valuer's expertise at interpreting the behaviour of the buyer" whilst Levy & Schuck (1999, p.381) see a valuer's task as one that "involves the filtration and interpretation of property and market information to produce an estimate of price".

So in arriving at an opinion of the value of any property related asset it would seem that the professional valuer has to predict what potential purchasers might be prepared to pay for that asset. In order to be able to do that they must firstly form a view as to who is likely to buy that property and secondly what that person(s) is likely to pay for that property. As a result of that determining the value of an asset will be subjective and there is unlikely going to be what would traditionally be considered a correct answer. Babawale (2013, p.389) supports this as he comments that "true market is unobservable and therefore not realizable" and that a professional valuer can only provide a "range of estimated values rather than a single point estimate that exists for a given property interest at a given time. This band represents a band of values capable of being supported by the available market evidence" and as such the valuation task is requiring something from the professional valuer that they are unable to provide. Gallimore (2002, p.57) sums up the valuation task as an "imperfect attempt to hit an unattainable goal".

Geho,(2004) argued that market value is a theoretical construct which is effectively unobservable and so valuers are attempting to arrive at an unknown figure. Fisher et al., (1999) argued that the valuers' task was to arrive at the average of a distribution or band of possible values supported by the evidence and from that distribution the valuer has to estimate the most likely value. Mallinson and French (2000) argued that reporting a single figure did not provide clients with the best advice and they advocated reporting a range of valuation figures. These would still include a single valuation figure but also a range of the most likely values, a probability of the most likely figure, a range for the higher probability, a range for the 100% probability and a skewness of probabilities. In their paper they provide an example of the form of something that they suggest, which is set out in Table 1.

Table 1 - Illustration of valuation probability reporting (Mallinson & French, 2000 p.27)

Market Value	£2,575,000
Probabilities	£2,500,000-£2,750,000 = 40% £2,400,000-£2,750,000 = 75% £2,025,000-£3,079,000 = 100%
Skew	Less than £2,500,000 = 22% More than £2,650,000 = 33%

Within Table 1 the client is still provided with an opinion of market value (£2,575,000) but they also have a sense of the range of probabilities within which the value could fall. In the example above the valuer is of the opinion that there is a 40% chance that the market value of the property lies within the range of £2,500,000 and £2,750,000. Attractive as this may seem to some it is not something that the valuation profession has taken up. French & Gabrielli (2004) argued for this approach by saying that valuation is probability driven but not probability given.

So, in summary, if one were to agree with Gallimore (2002, p.57) that the valuation task is an "imperfect attempt to hit an unattainable goal" and consider the complex, subjective and uncertain nature of the valuation task what can be expected in terms of the reliability of the valuation figures and the service provided by the professional land and property valuer?

2.4 Professional person - expectations

A valuer is a professional person, in this case a property professional. The courts have decided through decisions the expectations clients should have of the professionals that they employ. Those decisions point to an expectation that the professional person should exercise reasonable care and skill in completing the task. The word reasonable seems to permeate decisions in the courts.

In *Samuel v Davis* (1943), a case against a dental professional it was held that where the contract was for sale of goods or for work carried out and materials supplied, there was an implied condition that the dentures being supplied should be reasonably fit for the purpose intended. In *Bolam v Friern Hospital Management Committee* (1957) it was held that a doctor was not negligent, if he was acting in accordance with a practice accepted as proper

by a responsible body of medics skilled in that particular art, merely because there is a body of such opinion that takes a contrary view. In this case McNair J said:

> ……a doctor is not negligent, if he is acting in accordance with a practice accepted as proper by a responsible body of medical men skilled in that particular art, merely because there is a body of such opinion that takes a contrary view.

This has become recognised as the Bolam principle setting out the expectations of a professional. That is to judge one's actions against the actions of a reasonably competent other person in the same discipline or field. In *Hancock and others v BW Brazier (Anerley) Ltd* (1966) a purchaser bought a house from a builder who had contracted to build the property. It was held that the builder should have completed the work in a good and workmanlike manner and in *Young and Marten Ltd v McManus Childs Ltd* (1968) HL it was held that to use building materials which appeared to be defective was a breach of the contractual duty to exercise reasonable care and skill in the doing of the work. In *Greaves & Co (Contractors) Ltd v Baynham Meille & Partners* (1975) the court stated that "The law does not usually imply a warranty that he (the professional) will achieve the desired result, but only a term that he will use reasonable care and skill. The surgeon does not warrant that he will cure the patient. Nor does the solicitor warrant that he will win the case".

So it would seem that two principles emerge from these cases. One being that a professional should be able to illustrate that they have exercised reasonable care and skill and secondly that they acted as any similar reasonable professional person in their field would do. The next section will look more closely at the decisions of the courts particularly in valuation negligence cases.

2.5 Professional Valuer - Expectations

If this is argument is extended into the work of the professional property valuer it could be expected that the expectation placed upon them is whether they have exercised reasonable care and skill in conducting the valuation task, and so it will be how the professional valuer illustrates that they have exercised such reasonable care and skill that could be the benchmark for any professional valuer.

This was illustrated in *Banque Bruxelles Lambert SA v Eagle Star Insurance Co. Ltd* (1995) when the court stated that the job of the valuer was:

> A valuer's duty to a lender who was relying on a property valued by the valuer to provide security for a mortgage was to exercise a reasonable standard of professional care in the circumstances and to take reasonable care to give a reliable and informed opinion on the open market value of the land in question at the date of valuation……

The task of the professional valuer in arriving at an opinion of value was discussed in the courts through the decision of Watkins LJ in *Singer & Friedlander Ltd v John D Wood & Co* (1977) which has become an important decision for the valuers of property in terms of valuation negligence. At issue was the valuation of a farm, 131 acres, in Gloucestershire carried out by the defendant valuers. The plaintiff was a merchant bank who, on the back of valuation advice provided by the defendant, provided £1,500,000 of capital to a developer who subsequently went into liquidation resulting in the plaintiff making a claim in negligence against the defendant for £600,000 for what they saw as a breach of a duty of care that the defendant owed the plaintiff. The existence of a duty of care had been defined in *Hedley Byrne & Co Ltd v Heller & Partners Ltd* (1964) when Mr Justice Hodson said

> if in the sphere where a person is so placed that others could reasonably rely upon his judgment or his skill or upon his ability to make careful inquiry such person takes it upon himself to give information or advice to, or allows his information or advice to be passed onto, another person who, as he knows, or should know, will place reliance upon it, then a duty of care will arise

In valuation terms therefore logically a valuer will owe a duty of care to their client when providing valuation advice. If that client acts upon that advice and subsequently loses out then there would potentially be a claim in negligence against the valuer. It is in assessing whether the defendant was in breach of their duty of care to the merchant bank that Mr Justice Watkins set out the expectations as to the duty of any valuer and the factors that they ought to take into account when conducting the valuation. The subjectivity of the valuation task was acknowledged in the decision when the judge said

> The valuation of land by trained, competent and careful professional men is a task which rarely, if ever, admits of precise conclusions. Often beyond certain well founded facts many imponderables confront the valuer that he is obliged to proceed on the basis of assumptions. Therefore, he cannot be faulted for achieving a result which does not admit of some degree of error. Thus, two able and experienced men, each confronted with the same task, might come to different conclusions without any one being justified in saying either of them has lacked competence and reasonable care, still less integrity, in doing his work

The judge also acknowledged that “valuation is an art, not a science. Pinpoint accuracy in the result is not, therefore, to be expected by he who requests the valuation.”

The judge then agreed that there was a permissible margin of error or bracket which the parties in this case agreed was 10% either side of the correct valuation and if any valuation fell outside this bracket then that would bring into question the competence of the valuer, thus this case established the margin of error principle for valuation negligence cases. The judge also addressed the way in which a valuer should conduct themselves in carrying out the valuation and refers to a "harvest of knowledge" about the property asset and then set out a four stage valuation process.

Firstly carry out the approach work (the harvest of knowledge), second analyse the data enabling the exercise of experience and judgment to accept facts and make assumptions, third adjust the comparables and finally value and write the report. This case was an important valuation case as it seemed to legitimise that the valuation task was subjective, it accepted that valuations between valuers would differ accepting a 10% margin of error bracket and that a valuer would need to defend themselves if their valuation fell outside this bracket. The case also assisted this defence by setting out some of the expectations placed upon the valuer when conducting their valuation work. This margin of error principle whilst seemingly widely adopted by the judiciary and widely accepted by the valuation profession has come in for criticism. Crosby, Lavers & Murdoch (1998) argued that judges are assisted in their deliberations by expert valuers and it is they who establish this margin of error or the acceptable bracket within which a valuation must fall but who are similarly subject to all the same issues that the originating valuers were subject to in arriving at their opinion of value. Judges therefore find themselves either agreeing with the expert witness or establishing a bracket somewhere between the experts view and the plaintiff valuer. However this is the basis upon which the courts have proceeded to decide cases but in some cases the margin of error has been both more and less than 10%.

The margin of error principle was subject to further analysis in *Mount Banking Corporation Ltd v Brian Cooper & Co* (1992) where Mr Justice M Stewart said that:

> In Singer & Friedlander the permissible margin of error was found on the evidence to be 10%. It does not, in my judgment, follow as a matter of law that the same percentage applies in every case." He went on to argue that "the problem that this raises, it seems to me, is: 10% (or whatever margin may be thought appropriate) of what? Applying the Bolam test, the real question, in my judgment, is whether the valuation was that which a competent valuer, using proper skill and care, could properly have reached. This I take from the questions raised by Gibson J in Corisand. If the valuation is too high, is it too high by such a margin as to be categorised as negligent? The margin of error approach is thus a useful tool, for in most

> straightforward cases it can reasonably be expected, as Mr Geoffrey Castle [FRICS], the expert for the defendants, said that competent surveyors acting with proper skill and care, and thus acting on all relevant evidence, will come within a moderate bracket of each other. But there is a danger in the margin of error approach, to which I have alluded, and this was highlighted in the evidence of Mr Castle. I do not think it proper to apply it mechanistically in any case, so as to say that any valuation outside the consensus of the experts or, if they differ, outside their average valuation by more than 10% is prima facie negligent. Rather, as Mr Castle said, I think the judge must approach the question, first, by asking where the proper valuation or bracket of valuation lies. Then, if the defendant is more than the permitted margin outside that proper figure, the inference of negligence should be drawn. This is not merely an academic matter. Take the value of an office rent in a prime location in a stable market. It may be thought that the margin between competent surveyors as to what the rent should properly be ought to be very small. But where many assumptions have to be built into a property the range of acceptable proper valuations may be quite large. An illustration of this is provided by the discussions in the evidence of the proper valuation to be placed on the next-door offices at 121 Hartington Road, where the capital value per sq. ft. ranged from £110 to £167, each valuation being reached by a proper process by a properly qualified valuer. In my judgment, therefore, I should avoid seeking a mean figure between valuations and applying a margin of error, even a broad margin of error, to that. I should rather assess here whether Mr Cohen's approach was proper and what a competent approach could properly have resulted in. If Mr Cohen's end result was within a modest margin of that figure, then he is not to be adjudged negligent. This, it seems to me, is the way in which the margin of error principle is to be applied. On the evidence of the experts here, particularly Mr Castle, I take that acceptable margin, on my approach, as being 10%." And he concluded that his task in the case was to "In summary, I have to ask myself whether it is proved that Mr Cohen's was a valuation which no reasonably competent valuer, using proper skill and care, could properly have reached. If it was higher than the sensibly acceptable figure, was it within an acceptable margin of error?

So it is on this basis that many cases of negligence have proceeded against professional valuers of land and property.

2.6 Margin of error bracket – acceptable ranges

In *Axa Equity and Law Home Loans Ltd V Goldsack & Freeman* (1994) a bracket of £140,000-£155,000 (approximately 5%) was established. The property was valued in 1988 at £155,000 and so fell within that acceptable bracket even though the property upon sale sold for £75,000 in 1991, the court was satisfied based upon the evidence of the court that the value of £155,000 was correct at the time albeit at the top end of the bracket. The plaintiffs had argued that the correct valuation should have been £120,000.

In *Preferred Mortgages Ltd v Countrywide Surveyors Ltd* (2005) the subject of the case was a converted chapel in Norfolk and this gave rise to a higher margin of tolerance of +/-15% due to the unique nature of the property.

In *K/S Lincoln v CB Goldsmith Ellis Hotels Ltd* (2010) the case concerned the valuation of four hotels and it was held that the valuations fell within +/- 10% of the correct valuation and so no liability even though it was evident that there had been a lack of care and skill in the valuation approach. The judgement states

> Although justified criticisms could have been made of the way in which the defendants had gone about their valuation exercise in April 2005, their valuation figures were, each time, well within a 10% margin of error. Accordingly, liability in tort had not been made out and the claim in relation to negligent valuation had to fail. As a matter of general principle, the position to be taken from the authorities as to the appropriate margin of error for valuations was the following: (i) for a standard residential property, the margin of error could be as low as plus or minus 5%; (ii) for a valuation of a one-off property, the margin of error would usually be plus or minus 10%; (iii) if there were exceptional features of the property in question, the margin of error could be plus or minus 15%, or even higher in an appropriate case [*emphasis added*].

The case of *Dennard v Pricewaterhouse Coopers LLP* (2010) involved the valuation of equity shares that made up a portfolio of care homes where the judge established the correct value as £8.8 million and a bracket of £5.6 million - £11.8 million.

In *Paratus AMC Ltd v Countrywide Surveyors* (2011) Ch. a margin of +/-8% was deemed appropriate on residential property which had no unusual features but where some limitations existed with the comparable evidence. The property had been valued in 2004 for £185,000, sold in 2008 for £118,103 and the established bracket was £160,000 - £190,000.

In *Blemain Finance Ltd v E.surv Ltd* (2012) a second mortgage was applied for and the property had been valued at £3.4 million. The borrower defaulted and the property was sold for £2 million. The court deemed that £2.8 million was the correct valuation and as the court found +/-10% as the acceptable margin of error this gave an upper limit of £3.08 million. The valuer was therefore outside the acceptable margin of error. The valuer was found to be using inappropriate comparables in that they were not close enough.

In *Capita Alternative Fund Services (Guernsey) v Drivas Jonas* [2012] the asset comprised a proposed factory outlet shopping centre which had been valued at £62.85 million in 2001. It was subsequently valued at £7 million in 2010. In examining the case the judge took a component approach to the valuation valuing the base rent, then the top-up turnover rental element and finally the reversionary interest. On the valuation of the guaranteed rental component (base rent) a margin of +/-1% was allowed, on the top up rent (turnover rent) a margin of +/-10% was allowed and on the reversionary interest for which it was accepted would be more difficult to value a margin of +/-20% was allowed. This provided for an overall

margin of +/-15% of the correct valuation illustrating some degree of flexibility in the principle when more complicated valuations are evident.

In *Webb Resolutions v E.surv* (2012) it was the valuation of two residential properties that was at issue and a +/-5% margin of error was agreed. The case of *Redstone Mortgages v Countryside Surveyors* (2011), unreported, evolved around the re-mortgage of a terraced house in Cardiff. The borrower applied to Beacon Homeloans for a self- certified loan of £180,000 being 90% of the valuation figure of £200,000. The mortgage was subsequently acquired by Redstone. The borrower defaulted and the house was repossessed and sold for £135,000. Redstone argued that it was worth £150,000 on date of valuation whilst Countrywide argued it was £185,000 and so was within the 10%. The judge found that the correct valuation was £175,000 and so the property had been overvalued 14% (£25,000). The judge criticised the valuer in connection with their use of comparable evidence. The judge argued that in these cases the comparables should be from the same road when in fact only 5/27 did so. Those five comparables would have valued the property at £175,000. The valuer used some of his own valuations as evidence which was not appropriate and the judge found that the valuers role is to value a property for the purpose of the intended transaction not to facilitate the transaction which was the argument being advanced by the defending valuer.

The cases discussed so far have illustrated the margin of error or bracket principle that seems to be well established in valuation practice. That raises the question as to whether a professional property valuer could be negligent if their approach to the valuation had been found to be inappropriate despite the fact that the valuation figure itself fell within the bracket or margin. Case law suggests that the test for the valuer is to identify the value of a property asset that is within the acceptable margin or bracket of the deemed correct valuation. If the plaintiff is able to successfully argue that the valuation is outside that bracket then the onus then moves to the defendant valuer to prove that they had acted with reasonable care and skill in assessing the value of the property. Conversely it seems that even if the method by which the valuer arrives at their valuation is inappropriate but the valuation figure is within the bracket then the court will find for the defending valuer as there has been no loss to the claimant.

In K*/S Lincoln v CB Goldsmith Ellis Hotels Ltd* (2010) the case concerned the valuation of four hotels and Mr Justice Coulson said that it should be common sense that the valuer

should be judged by the valuation figure rather than the method adopted. If the valuation is within the acceptable bracket then there has been no loss and so there can be no negligence even if there are problems with the valuation approach adopted but the overall figure is in the bracket then there will be no negligence.

This was also the case in *Lewisham Investment Partnership Ltd V Morgan* (1997) where it was found that if the valuer is guilty of negligence but the valuation was still coincidentally in the bracket the valuer would escape liability. In *Goldstein v Levy Gee* (2003) Mr Justice Lewison found that liability must be established by analysis of the result rather than method.

In *Mount Banking Corporation Ltd v Brian Cooper & Co* (1992) Mr Justice M Stewart agreed and said that no matter how bad the valuation approach or method was, if the valuation figure was correct then there had been no loss. It is the result rather than the method is that is key. In *Legal and General Mortgage Services V HPC Professional Services* (1997) it was found that once a valuation falls outside the acceptable bracket it is then up to the defendant to prove that a degree of care and skill has been exercised.

So there is evidence here that valuers' reasonable care and skill can be used in their defence in the event they are found to have valued the property outside the acceptable bracket. *In Merrivale Moore plc v Strutt and Parker* (1999) it was found that if a valuation falls outside the bracket it calls into question the valuer's competence but only if the valuation falls outside the bracket.

2.7 Causes of professional valuer negligence

The existence of these cases illustrates that professional valuers have been found by the courts to be in breach of their duty of care to their clients and have provided negligent valuations, but why has that happened? Havard (1999b) reviewed a number of decided cases to see what caused a valuer to produce a negligent valuation. These included:

1. Valuations having being carried out in times of unstable or uncertain market conditions and so the market evidence used to value the property asset could have been out of date or inaccurate.
2. The inexperience of the valuer regarding the particular market.
3. Errors in the selection, interpretation and use of comparable evidence in a valuation.
4. Differences of opinion between valuers.
5. Errors in the survey of the property carried out by the valuer.

6. Valuations arrived at with insufficient depth of investigation about the property.
7. Valuations arrived at following errors in the valuation procedures.
8. Valuation differences arising out of different methodologies being applied and finally valuation figures provided following client pressure or influence.

De Silva (2016) reviewed decided cases in the area of negligent valuation and produced a further 15 categories to illustrate the points at issue and so giving rise to negligent claims in valuation work. These were:

1. taking appropriate time to do the valuation
2. visiting the property and gathering sufficient information
3. establishing the property demise
4. keeping adequate records
5. awareness of the market
6. taking into account the previous price of the property, if very recent
7. reacting to findings during the progress of work
8. level of thoroughness required
9. understanding and keeping up to date with principles of law affecting valuation
10. referring the case to a senior colleague if the property is outside one's area of expertise
11. keeping up to date with the professional knowledge
12. ensuring property inspection is of sufficient detail and not merely superficial
13. ensuring advice is sufficient
14. setting out the scope of survey/advice
15. appropriate use of comparables

What is evident from this analysis is that firstly that professional property valuers will be tested in court via what is now the established the margin of error or bracket principle and that in most cases that appears to be a 10% margin of the deemed correct valuation or within +/-10% of the identified bracket. However there are cases where the tolerance is both less than and greater than +/-10%. Secondly it is clear that the courts continue to use the valuation figure to judge liability and not the method. The method is only examined if the valuation is judged to be outside the bracket and even if the valuation errs in its method then provided the valuation figure falls within the margin or bracket then there is no loss and so there can be no negligence. Thirdly the two lists above highlight the prevalence of valuer

error, human error, in cases of decided and alleged valuation negligence as being the reasons giving rise to errors in valuation work.

So, in summary, the valuation task is subjective, it is uncertain, it is complex but it remains an important task. Considerable legal time has been spent examining what a reasonable expectation should be as to the level of accuracy or reliability in valuation work and guidance has emerged from those legal decisions. In the light of this the next section will examine how the Royal Institution of Chartered Surveyors (RICS), being the professional organisation that many property valuers subscribe to, helps, guides and regulates it members who are conducting valuation work.

2.8 Professional guidance available to the professional property valuer

All professional property valuers are typically full members of the Royal Institution of Chartered Surveyors being a "global professional body promoting and enforcing the highest international standards in the valuation, management and development of land, real estate, construction and infrastructure" (RICS, 2017a, para 1) . They are also usually members of the RICS Valuer Registration Scheme which is an independent quality assurance process of Valuer Registration reinforcing standards in property valuation (RICS, 2017c). RICS members are required to follow the professional guidance provided by RICS and in terms of valuation the principal guidance comes in the form of the RICS Valuation – Global Standards 2017 (RICS, 2017b) and RICS Valuation– Professional Standards January 2014 (RICS, 2014) collectively referred to as the RICS Red Book. The RICS Valuation Standards are also aligned to the International Valuation Standards which are monitored by the International Valuation Standards Council which is an independent not for profit private sector standards organisation.

This mandatory valuation guidance provided by the RICS sets out the expectations of a professional valuer when conducting valuation work to ensure consistency, reliability, accountability and professionalism across the valuation profession. There have been some form of valuation standards since 1975 but the RICS Valuation Standards have only been mandatory since 1991. The role of such valuation standards was set out by RICS (RICS, 1998) which made the point that valuation standards and guidance were more aligned to the reporting of the valuation figure rather than the application of valuation method which presumably was left to the judgement of the individual valuer. This lack of focus on the

application of the valuation method is a gap in the guidance for practitioners that this thesis seeks to fill.

The current RICS Valuation Standards (RICS, 2017b, p.3) set out the role the standards play for both the valuation user (the client) and the valuation provider (the professional valuer). For the valuation provider the standards: [emphasis added]

i. Impose on individual valuers or firms registered for regulation by RICS certain mandatory obligations regarding competence, objectivity, transparency and performance
ii. Establish a Template for uniformity and best practice in the execution and delivery of valuation assignments
iii. Expressly comply with the RICS Rules of Conduct

However the standards do not provide for the valuation provider:

i. Instructions to members on how to value in individual cases
ii. Prescribe a particular format for reports
iii. Override standards specific to, and mandatory within, individual jurisdictions

For the valuation user the valuation standards provide:

i. Consistency in approach, aiding understanding of the valuation process and so the value reported
ii. Credible and consistent valuation opinions by suitably trained valuers with appropriate qualification and adequate experience for the task, including current knowledge and understanding of the relevant market
iii. Independence, objectivity and transparency in the valuer's approach
iv. Clarity in terms of engagement
v. Clarity regarding the basis of valuation including any assumptions/special assumptions
vi. Clarity in reporting

To that end the Valuation Standards provide wide ranging guidance on the things to think about when instructed to value a range of property types but significantly by its own admission does not provide the professional valuer with instructions as to how to value a property type, or execute a valuation, that task remains in the hands and judgement of the

professional valuer. So whilst there has been some thought given to the overall Template of comparable valuation there is little professional material relating to its actual application and execution that has been developed from practice.

2.9 The definitions of value

The valuation standards offer the professional valuer four definitions of value and also three valuation approaches that the valuer may take towards arriving at their opinion of value. Firstly the standards refer specifically to four bases (or definitions) of value, Market Value, Market Rent, Worth and Fair Value. Each of these four definitions of value are defined below but they require the valuer to express an opinion as to value, and are all therefore subjective in nature and so the professional valuer needs to be clear of the basis upon which they are proceeding to value the property asset as the valuation figure may well be different for each definition.

Market Value is defined as the

> Estimated amount for which a property should exchange on the date of valuation between a willing seller and a willing buyer in an arms- length transaction after proper marketing wherein the parties had each acted knowledgably, prudently and without compulsion (RICS, 2014, p.53)

Market Rent is defined as

> Estimated amount for which a property or space within a property should let on the date of valuation between a willing lessor and a willing lessee on appropriate lease terms in an arms- length transaction after proper marketing wherein the parties had each acted knowledgably, prudently and without compulsion (RICS, 2014, p.54)

Worth, this is defined as

> value of an asset to the owner or prospective owner for individual investment or operational objectives (RICS, 2014, p.55).

Fair Value, which is defined as

> the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (RICS, 2014, p.55).

Market Value is further described by RICS (2017b, p.70) *as* “an exchange between parties that are unconnected and are operating freely in the market place and presents a figure that would appear in a hypothetical contract at the valuation date”. In determining their opinion of market value the valuer is required to ignore those distortions in the market caused by

the existence of special purchasers. These are those purchasers who are prepared to pay over and above the market value to secure the property. The valuer is also required to ignore the existence of any marriage value being the additional value obtained through the merger of property interests both of which require judgment and skill on the part of the professional valuer.

In coming to a view as to the market value of property the professional valuer is effectively been asked to consider what the property is worth taking into account all those who could possibly express an interest in purchasing the asset. Market value illustrates the valuation task as one being subjective, uncertain and a task requiring the valuer to form an opinion and exercise judgement. The definition uses the term estimated amount demonstrating that any assessment of market value is an estimate, the International Valuation Standards (IVS) refer to market value being the "most probable price reasonably obtainable" (IVSC, 2017, p.18). The definition requires the professional valuer to make assumptions regarding the activities of a willing buyer and a willing seller and to assume proper marketing has taken place which usually is taken to be at least three months. The IVS set out that the market value will reflect the highest and best use of the asset again requiring the valuer to judge what that best use is.

An opinion of worth is different to market value in that it only requires the professional valuer to form a view as to value of the property asset from the prospective of the criteria of an individual investor; it is what the property is worth to that particular investor rather than any typical market participant.

Fair value does not require the property to be exposed to the market. It can often be used in examples where the tenant is proposing to acquire the freehold from their landlord and the valuer is being asked to provide an opinion of the fair value between the parties rather than the market value.

2.10 Differing approaches to determining value

Secondly the valuation standards in the form of the IVS (IVSC, 2017) direct professional valuers to three valuation approaches. Firstly the market approach, second the income approach and third, the cost approach and they state that as part of the valuation task the professional valuer has to determine the most appropriate method to adopt to the circumstances that they find themselves in.

The market approach tends to be applied when there is evidence of regular and recent market activity of similar assets to those under consideration. The income approach tends to be applied when the asset under consideration is producing an income or has income-producing capability and that reasonable assumptions can be made as to the longevity of that income stream and is usually utilised when a property is being valued where a landlord and tenant situation exists. The cost approach is based on the principle that any purchaser would not pay more for an asset than the cost of providing something similar and where the property asset is not directly producing an income and the unique nature of the asset makes the market approach unviable. A common example where this approach is utilised would be hospitals where no market evidence is available as to their value and limited alternative uses can be applied to them.

2.11 The comparable approach to valuation

The main market approach method is the comparable method of valuation which operates by comparing a comparable property that has been recently sold to that which is the subject of the valuation and assumes that as someone else would be prepared to pay something similar for the property that is the subject of the valuation (Millington, 2000). Blackledge (2017 p.156) argues that this is the "simplest and most reliable method of valuation". It is defined by the Appraisal Institute (2001, p.417) as being:

> a set of procedures in which a valuation indication is derived by comparing the property appraised to similar properties that have been sold recently, applying appropriate units of comparison and making adjustments to the sale prices of the comparables based on the elements of comparison.

The income approach utilises the investment, residual and profits methods of valuation. The investment method of valuation is used to value property that is in receipt of a rental income and treats property as an investment and assumes that there is a relationship between the rental income from a property and its capital value. The residual method of valuation is used to value property where there exists the prospect of development via the existence of a planning permission. The profits method of valuation values property assets whereby the value of the asset lies in the profits that can be made from their occupation and is often used to value public houses, hotels and leisure centre. The contractor method is always seen as the method of last resort and is also referred to as the depreciated replacement method and represents an example of a cost approach valuation method. The method attempts to

establish the cost of replacing the building with a modern equivalent depreciated to account for the remaining life of the asset being valued.

There are however elements of comparison in each of the above valuation methods all of which rely on market evidence to some degree and so the comparable method of valuation is probably the most widely used method of valuation (Millington, 2000). Comparable evidence therefore is at the heart of virtually all real estate valuations and so the process of finding it, analysing and applying it is essential to producing a robust valuation figure for a client (RICS, 2012). At its heart the approach utilises comparable evidence which is defined by RICS (2012, p.3) as being "broadly defined as an item used during the valuation process as evidence in support of the valuation of a different item of the same general type" and that "a set of comparables are used in support of a valuation" (RICS, 2012, p.3).

The principle of comparison is based on the economic concept of substitution that a knowledgeable and prudent person would not pay more for a property than the cost of acquiring an equally satisfactory substitute (Wyatt, 2013). Scarrett and Osborn (2014 p.53) refer to LJ Forbes in *GREA Real Property Investments Limited v Williams* (1979) which provides an explanation of the comparable valuation process:

> It is a fundamental aspect of valuation that it proceeds by analogy. The valuer isolates those characteristics of the object to be valued which in his view affect the value and then seeks another object of known, or ascertainable, value possessing some or all of the characteristics with which he may compare the object he is valuing. When no directly comparable object exists the valuer must make allowances of one kind or another, interpolating and extrapolating, from his given data. The less closely analogous the object chosen for comparison, the greater the allowances which have to be made and the greater the opportunity for error.

This articulates the comparable valuation approach as seeing the valuer pulling apart the comparable to analyse and compare it with the property, adjusting it and then putting it back together again in the form of a valuation.

2.12 Selecting comparable evidence

As comparable evidence is important to this valuation approach then the selection or choice about which comparable to use is going to be an important consideration. The IVSC (2017, p.33) provide some criteria under which valuers can choose to select their comparable evidence:

i. Very similar comparables are better than those requiring significant adjustments
ii. Newer market transactions are more useful that aged market transactions
iii. The evidence should be at arms-length i.e. between unrelated parties
iv. That there should be sufficient information available on the comparable transaction
v. The comparable transaction should come from a trusted source
vi. Actual transactions are better than intended transactions

RICS (2012, p.3) advises its members that their comparable evidence should seek to be "comprehensive, similar, recent, as a result of an arms- length transactions and verifiable". The evidence should be comprehensive in terms of the number of pieces of evidence from a range of sources. The evidence should be similar in that it should be as identical to the property being valued as possible. The evidence should be recent in that they are indicative of the current market and not too old. The evidence should be as a result of an arms-length transaction in that it should be a transaction in the open market which is also capable of being verified.

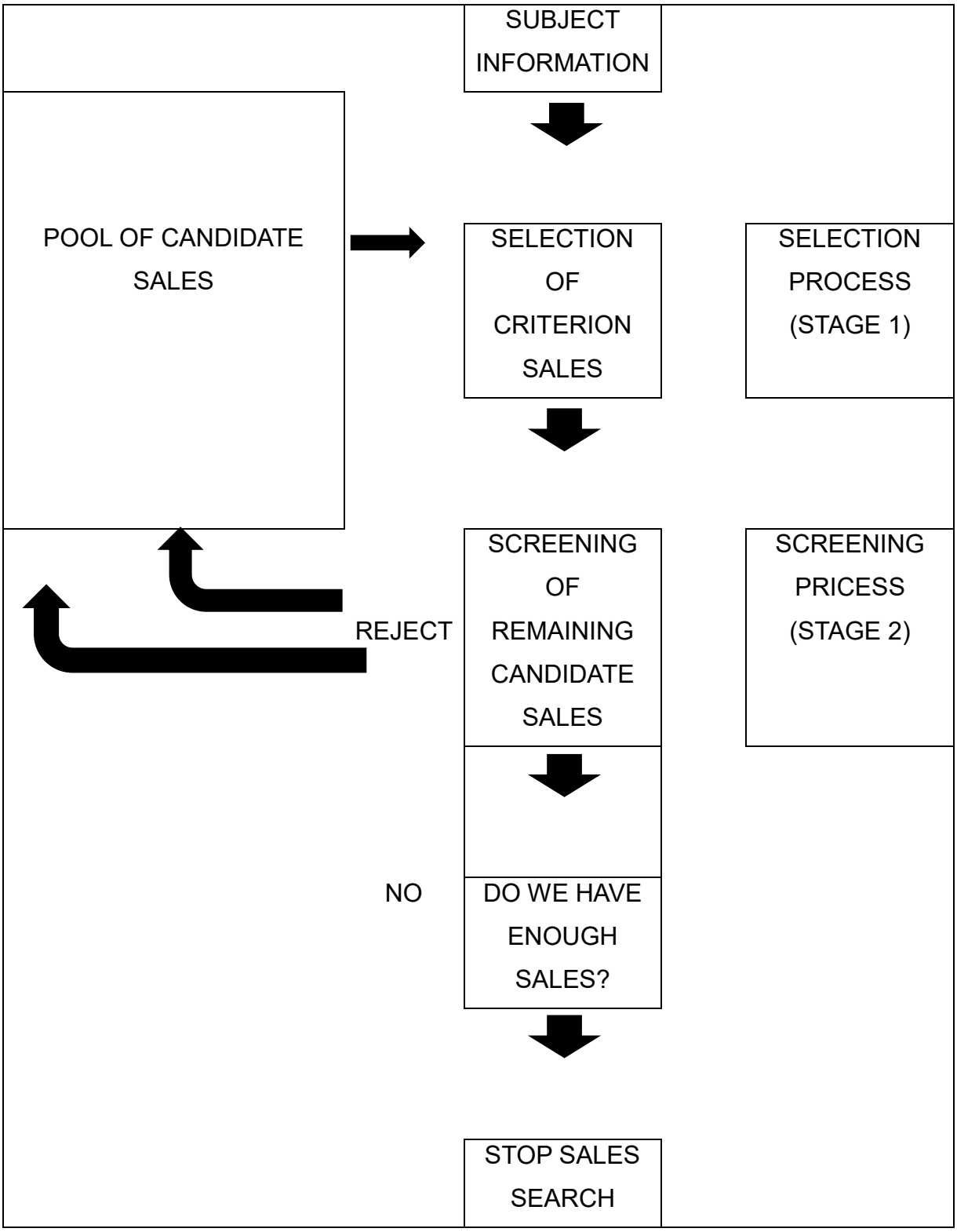
Millington (2000) argues that any comparison must be made with properties that are similar, situated in the same area and be recent and the less the comparable evidence meets these criteria the less valid the comparison will be and presumably the less reliable the valuation figure will be. Millington (2000) also points out that for more specialised property finding comparable evidence that is similar and recent is a substantial challenge and so the comparable method is not without its limitations.

There appears to be little academic literature on the selection process employed in selecting comparable evidence although Figure 3 reproduces the work of Diaz (1990a) in an attempt to articulate the comparable evidence selection process based on the returns of twelve expert valuers.

Diaz (1990b) found that the participating twelve expert valuers tended to use a less cognitively demanding selection strategy compared to twelve student valuers in that only 46% of the expert valuers examined all the comparable evidence available to them whilst 71% of the student valuers did so. This could be as the expert valuers were more efficient in their comparable evidence selection process. Typically the expert valuer tended to look for one or two of the best comparables which were then used to filter the remaining

comparable evidence being presented to the participants. Diaz concluded that the subjects were initially employing a cognitively demanding choice strategy to select the first one or two acceptable pieces of evidence and then used the results of this to quickly eliminate other alternatives.

Figure 3: Diaz's model of expert sales selection (Source: Diaz, 1990b)



2.13 Analysing and using comparable evidence

From these comments the process seems to involve the professional valuer firstly identifying the characteristics of the property being valued that contribute to its value and then pulling apart the comparable evidence to compare it to the land being valued before putting it all together again to arrive at an opinion of value. Wyatt (2013) explains that this implies that comparable properties will need to be suitable in terms of their location, utility and desirability and that comparable properties are selected due to their characteristics or as he refers to them as the elements of comparison. These elements of comparison will determine the value of the property asset.

The IVS (IVSC, 2017, p.32) set out the key steps in the comparable valuation process, these are as follows:

1. Identify the units of comparison that are used by the participants in the market
2. Identify the relevant comparable transactions and calculate the key valuation metrics for those transactions
3. Perform a consistent comparative analysis of qualitative and quantitative similarities and differences between the comparable assets and the subject assets
4. Make any necessary adjustments, if any, to the valuation metrics to reflect the differences between the subject asset and the comparable assets
5. Apply the adjusted valuation metrics to the subject asset
6. If multiple valuation metrics were used reconcile the indications of value

Wyatt (2013, p.103) explains a similar approach:

i. Collect evidence of transactions and eliminate those that are not at arms-length.
ii. Determine which transactions are suitable for adjustment having looked at their comparability with the asset being valued
iii. From that select the elements of comparison
iv. Compare the comparables on the basis of these elements making adjustments for identified differences.
v. Reconcile the comparisons and arrive at a judgement of value.

In the USA the Appraisal Institute (Appraisal Institute, 2001) articulates something more practical for its members by providing guidance to members in the form of a market data

grid, Table 2, for the analysis and adjustment of comparable transactions in comparable valuation work which highlights the importance of identifying the elements of comparison relevant to the property type being valued. Table 2 illustrates how the valuer needs to identify the relevant elements of comparison for the property being valued, then identify a number of pieces of comparable evidence before adjusting that comparable evidence to account for the differences identified.

Table 2 – Market Data Grid: Comparison and Adjustment of Market Data (Appraisal Institute, 2001 p.444)

Element of Comparison	Subject Property	Sale 1	Sale 2	Sale 3	Sale 4
Sale Price					
Real Property rights conveyed					
Adjusted Price					
Financing Adjustment					
Conditions of sale adjustment					
Adjusted price					
Market conditions adjustment					
Adjusted price					
Final Adjusted Price					
Total net adjustment					
Total net adjustment as % of sale price					
Total gross adjustment					
Total gross adjustment as % of sale price					

This suggests that the key to a robust comparable valuation is the ability to identify the elements of comparison or determinants of value and then to make appropriate adjustments for the differences between the comparable evidence and the property the subject of the valuation.

The IVS provide guidance on the adjustments that would need to be made to comparable evidence, or as Millington (2000, p.90) refers, “to quantifying the difference”. These would be:

i. Adjustments for material characteristics
ii. Any restrictions
iii. Geographical location
iv. Profit making capacity of the asset
v. Historical and expected growth rates
vi. Yields
vii. Types of collateral
viii. Unusual terms in the comparable transactions

2.14 Limitations of the comparable method of valuation

The comparable method has inherent weaknesses as a method of valuation. The effectiveness of the comparable method is called into question when market conditions are volatile or the picture emerging from the comparable evidence is mixed or when valuing specialist property where there is little market evidence available (RICS, 2012). The property market is also characterised by imperfect information, low numbers of transactions and a lack of transparency in the market unlike other markets like that for publicly quoted shares.

Naturally the reliability of this method of valuation is determined by the existence of an up to date and extensive data bank of comparable evidence (Wyatt, 2013). Establishing and maintaining such a data bank for agricultural land is challenging given that the amount of land coming to the market until recently has been falling (Savills, 2013) and transactions are not as frequent as transactions for residential and/or commercial property. The comparable method also bases future predictions on historical data, there is probably never going to be a true comparison between land or property types and just because an individual has paid a price for something it does not necessarily follow that someone else will do the same (Millington, 2000). In addition one sales transaction is not always an indication of a market it is only reflective of the behavioural characteristics of one seller and one purchaser who could be acting under any number of drivers in their purchasing decision making. Therein lies the role for the valuer as if it was simply a matter of comparing one property with another then any reasonably able person could perform that task.

Property valuation is more complex than that but with that is encapsulated the challenge any valuer has in ascribing the value of any property asset. Millington (2000) and the Appraisal Institute (2001) both argue that the comparable method of valuation presents few dangers in times of stability and active markets but there is a danger that the comparable evidence could provide conflicting and incorrect market signals in times of instability.

RICS (2012) also points to the availability of evidence as being a limitation of the comparable approach to valuation as finding good comparable evidence in the property market is challenging. The Appraisal Institute (2001) agree that when data is available then the application of the method is straight forward and it forms a simple way of explaining and supporting any valuation. RICS (2012) point valuers to a range of potential sources of comparable evidence articulated within a hierarchy of comparable evidence covering direct transactional evidence, publicly available information, databases, the press, asking prices and historic evidence and the relative weight or importance to be attached to each one.

Comparable evidence typically utilises market data of sales that have taken place and in doing so it ignores the signals that come from transactions that do not take place (IPF, 2009). The IPF (2009) argue further than where valuations are conducted in an environment where there is little market activity, and so few comparables to use, that these are actually forced sales rather than open market transactions as the seller had little negotiating power.

This chapter has reviewed the regulatory framework within which valuations are conducted and what guidance and knowledge is available in terms of the application of the comparable valuation method. It would appear that the UK regulatory framework seems to provide an overview of how the comparable valuation process should be conducted with little evidence as to how the comparable valuation process is actually conducted. This is a gap that this thesis seeks to explore in relation to its applicability to the valuation of agricultural land in the UK.

2.15 The significance of agricultural land in the UK

Agricultural land is an important asset that the nation has. Agricultural activity takes up almost three quarters of the land area in the UK, the total utilised agricultural area in the UK in 2016 was 17.4 million hectares which equates to 71% of the land area in the UK (DEFRA, 2017). The contribution of UK agriculture goes further than food production. Given that 71% of the land area of the UK is classified as being utilised it also has a very big impact

upon the environment within which we live. Farmers manage important landscapes providing essential habitats for wildlife whose contribution is estimated to be around £672 million per year and it is argued that land acts as a carbon sink whose contribution is estimated to be around £514 million per year (Development Economics, 2017). The industry is thought to provide 61% of the raw materials for the wider UK agri-food industry which itself employs 3.7 million people, 10% of the overall electricity generation from renewable technologies are sited on UK agricultural land, 3.7 billion visit per year are made to the UK countryside contributing £19 billion per year (Development Economics, 2017). This goes someway to illustrate that ascribing a value to this significant property asset is a complex and challenging task that is deserving of scrutiny.

2.16 The value of agricultural land in the UK

UK agricultural land is not just an important asset but it is also a valuable asset. One estimate places a value of £185.7 billion on UK agricultural land (Savills, 2017) and that value has been growing quite aggressively over the medium term. Over the period 2003-2013 the value of prime arable agricultural land across the UK rose by 273% (Savills, 2014) seeing rises of 8.2% in 2011, 12% in 2013 (Savills, 2013) and 14% in 2014 (Savills, 2015). Figures from the Royal Institution of Chartered Surveyors (RICS) agree and showed growth rates of 11% in 2011, (RICS, RAU, 2012) 4% in 2012 (RICS, RAU 2013b) and 14% in 2013 (RICS, RAU, 2013c). Even the value of poor grassland rose by 260% over the same period (Savills, 2015). This level of growth was expected to continue with predictions that land values would rise by a further 47% over the following five years (Savills, 2013). Such has been the growth that Figure 4 illustrates that the only asset that has kept pace with the rate of growth over that period was the prime residential property market in central London. Indeed even the value of wheat, a commodity that is grown on the land that is so valuable has not kept pace with that of agricultural land indicating perhaps that there are other market drivers to the value of agricultural land over and above those arising from commercial agriculture.

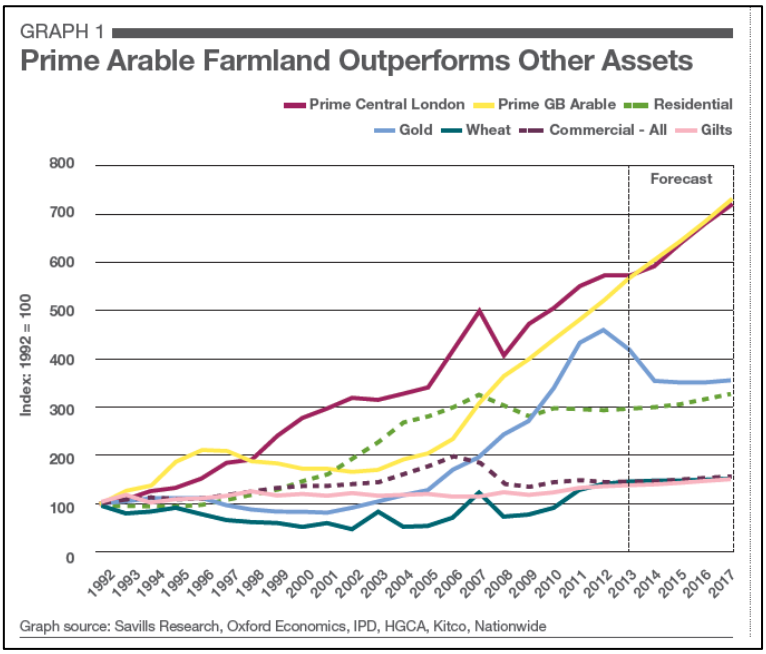


Figure 4 – The performance of agricultural land against other assets

(Savills, 2013)

However the reality has been that since 2013 growth has been slower with one estimate now forecasting that the value of UK farmland fell by 3.8% in 2017 and will fall by 1.7% in 2018 before recovering to growth of 1.8% in 2019, 4.4% in 2020 and 5.0% in 2021 producing an overall five year growth of 5.5% (Savills, 2017). These predictions are being driven by a number of drivers. First low commodity prices together with patchy local demand, second the supply of land onto the market is expected to remain low, third Brexit and the uncertainty that brings and the economic pressures currently potentially depressing rents (Savills, 2017). Forecasts have now been revised to predict growth in the region of 149% over the period 2006-2016 (Savills, 2017) compared to the 273% growth over the period 2003-2013 (Savills, 2014).

Other published data on the values of the UK agricultural land market come from a bi-annual joint publication from the Royal Institution of Chartered Surveyors and the Royal Agricultural University and their reports have tended to support those from Savills in that there has been a softening in the demand for UK agricultural land since early in 2015. Throughout 2013 and 2014 the RICS/RAU reports continued to point towards a continued appreciation in farmland prices mainly being driven by commercial demand from farmers and that demand continued to outstrip supply and that expectations were that the growth in UK agricultural land values would continue (RICS, RAU, 2013a, 2013c, 2014a, 2014b).

The report covering the first half of 2015 referred to a sharp increase in the supply of farmland coming to the market, and to moderate growth demand with a significant reduction in growth expectations (RICS, RAU, 2015). This sense of a reduced demand for agricultural land continued in 2016 which the RICS/RAU claimed was being driven by increased uncertainty arising from the Brexit vote and the confusion over the future of any agricultural support (RICS, RAU, 2016).

These trends have continued into 2017 with the RICS/RAU having reported in the last four land market surveys covering the period 2015-2017 that the demand for agricultural land has been softening (RICS, RAU, 2017a). In the period up to 2013 the Investment Property Databank concluded that the performance of farmland had outstripped all other UK property sectors. Over three, five and ten years farmland has outperformed all core asset areas seeing returns of 11.5%, 8.9% and 13.2% respectively compared to 8.7%, 0.7% and 6.3% for commercial property (Investment Property Databank, 2013). There is therefore evidence of a strong demand for agricultural land across the UK as agricultural land remains an attractive and profitable asset over the long term (Carter Jonas, 2015).

2.17 The factors driving the demand for UK agricultural land

The growth in the demand for agricultural land during the 2003-2013 period could be as a result of a number of factors that have been identified. These are the supply of agricultural land coming onto the market, the issue of food security, the support that UK agriculture receives from the European Union, the fiscal benefits of owning land, the attractions of investing in agricultural land and the widening demands for agricultural land. Each of these will now be discussed in turn.

2.17.1 The supply of agricultural land coming to the market

The amount of agricultural land being publically marketed has been reducing with only 155,000 acres being marketed in 2011 and 134,000 in 2012. The figure in 1998 was over 300,000 acres with the current levels being 50% of the level of publically marketed agricultural land in 2000 (Savills, 2014). Since 2015 the amount of agricultural land coming to the market has increased seeing 180,000 acres of agricultural land being publicly marketed in 2016 (Savills, 2017). The constrained nature of the supply of agricultural land coming to market (1995-2013) is illustrated in Figure 5. Figure 5 illustrates a significant fall in the supply of farmland onto the market between 2000 and 2001 but it should be borne in

mind that 2001 saw the outbreak of Foot and Mouth disease where the majority of the rural community was under lock down and naturally little agricultural land would have been expected to have been traded.

RICS reports until recently continued to report that demand was far outstripping supply (Royal Institution of Chartered Surveyors and Royal Agricultural University, 2014a). More recent reports set out that the supply of agricultural land onto the market is rising (Carter Jonas, 2015; RICS, RAU, 2015; RICS, RAU, 2017).

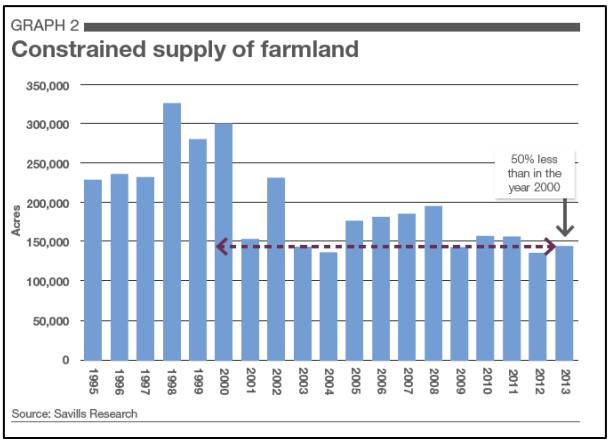


Figure 5 – The constrained supply of farmland

(Savills, 2014)

2.17.2 Food security in the UK

A second factor that could be driving the demand for agricultural land is the issue of food production becoming a higher political priority. Food security is defined by the Food and Agriculture Organization of the United Nations (FAO) as: "when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (Global Food Security, 2017, para 1).

The World Bank argued that an increase of 50% in cereal production and an increase of 85% in meat production is needed by 2030 as the world strives to feed a population expected to reach between 8-11 billion people (Cabinet Office, 2008). The UK itself is only 60% self -sufficient in food. The demand for food is projected to rise by a least 20% globally over the next 15 years with 12.9% of the population in developing countries now undernourished (The World Bank, 2017). Food price increases since 2008, rising population levels, changing consumer patterns, decreasing pollinators and the potential for disease in crops

and livestock have all made food security a higher political priority (Global Food Security, 2017). These pressures on the demand for land can only work to fuel the value of land as commercial farmers look to meet the objective set by their political masters, in the knowledge that there is only a finite amount of land available for food production (Savills, 2013).

2.17.3 Political support for UK agriculture, the fiscal and investment incentives for buying UK agricultural land

The Investment Property Databank point to the continued support that agriculture gets from the EU Common Agricultural Policy which provides additional income to those owning and/or farming agricultural land (Investment Property Databank, 2013) as a further motive to invest. This may now be subject to review following the decision by the UK to leave the European Union although the UK government has committed to maintain the current system of agricultural support through to 2027, albeit phasing it out and replacing it with payments for public goods (Gov.uk, 2018). The third factor that could be affecting the demand for agricultural land is the nature of agricultural land been seen as a safe place for investment taken with the fiscal benefits of investing in agricultural land.

The Investment Property Databank (IPD, 2013) reported that investors were seeking to diversify their portfolios and agricultural land was seen as a safe long-term haven. It was seen as less volatile compared with other assets. They point to the stability of agricultural land during the recession that followed the economic turmoil of 2008 and the potential windfalls that can become those owning agricultural land (Investment Property Databank, 2013). Agricultural land has been referred to as an efficient asset for the transfer of wealth (Savills, 2014).

One of the most compelling reasons for investing in agricultural land could be the steady increase in the value of the asset, over the last 50 years agricultural land values have risen from less than £1,000 per acre to between £8,000 and £10,000 per acre (Knight Frank, 2014). This extent of this growth has been discussed above, this sustained appreciation of UK agricultural land values makes it an attractive asset, it is tangible and, importantly, the legal and land tenure system in the UK means it is also a useful defensive component of portfolio of investments and its performance is often countercyclical with other assets within an portfolio of investments (Knight Frank, 2014). This was illustrated by the 2008 financial crash where equities tumbled but agricultural land values continued to rise. Even taking into account inflation. Savills (2013) reported that between 2003 and 2013 the value of prime

agricultural land rose by 273%. Even when taking the cumulative inflation rate between 2000 and 2018, which was 63.48%, then the benefits of prime agricultural land as an investment are apparent.

The IPD also point to the capital tax advantages of owning agricultural land (Investment Property Databank, 2013). Inheritance Tax is chargeable at a rate of 40% upon the death of an individual on the value of their estate subject to the nil rate threshold of £325,000 which, without relief, would leave surviving farming families with significant inheritance tax charges whereby in all reality the only way to pay the Inheritance Tax would be sell the property asset which would not facilitate the continuance of agricultural activity between farming family generations. This was the overarching reason for the introduction of Agricultural Property Relief whereby the agricultural value of any asset is relieved from Inheritance Tax completely. Agricultural land that is being farmed falls into that category. Section 115 of the Inheritance Tax Act (Inheritance Tax Act 1984) defined agricultural property as that

> agricultural property means agricultural land or pasture and includes woodland and any building used in connection with the intensive rearing of livestock or fish if the woodland or building is occupied with agricultural land or pasture and the occupation is ancillary to that of the agricultural land or pasture; and also includes such cottages, farm buildings and farmhouses, together with the land occupied with them, as are of a character appropriate to the property.

Both owner occupied and let agricultural land, as defined above, attracts 100% relief from Inheritance Tax through the application of Agricultural Property Relief. This acts to protect an individual's wealth whereas other let property does not have the same fiscal benefits. This is illustrated by the activities of the inventor James Dyson who it is thought now to own around 25,000 acres of land in England (The Telegraph, 2018) more than the Queen at Sandringham.

2.17.4 The widening market for agricultural land in the UK

The lifestyle buyer left the property market in 2008 but many now report a resurgence in the lifestyle buyer (RICS, RAU, 2014a). Farmers now only account for approximately 50% of the purchasers of agricultural land as ownership of agricultural land is seen by some as a trophy asset (Savills, 2013). There is also an accepted historical and cultural view that to own land carries with it prestige, power and influence. The demands from the equestrian market, the demands for leisure and tourism together with the issue of renewable energy all place increasing demands on the demand for farmland which has a finite supply.

2.18 Rationale for the study on agricultural land

These trends illustrate the pressures on the demand for agricultural land. It is argued therefore that the valuer of agricultural land, in predicting market value, has an ever more challenging task in interpreting the market and the forces at work that are driving the market value of agricultural land in a particular geographical location. With such growth rates in the value of agricultural land the valuers of agricultural land could be lulled into a false sense of security as they are providing valuation figures in an ever rising market. This leads on to consider the implications this has for the reliability and accuracy of valuation figures provided by those valuers of agricultural land in the event that the market changes or is subject to unexpected shocks.

The complex nature of the market for agricultural land provides a reason that warrants this area of professional work being opened up for scrutiny, to also identify measures to help and support the profession to continue to service the requirements of clients. As will become clear in chapter 5 research to date already conducted within this field of professional work has been conducted only within the context of residential and commercial/industrial property. There are also particular aspects of the market for agricultural land that make the valuation task more complex and challenging, in that agricultural land is more heterogeneous, or diverse or bespoke, than other property types and it is therefore argued here that this is an area of professional work that demands scrutiny which has not received any level of scrutiny to date.

This is the rationale for this study being on agricultural land and the valuation of agricultural land in the UK. As will become clear within the methodology sections this study will focus on valuer participants practicing in England and Wales only.

2.19 The valuation of agricultural land in the UK

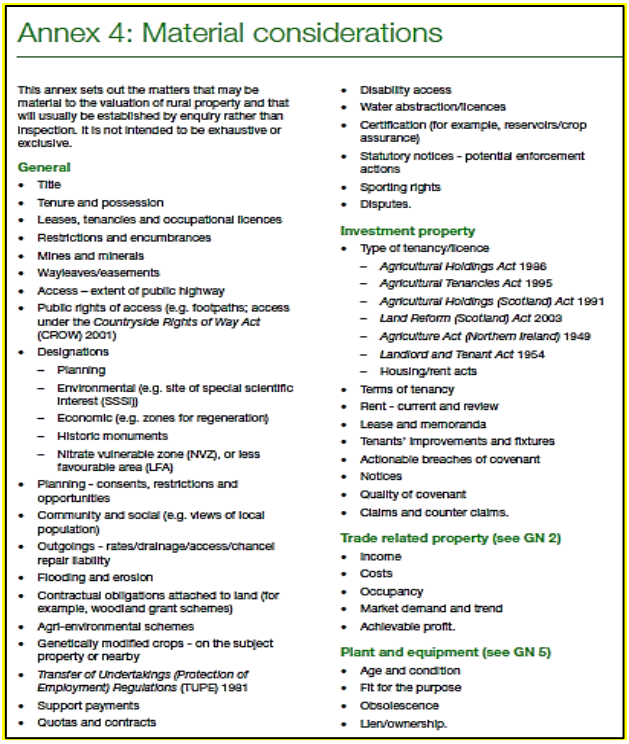
The previous section referred to three valuation approaches that the professional property valuer could take, the market approach, the income approach and the cost approach. It is often the case that agricultural land tends to follow a market led approach in the form of the comparable method of valuation. One of the tasks when employing the comparable method of to identify the elements of comparison and the determinants of value. One of the professional challenges in valuing agricultural land is that the elements of comparison or the determinants of value for agricultural land are hugely diverse which, it is argued here, make the valuation task for the valuer of agricultural land a very complex task. It is further argued that the elements of comparison are fewer in number and more consistent when it comes to valuing residential and/or commercial property. In that the form of one terraced, semi-detached or detached houses could be very similar to another terraced, semi-detached or detached house. There will be elements of difference but, it is argued here, they will not be as diverse as they are for agricultural land.

Some assistance in identifying the elements of comparison in relation to agricultural land is provided to agricultural valuers by the RICS in their guidance note number 83/2011 (RICS, 2011). This illustrates the complex nature and the wide range of elements of comparison relevant when valuing agricultural land. It lists the matters that should be addressed during an inspection and which may affect value and effectively constitute the elements of comparison, as they are called by Wyatt (2013), for agricultural land. These elements of comparison are articulated within Table 3.

Table 3: Elements of Comparison for Agricultural Land (RICS, 2011)

LAND	BUILDINGS	STATUTORY/LEGAL	FIXTURES
Field Sizes Soil Flooding & Erosion Infestations Boundaries Land use Drainage Irrigation Woodland Landscape Access	Dwellings Buildings Deleterious materials Services Dilapidations	Occupation by other parties Health and Safety Disability Access Contamination Pollution Trespass Third party rights Telecoms Wayleaves	Plant & machinery Tenant's fixtures & fittings

Each of the above elements of comparison could affect the value of agricultural land making any comparable adjustments more complex, more subjective and more open to misinterpretation and/or error. Figure 6 reproduces Annex 4 of the guidance note outlining the extensive range of matters that may be material to establishing the value of agricultural land and/or property.



Annex 4: Material considerations

This annex sets out the matters that may be material to the valuation of rural property and that will usually be established by enquiry rather than inspection. It is not intended to be exhaustive or exclusive.

General

- Title
- Tenure and possession
- Leases, tenancies and occupational licences
- Restrictions and encumbrances
- Mines and minerals
- Wayleaves/easements
- Access – extent of public highway
- Public rights of access (e.g. footpaths; access under the *Countryside Rights of Way Act* (CROW) 2001)
- Designations
  - Planning
  - Environmental (e.g. site of special scientific interest (SSSI))
  - Economic (e.g. zones for regeneration)
  - Historic monuments
  - Nitrate vulnerable zone (NVZ), or less favourable area (LFA)
- Planning – consents, restrictions and opportunities
- Community and social (e.g. views of local population)
- Outgoings – rates/drainage/access/chancel repair liability
- Flooding and erosion
- Contractual obligations attached to land (for example, woodland grant schemes)
- Agri-environmental schemes
- Genetically modified crops – on the subject property or nearby
- *Transfer of Undertakings (Protection of Employment) Regulations* (TUPE) 1981
- Support payments
- Quotas and contracts
- Disability access
- Water abstraction/licences
- Certification (for example, reservoirs/crop assurance)
- Statutory notices – potential enforcement actions
- Sporting rights
- Disputes.

Investment property

- Type of tenancy/licence
  - *Agricultural Holdings Act* 1986
  - *Agricultural Tenancies Act* 1995
  - *Agricultural Holdings (Scotland) Act* 1991
  - *Land Reform (Scotland) Act* 2003
  - *Agriculture Act (Northern Ireland)* 1949
  - *Landlord and Tenant Act* 1954
  - Housing/rent acts
- Terms of tenancy
- Rent – current and review
- Lease and memoranda
- Tenants' improvements and fixtures
- Actionable breaches of covenant
- Notices
- Quality of covenant
- Claims and counter claims.

Trade related property (see GN 2)

- Income
- Costs
- Occupancy
- Market demand and trend
- Achievable profit.

Plant and equipment (see GN 5)

- Age and condition
- Fit for the purpose
- Obsolescence
- Lien/ownership.

Figure 6 – Extract RICS Guidance Note 83/2011
(RICS, 2011)

Further guidance is provided in a further RICS guidance note on comparable evidence in property valuation (RICS, 2012). It sets out the elements of comparison for all property types and Figure 7 illustrates those elements of comparability.

Sector	Property type	Key factors affecting comparability
Rural	Agricultural land	Land use mix; soil type; capability; aspect; layout; accessibility; drainage; irrigation; proximity to markets; size; suitability and layout of buildings; eligibility for support payments; environmental or other statutory designations/schemes; tenure; planning opportunities; use of machinery; size; water distribution and availability; sporting rights; riparian ownerships; minerals; public development/compulsory purchase proposals. See the RICS guidance note, *Valuation of rural property* (2011) for information on the categorisation of rural property

Figure 7 – Extract RICS Guidance Note IP26/201
(RICS, 2012)

The challenge for the valuer of agricultural land is distinguishing the elements of comparison between the comparable evidence and the subject land and then making suitable adjustments for those differences. The higher the number of differences between the subject land and the comparable evidence then the higher the number of potential adjustments that have to be made. Therein lies two potential sources of error and the justification for opening this area of professional work up to scrutiny not just in an attempt to assess the performance of the valuers of agricultural land but also to provide help establish best practice in this discipline.

This has sought to justify the premise for this thesis focus on the study into the valuation of agricultural land in the UK. It has achieved that by identifying firstly that the market for UK agricultural land has experienced significant growth over the last ten years. It has also examined the diverse forces at work in the determination of the market value of agricultural land and it has examined the complexity and subjectivity of using comparable evidence to value agricultural land. The nature of the valuation guidance available to professional property valuers in carrying out what has been described as a complex, important and subjective valuation task has been examined.

The conclusions that can be drawn are that the guidance has refrained from instructing valuers in how to value individual property assets tending to prefer to guide and regulate valuer competence and encourage uniformity in approach and reporting. Whilst some of the literature has offered insights into how the comparable approach should be executed there is no evidence or research into how the valuers of agricultural land apply the comparable approach in practice, or whether there is any uniformity of approach, it is not known how, or if, the valuations produced by agricultural valuers are robust, reliable or accurate which is an area that this thesis seeks to explore. It would therefore seem logical to now turn attention to the body of literature that has attempted to assess the performance of valuers in the field in determining their valuation figures.

2.20 Assessing the performance of the property valuer

The performance of professional property valuers was first called into question by research published in 1985 (Hager & Lord, 1985) which was not specifically research measuring valuer performance but was a more general look at the property market and property performance. However within the report were the results on a small experiment to look at the potential range of values that could be produced by valuers looking at the same property

with an expectation that the range of values produced would be within +/-5% of a control valuation. Ten property valuers were asked to value two properties. One was described as a recently refurbished office, let on a new lease for 25 years on full repairing and insuring terms with five yearly rent reviews, the property declared as being rack rented and let to a major American company. The second property was a prime high street shop let to a public limited company on a new full repairing and insuring lease for 25 years. Alongside this a control valuation was carried out by a valuer with extensive experience which was used to assess participating valuer performance against.

The resulting valuations for the office ranged from £630,000 to £780,000 providing a mean valuation of £722,000 against a control valuation of £725,000 and providing percentage differences from the mean valuation, or variation, ranging from +1.4% to -12.75%. For the shop the valuations ranged from £450,000 to £655,000 providing a mean valuation of £590,000 against a control valuation £605,000 and providing percentage differences from the mean valuation, or variation, ranging from +4.11% to -23.82%. Some of these were significantly more than the expected +/-5% of the control valuation and as such provided fuel to raise concerns amongst property fund managers in particular as to whether valuations were a good proxy for eventual sale prices.

Brown (1985) sought to allay these fears, he argued that differences between valuers opinions of value was something that ought to be expected amongst valuers of property. Brown et al., (1998) agreed that valuations were an estimate of expectations and those expectations would be subject to differences between valuers depending on how the valuer placed weight on the varying factors that contributed to value. They went onto say that “a valuation is an expression of future expected earnings. Different valuers will have different views concerning the future, based on their view of the property and the current market conditions. It is these differences in views that create an active market and offer arbitrage opportunities. Buyers may hope that a property is under-priced, whereas sellers may hope that it is overpriced” (Brown et al., 1998, p.9). They continued “if all the valuations were the same then there would be no incentive to buy or sell property. The fact that there are different views concerning expected values is merely a function of differences in expectations” (Brown et al., 1998, p.9)

Later Babawale (2013) argued that there were two reasons that preclude property valuers from being accurate. Firstly that true market value was unobservable and so unrealisable and secondly it was as a result of the peculiarities of the property market particularly the poor levels of information available to the property valuer, the heterogeneity of property and the lack of a centralised database for recording sale transactions. The market for property is a market, he argued, unlike other asset types and he questioned whether comparing valuations with eventual sale prices was equitable because valuations were informed and rational pieces of advice provided by professional people whilst market values were the product of an investors or purchasers psychology, sometimes there may appear to be very little logic to what purchasers are willing to pay for a particular property asset as emotion and sentimentality drive the desire to purchase such a property.

Crosby (2000) argued that in actual fact the existence of inaccuracy in valuation had subsequently been legitimised through the courts and their decisions. One only has to look at the case of Watkins LJ in *Singer & Friedlander Ltd v John D Wood & Co* [1977] whereby the court established an accepted margin of error bracket of 10% and the court further commented that "valuation is an art, not a science. Pinpoint accuracy in the result is not, therefore, to be expected by he who requests the valuation".

Brown (1985) and later Babawale (2013) argued that the property market should be more concerned about valuation bias rather than variation which arises when valuations consistently over value or under value property assets.

2.21 Valuation accuracy

In the atmosphere following Hager & Lord (1985) Brown (1985) attempted to illustrate that professional property valuers were doing a good job. He set about illustrating that valuations were a good proxy for sale prices by constructing a statistical defence of the valuation process based on regression. He constructed a test of valuation accuracy. This is defined as "the proximity of the valuation to the actual sale price" (Bowles et al., 2001, p.143).

Brown (1985) analysed a sample of property transactions whereby both the transaction price and a prior independent valuation was available producing a sample of 29 properties, which is a small sample upon which to construct a regression model, over the period 1975-1980 and he regressed the valuation for each property to its eventual sale price to ascertain the

extent to which the valuation explained the sale price. His analysis concluded that 99% of the valuation was explained by the eventual sale price indicating a strong relationship between the two variables. This test of valuation accuracy was a different test to that set out in Hager & Lord, (1985) which was a test of valuation variation. Brown (1985) was essentially looking to test if, statistically, valuations were a good predictor of the eventual sale price concluding that on his sample they were. The Hager & Lord (1985) study was a test of valuation variation defined as the ability of two valuers, or more, to produce the same valuation figure for a property (Babawale, 2013, p.387).

The Hager & Lord (1985) study was attempting to measure the accuracy of valuations by testing to see if the group of participating valuers could value to within, in this case, +/-5% of a control valuation, an example of valuation variation. This, as a method of testing valuation accuracy, is not without criticism because the test bears no association with the eventual sale price and so bears no association with the market, it is using more valuations to test if another valuation is accurate.

Other accuracy studies alongside the methodology adopted by Brown (1985) were the IPD& Drivas Jonas studies, (IPD/Drivers Jonas, 1988) which initially took in 1442 property valuations and their subsequent sale from the period 1982-1988 and found that 93% of the sale price was explained by the valuation and over the following years this study the number of transactions were added to ending at 8,500 transactions. Over these studies the conclusions were that only 30% of valuations fell within +/-10% of the sale price, 67% within +/-20% of the sale price whilst 30% of valuations fell outside the +/-20% bracket (Crosby, 2000).

Crosby (2000) argued that despite the author's claims that valuers were doing a good job, this was evidence of a substantial mismatch between the valuation and subsequent sale price. This regression based defence of the valuation profession was criticised by Lizieri & Venmore-Rowland (1991) who argued that since these studies used values and sale prices in the format of pounds per square foot the regression based studies did not recognise the fact that individuals would likely value a property that would sell at £800 per square foot higher than they would at say £200 per square foot which would then, they argued, produce a higher R2 value irrespective of the accuracy of the valuation. They also point to a more fundamental difficulty with placing reliance on more scientific regression based models,

which regress a valuation to the eventual sale price, to defend the valuation profession and that was the behaviour of the valuers themselves. Valuers contaminate the sale price through their valuation as the valuer has the ability to influence the price more than the market and thereby affect valuation accuracy (McAllister, 1995).

McAllister (1995) offered a number of further observations to this debate as to the appropriateness of the statistical techniques being applied. Firstly he argued that as valuations and sale do not take place contemporaneously a valuation will become out of date the minute it is produced. This is because new market evidence becomes available as soon as the valuation is completed and so this raises the question as to whether it is reasonable to expect the valuation and sale price to match. Valuers will anchor their valuations to the market comparable evidence which by its very nature is always historic, it is looking back at what the market has done, not forward at what the market is doing now or likely to do in the future. This market evidence has been found to lag the actual market and this will therefore naturally filter through to a valuer's valuation figures (Crosby, 2000). This time lag between the valuation and sale price was also discussed by Parker (1999) who tried to overcome it by providing for an experience whereby participating valuers were asked to provide an opinion of value on the day formal tenders were due to be submitted so effectively the valuation and sale were taking place contemporaneously.

Secondly McAllister (1995) argued a lot will depend on the chosen date for the achievement of the sale price. Is it the date a sale is agreed or the date upon which contracts are exchanged or the date of completion? Finally he points to the absence of aborted sales in the samples used in the research which may have aborted due to the valuer mis-valuing or inaccurately valuing the property.

Matysiak & Wang (1995) used a database of 317 properties from the period 1973-1991 and examined the accuracy of the valuation and the sale price. The valuations had been carried out within three and six months prior to the sale, compared to the nine to ten months in the IPD/Drivas Jonas (1988) studies. They found that 177 (56%) properties were undervalued by just over 20% and 134 (42%) properties were overvalued by just over 11% and overall sale prices were 6.9% higher than the valuations. They estimated that there was a 30% chance of the valuation being within +/-10% of the sale price, a 55% chance of the valuation being within +/-15% of the sale price and 70% chance of the valuation being within +/-20%

of the sale price again providing the profession with a mixed picture in terms of its performance.

Blundell & Ward, (1999) accessed data on over 775 properties (1973-1990) where again the time lag between valuation and sale price was between three and six months and concluded that the sale price was 7% higher than the valuation. Some 20% of the valuations were more than 20% different than the sale price and only 35% of valuations were within +/- 10% of the sale price. These studies point to the existence and the extent of valuation inaccuracy within the valuation profession.

The performance of valuers across the globe is mixed. Cole et al., (1986) an American study, looked at 144 transactions between 1978-1984 and for the entire sample the percentage difference between the valuation and sale price was on average 7.5%, so within the UK expected range of +/-10% although the largest positive and negative differences were +181% and -28%. In another study from the United States, Webb (1994) looked at 469 property transactions over the period 1978-1992 and found that during generally rising property markets prices were 7.8% higher than valuations, during constant market conditions sale prices were only 2.3% higher than valuations and during unstable market conditions then sale prices fell to between 3.3% and 4.9% lower than valuations. An Australian study, (Newell & Kishore, 1998), looked at 218 commercial properties during the period 1987-1996 and found the average difference to be 2% overall but much larger percentage differences were evidence in bullish market conditions being 6.6%-8.8%. In more depressed markets the percentage difference was -5.0% to -8.3%.

Parker (1999) was an Australian study that found that valuations differed from their sale prices on average by 7.7% across a small sample of seven properties. More recent Nigerian studies have looked to measure valuation accuracy in valuers in Lagos in Nigeria (Babawale & Omirin, 2011). The research was based on a sample of 250 responses from Estate Surveyors and Valuers in Nigeria. The findings suggest that 70% of the sample found the valuation exceeding the sale price, 24% seeing the sale price exceed the valuation and 5% seeing the valuation equalling the sale price. Overall only 30% of the valuations were accurate to within +/-5% of the selling price, 45% were within +/- 10%, 75% within +/- 15% and 18% of valuations were more than +/-20% of the sale price.

2.2 Valuation variation

There have been fewer studies of the valuation variation nature when examining the accuracy of valuations. Valuation variation is defined as the ability of two valuers, or more, to produce the same valuation figure for the same property (Babawale, 2013, p.387). So whereas the valuation accuracy studies above attempted to test how valuation figures aligned to eventual sale prices, which as has been illustrated has its critics, valuation variation studies are measuring valuations against other valuations, they have no reference to the eventual sale price.

The Hager & Lord (1985) study measured 10 valuations against a control valuation carried out by someone with extensive experience but who is to say that expert valuer is any more competent than the participating valuers. This is something that was discussed by Crosby (2000). Later variation studies have compared valuations against the mean valuation from the experiment group in order to move away from the expert valuation idea but as has been seen the courts have adopted a valuation variation type approach to valuation negligence cases when assessing whether a valuation falls within the accepted bracket of what a reasonable valuation figure should be.

The second variation study, after Hager & Lord (1985) was Hutchinson, MacGregor, Adair, & McGreal (1996) and this was based on a larger sample to that of Hager & Lord study. The research targeted fourteen major city centres around the UK in order to obtain a wide geographical spread plus market evidence was likely to be more abundant in these centres. The property involved covered retail, office and the industrial sector. In all 446 valuations were carried out comprising 232 valuations of rack rented investments and 214 valuations of reversionary investments across the 14 city centres identified. The results indicated that overall 80% of all the valuations fell within +/-20% of the mean valuation with a mean variation of 9.53% so within the accepted bracket of +/-10%. However not within the thoughts set out by Hager & Lord (1985) that valuers could value to within +/-5%. The authors acknowledged a limitation in the study in that none of the valuers were paid for the work and as a result may not have taken as higher degree of care and skill as they may have if they had been paid and in addition this was a desk based study, so an actual inspection of the property was not undertaken.

Another valuation variation study came with Havard (1999b) who used an observed simulated valuation exercise with eighteen experienced commercial property valuers. The

subject of the exercise was an office investment located in a city unfamiliar to the respondents. All 18 participants were provided with the same market evidence and were observed throughout the valuation process of the valuation and concluded with the determination of a valuation figure. Having been provided with the same comparable evidence their resulting valuations ranged from £305,000 to £700,000 with a standard deviation from the mean of £94,018 or 14.76%, greater than that in the Hutchinson et al., (1996) study. Seven valuations fell within +/-10% of the mean figure and 14 falling within +/-20%.

If valuation inaccuracy is present and its existence has been legitimised through decisions of the court then the logical question to ask is how inaccurate can the professional property valuer be and what causes the valuer to be inaccurate. As discussed previously the courts have decided negligence cases which have established the margin of error bracket. Crosby, Lavers, & Foster (1998) reviewed thirty UK High Court cases on valuation negligence and found that 75% of the decisions fell between the 10-15% bracket with none beyond 20%.

2.23 Summary - valuer performance

It seems that the academic evidence does provide a mixed picture in terms of the levels of accuracy being achieved. Earlier accuracy models, looking at how well valuations align to eventual sale prices, have concluded that valuations were a good proxy for sale prices (Brown, 1985). Other accuracy models have concluded however that only 30% of valuations fell with +/-10% of the sale price, (IPD/Drivers Jonas, 1988; Matysiak & Wang, 1995) or that only 35% of valuations had a chance of being within +/-10% of the sale price (Blundell & Ward, 1999). However, as has been discussed, this methodological approach has been criticised. It is also true that valuation variation models, where valuations are compared to other valuations, see valuers struggling to value to within +-/10% of the mean valuation but some argue that the 10% bracket is an arbitrary benchmark with little logical underpinning which has even failed to accommodate opposing expert witnesses valuations in valuation negligence cases decided in the courts (Crosby, 2000).

There would appear to emerge from the literature something around an acceptable level of inaccuracy or variation being around the +/-10% of the sale price, control or mean valuation which could be referred to as normal inaccuracy or variation. Anything above that could be classified as being abnormal inaccuracy or excessive variation. The former not requiring justification by the valuer, the latter so requiring such a justification. Therefore it would be

logical to examine the literature now on the levels of tolerance are towards valuation inaccuracy and what causes valuers to be inaccurate.

2.24 Levels of tolerance in valuation inaccuracy

Whilst Havard (2001) made the point that the professional body within the UK regulating the valuation profession, the Royal Institution of Chartered Surveyors, does not provide guidance on what are acceptable levels of inaccuracy there have been studies that have examined the levels of tolerance towards valuation inaccuracy from the view point of other property professionals or property stakeholders. Bretten & Wyatt (2001) tried to examine firstly the acceptable levels of variance or inaccuracy amongst stakeholder groups. They sent out questionnaires to a combination of lenders, finance brokers, valuers and investors (n=220, response rate 44%). They found that overall 76% of respondents accepted that valuation variation was inevitable and that 40% of the respondents considered +/-10% to be an acceptable margin of error, but 36% of the investors in the respondents thought that the acceptable margin of error should be lower at +/- 5% but 25% of the valuer respondents thought that a higher +/-15% was an acceptable margin of error.

In work by Havard (Havard, 1999a) responding valuers felt that +/-5% -+/-10 % was the appropriate margin of error. Crosby (2000) reported on a valuation seminar where 28 respondent valuers, 7% of them argued for a bracket of +/-5%, 57% to within +/-10%, 29% to within +/-15% and 7% within +/-20%.

International studies into the tolerance of valuation inaccuracy saw Babawale, (2013) look at the expectations of accuracy within valuations in Nigeria. He looked firstly at the expected levels of accuracy for a range of property types, secondly for a range of valuation purposes, thirdly identifying the reasons for inaccuracy and finally if there were any suggestions to improve it. Figure 8 illustrates quite a wide range of opinion across property types as to the expected levels of valuation accuracy. Whilst the +/-10% range is the most highest scored across all property types it does not form the majority view in any of the four categories shown although if taken together the majority of the respondents across the property types did select either +/-5 or +/-10%.

Figure 9 shows a wide range of expectations as to accuracy across the range of valuation purposes. Again the +-/10% is the most scored, except for insurance valuations, but again does not form the majority view across any one of the valuation categories in isolation apart

from the mortgage valuation category, however again taken together a majority of respondents did select either +/-5% or +/-10% across all the valuation types.

Figure 8: The expected levels of accuracy for differing types of property
(Babawale, 2013 p.399)

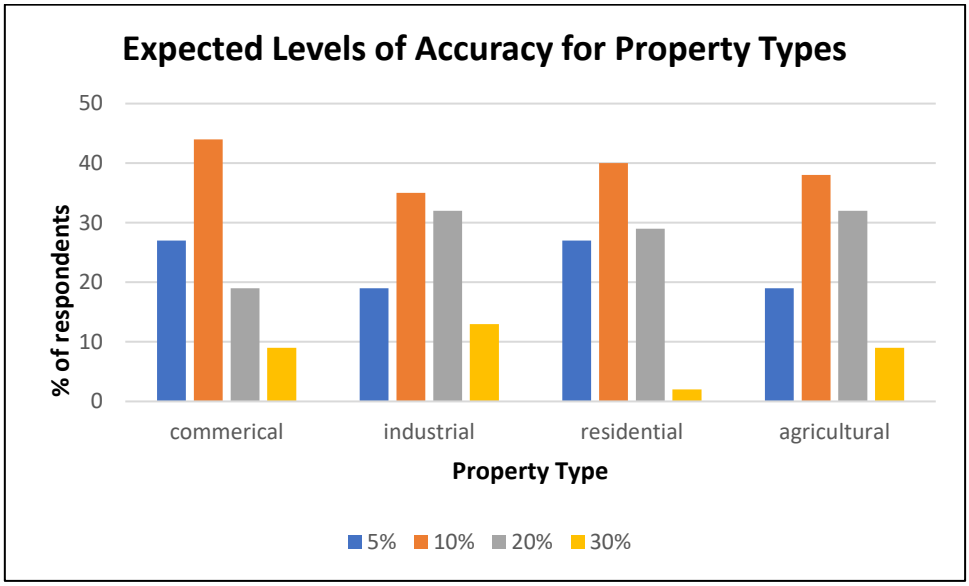
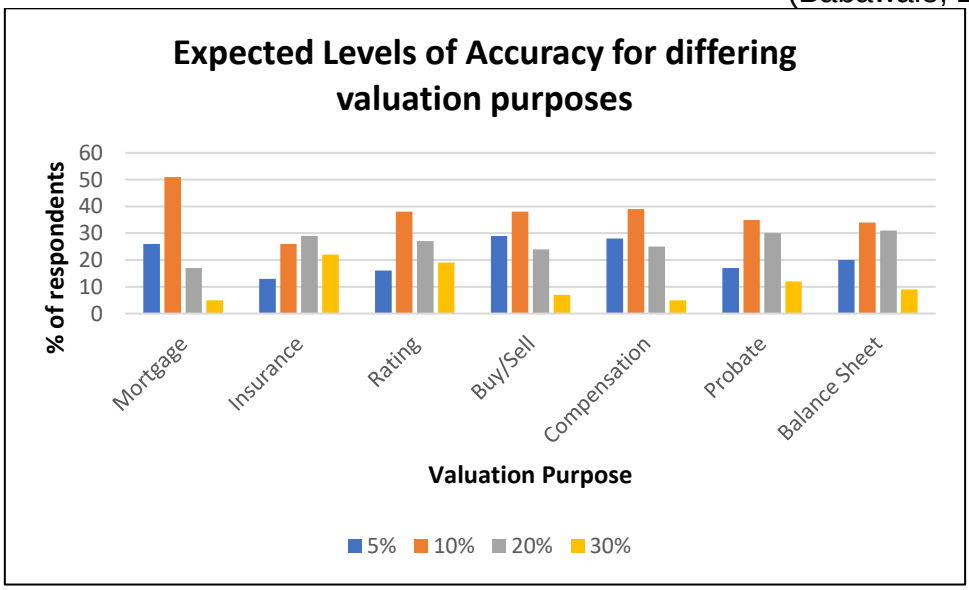


Figure 9: The expected levels of accuracy for differing valuation purposes
(Babawale, 2013 p.400)



2.25 Causes of valuation inaccuracy

The Bretton & Wyatt (2001) study found that 60% of the valuer participants agreed or strongly agreed that valuers often increased their valuation figure when external parties exerted pressure. The lenders response to the same question was only 22% and it was

25% for the financial advisors and 58% for the investors illustrating that there was some evidence that clients were applying pressure to valuers and thereby interfering with the valuers' independence. This concept of client influence was examined by Kinnard et al., (1997, p.233) who looked into the idea of the "captured or controlled appraiser". They referred to the work of Smolen and Hambleton (1997) who reported that 80% of their sample (n=292) agreed that appraisers were pressured by clients to amend their valuation figures. They tried to establish if valuers decisions were affected by client pressure expressed by the size of that client and also if the valuers decision was affected by the size of the adjustment being asked for by the client.

A total of 3028 surveys were issued with 953 being returned. Following analysis they found a direct relationship between the size of the client and the likelihood of the valuer revisiting their valuation although 67% of respondents were not aware of that this was happening. There was not such a relationship between the size of the adjustment requested and the valuation decision. Overall 41% of valuers revised their valuations without having the supportive documentation when requested to do so by their client.

Levy & Schuck, (1999), in a New Zealand based study, looked at how four factors affected a valuation. These were the characteristics of the service provider, the characteristics of the client, the external characteristics and the characteristics of the service being provided. Based on interviews with only five valuers they found that the type of client was a factor that could impact the valuation. The interviewees stated that it was not unusual to be asked to amend their valuations and that this was acceptable in their view so long as it was adjusted within the range of defensible values. They found that certain types of valuation were more vulnerable to client pressure than others. A long standing and trusting relationship with a client may also give rise to acceptable adjustments when requested.

Other factors identified by this group of valuers that could affect the accuracy of a valuation were the age/experience of the valuer, the personality of the valuer and the amount of information the valuer had access to. Other factors identified as possible causes of inaccuracy was the level of fees being paid by clients and knowledge of the sale price by the valuer. In the Bretton & Wyatt (2001) study overall 67% of the sample agreed or strongly agreed that a higher valuation fee would not lead to more accurate valuations although 30% of the valuer respondents thought it would result in more accurate valuations.

Bretton & Wyatt (2001) found that 77% of lenders, 50% of financial advisors and 60% of the investors all thought that the sale price should not influence the valuation but 47.5% of the valuer respondents thought that the valuer should be influenced by the sale price although some argued that the fear of a professional negligence claim may lead to the abandonment of what is referred to as the normative process of valuation in favour of price validation (Gallimore & Wolverton, 2000). That being that valuers tended to engage in a valuation prices that confirmed the sale price provided by locating and selecting evidence that positively confirmed that sale price. This was rather than engaging in a process that looked objectively at the evidence setting aside the sale price agreed when analysing evidence.

In addition 83% of lenders believed that valuers should not be influenced by previous valuations of the same property whereas 30% of the valuer respondents thought that they should be influenced by such previous valuations. Babawale & Omirin (2011, p.13) argued that "the fundamental reason for inaccuracy in real property valuation remained the fact that the true market value which valuers seek to predict is unobservable and therefore not realisable".

Babawale, (2008) identified, within the Nigerian property valuation profession, twenty three causal factors classifying them into four main groups, these being the characteristics of the property, the valuation environment, the valuation process and the individual characteristics of the valuer or their member firm. Further work examined more closely the final grouping identified above being the individual members or their firms (Babawale & Omirin, 2011). By carrying out a multiple regression to determine the predictive influence of eight of the explanatory variables Babawale (2013) found that only three factors were significant at the 1% significance level in contributing to valuation inaccuracy. These being the valuers' years of experience, the number of valuations carried out over the period and the professional status of the valuer. Two further factors were significant at the 5% significance level and these were the familiarity with the market and the valuers' gender, although 94% of the sample were male.

In summary the empirical evidence appears to suggest that a degree of valuation inaccuracy is accepted by those who rely on those valuations being produced although the majority of responses across the studies seem to indicate an acceptance of +/-10% of either the eventual sale price or another valuation as the norm, this +/-10% bracket does appear to be more flexible amongst the valuation profession with more of them willing to contemplate a

wider bracket but is appears less flexible amongst those relying on the valuations with more of them having a bracket expectation of +/-5%. In terms of causes these appear to be varied ranging from client pressure to the characteristics of the property, the valuation environment, the valuation process and the individual characteristics of the valuer or their member firm.

What is also relevant to this thesis is that none of the accuracy or variation studies have been based on the valuation of agricultural land in the UK, so it is not possible to form a view as to the accuracy, reliability or robustness in approach towards the valuation of agricultural land in the UK by professional valuers illustrating evidence of the research gap that this study seeks to fill.

2.26 Positioning of this study within the professional literature

Given that the focus of this thesis is on the valuation task this chapter has examined the nature of the valuation task itself and found that it is a subjective task, an uncertain task and a complex task but still an important task. The chapter has explained the rationale for this study being on agricultural land with agricultural land making up 71% of the total utilisable area of the UK, it charted the significant rises in the value of agricultural land that have been experienced over the last 15 years in addition to identifying the potential drivers for those trends. The result was a highly complex and diverse market for agricultural land which made the task of ascribing a value to it challenging, complicated and which merited scrutiny through this study in an attempt to establish good valuation practice in this discipline in the hope of improving the robustness of the valuations being constructed by professional valuers of agricultural land. Taken together the complexity of both the valuation task and the market for agricultural land strengthens the rationale for opening this area of professional practice up to scrutiny for exploration through this thesis.

The chapter has also examined the literature as to what is known about the performance of professional property valuers from the decisions of the courts via negligence claims and also the empirical research conducted into valuation accuracy and valuation variation. The review of literature has found that considerable legal time had been spent examining what a reasonable expectation should be as to the level of accuracy or reliability in valuation work and some guidance has emerged from those legal decisions in the form of the development of the margin of error bracket which tended to indicate that an acceptable margin of error seemed to be +/-10% dependent upon property type accepted as normal variation and anything over that being classified as excessive variation and requiring justification. The

chapter has examined the empirical evidence relating to valuation accuracy and valuation variation which painted a mixed picture as to the performance of the professional property valuer when comparing valuations to the eventual sale price or assessing whether valuers could value to within a reasonable range of the mean valuation. However none of these studies to date had been conducted on the valuation of agricultural land, it is not known how the valuers of agricultural land perform in terms of either accuracy or variation and so this provides the rationale for opening this area of professional practice up to scrutiny through this study.

Due to the complex nature of the valuation task relating to the valuation of agricultural land the chapter has examined the content of the valuation guidance available to professional property valuers in carrying out the valuation task and the regulatory framework within which they must operate. The conclusions that were drawn were that the guidance does not instruct valuers in how to value individual property assets tending to prefer to guide and regulate valuer competence and encourage uniformity in approach and reporting. Whilst some of the literature offered insights into how the comparable approach should be executed there is little research into how the valuers actually apply the comparable approach in practice, or whether there is any uniformity of approach, it is not known how valuers working in practice apply the comparable method of valuation in determining their valuation figures, in particular in relation to agricultural valuations, and so provides the rationale for this study to look at the way the valuers of agricultural land evaluate, select and use comparable evidence.

Having examined the professional valuation literature relevant to this study and positioned the rationale for this study within that, Chapter 3 will examine the literature relating to descriptive decision theory where the theoretical routes for this study lie.

CHAPTER 3 – REVIEW OF LITERATURE HUMAN DECISION MAKING & VALUATION

This chapter will seek to develop further the theoretical routes of the thesis with an examination of the theories relating to decision making and in particular it will review the body of literature relating to decision making in valuation practice. It will start by examining the principal differences between the two main decision making theories before moving to examining the body of research relating to the use of descriptive decision making theory in valuation practice through the identification and use of heuristic decision making. The chapter will then seek position the research to be reported on within this thesis within the body of literature being examined.

3.1 Normative verses Descriptive Decision Making Theory

Decisions often involve a decision maker in some form of information processing in order to weigh up the strengths and limitations of taking a certain course of action or selecting a particular outcome. As such any theory relating to the way individuals make decisions will be a study in the way the decision maker processes that information. Decision theories, decision rules or Templates, have been developed to identify or prescribe the means by which information is classified, organised, processed and interpreted by decision makers in order to make a decision or choice and which will be discussed within this chapter.

Jennings & Wattam (1994) argued that psychological research has found a number of factors that have impacted upon the quality of individual decisions made which has tended to limit the rationality, or the logic, of the information processing undertaken. These have included factors like the attention, being the amount of time a decision maker can actually dedicate to a decision, or how much information the decision maker is able to compute at any one time. Bias can occur in the decision making process due to the information not being processed objectively which can result in prejudice being imported into any decision. So the thrust of any decision making theory is to provide a framework within which better decisions can be made, decisions that provide for better outcomes and that excludes any bias into the decision but at the same time provide a framework within which decisions can be made via an acceptable level of effort on the part of the decision maker.

Decision theories relating to decision making tend to fall into one of two principal categories, these being normative theories and descriptive decision theories. Normative theories argue that the decision maker carefully processes all the relevant information about the choices

available to them prior to making a final choice decision. They tell the decision makers how they ought or should reason, make judgements and therefore how they should make decisions. Normative theories provide rules for the decision maker to follow or to conform to in order to make the best decisions (Over, 2004). Normative theories are concerned with identifying the best decisions to be taken by the ideal decision maker whose is able to compute with perfect accuracy and who is fully rational or logical. This stems from the work economists like Edwards (1954) who argued that economic man was completely informed, he was infinitely sensitive and completely rational which laid the foundations for normative decision making rules. When faced with a choice providing differing outcomes then he would argue that the rational procedure is to identify all the outcomes, determine their values and their probabilities and them multiply them together to give a range of expected values for each possible outcome. The highest value obtained would reflect the best possible outcome and allow the decision maker to achieve goal maximisation being the aim of normative decision theories.

Descriptive theories of decision making would argue that people are out of line with the rules of normative decision making and that normative rules are not relevant to the rationality of the human decision maker (Over, 2004) as humans tend to be irrational when making decisions. Descriptive rules argue that sometimes, particularly when making decisions under uncertainty, it is too difficult for the decision maker to apply a normative rule to a situation preferring to rely on what has been described as heuristic decision rules, or rules of thumb, that have been generated through the decision makers life experiences. Normative decision making is based on the ideal outcome and is generally determined by models and theories and typically based on maths and have been developed by economists whilst descriptive rules are based on the reality, they are mapped on what decision makers actually do. Descriptive rules have been unravelled by researchers who study decision makers making decisions (Merritt, 2018).

Normative rules are based on the outcome that the decision maker will always maximise what they value, that they are a utility maximiser. One normative theory is the Expected Value Theory which is based entirely upon the costs and benefits of a decision, it is a completely rational approach to decision making as the chosen outcome will always be the choice that pays off the best. Expected Value Theory identifies first the probability of an outcome occurring and secondly the value of that outcome and multiplies the two variables together and the outcome with the best pay- off is the choice that is taken. Clearly a common

sense analysis of this would suggest that this is not how decisions are made in the real world and so this led to the development of Expected Utility Theory by philosophers like Jeremey Bentham and James Mills. The focus is on the utility of a choice rather than its value, that is because utility allows a decision to be based on subjectivity, rather than value, or what has become known as subjective utility, so the best option, the option to choose, is the one that does most good (Over, 2004). This has led to a discussion as to what the definition of good is, Baron, (1996) prefers to define good as "the extent to which we achieve our goals" and so goals become the criterion by which the decision maker evaluates options, the measure of utility becomes "what achieves our goals best, on the whole" (Over, 2004). There are however a number of problems with Expected Utility Theory. Firstly decision makers rate the utility of an outcome differently and secondly it suffers from what has been described as framing effects. This is where the way in which the decision or question is framed can affect the choice made. Tversky & Kahneman identified that if the question was framed in terms of a gain then the decision maker tended to be risk averse whilst if the question was framed in terms of a loss then the decision maker tended to be more risk seeking

Some argue that normative theories whilst providing a pragmatic Template for judging right from wrong in decision making they are too neat and tidy and too contrived for the real world (SOAS, undated). Crane and Matten (2007) make five criticisms of normative theories.

i. They involve a high level of abstraction from reality. They argue that the world is too complex for what they see as a too principled approach to decision making.
ii. They are too narrow in their application, they tend to reduce the complexity of a decision to a small number of parameters when many parameters could be relevant in the context of the decision to be made.
iii. They are overly academic and are developed by theorists who seem to be acting as the arbiters of what is right and wrong when making a decision.
iv. They are inhuman in that the rules become formulaic at the expense of human relations, instincts and emotions.
v. Their application suggests that problems can be solved by living by a set of rules whereas typically decision making requires involvement by individuals and ownership by decision makers in using their own judgement.

So normative rules are based on the capacity for a decision based on unbounded rationality, that the human decision maker has the mental capacity to be completely rational and assess all the possible outcomes and probabilities of an outcome and process an unbounding amount of information before choosing the best outcome and making a decision. Herbert Simon (1955) argued for a model of bounded rationality due to the limited processing capacity of the human mind. Simon (1955) advanced the idea of bounded rationality as opposed to the models of unbounded rationality which were based on the classical economic theory that the rational decision maker made decisions with complete knowledge and an unlimited computational capacity. Simon (1955) argued that the capacity for humans to make information intensive decisions, was restricted, or bounded, by firstly the constraints of the environment within which they are taking the decision and secondly the constraints of the human mind as the human mind has a limited processing capacity (Beresford & Sloper, 2008). Simon argued that human adopted a utility based on what they referred to as satisficing rather than goal maximisation which fell short of maximizing subjective expected utility as per normative theory. Simon argued that conscious attention is the scare resource for decision makers and so decision makers became very selective over the attention they give to information when making any decision and as a result of this limited cognitive capacity of the human mind the human decision maker requires the use of short-cuts or simplification mechanisms called heuristics. These mechanisms provide the means for making complex decisions and thereby minimising the amount of cognitive effort employed by the decision maker. This represented the first developments into descriptive decision theory.

Over (2004, p.6) argued "that our beliefs and judgements may sometime be too vague or sloppy to be fully consistent with logic, probability theory, or decision theory". He went onto argue that

> "that does not necessarily mean that we should spend time and energy making our beliefs and judgements precise or consistent. We will sometimes have the best chance of getting to reasonably satisfactory goals if we do not worry too much about exactly what is consistent with some possibly relevant normative theory. Moreover it is not necessarily a good idea for us to appeal to logic, probability theory or decision theory even if our beliefs and judgements are consistent and these theories would ideally tell us how to maximise our goal satisfaction. It can be too difficult for us, with our limited abilities, to apply these theories and their rules to particular cases. For these reasons we can sometimes do better by relying on heuristics which are bounded and satisficing procedures for perming inferences or making decisions"

Heuristic decision rules can be efficient as they can be applied automatically and quickly and with reasonable reliability (Over, 2004). Over, (2004) also argued that they allowed the decision maker to reach decision satisfaction without expending too much brain power compared to say the normative model of expected utility theory.

Heuristics decision making could be argued to be decision making based on unjustified or routine thinking tending to make decisions on unconscious rules whilst focussing on certain aspects of the decision rather than looking at all aspects as would be the case with normative rules. These heuristic decision rules are examples of descriptive decision theories which set out to describe how people actually think and make decisions based upon empirical evidence (Beresford & Sloper, 2008).

The distinction between normative and descriptive decision theories or information processing theories can be articulated within the mental processes labelled as System 1 and System 2 thinking. System 1 thinking operates automatically and rapidly and its workings are almost totally hidden from consciousness and can only more or less comply too normative rules (Kahneman, 2011). System 1 "operates automatically and quickly, with little or no effort and no sense of voluntary control" and System 2 as "…allocates attention to effortful mental activities that demand it, including complex computations. The operations of System 2 are often associated with the subjective experience of agency, choice and concentration." It is argued that where conscious rule following takes place in System 2 thinking, normative rules very often help to describe the very operation of System 2 thinking (Over, 2004). System 2 works very slowly and sequentially and is affected by the working memory of the decision maker, and sometimes System 2 can override System 1 thinking. Over, (2004) argues that this should happen when System 2 will better help the decision maker achieve their goals but in practice it is more difficult to know when to override and infer the more labour intensive normative rules or the fast and efficient but rough and ready heuristic. System 2 is the only one that can follow rules, compare objects on several attributes and make deliberate choices between options. The automatic System 1 does not have these characteristics, it only detects simple relationships and excels at integrating information about one thing but it cannot deal with multiple topics at one time.

3.2 Heuristic decision making

Tversky & Kahneman (1974) identified the first three heuristic decision rules. These were the representative, the availability and the anchoring and adjustment heuristic decision rules. The representative heuristic is where the probability of something is based on the degree to which that something is representative of something. The example used in the article is categorising someone as a librarian due to their personal characteristics being representative of what one would expect the personal characteristics of a librarian to be, based on one's own experiences of meeting and seeing a librarian. Tversky & Kahneman (1974) however also identify the potential for bias, or error, in decisions being made via the representative heuristic as the probability that someone is a librarian should, and will be, influenced by many other factors that the representative heuristic does not take into account. For example it does not take into account the prior probability of the above individual being a librarian, or does it take account of the size of the sample of people from which the individual from which the above librarian could be drawn. It may be in these situations that System 2 thinking should take over from System 1 thinking but to what extent does that happen?

The availability heuristic is where people assess the probability of an event occurring by reference to their own experience of similar events and by how easy recollections of such events can be brought to mind. So if one has witnessed someone having a heart attack then that recollection is available to use as a heuristic rule in diagnosing someone else exhibiting the same behaviour. Again Tversky & Kahneman (1974) argue that error can be imported through decisions using the availability heuristic due to the retrievability of such instances. So in the above example if the decision maker had more recently witnessed or experienced a heart attack then they are more likely to diagnose another instance as a heart attack rather than say a stroke as the instance of the heart attack is more recent in the memory of that individual.

Kahneman (2002) argues therefore that any heuristic rule is bound to fail under certain conditions and that failure may be significant or insignificant. So on the one hand we cannot argue that normative rules are better than heuristic (descriptive) decision rules, but also it is not possible to argue that heuristics decision rules are superior to normative rules (Over, 2004).

The third heuristic identified by Tversky & Kahneman (1974) was the anchoring and adjustment heuristic. Here problems are solved by decision makers who, when faced with a decision, form an initial view as to what the answer might be, that is they form an initial anchor, and then strive to find information to support or adjust that initial estimate. As with the representative and availability heuristic there is a similar danger that errors can occur in the application of this heuristic. Such errors can occur when the anchor selected is incorrect and also if insufficient adjustments take place to the anchor. Evans (1989) refers to positivity bias where it is argued humans seek to find evidence that corroborates or supports their views or beliefs rather than find evidence to falsify them which is the normal route of scientific enquiry.

It is this latter simplification mechanism, the anchoring and adjustment heuristic that has been the subject of research in the field of valuation which will now be reviewed.

3.3 Anchoring, adjustment and confirmatory bias in valuation work

Research into decision making in valuation practice or valuer behaviour has therefore tried to identify firstly if this anchoring and adjustment heuristic behaviour and confirmatory bias exists (Diaz III, 1990a; Diaz III, 1990b; Gallimore, 1994; Gallimore, 1996). Secondly the research has attempted to identify the source of any anchors to which valuers are drawn (Black & Diaz III, 1996; Black, 1997; Diaz III, 1997; Diaz III & Hansz, 1997; Diaz III & Wolverton, 1998; Diaz III & Hansz, 2001). To date the research has focussed primarily although not exclusively in the United States (US). Some limited work has been carried out in the United Kingdom (UK) and New Zealand (NZ). Comparative studies, or generalisations, across countries however must be treated with caution. Property appraisers in the United States follow a prescribed valuation procedure which expert appraisers are to follow in assessing value. Such a prescribed process in the UK does not exist (Adair et al., 1996). It is therefore unlikely that valuers in the UK will behave in the same way as those in the U.S.

The research to date has focussed exclusively on commercial and residential property with none in the area of agricultural land. The commercial and residential property markets tend to be less heterogeneous than the agricultural land market where property and its location are more bespoke potentially making the valuation decision more challenging.

Research designs have attempted to recreate the environment within which valuers make their decisions through real world scenarios and simulated valuations as well as the more traditional questionnaire type approaches. It is preferable that any research into human behaviour tries to allow any participant to exhibit their normal behaviour. Parker (1999) has highlighted some of the concerns around valuation methodology in this area. Valuations are usually conducted in a very fluid and dynamic office environment and recreating this setting for experimental work is challenging. Any research approach that created any sense of artificiality in the valuation environment could skew any research participant towards anchoring when they otherwise may not have.

Northcraft & Neale (1987) chose to look at the anchoring and adjustment heuristic on property pricing decisions. They asked 48 amateur valuers and 21 real estate agents from Tucson, Arizona to value a house. The participants were taken to view the property and were given 20 minutes to inspect the neighbourhood and surrounding property. Participants were provided with one of four anchors in the form of a listing price. One being low, one being moderately low, one being moderately high and one being high. They were also given information to assist them with the task and then asked to provide four valuation figures. The study concluded that there was strong evidence of bias towards the listing price they were provided with.

This work was criticised by Diaz (1990a) as the experts in the experiment were real estate agents and therefore were marketing experts rather than valuation experts. It could also be queried if this methodology actually recreated a real world scenario. It is unclear from the study as to how much time the participants had to determine their valuation figures. Any methodology that reduced, restricted or influenced the normal amount of time spent on a valuation could have pushed participants towards the use of the anchor when they normally may not have. Additionally the valuation process normally involves the valuer discussing the case with other colleagues. In this case that was specifically prohibited to prevent contamination of the data. The valuation process typically involves a valuer taking time to reflect on their inspection and the evidence prior to placing a value on the property. A valuer would revisit the evidence on differing occasions over the period of reflection. Any methodology that reduced, restricted or influenced the normal behaviour of a valuer could have pushed participants towards the use of the anchor when they normally may not have.

Diaz (1990a) concluded that valuers could be employing the use of cognitive short cuts or heuristics when making valuation decisions. In the USA valuer members of the American Institute of Real Estate Appraisers set out a prescribed procedure for performing valuations. Diaz (1990a) examined whether valuers in the United States actually followed these proscribed procedures during routine valuation tasks. He concluded that they did not always follow this prescribed procedure. Diaz (1990a) found that the behaviour of expert problem solvers was highly efficient and driven by short cuts labelled as production rules which were picked up with practice and as a result the participating valuers deviated from the prescribed decision making process.

The research tested whether this was the case for valuers valuing property in both familiar and unfamiliar locations to the participating valuers and concluded that it was. The study provided the first indicators of heuristics at work in valuation practice. The study however consisted of only a small sample of twelve expert valuers. An expert was defined as having had at least 5 years' experience. No commentary was provided to illustrate the range of experiences of the participants. A wider range of valuation experience, say 5 years – 40 years may have increased the representativeness of the sample and thereby the validity of the study. The methodology employed is also open to the artificiality argument in terms of recreating the real world valuation scenario. Participants were initially presented with detailed instructions and a worksheet that provided a list of cues or labels which contained information that would assist with the valuation. The participant could then select one cue at a time and then finally arrive at a valuation. This may not have facilitated the participants to exhibit normal behaviour.

Diaz (1990b) examined how 12 expert valuers (the same 12 experts as in Diaz, 1990a) and 12 student appraisers selected comparable evidence. He found that 71% of the students examined all the comparable evidence before them whilst only 46% of expert valuers did. Diaz concluded that it was evident that the experts comparable selection process was less cognitively demanding but more cognitively efficient. They tended to look for one or two of the best comparables rather than looking at the whole data set. This approach may have been appropriate but could, he argued, result in a less reliable valuation process but it did illustrate the existence of heuristics in the selection of comparable evidence. This initial work by Diaz (1990a, 1990b) built on earlier work (Northcraft & Neale, 1987) and established further evidence of the existence of heuristics in valuation practice.

Gallimore (1994) examined the process by which valuers' process information into valuations in an attempt to offer an explanation as to why valuers can look at the same comparable evidence and come up with differing opinions of value. He tried to identify if the assimilation of new comparable evidence in valuation work is influenced by the order in which they received it. He referred to this as the recency effect. He attempted to see if valuers anchored to the more recent market data. He also examined as to whether the manner by which valuers received new evidence affected the way they assimilated it. This he referred to as dilution as the manner in which evidence is presented to the valuer may dilute its impact on that valuer. Gallimore (1994) found no evidence of dilution but did find evidence to support the recency effect but only when the market evidence presented was mixed, in that it was both supporting and challenging of the anchor.

If the market evidence was consistently supportive or challenging then the recency effect was not apparent. This, he argued, pointed towards the existence of confirmatory tendencies. Valuers were seemingly content to utilise market evidence of any age that confirmed their anchor, it was only when they could not find that confirmation that they then relied more heavily on more recent market evidence. Gallimore's work was conducted through a large scale questionnaire. A total of 498 questionnaires were distributed and 276 were returned. Gallimore (1994) acknowledges that this methodology could be criticised as not being typical of the valuation process but argues the sample size and the response rate provided a useful dataset. Hardin (1999) agreed that the questionnaire format may not have been realistic enough to make respondents give enough cognitive effort to the exercise. This study was based in the UK unlike a lot of the research in this area and was based upon the valuation of an office premises.

Having identified some evidence of confirmatory tendencies in valuation decision making. Gallimore (1996) then sought to examine the extent of it. He attempted to identify if valuers actually looked to find evidence that falsified their prior initial opinions, or anchors, that they had formed. He examined if there was a relationship between the point when a valuer arrives at an opinion of value and the reason for stopping their search for evidence. The research found a weak but significant statistical relationship between these two phenomena. Those valuers who tended to arrive at a firm idea of value earlier in the process tended to limit their search for comparable evidence. This, Gallimore (1996) argued, could be further evidence of valuers exhibiting confirmatory tendencies. Once they had a few comparables confirming their anchor they stopped searching and analysing.

Gallimore (1996) then examined a number of other relationships all of which did not form statistically significant relationships which tended to lessen the argument that valuers had confirmatory tendencies. For example he examined whether the valuers who formed a view as to value early tended to analyse the comparable evidence by price rather than the more analytical approach via locational/characteristics variables. The thinking behind it being that if valuers had confirmatory tendencies they would seek to look for evidence to confirm their view as to value rather than analyse the locational/characteristics. Gallimore (1996) again used a large scale questionnaire and acknowledged that the large scale questionnaire could be more representative of the respondents reporting of valuer behaviour rather than the actual behaviour of valuers which some sorting of testing instrument would have done. This work by Gallimore (Gallimore, 1994, 1996) added further evidence of the use of anchoring in valuation work. He identified that valuers did tend to anchor towards more recent market evidence when the market evidence was mixed although they did not tend to anchor to the manner in which the market evidence was presented.

3.4 Identifying the source of the valuers' anchor

3.4.1 Do valuers anchor toward the previous value estimates of anonymous experts?

Having identified that there may be evidence to suggest that valuers were adopting heuristics in their decision making. Researchers then attempted to identify the source of the anchors being selected by the valuer. Diaz (1997) looked at whether expert valuers anchored towards the previous value estimates of other anonymous expert valuers in areas geographically familiar to them. Diaz used a sample that contained 28 amateur valuers and 30 expert valuers. All the participants were asked to provide a valuation based on the information provided to them. Half the sample was provided with a valuation figure provided by an anonymous expert and the other half of the sample were not. The resulting valuation figures produced by the two groups did not vary. There was no evidence to support the existence of anchoring behaviour towards the anonymous expert's opinion. This experiment was based in Atlanta, USA and involved industrial property.

Hardin (1999) questioned whether the results may have been different had the respondents known the name of the other expert. If that expert had been a particularly respected member of the profession that could have worked to reinforce the anchor. The research methodology adopted may have suffered from an element of artificiality, as defined above. It is difficult to see how a valuer would not be influenced by the previous valuer estimate as anyone

participating in the experiment may ask themselves why this piece of information had been provided. They could have subconsciously ignored that information whereas they may not have in normal practice. The participants could also only use the information provided to them. This may have proved somewhat restricting to some participants and cause them not to exhibit normal behaviour.

However, having found no evidence for anchoring to anonymous expert opinions in geographically familiar areas. Diaz & Hansz (1997) did find some evidence for anchoring to the previous value judgments of other anonymous experts working in geographically unfamiliar areas. They found that such valuation situations gave rise to uncertainty whereby valuers looked for external reference points to reference to.

The methodologies of these two experiments were similar albeit with a few differences which could have affected the results. In Diaz (1997) all the participants were visited either in their offices or classroom on a one to one basis. In Diaz III & Hansz, (1997) the participants were sent a packet of information to examine at their convenience with a stamped addressed envelope to return their workings in. These are differing approaches which may have created differing experimental environments. Additionally the data collected for the Diaz study was collected in 1993 whilst for the Diaz & Hansz study it was collected over 1995 and 1996. This was at a time of rising or at least differing property values and no account was seemingly taken of that.

3.4.2 Do valuers anchor towards their own previous value judgements?

Having examined the anchoring effects of the value estimates of others Diaz & Wolverton (1998) found some evidence that valuers anchor towards their own previous value judgements. In this experiment participants were asked to value an apartment block in Phoenix, Arizona. They were randomly split into a treatment group and a control group. The treatment group were asked to value the block in April 1995 providing an anchor free value estimate but which would also provide a self- generated anchor for the treatment group members later. The valuation was then revised with new comparable evidence and a change in the financial market conditions. From December 1995 – February 1996 the treatment group was then asked to provide a further value estimate of the apartment block. The control group then valued for the first time. Fifteen valuers where allocated to each testing group. The experiment consisted of a relatively small sample group and it related to residential property. It could be queried as to whether sufficient time had been left

between the two valuations conducted by the treatment group. In all cases it was less than twelve months and a valuer may have treated the second valuation as merely an update on the first. If that time gap had been two years then maybe the result may have been different.

Havard (1999b) inquired if valuers, as illustrated by Diaz & Wolverton (1998) do not adjust sufficiently from a self-generated anchor do they have a greater tendency to adjust a low previous valuation upwards rather than a high previous valuation downwards? He found that they did. It must be said however and it is acknowledged by Havard that this study was based on a sample of final year valuation students and therefore may not replicate professional practice.

3.4.3 Do valuers anchor towards asking prices?

Black & Diaz (1996) examined the anchoring effect of asking prices which may not always be set by experts but by marketing people who may have different motives when setting the asking price. The research concluded that negotiators in the area of real estate negotiation anchored on asking prices at the expense of more demanding property specific and market information. A weakness in this study was in the lack of actual property specific information provided to the participants in the experiment (Hardin, 1999). In the absence of such information it could be argued that participants were driven towards the asking price as an anchor. Black (1997) tried to deal with this weakness by providing more detailed property specific information to the participants. The outcomes were, however, no different.

3.4.4 Do valuers anchor towards sale prices (when known)?

Gallimore & Wolverton (1997) wanted to identify if knowledge of actual sale prices influenced the valuation figure. They determined that it did. This research took 16 US and 16 UK valuers and asked them to value a residential property with the use of 15 comparables split into 3 sub- groups. Sub- group 1 contained the best comparables, sub- group 2 the middle ranging comparables whilst sub- group 3 the weakest comparables but significantly it also contained the sale price which was the anchor under scrutiny.

In the US experiment all the valuers in a control group, i.e. with no sale price anchor, picked their three best comparables from sub- group 1 as determined by independent experts selected. For the other groups there was a lot more examination of sub-groups 2 & 3. It was the same for the UK experiment groups. It was evident that knowledge of the sale price introduced the potential for bias as the valuers in the treatment groups moved away from

sub group 1 containing the best comparables presumably because they saw the sale price in sub group 3.

Diaz & Hansz (2001) examined the anchoring effects of transactional price information on property previously valued by the valuer. The research found that there was a tendency for valuers to be influenced by this feedback. It was more evident when a valuer received feedback that their valuation was too low rather than when they were too high. The participants in this experiment were split into four valuer groups. Group 1 received feedback that their valuations were 15% below the actual sale price. Group 2 received feedback that their valuations were 15% above the actual sale price. There was then a no feedback group and a control group. As to why a 15% adjustment was chosen is not clear from the paper but some type of sensitivity analysis may have illustrated differing behaviours. Given that 15% on a property valued at around $95,000, as in the experiment, is not as problematic as a property that is worth say $950,000. The anchoring effect on this type of property may have been significantly different.

In summary researchers have attempted to test if valuers display confirmatory tendencies and having identified that they do they have sought to establish if those valuers anchor to a number of things, these have included the views of anonymous experts in geographically unfamiliar and familiar locations. They have also considered anchoring to the valuers own previous value judgements, to asking prices, to sale prices and to transactional price feedback. In the majority of cases the research has found evidence of anchoring.

Havard (1999b) and Havard (2001) attempted to link valuer behaviour to valuation negligence and part of his experimental work involved a series of simulated valuation experiments with 18 experienced commercial valuers. This consisted of an observed, simulated commercial valuation carried out in the office of the participant using material supplied by the author from an unfamiliar location. In designing the research Havard directly attempted to address some of the weakness of previous studies in the recreation of the valuation environment, identified above, although he acknowledged the weaknesses of his own research method. These included providing the participant with both the property to be valued and the market evidence which is not what happened in practice. Valuers would normally locate their own evidence. Valuers rarely carry out valuations in isolation, they have an opportunity to inspect the property, they have time to reflect and there is not usually someone observing them and asking them to provide a running commentary on what they

are doing. Havard argued that his work attempted to replicate the actual process as best he could. The resulting valuations from the simulated valuation experiments have already been referred to. The study found that 12 of the 18 valuers participating formed a view as to value before viewing any comparable evidence and the valuers' initial opinion, or anchor, was heavily reflected in the final opinion of value.

In addition the study observed that the valuers' interpretation and analysis of the comparable evidence was consistent between participants and as such any differences in opinion appeared to arise from the selection of the anchor and not the interpretation of the market evidence. This illustrates that it may not be the way valuers interpret market evidence that gives rise to negligent valuations or variances between valuers but so apparent is anchoring in valuation that it is the adoption of the inappropriate anchor that is causing the variation.

The study also interviewed 40 senior valuation professionals in an attempt to identify the reasons for the wide variation in the valuation figures produced. Whilst overall there were 29 reasons identified the bulk of responses tended to point to valuers working in unfamiliar locations or with property not in their mainstream business. It was in these cases that valuers adopted the inappropriate anchor. Havard's study seems to take the role anchoring plays in valuation to another level. It seems to suggest that it is the choice of anchor that causes valuation variation rather than the interpretation of market evidence.

Diaz et al., (2002) undertook a comparative study of the behaviour of valuers in the US, UK and New Zealand. US valuers have a prescribed valuation process which is less evident in NZ and even less evident in the UK. Valuers in all countries were asked to carry out valuations in both familiar and unfamiliar locations. The Template of the experiment followed a similar methodology as in Diaz (1990a) whereby the process the valuers went through was observed and was somewhat artificial for the UK participants and maybe less so for the US and NZ participants. The research found that both UK and NZ expert behaviour was the same in both familiar and unfamiliar locations. It found that the UK valuer behaviour was not consistent with the US normative process and that the UK valuation process was different to the US process. The US and NZ processes were however somewhat similar.

Diaz et al., (2004) found that there was a greater requirement for sale comparable disclosure in the US and NZ. This tended to be associated with a greater comparables search effort amongst US and NZ valuers. Their research indicated that as a result of this requirement for disclosure the US and NZ valuers tended to analyse more market evidence and spent

more time examining them than the UK valuers. What was also evident was that valuers across the board did not tend to examine a greater number of comparables in unfamiliar locations as compared to familiar locations.

A more recent study Lin & Chang (2012) examined valuers working in Taiwan. They found evidence that still supports the findings of Diaz (1990a) in that valuers deviated from their prescribed valuation procedures. They also found evidence to support the outcomes of Gallimore (1994, 1996). They found that valuers tended to stop examining comparable evidence when they found evidence to support their anchor. They also found that valuers tended to favour comparables that came to their attention earlier than those later in the valuation process. It is interesting that this work is almost twenty years after the original work by Diaz and Gallimore and still evidence can be found to support the existence of anchoring and heuristics in valuation work.

Behavioural researchers have examined the valuation process and have established that professional property valuers very often have to assimilate a lot of information about both the property they are valuing as well as the comparable evidence they seek to utilise in arriving at that opinion of value. To assist them in making that decision, or in simplifying that decision, the evidence suggests that valuers adopt decision making short cuts or heuristics. A number of heuristics have been identified but it is the anchoring and adjusting heuristic that has been identified within the valuation process. This sees the valuer forming a view early in the valuation process as to the value of the property and then finding comparable evidence to support or confirm that anchor. Experiments have found evidence that valuers, in arriving at their opinions of value, tend to anchor towards certain pieces of information that have been provided within the experiment at the expense of the actual message being provided by the comparable evidence in relation to the market for the asset involved. These anchors have included the views of anonymous experts in geographically unfamiliar and familiar locations. They have also included the participating valuers own previous value judgements, asking prices, sale prices and transactional price feedback. In the majority of cases the research has found evidence of anchoring towards this information when provided within the experiments.

This chapter has identified that decision making theory can be divided into two categories, those theories following a normative course and those being descriptive in nature. As has been illustrated valuation research has focussed on descriptive decision making and the

identification and use of heuristics as strategies for simplifying and making complex valuation decisions. There has been considerable research undertaken into the existence of the anchoring and adjustment heuristic in valuation work which has been examined within this thesis.

3.5 Preferential choice problems

It is one thing to identify the existence of heuristic decision making rules in valuation practice but decision makers are thought to have a range of decision making heuristics, or strategies, at their disposal particularly when it comes to dealing with making choices between alternative courses of action or alternative options. Choice amongst alternative courses of action, or options, has always been at the heart of decision making research. In situations where a decision maker has to make a choice then the outcome will not always simply be a choice between two alternatives on a single metric, attribute, criteria or measurement. In a lot of choice decisions trade-offs will have to be made between those alternatives scoring highly on one attribute but scoring low on other attributes. This is defined as a multi-attribute preferential choice problem (Plous, 1993). Decision makers need to process the information about the alternatives available to them and then decide, or make a choice, as to which course of action to take or which option to select (Figure 10).

Payne (1976) argued that these preferential choice problems were sufficiently complex to require the employment of decision heuristics and he further argued that previous decision making research had focussed on the end product of the decision making process and that his was a first attempt to look at the information processing strategies/rules being used by decision makers around preferential choice problems. Usually there is conflict in that choice decision in that no one alternative stands out as the best alternative on all the attributes describing that alternative which is a source of difficulty in the decision task. Any preferential choice decision will have what is described as a task environment within which the decision will be taken. Within that task environment there will firstly be the various alternatives available to the decision maker, second there will be events that relate actions to potential outcomes which could be labelled as uncertainties. Finally there will be values associated with those outcomes allowing the decision maker to form their perspective of the decision space. The various decision strategies are then processes or methods for searching through this decision space. Preferential choices are also usually multi attribute problems consisting of a process of three interrelated stages being:

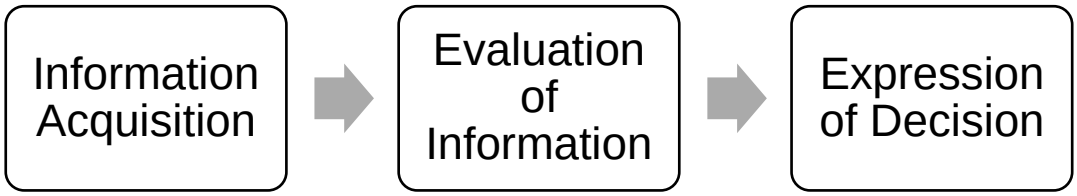


Figure 10: The sequence of stages for dealing with preferential choice problems

3.6 Contingent selection of choice making heuristic – The Adaptive Decision Making Framework

The Adaptive Decision Making Framework argues that the selection of heuristic, or decision making strategy, by the decision maker is highly contingent on the properties of the decision problem or task. The Template argues that individuals change, or adapt, the way they process information about alternatives and the way they make a final choice according to what it refers to as task effects and contextual effects that make up the choice to be made. It provides a framework for understanding how people adapt their selection of choice making strategy to the demands of the choice that they have to make. This contingent use of strategies, or heuristics, represents an intelligent response by individuals with limited computational abilities.

The roots of the framework lie in the work of John Payne, James Bettman and Eric Johnson. Following the identification of heuristic descriptive decision making strategies Payne (1976) started to look at contingent decision strategy use in preferential choice problems. Payne (1976) argued that information processing and the selection of decision making strategy was highly adaptive to the demands, or complexity, of the decision task. His aim was to identify those elements of the decision task that pushed an individual towards a particular decision making strategy. So, he thought that the decision maker would change, or adapt, their information processing and selection of decision strategy according to the complexity of the choice, or task, that they were engaged in. Einhorn & Hogarth (1981) found that most of the empirical results at the time supported that view stating that “the most important empirical results showed sensitivity of judgement and choice to seemingly minor changes in tasks”

Payne (1976) and Payne (1982) found that when decision makers were presented with a choice between two alternatives that they tended to employ a more normative, information

intensive processing and compensatory decision making strategy. This essentially trades off lower values on one attribute against higher values on another attribute (Bettman, Johnson, Luce, Payne, 1993). This, they argued could be done using a linear model, or linear equations, where each attribute for each alternative was weighted according to its importance and the weighted values then summed up to form an overall value from which alternatives could be compared.

This work led to the development of a cost/benefit framework (Beech & Mitchell, 1977; Payne, 1985) for contingent decision strategy selection. This argued that decision makers were content to trade off the costs of decision making, being the potential threats to the accuracy of a decision through the use of heuristic strategies, with the benefits, being the reduced effort needed from the decision maker into the decision making process. Payne & Bettman (1988) examined the role of effort and accuracy in decision making arguing that decision makers adopted decision strategies that were relatively efficient in terms of the effort needed to make the choice decision and the required accuracy needed within the choice decision. Payne & Bettman (1992) later found that the adaptive selection of decision heuristics could often provide a reasonable effort/accuracy trade off delivering accurate decisions using acceptable levels of effort.

This cost/benefit approach had been developed in Beach & Mitchell (1977). They argued that the selection of decision making strategy was contingent not only upon the decision task but also the decision environment and the characteristics of the decision maker. In examining the nature of the decision task they argued that the decision task could be made more or less complex by the extent to which the decision task was familiar/unfamiliar, or more ambiguous or more unstable to the decision maker. The number of available alternative to choose from could also make the choice decision more complex. So when the decision maker was placed in more unfamiliar, unambiguous or unstable choice situation they would likely adopt a decision strategy that was more information intensive as the decision maker would be less willing to accept the trade-off referred to above between effort and accuracy.

However when there were more than two alternatives, thereby the decision task becomes more complex, to choose from Payne (1982) found that the decision makers employed more descriptive, heuristic decision making strategies. Firstly the decision maker would eliminate some of the alternatives as quickly as possible and by utilising a limited amount of

information about those alternatives. He concluded that information processing varied, or was adaptive, to complexity of the task or choice decision being taken.

Beach & Mitchell (1977) also argued that the nature of the decision environment also might push individuals towards different forms of information processing and selection of decision strategies. If the choice decision was seen to be an irreversible one or a significant one or framed as a choice for which the decision maker would be held to account for then they argued that would tend to push individuals towards a more normative, information intensive, decision strategy. They argued that the characteristics of the decision maker themselves might also affect the choice of decision strategy depending on the knowledge base of the decision maker, their abilities, experience and motivations.

So it could be argued that flexibility in decision making and in the selection of appropriate decision making strategies is at the heart of the Adaptive Decision Maker Template. It recognises that individual decision makers respond to a wide variety of conditions that they may find within the decision task confronting them but as has already being alluded to the use of decision heuristics can lead to decision error or bias and perhaps the elimination of alternatives incorrectly. The Template argues that good decisions are consistent decisions and so sometimes contingent use of decision heuristics could be open to manipulation through the way that information relevant to the decision is presented to the decision maker. So then some argue that the way to deal with that is to improve the information environment within which decisions are made (Tversky, 1988b). Russo (1977) argues that information provided to decision makers should be available and processable.

Underpinning the Adaptive Decision Making Template is the wish to make a good decision for the minimal amount of cognitive effort and so effort and accuracy become key factors in the selection of decision heuristic being selected by the decision maker. Hogarth (1987) argues that in addition to that some decision makers may wish to avoid conflict in their decision strategy preferring not to reconcile conflict within a choice they have to make between alternatives choosing instead to adopt a non-compensatory decision heuristic to avoid that situation.

3.7 Choice making heuristics that have been identified

A number of choice making heuristics, or decision making strategies, have been identified. Firstly, the Weighted Additive Heuristic (WADD). Here each alternative is evaluated

separately on all the attributes and the importance, or weight, is attached by the decision maker to each attribute. The relative weight of an attribute is multiplied by the attributes value for that alternative, the products are summed together and then compared over all the attributes and the alternative with the highest score is the is chosen. Naturally this strategy requires more computational capacity than some of the other heuristics identified. The rule helps to provide an overall evaluation of the alternative on all of the attributes. This strategy processes all the relevant information and as such is conflict confronting as it as it considers trade-offs between low values on some attributes with higher attributes on other attributes and so is compensatory and more normative in nature (Payne, 1976).

Second, the Satisficing heuristic (SAT) which was identified by Simon (1955). With this strategy alternatives are considered one at a time in the order that they occur in the data set. A value is given to each attribute in connection with each alternative and that value is compared to a pre-determined optimal level, or cut-off, for each particular attribute. If the attribute does not meet that pre-determined level then the alternative is rejected and the next alternative is considered. The alternative chosen will be the alternative to reach all the optimal level for all of the attributes. Sometimes it is possible that no alternative will meet the pre-determined level for the attribute whereupon some flexibility would need to be built into the pre-determined values identified. A variation of this model is referred to as the conjunctive model (Einhorn, 1970) which also sees any alternatives falling outside some predefined boundary eliminated.

Third, the Lexiographic heuristic (LEX). The alternative with the best value on the single most important attribute is selected, so fundamental to this heuristic is the identification of the single most important attribute. Where there is more than one alternative scoring the highest then the second most important attribute would be considered. Johnson & Payne (1985) found that in certain instances the LEX strategy works well and can produce similar decisions to the more information rich strategies but they also found that it performs less well where there are multiple important attributes as the danger with this is that important information on other attributes will be ignored which could import bias and error into the choice selection.

Fourth, the elimination by aspect heuristic (EBA) (Tversky, 1972). This decision rule has elements of LEX and SAT. It begins with the identification of the most important attribute and all the alternatives not meeting the requirements on that attribute are eliminated and so

the alternative not favourable on this aspect is eliminated. The process then continues with the second most important attribute, then the third most important and so on.

Fifth, the majority of confirming dimensions (MCD) heuristic. Russo & Dosher (1983) explain that this heuristic involves the processing of pairs of alternatives. The values for the pairs are compared on each attribute and the alternative with a majority of better attribute values is retained.

Payne et al. (1993) have analysed of the identified decision heuristics or strategies and have identified a number of characteristics or properties.

1. Some decision heuristics are conflict confronting and some are conflict avoiding. The former decision strategies (WADD) confront conflict in the decision space and look to trade off lower values on certain attributes with higher values on other attributes, they are therefore more normative and compensatory in nature. Other decision strategies avoid this trade off and are therefore more descriptive and non-compensatory in nature (SAT, LEX, EBA & MCD).
2. Some of the decision heuristics could be used on their own whilst others could be used in combination with other decision strategies.
3. Some decision heuristics require a consistent amount of information to be processed about each alternative (WADD, MCD) whilst others allow the decision maker to be more selective in the amount of information that is processed about each alternative (SAT, LEX, EBA).
4. Some decision heuristics allow key information to be ignored as part of their simplifying nature (SAT, LEX, EBA).
5. Some decision heuristics are alternative based and some are attribute based. The former being a heuristic whereby the decision maker looks at multiple attributes of a single alternative before going onto the next alternative (WADD, SAT). The latter is a heuristic whereby the values of several alternatives are looked on a single attribute before going onto the next attribute (LEX, EBA, MCD)
6. Some decision heuristics provide for an overall evaluation on each alternative across all the attributes to be provided (WADD, MCD) others do not (SAT, LEX, EBA).
7. Some decision heuristics use quantitative reasoning requiring perhaps the summing of values of attributes (WADD, MCD) others use more qualitative reasoning involving simpler comparisons (SAT, LEX, EBA).

These characteristics or properties relating to the decision heuristics identified are compared within Table 4.

Table 4: Comparison of decision strategy properties (adapted Payne et al, 1993)

Decision Strategy	Compensatory or Non-Compensatory	Information Ignored Yes/No	Consistent Or Selective Information Processing	Alternative based (ALT) or Attribute Based (ATT)	Overall Evaluation Formed Yes /No	Quantitative (QUANT) or Qualitative (QUAL) Reasoning
WADD	C	N	C	ALT	Y	QUANT
EBA	N	Y	S	ATT	N	QUAL
SAT	N	Y	S	ALT	N	QUAL
LEX	N	Y	S	ATT	N	QUAL
MCD	C	Y	C	ATT	Y	QUANT

Payne et al (1993) also look at the operational workings of the decision strategies identified and set out that all of the decision strategies identified require some form of comparison to be made (WADD, SAT, LEX, EBA, MCD). Some decision heuristics require the elimination of alternatives as part of the process (SAT, LEX, EBA, MCD), some do not (WADD). Some decision heuristics require a series of processes to take place (WADD, MCD), others do not (SAT, LEX, EBA). These operational activities are illustrated in Table 5.

Table 5: Comparison of Decision Making Strategies (adapted Payne et al, 1993)

Decision Strategy	Comparisons Yes/No	Eliminations Yes/No	Concatenations Yes/No
WADD	Y	N	Y
EBA	Y	Y	N
SAT	Y	Y	N
LEX	Y	Y	N
MCD	Y	Y	Y

3.8 The impact of decision problem characteristics on selection of choice making strategy

As has already been discussed the Adaptive Decision Making Framework argues that the choice of decision strategy is highly contingent upon the properties of the decision problem. The Template provides a number of decision problem properties that could affect the choice of decision strategy by the decision maker. These are principally articulated as task and contextual factors.

The task factors are factors relating to the general structure of the problem and can include things like the number of alternatives to choose from, the number of attributes provided describing each alternative, time pressures on the decision task and the way that the information is presented to the decision maker. These task factors it is argued can affect whether the person making the choice adopts a more information intensive decision strategy or a more non-compensatory heuristic. The contextual factors are factors that are associated with the values of or information about the alternatives themselves.

There is evidence to suggest that choice of decision strategy is sensitive to the number of alternatives available to the decision maker (Payne, 1976) and that as the number of alternatives increases decision making becomes more attribute based rather than alternative based. In short the decision task can be made more complex by increasing the number of alternatives available to the decision maker and this could provide the basis for a change in the selection of decision strategy. There is also evidence to suggest that the extent to which the alternatives are similar can affect the choice of decision making strategy. When the alternatives are more similar then it has been found that a more compensatory approach to decision making is taken which may stand to reason as the comparison between alternatives could be easier as the level of similarity between alternatives increases. It has also been found that the amount of information processed increased as similarity increased, that the search across alternatives decreased as similarity increases and that the time taken to make a decision was greater when the options were similar.

3.9 Possible failures in the Adaptive Decision Making Framework

As has already been alluded to decision error or decision bias is a possibility in the use of decision heuristics as the very use of decision heuristic provides that certain pieces of information about an alternative will be deliberately ignored or not taken into account in an

attempt to reduce the effort of the decision process without compromising the accuracy of the decision.

Payne et al (1993) point out that sometimes failures in appropriately adapting could arise from deficits in knowledge that arise from assessing the task and/or contextual factors of the choice presented. There may be a lack of knowledge of the actual existence of appropriate decision strategies and decision makers cannot correctly adapt. This could arise from the stage of cognitive development of the decision maker, or the extent of their education, training and development, or past experiences with a particular decision strategy. This could be combined with the issue of not knowing ones desired effort-accuracy trade-off parameters.

Information display factors may bias the assessment of task and context factors and could cause important factors to be ignored simply because they are less obvious as presented. Other potential sources for error lie in one's over reliance on a particular decision strategy that may have worked in one context but is not appropriate in another. Sometimes certain environmental factors like severe time pressure or distraction by noise can lead to the selection of inappropriate decision strategies.

3.10 Positioning of the research within this thesis

This review of literature has examined descriptive decision making theory in the discipline of valuation practice. It has found that there are two principal theories relating to decision making. These are normative theories that set out how individuals should make decisions and descriptive theories that attempt to establish how individuals actually make decisions. The review of literature has established that valuation practice research has focussed on the descriptive decision theory and in particular the identification and use of heuristic decision rules or strategies in valuation decision making. That body of work has established that heuristic strategies are being employed to simplify the complexity of the decision task being undertaken by valuers as they attempt to estimate the market value of land and property. In particular, the body of work has identified the existence of the anchoring and adjustment heuristic in the decisions being taken by the valuers of land and property. The research has sought to identify that if, within the valuation process, participating valuers have exhibited anchoring tendencies and if they have, to what do they anchor to when arriving at their opinions of market value. The review of literature has found that valuers tend to make use of these cognitive short cuts, called heuristics, to assist them in making

complex decisions or choices which help to reduce the cognitive effort needed by the decision maker. The current body of literature has been constructed upon empirical data collected from the valuation of residential and commercial property. So this study seeks to extend the body of literature around the application of descriptive decision theory, and the use of heuristic decision making strategies, to decision making within the valuation task surrounding a different type of property asset being the valuation of land used for agricultural purposes.

The current body of literature has not examined in any sort of depth the choice decision taken by the valuers of land and property. This review of literature has discussed the importance of the use of comparable sales evidence in the determination of a valuation figure for agricultural land. Anecdotal comment would also suggest that the comparable method is the preferred method of valuation employed by the valuers of agricultural land. When the valuers of agricultural land employ the comparable method of valuation they have a choice decision to make and that is which comparable evidence to select, analyse and use to assist them in determining their opinion of value. This study seeks to explore how that choice decision is made. It seeks to explore how the valuers of agricultural land actually make choices, or decide, about which comparable evidence to select. The study also seeks to explore how that selected evidence is utilised in arriving at an opinion of value in order to develop a comparable valuation template for the valuation of agricultural land rooted in practice for use in practice.

This study conceptualises that the task of valuing agricultural land, which employs the comparable method of valuation, has at its heart a choice decision. That being a choice decision as to which piece(s) of comparable evidence to select (or reject) and utilise in arriving at an opinion of value. That choice, it is conceptualised within this thesis, is a preferential choice problem as described within the Adaptive Decision Maker Framework developed by Payne, Brettman and Johnson (Payne et al., 1993).

This is because the valuer needs to make a choice decision between alternative pieces of comparable evidence whereby one piece of comparable evidence does not stand out as better than the others. The Adaptive Decision Maker Framework argues that the way such preferential choices are made is by the decision maker acquiring, evaluating and processing information, in the form of attributes, about each alternative and then evaluating those alternatives based upon the attributes of each of those alternatives. It is conceptualised in

this study that such an alternative(s) would be a piece(s) of comparable evidence whilst an attribute represents information, features, facts or qualities about that piece(s) of comparable evidence. Having acquired and processed the information in relation to each of the alternatives the professional valuer then needs to make the choice.

The professional valuer has to express a preference as to which comparable evidence that they will employ in determining their valuation figure. They will need to choose that evidence from a dataset from which there is no obvious choice and in making that choice they will employ a choice making rule or strategy. It is conceptualised in this thesis that the valuer will make that preferential choice decision as to which comparable evidence to select to use to arrive at their opinion of value by identifying and evaluating each alternative through the use of attributes about each alternative as per the Adaptive Decision Making Framework and thereafter employ a decision rule, or heuristic, to select their comparable evidence which this study will seek to identify.

According to the Adaptive Decision Making Framework the choice as to which decision heuristic to employ may change when the decision task or the environment within which the decision is taken becomes more complex, in that the decision makers are adaptive to the situation that they find themselves in. This study seeks to explore whether this happens.

Decision making research on preferential choice problems has suggested that firstly people do increase their choice of decision making rules as the decision becomes more complex thereby illustrating that people have a repertoire of decision rules. Secondly that more information intensive decision rules are selected when accuracy is prioritised over saving cognitive effort. Thirdly when there is a greater degree of conflict between the attributes a more information intensive decision rule tends to be used. This can be transferred to the valuation process which it is argued here is essentially a decision making process. Little research appears to have been conducted around the decision choice a valuer makes when selecting comparable evidence and the decision making rules that they use to reject or accept a piece of comparable evidence, a research gap that this study will seek to fill.

CHAPTER 4 - METHODOLOGY

The review of literature illustrated that whilst there were accuracy and variation studies attempting to measure the performance of commercial and/or residential valuation property professionals there were no such studies to assess the performance of, or identify the practice of, those valuation professionals engaged in the valuation of agricultural land. This may be as a consequence of the market for agricultural land which until recently had been travelling along an upwards only trajectory for a period in excess of 20 years (Savills, 2013) and so valuation figures have tended to face little challenge as to their robustness. However, results for the values of agricultural land over the last 12 months and the projections going forward now potentially see the value of agricultural land falling in certain parts of the country (RICS/RAU, 2016). Other driving forces were also seen to be at work impacting the value of agricultural land. One example was the biggest shake up in UK agricultural policy since the introduction of the Common Agricultural Policy (CAP) with the imminent departure of the UK from the European Union. Agriculture has been supported financially by the CAP and there could now be a period of uncertainty as the UK government worked to formulate and build a new British Agricultural Policy and work out how it could support British agriculture. This may have an impact on what purchasers are prepared to pay for agricultural land given that the financial returns to agricultural land may fall. These changes to the future of agriculture and the diverse market for agricultural land provided the first reason as to why it was timely that an investigation into the reliability and accuracy of the valuation figures being provided by valuation professionals engaged in the practice of valuing agricultural land should be conducted.

A second reason sits around the methodological approach that is used to value agricultural land, the comparable method of valuation. This relies heavily on the use of evidence of recent sales of agricultural land which is then compared and contrasted with the subject land from which the value of the subject valuation land emerges. It therefore uses evidence of historic sales, which are arguably out of date, which may be appropriate if the market for the property asset is rising as it has been (Savills, 2013). However it may be less reliable in times when markets are falling or are unpredictable and it may have potentially reached that point in the market for agricultural land now. This use of comparable sales transactions requires the valuation professional to make a number of decisions or choices which is something that has not been examined in previous studies. This further supported a study

into this area of professional work to examine the decision making processes employed by those professionals engaged in the valuation of agricultural land. It is within that context that this study elected to investigate the valuation of agricultural land.

So the following research aim, objectives and questions have been developed.

4.1 Research aim

The principal research **aim** is:

To evaluate the ability of the valuers of agricultural land in the UK to produce reliable valuation figures and to enumerate their decision making processes in the selection and use of comparable evidence within a valuation template.

4.2 The research objectives are:

1. To evaluate the extent to which valuation variation exists amongst professional valuers engaged with the valuation of agricultural land
2. To evaluate the causes of any valuation variation identified amongst professional valuers engaged with the valuation of agricultural land
3. To appraise how those engaged with the valuation of agricultural land evaluate, select and utilise comparable evidence in determining their valuation figures
4. To construct a valuation template that facilitates the evaluation, selection and utilisation of comparable evidence in the determination of valuation figures for agricultural land
5. To evaluate the application of descriptive decision theory in the selection of comparable evidence
6. To assess if the choice of decision heuristic changes when the valuation task or the environment within which the valuation is conducted becomes more complex

4.3 The research questions will be:

1. Does valuation variation exist amongst the valuers of agricultural land?
2. If valuation variation does exist, to what extent does it exist amongst the valuers of agricultural land?
3. What are the causes of valuation variation amongst the valuers of agricultural land?

4. What criteria do the valuers of agricultural land use to evaluate the comparable evidence available to them?
5. How do the valuers of agricultural land select or reject the comparable evidence they wish to use in forming their view as to value?
6. Do valuers of agricultural land change the way they select or reject comparable evidence when the valuation task becomes more complicated?
7. Do valuers of agricultural land change the way they select or reject comparable evidence when the environment within which the valuation is conducted becomes more complex?
8. How do the valuers of agricultural land use their selected comparable evidence to arrive at their valuation figure?

4.4 Research Philosophy and Methodology

The philosophical approach adopted in this study is based on the philosophy of pragmatism and it employed a mixed method research approach. Pragmatism is defined by Saunders et al. (2012, p. 678) as "a position that argues that the most important determinant of the research philosophy adopted is the research question, arguing that it is possible to work with both positivist and interpretivist positions. It applies a practical approach, integrating different perspectives to help collect and interpret data". Bryman (2008) agrees in his discussion of pragmatic mixed methods approaches to research suggesting that the paradigm war, that being the war between having to adopt either a quantitative or a qualitative research approach, is over as he reflected on the growing preparedness of researchers to focus on data collection and data analysis not encumbered by any associated epistemological or ontological baggage. Saunders et al (2012) argued that is the nature of the research question and research objectives that should act as the driving force determining the most appropriate methodological choices. According to Saunders et al (2012) no single approach can ever give a complete picture of the world as it is accepted there are multiple realities. Robson (2011) argues that pragmatic researchers learn to utilise and appreciate the benefits of both quantitative and qualitative research. Such researchers, he argues, tends to be more flexible, promote more collaboration in research projects and view research as a holistic endeavour. He refers to it as the "anything goes philosophy".

Saunders et al (2012) argue that applying only positivist principles to social science research could deny the importance of human subjectivity or human interpretation. Gill & Johnson (2010) explain that the danger is that the research may lose its naturalism and become a mere artefact of the experiment. They define this as the artificiality of positivism when employed in social research. They explain that subjects react to the experimental situation they find themselves in and therefore do not exhibit their natural behaviour. This experimental approach works in the natural world as the phenomena there tend to be inanimate and are not aware of the context of the experimental research. Humans, however, are aware of that context and their reactions to situations or stimuli can depend on their pre-conceived ideas and theories about the phenomena. Saunders et al., (2012, p.137) agree and argue that this type of research is too complex to lend itself to "definite laws". They explain that the rich insights into what they refer to as this social world would be lost if its complexity was reduced only to some "law-like generalisations".

Cresswell & Cresswell (2018) define mixed methods as the collection of both quantitative and qualitative data. Saunders et al (2012) refer to it as both quantitative and qualitative data being combined in a research design whereas Robson (2011) and Bryan (2008) prefer to use the term "multi-strategy research designs". Robson (2011) sets out some of the requirements of mixed methods research design. First mixed methods sees the existence of both quantitative and qualitative data in the same research project. Secondly mixed method research designs need to clearly specify the sequencing and priority given to the quantitative and qualitative elements of the data collection and analysis. Third there needs to be an explicit account as to how the quantitative and qualitative data relate to each other and fourth that its philosophical underpinning comes through pragmatism.

Cresswell & Cresswell (2018) explain that this research approach has been around since the mid 1980's and has been incorporated into a range of diverse disciplines like education, management, sociology and health procedures, traditionally involving research involving people or social science. The selection of a mixed method approach offers a number of potential benefits in the research design which are articulated by both Robson (2011) and Bryman (2008). Mixed methods research provides for the possibility of triangulation and so greater validity as one approach can verify and support, or not, the findings of the other. Employing both quantitative and qualitative research methods means that the researcher can off-set the weaknesses of each approach through the use of the other allowing,

potentially, for stronger inferences to be made from the research results. Collecting both quantitative and qualitative data allows for a greater degree of completeness to be achieved as a more rounded picture of the phenomenon can be obtained. It is argued that the quantitative data can provide a picture of the structure of social life whilst qualitative data provides a picture of the process of social life. The collection of qualitative data can help to explain the findings of quantitative research and give contextual understanding to statistical inferences again providing a more complete picture of the phenomenon being investigated. The incorporation of both quantitative and qualitative data allows research questions to be asked that could not be asked if only one of the approaches was being employed once again providing for a more complete picture of the phenomenon to emerge from the data. This could also enhance the integrity and credibility of the research findings. They also argued that the type of research findings that emerged from mixed method approaches can be more useful for practitioners in the field given the ability to provide context to research findings. The collection of qualitative data, in a first phase of data collection, can also allow for the development of research instruments for use quantitatively within a second phase of data collection.

Bryman (2008) does set out the philosophical objections to a mixed methods approach, he states that some researchers argue that research methods carry epistemological commitments, they effectively do different things and quantitative and qualitative approaches in no way complement each other. He continues to outline this argument by explaining that some see quantitative and qualitative research being separate paradigms and so they are incompatible and could only ever be integrated at a superficial level. However Bryman (2008) concludes that in his opinion these philosophical objections to mixed methods research cannot be demonstrated in the discipline of social research. Robson (2011) tends to agree by concluding that as research practitioners are actually successfully carrying out mixed methods research then the argument that they cannot be used together and that they are separate paradigms does not hold. Robson (2011) also points to the view that the results of statistical analysis, quantitative data, are only as credible as the background assumptions that underpin them which are not so attached to mathematical demonstration they are more likely to be qualitative in nature, so illustrating their use in tandem with each other. However Bryman (2008) does provide some caution in the employment of mixed methods research. First any mixed methods approach need to be competently designed and carried out. Second any mixed methods approach must be

appropriate to the research question and finally the researcher should consider the additional resource implications of conducting mixed methods research.

On that basis this study adopted a mixed methods approach. This was because the study sought to identify the existence, levels of and causes of valuation variation amongst the valuers of agricultural land and also the way in which they select and use comparable evidence in determining their valuation figures. Research objective one required the production of a valuation figure by the participants and so being quantitative in nature. Research objective two required the calculations of a mean valuation in order that the difference from the mean valuation can be calculated for each participating valuer and so again this will be quantitative in nature. Research objectives three, four and five required a qualitative data collection process that allowed the researcher to understand why any deviations from the mean valuation occurred through an examination of the qualitative data transcripts provided by the participants. In addition this qualitative data facilitated the development of a template for the evaluation, selection and use of comparable evidence in the valuation of agricultural land. It was therefore determined that a mixture of both quantitative and qualitative data was needed to address the research objectives.

As a result of that it was thought appropriate therefore to require a participant to actively do, participate in and calculate something in order that the researcher could observe practice. The majority of valuation variation research to date had been experiment based in that participants had been provided with a valuation exercise and were observed as they carried out that valuation exercise. So in order to measure valuation variation but also capture the subjectivity of the decision making practices of agricultural valuers and to uncover a richer depth of understanding of their decision making in valuation practice then it was considered appropriate to adopt a mixed methods research approach combining quantitative and qualitative data collection methods through engaging practising valuers of agricultural land in a valuation exercise.

If participating valuers were to take part in a valuation exercise then that valuation exercise needed to be designed. Designing such a valuation research exercise that accurately mirrored practice would need to be informed by something over and above the experience of the researcher. Adopting an exploratory sequential mixed method approach provided for

a three phase exploratory research process (Cresswell & Cresswell, 2018) that would provide a research method that would facilitate that.

Phase 1 in any exploratory sequential mixed methods approach is the phase where the phenomenon, which in this case is the use of the comparable method of valuation in the determination of market value of agricultural land, is explored through the collection of some qualitative data. In this study that was unstructured interviews with experienced valuers of agricultural land. These unstructured interviews then informed Phase 2 and guided the development of the valuation exercise, referred to as the research instrument. (Cresswell & Cresswell, 2018) whereby the findings from the unstructured interviews informed the creation of, in this case, a valuation exercise which participating valuers then participated in as Phase 3 of the exploratory sequential mixed methods approach. This approach is illustrated diagrammatically in Figure 11.

Figure 11: The three phases of the exploratory sequential mixed methods research design

Some preliminary design work on the valuation exercise was considered ahead of the interviews being conducted. First it was necessary to determine if the valuation exercise would be desk based or whether an exercise could be designed whereby participants could visit and inspect a piece of agricultural land before determining its value. The former approach would allow for a larger sample of participants to take part but there would be no control or observation over when or how participants conducted the experiment. The latter approach would rely on smaller numbers of participants due to the logistics of actually facilitating participants' to visit the site but more control could be exercised over the valuation exercise. It was decided to adopt the latter approach in this instance and to invite participants to visit, inspect and value a selected piece of agricultural land for inspection.

The reason was primarily because inspection is a necessary part of valuation work and is completed for virtually every valuation assignment. If the intention was to try to recreate the valuation environment as best as possible then naturally, inspection should form part of the process. Participating agricultural valuers were asked to participate by firstly visiting and inspecting a piece of agricultural land. They were then asked to determine the market value of that piece of agricultural land using comparable evidence provided to them by the researcher. This valuation exercise was inevitably restricted, in terms of participants, to those willing and able to forego half a day in the office to travel to the agricultural land and participate in the valuation exercise.

As part of the valuation exercise a valuation figure would be required from each participant to assess valuer performance and address the first two research objectives. The assessment of performance that was chosen was the measure of valuation variation. This is defined as "the ability of two or more valuers to produce the same valuation figure for a property" (Babawale, 2013, p.387) rather than valuation accuracy where a comparison is made between the valuation figure and the eventual sale price. Valuation variation was chosen for the focus of this study for a number of reasons. Firstly accuracy studies require a reliable dataset where valuation figure data is available in addition to the eventual sales data. This dataset is not readily available in the discipline of agricultural land. Second the objectives for this study are behavioural in nature, looking to examine how the valuers of agricultural land select, analyse and use comparable evidence. In that scenario it is argued that a valuation variation study is more suited for that purpose. In this study the measure of the valuation variation was the extent to which the participants could provide a valuation figure that fell within +/-10% of the mean valuation.

The spread of valuations around the mean valuation was assessed through the identification of the mean absolute deviation, or difference, from the mean valuation. This measure would tend to result in a slightly lower measure of spread than the standard deviation. This was as a result of the way in which the standard deviation is calculated and the square rooting that is included within its formula which deals with the negatives that arise when the difference between the valuation figures provided by the participant is compared to the mean valuation plus the standard deviation will be more affected by extreme outliers. The mean absolute deviation from the mean works by turning all the calculated differences into

positives from which the difference from the mean can be measured and is the preferred measure for this thesis for measuring valuation variation.

4.5 Capturing the qualitative data - Verbal Protocol Analysis

The qualitative data was captured through the use of verbal protocols. There are many professional roles where there is an outcome to the task of that professional, which in this case will be a valuation figure. This study was interested in what that valuation figure is but it was also interested in the mental process that the participating valuer went through in arriving at that valuation figure which was a process which in itself cannot be observed. The mental process was captured by the use of verbal protocols. Verbal Protocol Analysis (VPA) has been described as thinking aloud (Bainbridge & Sanderson, 1995) and has been used to map the mental processes of participants whereby participants are asked to provide verbal reports as they carry out the task which will be the process of valuing the piece of agricultural land which are then recorded and transcribed. VPA originates from studies into psychology and is now seen as a major source of data collection for cognitive processes (Ericsson & Simon, 1993). Bennett & Checkel (2015, p.5) refer to the term as process tracing and define it as "techniques for examining the intermediate steps in cognitive mental processes to understand better the heuristics through which humans make decisions".

Caution must be expressed with VPA as participants were being asked to do something that was not familiar to them which they may have found awkward. It may actually have changed the behaviour of the participant and so may have changed the way the task was actually performed and second there was always a danger that the participants would say what they felt it was appropriate to say. There two types of VPA, one being data collected concurrently, as the task is being carried out, and retrospectively being after the task has been completed. Participants to this study were provided with a dictation machine in order to record their mental thoughts on how they came to their opinion of value.

4.6 Participants

One of the most appropriate database of potential participants is held by an organisation called the Central Association of Agricultural Valuers (CAAV) through its membership database which is publicly accessible through their website. The CAAV is a specialist professional body representing over 2,700 members practicing in a diverse range of agricultural and rural work in England, Wales, Scotland and Northern Ireland including

valuation. CAAV members are agricultural and rural valuers who provide professional advice and valuation expertise on issues affecting the countryside (CAAV, 2016). However due to the wide ranging work conducted by members of this organisation it is the case that not all its members may be practicing agricultural valuers in that they will not all be actively engaged in the valuation of agricultural land and so it was important to obtain from any potential participants the extent of their valuation experience in the form of the years that they had been conducting valuation work and the number of valuations of agricultural land that they typically conducted per year.

There are three broad strands of membership of the organisation. These being student members, probationer members and full members. Student members and probationer members will be excluded as they are not a qualified grade of membership. Full members of the CAAV will have passed two days of examinations that they are required to complete in order to progress to Fellowship membership and they must also declare that they will uphold the highest possible ethical standards which becomes a condition of retaining fellowship membership.

Another source that could have been used to identify participants was the membership database of the Royal Institution of Chartered Surveyors (RICS). The RICS is a professional body that accredits its members from the land, property and construction sectors worldwide. It has over 118,000 members worldwide and seeks to regulate and promote the profession, it seeks to maintain the highest educational standards, it seeks to protect clients and consumers by a strict code of ethics and it seeks to provide impartial advice and guidance (RICS, 2017a). The organisation is split into a number of professional groups covering areas like, Arts and Antiques, Building Control, Project Management, Quantity Surveying, Building Surveying, Minerals and Waste, Commercial Property, Dispute Resolution, Planning and Development, Rural, Environment, Valuation, Residential Property and Facilities Management (RICS, 2017a). However, as this illustrates, this was a far broader group of professional property people and identifying those from the agricultural discipline within the organisation was difficult. It was possible to identify from the CAAV database whether a CAAV fellow member was also a member of the RICS, therefore only individuals who were both Fellows of the CAAV and Members or Fellows of the RICS were selected for the study, except where specifically a less experienced valuer was sort to participate. This formed the population being the “universe of units” (Bryman, 2008) from which a sample was selected

to participate in the study. Having examined the CAAV membership database, which is publically available on their web-site, the population accrued to an estimated 1100 eligible CAAV fellow members who could participate in this research.

4.7 Sampling

It was not possible to utilise the whole population in this research as it would be impracticable and it would not be achievable in the time frame within which this research was conducted (Saunders et al, 2012). It was therefore necessary to identify a "segment of the population" (Bryman, 2008) or sample of the population to participate in Phase 1, the interviews, and Phase 3 the Live Valuation Exercise. There are two principal approaches to sampling. The first is to adopt a probability, or random, sampling approach and the second a non-probability, or non-random, sampling approach. The former is to use a sample of the population that reflects the characteristics of the population accurately and so each CAAV member in the population had an equal chance of being selected (Bryman, 2008). For the latter the opposite is the case. Participants are not selected randomly and so some CAAV members in the sample are more likely to be selected than others (Bryman, 2008). A key difference between the two approaches is that with probability sampling it could be possible to generalize the findings to the wider population whereas with non-probability sampling that would not be possible.

The approach to sampling adopted within this study was to use a non-probability form of sampling based on a homogeneous purposive sampling technique. This was a sample whereby the researcher used their judgement to choose participants with sufficiently diverse characteristics relevant to the study (Saunders et al., 2012). In particular the technique focussed on a particular sub-group in which all sample members were similar, they had similar characteristics allowing for a greater depth of exploration (Saunders et al, 2012). This approach involved some subjectivity in the choice of sample but it allowed the researcher to use their judgement to select participants that would best enable them to answer their research questions. That is not available if probability sampling had been selected. It was essentially a trade-off between the information rich perspectives that can be obtained through purposively selecting participants with something to say based on their experience with non-probability sampling and the ability to make statistical inferences from using a probability sample (Saunders et al, 2012). For studies such as this Saunders et al.,

(2012, p. 186) explain that the purpose of sampling is to “pursue theoretical lines of enquiry rather than to achieve representativeness”.

Bryman (2008, p.375) describes this sampling technique as the “selection of units with direct reference to the research question being asked”. He illustrates that it is based on identifying participants in a strategic way so that they are relevant to the research question under scrutiny. Robson (2011, p.274) refers to the researcher exercising their judgement on participants as to their “typicality or interest”. He argues that this sampling technique is useful when it is not easy to identify the population. Robson (2011) also argues that in what he calls real world research representative sampling is difficult. When population lists are difficult to construct this leads to imperfect lists which contain “ineligibles” (Robson, 2011, p.276). It is for these reasons that a purposive sampling technique was used.

The CAAV is a national organisation with 29 local associations across the country. Due to simple logistics it was not going to be possible to have representatives participating from across the country. The land that had been selected for the exercise was a block of 72 acres of mixed arable and grassland located in Shropshire forming part of the Harper Adams University Estate. Given this selection it seemed logical to select potential participants from the CAAV local associations that were closer to Harper Adams University. These were the Shropshire & Montgomeryshire, Staffordshire and Cheshire branches which would reduce the distance that potential participants would have to travel. From the CAAV database, which was publically available, of these three local associations a total of 54 potential participants were identified by the researcher who were both Fellows of the CAAV and also full members (MRICS) of the Royal Institution of Chartered Surveyors and who the researcher knew were or had been actively engaged in relevant valuation work. Two of these were actually not Fellows of the CAAV. One was a student at Harper Adams University and one was a newly graduated agricultural valuer who had not yet fully qualified. These were selected to give the sample the broadest possible range of valuation experience. In addition to this the aim was to identify agricultural valuers with a range of valuation experience being 0- 5 years’ experience, between 6-10 years’ experience and 11 years plus. These criteria were selected in an attempt to mirror the inexperienced, the experienced and the very experienced agricultural valuer. The idea that an inexperienced valuer was one with less than 5 years valuation experience was a classification used in other research designs of this type (Diaz, 1990a).

4.8 Adjustments to the Live Valuation Exercise

The comparable evidence design, Phase 2, was informed by the content of the interviews undertaken as Phase 1 as well as the content of the RICS guidance note on the valuation of rural property (RICS, 2011) and will be fully developed following the reporting of the interviews undertaken as part of Phase 1.

However in order to examine the research objectives (5 & 6) relating to the theoretical aspects of this thesis the valuation exercise sought, from an analysis of the transcripts, to first identify the use of any decision making heuristics adopted by the participating valuers. Second to determine if the participant valuers changed their choice of decision making heuristic when the valuation task or the valuation environment became more difficult or complex. This was achieved by adopting the work of Beach & Mitchell (1977) who argued that changes to the task variable, which in this case would be the variable relating to the valuation task itself, the valuation environment and the decision maker affected the choice of decision making rule adopted by the participant when selecting comparable evidence. To test this a number of valuation scenarios were created to examine changes in the valuation task and the valuation environment and these scenarios are illustrated in Table 6.

Table 6: Adjustments made to comparable valuation scenarios

Task or Environment	***Valuation Scenario***
Task Complexity: Number of comparables	Participating valuer to be presented with 4 pieces of comparable evidence to represent a valuation task of minimal complexity
Task Complexity: Number of comparables	Participating valuer to be presented with 7 pieces of comparable evidence to represent a valuation task with a higher level of complexity
Task Complexity: Number of comparables	Participating valuer to be presented with 12 pieces of evidence to represent a valuation task with a very high level of complexity
Task Complexity: Geographical Familiarity	Participating valuer to be presented with 7 pieces of evidence but the participating valuers will be “non-locals” so they were not geographically familiar with the area to represent a valuation task that is more complex
Task Complexity:	Participating valuer to be presented with 7 pieces of comparable evidence but the evidence presented was ambiguous. This was

Ambiguous Evidence	achieved by presenting comparable evidence presented as asking prices rather than actual sales evidence
Task Complexity Inconsistent Evidence	Participating valuer presented with 7 pieces of comparable evidence but the evidence was inconsistent. This was achieved by presenting comparable evidence that was inconsistent being over a larger range of values.
Task Environment: Irreversibility, Significance, Accountability	Participating valuer presented with 7 pieces of comparable evidence but the purpose for which the valuation was needed changed from secured lending to firstly tax planning and secondly a pre-marketing appraisal
Task Environment: Knowledge	Participating valuer were presented with 7 pieces of comparable evidence but the participating valuers had varying levels of valuation experience

Each of these scenarios were created to ascertain if the decision heuristic adopted by the participants for selecting comparable evidence changed when the circumstances of the valuation task or valuation environment changed.

4.9 Research Ethics

Saunders et al (2012 p. 226) defines research ethics as the "standards and behaviours that guide your conduct in relation to the rights of those who become the subject of your work, or who are affected by it. Robson (2011 p. 198) refers to research ethics usually taken as referring to the general principles of "what one ought to do". Punch (2006 p.55) argues that there has been "much increased and still growing concern for ethical issues in social research today, stimulated by the growth in the use of qualitative research methods" with the overall goal being to "complete your research in good standing with your participants" and furthermore with "academic integrity, honesty and respect for other people". These must therefore be the principles upon which any study should be designed.

Saunders et al. (2012 p. 191) set out a number of ethical principles upon which any research design should be based. These were firstly around the integrity of the researcher in being open and truthful and honest with all participants through the provision of full and complete information about what is required from them and their contribution as well as obtaining their informed consent. Second to show respect for others fulfilling all obligations to any participants. Third to avoid harm to others in the form of their emotional well-being, mental and/or physical health. Any research design should not subject the participants to any risks

of embarrassment, pain or any other material disadvantage. Fourth to protect the privacy of all participants and ensuring confidentiality and maintaining anonymity of all participants in the collection, analysis and reporting of the research findings. Fifth to respect the voluntary nature of any participant, rather than being coerced into participating, and their right to withdraw at any time during the process irrespective of any inconvenience that would cause to the study.

The approach to potential participants was designed in such a way that only those wanting to participate needed to respond. Those approached were provided with full and complete information about the study and what was needed from them via a participant information sheet. Copied in Appendix 2 page 235. This approach to potential participants was based on the principles set out by Robson (2011) where the first step was to fully explain what the study involved through the information sheet. The information sheet set out the background to the study, the specific requirements of any participants. It also contained undertakings in relation to participant confidentiality and anonymity. It also set out that the study was not a project that was about forming judgements on their valuation work or the valuation work of their employing organisations. It also provided contact details for the researcher and the researcher's supervisor as a means of asking any further questions that any potential participant may have.

Approaching potential participants by information sheet allowed them time to consider and reflect upon whether they wanted to participate which was the second principle advocated by Robson (2011). As it was clear what was required of them in order that their informed consent could be obtained. In order to participate any respondent needed to compete the Informed Consent Questionnaire that asked them to confirm their agreement to a number of things. First to confirm that they had read and understood the information letter, second that they had had an opportunity to ask questions, third that they understood that participating was voluntary and that they could withdraw at any time and finally that they agreed to take part in the study. Copies of the informed consent form can be found in Appendix 2 page 234.

All the data collected was collected, analysed and reported in a way that protected the confidentiality and anonymity of the participating valuers. The identity of the participants was protected. All computers used for this project were password protected and encrypted.

No personal data was retained on CD's or memory sticks. Paper-based material were stored in locked steel filing cabinets.

As potential participants for Phase 3 would need to visit and inspect a block of agricultural land there were potential health and safety risks that arise from a site visit in connection with the Live Valuation Exercise. As a result of this a Health and Safety Risk Assessment was conducted. This concluded that whilst there were some identified risks there were appropriate mitigation measures in place and so the level of risk was deemed acceptable.

All potential participants to the Phase 3 Live Valuation Experiment were offered the sum of £200 towards their time, effort and travel costs associated with participating in the study. This payment was not offered to the Phase 1 interviewees. There were a number of reasons for this payment being offered. First previous valuation experiments of this nature had seen participants not being compensated for their participation and so had been criticised as not mirroring practice (Parker, 1999). If this exercise was to mirror practice better, then a financial sum could be offered in an attempt to ensure that all participants exercised some diligence towards the study, along similar levels to those expected in practice, that they may not do if they had not being financially compensated. It was however, recognized that £200 was not representative of a typical valuation fee but it did represent a financial contribution to their time and associated costs with participating in the study. Second the study was asking participants to take time out of their fee earning day and use transport to attend the University and professional individuals, or their employing organisation, could not be expected to do that for no financial compensation.

One the one hand payments to participants is one way to overcome non-response bias and as such can help to raise the quality of the sample (Research Ethics Guide Book, 2018). However it is also more important to make the point that any payment offered to the participants must not over-ride the principles of freely given and fully informed consent and in no way should the potential participants feel coerced, via the payment, into participating in the study. Participants must also understand that should they withdraw from the exercise part way through completing it that they would still receive the financial payment. The Market Research Society (MRS, 2015) outlines advice and guidance for payments being made to participants of research projects and it argues that any payment must be proportionate to the task involved as it is important that such payments are not considered to be a bribe. A bribe is defined as "giving someone a financial or other advantage to encourage that person

to perform their functions improperly". In most cases the participation in the live valuation exercise would involve the participants in approximately half a day of their time, either a whole morning or a whole afternoon. Invariably a valuation fee for undertaking this type of valuation work would be considerably more than the £200 financial payment being offered in this study and so it is argued to be proportionate to the tasks being asked of the participants. It is not in any way designed to be a full fee for work undertaken it can only be construed to be a token of appreciation or a contribution towards their professional time for participating in the study. Participants were foregoing fee earning time to participate in the live valuation exercise rather than making additional monies.

The financial compensation payments were both funded and administered through the employing University of the researcher. Upon completion of the Phase 3 live valuation exercise a payment request was raised by the researcher and submitted which was then authorized by the Head of Land, Farm and Agri-Business Management Department and payment then organized and made through the University finance department.

In order to incentivize potential participants all those invited to take part in the study were encouraged to record their participation as part of their Continuing Professional Development (CPD). All members of the RICS and CAAV have professional requirements as part of their respective codes of conduct to undertaken 20 hours of CPD per annum. Participating in this study could be recognized as informal training and could be recorded within the participant's CPD diary for that year.

Ethical approval was sought and approved for this study from the Chair of the Science & Technology Research Ethics Panel at the University of Salford. A copy of the ethical approval letter is provided in appendix 2 on page 233.

CHAPTER 5 – PHASE 1 - THE INTERVIEWS

The Phase 1 interviews sought to discuss the use of comparable evidence in the valuation of agricultural land by asking the participants to reflect on their valuation work and represented Phase 1 within an exploratory sequential mixed methods research design. Their principle aim was to provide evidence to inform the development of the research instrument, being a valuation exercise that would be executed as Phase 3 of the study. The interviews were unstructured as the researcher wanted an open discussion and also wanted to draw upon the reflections of the participant, to get a sense of their experience in using the comparable method of valuation in the valuation of agricultural land. This was helped by interviewer being an agricultural valuer having had in excess of 10 years of carrying out valuations of agricultural land and therefore being able to bring context to any discussion with the interviewees. The premise being that valuers had professional valuation experiences daily and to learn effectively from those experiences the valuer needed to reflect. This was because knowledge arose not just from the experience itself. To simply experience was not enough to create knowledge, there needed to be a transformation process where experience was turned into knowledge (Pearson & Smith, 1994) and it was that process that these interviews sought to utilise. The interviews provided the forum within which the valuers of agricultural land were able to constructively reflect on their own experiences in the hope of reforming one's knowledge of the valuation process in the light of the participant's experiences and reflections and so inform the development of the Live Valuation Exercise in Phase 2 for use in Phase 3.

Interviews were chosen as Phase 1 for this study as a way of helping to gather valid and reliable data relevant to the research questions which in turn helped to develop the creation of the Live Valuation Exercise in Phase 2 and for use in Phase 3. Saunders et al (21012) see the interview as a way to help refine the researchers' ideas and compare them to a purposeful conversation. Robson (2011) agrees, interviews are a flexible and adaptable way of finding things out as the researcher can modify their line of enquiry. Researchers are able to follow up interesting responses in a way that questionnaires or experiments cannot and non-verbal cues can provide powerful messages although interviewees may tell you what they think you want to hear rather than tell you what they actually do.

The interviews proceeded on an unstructured, rather than structured, basis. A structured interview would make use of pre-determined, or standardised, questions. They are formal in nature and would pose the questions to all participants in the same order without deviation, additional exploration or follow up. The results from such interviews would normally be subject to quantitative analysis (Saunders et al, 2012). Unstructured interviews sit on the opposite end of the spectrum. This type of interview is viewed as being informal and not making use of pre-determined, or standardised, questions. Saunders et al (2012) argues that they can be effective to use in exploratory research where the aim of the interview is to give the participant an opportunity to talk freely about a subject highlighting what they, rather than the researcher, see as relevant and important within the phenomenon being investigated. Unstructured interviews can assist the researcher to find out what is happening, to understand the context of a participants' response providing background and contextual materials for the investigation. This is what Phase 1 is trying to accommodate within this study. It is not attempting to answer the research question but to provide material to be used in Phase 2 for the development of the Live Valuation Exercise.

Saunders et al (2012) provide a number of reasons why the unstructured interview can be useful. Firstly they are related to the purpose of the research. If the study is exploratory in nature the unstructured interview allows the researcher to probe and follow up on responses asking not only what and how, but also why and it can facilitate the conversation to go into areas that the researcher may not have considered previously. Unstructured interviews, conducted face to face, carry with them the benefits of establishing personal contact. Respondents may respond better to an interview for which they may not have to prepare for, and the format of which does not require them to write anything down or fill a form in for. The conversation can allow a participant to share their reflections with you so long as a good relationship between researcher and participant is established. The unstructured interview allows for a large number of questions to be asked which could be open ended in nature and the unstructured nature can allow the researcher to change the order or logic of a particular question in line with the spirit of the interview. Many issues discussed within an unstructured interview are complex, but the nature of the approach allows complex issues to be explored without imposing a template on the interviewee.

The concern with unstructured interviews however is just that, they are non-standardised giving rise to concerns about reliability. Saunders et al (2012) suggest that reliability could

be replaced with transparency so reliability can be achieved by the researcher recording all their actions for others to examine at a later date. Interviews have the general concern of the possibility of interviewer bias. Given that interviews tend to concentrate on small unrepresentative samples that creates an issue for generalisability to a wider population but only if that is the objective of the research. Saunders et al (2012) also point to the possible lack of validity in the technique although they suggest that the level of validity in an interview can be raised by ensuring clarity in the questions being asked as well as exploring the response of participants to ensure they have fully understood the questions being asked.

The interviews were conducted in the offices of the participants. This placed them in their natural real world setting where the participant was more likely to be more at ease. The interviews were conducted face to face rather than by telephone. Saunders et al. (2012) set out some of the problems with telephone interviewing. It is not possible to see the non-verbal behaviour of the participant during a telephone interview. Complex questioning is more difficult to develop and the participant may be willing to commit less time to a telephone interview. One limitation of an approach involving unstructured interviews was potential interviewer bias or influence in the discussion or questioning. Given that the interviewer was formerly a practising agricultural valuer care and attention was needed during the interviews to ensure that the interviewer's own personal opinions were not influencing the thoughts of those being interviewed. Robson (2011) sets out that telephone interviews can be quicker, cheaper and reduce bias. However he also points out that telephone interviews tend to be shorter, that the researcher is unable to make use of visual cues that are apparent in a face to face interview and that an interview by telephone does not permit the contextual surroundings and information to be gathered. It is for these reasons that all the interviews were carried out face to face and at the offices of the participants placing participants in their own familiar surroundings which hopefully encouraged participation.

All interviews were recorded and subsequently transcribed.

Letters of invitation were sent out to eight agricultural valuers identified by the researcher as being involved in agricultural valuation work for a period in excess of 10 years and who were within a reasonable distance of Harper Adams University where the Live Valuation Exercise was to be located. This represented, as outlined previously, a homogeneous purposive approach to sampling. The researcher

sought to identify valuers engaged in the valuation of agricultural land based upon the knowledge of the researcher who had been practising in the field for over 15 years themselves and the characteristics of the four respondent valuers are summarised in Table 7. Four of those eight invitees were actually interviewed which represented a disappointing response although two of the four that did not get interviewed did respond positively but the timings did not work due to clashes of diary. All four interviewing agricultural valuers were practicing in Shropshire and Cheshire and were known to the researcher for their extensive agricultural valuation experience. All had in excess of 10 years post qualification experience in the valuation of agricultural land. Copies of the letters of invitation are provided in Appendix 1, page 230. Saunders et al (2012) suggests that the suitable range of participants in a range of interviews can range between 5 participants to 25 participants. The number of interviews conducted within Phase 1 was therefore at the lower end of this range. Having conducted the four interviews it was considered that whilst total data saturation point had perhaps not been met there was sufficient data to inform the development of the Live Valuation Exercise within Phase 2 of the exploratory sequential mixed methods approach adopted within this study. Data saturation is the point at which any additional data collected would provide any additional insights into the phenomenon (Saunders et al, 2012). In view of that and the additional time pressures at the time no further interviews were arranged

Table 7: Summary of participant valuers for interviews

Valuer Participant	Job Role	Professional Qualifications	Participating Valuer Experience	Number of Valuations conducted per year
1	Senior Partner	BSc (Hons) FRICS FAAV FNAEA	10 years +	30
2	Consultant	FRICS FAAV	10 years +	20
3	Rural Director	BSc (Hons) MRICS FAAV	10 years +	40
4	Partner	BSc (Hons) MRICS FAAV	10 years +	20

The interviews took place in May and June 2014 in the offices of the four interviewees. The letter sent to participating valuers proposed that in addition to the interview that the participants would be invited to keep a diary of their valuation activity recording their experience and observations. This was an approach that was not pursued mainly due to the lack of willingness of the part of the participants to set time aside to engage in the process.

The interview transcripts have then been analysed and from that analysis the comments of the participating agricultural valuers have been grouped into four clusters. These four clusters are illustrated in Figure 12 below and are centred on Experience, Process, Evidence and Skills.

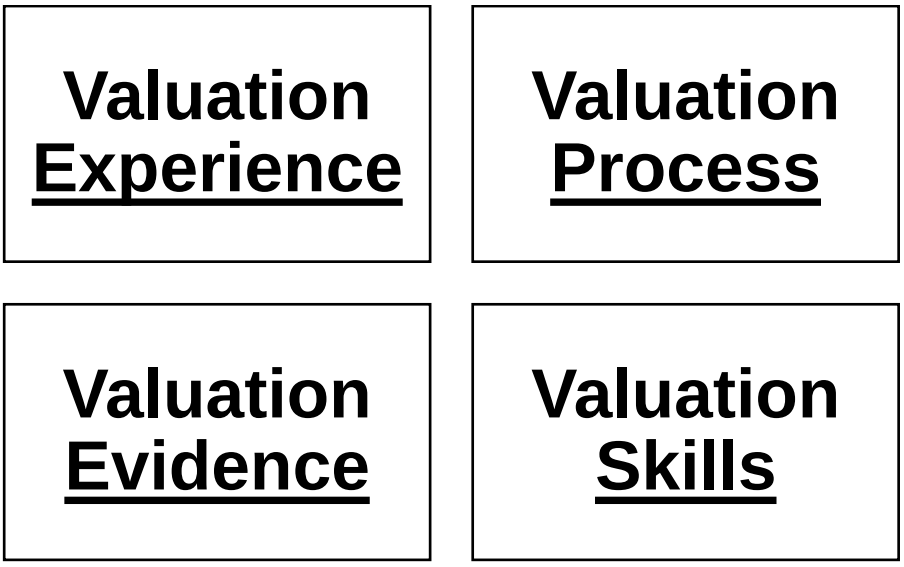


Figure 12: The four clusters of comments emerging from the four interviews with practising agricultural valuers

Each one of these will be examined in turn but all four themes emerged in all four interviews indicating a large degree of agreement across the four discussions held.

5.1 Cluster 1: Valuation experience

Figure 13 attempts to conceptualise the findings relating to valuation experience from the interview transcripts. All four of the interviewees had been selected due to their valuation experience but analysis of the interviews helped to give some indication as to how that experience had been accumulated. The interviews indicated that it had been accumulated

by the participating valuers having spent a number of years valuing a range of different property types for a range of different valuation purposes

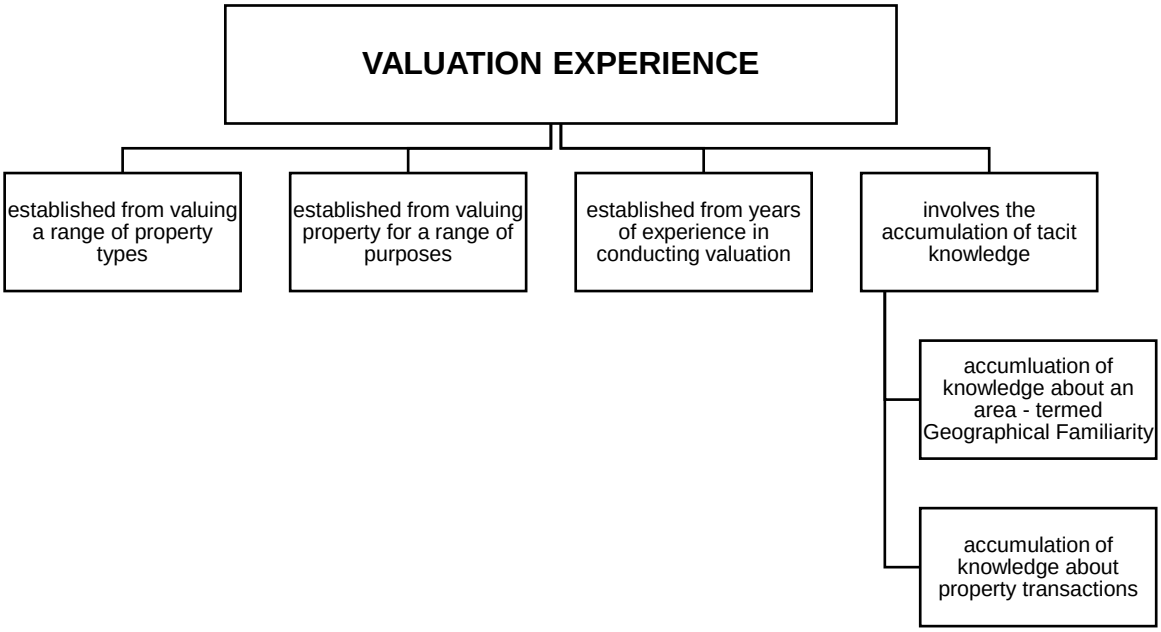


Figure 13: Diagram illustrating the valuation experience cluster of comments emerging from the interview data

As a result of this the interviewees had acquired and retained what could be described as professional, or tacit knowledge, which they continued to draw upon when making valuation decisions and there was a sense that this tacit knowledge had a powerful influence over the valuation decisions that the interviewees made. There is literature on this theme. Main (1994) argued that one's knowledge is deeply rooted on one's understanding, beliefs, values and attitudes. This is acquired via one's life experiences upon which the individual may have reflected upon unconsciously.

Experience is something that is closely associated with valuation practice. The process of identifying and adjusting comparable evidence is something that happens unconsciously in the minds of a valuer daily. A valuer does this by drawing on their knowledge of the factors that they feel influence the demand for land and property. A valuation will also reflect the personal opinions and prejudices of the individual valuer. The concept of tacit knowledge was first considered by Polanyi (1966) who made the distinction between tacit and explicit knowledge. He argued that knowledge is accumulated through one's own experiences and he concluded that more is actually known than can be told. Tacit knowledge was defined by Herrgard (2000 p.358) as "unconscious knowledge which is obtained by internal,

individual processes like experience, reflection, internalisation or individual talents". The concept of professional knowledge was something examined by Eraut (1994) who argued that professional knowledge was being created all the time by professionals working in practice and that practitioners acquired propositional knowledge and then applied and/or interpreted that propositional knowledge in the context of a real life scenario. That process of application and interpretation worked to create new knowledge which the professional then retains for the next professional task and it would appear from this data that the professional valuer is no different.

It was evident from the interviews that the participants all worked within a defined geographical area which they deemed to be familiar to them. The term geographical familiarity is borrowed from the work of Diaz (1990a, 1990b). Each participant expressed their geographical familiarity in different ways, some by a mileage radius of between 50-60 miles from their office, others by regions. All four of the participants were clear that moving to value property outside their areas of geographically familiarity imported additional risk into the valuation task and to their professional indemnity insurance policy. All would decline instructions rather than expose themselves to that additional risk.

In trying to identify what makes an area geographically familiar to the participants' two sub-themes emerge from the discussions. These were knowledge and experience. That is knowledge and experience of the available comparable evidence, knowledge and experience of the buyers within the area and knowledge and experience of the location. All of the participants had in excess of 10 years post qualification valuation experience. They had been practising in their defined areas of geographically familiarity for at least that period of time. Over that period they had observed and participated in sale transactions in land. They had built up a wealth of knowledge of comparable transactions that they retained and recalled. The task of the valuer is to predict what someone, the buyer, is prepared to pay for a piece of land or property. The participants were of the view that within their area of geographical familiarity they had accumulated a wealth of knowledge about the attitude and requirements of buyers. For example one participant noted that a recent valuation they conducted was in an area where there was a strong tenanted occupation of land. The market for land in that area was weaker than an area where there was a stronger owner occupier presence.

The participants claimed that in the areas of their geographical familiarity they had accumulated a wealth of knowledge about the location and characteristics of land and property that attracted additional value. This concept of knowledge and experience of a geographical familiar area seems to be a powerful tool at the disposal of the participants. The participants all drew on it, in their view, to produce robust comparable valuation figures. These findings are in line with the professional requirements placed on RICS members conducting valuation work. The RICS Valuation Standards (RICS, 2017) state that any valuer must assess whether they are appropriately qualified to undertake the valuation being asked of them. That is not just about whether they have the appropriate academic qualifications but also sufficient knowledge of the local area, its property type and its market.

5.2 Cluster 2: Valuation process

The interviewees all outlined a comparable valuation process of some form, a process that seemed to involve three stages. First the sourcing, second the selection and thirdly the use of comparable evidence in arriving at their valuation figures. Three sub-themes emerged under the heading of the valuation process following the discussions with the four interviewees, these being firstly the features of the valuation process, secondly the method adopted and thirdly the criteria used to compare the evidence to the subject land as illustrated in Figure 14.

In terms of the features of the comparable valuation process what seems to emerge is a realisation that the valuation process is both subjective, complex and requiring judgement but that it is also evidence based. These findings in relation to the valuation process being subjective, complex but evidence based are consistent with the literature (Millington, 2000: Babawale, 2013: Blackledge, 2018). There is it also seems to be an acceptance that a valuer has a margin of error in the region of +/-10% of the correct valuation and this is consistent with case law (see chapter 2) which could therefore be labelled as normal valuation variation whereas anything outside this bracket could be categorised as excessive valuation variation.

In terms of the methods adopted a number of methods or approaches to using comparable evidence have emerged from the data and are listed in the second column of Figure 9 where the interviewees have talked about prioritising evidence, placing the evidence into some form of order, comparing and contrasting evidence, selecting the best, taking an average

and making adjustments to the evidence. There does appear to be a variety of approaches emerging from the data in relation to the use of comparable evidence in valuation work but there are two points to be made. First there is little evidence emerging within these transcripts as to any common approach to the comparable valuation process and secondly little emerges from this data in relation to how these identified methods are administered. What does appear to emerge from the data is that the valuation process is essentially a decision making process, whereby the valuer has to two key decisions to make, firstly, upon the best comparable evidence to use and then secondly to decide on what the evidence is saying about the value of the land being valued. This is consistent with the approach outlined by Wyatt (2013).

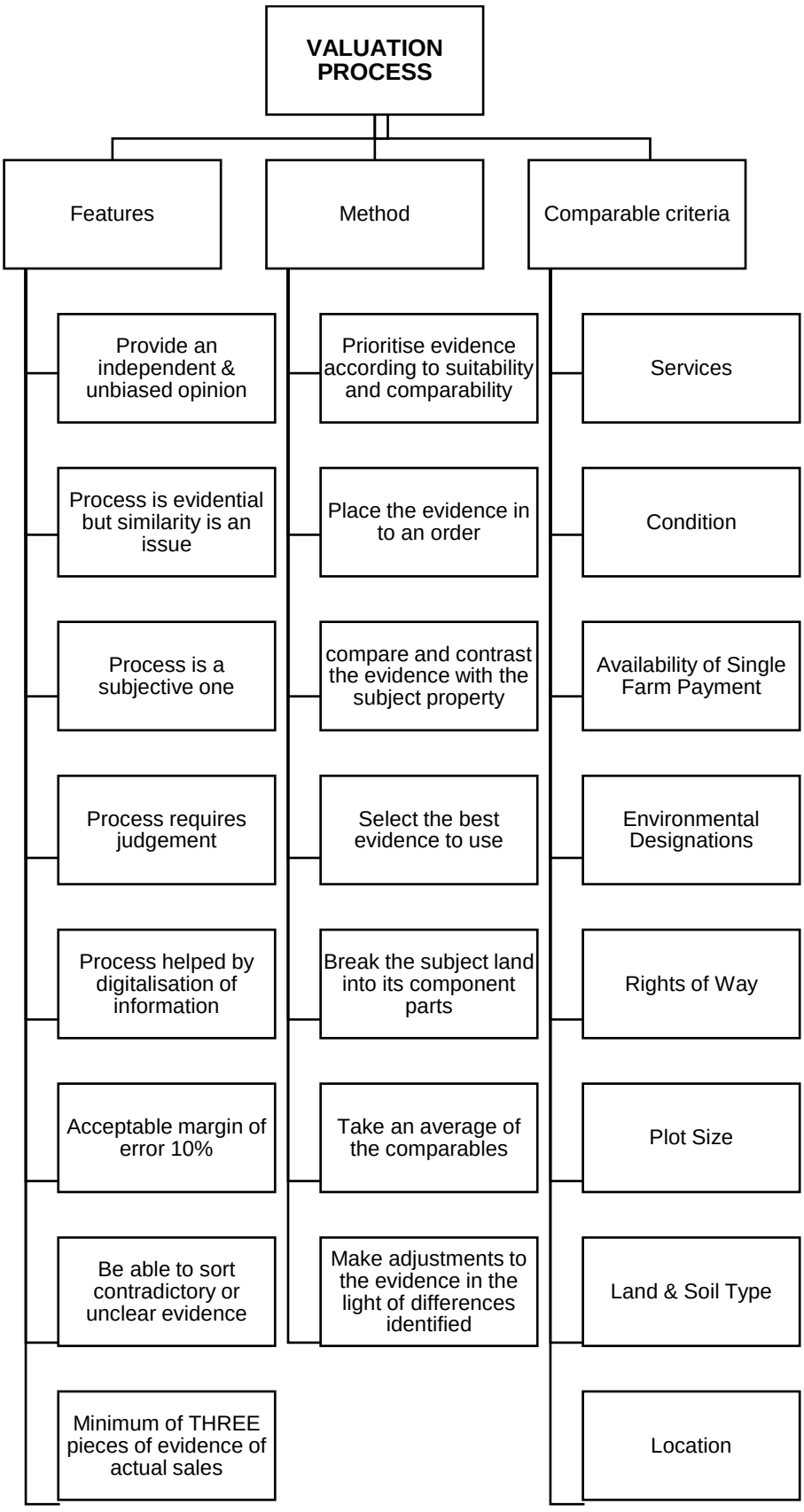


Figure 14: Diagram illustrating the valuation process cluster of comments emerging from the interview data

The data from these interviews provide little evidence as to how the valuer of agricultural land deals with that decision making process. What does emerge from the interviews are some of the attributes that the interviewees feel determine the value of agricultural land which form the third column in Figure 9 being Services, Condition, Single Farm Payment Entitlement, Environmental Designations, Rights of Way, Plot Size, Land and Soil Type and Location. These attributes, amongst others, are consistent with the RICS guidance on the valuation of rural property (RICS, 2011).

5.3 Cluster 3: Valuation evidence

What emerges from the discussions with the interviewees in relation to the comparable evidence is firstly a discussion around the sourcing of the evidence, secondly verifying that evidence once sourced, thirdly assessing the suitability of the evidence when preparing to select or reject the evidence for the valuation task as illustrated in Figure 15. What also emerges are a number of issues that the interviewees perceive there is with comparable evidence. The issue of imperfect knowledge in connection with the comparable evidence emerged from all the discussions with the participants and appeared to be perceived as a limitation of the comparable valuation approach. In many cases the participants based their valuation on comparable evidence about which they did not have the full facts. Aspects of this imperfect knowledge emerged from the discussions with the participants. Firstly valuers usually have not inspected the land or property forming the comparable evidence. If this is true, how can a valuer be sure the comparable is comparable? Many sale transactions are conducted by private treaty and the actual price achieved may not be known. Both these provide illustrations of the imperfect nature of the evidence being used to determine valuation figures. This would explain and be consistent with the RICS guidance on the use of comparable evidence (RICS, 2012) which sets out that the real estate market lacks transparency when it comes to comparable evidence.

The participants pointed towards other factors distorting the market evidence. A special purchaser is a purchaser who for personal reasons is prepared to pay over and above the market value for land property due to its' additional value to them. The existence of special purchasers can distort price over and above market value and are recognised as being not good pieces of evidence. Their existence may not be known to the valuer using the transaction as a piece of comparable evidence. Even if they are known the valuer then has the task of adjusting their effect out of the comparable. This distortion is reflected in the

RICS valuation guidance (RICS, 2017) which specifically excludes the influence of special purchasers from any assessment of market value.

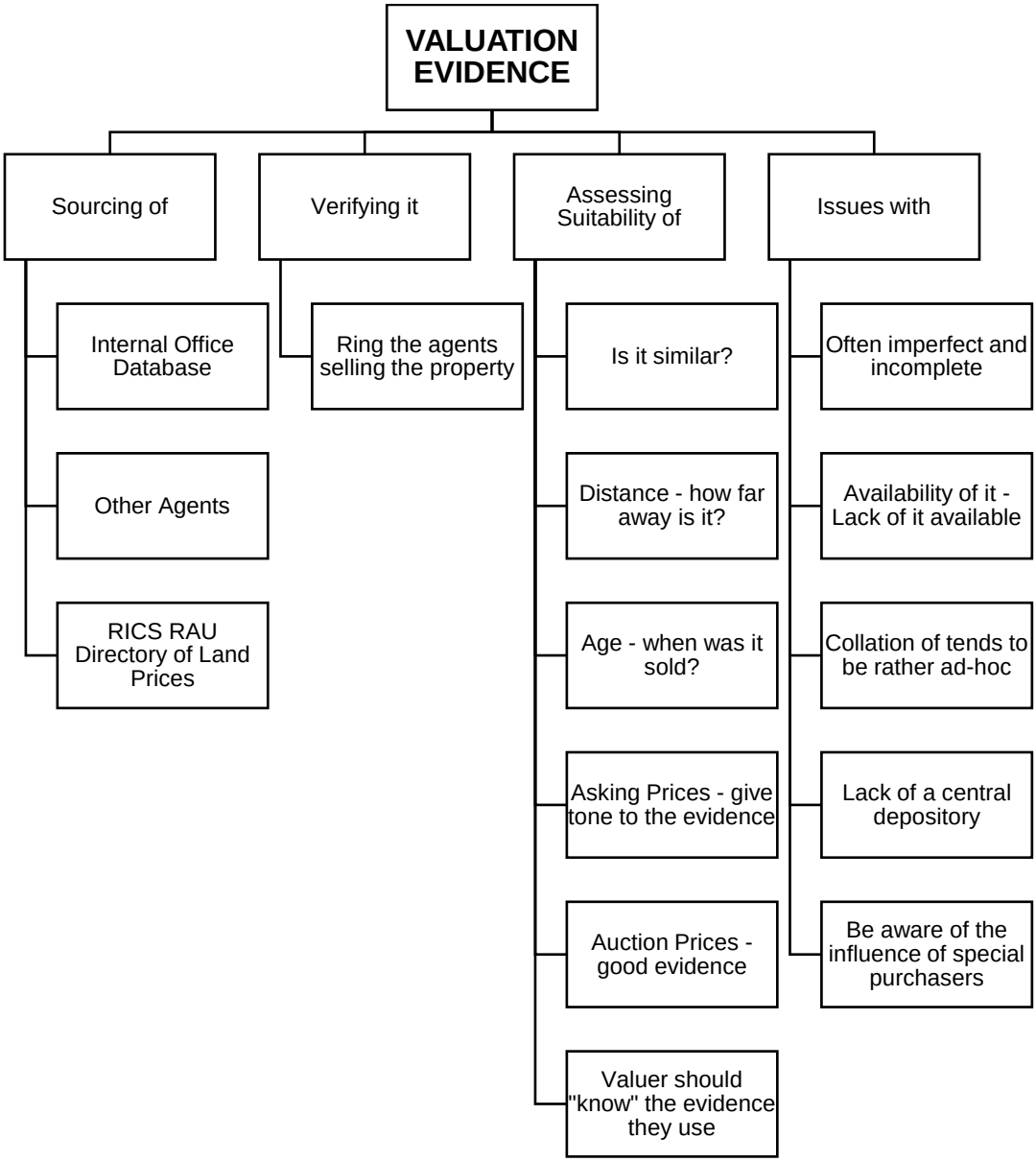


Figure 15: Diagram illustrating the valuation evidence cluster of comments emerging from the interview data

The participants pointed to localised markets and market conditions existing that were bespoke to a particular village or parish. In those situations that comparable evidence is only of use within that localised area. Generalising beyond that localised area has inherent risks and again the RICS valuation guidance (RICS, 2017) points towards valuers working

within their areas of geographical familiarity where they have that local knowledge of the area, the property and the market.

There was a contrast here in the responses from the participants. In terms of gathering comparable evidence a picture emerged of the struggle to find sufficient comparable evidence. This contrasted with the comments from the participants concerning the amount of non-valuation information, the planning portal for example, now available electronically that they make use of in their valuation work. It was expected that a discussion would be had around the criteria the participants used to select their comparable evidence. However what emerged was a tail of frustration in finding sufficient evidence to support their valuation work. In effect selecting evidence was a luxury that the participants did not have, their concern was having sufficient evidence to support their work. This frustration is acknowledged by the RICS comparable valuation guidance (RICS, 2012) as it points out that the number of comparable transactions available will tend to be low and that typically real estate markets lack transparency. What is further acknowledged in the guidance is an acceptance that direct transactional evidence may not always be available and the RICS (RICS, 2012) point to a hierarchy of evidence where sources of evidence ranging from direct transactional evidence, to publicly available evidence, to information available via databases, to information from the press, to asking prices and to historic sales evidence all have a role to play in assisting the valuer reach their opinion of market value but that the valuer must be aware of the limitations of each source of evidence.

A number of the participants seemed to illustrate a rather unstructured form of evidence gathering from a range of sources. That may be internal office records or trawling web sites. There did not appear to be an over-arching company based approach to gathering and recording comparable evidence except in one case. A lot appeared to be left to the records of the individual valuer.

In contrast the participants pointed to the increased availability of information available electronically about the land they value. This covered planning histories available via the planning portal. It covered information on flooding via the Environment Agency web site. It included environmental and other statutory designations via the government based MAGIC website. All participants were of the view that the availability of this information made their

valuations better informed but they still lacked the key ingredient and that was the full evidence on market activity.

5.4 Cluster 4: Valuation Skills

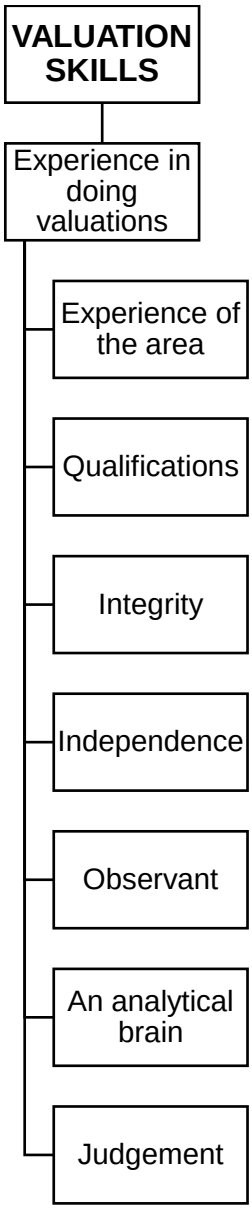


Figure 16: Diagram illustrating the valuation skills cluster of comments emerging from the interview data

Figure 16 illustrates the skills that the participants thought all valuers needed. They were the skills of analysis and being able to analyse data/evidence, being able to look at it for similarities and differences. Judgement, it became apparent from the discussion above that

the valuation task is very reliant on the knowledge and experience of the valuer. That accumulation of knowledge and experience seems to provide the valuer with an ability to make evidence based judgements. Integrity, as the valuation task depends so much on the experience and knowledge of the valuer, the integrity of the valuer is essential if confidence in the profession is to be maintained. It is for this reason perhaps why the participants felt that valuers needed at least five years post qualification experience before attempting more advanced valuation work. It is not possibly until then that they acquire that experience and knowledge that provides them with the skills of analysis, judgement and integrity.

5.5 Summary of Findings – Phase 1

First, what emerges from these interviews is the over-arching theme of valuation experience, the importance of valuation experience, the importance of experience within a particular geographical area, the importance of experience in dealing with the subjective and complex nature of the valuation task and the comparable evidence and further illustrated by those skills identified in the data as being needed to undertake valuation work. If this study is to address its principal research question and its research objectives which is to open this discipline, around the valuation of agricultural land using comparable evidence, up for scrutiny then the valuation exercise to be developed within Phase 2, and based upon the findings of Phase 1, will need to de-codify this experience or tacit/professional knowledge that would appear to be accumulating in the minds of the practising agricultural valuer which these interviews have been unable to do, they have been unable to fully map professional comparable valuation practice.

Second, these interviews have provided an indication as to how the comparable valuation process occurs. The interviews identified a three stage process of sourcing, selecting and using comparable evidence being a similar process of screening illustrated in Diaz (1999b). However more work is needed to more fully map the comparable valuation process and assess valuer performance in the valuation of agricultural land through the development of a comparable valuation exercise (Phase 2) for use in Phase 3.

Third, these interviews have identified some important features that form comparable evidence upon which the valuers of agricultural land rely upon and which ought to be incorporated into any design of comparable evidence and are discussed further in Chapter 6.

CHAPTER 6 – PHASE 2 & 3 – THE LIVE VALUATION EXERCISE

This chapter will first further develop the research instrument (Phase 2) being the Live Valuation Exercise, that was initially discussed in Chapter 4, by reflecting on the results from the four interviews conducted (Phase 1) and reported on in Chapter 5. Secondly the chapter will then report on the results and findings from the execution of the Live Valuation Exercise (Phase 3) of the study.

6.1 Phase 2 - Developing the live valuation exercise

The valuation task was based on 72 acres of agricultural land, known locally as the land at Bayley Hills, and formed part of the Harper Adams University estate just outside Newport, Shropshire and was chosen for a variety of reasons. The size of the plot, at 72 acres, was a small enough block of land that participants ought to be able to inspect it in around 60-90 minutes, based on the experience of the researcher, which is an important consideration given the time that participants were giving in participating in the exercise. The plot size was also large enough to exclude the pony paddock/equestrian type buyer and also the residential lifestyle buyer and any neighbouring property owners, which should reduce the complication of the valuation task when the principal buyer was going to be commercial farmers.

The land was also of a variable quality with some good Grade 2 land (Grade 1 land being the best quality agricultural land in the UK), some poorer Grade 3 land, with some woodland, and water abstraction rights from a watercourse that ran along the southern edge of the land. This in itself increased the capabilities of the land which made the comparable valuation task a little more challenging than if the land did not have these particular features. The land was in the ownership of Harper Adams University where the researcher is employed which made securing permissions for access and facilitating the inspections that were going to be required easier. The University also had facilities on the campus for participating valuers to complete the valuation exercise in following their inspection. The intention was to ask the participating valuer to inspect the land and then proceed immediately to the valuation in order to reduce any potential contamination and to ensure that they only took into account the comparable evidence that was provided to them.

A detailed instructions to participants' document was prepared, copy attached at Appendix 2, page 238 setting out the details of the valuation task together with a map outlining the

extent of the agricultural land to be valued and some general information about the agricultural land being valued. In order to try to remove any unnecessary complications the instructions to the participating valuers were asked to ignore any potential development or hope value that may affect the land. This being additional value that may arise due to any prospect of the land being allocated for residential development, there was no such prospect but given the location of the land adjacent to an existing housing development participating valuers may have considered there was potential hope value which would require an assessment of the same. This was not provided for within the comparable evidence, so by asking participating valuers to ignore development value the principal purchasers were going to be commercial farmers.

The review of literature pointed to the subjective nature of the valuation task and the range of purposes for which a valuation can be undertaken, and so for clarity for the participating valuers they were told that the valuation was required for the purposes of secured lending which is usually required by a bank who are proposing to use the land as security against a loan they are preparing to make to their client. In addition to the instructions to participants sheet there was also an information sheet providing the participating valuer with information about the land at Bayley Hills that they were to value. A copy of this is provided in Appendix 2, page 235. In order to mirror professional practice the information provided on this sheet mirrors the information that can be found on a set of sale particulars that are produced by agents when they are offering land for sale, so whilst this information may not be comprehensive it should have been sufficient to conduct the exercise.

6.2 Designing the comparable evidence

Having produced this information the next step was to create the comparable evidence that would form the basis of the valuation exercise. A number of principals were adopted in creating the comparable evidence.

First, it was thought that the best way to create this comparable evidence and to best mirror professional practice was for the researcher to do the comparable valuation exercise by searching for comparable evidence as any practicing valuer does, analysing it and determining its value. As a result twelve pieces of actual comparable evidence were found from publically available agents websites as would occur in practice and these twelve pieces of evidence formed the basis for the comparable evidence for the valuation exercise. It was

thought this approach would be more credible with the participants as there was a chance that they may be familiar with the comparable or know the location and that this would be reflecting the real world valuation environment, some participants would be familiar with the comparables and some would not. Then for each of the twelve pieces of comparable evidence an information sheet was created mirroring that for the land at Bayley Hills and also the sale particulars for each of the pieces of comparable evidence, again in an attempt to mirror the information available in practice.

Second, the principle was that the comparable evidence should reflect, as far as possible, the criteria set out in the RICS Guidance Note on Comparable Evidence (RICS, 2012) which states that comparable evidence should be comprehensive, similar, recent, verifiable, consistent with local market practice and as a result of an arms-length transaction.

Third, the comparable evidence ought to reflect the RICS guidance note on the valuation of rural property (RICS, 2011) in terms of the contents of the comparable evidence.

Fourth, and most significantly, the design of the comparable evidence should be informed by the results of Phase 1 of this study being the four interviews. The results from Phase 1 generated a number of considerations for inclusion within the design of the comparable evidence.

i. That the nature of any comparable evidence used to value agricultural land was usually imperfect (see Figure 15). By that the respondents meant that the level of detail contained within any comparable evidence was usually incomplete, they were unable to use comparable evidence in full ownership of all the facts about the comparable evidence.
ii. That they considered the location of the comparable evidence in terms of the distance of the evidence from the land being valued as being an important piece of information in assessing the usefulness of any comparable evidence (see Figure 15).
iii. That they considered the age of comparable evidence as being an important piece of information (see Figure 15).
iv. That they considered there to be some differences in terms of the usefulness of comparable evidence between agricultural land sold by Public Auction, or Private Treaty or by Tender.

v. That they considered it important as to whether the comparable evidence was an actual achieved sale price or simply an asking price.

vi. The results of the interviews also set out seven features, or attributes, about the information contained within comparable evidence that were considered important by the participants when valuing agricultural land (see Figure 14). These were *availability of services* on the land usually meaning the existence of mains water, a source of natural water or no water on the agricultural land. The *condition of the land* usually meaning the quality of the grass, the infestation of weeds, the condition of the field boundary fences and as to whether they were stock proof. The *availability of single or basic farm payments* (BFP) on the land. Should the land be registered for the BFP scheme they the occupier would be able to claim agricultural support under the Common Agricultural Policy which is considered to be an advantage. The *existence of any environmental designations*. Agricultural land can be entered into, voluntarily or by compulsion, agri-environmental schemes. These schemes usually provide the occupier with funding in exchange for farming the land in a particular environmentally friendly way. These arrangements could therefore affect value and so was seen as an important feature to the interviewees. The *existence of rights of way* being footpaths, bridleway, third party rights of way as well as access to the land from the highway. *Plot size* was also seen as a significant feature. By this the interviewees were having regard to the amount of land contained within the comparable evidence and the extent to which it was similar to the land being valued. Smaller plots of land tend to attract interest from a wider range of purchasers and so can attract a higher value per hectare/acre. *Land Type or Quality* was also a feature that featured prominently in the interviews which is not surprising. The quality of agricultural land is categorised into grades with Grade 1 land being of the best quality and Grade 5 land being of the poorest quality.

It would therefore be appropriate to reflect these factors in the design of the comparable evidence.

In the light of that the range of comparables identified needed to come from a reasonably wide geographical area in order to see how far away a comparable had to be for it to be judged too far away to be used. Therefore comparables were sourced from 0km – 5km,

5km – 10km, 10km – 15km and 15km plus away from the land at Bayley Hills. Secondly the comparable evidence needed to contain some evidence that had been sold by Private Treaty, some by Public Auction, some by Tender and some that were still on the market for sale to try to see of this had any bearing on the decisions made by the participating valuers in the valuation exercise. Third the range of comparables had to be of varying ages, how long ago had the land sold. As a result of that a summary of the comparable evidence compiled is available in Table 8 and the geographical location of the comparable evidence is illustrated in Figure 17 with each piece of comparable evidence represented by a yellow star.

Figure 17 – Map illustrating location of the pieces of comparable evidence

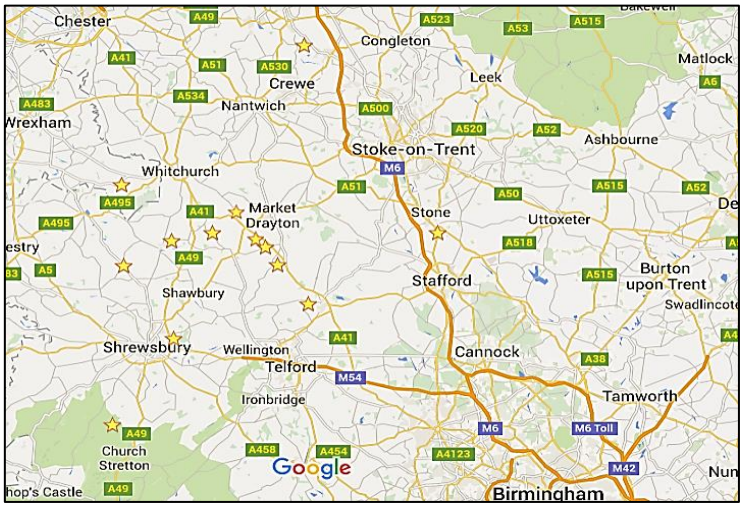


Table 8 – Summary of comparable evidence for the live valuation exercise

Comparable Evidence for the Valuation Exercise					
C1	**C2**	**C3**	**C4**	**C5**	**C6**
40 acres of land at Moreton Wood, Nr Aychley, Market Drayton	**124 acres of land at Wistanswick, Market Drayton**	**27 acres of land at Ternhill, Market Drayton**	**86 acres of land at Moston, Sandbach, Nr Crewe**	**120 acres of land off Pixy Lane, Hinstock, Market Drayton**	**76 acres of land at Hamner, Whithchurch**
SOLD by Public Auction September 2015	SOLD by Private Treaty July 2015	SOLD by Public Auction May 2015	FOR SALE by Private Treaty	SOLD by Private Treaty February 2015	SOLD by Informal Tender December 2015
£320,000 (£8,000/acre)	Offers in the region of £1,250,000 (£10,080/acre)	Offers in the region of £260,000 (£9,629/acre)	£8,000/acre On the market 3 months	Offers in the region of £1,200,000 (£10,000/acre)	Offers Expected in the region of £525,000 (£6,900/acre)
C7	**C8**	**C9**	**C10**	**C11**	**C12**
75 acres of land at Lacon, Nr Wem	**133 acres of land at Burlton, Shropshire**	**185 acres of land at Picklescott, Dorrington**	**85 acres of land at Uffington, Shrewsbury**	**54 acres of land at Marchamley, Market Drayton**	**289 acres of land at Aston by Stone, Stone**
FOR SALE by Private Treaty	FOR SALE by Private Treaty	FOR SALE by Private Treaty	SOLD by Public Auction October 2015	SOLD by Private Treaty June 2015	FOR SALE by Informal Tender
Offers in the region of £600,000 (£8,000/acre) On the market 4 months	£925,000 (£7,000/acre) On the market 4 months	£1,370,000 (£7,400/acre) On the market 2 months	£630,000 (£7,400/acre)	£600,000 (£11,100/arce)	£6,000 per acre On the market 3 months

A full set of the comparable evidence is provided within Appendix 2, page 238. In addition the amount of time spent by each participant inspecting the land and also in subsequently constructing their valuation was recorded.

6.3 Limitations to the Live Valuation Exercise

A consideration in the design of this type of exercise is whether it allows participants to exhibit their normal behaviour as they would in the workplace. Parker, (1999) has highlighted some of the concerns around valuation methodology in this area and argued that valuations are usually conducted in a very fluid and dynamic office environment and recreating this setting for experimental work is challenging. Any research approach that created any sense of artificiality in the valuation environment could skew any research participant towards making decisions that they may not ordinarily do but it is also important that the exercise is not contaminated before any participant participates. This exercise has limitations in that regard.

First there is always a danger that participants will react to the experimental conditions that they perceive themselves to be in no matter what measures are built into the research design. For example in this valuation exercise all participants visited the site and conducted the valuation individually and by appointment. None of them attended at the same time. The concern was that if they had all attended at the same time then they may have felt that they were in an experimental setting and would not have exhibited normal behaviour. Second, participating valuers were not allowed to source their own comparable evidence they were being presented with the comparable evidence. Third they were unable to verify, confirm or carry out further desk based investigations about the land at Bayley Hills which ordinarily they would be able to do in practice. Fourth, they were not conducting this valuation within their own office environment where they would usually be able to discuss the outcome with colleagues and take a day or so to reflect on their thoughts prior to submitting their report. However there were no time constraints being placed on participants during their inspection of the land or their valuation of the land except those of everyday professional life. In the ordinary day of professional practice there are time constraints on how much time can be spent on a piece of work due to the next appointment being due or the telephone ringing.

In acknowledging these limitations the alternative was to allow the participants to inspect the land and then leave site to source their own comparable evidence and produce a valuation at their convenience. That may have been a preferred alternative but there were concerns over the possible effect on the response rate and promptness of any responses to such an approach and the completeness of the information coming back from the participants. There would have been no control or record of the information being utilised by the participating valuer. By doing it this way the participating valuers were only exposed to the comparable evidence presented to them and their own valuation experience and so being a slightly more controlled, less contaminated, if slightly less realistic valuation environment.

6.4 Pilot Study

Two colleagues from Harper Adams University were kind enough to participate in the pilot study. Both were agricultural valuers of at least 10 years standing. Initially the participating valuers were observed and recorded by the researcher using verbal protocol analysis which requires the participants to think aloud as they made their decisions on the comparable evidence presented to them. Following the pilot study this was amended. It was clear from the pilot study that as the participating agricultural valuer knew the researcher they seemed to be reluctant to speak out loud and had to be constantly reminded to do so. This was to such an extent that it was interrupting the thought process of the participant and was thus importing the very artificiality into the exercise that has been used to criticise previous work. It was thought not to be allowing the participating valuer to exhibit normal behavior. As a result of this it was decided following the pilot that participating valuers would not be directly observed during the inspection or the valuation process. Instead they were provided with dictation equipment and asked to dictate their thoughts thereby speaking to the tape recorder rather than the observer.

The comparable evidence used in the pilot study did not provide any maps or plans of the land it was describing. This was amended following the pilot with 9 of the 12 pieces of comparable evidence having maps appended. The provision of the map or plan allowed for the comparable evidence to outline the boundaries to the land in relation to other land and property. It now enabled the layout of the land in relation to roads and communications to be illustrated and it allowed for a number of field features to be seen by the participating valuers. These could include features like water courses or footpaths for example. Those

that participated in the pilot felt the absence of the plan was unusual, un-helpful and untypical of the normal valuation environment.

Phase 3 – Results from the execution of the Live Valuation Exercise

6.5 Response rate

In total 54 agricultural valuers were invited by letter to participate in the live valuation exercise. The distribution of those invited were all those Fellow members of the Central Association of Agricultural Valuers who were known to the researcher to have experience in the valuation of agricultural land and who also worked within a reasonable distance of Harper Adams University to where they would need to travel to participate in the valuation exercise. All invitees therefore came from the Staffordshire, Shropshire and Montgomeryshire or Cheshire associations of the CAAV.

23/54 (42%) of those approached responded positively to the invitation to participate by returning their participant consent form and the pre-valuation questionnaire. 18/54 (33%) actually visited and inspected the site and thereafter provided an opinion of value as well as a recording of their reasoning. This level of response compares well with other valuation variation studies. In Hager & Lord (1985) the study was based upon 10 valuations, Havard (1999) was based upon 18 valuations and a Finnish study, Hiironen, Niukkanen, Ohrankammen & Laitala (2014) which was a variation study looking at the equity of valuations for compulsory purchase was based upon 31 valuations. However the small sample size does restrict the level of statistical relationships that could be identified and in addition any average data presented needs to be observed within the context of the small sample sizes.

The 18 inspections and resulting valuations were undertaken between 2nd March 2016 and 23rd May 2016.

Prior to completing the valuation exercise all participants were asked to provide a pre-valuation questionnaire which asked them to self-declare their years of valuation experience and the number of valuations of agricultural land that they typically produced in one year. This was collected primarily due to the results from the four interviews reported in within chapter 5 which indicated valuation experience to be an important element in comparable

valuation and as such it could be a possible factor in identifying the causes of any potential excessive valuation variation that may be identified. This data is summarised in Table 9.

Table 9 – Summary of participant valuer valuation experience and number of valuations conducted per year (self-declared)

Participating Valuer Valuation Experience (years) (n=18)			***Number of Valuations typically conducted per year by participating valuer***		
0-5	***6-10***	***11 +***	***Range***	***Mean***	***Median***
5	5	8	1-55	21	15

Accordingly participating valuers were allocated to their valuation scenarios, as per the discussion in section 4.8 of Chapter 4 and as set out in Table 10. These declarations show that one participant only produced one valuation in a typical year whilst another produced approximately one per week. There is perhaps an argument as to the eligibility of that valuer producing only one valuation is not an experienced valuer but that would be to assume that the participant is not experienced which is no something that can be assumed.

Table 10 – Valuation scenarios issued to participating valuers

Valuer Number	***Valuation Scenario Issued to Participating Valuer***
1, 2, 3 (Complexity)	presented with 4 pieces of comparable evidence being C1, C2, C6, C9
4,5,6,21 (Complexity)	presented with 7 pieces of comparable evidence being C1, C2, C3, C6, C7, C9, C12
7, 8, 9 (Complexity)	presented with 12 pieces of evidence being C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12
10, 11 (Geographical Familiarity)	Presented with 7 pieces of evidence but were “non-locals” so they were all unfamiliar with the geographical area being C1, C2, C3, C6, C7, C9, C12
12 (Ambiguous)	presented with 7 pieces of comparable evidence but the evidence was ambiguous being C1, C2, C3, C6, C7, C9, C12. This was achieved by presenting comparable evidence more reliant on asking prices rather than actual sales evidence
13 (Inconsistent)	presented with 7 pieces of comparable evidence but the evidence was inconsistent being C1, C2, C3, C6, C7, C9, C12. This was achieved by presenting comparable evidence that was inconsistent, over a larger range of values.
14, 15 (Irreversibility, Significance, Accountability)	presented with 7 pieces of comparable evidence but the purpose for which the valuation was needed changed from secured lending to tax planning and a pre-marketing appraisal being C1, C2, C3, C6, C7, C9, C12
17, 18 (Knowledge)	were presented with 7 pieces of comparable evidence but with varying levels of valuation experience being C1, C2, C3, C6, C7, C9, C12

6.6 Valuation Results

Table 11 and Figure 18 summarise the valuation results for the live valuation exercise. The full valuation results are in Table 65 in Appendix 3, page 255.

Table 11: Summary valuation figures for the Participating Valuers

	Participating Valuers (n=18)
Mean (£'000)	614
Median (£'000)	605
Mode (£'000)	575
Standard Deviation (£)	59,184
Valuation Range (£'000)	500-722
Mean absolute deviation (%)	7.8
Range - % absolute deviation from the mean valuation	0.7 – 18.6
Range - % deviation from the mean valuation	-18.6 to + 17.6

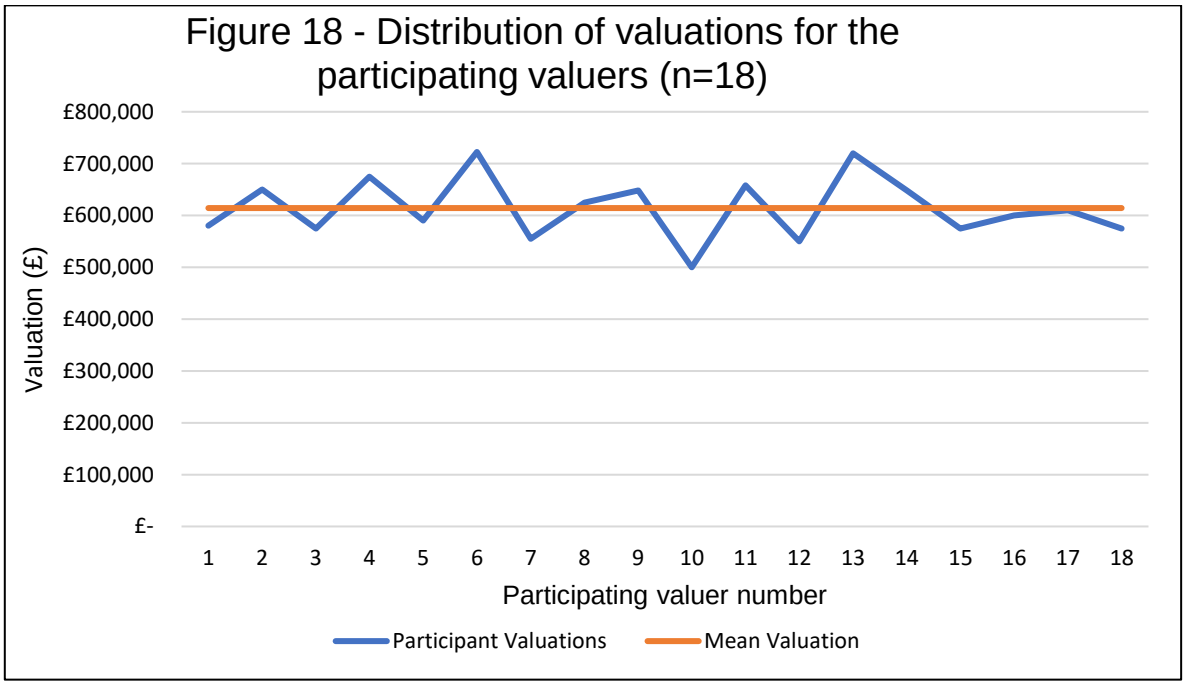
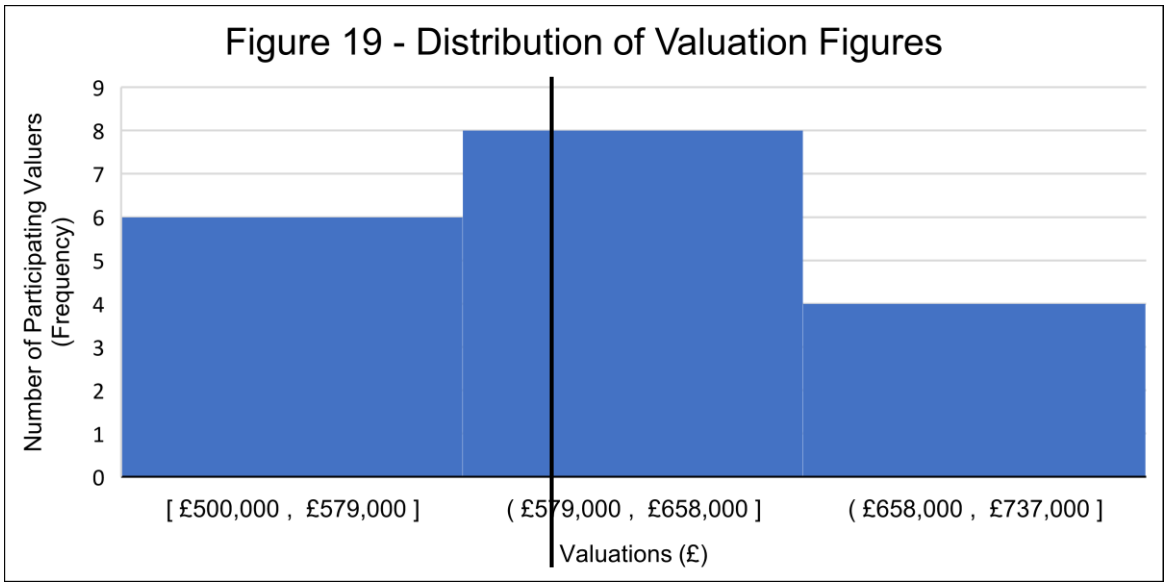


Table 12 shows the distribution of the valuations around the mean valuation of £614,000 for the eighteen participating valuers.

Table 12: Deviation of valuations from the mean valuation

Deviation from the mean valuation	*Participating Valuers (n=18)*	*% of valuers*
Within +/- 5% of mean valuation (no. of valuers)	4	22.2
Within +/- 10% of mean valuation(no. of valuers)	14	78%
Within +/ 20% of the mean valuation (no. of valuers)	18	100%

The valuation results illustrate that the 18 valuations of the 72 acres of agricultural land ranged from £500,000 (£6,944 per acre) to £722,500 (£10,035 per acre) with a mean valuation of £614,244 (£8,531 per acre), a median of £605,000 and a mode of £575,000 illustrating slight skewness in the distribution of the valuation figures to the right. Figure 19 illustrates the distribution of these valuations which the thick black line an estimation of the position of the median valuation.



The mean absolute deviation (average difference from the mean valuation) was £48,104 or 7.8%, ranging from -£114,244 to +£108,256 (-18.6% to +17.6%) with 4 participating valuers valuing to within +/- 5% of the mean valuation, 14 participating valuers to within +/- 10% of the mean valuation and all 18 valuers to within +/- 20% of the mean valuation. These results are possibly more favourable to the valuation profession that other valuation variation

studies. The 18 participants in Havard (1999) produced valuations ranging from -31.5% to +39.86% of the mean valuation and in Hiironen et al., (2014) the resulting valuations ranged from -68% to +113% from the median valuation (rather than the mean valuation).

The courts have tended towards an acceptable margin of error of +/-10% (see chapter 2) of the correct valuation which could be termed as normal or expected valuation variation, which would mean that 14/18 (78%) of the participating valuers fall within this bracket and 4/18 (22%) of the participating valuers fall outside the acceptable margin of error bracket and could therefore be defined as illustrating excessive valuation variation. Table 13 compares the results from this valuation exercise to other accuracy and valuation variation studies.

Table 13 – Summary of research findings for valuer performance

STUDY	VALUER PERFORMANCE
Hager & Lord (1985) UK	***90%*** of office valuations & ***80%*** of shop valuations within +/-10% of the control valuation
IPD/DJ (2003) UK	***64%*** of valuations within +/-10% of market prices
Matysiak & Wang (1995) UK	***30%*** probability of valuation being within +/-10% of sale price
McAllister (1995) UK	***56%*** of valuations within +/-10% of sale price
Hutchinson et al., (1996) UK	***61%*** of valuations within +/-10% of mean valuation
Parker (1998) Australia	***85%*** of valuations within +/-10% of sale price
Newell & Kishore (1998) New Zealand	***65%*** of valuations within +/-10% of sale price
Blundell & Ward (1999) UK	***35%*** of valuations within +/-10% of the sale price
Havard (1999) UK	***38%*** of valuations within +/-10% of mean valuation
Babawale (2008) Nigeria	***45%*** of valuations within +/-10% of sale price
Hiironen et al., (2014) Finland	***50%*** *of valuations within -16% to +33% of the median valuation*
This study UK	***78%*** of valuations within +/-10% of mean valuation

Table 13 illustrates that the results of this study are in line with previous accuracy and variation studies although in some cases the results of this study are better for the agricultural valuation profession. Bretton & Wyatt (2001) found that 76% of respondents accepted that valuation variation was expected and that 40% of the respondents thought that an acceptable margin of error was +/-10%. In the same study, as well as Babawale (2013), some respondents also felt that an acceptable margin of error was +/-5%. If this benchmark is applied to this study then only 4/18 (22%) of the participating valuers valued the land to within +/-5% of the mean valuation and 78% of the participating valuers would be providing evidence of excessive valuation variation. Other respondents in this study suggested that the margin of error should be +/-15% or +/-20% of the mean or correct valuation. Naturally wherever you set the benchmark the results, and therefore the performance of the valuers will be different.

This data finds that both normal and excessive valuation variation exists in the valuation of agricultural land within this sample and moreover the logical task would now be to identify any possible causes of this valuation variation. Given the small sample within the exercise no statistical analysis is feasible but indicative relationships could be identified.

This chapter will now look to assess if there is any perceived relationship between the difference from the mean valuation of the participant valuer and the following factors:

- The participating valuers' years of experience in conducting agricultural valuations
- The number of agricultural valuations conducted by the participating valuer per year
- The distance of the participating valuers' office from the land the subject of the valuation exercise
- The time the participating valuer spent inspecting the land
- The time the participating valuer took in analysing the evidence and determining their valuation figure
- The number of comparables provided to the participating valuer

6.7 Relationship to participating valuers' valuation experience

Table 14 shows the distribution of the valuations around the mean valuation against the participating valuers' valuation experience. The full data set is in Table 66 in Appendix 3, page 256.

Table 14: Deviation from the mean valuation and the participants' valuation experience

	Years' Experience			
Deviation from the mean valuation	***0-5 years***	***6-10 years***	***11 + years***	***Total (n=18)***
Valued within +/- 5% of mean valuation (n=4)	2	2	0	4
Valued between +/- 5% and +/- 10% of mean valuation (n=10)	2	3	5	10
Valued between +/- 10% and +/- 20% of mean valuation (n=4)	1	0	3	4
Total	5	5	8	18

Table 14 illustrates that none of the 4/18 valuers who were within +/-5% of the mean valuation were in the category of having 11+ years of valuation experience, two were in the 0-5 years' experience category and two in the 6-10 years' experience category. Those valuers whose valuations were more than +/-5% and less than +/- 10% from the mean valuation had a range of valuation experience, being 5 no. with 11 + years' experience, 3 no. with 6-10 years' experience and 2 no. with 0-5 years valuation experience. Those valuers whose valuations were in excess of +/-10% of the mean valuation also had a range of valuation experience, 3 no. with 11+ years' experience and 1 no. with 0-5 years' experience.

In summary therefore 38% (3/8) of the valuers with 11+ years of experience, 0% (0/5) of the valuer with 6-10 years of experience and 20% (1/5) of the valuers with 0-5 years of experience provided valuations illustrating excessive valuation variation.

In addition 50% (2/4) of the valuers who were able to value to within +/-5% of the mean valuation came from the 0-5 year category. 80% (4/5) of the 0-5 year category and 100% of the 6-10 (5/5) year category were able to value the land to within +/-10% of the mean valuation.

It had been anticipated that those with more valuation experience would be able to value closer to the mean valuation but these results suggests that this might not be the case and that valuation experience does not necessarily indicate an ability to provide a valuation figure closer to a mean valuation.

6.8 Relationship to participating valuers' annual number of valuations

Table 15 shows the distribution of the valuations around the mean valuation against the participating valuers declared number of valuations typically conducted in a year. The full data set is in Table 67 in Appendix 3, page 257.

Table 15: Deviation from the mean valuation and the number of valuations typically conducted per year

	Number of Valuations per year ($\bar{x}$= 21)			
Deviation from the mean valuation	***0-10***	***11-25***	***26+***	***Total (n=18)***
Within +/- 5% of mean valuation (n=4)	1	2	1	4
Within +/-5% to +/- 10% of mean valuation (n=10)	3	5	2	10
Within +/ 10% to +/- 20% of the mean valuation (n=4)	1	1	2	4
Total	5	8	5	18

Table 15 indicates that 28% (5/18) of the participants were conducting at least one agricultural valuation every other week, being 26 or more each year and 72% (13/18) were conducting at least 11 agricultural valuations per year, which is nearly one a month. This would appear to be an indication of a group of participants who are engaged in agricultural valuation work on a regular basis although there does not appear to be any literature to verify or compare these results with. There does not appear to be much evidence in Table 15 to indicate a relationship between the number of valuations conducted per year and the participants' ability to value closer to the mean valuation although there is some indication that this might be the case when the averages for each valuer group are compared as they are in Table 16.

Table 16: Deviation from the mean valuation and the average number of valuations typically conducted per year

Deviation from the mean valuation	***Average Number of Valuations typically conducted per year (n=18, $\bar{x}$= 21)***	***Range Number of Valuations typically conducted per year***
Valued within +/- 5% of mean valuation (n=4)	23	1-55
Valued between +/- 5% and +/- 10% of mean valuation (n=10)	16	3-40
Valued between +/- 10% and +/- 20% of mean valuation (n=4)	29	5-50

Table 16 indicates that those valuers who were in the category whereby their valuation was in excess of +/-10% of the mean valuation, and therefore outside the margin of error bracket, tended on average to conduct more valuations per year than the other two groups and the overall average for all 18 participating valuers. The ranges for valuations conducted for the three valuer groups are not too dissimilar although this is skewed due to their being 10 participating valuers in the +/-5% to the +/-10% group compared to 4 in each of the other two valuer groups. However these comments should be treated with caution as the figures are averages of small samples being n=4, n=10 and n=4 and the same will be apparent for the remainder of the discussions within this chapter.

It might have been expected that those conducting more agricultural valuations per year might have been able to have been able to value closer to the mean valuation but it seems from this analysis that there is limited indications of any relationship.

6.9 Relationship to the distance of the participating valuers' office from the land being valued

Table 17 shows distribution of the valuations around the mean valuation against the participating valuers' distance from their office from the land being valued. The full data set is in Table 68 in Appendix 3, page 258.

Table 17: Deviation from the mean valuation and the distance of the participating valuers' office from the land being valued

	Distance from land being valued (miles) (n=18, $\bar{x}$= 19)			
Deviation from the mean valuation	***0-10***	***11-25***	***26+***	***Total***
Within +/- 5% of mean valuation (n=4)	0	2	2	4
Within +/-5% to +/- 10% of mean valuation (n=10)	3	7	0	10
Within +/-10% and +/ 20% of the mean valuation (n=4)	0	2	2	4

Table 17 indicates that 50% (2/4) of the valuers valuing to within +/-5% of the mean valuation, 0% (0/10) of the valuers valuing to within +/-5% and +/-10% of the mean valuation and 50% (2/4) of the valuers valuing to within +/-10% and +/-20% of the mean valuation are located more than 25 miles away from the land that was valued. These four valuations have produced two valuations illustrating excessive valuation variation and two valuations within +/-5% of the mean valuation and so do not really provide any evidence of a relationship between the participating valuers' difference from the mean valuation and the distance of their office from the land being valued. There is a slightly different observation when the averages for the three valuer groups are compared as they are in Table 18.

Table 18: Deviation from the mean valuation and the average distance of the participating valuers' office from the land being valued

Deviation from the mean valuation	***Average Distance (miles) (n=18, $\bar{x}$= 19)***	***Range Distance (miles)***
Valued within +/- 5% of mean valuation (n=4)	25	15-36
Valued between +/- 5% and +/- 10% of mean valuation (n=10)	13	4-15
Valued between +/- 10% and +/- 20% of mean valuation (n=4)	27	15-45

Table 18 illustrates however that, on average, those valuers with a larger difference from the mean valuation were located further from the subject land, albeit by only two miles, than the other participating valuers. Of the four valuers in the +/-10% to +/-20% category two were based 45 and 32 miles away from the subject land. The 45 miles away participant was the furthest away participant from the 18 valuers, with the 32 miles participant third furthest away. There is limited indications here that distance or geographical familiarity with an area could be a factor contributing to valuation variation amongst this group of participating valuers which is worthy of further investigation.

6.10 Relationship to the time taken for each valuer to inspect the land

Table 19 shows distribution of the valuations around the mean valuation but also shows those distributions against the time the participants took in inspecting the land**.** The full data set is presented in Table 69 in Appendix 3, page 259.

Table 19: Deviation from the mean valuation and the time taken to inspect the land being valued

	Time taken to inspect the site (minutes) (n=18, $\bar{x}$ = 64 minutes)			
Deviation from the mean valuation	***0-60***	***61-120***	***121+***	***Total***
Within +/- 5% of mean valuation (n=4)	1	3	0	4
Within +/-5% and +/- 10% of mean valuation (n=10)	3	7	0	10
Within +/-10% and +/ 20% of the mean valuation (n=4)	4	0	0	4

Table 19 illustrates that 100% (4/4) of those valuers who produced valuations indicating excessive valuation variation all spent one hour or less inspecting the site compared with 25% (1/4) for the +/-5% group and 30% (3/10) of the +/-5% to +/-10% group indicating that those spending less time inspecting the site came from the excessive valuation group.

Table 20: Deviation from the mean valuation and the average time taken to inspect the land being valued

Deviation from the mean valuation	***Average Time expected to be spent on site (minutes) (n=18, $\bar{x}$= 64)***	***Range Time taken to inspect the site (minutes)***
Valued within +/- 5% of mean valuation (n=4)	61	45-70
Valued between +/- 5% and +/- 10% of mean valuation (n=10)	68	50-85
Valued between +/- 10% and +/- 20% of mean valuation (n=4)	56	45-60

Table 20 looks at the averages for each valuer group and further indicates that those valuers in whose valuations were in excess of +/-10% of the mean valuation tended to spend less time, on average, than the other groups inspecting the land being 5 minutes less than the average for those valuers who valued to within +/-5% of the mean valuation and 8 minutes less than the overall average for the group. It would therefore appear that there could be some relationship between the participating valuers distance from the mean valuation and the time they spent inspecting the land. This seems to be the case despite the fact that those valuers in excess of +/-10% of the mean valuation were more geographically distant from the land.

6.11 Relationship to the time taken to carry out the comparable exercise

Table 21 shows the same distribution of valuations from the mean valuation but also shows those distributions against the time the participants took to complete the exercise. The full data set is presented in Table 70 in Appendix 3, page 260.

Table 21: Deviation from the mean valuation and the time taken to complete the valuation exercise

	Time taken to complete the valuation exercise (minutes) (n=18, $\bar{x}$= 70 minutes)			
Deviation from the mean valuation	***0-59***	***60-99***	***100+***	***Total***
Within +/- 5% of mean valuation (n=4)	0	4	0	4
Within +/-5% to +/-10% of mean valuation (n=10)	2	6	2	10
Within +/-10% to +/ 20% of the mean valuation (n=4)	2	2	0	4

Table 21 illustrates that 50% (2/4) of the participating valuers from the +/-10% to +/-20% group spent less than one hour on the valuation exercise whilst 0% (0/4) of the +/-5% group fell into the same category and 80% (8/10) of the +/-5% to +/-10% valuer group spent over an hour on the valuation exercise. There is some evidence here that there could be some

relationship between the time spent on the valuation exercise and the participant's difference from the mean valuation.

Table 22: Deviation from the mean valuation and the average time taken to complete the valuation exercise

Deviation from the mean valuation	***Average Time spent on exercise (minutes) (n=18, $\bar{x}$= 70)***	***Range Time spent on the valuation exercise (minutes)***
Valued within +/- 5% of mean valuation (n=4)	85	75-95
Valued between +/- 5% and +/- 10% of mean valuation (n=10)	71	30-110
Valued between +/- 10% and +/- 20% of mean valuation (n=4)	53	40-75

Table 22 illustrates, by looking at the overall averages for the three groups of valuers, that those participating valuers whose valuations were in excess of +/-10% of the mean valuation, and therefore outside the margin of error bracket, tended to spend less time doing the valuation exercise by some margin being 17 minutes less than the average and 32 minutes less than those valuers who were able to value within +/-5% of the mean valuation. There is therefore some indication here that time spent on the valuation exercise could be a factor contributing to valuation variation amongst this group of participating valuers.

6.12 Relationship to the number of comparables made available

The design of the valuation exercise provided circumstances where a participating valuer was randomly presented with either 4, 7 or 12 pieces of comparable evidence. Table 23 below illustrates the distribution of this evidence against the differences from the mean valuations. Overall the data does not seem to suggest that the numbers of pieces of evidence had a role in explaining the differences from the mean valuation.

Table 23: Deviation from the mean valuation and the number comparables provided to the participating valuers

Deviation from the mean valuation	***Presented with 4 comparables***	***Presented with 7 comparables***	***Presented with 12 comparables***
Valued within +/- 5% of mean valuation	0	3	1
Valued between +/- 5% and +/- 10% of mean valuation	3	5	2
Valued between +/- 10% and +/- 20% of mean valuation	0	4	0

However two out of four of the valuers who were in excess of +/-10% of the mean valuation were presented with seven pieces of comparable evidence that were deliberately manipulated to be ambiguous or inconsistent as explained in Table 6, page 99. Valuer 12 was presented with ambiguous comparable evidence. Three of the seven pieces of comparable evidence differed from the evidence received by other participating valuers in the following ways:

Comparable 1 – for the rest of the participating valuers this land was listed as being sold whereas for valuer 12 the land was For Sale supplemented with a guide price
Comparable 2 - for the rest of the participating valuers this land was listed as being sold whereas for valuer 12 the land was For Sale supplemented with a guide price

Valuer 13 was presented with comparable evidence that was inconsistent. The sale prices for the comparable evidence were manipulated to provide a more inconsistent picture of the values of agricultural land and is illustrated in Table 24.

Table 24 – Inconsistent valuation sale data presented to valuer 13

	Non-manipulated value (shown to other valuers) (£)	Value per acre (£)	Manipulated value (shown to valuer 13) (£)	Value per acre (£)
Comparable 1	320,000	8,000	260,000	6,500
Comparable 2	1,250,000	10,080	1,500,000	12,096
Comparable 3	260,000	9,629	400,000	14,814
Comparable 6	525,000	6,848	385,000	5,022
Comparable 7	600,000	8,000	600,000	8,000
Comparable 9	1,370,000	7,405	1,700,000	9,189
Comparable 12	6,000 per acre	6,000	6,000 per acre	6,000

A number of observations can be made from this. It maybe coincidental but two of the four valuers who produced valuations showing excessive valuation variation were the two valuers who received comparable evidence that had been manipulated and both these two valuers were from the 11+ years of experience category. This could be indicative of a relationship between the participating valuers' difference from the mean valuation and the nature of the comparable evidence presented to them rather than their experience or time spent on the inspection or exercise and is something that merits further examination.

6.13 Summary of Findings

These results provide some indication that normal and excessive valuation variation does exist in the valuation of agricultural land in selected study area which was involved participants from England and Wales. The results also indicate that this could be arising from or there may be some relationship between the difference from the valuation figure and the mean valuation and firstly, the amount of time spent inspecting the land, secondly the amount of time spent on the exercise and thirdly the nature of the comparable evidence provided. The results also provide no indication that the more experienced valuer was able to produce a valuation with less, or no, excessive valuation variation than the inexperienced valuer.

The literature to date has examined a number of areas that are thought to be contributing to inaccuracy or valuation variation. Bretton & Wyatt (2001) and Kinnard et al. (1997) focussed on external party pressure and client influence respectively and found evidence to support

their hypothesis that these factors did influence valuation figures. Babawale (2008) found in the Nigerian valuation profession that the causes of inaccuracy could be categorised into four main groups of factors, these being client pressure, the characteristics of the property, the valuation environment, the valuation process and the individual characteristics of the valuer or their member firm. None of these studies have really examined the influence of the comparable evidence or the nature of the evidence being used which is an area that this thesis ought now to explore.

6.14 The Valuation Process - Selecting and using comparable evidence to determine the valuation figure

Once the participating valuers had inspected the land they were provided with the comparable evidence and taken to a room at the University and asked to value the land using nothing but the comparable evidence provided. They were provided with a dictation machine and asked to dictate their observations and their thinking, or mental process, onto the tape as they examined the comparable evidence and came to a view as to what their opinion of market value of the land was. This was carried out in an attempt to capture the mental process that the participating valuers went through in arriving at their opinions of value. Although 18 valuers completed the valuation exercise only **17** transcripts were suitable for use in this analysis. The transcript for valuer 18 only part recorded and was not used. The remainder of this chapter will report and discuss the results of that analysis.

6.15 The comparable valuation process

Analysis of the transcripts from this part of the experiment revealed that the participating valuers tended to perform a six stage comparable valuation process which was as follows:

i. Stage 1 – Inspect the Land being Valued **(Inspect)**
ii. Stage 2 – Evaluation of the land being valued **(Evaluate)**
iii. Stage 3 – Evaluation of the comparable evidence **(Evaluate)**
iv. Stage 4 – Select or reject evidence for analysis **(Reject)**
v. Stage 5 – Adjustment of selected comparable evidence, or average out the selected comparables or place selected comparables into a range **(Adjust, Average or Place)**
vi. Stage 6 – Value the land in question **(Value)**

This chapter will now report on each of these identified stages.

Stage 1 - Inspect the Land being valued

This was the first step that all participating valuers undertook. The aim of this stage appeared to be to identify the attributes of the land being valued that contributed to its value and in addition identify the attributes that would form the criteria for comparing the land being valued with the comparable evidence.

Stage 2 – Evaluation of the land being valued

The next stage saw the participating valuers engaged in evaluating the land they had inspected through the identification of attributes about the land. Table 25 identifies and defines eight attributes and the regularity of their use by the participating valuers in evaluating the land being valued.

Table 25: Attributes identified and used to evaluate the land being valued

Attribute Identified by the valuer to evaluate the land being valued	***Participating valuers identifying and using this attribute to evaluate the evidence (n=17)***
Plot Size (The area of land comprising the comparable evidence is too dissimilar)	9
Land Type/Quality (The quality and/or type of land contained within the comparable evidence is too dissimilar)	14
Designations (The environmental restrictions placed on the land comprising the comparable evidence make it too dissimilar)	11
Development Potential (There is planning or planning potential in the comparable evidence)	1
Location (The comparable evidence has a different location that makes it less useful)	7
Services (The availability of services on the comparable evidence e.g. water, irrigation is different)	11
Obligations	15

(Overage provisions, rights of way are affecting the comparable evidence)	
Access (Better or worse access arrangements are evident at the land comprising the comparable evidence)	13

Stage 3 - Evaluation of the comparable evidence

In stage 3 the participating valuers then tended to turn their attention to the comparable evidence and carried out a similar evaluation process to that described in stage 2. Again this evaluation was through the identification and use of attributes about the comparable evidence. Table 26 identifies 12 attributes and the regularity of their use by the participating valuers identified to evaluate the usefulness of the comparable evidence in determining the value of the land being valued. This seems to have been undertaken in preparation to select or reject the comparable evidence for analysis in a form of initial sifting of the comparable evidence carried out by the participating valuers.

Table 26: Attributes identified and used to evaluate the comparable evidence at the initial sifting stage of the valuation process

Attribute Identified by the valuer to reject a piece of evidence	***Participating valuers identifying and using this attribute to evaluate the evidence (n=17)***
Sale Price (Comparable evidence not an actual sale price)	8
Distance (Comparable evidence is too far from the land being valued)	13
Plot Size (The area of land comprising the comparable evidence is too dissimilar)	15
Land Type/Quality (The quality and/or type of land contained within the comparable evidence is too dissimilar)	12
Designations (The environmental restrictions placed on the land comprising the comparable evidence make it too dissimilar)	15
Recency (The comparable evidence is too out of date to be useful)	8
Development Potential (There is planning or planning potential in the comparable evidence)	5

Location (The comparable evidence has a different location that makes it less useful)	7
Services (The availability of services on the comparable evidence e.g. water, irrigation is different)	16
Method of Sale (The comparable evidence has been sold via a different method, e.g. Private Treaty, Auction, Tender)	12
Obligations (Overage provisions, rights of way are affecting the comparable evidence)	14
Access (Better or worse access arrangements are evident at the land comprising the comparable evidence)	17

Stage 4 - Select or reject evidence for analysis

In this stage the participating valuers all (n=17) proceeded to reject certain pieces of comparable evidence on the basis of attributes identified by them and then used the selected evidence to support their final valuation figure. Table 27 sets out the eight identified attributes, their definition and the regularity of their employment to reject certain pieces of comparable evidence.

Table 27: Attributes identified and used for rejecting comparable evidence at the initial sifting stage of the valuation process

Attribute Identified by the valuer to reject a piece of evidence	***Number of participating valuers identifying and using this attribute to reject evidence (n=17)***
Sale Price (Comparable evidence not an actual sale price)	7
Distance (Comparable evidence is too far from the land being valued)	11
Plot Size (The area of land comprising the comparable evidence is too dissimilar)	2
Land Type/Quality (The quality and/or type of land contained within the comparable evidence is too dissimilar)	8

Designations (The environmental restrictions placed on the land comprising the comparable evidence make it too dissimilar)	1
Poor Information (The comparable evidence lacks sufficient information to make it useful)	4
Obligations (Overage provisions, rights of way are affecting the comparable evidence)	2
Access (Better or worse access arrangements are evident at the land comprising the comparable evidence)	1

Stage 5 - Adjustment of selected comparable evidence, or average out the selected comparables or place selected comparables into a range

Once participating valuers had selected their comparable evidence then a total of four techniques, or decision rules, were identified that they employed to analyse the selected evidence and determine the valuation figure. Table 28 ists those four techniques and the frequency of their use by the participating valuers.

Table 28: Identification of the analytical techniques used in utilising the selected comparable evidence to arrive at opinion of value

Technique identified and employed to analyse evidence and arrive at opinion of value	***Participating Valuers (n=17)***	
	No.	**%**
Make adjustments to the selected evidence on the basis of identified attributes	8	47
Place the value within a range supported by the selected evidence	3	18
Take an average of the selected evidence	5	29
Not clear	1	6

Table 28 identifies that many of participating valuers, 47% (8/17), adopted a technique whereby they made adjustments to the selected evidence on the basis of identified attributes. These adjusting attributes and the frequency of their use are identified in Table 29.

Table 29: Attributes used to the adjust comparable evidence

Identified Adjusting Attribute	***Participating Valuers (n=17)***
Plot Size	1
Access	1
Land Type/Quality	7
Designations	1
Obligations	2
Services	2
Location	1

Stage 6 – Value the land in question

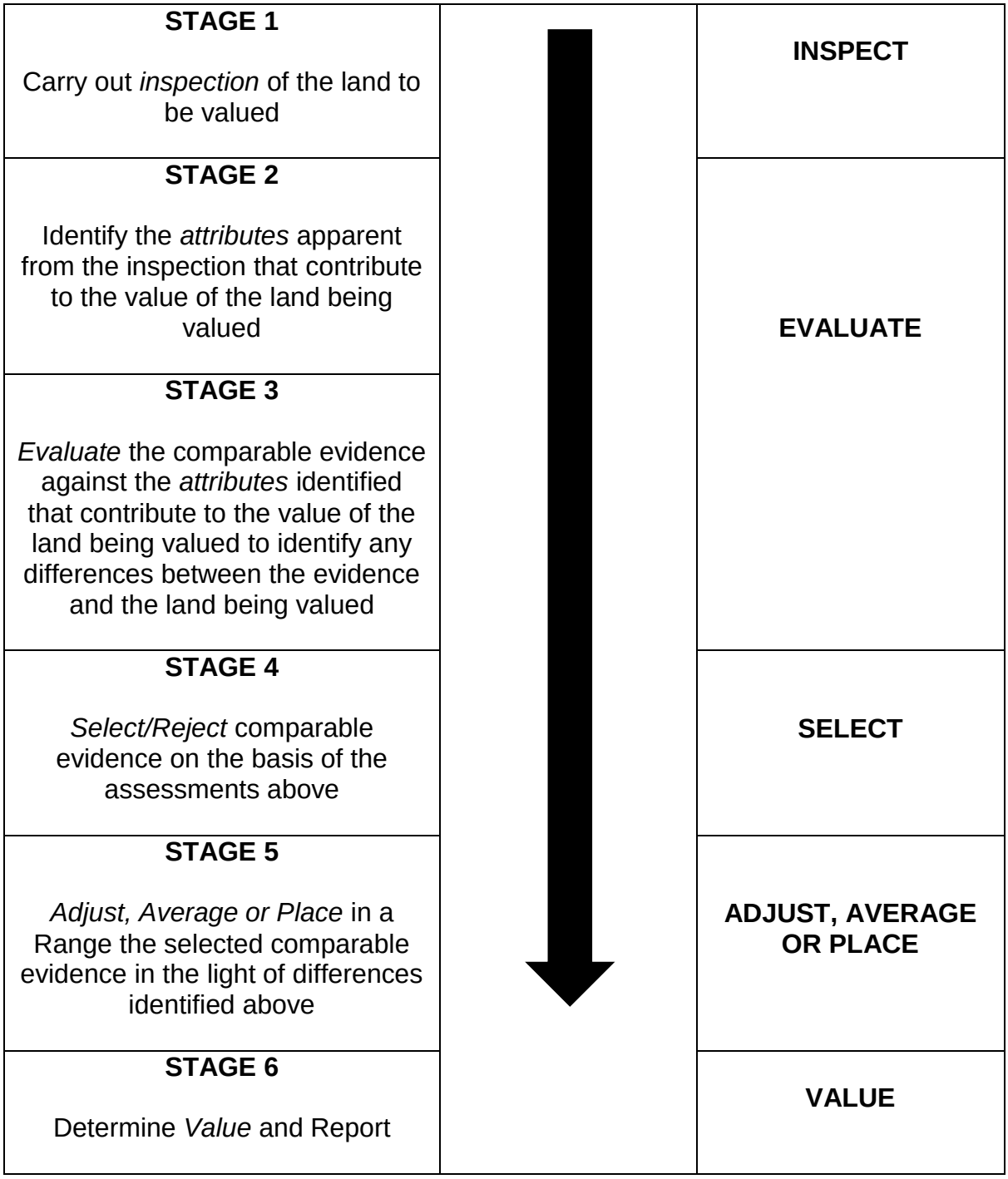
The final step was to determine the valuation figure.

6.16 Discussion

6.16.1 Identifying the comparable valuation process from the live valuation experiment

The six stage comparable valuation process, as it relates to the valuation of agricultural land, has already being articulated within section 6.15 but it can now be more formally conceptualised into a model which is represented within Figure 20.

Figure 20 – Conceptual model of the comparable valuation process when valuing agricultural land



6.16.2 Developing the comparable valuation template (agricultural land) for practice

The literature review illustrated the Market Data Grid that is typically used in the USA when conducting comparable valuation tasks and it also highlighted the importance of identifying the appropriate elements of comparison that would form the basis of the valuation task. This exercise has highlighted what some of those elements of comparison are when it comes to

the valuation of agricultural land. Table 30 takes the Market Data Grid (Appraisal Institute, 2001) and replaces the elements of comparison with those attributes identified within this study. It is felt that this, at this stage, represents too simple a template within which comparable valuations could be conducted for agricultural land as represented by the procedure identified in Figure 20 but forms an initial basis from which a more comprehensive comparable valuation template could be developed.

Table 30 – Market data grid for the valuation of agricultural land in the UK

Element of Comparison	Subject Property	Comp Sale 1	Comp Sale 2	Comp Sale 3
Sale Price				
Distance				
Plot Size				
Land Type/Quality				
Designations				
Poor Information				
Obligations				
Access				
Recency				
Development Potential				
Location				
Services				
Method				

6.16.3 Preferential Choice Problems and the Adaptive Decision Making Template

All participants in this Live Valuation Exercise were presented with either 4, 7 or 12 pieces of comparable evidence, or alternatives. From that they had to make a choice decision as to which alternatives to select, or reject, in order to come to an opinion of market value. The analysis of the transcripts from this comparable valuation exercise illustrates that the participating valuers identified attributes about the land and the comparable evidence to help them to make that choice. This has been illustrated through the discussion above. Firstly, following their inspection of the land, they identified the attributes that contributed to the value of that land and those attributes are set out in Table 25. Secondly they identified the attributes that contributed to the value of the land contained within the comparable evidence and those attributes are set out in Table 26. Thirdly they then identified attributes that they would use to reject/select pieces of comparable evidence and those attributes are set out in Table 27 and finally they identified attributes that they would use to adjust the comparable

evidence to account for the similarities and differences with the land being valued, these attributes are set out in Table 29.

From this twelve attributes emerge from the tables as important decision making attributes in the comparable valuation process. Table 27 illustrates that a total of eight attributes were identified and were used by the 18 participating valuers to reject evidence on. There were three attributes that emerge as the more important attributes, they being:

i. Sale Price which was used by 7/17 participating valuers to reject evidence
ii. Distance which was used by 11/17 participating valuers to reject evidence
iii. Land Type/Quality used by 8/17 participating valuers to reject evidence

Seemingly less important variables were plot size (2/17), Designations (1/17), Poor Information (4/17), Obligations (2/17) and Access (1/17). It would therefore appear that the three attributes of Sale Price, Distance and Land Type/Quality play an important role in the rejection/selection of evidence, these three rejecting attributes also appear as important within the list of evaluating attributes.

Each participant was engaged in making a preferential choice by acquiring and processing information about each alternative (in the form of attributes), being each piece of comparable evidence, and then evaluating those alternatives based upon the attributes of those alternatives. This supports the hypothesis conceptualised within this thesis that the way that the professional property valuer deals with this choice decision is to conceptualise them as a preferential choice problem where the decision maker has a number of alternatives to choose from and that no one alternative stands out as being the best, the decision maker has to make a preferential choice decision.

The review of literature identified that in such cases decision makers have at their disposal a range of decision making strategies, referred to as heuristics, to help them simplify the decision and make that choice. This study will now report on the choice making strategies that have been identified from an analysis of the transcripts provided by the participating valuers and then it will look to see if those choice making strategies changed, or were different, in situations when the valuation task or the valuation environment presented to the participating valuers was different to ascertain firstly the choice making strategies employed and secondly whether those choice making strategies wee adapted, or changed, as the valuation task become more complex or the valuation environment changed. If the

participant valuers were to become adaptive decision makers, in accordance with the Adaptive Decision Making Template, then as the valuation task became more complex or the valuation environment changed then so would their selection of choice making strategy. The different valuation scenarios presented to each valuer has been discussed at length already as was illustrated in Table 10 which is reproduced below for the convenience of the reader.

Table 31 – Valuation scenarios presented to valuer participants

Valuer Number	*Valuation Scenario Issued to Participating Valuer*
1, 2, 3 (Complexity)	presented with 4 pieces of comparable evidence being C1, C2, C6, C9
4,5,6,21 (Complexity)	presented with 7 pieces of comparable evidence being C1, C2, C3, C6, C7, C9, C12
7, 8, 9 (Complexity)	presented with 12 pieces of evidence being C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12
10, 11 (Geographical Familiarity)	Presented with 7 pieces of evidence but were "non-locals" so they were all unfamiliar with the geographical area being C1, C2, C3, C6, C7, C9, C12
12 (Ambiguous)	presented with 7 pieces of comparable evidence but the evidence was ambiguous being C1, C2, C3, C6, C7, C9, C12. This was achieved by presenting comparable evidence more reliant on asking prices rather than actual sales evidence
13 (Inconsistent)	presented with 7 pieces of comparable evidence but the evidence was inconsistent being C1, C2, C3, C6, C7, C9, C12. This was achieved by presenting comparable evidence that was inconsistent, over a larger range of values.
14, 15 (Irreversibility, Significance, Accountability)	presented with 7 pieces of comparable evidence but the purpose for which the valuation was needed changed from secured lending to tax planning and a pre-marketing appraisal being C1, C2, C3, C6, C7, C9, C12
17, 18 (Knowledge)	were presented with 7 pieces of comparable evidence but with varying levels of valuation experience being C1, C2, C3, C6, C7, C9, C12

6.16.4 Task Complexity

Participant valuers 1, 2 and 3 were presented with a valuation task that contained four pieces of comparable evidence, or alternatives, to choose from. The transcripts from the participants illustrate that all three of these participating valuers proceeded by examining and considering all four comparables prior to making a choice as to which comparables to use in determining their valuation figure. Analysis of the transcripts illustrates that these three participating valuers then used the following decision rules to make their choices as to which comparable evidence, or alternatives, to employ, see Table 32.

Table 32 – Decision Rules from Valuers 1, 2 & 3

Valuer 1	Rejected 2/4 alternatives that were not compatible on the most important attributes, those being SALE PRICE, DISTANCE and LAND QUALITY
Valuer 2	Rejected 2/4 alternatives but not clear upon what basis
Valuer 3	Rejected 2/4 alternatives that were not compatible on the most important attributes, those being DISTANCE and LAND QUALITY

So the choice making strategy of each of these decision makers was to reject alternatives on the basis of what they perceived to be their incompatibility on TWO or THREE of what they perceived to be the most important attributes having initially reviewed all the alternatives presented to them. This illustrates an example of a simplification mechanism, or heuristic, in action to assist the choice maker in making their decision and conforms to the principles established within descriptive decision making theory and the application of heuristics in decision making. This concept of rejecting options on the basis of what the participants perceive to be the most important attribute is akin to something like the Lexiographic decision making strategy. That rule argued that the decision maker make choices, having reviewed all the alternatives, by rejecting alternatives that do not meet what the decision maker perceives to be the most important attribute. The difference here is that two or three attributes are being identified as the most important attribute.

Valuers 4, 5, 6 and 21 were presented with seven alternatives and so represented an increased level of complexity in the choice decision. If the participating valuers are to be described as adaptive decision makers then it would be expected that the decision making strategies of the participating valuers could change with this increased level of complexity in the valuation task. The decision making strategies that emerged from an analysis of the transcripts are provided in Table 33.

Table 33 – Decision Rules from Valuers 4, 5, 6 & 21

Valuer 4	Rejected 3/7 alternatives that were not compatible on the most important attributes, those being DISTANCE, LAND QUALITY and PLOT SIZE
Valuer 5	Rejected 4/7 alternatives that were not compatible on the most important attributes, those being DISTANCE, LAND QUALITY, PLOT SIZE, SALE PRICE and ERRONEOUS DATA
Valuer 6	Rejected 2/7 alternatives that were not compatible on the most important attributes but it was unclear as to what they were
Valuer 21	Rejected 3/7 comparables that were not compatible on the most important attributes, those being DISTANCE and SALE PRICE

So the decision making strategy of each of these decision makers was to similarly reject alternatives on the basis of what they perceived to be their incompatibility on the most important THREE, SIX and TWO attributes having again initially reviewed all the alternatives presented to them. This illustrates again an example of a simplification mechanism, or heuristic, in action to assist the choice maker in making their decision and again conforms to the principles established within descriptive decision making theory. The design of the exercise was to see if the selection of decision making strategy would adapt, or change, as the complexity of the task increased as this was what was conceptualised within the Adaptive Decision Making Template. In this case comparing the two valuation scenarios the decision making strategies seem very similar although those participating valuers being presented with seven alternatives do appear to be needing to utilise a higher number of attributes in order to reject evidence than those participating valuers presented with four alternative. These participant valuers could be using a slightly more information intensive decision making strategy to those presented with four pieces of evidence.

Evidence of this process of rejecting alternatives on the basis of the most important attributes are illustrated by some of the comments in the transcript of participant valuer 4:

"Firstly the exercise is to sift through the seven comparables provided and exclude those not representative of this land for the following reasons. The following comparables were excluded at the start of the process because I considered them not to be representative"

Also the following comments from participant valuer 21:

"…we have discounted C9 because it is too far away, we have discounted C7 because it is not a sold price. We have discounted C6 because it is again a different part of Shropshire…"

In an attempt to raise the level of complexity within the valuation task further participant valuers 7, 8 and 9 were presented with twelve alternatives. The decision making strategies that emerge from an analysis of the transcripts are provided in Table 34.

Table 34 – Decision Rules from Valuers 7, 8 & 9

Valuer 7	Rejected 5/12 alternatives that were not compatible on the most important attributes, those being DISTANCE, and ERRONEOUS DATA
Valuer 8	Rejected 4/12 alternatives that were not compatible on the most important attributes, that being DISTANCE
Valuer 9	Rejected 6/12 alternatives that were not compatible on the most important attributes, those being SALE PRICE, ACCESS and ERRONEOUS DATA

Once again the decision making strategy of each of these decision makers was to reject alternatives on the basis of what they perceived to be their incompatibility on the most important TWO, ONE and THREE attributes. This illustrates again an example of a simplification mechanism, or heuristic, in action to assist the choice maker in making their decision and again conforms to the principles established within descriptive decision making theory.

In this case comparing the three valuation scenarios the decision making strategies seem very similar although those participating valuers being presented with twelve alternatives do appear to be needing to utilise fewer attributes in order to reject evidence than those participating valuers presented with seven alternatives. Analysis of the transcripts does appear to suggest that there was more of a willingness on the part of those participating valuers with twelve alternatives to reject evidence more quickly. This is evidenced by some comments from participating valuer 7:

"First of all C4 is rejected because that is too far away, C7 because it is too far away, C8 is too far away, C9 185 acres is too far away and so I have discounted that. Land at Stone 289 acres discounted that due to distance"

Similar comments in the transcripts can be found from participant valuer 8 who said:

“C4 in my view is too far out of the area and should be disregarded”
“C8 has been disregarded because in my opinion it is too far away from the subject to be comparable….”
“C9 – in my view it is too far out of area and should therefore be discounted”
“…in my view C12 is too far out of area and so should be discounted”

Similar comments can also be found in the transcript of valuer 9 who said:

“…but is not sold so I would in this instance discount the comparable”
“…I am going to discount this one as well just concentrating on sold prices…”
“…and again because it is not sold I’m going to discount this one…”
“ I’ve immediately discounted this one because it is still on the market and therefore not sales evidence”
“C12 – I’ve automatically discounted this one, its land at Aston by Stone as its still on the market and I can imagine it’s going to be on the market a while…….”

In addition to task complexity decision making theory also suggests that changes to the valuation environment could also endear a change in decision making strategy. To this end participant valuers 10 and 11 were presented with seven alternatives but these participants were purposively chosen to take part as they were not local to the geographical area and so were unfamiliar with the location in which the valuation was being conducted. The decision making strategies that emerge from an analysis of the transcripts are provided in Table 35.

Table 35 – Decision Rules from Valuers 10 & 11

Valuer 10	Rejected 6/7 alternatives that were not compatible on the most important attribute, that being SALE PRICE
Valuer 11	Rejected 4/7 alternatives that were not compatible on the most important attributes, those being SALE PRICE, LAND QUALITY, OBLIGATIONS, ERRONEOUS DATA

The decision making strategy of each of these decision makers was to reject alternatives on the basis of what they perceived to be their incompatibility on the most important ONE and FOUR attributes. This illustrates another example of a simplification mechanism, or heuristic, in action to assist the choice maker in making their decision and again conforms to the principles established within descriptive decision making theory. There appears little evidence to suggest that being geographically unfamiliar with the location has resulted in the decision maker adopting a different decision making strategy. Analysis of the transcript

from participant valuer 10 does appear to support the employment of these decision strategies:

"….C1 is an actual result, C2, we don't know the sale price so we cannot rely on that. C3 we don't know the sale price, C6 again offered by informal tender and stated as expected so we cannot rely on it. C7 not sold, C9 not sold. C12 stated by informal tender but 3 months on the market assumed that it has not been sold"

In another attempt to assess if changes in the environment within which the valuation being conducted makes decision makers adopt alternative strategies participating valuers 12 and 13 were presented with seven alternatives but Valuer 12 had comparable evidence that had been deliberately manipulated to present an ambiguous picture of the market for agricultural land. Valuer 13 had comparable evidence that had been deliberately manipulated to present an inconsistent picture of the market for agricultural land. The decision making strategies that emerge from an analysis of the transcripts are provided in Table 36.

Table 36 – Decision Rules from Valuers 12 & 13

Valuer 12	Rejected 5/7 alternatives that were not compatible on the most important attribute, that being SALE PRICE
Valuer 13	Rejected 3/7 alternatives that were not compatible on the most important attributes, those being DISTANCE and LAND QUALITY

The decision making strategy of each of these decision makers was to reject alternatives on the basis of what they perceived to be their incompatibility on the most important ONE and TWO attributes. The ambiguous nature of the alternatives was reflected in some of the discussion within the transcripts. The following are comment is taken from participant valuer 7:

"…but I would not be comfortable in using that as a comparable certainly not at the £14,000 level because that is a special premium but it's interesting how it made over £10,000 so it's not totally out of the question"

However there appears little evidence to support any changes to the selection of decision making strategy to these changes in the valuation environment.

Valuers 14 and 15 were presented with seven alternatives but the valuation environment had been deliberately manipulated to reflect a valuation task that was either more or less significant. So valuer 14 was asked to value the agricultural land for the purpose of secured lending whilst valuer 15 was asked to value the agricultural land for the purpose of tax planning. A secured lending valuation is used by lenders to make a decision as to whether the property being valued is suitable security for a loan and the property acts as security against the loan should the borrower default on any agreed repayments. A tax valuation is generally provided for tax planning purposes in order for a client to plan and take steps to mitigate the impact of taxation on their estate upon their death. In this context any valuation provided for secured lending is irreversible, it cannot be revisited. Whereas a tax valuation is part of an ongoing process of planning and monitoring and can be amended and changed over time and so could be construed as being a little less significant although still important valuation task. The decision making strategies that emerge from an analysis of the transcripts are provided in Table 37.

Table 37 – Decision Rules from Valuers 14 & 15

Valuer 14	Rejected 2/7 alternatives that were not compatible on the most important attributes, these being DISTANCE, LAND QUALITY, OBLIGATIONS and DESIGNATIONS
Valuer 15	Rejected 1/7 alternatives that were not compatible on the most important attributes, those being DISTANCE and LAND QUALITY

The decision making strategy of each of these decision makers was to reject alternatives on the basis of what they perceived to be their incompatibility on the most important ONE and TWO attributes again illustrating very similar decision strategies to the other environmental factors examined in this study.

Valuers 17 and 18 were presented with seven alternatives but Valuer 17 represented a participant with very little valuation experience and participant valuer 18 one with wide ranging valuation experience. The decision making strategies that emerge from an analysis of the transcripts are provided in Table 38.

Table 38 – Decision Rules from Valuers 17 & 18

Valuer 17	Incomplete transcript – unable to use
Valuer 18	Rejected 1/7 alternatives that were not compatible on the most important attribute, this being DISTANCE

The decision making strategy of each of these decision makers was to similarly reject alternatives on the basis of what they perceived to be their incompatibility on the most important attribute.

These results have provided some indication as to how the participating valuers dealt with the preferential choice problem that they had. Each of them had a number of pieces of evidence to choose from, or alternatives. In all cases they chose to make that selection, or reject some of the evidence, on the basis of the attributes identified and used by them. This is in accordance with the way that decision makers deal with preferential choice problems.

All of the seventeen participating valuers (100%), who provided useable transcripts, proceeded in the initial stages of the valuation process to reject certain pieces of comparable evidence on the basis of certain attributes. For some participants (4 no.) alternatives were rejected on the basis of one attribute (DISTANCE or SALE PRICE). This was indicative of a more lexiographic decision making rule where the decision maker identified the most important attribute and then proceeded to reject all the other comparable evidence that did not compare favourably on that one attribute. The remaining participants (13 no.) rejected alternatives on the basis of between two and five attributes. Table 39 illustrates that 52% of the participating valuers were rejecting alternatives on the basis of two attributes or less and 71% were rejecting alternatives on the basis of three attributes or less, bearing in mind that for 2/17 participating valuers it was not clear from the transcripts the attributes they used.

Table 39 –Number of attributes used to reject alternatives

Number of Attributes Used to Reject Alternative	Number of Participating Valuers
1	4
2	5
3	3
4	2
5	1
Unclear	2

The review of literature (RICS, 2011, RICS 2012) illustrated the wide ranging attributes that contribute to the value of agricultural land and were illustrated in Figures 6 and 7. To that end the participating valuers reported in this study were choosing to reject alternatives due to their incompatibility on a smaller number of attributes by comparison. Some participating valuers (13 no.) rejected comparable evidence that did not compare favourably on between only two and five attributes. This was indicative of an elimination by aspect decision making strategy where the participants rejected evidence on the basis of its incompatibility on the most important attribute, then proceeding to reject comparable evidence that was not compatible on the second most important attribute, and then the third most important attribute so on.

This live valuation exercise, albeit on the basis of a small purposive sample, has therefore been able to identify the existence of heuristic decision making within the comparable valuation process within the choice decision over the selection of which comparable evidence to select/reject when determining opinions of value and that is in accordance with the literature. The live valuation exercise has however found limited evidence of decision makers being adaptive, or change, in their selection of decision making strategy in the selection of comparable evidence when either the complexity of the task is increased or the valuation environment has changed. However with such a small sample such changes in behaviour will always have been difficult to detect if they were there.

6.17 Phase 3 - Summary of Findings – The Live Valuation Exercise

Phase 3 – The Live Valuation Exercise can claim a number of findings which will now be summarised:

1. Excessive valuation variation was seen in the 18 completed valuations with opinions of market value for the 72 acres of agricultural land ranging from £500,000 to £722,500, a mean valuation figure of £614,000 and a mean average difference from the mean valuation figure of 7.8% being within the recognised +/-10% range established in the courts. However the 18 valuation figures ranged from -18.6% to +17.6% either side of the mean valuation figure. 22% of the respondents valuation figures fell outside the +/-10% margin of error bracket.
2. That there is some indication that there may be some relationship between the extent of the difference from the mean valuation figure for each participating valuer and the amount of time they spent on the valuation exercise, the amount of time they spent inspecting the land and the nature of the comparable evidence provided to them. A larger sample would be needed to carry out statistical tests to ascertain if any actual relationship existed. There was no evidence of any relationship between the difference from the mean valuation figure for each participating valuer and the extent of their valuation experience.
3. A comparable valuation model emerged from analysis of the transcripts which articulated a six stage valuation process comprising INSPECT, EVALUATE, SELECT, ADJUST AVERAGE OR PLACE and VALUE.
4. The identification of 12 relevant and important attributes in the selection and use of comparable evidence in the determination of the value of agricultural land. These being SALE PRICE, DISTANCE, PLOT SIZE, LAND TYPE/QUALITY, DESIGNATIONS, RECENCY, DEVELOPMENT POTENTIAL, LOCATION, SERVICES, METHOD OF SALE, OBLIGATIONS, ACCESS.
5. In having selected comparable evidence 47% of participants adjusted that evidence to arrive at their opinion of value, 29% of participants took an average of the selected evidence to arrive at their opinion of value and 18% identified their opinion of market value by placing the land being valued in a range.
6. Evidence to suggest the use of simplification mechanisms, or heuristics, in the decision over which comparable evidence to select and use in the determination of the participant's valuation figure. In a number of cases comparable evidence was

being rejected on the basis of its incompatibility on the most important attribute and so being Lexiographic in nature. In a number of cases comparable evidence was being rejected on the basis of its incompatibility on the most important attribute, then upon it incompatibility with the second most important attribute and then the third most important attribute and so on and so more akin to the Elimination by Aspect rule.

CHAPTER 7 – PHASE 3 EXTENDED - THE DESK BASED VALUATION EXERCISE

The results of the Phase 3 – the Live Valuation Exercise, based on 18 valuation returns and 17 participating valuer transcripts, found that valuation variation in the valuation of agricultural land in the UK did exist in that sample and quantified the extent of that valuation variation. In addition, the Live Valuation Exercise identified a number of potential factors that could have been contributing to the identified deviation from the mean valuation. These were:

i. The valuation experience of the valuer
ii. The time spent inspecting the land
iii. The time spent analysing the comparable evidence
iv. The nature of the comparable evidence available (normal or inconsistent)

Due to the small ample no statistical inferences could be drawn from the results of the Live Valuation Exercise and so these potential contributing factors now merit further examination through an enlarged valuation exercise in an attempt to secure a larger data set that would facilitate statistical testing to take place.

The Live Valuation Exercise also identified how the valuers of agricultural land evaluated, selected or rejected and then used the comparable evidence to determine their valuation figure. This resulted in the initial development of a comparable valuation template applicable to the valuation of agricultural land in the UK but this also needs further development through the collection of more data.

Therefore this extended Phase 3 sought to extend this study to a wider range of respondents through the use of a desk based valuation exercise that engaged a larger sample of agricultural valuers. The objectives of this extended Phase 3 of the study were to firstly extend the assessment of the extent of valuation variation in the valuation of agricultural land by obtaining results from a larger sample. Secondly, to see if the factors identified in the live valuation exercise were responsible for the valuation variation identified. The third objective was to gather more data as to how valuers select and use the comparable evidence in determining their valuation figure in an attempt to triangulate the results from the live valuation exercise and further develop the comparable valuation template into something useful, applied and fit for practice.

7.1 Extended Phase 3 – Designing the Desk Based Valuation Exercise

The desk based valuation exercise was based upon the same comparable evidence used in the live valuation exercise. However some adjustments were necessary.

First it comprised seven pieces of comparable evidence only. Second, as this valuation exercise was carried out across the country the participants were not familiar with the geographical location of the land being valued as some of the participants from the live valuation exercise were. Third, participants were not able to carry out a physical inspection of the land as had been the case with the live valuation exercise. References to location were removed from the comparable evidence and replaced with an estimated distance in kilometres of the land forming the comparable evidence to the subject land and each piece of comparable evidence was labelled with a fictitious name. Fourth, participants were asked to assume a hypothetical market for agricultural land and they were asked to use only the comparable evidence presented to them in determining their opinion of value and so hopefully divorcing the participants from the influence of the market in their locality.

Prior to undertaking this valuation exercise, as with the live valuation exercise, the participating valuers were asked to complete a pre-valuation questionnaire indicating their years of valuation experience and the number of agricultural valuations that they would typically conduct per year. As this valuation exercise was desk based and no inspection was required participants were asked to estimate the amount of time that they would expect to spend on site inspecting the land and they would be asked to provide a note of the time that they spent on the valuation exercise.

In order to test the influence of ambiguous and inconsistent comparable evidence on any deviation from the mean valuation two sets of comparable evidence were created, one set of comparable evidence provided a more consistent picture of the market for agricultural land, which is referred to as the consistent case allocation group. The second set provided a more inconsistent picture of the market for agricultural land which is referred to as the inconsistent case allocation group.

Table 34 summarises the two sets of comparable data, classifying them into a consistent case allocation group and an inconsistent case allocation group. These two case allocation groups were then allocated randomly to participating valuers.

Table 40: Comparable Evidence provided for the consistent and inconsistent case allocation groups

Comparable Evidence for the Consistent Case Allocation Group						
Beggers Lane Sold by Auction Feb. 2017	Park Lane Sold by Private Treaty. Nov. 2016	Black Bank Road Sold by Public Auction Aug. 2016	Holehouse Road. Sold by Informal Tender. June 2017.	Top Farm For Sale by Private Treaty 4 month on the market	Edgehill Road. For Sale by Private Treaty 2 months on the market	Bottom Land. For Sale by Private Treaty 3 months on the market
£320,000 (£8,000 per acre)	£1,250,000 (£10,080 per acre)	£260,000 (£9,629 per acre)	£525,000 (£6,8489 per acre)	£600,000 (£8,000 per acre)	£1,370,000 (£7,405 per acre)	(£6,000 per acre)
Comparable Evidence for the Inconsistent Case Allocation Group						
Beggers Lane Sold by Auction Feb. 2017	Park Lane Sold by Private Treaty. Nov. 2016	Black Bank Road Sold by Public Auction Aug. 2016	Holehouse Road. Sold by Informal Tender. June 2017.	Top Farm For Sale by Private Treaty 4 month on the market	Edgehill Road. For Sale by Private Treaty 2 months on the market	Bottom Land. For Sale by Private Treaty 3 months on the market
£260,000 (£6,500 per acre)	£1,500,000 (£12,096 per acre)	£400,000 (£14,814 per acre)	£385,000 (£5,022 per acre)	£600,000 (£8,000 per acre)	£1,700,000 (£9,189 per acre)	(£6,000 per acre)

Table 34 illustrates that the comparable evidence for the consistent case allocation group ranged from £6,000 per acre to £10,080 per acre whilst for the inconsistent case allocation group it ranged from £5,022 per acre to £14,814 a wider margin given that average land values at the time of writing are in the region of £7,000-£8,000 per acre (RICS, RAU, 2018).

The inconsistent case allocation group data was designed to be a proxy for an unstable and uncertain market for agricultural land given that it is thought that the comparable method of valuation is best served during times of stable and certain markets as comparable evidence is more readily available then (RICS, 2012). This exercise was trying to create the opposite,

an unstable market for agricultural land, to see if it had any effect on the participating valuers' ability to value the land within the margin of error bracket, being +/-10% of the mean valuation.

As with the live valuation exercise potential participants were invited by letter sent by email and forming a Participant Information Sheet, copy attached at Appendix 4, page 264 to participate in the exercise and if they consented they were asked to complete a participant consent form and also asked to complete a pre-valuation questionnaire about their own valuation experience, attached at Appendix 4, page 266. This letter conveyed a number of messages to potential participants. Firstly that participation was not a project that was designed to form an opinion of the valuation skills of the participant. Secondly that participation would be completely anonymous and that neither the name of the participant nor the employing organisation would appear in any published documents.

Having agreed to take part in this valuation exercise and having returned the pre-valuation questionnaire participating valuers were randomly allocated to one of the two case allocation groups and sent by email the comparable evidence along with the valuation exercise in the form of a pdf document which contained the details of the land to be valued. The comparable evidence forming the consistent and inconsistent case allocation evidence can be found in Appendix 4, page 267 and 276 respectively.

In order to reduce the effect of any ordering in the data sets, being the order in which the comparable evidence is presented to participating valuers, five versions of the two sets of comparable evidence were created. The only difference between these versions was the order in which the comparable evidence was presented.

In addition participating valuers were sent a valuation sheet, copy provided in Appendix 4, page 285 which they were asked to complete and return once they had completed the valuation exercise. The valuation sheet was designed to ask the participants for sufficient information for an analysis to be undertaken but as little as information so as not to detract the participants from taking part. To that end the valuation sheet requested the valuation figure, the time spent on the exercise, the estimate time that they would spend on site, the comparables that they selected to use, why they rejected the comparable evidence that they did and a brief explanation as to their reasoning for the valuation figure provided.

7.2 Participants

The case for using the membership (Fellow members who are also members of the RICS) of the CAAV has already been made in Chapter 4. The aim of this extended Phase 3 was to obtain a view from the wider membership. The organisation of the CAAV is divided up into 29 local associations across the country and it was proposed to invite all Fellow members of the CAAV to participate except those from the local associations in Scotland, Northern Ireland, and North Wales & South Wales to maintain an English population. The Shropshire & Montgomeryshire and Staffordshire local associations were excluded as they had already been used in the live valuation exercise. The proposal was to invite potential participants by letter sent by email to participate in the desk based valuation exercise.

7.3 Limitations to the desk based valuation exercise

The limitations identified for the live valuation exercise were also relevant for this desk based valuation exercise. There was one significant difference in that the participants did not inspect a piece of agricultural land. Participating valuers were not allowed to source their own comparable evidence as they would be able to do in practice. Participants were similarly unable to carry out further research into the land as it was a hypothetical valuation exercise and the influence of local demand for agricultural land was specifically excluded from the exercise which was not reflective of normal professional practice. Unlike the live valuation exercise participants had not been able to inspect the land being valued. All of these were departures from the normal valuation environment within which valuations take place.

7.4 Research ethics

The principles of research ethics have been discussed in section 4.9 on page 100 and those principles are similarly relevant to this extended Phase 3 – the Desk Based Valuation Exercise. The approach to potential participants was once again via a letter that acted as an information sheet providing complete and detailed information about the study and the expectations of the participant. Copy provided in Appendix 4 Page 264. The same undertakings were provided to all potential participants regarding confidentiality and anonymity and that the study was not a study that set out to form judgements as to the valuation work that the potential participant or their employing organisations. Details, once again, were provided for further information via the researcher or via the researcher's supervisor. As with the Live Valuation Exercise informed consent from participants was

obtained through the completion of an informed consent questionnaire. Copy provided in Appendix 4 Page 263. This questionnaire was identical to that used for the Live Valuation Experiment and the same comments attached to it then can be similarly attached here.

In order to encourage participation as with the Live Valuation Exercise potential participants were advised that participation in the study would qualify as informal Continuing Professional Development required annually by both members of the RICS and the CAAV. Respondents were also given the opportunity of being entered into a prize draw for a ticket to attend a day at a racing event local to them. The Market Research Society (MRS, 2015) defines a free prize draw as "a draw where prizes are allocated by chance, with no payment to enter". The MRS sets out advice in the administration of such incentives in research projects and these are summarised.

1. Incentives should be used to encourage participation in projects but that such incentives should be proportionate and should not be, or seen to be a bribe. The incentive offered comprised of an entrance ticket only to attend a local racing event. It did not involve any additional hospitality at the event and constituted a monetary value of £46. Given that most participants declared that they spent in the region of 70 minutes completing the desk based valuation exercise and professional time being costed at a rate per hour probably in excess of that then it is argued that this incentive is proportionate to the task undertaken by the participants and as such could not be seen as a bribe. As all the participants in this study were members of organisations that comprised Chartered Surveyors and were members of the RICS then the Bribery Act 2010 places a responsibility on such organisations to take action to prevent acts of bribery within their organisations. Government guidance on the Bribery Act 2010 states that gits and/or hospitality can still be offered provided that they are reasonable and proportionate. As illustrated it is argued that the incentive offered as part of this study is reasonable and proportionate and should not be construed as a bribe.
2. Incentives must not require the participant to spend money, so for example price discounts would not be permissible as to obtain such a discount would have necessitated expenditure on the part of the participant first. No expenditure was being required of the participants in the Desk Based Valuation Exercise, participants were required to do nothing more than agree to take part in the valuation exercise.

Should they have subsequently chosen not to complete the valuation exercise they would still have been included in the prize draw.

3. To ensure that research is kept separate from direct marketing the offering of client goods or services, or vouchers to purchase client goods or services can be construed as direct marketing and should not therefore be offered as incentives. That was not the case with the incentive offered in this study, the incentive offered bore no association with the nature of the study or the work/employment of the researcher.
4. The winners of a free prize draw should be selected in accordance with the laws of chance. The draw, if not done at random by a computer, should be done by an independent person. The draw took place on 6th August 2018 by entering all the valuer participant numbers into a draw. The draw was undertaken by an independent person who was a colleague of the researcher at Harper Adams University who had no involvement with the study.

Ethical approval was sought and given by the University of Salford for this extended Phase 3 – Desk Based Valuation Exercise. A copy of the ethical approval letter is provided in appendix 4 on page 262.

7.5 Response rate

In total 1104 Fellow members of the Central Association of Agricultural Valuers (CAAV) were invited to participate. 123 (11%) of those 1104 responded positively to the invitation and confirmed that they would be willing to take part in the exercise. 63 (5.7% of the 1104) of those 123 participants completed the exercise and returned a completed valuation sheet and 60 participants did not complete the valuation exercise despite having been sent it to complete. This is possibly less than was anticipated but upon reflection the valuation exercise did require time to study it and then complete the exercise which some respondents may have felt they did not have the time for. The results of the valuation exercise found that the average amount of time spent on this by the participating valuers (n=62) was 70 minutes. Typically for external surveys such as these a 10-15% response rate is not unexpected and this sample falls into the lower limits of that (Saunders et al., 2012).

The data relating to invitations and response rates are set out in Table 71 in Appendix 5, page 286. The intention initially had been to contact all potential participants by email to save on the costs of printing and postage. Distributions took place to four CAAV local

associations by email (Gloucestershire, Hereford & Worcester, Cheshire and Midland Counties). The response rate was poor with response rates of 5%, 4%, 8% and 3% respectively. Midland Counties had the largest group of qualifying participants in it (131) but returned the lowest response rate (4). It was following this initial response that the approach to contacting potential participants was changed to individual letters. The response rate from this approach ranged from 4% to 30%, with three CAAV local associations with a response rate in excess of 20% and eleven CAAV local associations with a response rate in excess of 10% but below 20% with an overall response rate of 11%.

Prior to completing the valuation exercise all participants were asked to provide a pre-valuation questionnaire which asked them to self-declare their years of valuation experience and the number of valuations of agricultural land that they typically produced in one year. The full set of data is set out in Table 72 in Appendix 5, page 287 but are summarised in Table 41 below.

Table 41 – Summary of participant valuer valuation experience and number of valuations conducted per year (self-declared)

Participating Valuer Valuation Experience (years)(n=62)			***Number of Valuations typically conducted per year by participating valuer***		
0-5	***6-10***	***11 +***	***Range***	***Average***	***Median***
11	11	40	0-100	20	20

Table 41 illustrates that the majority (65% or 40/62) of the sample of participating valuers fell into the experience category of 11 years + and that this was a sample of participating valuers that conducted a wide range in terms of numbers of valuation conducted per year. However one respondent declared that they carried out 100 valuations of agricultural valuations per year (two per week) which may be true but is somewhat different to the rest of the respondents, the next one down reporting that they carried out 65 valuations per year. On average the participating valuers were conducting one valuation every two and a half weeks. Whilst there is nothing to benchmark this against this would seem a reasonable level of activity by these respondents in the agricultural valuation discipline. Two participating valuers declared that they currently did not carry out any agricultural land

valuations but they declared that they had 11 + years of experience in valuing agricultural land and so were considered eligible to take part in the valuation exercise.

As has been stated 123 valuers had responded positively to participate in the exercise although only 62 eventually completed the exercise. Chi-squared tests were carried out to ascertain if there was any significant differences between the characteristics of the respondents (n=63) and the non- respondents (n=60) in terms of their returns relating to their declared valuation experience and the number of valuations they conducted per year the results from which are set out in Table 42.

Table 42: Chi-squared tests – sample analysis

Null Hypothesis	***Alternate Hypothesis***	***Chi Result***	***Outcome***
There is no significant difference between the type of respondent and their years of valuation experience	There is a significant difference between the type of respondent and their years of valuation experience	Chi = 1.63 2df. p<0.05	**Accept** the null hypothesis
There is no significant difference between the type of respondent and the number valuations conducted per year by them	There is a significant difference between the type of respondent and the number valuations conducted per year by them	Chi = 5.3994 2df. p<0.05	**Accept** the null hypothesis

The tests, outlined in Table 42, find that there was no significant difference between the characteristics of the respondents and non-respondents which indicates that the findings from the sample of respondents (n=63) could be generalised to the larger sample (n=123).

The valuations were carried out between 23rd June 2017 and 14th October 2017.

7.6 Valuation results

For the purposes of this valuation exercise, initially, the 63 respondent valuers were randomly allocated to one of two valuer groups. The first of these was the consistent case allocation group being the 31 participating valuers who completed the exercise consisting of consistent comparable evidence. The second group was the inconsistent case allocation group being initially 32 participating valuers who completed the exercise consisting of inconsistent comparable evidence.

One participating valuer from the inconsistent group provided a commentary but chose not to provide an opinion of value as they had been unable to inspect the land that was the subject of the valuation and so these results discuss the valuations produced by 31 valuers from the consistent case allocation group and 31 from the inconsistent case allocation group. Table 43 shows similar results to that of Table 41 but splits the participant data between the two valuer groups and shows that the majority of the participants across both valuer groups, 68% (21/31) and 61% (19/31), had 11+ years' experience.

Table 43: Participant valuer valuation experience and number of valuations conducted per year (self-declared) across the consistent and inconsistent case allocation groups

	Participating Valuer Valuation Experience (years) (n=62)			***Number of Valuations typically conducted per year by participating valuer***	
	0-5	*6-10*	*11 +*	*Range*	*Average*
Consistent Case Allocation	5	5	21	0-40	17
Inconsistent Case Allocation	6	6	19	2-100	23

Table 44 summarises the valuation results for each of the case allocation groups. The full valuation results are in Table 73 in Appendix 5, page 288 and Figure 21 illustrates the distribution of the valuation results for each of the case allocation groups.

Table 44: Summary valuation figures across the consistent and inconsistent case allocation groups

	Consistent Case Allocation Valuers (n=31)	***Inconsistent Case Allocation Valuers (n=31)***
Mean Valuation (£'000)	589	585
Median Valuation (£'000)	570	560
Mode Valuation (£'000)	570	500
Standard Deviation (£)	56,709	122,700
Co-efficient of variation (%)	9.62	20.97
Valuation Range (£'000)	590-730	598-900
Mean absolute deviation from mean valuation (%)	7.4	17.4
Range - % absolute deviation from the mean valuation	0.2 – 23.9	2.1 – 53.7
Range - % deviation from the mean valuation	-15.11 to +23.94	-26.21 to +53.73

Figure 21 - Distribution of valuations for the consistent and inconsistent case allocation groups

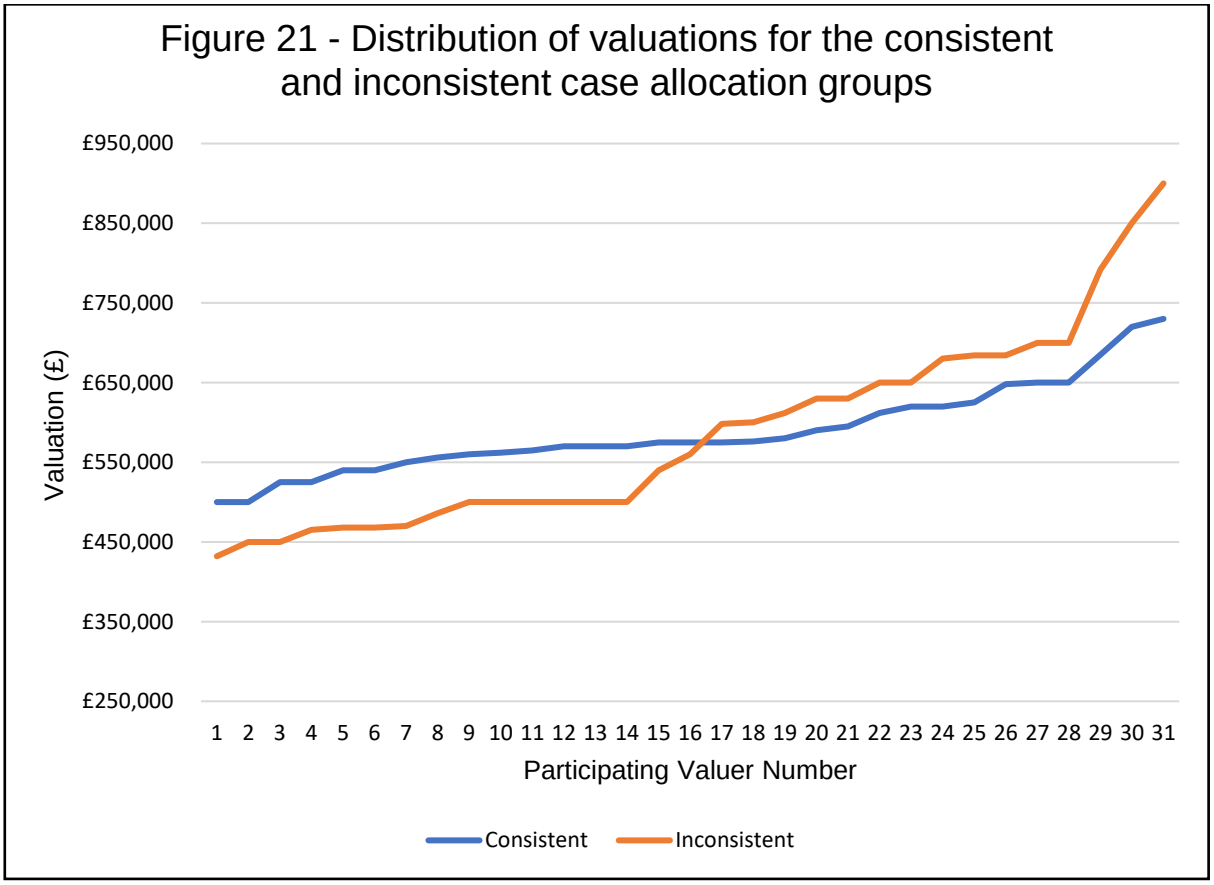


Table 45 shows the distribution of the valuations around the mean valuation for each of the valuer groups.

The valuation exercise had been designed in such a way to divorce the participating valuers from their locality. This was in order to get the participants to focus on the comparable evidence only and to exclude any influence that the market for agricultural land in the area of their practice might have had on their decision making. To check this a correlation coefficient was undertaken to see if there was any relationship between the valuation provided by the participant and the value of agricultural land in their area of professional practice. For the consistent case allocation group that coefficient measure was -0.10 and for the inconsistent case allocation group the coefficient measure was 0.05 indicating in both cases virtually no relationship between the valuation figures and the valuation of agricultural land in the participants' respective areas.

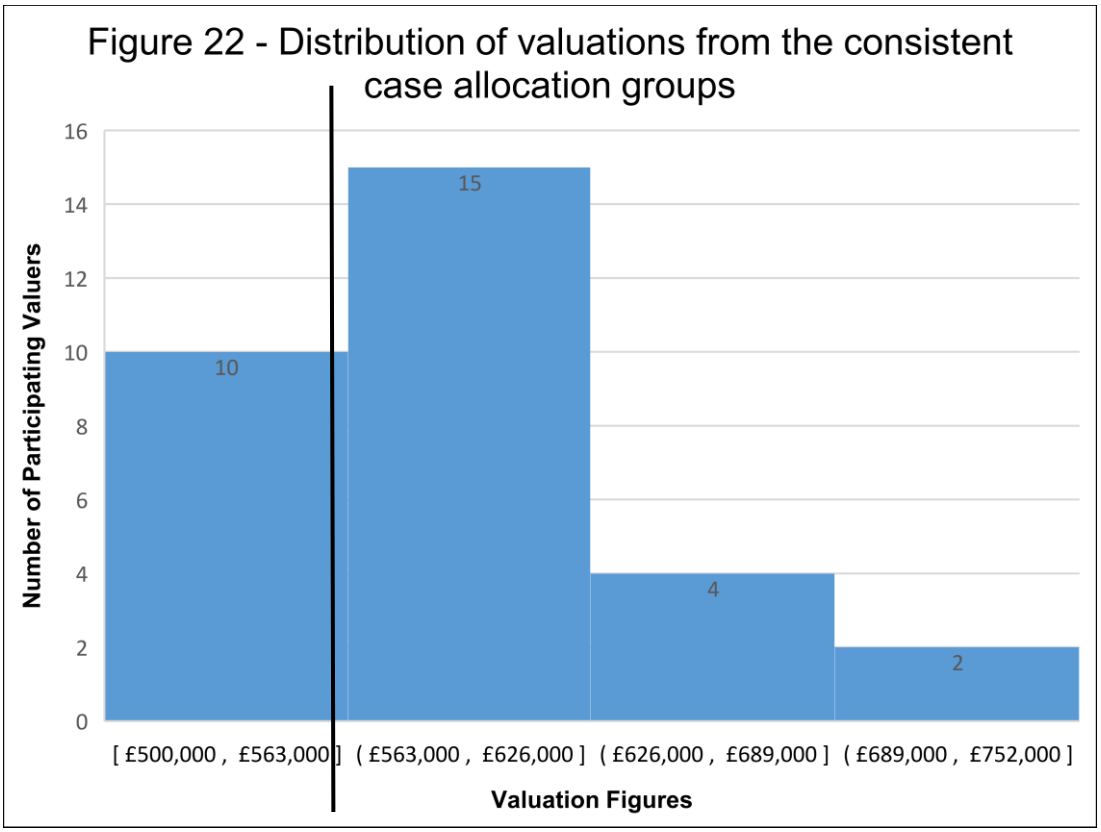
Table 45: Difference of valuations from the mean valuation for the consistent and inconsistent case allocation groups

Deviation from the mean valuation	***Consistent Case Allocation Valuers (n=31)***	***Inconsistent Case Allocation Valuers (n=31)***
Within +/- 5% of mean valuation (no. of valuers)	14	4
Within +/- 10% of mean valuation(no. of valuers)	21	7
Within +/ 20% of the mean valuation (no. of valuers)	29	22
Within +/- 25% of mean valuation (no. of valuers)	31	27
Within +/- 30% of mean valuation (no. of valuers)	n/a	28
Within +/- 40% of mean valuation (no. of valuers)	n/a	29
Within +/- 50% of mean valuation (no. of valuers)	n/a	30
Within +/- 55% of mean valuation (no. of valuers)	n/a	31

The mean valuations returned by each of the case allocation groups differed only by £3,548. However, for the consistent case allocation the difference between the highest valuation and lowest valuation was £230,000 (£590,000 - £730,000) whereas for the inconsistent case allocation group it was £468,000 (£598,000 - £900,000). This difference in spread of valuations between the case allocation groups was also illustrated in the measures of standard deviation and mean absolute deviation (see Table 44) both of which indicate that

the valuation results are spread further from the mean valuation for the inconsistent case allocation group. This is further illustrated by the percentage deviation from the mean valuations which range from -15.11% to +23.94% for the consistent case allocation group and -26.21% to +53.73% for the inconsistent case allocation group. There are some outlying valuation figures within the inconsistent case allocation group with the minimum valuation £432,00 and the maximum valuation at £900,000. Outliers can arise from either variability in measurement or from experimental error but there is no evidence to support either of these and so no evidence to support excluding the outliers from the analysis.

The results support and are consistent with the results of the live valuation exercise in that both normal and excessive valuation variation does exist within this group of valuers and it also illustrates the extent of that valuation variation. Figures 22 & 23 summarise the distributions of the valuation data sets for both case allocation groups, illustrating the centre, spread and skewness of the valuation data. The black line on both figures estimates the approximate location of the median valuation for each case allocation group.



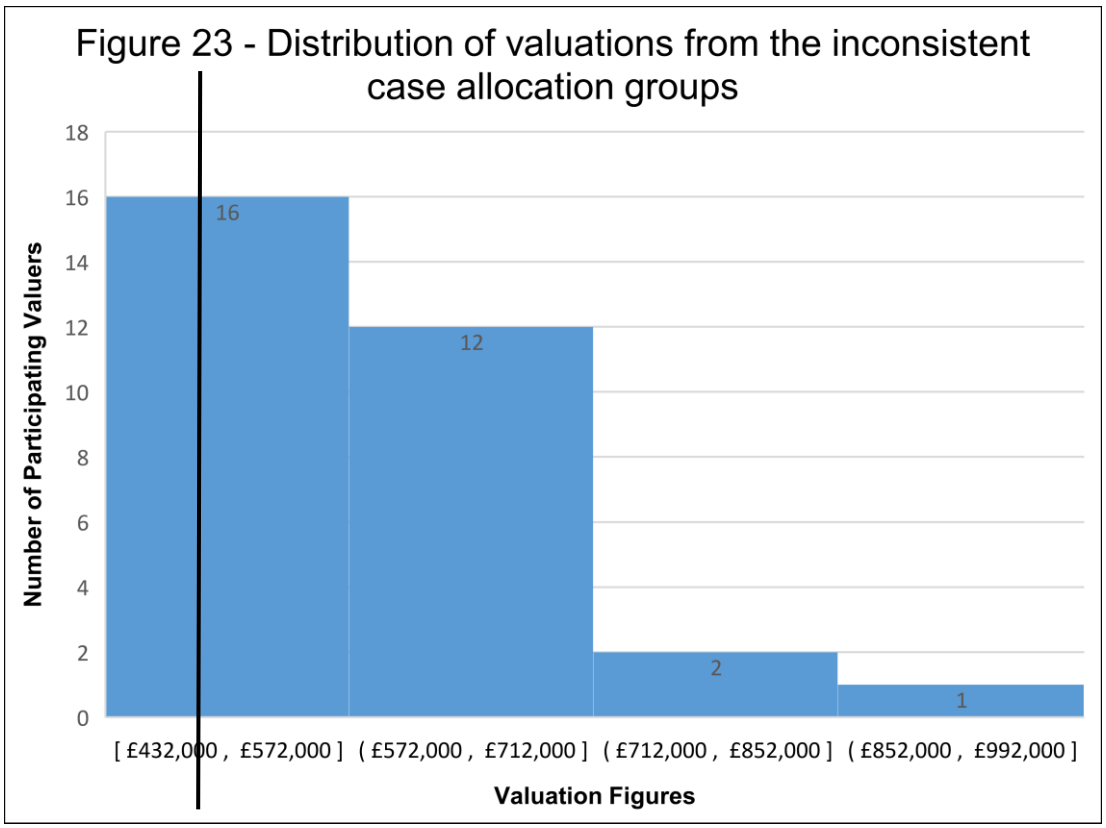


Table 46 shows some statistical data relating to the valuation data sets collected from both groups and show the skewness, kurtosis and f-tests results for each of the valuer groups.

Table 46: Statistical data relating to the valuer groups

	Consistent Case Allocation Group (n=31)	***Inconsistent Case Allocation Group (n=31)***
Skew	0.852	0.868
Kurtosis	0.591	0.193
F-Test	0.00006	

The data in Figures 22 & 23 and Table 46 show the different distributions that each valuation case allocation group has produced and shows that the valuation data for the inconsistent case allocation group is more widely dispersed along the x axis compared to the valuation data for the consistent case allocation group which accounts for the different kurtosis scores

for the two case allocation groups. The result for the inconsistent case allocation group has resulted in a flatter distribution curve. However, both set of valuation data from both groups show a positive skew to the right with more outliers to the right.

These results suggest that whilst the difference between the two groups in terms of the mean valuation is relatively small, the range (% deviation from the mean) of valuations around those mean valuations are different averaging 7.4% for the consistent case allocation group and 17.4% for the inconsistent case allocation group. The literature has tended towards an acceptable margin of error of +/-10% (see chapter 2) of the correct valuation, which would suggest that the consistent case allocation group as a group are within that bracket whilst the inconsistent case allocation group as a group are not.

Within the consistent case allocation group 10/31 or 32% of the participating valuers fell outside the margin of error bracket, so 68% fell within the bracket. For the inconsistent case allocation group 24/31 or 77% of the participating valuers fell outside the margin of error bracket whilst 23% fell within the bracket.

The inconsistent valuation exercise was created in an attempt to be a proxy for a valuation task being conducted in an unstable and uncertain valuation environment. This test of valuation variation, of being able to value to within an acceptable margin +-/10%, of the mean valuation as a performance indicator as to the ability of the valuers of agricultural land suggests that those valuers faced with inconsistent evidence were less able to value the land within the acceptable margin of error than those valuers faced with consistent evidence.

It is worth at this stage comparing the results of this exercise with those of the live valuation exercise as well as the wider literature.

Table 47 – Summary of research findings for valuer performance

STUDY	VALUER PERFORMANCE
Hager & Lord (1985) UK	***90%*** of office valuations & ***80%*** of shop valuations within +/-10% of the control valuation
IPD/DJ (2003) UK	***64%*** of valuations within +/-10% of market prices
Matysiak & Wang (1995) UK	***30%*** probability of valuation being within +/-10% of sale price
McAllister (1995) UK	***56%*** of valuations within +/-10% of sale price

Hutchinson et al., (1996) UK	***61%*** of valuations within +/-10% of mean valuation
Parker (1998) Australia	***85%*** of valuations within +/-10% of sale price
Newell & Kishore (1998) New Zealand	***65%*** of valuations within +/-10% of sale price
Blundell & Ward (1999) UK	***35%*** of valuations within +/-10% of the sale price
Havard (1999) UK	***38%*** of valuations within +/-10% of mean valuation
Babawale (2008) Nigeria	***45%*** of valuations within +/-10% of sale price
Hiironen et al., (2014) Finland	***50%*** *of valuations within -16% to +33% of the median valuation*
Live Valuation Exercise UK	***78%*** of valuations within +/-10% of mean valuation
Desk Based Valuation Exercise (Consistent Case Allocation Group)	***68%*** of valuations within +/-10% of mean valuation
Desk Based Valuation Exercise (Consistent Case Allocation Group)	***23%*** of valuations within +/-10% of mean valuation

The findings for the consistent case allocation group show 10% fewer participating valuers providing a valuation figure that fell within the +/-10% bracket and 55% fewer valuers from the inconsistent case allocation group although both results from the desk based valuation exercise can be compared to other accuracy studies. There is however an observation that there is a large difference in terms of performance between the consistent and inconsistent ca0se allocation groups which needs to be investigated.

7.7 Relationship between case allocation group and the deviation from the mean valuation

A further examination of the data to ascertain any relationship within the valuation data set and the absolute deviation from the mean valuations produced by the participating valuers

and the following variables will now be undertaken in an attempt to identify any potential causes of this identified variation:

i. Is there any relationship between the case allocation and the absolute deviation from the mean valuation?
ii. Is there any relationship between the participating valuers' valuation experience and any deviation from the mean valuation across the case allocation groups?
iii. Is there any relationship between the number of valuations typically carried out by the participating valuer per year and any deviation from the mean valuation across the case allocation groups?
iv. Is there any relationship between the time spent on the valuation exercise by the participating valuer and any deviation from the mean valuation across the case allocation groups?
v. Is there any relationship between the expected time spent inspecting the site by the participating valuer and any deviation from the mean valuation across the case allocation groups?

In order to facilitate a meaningful analysis the response data (n=62) has been grouped accordingly as set out in Table 48.

Table 48: Variable groupings for the desk based valuation exercise

Variable	***Grouping***
Valuation Case Allocation	Consistent Inconsistent
Difference from the mean valuation	0 - £50,000 £51,000 - £125,000 £126,000 +
Valuer Experience	0 – 5 years 6 – 10 years 11 + years
Number of valuations typically conducted per year	0 – 10 11 – 25 26 +
Time spent on the valuation exercise	0 – 59 minutes 60 – 99 minutes 100 + minutes
Expected time to be spent on site	0 – 60 minutes 61 – 120 minutes 121 + minutes

Based on these groupings Chi squared tests were conducted on the 62 participating valuers for each of the tests and the results are set out in Table 49.

Table 49: Chi-squared tests

Null Hypothesis	*Alternate Hypothesis*	*Chi Result*	*Outcome*
There is no relationship between the case allocation group and the absolute difference from the mean valuation	There is a relationship between the case allocation group and the absolute difference from the mean valuation	Chi = 12.85 2df. p<0.05	**Reject** the null hypothesis
There is no relationship between valuer experience and the absolute difference from the mean valuation	There is a relationship between valuer experience and the absolute difference from the mean valuation	Chi = 2.45 4df. p<0.05	**Accept** the null hypothesis
There is no relationship between the number of valuations typically conducted per year and the absolute difference from the mean valuation	There is a relationship between the number of valuations typically conducted per year and the absolute difference from the mean valuation	Chi = 0.86 4df. p<0.05	**Accept** the null hypothesis
There is no relationship between the time the participating valuer spent on the exercise and the absolute difference from the mean valuation	There is a relationship between the time the participating valuer spent on the exercise and the absolute difference from the mean valuation	Chi = 0.83 4df. p<0.05	**Accept** the null hypothesis
There is no relationship between the time the participating valuer would expect to spend on site and the absolute difference from the mean valuation	There is a relationship between the time the participating valuer would expect to spend on site and the absolute difference from the mean valuation	Chi = 2.77 4df. p<0.05	**Accept** the null hypothesis

The results show that for this data set (n=62) there is only one test where the null hypothesis was rejected and the alternate hypothesis was accepted and this was between the participating valuers absolute deviation from the mean and the valuation case allocation that they received which indicated that there was a relationship. In all the other chi-squared tests

the null hypothesis was accepted and there was no evidence of a relationship between the variables.

These results would appear to suggest that in this valuation exercise the only variable that could be causing the deviation from the mean valuation is the comparable evidence presented to the participating valuers, there is no evidence to suggest that the valuers experience, the number of valuations that they typically conduct per year, the time they spent on the valuation exercise or the time that they would expect to spend on site inspecting, could be causing these differences but each of these will now be examined more closely. It is also possible that a larger sample may have found evidence of such relationships.

7.8 Relationship between a valuer's experience and the deviation from the mean valuation

Table 50 below shows the deviations from the mean valuation for each case allocation group but also shows those distributions against the participating valuers' valuation experience and summarises the full data set which is presented in Table 74 in Appendix 5, page 289.

Table 50: Deviation from the mean valuation and the participants' valuation experience across the consistent and inconsistent case allocation groups

	Consistent Case Allocation Group (n=31) Valuer Experience (years)			***Inconsistent Case Allocation Group (n=31) Valuer Experience (years)***		
Deviation from the mean valuation	***0-5***	***6-10***	***11+***	***0-5***	***6-10***	***11+***
Within +/- 5% of mean valuation	3	2	9	2	1	1
Within +/-5% to +/- 10% of mean valuation	2	1	4	0	0	3
Within +/ 10% to +/- 20% of the mean valuation	0	2	6	3	4	8
More than +/- 20% from the mean valuation	0	0	2	1	1	7
Total	5	5	21	6	6	19

The distribution of participants around the categories for valuer experience between the two case allocation groups is fairly similar albeit a skewness towards the more experienced valuer but that is the same in both case allocation groups.

Whilst the chi-squared test concluded that there was no evidence of a relationship between the participating valuers' difference from the mean valuation and their valuation experience Table 50 shows that whilst the valuers with 11+ years' experience form the bulk of the sample (65%, 40/62) it can be seen that only 25% (10/40) of the participating valuers from the 11+ years category valued to within +/-5% of the mean valuation compared with 46% (5/11) for the 0-5 years category. 23% (9/40) of the participating valuers from the 11 + years category have valued in excess of 20% of the mean valuation compared to 9% (1/11) for the 0 – 5 years category.

Cumulatively, 64% (7/11) of the valuers from the 0- 5 years category valued the land to within +/-10% of the mean valuation, 36% (4/11) of the valuers from the 6-10 years category did so and 42% (17/40) of the valuers from the 11 +years category did so. These observations would suggest a better performance was experienced from the less experienced valuers and is probably the opposite to that which would have been expected.

7.9 Relationship between the number of valuations typically conducted per year and the deviation from the mean valuation

Tables 51 & 52 and Figure 24 below show the deviations from the mean valuation for both case allocation groups but also shows those distributions against the participants declared number of valuations typically conducted per year**.** The full data set is presented in Table 75 in Appendix 5, page 290.

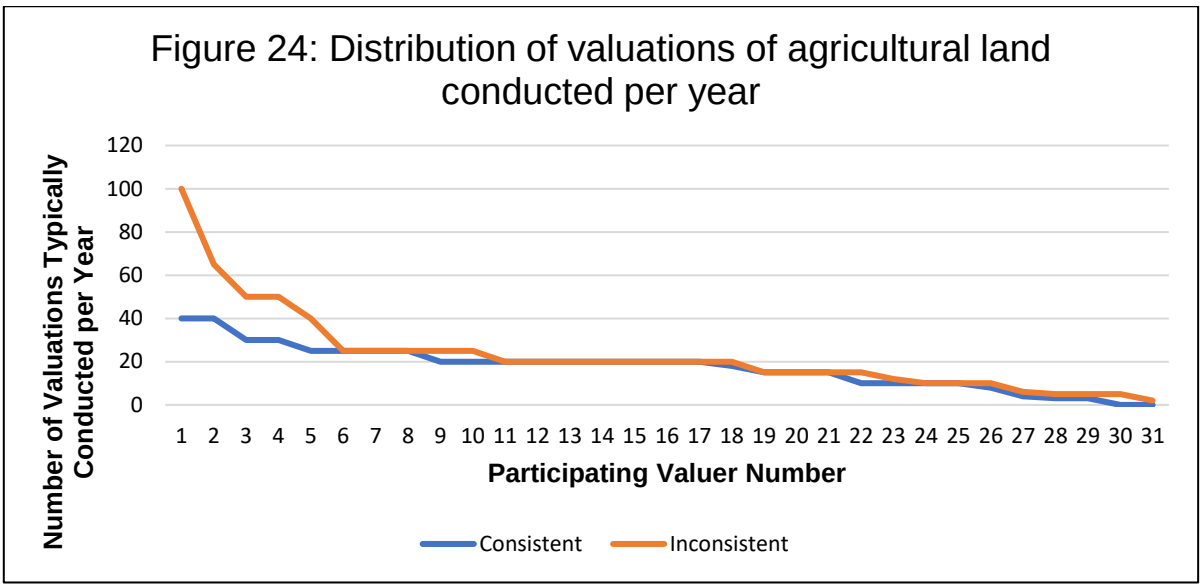


Table 51: Deviation from the mean valuation and the number of valuations typically conducted per year across the consistent and inconsistent case allocation groups

	Consistent Case Allocation Group Number of Valuations per year ($\bar{x}$= 17)			***Inconsistent Case Allocation Group Number of Valuations per year ($\bar{x}$= 23)***		
Deviation from the mean valuation	***0-10***	***11-25***	***26+***	***0-10***	***11-25***	***26+***
Within +/- 5% of mean valuation	3	9	2	2	1	1
Within +/-5% to +/- 10% of mean valuation	3	3	1	1	2	0
Within +/ 10% to +/- 20% of the mean valuation	2	5	1	5	9	1
More than +/- 20% from the mean valuation	2	0	0	1	5	3
Total	10	17	4	9	17	5

Table 52: Deviation from the mean valuation and the average number of valuations typically conducted per year across the consistent and inconsistent case allocation groups

Deviation from the mean valuation	***Consistent Case Group (n=31) ($\bar{x}$= 17)***	***Inconsistent Case Group (n=31) ($\bar{x}$= 23)***	***Combined (n=62) ($\bar{x}$= 20)***
	Average Number of Valuations typically conducted per year	***Average Number of Valuations typically conducted per year***	***Average Number of Valuations typically conducted per year***
Valued within +/- 5% of mean valuation	19	34	22
Valued between +/- 5% and +/- 10% of mean valuation	15	14	15
Valued between +/- 10% and +/- 20% of mean valuation	20	20	20
Valued over +/- 20% of mean valuation	7	27	23

Table 51 illustrates that the distribution of participants around the categories for the number of valuations typically conducted per year across the two case allocation groups is similar.

Table 52 shows that the inconsistent case allocation group, on average, conducted more valuations per year (23) than the consistent case allocation group (17) but the inconsistent case allocation group is skewed slightly by the one valuer declaring that they conducted 100 valuations per year which would appear to be out of line with the rest of the sample. If that declaration is removed the average number of valuations carried out by the inconsistent case allocation group falls from 23 to 20.

The data in table 52 does show that, on average, there is little difference between the number of valuations typically conducted per year for those participating valuers with a smaller deviation from the mean valuation and those participating valuers with a larger

deviation from the mean valuation which is in line with the chi-squared result. Those with a larger deviation from the mean valuation tended to conduct a similar number of valuations to those with a smaller deviation from the mean valuations for both case allocation groups.

The only anomaly to that is for the consistent case allocation group who have shown excessive valuation variation and conduct on average only 7 valuations per year but there were only two respondent valuers in that group. There is also an observable difference between the case allocation groups for those valuers in the +/-5% category (19:34) but on the participants in the inconsistent case allocation group declared they carried out 100 valuations per year and if that outlier is removed the average comes down to 12.

7.10 Relationship between the estimated time on site and the deviation from the mean valuation

Tables 53 and 54 and Figure 25 below show the differences from the mean valuation for both case allocation groups but also shows those distributions against the time the participants declared they would take to inspect the land**.** The full data set is presented in Table 76 in Appendix 5, page 291.

Table 53: Deviation from the mean valuation and the estimated time taken to inspect the land across the consistent and inconsistent case allocation groups

	Consistent Case Allocation Group (n=31) Minutes ($\bar{x}$= 95)			***Inconsistent Case Allocation Group (n=31) Minutes ($\bar{x}$= 88)***		
Deviation from the mean valuation	***0-60***	***61-120***	***121+***	***0-60***	***61-120***	***121+***
Within +/- 5% of mean valuation	7	4	3	3	1	0
Within +/-5% to +/- 10% of mean valuation	5	1	1	2	1	0
Within +/ 10% to +/- 20% of the mean valuation	2	5	1	5	9	1
More than +/- 20% from the mean valuation	1	1	0	5	3	1
Total	15	11	5	15	14	2

Table 54: Deviation from the mean valuation and the average estimated time taken to inspect the land across the consistent and inconsistent case allocation groups

Deviation from the mean valuation	***Consistent Case Group (n=31) ($\bar{x}$= 95)***	***Inconsistent Case Group (n=31) ($\bar{x}$= 88)***	***Combined (n=62) ($\bar{x}$= 92)***
	Average Time expected to be spent on site (minutes)	***Average Time expected to be spent on site (minutes)***	***Average Time expected to be spent on site (minutes)***
Valued within +/- 5% of mean valuation	107	63	97
Valued between +/- 5% and +/- 10% of mean valuation	75	70	73
Valued between +/- 10% and +/- 20% of mean valuation	98	96	97
Valued over +/- 20% of mean valuation	70	93	89

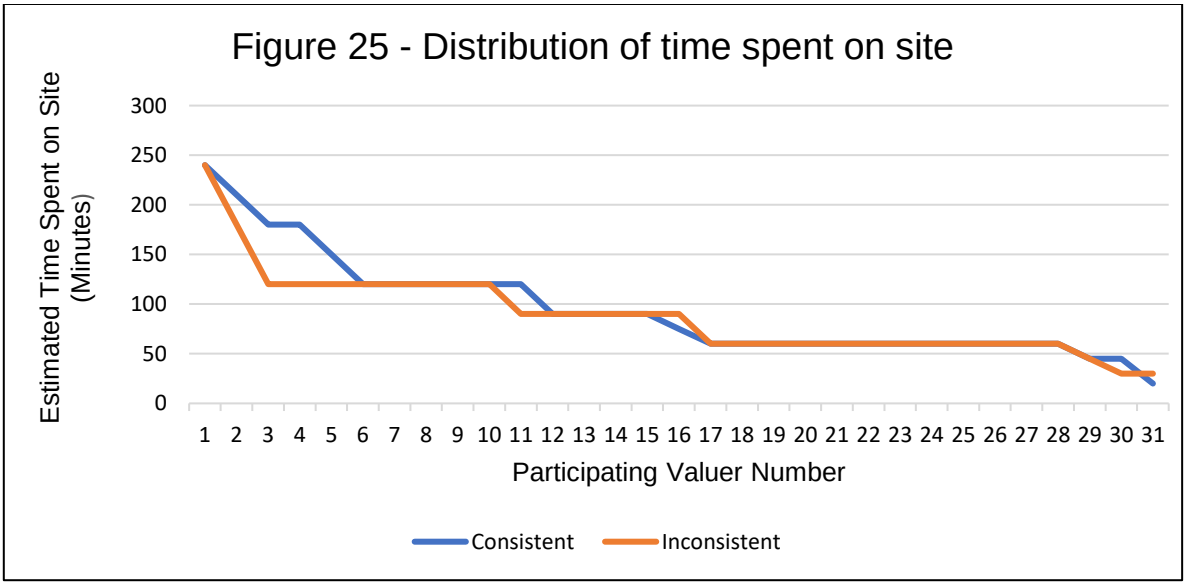


Table 53 illustrates once again that there is little difference between the distributions of participants between the two case allocation groups across the categories for time to be spent on site.

Table 54 shows that the consistent case allocation group, on average, declared that they would expect to spend 7 minutes longer (95-88) on site than the inconsistent case allocation group which is a small but noticeable difference. The range of declarations of time to be spent on site for the consistent case allocation group was 20 minutes to 4 hours and for the inconsistent case allocation group it was 30 minutes to 3 hours, again there is little difference between the groups. Whilst the data on averages in the Table 53 above agrees with the chi-squared tests that there is no relationship with the deviation from the mean valuations there is an interesting observation between the two valuation case allocation groups.

Those in the consistent case allocation group, and within +/-5% of the mean valuation, declared that they would spend more time on site than their inconsistent case allocation colleagues (107 minutes compared to 63 minutes) a difference of 44 minutes.

In addition those valuers from the consistent case allocation group, and in excess of +/-20% deviation from the mean valuation, would spend 23 minutes less (70 minutes compared to 93 minutes) on site than their inconsistent case allocation colleagues.

There are therefore some observed differences between the case allocation groups identified but the data on time spent on site is an estimated time declared by the participants rather than an actual measure of time spent on site, as per the live valuation exercise, so there is a reluctance to draw too much from this analysis as the figure cannot be verified.

7.11 Relationship between time spent on the valuation exercise and the deviation from the mean valuation

Tables 55 and 56 and Figure 26 below show the same distribution of valuations from the mean valuation but also shows those distributions against the time the participants took to complete the exercise. The full data set is presented in Table 77 in Appendix 5, page 292.

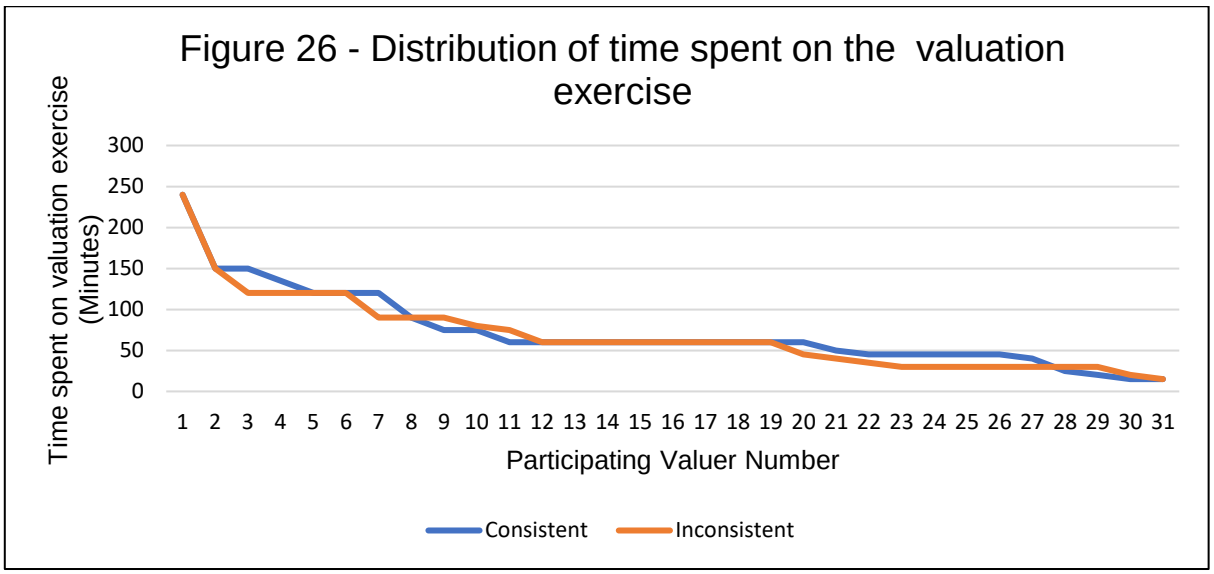


Table 55: Deviation from the mean valuation and time taken to complete the valuation exercise across the consistent and inconsistent case allocation groups

	Consistent Case Allocation Group (n=31) Minutes ($\bar{x}$= 73)			***Inconsistent Case Allocation Group (n=31) Minutes ($\bar{x}$= 69)***		
Deviation from the mean valuation	***0-59***	***60-99***	***100+***	***0-59***	***60-99***	***100+***
Within +/- 5% of mean valuation	5	7	2	3	0	1
Within +/-5% to +/- 10% of mean valuation	1	4	2	1	1	1
Within +/ 10% to +/- 20% of the mean valuation	4	2	2	7	5	3
More than +/- 20% from the mean valuation	1	0	1	1	7	1
Total	11	13	7	12	13	6

Table 56: Deviation from the mean valuation and average time taken to complete the valuation exercise across the consistent and inconsistent case allocation groups

Difference from the mean valuation	***Consistent Case Group (n=31) ($\bar{x}$= 73)***	***Inconsistent Case Group (n=31) ($\bar{x}$= 69)***	***Combined (n=62) ($\bar{x}$= 71)***
	Average Time spent on exercise (minutes)	***Average Time spent on exercise (minutes)***	***Average Time spent on exercise (minutes)***
Valued within +/- 5% of mean valuation	75	54	70
Valued between +/- 5% and +/- 10% of mean valuation	75	80	77
Valued between +/- 10% and +/- 20% of mean valuation	65	60	62
Valued over +/- 20% of mean valuation	85	87	87

Table 55 illustrates once again that there is little difference between the distributions of participants over the categories for time spent on the exercise between the two case allocation groups.

Table 56 shows the consistent case allocation group, on average, spent 4 minutes longer on the exercise than the inconsistent case allocation group which is a small difference. The range of declarations of time to be spent on the exercise for the consistent case allocation group was 15 minutes to 4 hours and for the inconsistent case allocation group it was 20 minutes to 4 hours, again there is little difference between the groups.

Whilst the chi-squared tests found that there is no relationship with the difference from the mean valuations, there is an interesting observation that across both case allocation groups the participating valuers who, on average, spent more time on the valuation exercise come from those participating valuers who end up with a larger deviation from the mean valuation (85 minutes & 87 minutes).

For the consistent case allocation group the difference is 10 minutes whilst for the inconsistent case allocation group it is 33 minutes, over half an hour less was spent on the valuation exercise in that group by those valuers with a smaller difference from the mean valuation indicating that spending more time on the valuation exercise seems not, in this case, to produce a valuation that was closer to the mean valuation.

7.12 Desk Based Valuation Exercise - Summary of Findings

The results from the desk based valuation exercise are suggesting that:

- Both normal and excessive valuation variation did exist amongst the valuers of agricultural land who participated in this exercise across both case allocation groups.
- The extent, or spread, of valuation variation amongst the participating groups of agricultural valuers has been identified and that has been found to vary between the two case allocation groups. It varies more widely for the inconsistent case allocation group.
- Statistical tests have found that the only evidence of a statistically significant relationship identified has been between the extent of the participating valuers' valuation variation and the case allocation group that they were allocated to. This indicates that it could be the nature and subsequent interpretation of the comparable evidence that could explain the existence and extent of valuation variation.
- Across both case allocation groups more valuation experience does not necessarily lead to a smaller deviation from the mean valuation.
- Across both case allocation groups there is no evidence to suggest that the number of valuations typically conducted per year is contributing to valuation variation.
- Although no evidence of a statistical relationship was found across the consistent case allocation group spending more time inspecting the land appears to produce a valuation with a smaller deviation from the mean. For the inconsistent case allocation group the reverse is apparent.
- Although no evidence of a statistical relationship was found across both case allocation groups it would appear both case allocation groups spent less time spent on completing the valuation exercise which appears to result in a valuation with a smaller deviation from the mean valuation although this appears more pronounced in the data for the inconsistent case allocation group.

These results are generally consistent with those of the live valuation exercise in that both normal and excessive valuation were found to exist. The mean absolute deviation for the live valuation experiment was 7.8%, for the consistent case allocation group it was 7.4% and for the inconsistent case allocation group it was 17.4%. Both the live valuation exercise and the desk based valuation exercise found that those valuers with more valuation experience did not always produce a valuation with a smaller deviation from the mean valuation. They also found that there was no evidence of a relationship between the participating valuers deviation from the mean valuation and the number of valuations conducted per year.

The findings for the two valuation exercises are slightly different when it comes to the time spent inspecting the site and the time spent completing the valuation. With respect to the live valuation exercise then it was found that there was some evidence that spending less time inspecting the land could have affected the extent of the deviation from the mean valuation which is consistent with the finding from the consistent case allocation group. In terms of the time spent completing the exercise the live valuation exercise found that the less time the participating valuer spent then this appeared to allow for a higher deviation from the mean valuation which is the reverse of what the desk based valuation appeared to find. However it is important to note that for the desk based exercise these two variables were self- declared by the participating and could not be verified by the researcher.

7.13 Articulating the comparable valuation process

Analysis from the returns of the 62 participating valuers identified a four stage valuation process. These were as follows:

i. Stage 1: **Inspect and Evaluate.** However given that no physical inspection was required as part of this experiment, the word inspect has been used to articulate a process whereby the participating valuer inspected the particulars about the agricultural land being valued and those relating to the agricultural land acting as comparable evidence
ii. Stage 2: **Select/Reject.** Having inspected the particulars, as per Stage 1, the participating valuers then tended to select the pieces of comparable evidence that they would utilise in determining their valuation figure

iii. Stage 3: **Adjust**. Having selected the appropriate evidence that evidence was then adjusted to take account of any differences between it and the agricultural land being valued.

iv. Stage 4: **Value.** The final stage being to arrive at an opinion of value.

Stage 2 – Select or Reject Comparable Evidence for Analysis

Analysis of the returns from the valuations identified two methods used by the participating valuers in selecting comparable evidence for analysis and use within the valuation. These two methods are identified in Table 57 as is the data showing the number of valuers from each valuer group. Table 57 also shows the average number of pieces of evidence selected, from the seven presented, by participating valuers from each valuer group.

Table 57: Method of comparable evidence selection & average number of pieces of comparable evidence selected across the consistent and inconsistent case allocation groups

Selection Method	***Consistent Case Allocation (n=31)***	***Inconsistent Case Allocation (n=31)***
Make Initial Sift of the comparable evidence and selecting evidence that was comparable with certain attributes for analysis	26	29
Select all comparable evidence for analysis	5	2
Average Number of pieces of evidence selected for full analysis	4	3

All participating valuers were provided with seven pieces of comparable evidence. Table 58 shows for each of the valuer groups which of those seven comparables were selected for use within the valuation exercise.

Table 58: Comparable evidence selected by the consistent and inconsistent case allocation groups

Consistent Case Allocation Group (n=31)						
Comparable Evidence Provided						
C1 - Beggers Lane Sold by Auction Feb. 2017	**C2** - Park Lane Sold by Private Treaty. Nov. 2016	**C3** - Black Bank Road Sold by Public Auction Aug. 2016	**C4** - Holehouse Road. Sold by Informal Tender. June 2017.	**C5** - Top Farm For Sale by Private Treaty 4 month on the market	**C6** - Edgehill Road. For Sale by Private Treaty 2 months on the market	**C7** - Bottom Land. For Sale by Private Treaty 3 months on the market
£320,000 (£8,000 per acre)	£1,250,000 (£10,080 per acre)	£260,000 (£9,629 per acre)	£525,000 (£6,8489 per acre)	£600,000 (£8,000 per acre)	£1,370,000 (£7,405 per acre)	(£6,000 per acre)
Comparable Selected By: (number of valuers, n= 31)						
31/31 (100%)	**20/31 (65%)**	**29/31 (94%)**	**20/31 (65%)**	**11/31 (35%)**	**10/31 (32%)**	**6/31 (19%)**
Inconsistent Case Allocation Group (n=31)						
Comparable Evidence Provided						
C1 - Beggers Lane Sold by Auction Feb. 2017	**C2** - Park Lane Sold by Private Treaty. Nov. 2016	**C3** - Black Bank Road Sold by Public Auction Aug. 2016	**C4** - Holehouse Road. Sold by Informal Tender. June 2017.	**C5** - Top Farm For Sale by Private Treaty 4 month on the market	**C6** - Edgehill Road. For Sale by Private Treaty 2 months on the market	**C7** - Bottom Land. For Sale by Private Treaty 3 months on the market
£260,000 (£6,500 per acre)	£1,500,000 (£12,096 per acre)	£400,000 (£14,814 per acre)	£385,000 (£5,022 per acre)	£600,000 (£8,000 per acre)	£1,700,000 (£9,189 per acre)	(£6,000 per acre)
Comparable Selected By: (number of valuers, n= 31)						
27/31 (87%)	**18/31 (58%)**	**18/31 (58%)**	**12/31 (39%)**	**14/31 (45%)**	**7/31 (23%)**	**5/31 (16%)**

Overall, on average, the consistent case allocation group selected 4/7 pieces of evidence for analysis whilst the inconsistent case allocation group selected 3/7 pieces of evidence. Table 58 illustrates that both valuer groups tended to select evidence that was sold, being evidence of actual transactions, but both sets of valuer groups were both prepared to select asking prices for analysis. This should be considered within the context that 5/31 (16%) of the consistent case allocation group and 2/31 (6%) of the inconsistent case allocation group selected all the evidence presented.

Table 58 illustrates that there are some differences here between the two valuer groups in the choices they made as to which evidence to select/reject. The consistent case allocation group tended to select the comparables at Beggers Lane, Park Lane, Black Bank Road and Holehouse Road (C1, C2, C3, C4) which were all evidence of actual sale transactions. The inconsistent case allocation group tended to select Beggers Lane (C1) and were not so attracted to Park Lane, Black Bank Road or Holehouse Lane (C2, C3, C4).

The difference between the information provided to the two groups of valuers about the comparable evidence was the information on sale price. The evidence provided to the consistent case allocation group was designed to provide a more consistent picture of the market for agricultural land which may have convinced the consistent participants that the sale evidence was appropriate to the exercise. For the inconsistent case allocation group the land at Park Lane was 16% dearer than the value provided to the consistent valuers, for the land at Black Bank Road it was 35% dearer, for the land at Holehouse Road it was 26% cheaper. Such manipulations are illustrated in Table 59.

This suggests that the inconsistent case allocation group may have been less willing to select evidence that appeared to be fluctuating or out of line with their own expectations/preconceived opinions. This could explain why a higher percentage of the inconsistent case allocation group selected the land at Top Farm which was more in line with the evidence the consistent case allocation group were in receipt of but was an asking price rather than a sale price.

Table 59 – Differences in values per acre for the comparable evidence presented

Consistent Case Allocation Group (n=31)						
Beggers Lane C1	Park Lane C2	Black Bank Road C3	Holehouse Road C4	Top Farm C5	Edgehill Road C6	Bottom Land C7
£8,000	£10,080	£9,629	£6,848	£8,000	£7,405	£6,000
Inconsistent Case Allocation Group (n=31)						
Beggers Lane C1	Park Lane C2	Black Bank Road C3	Holehouse Road C4	Top Farm C5	Edgehill Road C6	Bottom Land C7
£6,500	£12,096	£14,814	£5,022	£8,000	£9,189	£6,000

It should also be borne in mind that the Chi squared tests conducted found evidence of a relationship between the participants' deviation from the mean valuation and the valuation case group that they were allocated to. It would appear from this analysis that the differing choices being made regarding the selection of comparable evidence between the case allocation groups could be contributing to the differing opinions of values being arrived at by the two case allocation groups and in particular the wider ranging valuations within the inconsistent case allocation group.

7.14 Reasons for rejecting pieces of evidence at the initial sifting stage

Table 60 illustrates the decision rule, or heuristic, adopted by each group of participating valuers when rejecting (or selecting) the comparable evidence that they were going to utilise in order to arrive at their valuation figure. The full data set can be found in Tables 82-83 Appendix 5, pages 397-300.

14/31 (45%) of the consistent case allocation group and 3/31 (10%) of the inconsistent case allocation group chose to reject a piece of evidence on the basis of one attribute, which like the live valuation exercise was illustrative of a heuristic descriptive decision making strategy, the use of simplification mechanisms to deal with complex decisions through the use of one attribute to select/reject an alternative which is consistent with the findings from the Live Valuation Exercise. In the main that one attribute was the SALE PRICE attribute which

highlights this as a key attribute in the selection of comparable evidence. This illustrates that the consistent case allocation group were more prepared to reject evidence on this basis and identified a difference between the selection choices made by the two case allocation groups. It would seem that the consistent case allocation group were more prepared to reject evidence on what they viewed as the most important attribute, SALE PRICE, than their colleagues from the inconsistent case allocation group.

Table 60: Decision making strategies adopted by the participating valuers

Participating valuer rejected evidence on the basis of:	Consistent Case Allocation Group	Inconsistent Case Allocation Group
ONE attribute	14 (45%)	3 (10%)
TWO attributes	2 (6%)	9 (30%)
THREE attributes	3 (10%)	6 (19%)
FOUR attributes	0 (0%)	7 (23%)
FIVE attributes	1 (3%)	2 (6%)
SIX attributes	3 (10%)	1 (3%)
SEVEN attributes	0 (0%)	0 (0%)
EIGHT attributes	1 (3%)	1 (3%)
SELECT all	6 (19%)	2 (6%)
Total	31	31

This could be due to the consistent case allocation group being presented with more consistent evidence which gave them the confidence to reject asking price evidence (C5, C6, C7) whereas the inconsistent case allocation group may have felt the need to select more widely across the evidence due to the inconsistent nature of the evidence presented to them making them less confident to feel able to reject the asking price comparable evidence. As illustrated in Table 60, 61% of the participants from the consistent case allocation group and 59% from the inconsistent case allocation group were rejecting alternatives on their incompatibility on three attributes or less. Participants were not assessing the alternatives against all the possible attributes as identified, they were using simplification mechanisms, or heuristics, based on their personal preferences as to which were the most important attributes.

The participating valuers identified a number of other attributes that they used to select the pieces of evidence at this initial sifting phase. The consistent case allocation group identified and used 12 attributes whilst the inconsistent case allocation group groups identified and

used 14 attributes at the initial sifting stage. Table 61 illustrates that the three most used selection attributes across both groups of valuers were Sale Price, Plot Size and Land Type/Quality. Table 61 also shows was that the consistent case allocation group used the identified attributes 57 times in making the initial selection of evidence whereas the inconsistent case allocation group used the identified attributes 91 times, the latter therefore utilising more attributes to make their selection. The full dataset regarding attribute usage can be found in Appendix 5, Tables 78-81 on pages 293-296.

This could suggest that the inconsistent nature of the comparable evidence presented to the inconsistent case allocation group seemed to be requiring the participants to use a greater range of attributes to select and reject comparable evidence which may have contributed to the wider range of values being produced by the inconsistent case allocation group and this could have contributed to the wider range of valuation figures presented by the participating valuers from the inconsistent case allocation group.

The adaptive decision maker framework (Payne et al., 1993) argues that the choice of decision making strategy is highly contingent on the complexities of the task being undertaken. It would appear from these results that those participating valuers allocated to the consistent case allocation group may have had a simpler decision to make and so chose a less intensive more lexiographic decision strategy to select their comparable evidence. Whereas those participating valuers allocated to the inconsistent case allocation group may have had a more complex and demanding decision due to the inconsistent nature of the comparable evidence and as such this resulted in them adopting a more information intensive decision making strategy.

Table 61: Attributes identified and used for rejecting evidence at the initial sifting stage of the valuation process for the consistent and inconsistent case allocation groups

Attribute Identified by the valuer to select/reject a piece of evidence	*Number from the Consistent Case Allocation group identifying and using this attribute to reject evidence (n=31)*	*Number from the Inconsistent Case Allocation Group identifying and using this attribute to reject evidence (n=31)*
Sale Price (Comparable evidence not an actual sale price)	21	22
Distance (Comparable evidence is too far from the land being valued)	3	5
Plot Size (The area of land comprising the comparable evidence is too dissimilar)	9	13
Land Type/Quality (The quality and/or type of land contained within the comparable evidence is too dissimilar)	6	11
Designations (The environmental restrictions placed on the land comprising the comparable evidence make it too dissimilar)	3	5
Poor Information (The comparable evidence lacks sufficient information to make it useful)	1	5
Recency (The comparable evidence is too out of date to be useful)	1	2
Development Potential (There is planning or planning potential in the comparable evidence)	2	4
Location (The comparable evidence has a different location that makes it less useful)	0	5
Special Purchaser (There is an expectation of special purchaser influence on the comparable evidence)	0	1
Services	2	4

(The availability of services on the comparable evidence e.g. water, irrigation is different)		
Method of Sale (The comparable evidence has been sold via a different method, e.g. Private Treaty, Auction, Tender)	2	4
Obligations (Overage provisions, rights of way are affecting the comparable evidence)	4	9
Access (Better or worse access arrangements are evident at the land comprising the comparable evidence)	3	1
Total Times Attribute Used	**57**	**91**

7.15 Having selected the evidence how was it used?

Once participating valuers had selected their comparable evidence then a total of five techniques were identified that they employed to analyse the selected evidence and determine the valuation figure. Table 62 lists those five techniques and shows who they were used by for each of the valuer groups.

Table 62: Identification of the analytical technique used in utilising the selected comparable evidence to arrive at opinion of value for the consistent and inconsistent case allocation groups

Technique identified and employed to analyse evidence and arrive at opinion of value	***Consistent Case Allocation Group (n=31)***		***Inconsistent Case Allocation Group (n=31)***	
	No.	**%**	**No.**	**%**
Select the best comparable from the selection and apply	0	0	4	13
Make adjustments to the selected evidence on the basis of identified attributes	21	68	22	71
Place the value within a range supported by the selected evidence	2	6	3	10
Use valuer judgement	5	16	1	3
Take an average of the selected evidence	3	10	0	0
Not clear	0	0	1	3

These are the processes adopted by the participating valuers once they had completed their initial sift of the evidence and had chosen to reject some of the evidence or select all the evidence for analysis.

Table 62 illustrates that the technique most utilised was to adjust the selected evidence in the light of the differences and similarities with them and the land being valued. (68% for the consistent case allocation group and 71% for the inconsistent case allocation group). The process of adjustment saw the participating valuers adjusting the selected evidence to account for differences between the evidence and the land being valued. To do this the participating valuers had to identify their adjusting attributes and so Table 63 identifies what attributes the participating valuers used to adjust the evidence for the consistent and inconsistent valuer groups. Table 63 illustrates a range of adjusting attributes with some being utilised more than others but there is a very similar pattern across both groups of participating valuers.

Table 63: Attributes used to adjust comparable evidence

Identified Adjusting Attribute	***Consistent Case Allocation Group (n=31)***	***Inconsistent Case Allocation Group (n=31)***
Plot Size	16	15
Access	12	12
Land Type/Quality	23	21
Designations	10	10
Obligations	13	9
Recency	9	4
Services	11	19
Method	6	1
Sold Prices	3	6
Distance	8	4
Special Purchasers	1	1
Development Potential	4	7
Location	0	5

The adjusting attributes have been divided into three levels of importance ranking according to the frequency of their use in the valuation exercise. Level 1 adjusting criteria (very important) are intended to be the more highly used attributes with Level 2 adjusting attributes

(important) and Level 3 adjusting attributes (desired) being less highly used. These three levels are illustrated in table 64.

Table 64: Frequency of use of identified adjusting attributes for the consistent and inconsistent case allocation groups

Frequency of Use	***Adjusting Attribute***
Level 1 Adjusting Attributes (very important attributes)	Services Land Type/Quality Access Plot Size
Level 2 Adjusting Attributes (important attributes)	Designations Recency Obligations Development Potential
Level 3 Adjusting Attributes (desirable attributes)	Distance Method of Sale Sold Prices Location

7.16 Discussion of Findings

The earlier parts of this chapter identified that both normal and excessive valuation variation existed, and the extent of its existence, amongst those participating valuers engaged with the valuation of agricultural land that formed part of this exercise for both the consistent and inconsistent case allocation groups. It also found evidence of a statistical relationship between the participating valuers' deviation from the mean valuation and the case allocation group that they had been allocated to. This indicated that a potential cause of the identified valuation variation could have been the nature and the interpretation of the comparable evidence presented to the participating valuers. No evidence of any statistical relationships were found with any of the other variables including valuer experience, the number of valuations typically conducted per year or time spent inspecting the land or completing the exercise, although some interesting observations have been made upon further analysis of the data. However overall the results of this valuation exercise point towards the nature of the comparable evidence as being a possible cause of the valuation variation identified.

This section has attempted to further develop the comparable valuation template started in chapter 5 and as part of that it has examined the choices made by the participating valuers when deciding on which pieces of comparable evidence to use. What is apparent from that is that the two case allocation groups made different choices as to which pieces of evidence

to use for their valuation. Those provided with the consistent valuation evidence tended to select the evidence that was sold evidence and consistent in nature. That group of valuers produced a set of valuations with a substantially smaller deviation from the mean valuation of 7.4% compared to 17.4% for the inconsistent case allocation group. Those provided with the inconsistent valuation evidence tended to rely more on the asking prices provided than their consistent case allocation colleagues as the sale evidence as a whole was inconsistent, a clear picture of the market for agricultural land was not emerging from the comparable evidence. That group of valuers have produced a set of valuations with a larger deviation from the mean valuation. This observation would support the chi squared test conducted earlier in this chapter, and point towards the importance of the nature and interpretation of the comparable evidence in determining a reliable and robust valuation figure. The inconsistent evidence was also designed to act as a proxy for a volatile market within which the comparable method may be more difficult to execute, those concerns would seem to be real given the findings of this study. Those using the inconsistent evidence have provided a wider range, and arguably less reliable and convincing range of valuation figures.

Analysis of the valuation returns has also reinforced and is consistent with the findings of the live valuation exercise in that the analysis has also identified an attribute based system of decision making where the valuers have conceptualised the decision as to which comparable evidence to select as a preferential choice problem which they proceed to solve by acquiring and processing information about each alternative and then evaluating those alternatives based upon the attributes of those alternatives. The participating valuers were all presented with seven alternative pieces of comparable evidence, and the participating valuers identified the features, or attributes, upon which they would assess each alternative, thereafter making a choice as to which evidence to utilise in determining their valuation figure. Similar attributes have been identified from the desk based valuation exercise as they were with the live valuation exercise with Plot Size, Access, Land Type/Quality and Services forming important attributes for the participants from both exercises.

This desk based valuation exercise has also enabled an examination of the choice of decision making strategies adopted by the participating valuers when selecting or rejecting comparable evidence. The adaptive decision making framework developed by Payne et al. (1993) held that human decision making was a highly contingent form of information processing and that human decision making is highly sensitive to a wide variety of task and contextual factors in that humans adopt different decision making strategies according to

the complexity of the decision task in front of them and the results of the desk based valuation exercise would tend to support that.

45% of the valuers allocated to the consistent case allocation group chose to reject comparables on the basis of their incompatibility on one attribute whereas the corresponding figure for those allocated to the inconsistent case allocation group was 10%. The valuers in the latter group seem to have felt less able to reject evidence on one attribute and had to enlist the help of more attributes in making a decision. 72% of the valuers in the inconsistent case allocation group used either 2, 3 or 4 attributes to reject comparable evidence whereas the corresponding figure for those in the consistent case allocation group was 16%. The valuation exercise that formed the inconsistent case could probably be perceived as more complex due to the inconsistent nature of the comparable evidence provided and so it would appear that the participating valuers in that group tended to adopt a more complex information intensive decision strategy compared to their colleagues in the consistent case allocation group who tended to use a more lexicographic decision making strategy where evidence was rejected on the basis of what the participating valuers perceived to be the most important attribute which is consistent with the findings from the live valuation exercise.

7.17 Developing the comparable valuation template for agricultural land

The analysis arising from the live valuation exercise presented an outline of a comparable valuation template based on the Appraisal Institute's model for comparable valuation which can now be developed further by taking the six stage conceptual model developed within Chapter 6 and the four stage valuation process identified within this chapter and also taking into account the attributes identified.

As a result of this analysis that valuation template is more fully developed in Figure 27 and contained in Appendix 6, page 306. Other attempts have been made to map either the valuation process (Havard, 1999) and the process of selecting comparable sales (Diaz, 1990a) although neither in the discipline of agricultural land. The latter did identify a two stage process to the selection of comparable evidence not dissimilar to the findings within this thesis. Stage 1 being a selection process and stage 2 being screening process which accepts and rejects comparable sales. However the model advanced by Diaz, (1990a) does not provide details of the processes or the attributes used to select/reject comparable sales which this thesis seeks to do.

The template presented in Figure 27 was presented to a gathering of colleagues from Harper Adams University. A total of six colleagues attended a workshop on Thursday 6th September 2018 held at the University specifically to look at the template that has been developed as part of this thesis. This was done in an attempt to verify the template as being fit for professional practice. All the colleagues attending were involved in the delivery of teaching and learning on the BSc (Hons) Rural Enterprise and Land Management Degree, which is an RICS accredited degree. All were members of the Royal Institution of Chartered Surveyors, some with wide ranging valuation experience prior to joining the lecturing staff at Harper Adams University. At the workshop the template was generally accepted as being a very useful addition to knowledge in this area. Colleagues from the University commented that it lacked any link or consideration to outside market forces at work in the determination of the value of agricultural land over and above those considerations involving the comparable evidence. The template could be amended to accommodate that probably towards the latter stages of the valuation process in the form of some type of reality check. Colleagues found particularly useful the Adjust, Average or Place section of the template which many commented was presented in a form that they had not seen before and could be very helpful in the analysis and use of comparable evidence. Colleagues also inquired as to whether the intention was that the template be used electronically or via more traditional paper based methods. If the latter then a more user friendly, more intuitive layout and design may be useful. This is certainly something to consider in terms of the ways that the template would be disseminated into practice. To be useful to practitioners the template would need to be easy to use and be judged as a valuable addition to the toolkit that they have. This would represent the next developmental stage for this comparable valuation template prior to rolling it out to practice.

CHAPTER 8 - CONCLUSIONS

This study has had objectives that are relevant to a particular area of professional practice being the use of comparable evidence in the valuation of agricultural land. To that end this study has sought to open up to scrutiny the practice of those professional valuers engaged in the valuation of agricultural land with the aim to evaluate the ability of valuers of agricultural land in the UK to produce reliable valuation figures and to enumerate their decision making processes in the selection and use of comparable evidence within a valuation template.

The study has sought to do that by adopting a pragmatic mixed methods approach to research by firstly assessing the performance of the valuers of agricultural land in valuing agricultural land through the use of two valuation exercises. This has involved the participation of eighty practicing valuers of agricultural land in either a live or desk based valuation exercise both of which designed to assess the existence of normal and excessive valuation variation. Secondly this study has sought to identify the causes of any identified excessive valuation variation through an analysis of verbal protocols and valuation returns provided by participating valuers. These verbal protocols and valuation returns have been used to identify how the valuers of agricultural land choose and utilise comparable evidence in the determination of their valuation figures. This was in an effort to map the comparable valuation process and thus to develop a valuation template could be used in practice and whose foundations are rooted in professional practice.

This study has had theoretical objectives that are relevant to the furthering our understanding of the application of descriptive decision theories in valuation practice. To that end this study has examined the preferential choice decision that the valuer has to make in the selection of the comparable evidence that they employ in determining their valuation figures. In particular the study has tried to identify the decision making strategies employed by participating valuers in making that preferential choice. It has sought to identify if that selection of decision making strategy changed when the valuation task became more complex or when the environment within which the valuation was being conducted changed.

This chapter will now set out its conclusions in each of those areas by examining first the conclusions relevant to professional practice and then secondly the conclusions relevant to the theoretical aspects of this study.

8.1 Conclusions – Professional Practice

Research Objective 1:
To evaluate the extent to which valuation variation exists amongst professional valuers engaged with the valuation of agricultural land

Linked Research Questions:
Does valuation variation exist amongst the valuers of agricultural land?
If valuation variation does exist, to what extent does it exist amongst the valuers of agricultural land?

Previous valuation variation studies have confirmed both the existence and extent of valuation variation within the samples used for those studies. Hager & Lord (1985) based upon the returns from ten participating valuers found that their valuations ranged from -12.75% to +1.4% of a control valuation (office property), and from -23.82% to +4.11% (shop property) of a control valuation. Hutchinson et al (1996) found that following an examination of 232 valuations, across the commercial property sector, 80% of the valuation returns reported a valuation figure that fell within +/-20% of the mean valuation with a mean variation, across all 232 valuations, of 9.53%. A further variation study (Havard, 1999b) based on the returns of 18 valuations, based on commercial property, produced seven, or 22%, of the participants, valuation figures being within +/-10% of the mean valuation but also fourteen, or 78% of participants, valuations falling outside +/-10% but within +/-20% of the mean valuation with valuation range of £305,000 to £700,000. The review of literature reviewed the margin of error bracket, +/-10% of the correct valuation, established in *Singer & Friedlander Ltd v John D. Woos [1977]* and subsequently used widely in the courts as a benchmark in the determination of valuation negligence and in that context the current valuation variation studies provide a mixed view of the performance of professional property valuers.

The findings from this study have established the existence of excessive valuation variation but are distinguishable as they relate to a property type not examined before, that being the valuation of agricultural land. In terms of the extent of the existence of valuation variation for the live valuation exercise 78% of the participating valuers (14/18 participants) provided a valuation that fell within +/-10% of the mean valuation. The differences from the mean valuation ranged from -£114,244 (-18.6%) to +£108,256 (+17.6) with an average difference from the mean valuation of 7.8%. However, 22% therefore fell outside the margin of error bracket and so produced a valuation figure illustrating excessive valuation variation. The

range of valuations figures reported in the live valuation exercise were spread over a larger range than those reported by Hager & Lord (1985) but a higher percentage of participants from the live valuation exercise produced a valuation figure that was within +/-10% of the mean valuation than the Hutchinson et al. (1996) or the Havard (199b) studies.

For the desk based valuation exercise those participating valuers allocated the consistent valuation evidence found that 68% (21/31 participants) provided a valuation figure that fell to within +/- 10% of the mean valuation but 32% (10/31 participants) provided a valuation figure that did not fall within +/-10% of the mean valuation and so illustrated the existence of excessive valuation variation. The percentage differences from the mean valuation figures produced ranged from -15.11% to +23.94% for those participating valuers. For the participating valuers allocated the inconsistent valuation evidence only 23% (11/31 participants) produced a valuation figure that fell within +/- 10% of the mean valuation and so 77% (20/31 participants) produced a valuation that fell outside the margin of error bracket producing percentage differences from the mean valuation of -26.21% to +53.73%. The only difference between the desk based valuation exercises was the nature of the comparable evidence presented to the participants. For those presented with the consistent case allocation then the comparable evidence reported market activity that was consistent across the seven comparables presented. For those presented with the inconsistent case allocation then the comparable evidence reported market activity that was inconsistent across the seven comparables. This resulted in stark differences in the valuation figures reported from the two desk based valuation exercise with the consistent case allocation group seeing 68% of valuation figures falling to within +/-10% of the mean valuation and 23% for the inconsistent case allocation group.

If valuations illustrating excessive valuation variation are those valuations being in excess of +/-10% of the mean valuation then respectively 22%, 32% and 77% of the valuations reported on in this study have produced valuation figures indicating excessive valuation variation. Other, non-agricultural based studies, have also produced valuation figures indicating excessive valuation variation. McAllister (1995) 44% of reported valuation figures fell outside the +/-10% bracket, Matysiak & Wang (1995) 70%, Newell & Kishore (1998) 35%, Blundell & Ward (1999) 65%, IPD/Drivas Jonas (2003) 36%, Babawale (2008) 55%. The results from the live valuation exercise within this study and the desk based valuation exercise (consistent case allocation) report lower levels of valuation variation than many of the other studies to date whereas the results from the desk based valuation exercise

(inconsistent case allocation) report higher levels of valuation variation than any of those reported in previous studies.

Based upon that this study can make the following contributions:

1. This is the first study to report upon the performance of the professional valuers of agricultural land.
2. There is evidence that the valuation figures reported on in within this study indicate the existence of both normal and excessive valuation variation in the valuation figures reported by the participants.
3. That 78%, 68% and 23% of the valuation figures produced in this study via the live and desk based valuation exercises have resulted in valuation figures that fell to within what is deemed to be an acceptable margin of error.
4. That 22%, 32% and 78% of the valuation figures produced in this study via the live and desk based exercises have resulted in valuation figures that fell outside what is deemed to be an acceptable margin of error.

Research Objective 2:
To evaluate the causes of any valuation variation identified amongst professional valuers engaged with the valuation of agricultural land

Linked Research Question:
What are the causes of valuation variation amongst the valuers of agricultural land?

Having assessed the performance of the participating valuers the study then tried to identify any causes of the identified valuation variation. The aim of this study was to increase the robustness of the valuation process, and so identifying the causes of may help to mitigate against the causes of inaccuracy. The literature had examined a number of areas that had been explored to assess the cause of valuation inaccuracy. Levy & Schuck (1999) and Babawale (2008) both argued that there were a range of factors that contributed to valuation inaccuracy. These included the characteristics of the individual valuer which formed the initial area of analysis for this study. The results from the live valuation exercise could only provide indications of potential causes of the variation reported as statistical tests were not possible due to the small sample size (n=18).

However the results indicated that those participating valuers with more years of experience and who typically conducted more valuations tasks per year did not necessarily have a

smaller deviation from the mean valuation. Those same more experienced valuers, and who produced a valuation figure with a larger deviation from the mean valuation, also tended to spend less time on the field inspection and less time completing the valuation exercise. In addition 4/18 participant valuers in the live valuation exercise produced valuation figures that illustrated excessive valuation variation. Two of those participant valuers had been deliberately presented with comparable evidence that was either ambiguous or inconsistent compared to the more unambiguous and consistent comparable evidence provided to the remaining sixteen participants.

Statistical analysis of the data from the desk based valuation exercise confirmed the findings of the live valuation exercise and found that there was no evidence of a relationship between the existence of valuation variation and the experience of the participating valuer, the number of valuations typically conducted per year by the participating valuer, the time spent by the participating valuer inspecting the land to be valued and finally the amount of time spent by the participating valuer in analysing the comparable evidence and determining the value of the subject land. This is somewhat contrary to the findings of De Silva (2016) who argued that in analysing valuation negligence cases time spent conducting the valuation and visiting the property and gathering sufficient information had been found to be a key failing by the valuers in those cases.

The desk based valuation exercise however did find strong evidence of a relationship between the participating valuers' deviation from the mean valuation, their variation, and whether they were allocated to the consistent or inconsistent case allocation group and was consistent with the findings from the live valuation exercise. This provided some evidence that the causes of valuation variation amongst this group of participating valuers were possibly more to do with the nature and interpretation of the comparable evidence presented than the individual characteristics of the participating valuers themselves.

This is supported by the analysis of the choices made by participating valuers as to which pieces of the seven pieces of comparable evidence to select for the desk based valuation exercise. Those participants presented with inconsistent comparable evidence tended to make a different choice compared to those in receipt of the consistent comparable evidence. Those participating valuers allocated to the consistent case allocation group selected evidence of actual sold transactions that provided a relatively consistent view of the market and so rejecting the asking price comparable evidence available. Whereas those

participating valuers in the inconsistent case allocation group were more prepared to consider the asking price evidence as the actual sold transactions evidence was less consistently. Those participants in the inconsistent case allocation group also then tended to proceed to make more adjustments to the comparable evidence, which was inconsistent in nature.

Based upon that this study can make the following contributions:

5. That there is no evidence that there is any statistical relationship between the identified valuation variation and the valuation experience of the participating valuers
6. That there is no evidence that there is any statistical relationship between the identified valuation variation and the typical number of valuation conducted per year by the participating valuers
7. That there is no evidence that there is any statistical relationship between the identified valuation variation and the time spent by the participating valuers in inspecting the land or conducting the valuation exercise.
8. That there is evidence that there is a statistical relationship between the identified valuation variation and the nature of the comparable evidence presented to the participating valuers.

Research Objective 3:
To appraise how those engaged with the valuation of agricultural land evaluate, select and utilise comparable evidence in determining their valuation figures?

Linked Research Questions:
What criteria do the valuers of agricultural land use to evaluate the comparable evidence available to them?
How do the valuers of agricultural land select or reject the comparable evidence they wish to use in forming their view as to value?
How do the valuers of agricultural land use their selected comparable evidence to arrive at their valuation

Research Objective 4:
To construct a valuation template that facilitates the evaluation, selection and utilisation of comparable evidence in the determination of valuation figures for agricultural land

Analysis of the transcripts from the live and desk based valuation exercises has enabled the development of the following model for the use of comparable evidence in the valuation of

agricultural land based on a six stage valuation process being Inspect, Evaluate, Select, Adjust and Value.

STAGE 1 Carry out *inspection* of the land to be valued		**INSPECT**
STAGE 2 Identify the *attributes* apparent from the inspection that contribute to the value of the land being valued		**EVALUATE**
STAGE 3 *Evaluate* the comparable evidence against the *attributes* identified that contribute to the value of the land being valued to identify any differences between the evidence and the land being valued		
STAGE 4 *Select/Reject* comparable evidence on the basis of the assessments above		**SELECT**
STAGE 5 *Adjust, Average or Place* in a Range the selected comparable evidence in the light of differences identified above		**ADJUST, AVERAGE OR PLACE**
STAGE 6 Determine *Value* and Report		**VALUE**

Figure 20: Conceptual template of the comparable valuation process when valuating agricultural land

This comparable valuation model is similar in nature, although more strongly contextualised, to the process identified in Figure 10 which illustrated the way in which decision makers are

thought to deal with preferential choice problems. Decision makers tend to acquire information about the choices presented to them, evaluate that information based upon its attributes, or characteristics, before employing a decision strategy to make a choice as to which information to use.

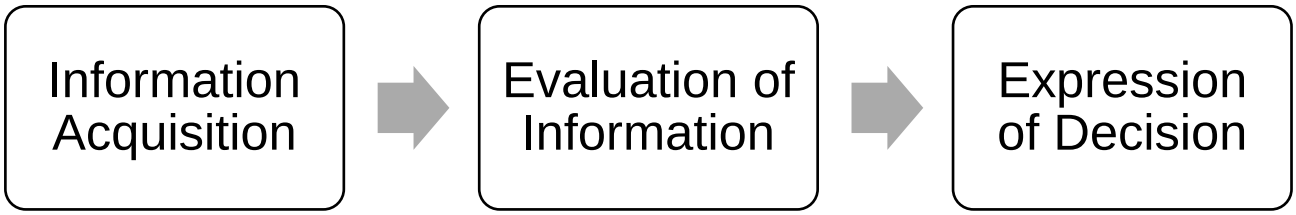


Figure 10: The sequence of stages for dealing with a preferential choice problem

The findings from the live valuation exercise illustrate that the participating valuers evaluated the comparable evidence by identifying a total of twelve attributes upon which they evaluated the usefulness of comparable evidence, these being SALE PRICE, DISTANCE, PLOT SIZE, LAND QUALITY, DESIGNATIONS, RECENCY, DEVELOPMENT POTENTIAL, LOCATION, SERVICES, METHOD OF SALE, OBLIGATIONS AND ACCESS.

Having identified twelve attributes upon which the comparable evidence was evaluated all 17 participants to the live valuation exercise then proceeded to select their comparable evidence by rejecting comparable evidence that was not comparable on what could be described as what they felt were the most important attributes. These attributes were DISTANCE (11/17), LAND QUALITY (8/17) AND SALE PRICE (7/17) with other attributes being used with much less frequency.

For the desk based valuation experiment 55/61 of the participating valuers likewise proceeded to select comparable evidence by rejecting comparable evidence that was not comparable on what were again seen as the most important attributes. These attributes were SALE PRICE (43/62), PLOT SIZE (22/62), LAND QUALITY (17/62) and OBLIGATIONS (13/62). The remaining 7/62 participating valuers selected all the comparable evidence presented to them.

Having selected their comparable evidence the valuers from both valuation exercises then proceeded to utilise their comparable evidence in order to arrive at their valuation figure.

The analysis of the transcripts identified a number of analytical techniques. For the live valuation experiment they were as follows. MAKING ADJUSTMENTS (8/17), PLACING WITHIN A RANGE (3/17), TAKING AN AVERAGE (5/17) with the remaining 1/17 being unclear. For the desk based valuation experiment similar analytical techniques were identified being MAKING ADJUSTMENTS (43/62), PLACING WITHIN A RANGE (5/62), TAKING AN AVERAGE (3/62), SELECT THE BEST (4/62), USING VALUER JUDGMENT (6/62), with the remaining 1/62 being unclear.

It was the ambition of this study to develop some form of valuation template, which does not exist at the moment, within which practicing valuers of agricultural land could undertake comparable valuations of agricultural land. This template would be designed and based on actual practice captured from the data collected from this study. The template would provide a common and transparent approach to comparable valuation in relation to the valuation of agricultural land. This template is an attempt to improve the robustness of the valuation process, to provide a tool for practitioners to use that could withstand rigorous testing should that valuer need to defend their valuation figure within any forum. The comparable valuation template presented in Figure 27, Appendix 6, page 306 is an attempt to bring together the overarching valuation process identified within this study as well as the range of attributes identified within this study.

Based upon that this study can make the following contributions:

9. A comparable valuation model has been developed and is presented as part of this study with specific reference to the valuation of agricultural land.
10. The participating valuers dealt with the choice decision involved in selecting/rejecting comparable evidence by conceptualising it as a preferential choice problem whereby alternatives were identified, evaluated and then decided upon.
11. The most important attributes in the selection, or rejection of comparable evidence are DISTANCE LAND QUALITY, SALE PRICE, PLOT SIZE and OBLIGATIONS.
12. 85% of all participating valuers upon selecting their comparable evidence used it to arrive at their final valuation figure through a process of either adjusting, averaging or placing it within a range.
13. A comparable valuation template has been developed and is presented as part of this study for use in the valuation of agricultural land.

8.2 Conclusions - Descriptive Decision Theory

This section of the conclusions will address the following research objectives and research questions.

Research Objectives 5 & 6:

To evaluate the application of descriptive decision theory in the selection of comparable evidence

To assess if the choice of decision heuristic changes when the valuation task or the environment within which the valuation is conducted becomes more complex

Linked Research Questions:

How do the valuers of agricultural land select or reject the comparable evidence they wish to use in forming their view as to value?

Do the valuers of agricultural land change the way they select or reject comparable evidence when the valuation task becomes more complex?

Do the valuers of agricultural land change the way they select or reject comparable evidence when the environment within which the valuation is conducted becomes more complex?

The theoretical aspects of this thesis are founded within the decision making literature. More specifically the use of descriptive decision theory in the decision strategies employed by the agricultural valuer when they choose the comparable evidence, from a range of alternatives available to them, that they wish to utilise in determining their valuation figures.

Previous studies, (Diaz, 1990a, 1990b, Havard, 1999b), none of which are centred on agricultural land, have found that the decisions taken by valuers tend to be descriptive rather than normative in nature. Normative decision theory argues that decision makers make decisions in accordance with how humans should take decisions by evaluating all the information available to them concerning each alternative and then choosing the best alternative from that assessment. Descriptive decision theory argues that human decision making is not actually like that due to the limited computational capacity of the human mind (Simon, 1955). As a result of that descriptive theory argues that decision makers adopt short cuts, simplification mechanisms, or heuristics, to simplify a decision. This approach to decision making tries to limit the effort needed by a decision by limiting the amount of information evaluated whilst trying to ensure the level accuracy in any decision is maintained in what is termed the effort/accuracy trade –off.

It was the existence of the anchoring and adjustment heuristic, first identified by Kahneman & Tversky (1972), that has been examined closely within valuer behaviour and decision

making research. They (Havard, 1999b) argue that valuers react to the mass of information available to them. The valuer, when presented with a valuation task, initial forms an opinion or anchor as to what they think the value of the property asset is without any reference to the property asset or the information that they have to hand. Having formed this initial anchor the valuer then seeks to adjust that anchor in the light of their inspection of the property asset and through consulting the property related information available to them. This consultation with the property related information, it is argued, could be curtailed due to the establishment of the initial anchor in that once sufficient information has been examined to conform the anchor as correct then the information processing ceases and the valuation figure is determined.

These previous studies have all revolved around residential and/or commercial property and so this study seeks to extend our theoretical understanding in that regard into a new area of property research, agricultural land. This study has sought to explore the use of the comparable evidence in the valuation of agricultural land. It has sought to identify the nature of the decision making strategies employed by a valuer of agricultural land when making a choice as to the most appropriate comparable evidence to use in determining their valuation figure. It has sought to determine if the decision making strategies adopted by the valuers of agricultural land are similarly descriptive in nature as they are for their residential and commercial colleagues.

Analysis of the 17, complete, valuation transcripts from the live valuation exercise and the 62 returns from the desk based valuation exercise has illustrated the adoption of descriptive decision making techniques through the use of simplification mechanisms or heuristics by large portions of the participating valuers. In 15/17 of the live valuation exercise returns the participating valuers chose to reject certain pieces of evidence due to their incompatibility on what they perceived to be the most important attribute(s). The returns from the remaining 2/17 transcripts were inconclusive in this area. Of those 15 participants 4/15 rejected evidence due to its incompatibility on one attribute, 5/15 on the basis of its incompatibility on two attributes, 3/15 participating valuers on the basis of three attributes or less, 2/15 on the basis of four attributes and 1/15 on the basis of five attributes. Participant valuers appeared to be illustrating the adoption of heuristic decision making strategies in their selection of comparable evidence. Rather than interrogating all the comparable evidence fully and in detail, which normative decision theory would dictate, they were identifying what they perceived to be the most important attributes as their method of removing alternatives to

simplify the decision they had to make. The participating valuers were engaged in a process of non-compensatory decision making in that the participants did not seek to trade off good scores on one attribute against poorer scores on other attributes which would have been more compensatory in nature, that a more intensive information processing was not evident in the transcripts.

A similar decision making strategy pattern emerged from the analysis of the desk based valuation returns. For those participating valuers that were allocated the consistent case allocation 14/31 rejected alternatives due to their incompatibility on one attribute, 2/31 on the basis of two attributes, 3/31 on the basis of three attributes 1/31 on the basis of five attributes, 3/31 on the basis of six attributes and 1/31 on the basis of eight attributes. For those participating valuers that were allocated the inconsistent case allocation the corresponding returns were 3/31, 9/31, 6/31, 7/31, 2/31. Of the 62 participating valuers who undertook the desk based valuation exercise then only 8 (13%) did not proceed by rejecting alternatives electing instead to select all the alternatives for analysis.

These findings illustrate that for the participants in the Live Valuation Exercise 4/17 and the desk based exercise 17/62 of the participants chose to reject comparable evidence on the basis of their incompatibility with either one attribute which they had judged to be the single most important attribute. This is consistent with what has been referred to as the lexiographic decision making heuristic within descriptive decision making theory. This sees the decision maker making a choice between alternatives by rejecting all those alternatives that are not compatible on what the decision makers sees as the single most important attribute. For the Live Valuation Experiment 11/17 and for the desk based exercise 47/62 of the participants chose to reject comparable evidence on the basis of their incompatibility with what they considered to be the most important attributes. This was more indicative of a decision making heuristic more akin to elimination by aspect. This sees the decision maker rejecting those alternatives that are not compatible on the most important attribute first, then those alternatives not compatible on the second most important attribute and then the third and so on until the choice has been made.

In addition to identifying the adoption of descriptive decision heuristics in comparable valuation work this study has also sought to examine that if in situations where the valuation task itself or the environment within which valuations undertaken became more complex or changed as to whether the choice of decision making heuristic would change. It sought to

ascertain if the decision maker adapted their choice of decision making strategy to the task situation that they found themselves in. The Adaptive Decision Making Framework (Payne et al, 1993) argues that in such situations where the valuation task is more complex or the valuation environment is different then the decision maker would adapt their choice of decision strategy to a more information intensive decision strategy that was possibly more normative in nature. The adaptive decision making framework developed by Payne et al. (1993) held that human decision making is a highly contingent form of information processing and that human decision making is highly sensitive to a wide variety of task and contextual factors in that humans adopt different decision making strategies according to the complexity of the decision task in front of them.

Adjustments to the live valuation exercise attempted to provide for a range of more and less complex valuation situations in an attempt to ascertain if the valuer decision maker was adaptive as suggested by Payne et al (1993) in their Adaptive Decision Making Framework. So, in order to provide differing levels of complexity to the valuation task 3/18 participating valuers were presented with four pieces of comparable evidence to choose from, 4/18 were presented with seven pieces and 3/18 were presented with twelve pieces. In addition 2/18 valuers were classified as being geographically unfamiliar with the location, 2/18 valuers were presented with comparable evidence that was deliberately manipulated to be ambiguous, 2/18 valuers were presented with evidence that was deliberately inconsistent and 2/18 valuers had a valuation task that was deemed more significant. This study has found that the decision heuristic selected across all the differing valuation scenarios did not change and that there was very limited evidence of any changes to the decision heuristic being adopted.

The desk based valuation exercise concentrated on examining a particular aspect of the valuation environment and the impact that had on the choice of decision making strategies of the participating valuers. That was the nature of the alternatives, or comparable evidence presented. 31 participating valuers were presented with alternatives that created a consistent view of the market for agricultural land whilst 31 valuers were presented with alternatives that created an inconsistent view of the market for agricultural land. What did emerge from the data was that those valuers allocated the consistent case were more prepared to reject alternatives based upon their incompatibility with one attribute (45%) compared to those allocated the inconsistent case (10%). When a similar comparison is made between the two case allocation groups and those participant valuers prepared to

reject alternative based upon their incompatibility with three attributes then the participants are more even at 61%:59%, there is little difference between the two case allocation groups. It is possible that the inconsistent nature of the alternatives for those participants allocated the inconsistent case has made those participants less inclined to rely on just one attribute needing more persuasion from other attributes to reject an alternative.

Based upon this the following contributions have been made:

14. That 87% of all participating valuers adopted a descriptive decision making heuristic during the process of selecting comparable evidence for use in the valuation of agricultural land.
15. That 27% of all participating valuers rejected comparable evidence on the basis of what they perceived to be the single most important attribute illustrating a lexiographic information processing heuristic.
16. That 60% of all participating valuers rejected comparable evidence on the basis of what they perceived to be the most important attributes illustrating an elimination by aspect information processing heuristic.
17. That there is no evidence of different decision making heuristics being adopted when the valuation task or the environment within which the valuation is being undertaken is made more complex.

4.3 RECOMMENDATIONS

The principal aim of this thesis was to improve the robustness of the valuation figures being produced by the valuers of agricultural land for their clients in the UK. This thesis has attempted to do that by providing evidence that whilst finding that both normal and excessive valuation variation exist finding that any efforts to reduce it should be concentrated on the nature of the comparable evidence being utilised.

Evidence from the interviews pointed towards a frustration with the lack of comparable data being available and the lack of transparency and the imperfect nature of the comparable datasets being available. Valuers tended to hold close sources of comparable information perhaps in an attempt to control some form of competitive advantage. Comparable valuation is central to the valuation of agricultural land and so it should be based on sound datasets which are transparent, comprehensive and available, that could provide a basis for more robust valuations to be provided to clients and form the basis upon which those engaged in the valuation of agricultural land would be able to be more certain as to the value of the land they are valuing. In short everyone would win with the provision of an information rich, verified national database of agricultural land sales which does not exist at present.

The process of data sharing has long being promoted within academic research and particularly in health care to expand the boundaries of knowledge for the benefits of all. Such data sharing would create opportunities to accelerate the progress of research and improvements in valuation.

Other attempts to improve the robustness of the comparable valuation work being conducted that emerge from this thesis is the development of a comparable valuation template within which comparable valuations, for agricultural land, could be conducted thereby providing some consistency in the approaches and applications in such valuation work and by this improving the robustness of the valuation figures being produced. This Template has been developed from the practice identified from both the live and desk based valuation exercise conducted and reported on within this thesis, it is an attempt to map professional practice. However the template will only be as good as the comparable evidence used within it and so hence the reasons for the recommendations outlined above relating to the availability of comparable evidence in this field.

Whilst the comparable valuation template has been exposed to a very limited audience through the use of a workshop with colleagues from Harper Adams University the next

step would be to disseminate it into practice more widely. This is a professional doctoral thesis and so its findings should be for practitioners, some of whom have contributed to its creation. This could be through small focus groups or conference papers which could also be adapted for articles for the professional journal press. The comparable valuation Template could also be disseminated into practice through rolling it out to the students at Harper Adams University to seek their views on its usefulness as they embark on acquiring the appropriate valuation skills to enable them to achieve their RICS Assessment of Professional Competence qualification.

14.4 LIMITATIONS

The limitations of this research lie in the design of the two valuation exercises. The review of literature was critical of some of the research designs from previous research in that some may have not allowed participants to exhibit normal behaviour and there are elements of that within the design of the research undertaken and reported upon within this thesis. The participating valuers were not able to source their own comparable evidence nor were they able to verify the comparable evidence in any way, as they would in practice. The participants could only use the information supplied to them for the valuation task whereas in normal practice they would investigate and research further any relevant issues that arose about the agricultural land arising from their inspection of that agricultural land. Valuations within professional practice are often conducted in a busy and dynamic office environment whereby the valuer reflects upon their thoughts over a period of time and consults colleagues as to their thinking. This the participating valuers were unable to do when they undertook the live valuation exercise reported upon here. For the desk based valuation exercise no inspection of the land was undertaken.

It is not possible here to conclude that the sample (80 no.) involved with the two valuation exercises are representative of the population of agricultural valuers targeted (1104 no.). Whilst the thesis does report on four interviews, eight valuations and seventy nine valuation transcripts, resulting in the development of a comparable valuation Template, given more time and resources, a better response rate and thus a larger sample may detect more significant relationships.

The limitations relating to one element of the research design within the live valuation experiment have already been discussed in section 10.2.3.

14.5 AREAS FOR FURTHER RESEARCH

Upon reflection there are a number of areas relating to the use of comparable evidence in valuation work that could be explored. These would be as follows:

1. The comparable valuation template developed within this thesis has been subjected to a process of verification, albeit with a small group. Further research could now be undertaken to test the applicability of the template in professional practice amongst a larger audience in order to develop it further.

2. More work could be done to look at the developing an electronic user friendly version of the comparable valuation template which is currently restricted to a paper format.

3. This thesis has used valuation variation as a test of valuer performance, other studies could use valuation accuracy as an alternative test so long as a reliable database could be identified. This would allow an alternative view as to valuer performance to be developed.

4. This thesis, for expediency, restricted itself to the valuation practice in relation to bare agricultural land. Comparable evidence is used in the valuation of other property types like residential houses as well as underpinning investment and residual method type valuation work. The selection and use of comparable evidence in those disciplines could be explored.

5. This study has relied on the design and use of two valuation exercises in order to examine professional practice. A further development would be to identify a suitable source of actual valuation reports completed by an agricultural valuer, or firm of agricultural valuers, and analyse that practice in order to ascertain practice and to compare those findings to the findings of this study in order to verify the outcomes of this study.

REFERENCES

Adair, A., Berry, J., & McGreal, S. (1996) Valuation of residential property: analysis of participant behaviour. J*ournal of Property Valuation and Investment*, *14* (1), 20-35

Adair, A., Hutchinson, N., MacGregor, B., McGreal, S., & Nanthakumaran, N. (1996). An analysis of valuation variation in the UK commercial property market: Hager and Lord revisited. *Journal of Property Investment and Finance, 14*(5), 34-47.

Appraisal Institute (2001) *The Appraisal of Real Estate*. (12th ed. Illinois: The Appraisal Institute

Babawale, G. (2013). Valuation accuracy - the myth, expectation and reality! *African Journal of Economic and Management Studies, 4*(3), 387-406.

Babawale, G., & Omirin, M. (2012). An assessment of the relative impact of factors influencing inaccuracy in valuation. *International Journal of Housing Markets and Analysis, 5* (2), 145-160.

Babawale, G. K. (2008). *An evaluation of the factors influencing inaccuracy in residential property valuation in Lagos metropolis* (PhD).

Babawale, G. K., & Omirin, M. M. (2011). Valuers' and valuation firms' characteristics as causes of inaccuracy in valuation in Nigeria. *Mediterranean Journal of Social Sciences, 2*(3), 12-23.

Bainbridge, L., & Sanderson, P. (1995) Verbal Protocol Analysis IN Wilson, J.R., & Corlett, E.N. Evaluation of Human Work - a practical ergonomics methodology (2nd ed.) London: Taylor Francis

Baron, J. (1996) Norm-endorsement utilitarianism and the nature of utility, *Economics and Philosophy, 12,* 165-182 In: Baron, J. (2004) Normative Models of Judgement and Decision Making. Eds. Koehler, D.J., & Harvey, N. (2004) Blackwell Handbook of Judgement and Decision Making. Oxford: Blackwell Publishing

Baron, J. (2004) Normative Models of Judgement and Decision Making. Eds. Koehler, D.J., & Harvey, N. (2004) Blackwell Handbook of Judgement and Decision Making. Oxford: Blackwell Publishing

Beach, L. R., & Mitchell, T. R. (1978). A contingency model for the selection of decision strategies. *Academy of Management Review, 3*(3), 439-449. doi:10.5465/AMR.1978.4305717

Bennett, A., & Checkel, J.T. (2015) *Process Tracing From Metaphor to Analytical Tool*. Cambridge: Cambridge University Press

Beresford, B., & Sloper, T. (2008). *Understanding the dynamics of decision making and choice: A scoping study of key psychological theories to inform the design and analysis of the panel study.* York: Social Policy Research Unit, University of York.

Bettman, J.R., Johnson, E.J., Luce, M.F., & Payne, J.W. (1996) Correlation, Conflict and Choice. *Journal of Experimental Psychology: Learning, Memory and Cognition, 19,* 931-951

Black, R. T. (1997). Expert property negotiators and pricing information information revisited. *Journal of Property Valuation and Investment, 15*(3), 274-281.

Black, R. T., & Diaz III, J. (1996). The use of information verses asking price in real property negotiation process. *Journal of Property Research, 13*(2), 287-297.

Blackledge, M. (2017). *Introducing property valuation* (2nd ed.). Oxford: Routledge.

Blundell, G. F., & Ward, C. W. R. (1999). *The accuracy of valuations-expectations and reality.* Reading: University of Reading.

Bowles, G., McAllister, P., & Tarbert, H. (2001). An assessment of the impact of valuation error on property investment performance measurement. *Journal of Property Investment and Finance, 19*(2), 139-155.

Bretten, J., & Wyatt, P. (2001). Variance in commercial property valuations for lending purposes: An empirical study. *Journal of Property Investment and Finance, 19*(3), 267-282.

Brown, G. R. (1985). Property investment and performance measurement: A reply. *Journal of Valuation, 4*(1), 33-44.

Brown, G. R., Matysiak, G., & Shepherd, M. (1998). Valuation uncertainty and the Mallinson Report. *Journal of Property Research, 15*, 1-13.

Bryman, A. (2008) *Social Research Methods* (3rd ed.) Oxford: Oxford University Press.

Cabinet Office. (2008). *Food matters: Towards a strategy for the 21st century.* London: COI Communications.

Carter Jonas. (2015). *Autumn/Winter 2015 A summary of land and farm agency performance across the regions.* London: Carter Jonas. Retrieved on 13 August 2018 from http://www.carterjonas.co.uk/~/media/Publications/Rural%20Agency%20Bulletin%20-%20Winter%202015.ashx

Central Association of Agricultural Valuers (2016) Professionals in the Countryside. Retrieved on 1 February 2016 from https://www.caav.org.uk/

Cole, R., Guilkey, D., & Miles, M. (1986). Toward an assessment of the reliability of commercial appraisals. *The Appraisal Journal*, 422-432.

Collins. (1996). *Collins English Mini Dictionary* HarperCollins publishers.

Crane, A., & Matten, D. (2007) *Business Ethics* (2nd ed.) Oxford: Oxford University Press

Cresswell, J.W. (2013) *Qualitative Inquiry and Research Design Choosing Among Five Approaches* (3rd ed.) London: Sage.

Cresswell, J.W., & Cresswell, J.D. (2018) *Research Design: Qualitative, Quantitative and Mixed Method Approaches.* (5th ed.) London: SAGE

Crosby, N. (2000). Valuation accuracy, variation and bias in the context of standards and expectations. *Journal of Property Investment and Finance, 18*(2), 130-161.

Crosby, N., Lavers, A., & Foster, H. (1998). Commerical property loan valuations in the UK: Implications of current trends in valuation practice and legal liability. *Journal of Property Research, 15*(3), 183-209.

Crosby, N., Lavers, A., & Murdoch, J. (1998). Property valuation variation and the "margin of error" in the UK. *Journal of Property Research, 15*(4), 305-330.

De Silva, C. (2016). *Negligent valuation casebook - key cases from the 19th-21st centuries*. Shropshire: Harper Adams University.

DEFRA. (2017). *Agriculture in the UK 2016.* London: DEFRA.

Development Economics. (2017). *Contributions of Agriculture - Final Report.* London: NFU.

Diaz III, J. (1990a). How appraisers do their work: A test if the appraisal process and the development of a descriptive model. *Journal of Real Estate Research, 5*(1), 1-5.

Diaz III, J. (1990b). The process of selecting comparable sales. *The Appraisal Journal, 58*(4), 533-540.

Diaz III, J. (1997). An investigation into the impact of previous expert value estimates of appraisal judgement. *Journal of Real Estate Research, 13*(1), 57-66.

Diaz III, J. (1999). The first decade of behavioural research in the discipline of property. *Journal of Property Investment and Finance, 17*(4), 326-332.

Diaz III, J., Gallimore, P., & Levy, D. (2002). Residential valuation behaviour in the United States, the United Kingdom and New Zealand. *Journal of Property Research, 19*(4), 313-326. doi:10.1080/09599910220008321

Diaz III, J., Gallimore, P., & Levy, D. (2004). Multicultural examination of valuation behaviour. *Journal of Property Investment and Finance, 22*(4), 329-346.

Diaz III, J., & Hansz, J. A. (1997). How valuers use the value opinion of others. *Journal of Property Valuation and Investment, 15*(3), 256-260.

Diaz III, J., & Hansz, J. A. (2001). Valuation bias in commercial appraisal: A transaction price feedback experiment. *Real Estate Economics, 29*(4), 553-565.

Diaz III, J., & Wolverton, M. (1998) A longitudinal examination of the appraisal smoothing hypothesis. *Real Estate Economics, 26*(2), 349-358

Edwards, W. (1954) The theory of decision making. *Psychological Bulletin, 51*(4), 380-417.

Einhorn, H.J., (1970) The use of nonlinear non-compensatory models in decision making. *Psychological Bulletin, 73,* 211-230

Einhorn, H.J., & Hogarth, R.M. (1981) Behavioural decision theory: Processes of judgement and choice. *Annual Review of Psychology, 32*. 53-88

Eraut, M. (1994) *Developing Professional Knowledge and Competence* London: Routledge Farmer

Ericsson, K.A., & Simon, H.A. (1993) Protocol Analysis: Verbal Reports as Data. Massacusetts: MIT Press

Evans, J. (1989). Biases and human reasoning: causes and consequences. Hillsdale NJ: Erlbaum.

Fisher, J.D.,Miles, M.E., Webb, R.B. (1999). How reliable are commercial appraisals? Another look. *Real Estate Finance, 18*(1), 13-32.

French, N., & Gabrielli, L. (2004). The uncertainty of valuation. *Journal of Property Investment and Finance, 22*(6), 484-500.

Gallimore, P. (1994). Aspects of information processing in valuation judgement and choice. *Journal of Property Research, 11*(2), 97-110.

Gallimore, P. (1996). Confirmation bias in the valuation process: A test for corroborating evidence. *Journal of Property Research, 13*(4), 261-273.

Gallimore, P. (2002). The components of appraisal accuracy. In Wang, K. & Wolverton, M. (Eds.), *Real estate valuation theory* (pp.45-62). Boston, MA: Kluwer.

Gallimore, P., & Wolverton, M. (1997). Price-knowledge induced bias: A cross cultural comparison. *Journal of Property Valuation and Investment, 15*(3), 261-273.

Gallimore, P., & Wolverton, M. (2000). The objective of valuation: A study of the influence of client feedback. *Journal of Property Research, 17*(1), 47-57.

Geho, M. L. (2004). Thin property markets and valuation variance: The evidence from Tanzania. Paper presented at the *AFRES Conference 12-13 March 2004,* Kampala.

Gill, J & Johnson, P. (2010) *Research Methods for Managers*. (4th ed.) London: Sage.

Global Food Security. (2017). The UK cross - government programme on food security research. Retrieved on 13 August 2018 from https://www.foodsecurity.ac.uk/challenge/uk-threat/

Gov.uk. (2018) Landmark Agriculture Bill to deliver a Green Brexit. Retrieved on 13th September 2018 from: https://www.gov.uk/government/news/landmark-agriculture-bill-to-deliver-a-green-brexit

Hager, D. P., & Lord, D. J. (1985). *The property market, property valuations and property performance measurement* .Institute of Actuaries.

Hardin, W. (1999). Behavourial research into heuristics and bias as an academic pursuit: Lessons from other disciplines and implications for real estate. *Journal of Property Investment and Finance, 17*(4), 333-352.

Havard, T. (1995). Valuation verses valuation accuracy, the effect of methodology and behaviour. Paper presented at the *Royal Institution of Chartered Surveyors 1995 Cutting Edge Conference,* Aberdeen.

Havard, T. (1999a). Do valuers have a greater tendency to adjust a previous valuation upwards or downwards? *Journal of Property Investment and Finance, 17*(4), 365-373.

Havard, T. (1999b). *Valuer behaviour and the causes of excessive variance in commercial investment property valuation* (A Thesis submitted to the University of Manchester Institute of Science and Technology for the Degree of Doctor of Philosophy).

Havard, T. (2001). *Valuation reliability and valuer behaviour.* London: Royal Institution of Chartered Surveyors.

Herrgard, T.H. (2000) Difficulties in the Diffusion of Tacit Knowledge in Organisations. *Journal of Intellectual Capital 1* (4), 357-365

Hiironen, H., Niukkanen, K., Ohrankämmen, J., & Laitala, A. Margin of Error' in Property Valuations – is There a Need for Safety Margins in Compulsory Acquisitions? FIG Congress 2014, Engaging the Challenges - Enhancing the Relevance, Kuala Lumpur, Malaysia 16 – 21 June 2014

Hogarth, R.M. (1987) *Judgement and choice* (2nd ed.) New York: Wiley

Hutchinson, N., MacGregor, B., Adair, A., & McGreal, S. (1996). *Variations in the capital valuations of UK commercial property.* London: Royal Institution of Chartered Surveyors.

International Valuation Standards Council (2017) International Valuation Standards IN RICS 2017b. RICS Valuation Global Standards 2017. London: RICS

Investment Property Databank. (2013) *IPD UK Annual Rural Property Index. Results for the year to 31st December 2012.* London: IPD.

Investment Property Forum (2009) *Issues in Property Investment Valuation: A discussion paper for the Investment Property Forum*

IPD/Drivers Jonas. (1988). *The variations in valuation.* London: Drivers Jonas.

Jennings, D., & Wattam, S. (1994) Decision Making an Integrated Approach. London: Pitman Publishing

Johnson, E., & Payne, J. W. (1985). Effort and accuracy in choice. *Management Science, 31*, 395-414.

Kahneman, D. (2011) T*hinking, Fast and Slow.* London: Penguin

Kahneman, D., & Tversky, A. (1979) Prospect theory: An analysis of decision making under risk. *Econometrica, 47,* 263-291

Tversky, Amos; Kahneman, Daniel (1981). "The Framing of decisions and the psychology of choice" *Science, 211*, 453–58

Kahneman, D., & Tversky, A. (1982) Variants of uncertainty. In Kahneman, D., Slovic, P. & Teversky, A. (eds) *Judgement under uncertainty: Heuristics and Biases.* Cambridge University Press

Kinnard, W. N., Lenk, M., & Worzala, E. (1997). Client pressure in the commercial appraisal industry: How prevalent is it? *Journal of Property Valuation & Investment, 15*(3), 233-244. doi:10.1108/14635789710184952

Knight Frank. (2014). *Cultivating the best returns.* London: Knight Frank.

Levy, D., & Schuck, E. (1999). The influence of clients on valuations. *Journal of Property Investment and Finance, 17*(4), 380-400.

Lin, T., & Chang, H. (2012). How do appraisers absorb market information in property valuation: some experimental evidence *Property Management, 30*(2), 190-206.

Lizieri, C., & Venmore-Rowland, P. (1991). Valuation accuracy: A contribution to the debate. *Journal of Property Research, 8*, 115-122.

Main, A. (1994). Reflection and Development of Learning Skills Eds. Boud, D., Keogh, R. and Walker, D. (1994) *Reflection: Turning Experience into Learning* (pp.91-99) Oxon: Routledge Falmer

Mallinson, M., & French, N. (2000). Uncertainty in property valuation: The nature and relevance of uncertainty and how it might be measured. *Journal of Property Investment and Finance, 18*(1), 13-32.

Market Research Society (2015) MRS Regulations for Administering Incentives and Free Prize Draws. Retrieved from: https://www.mrs.org.uk/pdf/Regulations%20for%20Incentives%20and%20Prize%20Draws%20July%202015.pdf

Matysiak, G., & Wang, P. (1995). Commercial property prices and valuations: Analysing the correspondence. *Journal of Property Research, 12*, 181-202.

McAllister, P. (1995). Valuation accuracy: A contribution to the debate. *Journal of Property Research, 12*, 203-216.

Merritt, P. (2018) Decision Making under uncertainty: Heuristic Approaches. Retrieved from: https://www.youtube.com/watch?v=pBKnp0_l-ws

Millington, A. F. (2000). *An introduction to property valuation* (5th ed.). London: EG Books.

Newell, G., & Kishore, R. (1998). The accuracy of commercial property valuations. Paper presented at the *4th Pacific Rim Real Estate Society Conference,* Perth, Australia.

Northcraft, G. B., & Neale, M. A. (1987). Experts, amateurs and real estate: An anchoring and adjustment perspective on property pricing decisions. *Organisational Behaviour and Human Decision Processes, 39*, 84-97.

Over, D. (2004) Rationality and the Normative/Descriptive Distinction. Eds. Koehler, D.J., & Harvey, N. (2004) Blackwell Handbook of Judgement and Decision Making. Oxford: Blackwell Publishing

Parker, D. (1999) A note on valuation accuracy: An Australian case study. *Journal of Property Investment and Finance, 17*(4), 401-411.

Payne, J. W. (1976) Task complexity and contingent processing in decision making: An information search and protocol analysis. *Organizational Behavior and Human Performance, 16*(2), 366-387. doi: http://dx.doi.org.salford.idm.oclc.org/10.1016/0030-5073(76)90022-2

Payne, J.W. (1982) Contingent Decision behaviour. *Psychological Bulletin, 92* 382-402

Payne, J.W., Bettman, J.R. & Johnson, E.J. (1988) Adaptive Strategy Selection in Decision Making. *Journal of Experimental Psychology: Learning, Memory and Cognition, 14,* 534-552

Payne, J.W., Bettman, J.R., Johnson, E.J. (1993) *The adaptive decision maker*. Cambridge: Cambridge University Press.

Payne, J.W., & Bettman, J.R. (2004) Walking with the Scarecrow: The Information Processing Approach to Decision Research. Eds. Koehler, D.J., & Harvey, N. (2004) Blackwell Handbook of Judgement and Decision Making. Oxford: Blackwell Publishing

Pearson, M. & Smith, D. (1994) Debriefing in Experienced-based Learning. Eds. Boud, D., Keogh, R. and Walker, D. (1994) *Reflection: Turning Experience into Learning* (pp.69-84) Oxon: Routledge Falmer

Plous, S. (1993) *The Psychology of Judgement and Decision Making*. USA: McGraw Hill

Polyani, M. (1966) *The Tacit Dimension* London: Routledge

Punch, K.F. (2006) *Developing Effective Research Proposals*. London: SAGE

Research Ethics Guide Book (2018) Compensation, rewards or incentives? Retrieved from: http://www.ethicsguidebook.ac.uk/Compensation-rewards-or-incentives-89

RICS. (1994) *The Mallinson Report: Commerical property valuations.* London: RICS.

RICS. (1998) *Appraisal and valuation manual*. London: RICS.

RICS. (2011) *RICS practice statements UK: Valuation of rural property GN83/2011*. London: RICS.

RICS. (2012) *RICS professional practice information: Comparable evidence in property valuation IP26/2012*. London: RICS.

RICS. (2014) *RICS Valuation - Professional Standards 2014*. London: RICS.

RICS. (2017a) RICS - who we are, what we do. Retrieved on 13 August 2018 from https://www.rics.org/uk/about-rics/who-and-what/

RICS. (2017b) *RICS valuation -global standards 2017*. London: RICS.

RICS. (2017c) Valuer registration. Retrieved on 13th August 2018 from http://www.rics.org/uk/regulation1/firm-and-individual-guidance/valuer-registration/

Robson, C. (2011) *Real World Research*. (3rd ed.) Chicester: John Wiley & Sons.

Royal Institution of Chartered Surveyors and Royal Agricultural University. (2012) *RICS/RAU rural land market survey H2 2011.* London: RICS.

Royal Institution of Chartered Surveyors and Royal Agricultural University. (2013a) *RICS/RAU rural land market survey H1 2013.* London: RICS.

Royal Institution of Chartered Surveyors and Royal Agricultural University. (2013b) *RICS/RAU rural land market survey H2 2012.* London: RICS.

Royal Institution of Chartered Surveyors and Royal Agricultural University. (2013c) *RICS/RAU rural land market survey H2 2013.* London: RICS.

Royal Institution of Chartered Surveyors and Royal Agricultural University. (2014a) *RICS/RAU Rural Land market survey H1 2014.* London: RICS.

Royal Institution of Chartered Surveyors and Royal Agricultural University. (2014b) *RICS/RAU rural land market survey H2 2014.* London: RICS.

Royal Institution of Chartered Surveyors and Royal Agricultural University. (2015) *RICS/RAU rural land market survey H1 2015.* London: RICS.

Royal Institution of Chartered Surveyors and Royal Agricultural University. (2016) *RICS/RAU rural land market survey H1 2016.* London: RICS.

Royal Institution of Chartered Surveyors and Royal Agricultural University. (2017a)*RICS/RAU rural land market survey H1 2017.* London: RICS.

Royal Institution of Chartered Surveyors and Royal Agricultural University. (2017b). *RICS/RAU rural land market survey H2 2017.* London: RICS.

Russo, J.E. (1977) The value of unit price information. *Journal of Marketing Research 14* 193-201

Russo, J.E., & Dosher, B.A. (1983) Strategies for multi attribute binary choice. *Journal of Experimental Psychology: Learning, Memory and Cognition, 9,* 676-696

Saunders, M., Lewis, P. & Thornhill, A. (2012) *Research Methods for Business Students* (6th ed.) Harlow: Pearson Education.

Savills World Research. (2013) *Market survey - UK Agricultural Land 2013.* London: Savills.

Savills World Research. (2014) *Market survey - UK Agricultural Land 2014.* London: Savills.

Savills World Research. (2015) *Market survey - UK Agricultural Land 2015.* London: Savills.

Savills World Research. (2016) *Market survey - UK Agricultural Land 2016.* London: Savills.

Savills World Research. (2017) *Market survey UK Agricultural Land 2017.* London: Savills.

Scarrett, D., & Osborn, S. (2014) *Property valuation - the five methods* (3rd ed.). London: Routledge.

Simon, H. (1955) A behavioural model of rational choice. *Quarterly Journal of Economics, 69*, 99-118.

Simon, H. A. (1978) Information processing theory of human problem solving. In W. K. Estes (Ed.), *Handbook of learning and cognitive processes* (pp. 271-295). Hillsdale NJ: Erlbaum.

SOAS (undated) The limitations of traditional normative theories. Retrieved from: https://www.soas.ac.uk/cedep-demos/000_P563_EED_K3736-Demo/unit1/page_18.htm

Strauss, A & Corbin, J. (1990) *Basics of Qualitative Research Grounded Theory Procedures and Techniques*. London: Sage.

The Telegraph (2018) Sir James Dyson now owns more land in England than the Queen. Retrieved on 13th August 2018 from:https://www.telegraph.co.uk/news/uknews/theroyalfamily/11315175/Sir-James-Dyson-now-owns-more-land-in-England-than-the-Queen.html

The World Bank. (2017) Food security. Retrieved on 13th August 2018 from http://www.worldbank.org/en/topic/food-security

Tversky, A. (1988) In: Bell, D.E., Raiffa, H. & Tversky, A. (eds) Decision making: Descriptive, normative and prescriptive interactions (599-612) Cambridge: Cambridge University Press IN: Payne, J.W., Bettman, J.R., Johnson, E.J. (1993). *The adaptive decision maker*. Cambridge: Cambridge University Press.

Tversky, A. (1972) Elimination by Aspect: A theory of choice. *Psychological Review 79*, 281-399

Tversky, A., & Kahneman, D. (1974) Judgement under uncertainty: Heuristics and biases. *Science, 185*, 1124-1131.

Webb, R. B. (1994) On the reliability of commercial appraisals: An analysis of properties sold from the Russell - NCREIF index (1978-1992). *Real Estate Finance, 11*(1)

Wyatt, P. (2013) *Property valuation* (2nd ed.). Chicester: Wiley-Blackwell.

LIST OF CASES

Axa Equity and Law Home Loans Ltd V Goldsack & Freeman [1994] QBD

Banque Bruxelles Lambert SA v Eagle Star Insurance Co. Ltd [1995] CA

Bolam v Friern Hospital Management Committee [1957] QBD

Blemain Finance Ltd v E.surv Ltd [2012] TCC

Capita Alternative Fund Services (Guernsey) v Drivas Jonas [2012] CA

Dennard v Pricewaterhouse Cooper LLP [2010] CA

Goldstein v Levy Gee [2003] Ch

Greaves & Co (Contractors) Ltd v Baynham Meille & Partners [1975] CA

GREA Real Property Investments Limited v Williams [1979]

Hancock and others v BW Brazier (Anerely) Ltd. [1966] CA

Hedley Byrne & Co. Ltd v Heller & Partners Ltd [1964] HL

K/S Lincoln v CB Goldsmith Ellis Hotels Ltd [2010] TCC

Legal and General Mortgage Services V HPC Professional Services [1997] QBD

Lewisham Investment Partnership Ltd V Morgan [1997] Ch

Merrivale Moore plc v Strutt and Parker [1999] CA

Mount Banking Corporation Ltd v Brian Cooper & Co [1992] QBD

Paratus AMC Ltd v Countrywide Surveyors [2011] Ch.

Preferred Mortgages Ltd v Countrywide Surveyors Ltd [2005] Ch.

Redstone Mortgages v Countryside Surveyors (2011) Ch

Samuel v Davis [1943]

Singer & Friedlander Ltd v John D Wood & Co [1977] QBD

Webb Resolutions v E.surv [2012] TCC

Young and Marten Ltd. V McManus Childs Ltd [1968] HL

APPENDIX 1

LETTER SENT TO POTENTIAL INTERVIEWEE PARTICIPANTS

4th April 2014

Dear,

Re: Research Project into the Use of Comparable Evidence in Rural Valuation Work

I trust that this letter finds you well.

You may or may not be aware that I am in the process of undertaking a Professional Doctorate programme at Salford University. This is a five year programme that will hopefully conclude with the submission of a 100,000 word thesis on my chosen research area.

My chosen research area is the use of comparable evidence in rural valuation work. I have always been fascinated by the way each of us interprets comparable evidence, sometimes the same comparable evidence, in our own way which often results in variable valuation figures.

My objectives are to examine the following areas:

1. Identify where rural valuers source their comparable data from.
2. The extent of the search for that comparable data undertaken by rural valuers.
3. The selection criteria applied to the comparable data in selecting which to utilise.
4. The way rural valuers analyse their comparable data to justify their valuation figure.
5. To ascertain if rural valuers exhibit any indications of anchoring in their valuation decisions

The aim of the research is to try to develop a theory to explain how rural valuers use comparable evidence in rural valuation work. In order to be able to carry out this project I inevitably will need the help of practising rural valuers and hence the reason for my letter to you. I would like to invite you to participate in the study.

Initially I am working on a pilot study prior to embarking on the larger research project. It is my aim in the larger project to seek to involve between 20-30 rural valuers but for this pilot study my aim is to work with five local rural valuers.

The research method I am adopting for this pilot study requires two sources of input from five rural valuers.

- **Step 1** – Semi structured Interview conducted by me with each rural valuer. The aim of this interview would be to seek to establish the participant's general view and thoughts about the use of comparable evidence in rural valuation work.

- **Step 2** –Each rural valuer will be asked to complete a diary following them completing a valuation exercise. The aim is to allow the valuer to record their thoughts about the use of

comparable evidence in the immediate aftermath of carrying out a valuation and without the researcher being present. The format for this reflective diary will be provided and can be in audio form and not necessarily written.

I appreciate that the study will require you to commit a certain amount of time and that the time commitment may be more than you may wish to offer. I would emphasise that it is my intention that the interview will take no more than 30 minutes. I would like the interviews to take place at your offices at a time to suit yourself. The diary should take you no more than 20-30 minutes. My plan is that you will be able to dictate your thoughts and I will then arrange to transcribe those thoughts.

I also want to clearly state that the project **will not** be a project that forms a judgement on your valuation work. I also want to make it clear that your name or organisation **will not** be discussed or disclosed to anyone other than myself. Your name and organisation **will not** be published in the final document. The location or client/client details of any discussions we have **will not** be disclosed. If you wish to withdraw from the study at any time then that is acceptable. If you agree to take part and at any time you have any concerns about the study then please do not hesitate to speak with me or my supervisor Mark Shepherd at the University of Salford (m.m.c.shepherd@salford.ac.uk telephone: 0161 295 5225)

It is my anticipation to conduct this research during the period April 2014 – May 2014 given I need to submit my pilot study in late August.

I hope that this letter gives you sufficient information to be able to consider if you would be prepared to take part in this research project. If you have any further questions then my contact details are set out below.

Can I respectfully ask that you let me know my email as to whether you are able to take part or not. Please feel under no obligation to assist as I do understand there is a certain time commitment that is needed but I hope the project will yield some interesting discoveries which will be beneficial to rural valuers. If you are willing to participate I will need to you to complete the enclosed consent form prior to the interview.

In addition if you feel there are other rural valuers within your organisation that may be prepared to participate in some way then please let me know.

I look forward to hearing from you.

Kind Regards

Yours sincerely,

Mark A Simcock BSc (Hons) MRICS FAAV FHEA
Principal Lecturer in Rural Land Management and Valuation
Tel: 01952 815036
Mobile: 07971 961570
Email: msimcock@harper-adams.ac.uk

Appendix 2 Phase 3

Ethical Approval Letter

Live Valuation Exercise – Participant Information Sheet (letter)

Live Valuation Exercise – Informed Consent Form

Live Valuation Exercise – Participant pre-valuation questionnaire

Live Valuation Exercise – Instructions to Participants

Live Valuation Exercise – The comparable evidence

ETHICAL APPROVAL LETTER

University of Salford MANCHESTER

Research, Innovation and Academic Engagement Ethical Approval Panel

Research Centres Support Team
G0.3 Joule House
University of Salford
M5 4WT

T +44(0)161 295 5278

www.salford.ac.uk/

8 January 2016

Dear Mark,

RE: ETHICS APPLICATION ST15/72 – VALUER DECISION MAKING & THE USE OF COMPARABLE EVIDENCE IN THE VALUATION OF AGRICULTURAL LAND: HUMAN AND BEHAVIOURAL ASPECTS OF THE PROFESSION

Based on the information you provided, I am pleased to inform you that your application ST 15.72 has been approved.

If there are any changes to the project and/ or its methodology, please inform the Panel as soon as possible by contacting S&T-ResearchEthics@salford.ac.uk

Yours sincerely,

Prof Mohammed Arif
Chair of the Science & Technology Research Ethics Panel
Professor of Sustainability and Process Management,
School of Built Environment
University of Salford
Maxwell Building, The Crescent
Greater Manchester, UK M5 4WT
Phone: + 44 161 295 6829
Email: m.arif@salford.ac.uk

INFORMED CONSENT FORM

University of Salford MANCHESTER

College of Science & Technology

College Ethical Approval Panel for Taught Programmes
Example Research Participant Consent Form

Title of Project: VALUER DECISION MAKING & THE USE OF COMPARABLE EVIDENCE IN THE VALUATION OF AGRICULTURAL LAND: HUMAN AND BEHAVIOURAL ASPECTS OF THE PROFESSION

Ref No:

Name of Researcher: Mark Simcock

(Delete as appropriate)

➢ I confirm that I have read and understood the information sheet for the above study and what my contribution will be.	Yes	No	
➢ I have been given the opportunity to ask questions (via telephone and e-mail)	Yes	No	
➢ I agree to take part in the exercise	Yes	No	NA
➢ I agree to the exercise being tape recorded	Yes	No	NA
➢ I understand that my participation is voluntary and that I can withdraw from the research at any time **without giving any reason**	Yes	No	
➢ **I agree to take part in the above study**	Yes	No	

Name of participant:

Signature

Date:

Name of researcher taking consent: Mark Simcock

Researcher's e-mail address: mslmcock@harper-adams.ac.uk

If you have any concerns about this research that have not been addressed by the researcher, please contact the researcher's supervisor via the contact details below:

Supervisor's name: Dr. Joanna Poon

Supervisor's email address: J.L.K.Poon@salford.ac.uk

PARTICIPANT INFORMATION SHEET

Dear

Re: Research Project into the Use of Comparable Evidence in Rural Valuation Work

As part of my role as Principal Lecturer in Rural Land Management and Valuation here at the University I am in the process of undertaking a Professional Doctorate programme at Salford University. This is a five year programme that will hopefully conclude with the submission of a thesis on my chosen research area.

My chosen research area is the use of comparable evidence in the valuation of agricultural land. I have always been fascinated by the way each of us interprets comparable evidence, sometimes the same comparable evidence, in our own way which often results in variable valuation figures. I am particularly interested in how we as valuers make decisions as to the best comparable evidence to use.

In order to carry out this project I inevitably will need the help of practising agricultural valuers and hence the reason for my letter to you. I would like to invite you to participate in the study. The research project will require participants to:

i. Inspect a piece of agricultural land located on the Harper Adams University estate with a view to providing an opinion of market value. Prior to inspecting the land you will be provided with specific valuation instructions as you would for any valuation you may conduct in practice.
ii. Following the inspection determine an opinion of market value based on comparable evidence provided by myself. This will be conducted within a room at the University after you have done the inspection. During this process you will be asked to "think aloud" as you review the evidence and make your valuation decision. During this process your commentary will be recorded and observed but all transcripts will remain anonymous and any data only used for the purposes of research.

I appreciate that your participation in the study will require you to commit a certain amount of time and that the time commitment may be more than you may wish to offer. I anticipate the that the time commitment would be in the region of 3- 4 hours (half a day) although the nature of the experiment would mean that you would need to travel to Harper Adams University in order to participate.

I am able to offer a small financial compensation of £200 for your time spent in travelling to the University and also for the time you will need to spend away from your office. I would also suggest that participation would also be eligible for contribution towards your ongoing requirement for Continuing Professional Development.

I also want to clearly state that the project **will not** be a project that forms a judgement on your valuation work. I also want to make it clear that your name or organisation **will not** be discussed or disclosed to anyone other than myself. Your name and organisation **will not** be published in the

final document. If you wish to withdraw from the study at any time then that is acceptable. All transcripts of the experiment will be anonymised as soon as they are made. If you agree to take part and at any time you have any concerns about the study then please do not hesitate to speak with me or my supervisor Dr. Joanna Poon at the University of Salford (J.L.K.Poon@salford.ac.uk telephone: 0161 295 4708)

It is my anticipation to conduct this research during the period January 2016 – April 2016. If this is inconvenient then alternative periods can be arranged.

I hope that this letter gives you sufficient information to be able to consider if you would be prepared to take part in this research project. If you have any further questions then my contact details are set out below.

If you are willing to participate I will need to you to complete the enclosed consent form and return it to me. I would also ask if you could complete the enclosed pre-valuation questionnaire and similarly return it to me. I enclose a stamped addressed envelope for your use.

Please feel under no obligation to assist as I do understand there is a certain time commitment that is needed but I hope the project will yield some interesting discoveries which will be beneficial to agricultural valuers

In addition if you feel there are other agricultural valuers within your organisation that may be prepared to participate in some way then please let me know or if there are any queries that you have prior to agreeing to participate then please do not hesitate to contact me using the contact details below.

I look forward to hearing from you.

Kind Regards

Yours sincerely,

Mark A Simcock BSc (Hons) MRICS FAAV FLAA FHEA
Principal Lecturer in Rural Land Management and Valuation

Tel: 01952 815036
Mobile: 07971 961570
Email: msimcock@harper-adams.ac.uk

VALUER DECISION MAKING & THE USE OF COMPARABLE EVIDENCE IN THE VALUATION OF AGRICULTURAL LAND: HUMAN AND BEHAVIOURAL ASPECTS OF THE PROFESSION

PRE-EXPERIMENT QUESTIONNAIRE

Name of Participant	
Organisation/Employer	
Office at which you are based. If more than one please list them all and provide an indication of % of time spent working from each office	
Are you a RICS Registered Valuer?	**YES/NO**
Please describe what you would consider to be your geographical area of practice for conducting valuations of agricultural land	
How many years' experience do you have in conducting valuations of agricultural land? *Please delete as appropriate*	None 0-5 years 6-10 years 11 years +
How many valuations of agricultural land for any purpose would you estimate that you have carried out in the last year?	

INSTRUCTIONS TO PARTICIPANTS

Many thanks for agreeing to take part in this exercise. Please note that your participation in this exercise is entirely voluntary and you can withdraw at any time and you do not have to provide a reason.

1. Your instructions are to provide an opinion of the market value of the land, assuming vacant possession, which amounts to 72 acres or thereabouts situated off Robin Lane, Edgmond, Shropshire as at the date of inspection. Attached are some details regarding the land together with a plan illustrating the extent of the land you are to value, outlined in red.

2. You are required to provide the valuation for the purposes of secured lending as at the date of inspection.

3. You are to assume that the land has no development potential whatsoever.

4. You will be able to inspect the land unaccompanied. Please do take notes during your inspection and photographs if you so wish. We would ask that these be left behind following completion of the exercise.

5. We would also ask if you could annotate a copy of the map to indicate the route you undertook when conducting your inspection.

6. Please feel free to take as long as you need to carry out this inspection and we would ask that the level of inspection that you undertake to be that you would normally conduct when doing a valuation.

7. The most appropriate place to park your vehicle is just along from the main access to the land on Robin Lane Edgmond, as indicated in the plan attached to these instructions with the red marker.

8. Access to the land is via Robin Lane identified by the yellow star on the attached plan.

9. Once you are satisfied that you have completed your inspection please return to the University base.

10. Upon returning to the University you will be taken to a room and be presented with the comparable evidence.

11. Please proceed to use the comparable evidence to determine your opinion of the market value of the land off Robin Lane. There are no time constraints under which you will be required to complete this task.

12. Writing materials are provided. A computer will be available for you to use however we would ask that you only scrutinise the comparable evidence presented to you.

13. You will be observed by a researcher during your analysis of the comparable evidence.

14. You are asked to provide a verbal commentary on your analysis of the comparable evidence as you determine your valuation figure. This verbal commentary will be recorded

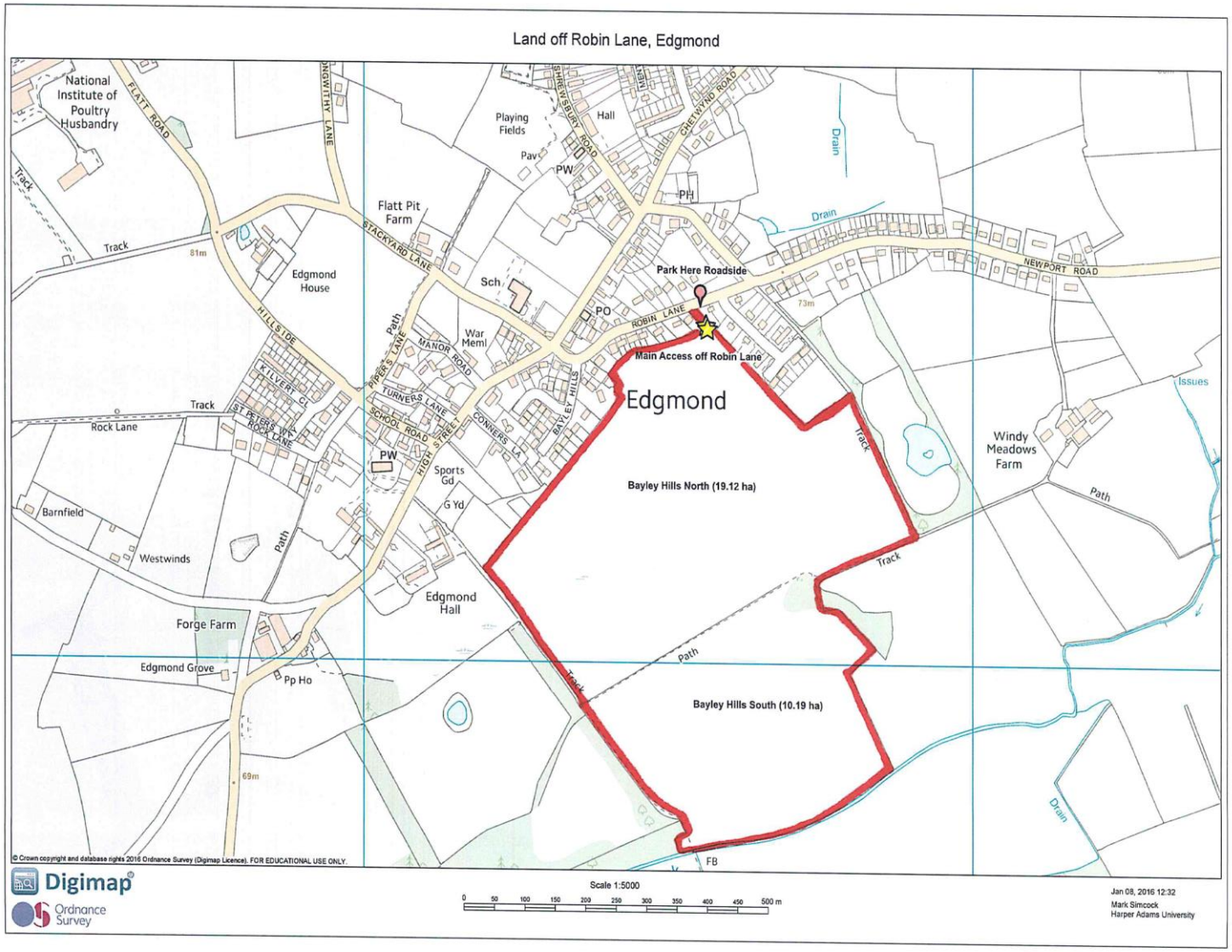
but please note that your contribution will be anonymised and the recording will only be used for research purposes.

15. If you have any questions about the exercise during its execution please direct them to the researcher.

16. You are at liberty to make any assumptions that you wish to but please state clearly what they are when doing so

17. Once you have determined your opinion of market value please make it clear to the researcher that you have done so and what that figure is.

Land at Bayley Hills, Off Robin Lane, Edgmond	**Information Sheet**
Location	Land off Robin Lane, Egdmond, Nr Newport, Shropshire. Access is facilitated off Robin Lane.
Status	n/a
Size	72 acres
Description	Contained within a ring fence with a variable soil type
Tenure	Freehold
Basic Payment Scheme	The land has been registered with the Rural Payments Agency for the Basic Payment Scheme
Environmental Designation	The land is contained with an Entry Level Stewardship Agreement and a NVZ.
Services	Approved abstraction licence from the Strine Brook allowing for a total abstraction of 17,449 cubic metres per year
Rights of Way/Easements	Footpath crosses the field diagonally the northern portion of the land. There are two further access points onto the land, one to the west and one to the east over which the owner of Bayley Hills has a right of way.
Boundaries	No information
Method of Sale	n/a
Other Information	The land is considered to have no development potential at all.
Date of Sale	Valuation as at date of inspection
Price	


Land off Robin Lane, Edgmond
Edgmond
Bayley Hills North (19.12 ha)
Bayley Hills South (10.19 ha)
Main Access off Robin Lane
Park Here Roadside
National Institute of Poultry Husbandry
Flatt Pit Farm
Edgmond House
Playing Fields
Hall
Sch
PO
PH
PW
War Meml
Sports Gd
G Yd
Edgmond Hall
Windy Meadows Farm
Forge Farm
Edgmond Grove
Pp Ho
Barnfield
Westwinds
Rock Lane
Drain
Track
Path
Issues
FLATT ROAD
HIGHTHY LANE
STACKYARD LANE
SHREWSBURY ROAD
CHEWND ROAD
NEWPORT ROAD
ROBIN LANE
MANOR ROAD
PIPER'S LANE
TURNER'S LANE
SCHOOL ROAD
HIGH STREET
CONNERS LA
BAYLEY HILLS
HILLSIDE
KILVERT CL
ST PETER'S WAY
ROCK LANE
81m
73m
69m
© Crown copyright and database rights 2016 Ordnance Survey (Digimap Licence). FOR EDUCATIONAL USE ONLY.
Digimap
Ordnance Survey
Scale 1:5000
0 50 100 150 200 250 300 350 400 450 500 m
Jan 08, 2016 12:32
Mark Simcock
Harper Adams University

COMPARABLE EVIDENCE FOR THE LIVE VALUATION EXERCISE

Comparable 1	Agent – Barbers Rural (plan attached)
Location	Land at Moreton Wood, Nr Aychley, Market Drayton
Status	SOLD
Size	40 acres
Description	Versatile land ideal for the growing of combinable crops. The land is level and is in one block being fenced with a combination of post and wire and mature hedgerows. It is currently in grass, but is ideal for cereals or maize. There is road access to the land from an adopted highway
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	Entitlements to pass with the sale of the land
Environmental Designation	NVZ
Services	None
Rights of Way/Easements	None
Boundaries	The buyer will be required to erect a stock proof pig netting and barbed wire fence along the boundary A-B as shown on the plan within three months of completion
Method of Sale	By Public Auction
Estimated date of sale/completion	September 2015
Price	£320,000

Comparable 2	Agent – Barbers Rural (plan attached)
Location	Land at Wistanswick, Market Drayton
Status	SOLD
Size	124 acres
Description	This is a rare opportunity to purchase a substantial block of prime, arable land with an irrigation reservoir. The cropping is currently potatoes and barley and is capable of growing a wide range of root and combinable crops. The land totals approximately 124.36 Acres and is in one convenient block. The soil is a fertile light to medium loam of the Bridgnorth series. There is excellent access both directly off the A41, which runs along the south boundary
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	The land is registered for BPS and entitlements will be available for transfer in addition to the sale price
Environmental Designation	None
Services	The seller has irrigated from the reservoir in the centre of the land. This fills from a natural spring and is considered by the seller to be adequate for 25 acres of potatoes at its current extent, but could easily be extended subject to any necessary consents and licences. There is a section of underground irrigation main. No main services are connected
Rights of Way/Easements	None
Boundaries	
Method of Sale	Private Treaty
Estimated date of sale/completion	July 2015
Price	Offers in the region of £1,250,000

Comparable 3	Agent – Barbers Rural (plan attached)
Location	Land at Ternhill, Market Drayton, Shropshire
Status	SOLD
Size	27 acres
Description	The land is conveniently located for access from the nearby A41 and has the benefit of two roadside gateways.The field totals approximately 26.93 Acres and is formed in one convenient block currently being sown to Spring Barley. The soil is a well drained sandy soil, ideal for a variety of purposes. There will be a holdover to allow the vendors to harvest the current crop of spring barley.
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	The land is registered under the Basic Payment Scheme and these entitlements will pass with the sale of the land, although the 2015 payment is reserved to the seller. The seller will use all reasonable endeavours to transfer the relevant entitlements to the buyer as soon as possible after completion
Environmental Designation	None
Services	No mains services are connected to the land, however both water and electric are available in the area.
Rights of Way/Easements	None
Boundaries	
Method of Sale	Public Auction
Other Information	In the event of planning permission being granted within 15 years of completion for development other than for equestrian or agricultural purposes the current vendors or their heirs will be entitled to 30 % of the increase in value
Estimated Date of sale/completion	May 2015
Price	Offers in the region of £260,000

Comparable 4	Agent – Barbers Rural (plan attached)
Location	Land at Moston, Sandbach, Nr Crewe
Status	FOR SALE
Size	Lot 1 – 15.10 acres Lot 2 – 71.33 acres
Description	This is a rare opportunity to purchase a substantial block of versatile land close to Moston near Sandbach. The land is offered in two lots which are situated either side of Sandbach Flashes which are designated as a Site of Special Scientific Interest. Lot One extends to 15.10 acres (6.11 ha) of permanent pasture suitable for the grazing of stock. The buyer of Lot One will be responsible for the erection of a stock proof fence along the boundary with the Flashes from point A—B. Lot Two extends to 71.33 acres (28.87 ha) in total and is a combination of permanent pasture and more versatile land. The fields to the east of this block are of a fine loam over clayey soils, suitable for dairying and some cereals. Lot Two also benefits from a useful livestock corral and has a hard-core access road from the council maintained highway.
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	The land is registered under the Basic Payment Scheme and these entitlements will pass with the sale of the land. The vendor will use all reasonable endeavours to transfer the relevant entitlements to the buyer as soon as possible after completion
Environmental Designation	None
Services	No services are connected to Lot One. Mains water is connected to Lot Two
Rights of Way/Easements	Lot One. There are no public rights of way directly on the land to be sold although there is a pedestrian right of way adjacent to Lot One along the side of the Flash. Lot Two. There is a right of way on Lot Two which provides access for the owners of Sparrow Grove Farmhouse to a private septic tank. We understand that this right will cease at the end of October 2016. A right of way for agricultural and pedestrian use will be reserved for the owners of the Flash across the livestock watering hole
Boundaries	
Method of Sale	Private Treaty
Other Information	In the event that land within the hatched area on the plan is re- sold within 20 years the current seller will be entitled to 50% of the sale price.
Estimated Time on the Market	3 months
Price	Offers in the region of £8,000 per acre

Comparable 5	Agent – Barbers Rural (plan attached)
Location	Land off Pixley Lane, Hinstock, Market Drayton
Status	SOLD
Size	120 acres
Description	This is a rare opportunity to purchase a substantial block of prime arable land on the outskirts of the thriving village of Hinstock. Conveniently close to the A41, it is ideally situated for access from both north and south. The land totals approximately 120 acres (48.56 ha) and is formed in one convenient block. The current cropping is Oil Seed Rape (35 Acres), Wheat (55 Acres) and Potatoes (20 Acres) with the remainder being within an Environmental Stewardship Scheme. There will be a holdover for harvest of all the crops. The soil is a coarse loam suitable for a variety of cropping including root crops, however this is the first time potatoes have been grown on the land for some years. Two small areas of woodland are included in the area together with a pool which could be extended for amenity or irrigation purposes, subject to any necessary consents. There is excellent access to the land from several points along Pixley.
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	The land is registered under the Basic Payment Scheme and these entitlements will pass with the sale of the land. The vendor will use all reasonable endeavours to transfer the relevant entitlements to the buyer as soon as possible after completion
Environmental Designation	The land is registered in an HLS scheme. The buyer will be required to abide by the regulations of this scheme until its termination. The options include a four metre buffer strip and one hectare of field corner management
Services	None
Rights of Way/Easements	Two Footpaths
Boundaries	
Method of Sale	Private Treaty
Estimated date of completion/sale	February 2015
Price	Offers over £1,200,000

Comparable 6	Agent – Barbers Rural, Fisher German, Denton Clark (plan attached)
Location	Land at Hamner, Whitchurch, Shropshire
Status	SOLD
Size	76.66 acres
Description	A rare opportunity to purchase a substantial area of fertile agricultural land in a most sought after locality on the Welsh/English border. The area as a whole totals 76.66 Acres (31.02Ha) of which approximately 14 Acres comprises woodland, ponds and access track. Access is gained off a side road only 100 yds from the A525 and the land is served by a hardcore farm track which runs from the roadside part way across the land. The land has been in arable rotation for some years, most recently maize and grass, and is renowned for its flexibility. The land is classified as a combination of Wick 1 and Salop on the Soil Survey Map of England & Wales. Wick 1 is a well drained loamy and sandy soil suitable for cereals and horticultural crops, whilst Salop is a fine loam over clay suitable as grassland and some cereals
Tenure	We are advised that the property is freehold, with vacant possession on completion. .
Basic Payment Scheme	Yes – will be transferred
Environmental Designation	NVZ
Services	There are no mains services connected to the land, although the mains supply is believed to cross the land. There is a natural water supply to some fields from natural ponds and access to the brook at certain points. Buyers are advised to make their own investigation as to the suitability of these supplies
Rights of Way/Easements	A footpath runs north to south across the eastern part of the land. The vendor will retain an unrestricted right of access along the access track between points A and B as shown on the attached plan
Boundaries	
Method of Sale	Informal Tender
Estimated date of sale/completion	December 2015
Price	Offers expected £525,000

Comparable 7	Agent – Halls (plan attached)
Location	Land at Lacon, Nr Wem, Shropshire
Status	FOR SALE
Size	75 acres
Description	A first class parcel of productive arable and grassland extending to approximately 75 acres, or thereabouts, with access directly on to the B5065 Wem to Prees Council road, in a noted farming district close to the North Shropshire town of Wem. Wem (1.5 miles), Whitchurch (8.5 miles), Shrewsbury (14 miles) and Chester (29.5 Miles). (All distances approximate) The land, which lies within a ring fence is predominantly level and fertile and retained in convenient sized enclosures with mature boundary hedges surrounding. The land has access on to the B5065 Wem to Prees Council maintained road and is situated in a well known farming district renowned for its heavy stocking capabilities regularly returning high yields of arable and grass crops. The land is extremely versatile and could, therefore, be used for arable or grass production, or even for root crops, if required. It is unusual for such a versatile and well situated parcel of land to become available for purchase in this area and it should, therefore, be of interest to local farmers wishing to add to their existing acreages, or for those wishing to just invest in land and certainly for those with equestrian interests.
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	We are informed that the land is registered on the Rural Land Register. The Vendors will use their best endeavours to transfer, upon completion, the basic payment scheme entitlements, which have been allocated, subject to the RPA Approval.
Environmental Designation	Land subject to an Entry Level Stewardship Agreement
Services	None
Rights of Way/Easements	None
Boundaries	
Method of Sale	Private Treaty
Other Information	The purchaser will be responsible for erecting a stockproof fence (marked A - B on the plan on the back of these particulars) within one month of completion
Estimated Time on the Market	4 months
Price	Offers £600,000

Comparable 8	Agent – Halls (no plan attached)
Location	Land at Burlton, Shropshire
Status	FOR SALE
Size	133 acres Lot 1 – 77.32 acres Lot 2 – 55.97 acres
Description	Located between the north Shropshire villages of Cockshut and Burlton. Lot 1 – block of productive and versatile arable and grassland. The land is generally level and predominately classedas Grade 2 according to the Agricultural Land Classification for England and Wales. The soil is free draining, slightly acid sandy soil. Lot 2 – generally level arable and grassland. The soil varies across the land from free draining, slightly acid sandy soil which is a general characteristic of the area.
Tenure	Freehold. Lot 1 is subject to a Farm Business Tenancy Agreement with 6 months unexpired.
Basic Payment Scheme	Available for transfer upon completion
Environmental Designation	NVZ
Services	None
Rights of Way/Easements	None
Boundaries	
Method of Sale	Private Treaty
Estimated Time on the market	4 months
Price	£925,000

Comparable 9	Agent – Berry's (no plan attached)
Location	Land at Pickescott, Dorrington, Shropshire
Status	FOR SALE
Size	185 acres
Description	Amounting to 185.11 acres of land, of which 41.05 acres is arable, 133.06 acres is permanent pasture and the remaining 11.01 acres are a mixture of woodland and amenity land located in Picklescott. The land is available as a whole or lots as required. The redominate soil type is Withnell 2, well drained loamy soil over rock. The land which is located with the Shropshire Hills, an Area of Outstanding Natural Beauty, between the villages of Picklescott and Batchcote.
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	The land is registered on the Rural Land Register and has been used to claim under the Single Payment Scheme. The entitlements which are allocated to the land will be transferred to the Purchaser(s) upon completion, subject to the Rural Payments Agency transfer rules, at a value of £200/entitlement unit which is in addition to the purchase price. The monies arising from the 2014 Single Payment Scheme application will remain with the Vendor
Environmental Designation	The land is subject to Entry Level and Higher Level Stewardship agri-environment agreements, which commenced on 01/11/2009 and expire 30/10/2019. The agreement applies to the Vendor's entire land holding and the Purchaser(s) will be required to comply with the provisions of the agreement until its expiry. Further information is available from the selling agents.
Services	The land has the benefit of a natural water supply
Rights of Way/Easements	The vendor has reserved a right of easement to install an underground pipe between point A and B on the Plan. The Vendor reserves a service easement across the eastern boundary of field 3491. Right of Access- There is a third party right of access between point C and D on the plan. The vendor has a right of access between points D and E.
Boundaries	
Method of Sale	Private Treaty
Other Information	In addition to the purchase price, and if applicable, the Purchaser(s) will be required to take to and pay for on completion all growing crops and acts of husbandry carried out up to the time of completion, at the valuation of the sole Agents
Estimated Time on the Market	2 months
Price	£1,370,000

Comparable 10	Agent – Berry's (plan attached)
Location	Land at Uffington, Shrewsbury
Status	SOLD
Size	85 acres
Description	85.37 acres of land, which is currently farmed as arable land, located in Uffington. The land is ideally located to the road way network providing good access to the land. The predominant soil type is Salop, a fine clay loam soil that drains very well and has been farmed under an arable rotation for many years. The land is located at the foot of Haughmond Hill
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	The land will be registered under the Basic Payment Scheme, the entitlements will be additional to the sale price and transfer to the purchaser at a cost of £150 per unit of entitlement subject to the Rural Payments Agency's transfer rules. The Purchaser will be required to comply with any greening measures on the land until 31st December 2015
Environmental Designation	The land is subject to Entry Level Stewardship agri-environment agreement, which expires on 30/06/2018. The agreement applies to the Vendor's entire land holding and the Purchaser(s) will be required to comply with the provisions of the agreement until its expiry. Further information is available from the selling agents
Services	Mains services are available for connection on the land or from the village of Uffington
Rights of Way/Easements	None
Boundaries	
Method of Sale	By Public Auction
Other Information	The land will be subject to a Clawback of 50%, in favour of the vendor, for any use other than agriculture or farm buildings and equestrian. In addition to the purchase price, and if applicable, the Purchaser(s) will be required to take to and pay for on completion all growing crops and acts of husbandry carried out up to the time of completion, at the valuation of the sole agents
Date of Sale	October 2015
Price	£630,000

Comparable 11	Agent – Berry's (plan attached)
Location	Land at Marchamley, Market Drayton, Shropshire
Status	SOLD
Size	54 acres
Description	54.04 acres (21.87 hectares) of land, located adjacent to the village of Marchamley. The land is ideally located with good roadside access. The predominant soil type is Salop Association, a fine loamy soil that drains very well and is productive arable land. The land is in one large parcel suitable for modern farming which is well maintained and farmed to a high standard
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	The land has been registered under the Basic Payment Scheme, the entitlements will be additional to the sale price and transferred to the purchaser at market value. The Purchaser will be required to comply with any greening and cross compliance measures on the land until 31st December 2015. The claimable area in 2015 was 53.35 acres.
Environmental Designation	The land is subject to Entry Level Stewardship agri-environment agreement, which expires on 30/09/2017. The agreement applies to the Vendor's entire land holding and the Purchaser(s) will be required to comply with the provisions of the agreement until its expiry.
Services	The land has the benefit of mains water supply
Rights of Way/Easements	Severn Trent Water main Easement is in situ on the south west corner of the land.
Boundaries	
Method of Sale	Private Treaty
Other Information	The land will be subject to a Clawback of 50%, in favour of the vendor, for any use other than agriculture or farm buildings and equestrian. In addition to the purchase price, and if applicable, the Purchaser(s) will be required to take to and pay for on completion all growing crops and acts of husbandry carried out up to the time of completion, at the valuation of the sole agents
Date of Sale	June 2015
Price	£600,000

Comparable 12	Agent – Savills/Smiths Gore (no plan attached)
Location	Land at Aston By Stone, Stone, Staffordshire
Status	FOR SALE
Size	289 acres Lot 1 – 95 acres Lot 2 – 189 acres
Description	The land lies in a ring fenced block with a central track providing access to most fields south off Aston Lane and the village of Aston-by-Stone. The land broadly divides as 151 acres of arable, 123.5 acres of permanent and temporary grassland and 14.5 acres of wetlands adjoining the River Trent to the east. The farmland is predominantly flat ranging in height from 80 to 85 metres above sea level, generally sloping towards the River Trent on the eastern fringe. The land is classified as predominantly Grade 2 and 3 under the MAFF Provisional Agricultural Land Classification. The soils are predominantly from the Arrow series, described as a deep permeable coarse loamy soil suitable for cereal and vegetable cropping. The lower lying riverside grassland is from the Enborne series a deep stoneless fine loamy and clayey soil which is classified as Grade 4. **LOT 1** (Red on plan) Approximately 95.6 acres immediately south of Aston-by-Stone comprising of 70.6 acres of permanent and temporary grassland, 25 acres of arable land and river frontage to the River Trent. **LOT 2** (Blue on plan) Approximately 189 acres of land to the west of the River Trent, the land comprises 126 acres of arable land, 48.5 acres of grassland and 14.5 acres of wetland/pond areas. **LOT 3** (Green on plan) Approximately 4.4 acres of permanent pasture ideal for amenity uses close to the village with road frontage and access to Aston Lane. Offers for part lots or individual fields may be considered. Should the land be sold in separate lots, Lot 2 will benefit from a right of way over Lot 1 along the central access track marked brown, maintenance costs of the track will be split 50/50 to each party
Tenure	The land is currently occupied under two short term Farm Business Tenancy agreements ending September 2015
Basic Payment Scheme	We understand the agricultural land is registered with the Rural Payments Agency. All Entitlements and payments are held and claimed by the tenants, these are therefore excluded from the sale
Environmental Designation	The current tenants have entered the land into a Higher Level Stewardship Scheme. For the avoidance of doubt, the vendor is not party to this agreements and does not receive any income. The purchaser(s) will be required to continue the agreement should they choose not to renew the current tenancies
Services	The vendor has no knowledge of the connection or status of mains services to the land
Method of Sale	Informal Tender

Other Information	A non-agricultural development overage will be reserved to the vendor's equivalent to 50% of the uplift in value attributable to the development consented or permitted under the General Permitted Development Order provisions for a period of 50 years
Estimated Time on the Market	3 months
Price	£6,000 per acre

APPENDIX 3

PHASE 3 - LIVE VALUATION EXERCISE – FULL VALUATION RESULTS

Table 65: Valuation results from those participating valuers

Valuer Number	Valuation (£'000)	Deviation from the mean (£)	% deviation from the mean valuation
10	500	114,244	18.6
6	722,500	108,256	17.6
13	720	105,756	17.2
12	550	64,244	10.4
4	675	60,756	9.9
7	555	59,244	9.6
11	658,385	44,141	7.2
15	574,500	39,744	6.5
3	575	39,244	6.4
21	575	39,244	6.4
2	650	35,756	5.8
1	580	34,244	5.6
9	648	33,756	5.5
14	648	33,756	5.5
5	590	24,244	3.9
17	600	14,244	2.3
8	625	10,756	1.7
18	610	4,244	0.7
Mean	**614,244**	**48,104**	**7.8**
Median	**605,000**		
Min	**500,000**	**4,244**	
Max	**722,500**	**114,244**	

Table 66: Participating valuer experience and their deviation from the mean valuation

Valuer Number	Valuation (£'000)	Deviation from the mean valuation	% deviation from the mean valuation	Years' Experience
10	500	114,244	18.6	11 +
6	722,500	108,256	17.6	0-5 years
13	720	105,756	17.2	11 +
12	550	64,244	10.4	11 +
4	675	60,756	9.9	11 +
7	555	59,244	9.6	11+
11	658,385	44,141	7.2	6-10 years
15	574,500	39,744	6.5	11 +
3	575	39,244	6.4	0-5 years
21	575	39,244	6.4	6-10 years
2	650	35,756	5.8	6-10 years
1	580	34,244	5.6	11+
9	648	33,756	5.5	0-5 years
14	648	33,756	5.5	11 +
5	590	24,244	3.9	6-10 years
17	600	14,244	2.3	0-5 years
8	625	10,756	1.7	6-10 years
18	610	4,244	0.7	0-5 years
Mean	**614**	**48,104**	**7.8**	
Median	**605**			
Min	**500**	**4,244**		
Max	**722**	**114,244**		

Table 67: Participating valuer number of agricultural land valuations typically conducted per year and their deviation from the mean valuation

Valuer Number	Valuation (£'000)	Deviation from the mean valuation	% deviation from the mean Valuation	No of Valuations per year
10	500	114,244	18.6	50
6	722,500	108,256	17.6	5
13	720	105,756	17.2	40
12	550	64,244	10.4	20
4	675	60,756	9.9	40
7	555	59,244	9.6	30
11	658,385	44,141	7.2	5
15	574,500	39,744	6.5	10
3	575	39,244	6.4	6
21	575	39,244	6.4	15
2	650	35,756	5.8	15
1	580	34,244	5.6	25
9	648	33,756	5.5	15
14	648	33,756	5.5	3
5	590	24,244	3.9	55
17	600	14,244	2.3	1
8	625	10,756	1.7	25
18	610	4,244	0.7	12
Mean	**614**	**48,104**	**7.8**	**21**
Median	**605**			
Min	**500**	**4,244**		
Max	**722**	**114,244**		

Table 68: Participating valuers' office distance from the land being valued and their deviation from the mean valuation

Valuer Number	Valuation (£'000)	Deviation from the mean valuation	% deviation from the mean valuation	Distance of office from Bayley Hills
10	500	114,244	18.6	45
6	722,500	108,256	17.6	15
13	720	105,756	17.2	15
12	550	64,244	10.4	32
4	675	60,756	9.9	15
7	555	59,244	9.6	10
11	658,385	44,141	7.2	15
15	574,500	39,744	6.5	15
3	575	39,244	6.4	15
21	575	39,244	6.4	15
2	650	35,756	5.8	15
1	580	34,244	5.6	15
9	648	33,756	5.5	10
14	648	33,756	5.5	4
5	590	24,244	3.9	36
17	600	14,244	2.3	30
8	625	10,756	1.7	20
18	610	4,244	0.7	15
Mean	**614**	**48,104**	**7.8**	**19**
Median	**605**			
Min	**500**	**4,244**		
Max	**722**	**114,244**		

Table 69: Time spent inspecting the site and the participating valuers' deviation from the mean valuation

Valuer Number	Valuation (£'000)	Deviation from the mean valuation	% deviation from the mean valuation	Inspection Time
10	500	114,244	18.6	60
6	722,500	108,256	17.6	60
13	720	105,756	17.2	45
12	550	64,244	10.4	60
4	675	60,756	9.9	65
7	555	59,244	9.6	70
11	658,385	44,141	7.2	85
15	574,500	39,744	6.5	70
3	575	39,244	6.4	60
21	575	39,244	6.4	80
2	650	35,756	5.8	70
1	580	34,244	5.6	60
9	648	33,756	5.5	65
14	648	33,756	5.5	50
5	590	24,244	3.9	45
17	600	14,244	2.3	65
8	625	10,756	1.7	70
18	610	4,244	0.7	65
Mean	**614**	**48,104**	**7.8**	**64**
Median	**605**			
Min	**500**	**4,244**		
Max	**722**	**114,244**		

Table 70: Time taken to complete the valuation time and the participating valuers' deviation from the mean valuation

Valuer Number	Valuation (£'000)	Deviation from the mean valuation	% deviation from the mean valuation	Valuation Time
10	500	114,244	18.6	40
6	722,500	108,256	17.6	60
13	720	105,756	17.2	40
12	550	64,244	10.4	75
4	675	60,756	9.9	75
7	555	59,244	9.6	60
11	658,385	44,141	7.2	75
15	574,500	39,744	6.5	110
3	575	39,244	6.4	100
21	575	39,244	6.4	50
2	650	35,756	5.8	75
1	580	34,244	5.6	60
9	648	33,756	5.5	75
14	648	33,756	5.5	30
5	590	24,244	3.9	80
17	600	14,244	2.3	90
8	625	10,756	1.7	75
18	610	4,244	0.7	95
Mean	**614**	**48,104**	**7.8**	**70**
Median	**605**			
Min	**500**	**4,244**		
Max	**722**	**114,244**		

Appendix 4 Phase 3 - Extended

Desk Based Valuation Exercise – Ethical Approval Letter

Desk Based Valuation Exercise – Participant Information Sheet (letter)

Desk Based Valuation Exercise – Informed Consent Form

Desk Based Valuation Exercise - Participant pre-valuation questionnaire

Desk Based Valuation Exercise – Comparable Evidence presented to the consistent case allocation group

Desk Based Valuation Exercise – Comparable Evidence presented to the inconsistent case allocation group

Desk Based Valuation Exercise – Valuation Sheet for completion

ETHICAL APPROVAL LETTER

University of Salford MANCHESTER

Research, Innovation and Academic Engagement Ethical Approval Panel

Research Centres Support Team
G0.5 Joule House
University of Salford
M5 4WT

T +44(0)161 295 5278

www.salford.ac.uk/

22 May 2017

Mark Simcock

Dear Mark,

RE: ETHICS APPLICATION ST1617-88 - VALUER DECISION MAKING & THE USE OF COMPARABLE EVIDENCE IN THE VALUATION OF AGRICULTURAL LAND: HUMAN AND BEHAVIOURAL ASPECTS OF THE PROFESSION

Based on the information you provided, I am pleased to inform you that your application ST1617-88 has been approved.

If there are any changes to the project and/ or its methodology, please inform the Panel as soon as possible by contacting S&T-ResearchEthics@salford.ac.uk

Yours sincerely,

APHigham.

Dr Anthony Higham
Chair of the Science & Technology Research Ethics Panel

INFORMED CONSENT FORM

University of Salford MANCHESTER

College of Science & Technology

College Ethical Approval Panel for Taught Programmes
Example Research Participant Consent Form

Title of Project: VALUER DECISION MAKING & THE USE OF COMPARABLE EVIDENCE IN THE VALUATION OF AGRICULTURAL LAND: HUMAN AND BEHAVIOURAL ASPECTS OF THE PROFESSION

Ref No:

Name of Researcher: Mark Simcock

(Delete as appropriate)

➢ I confirm that I have read and understood the information sheet for the above study and what my contribution will be.	Yes	No
➢ I have been given the opportunity to ask questions	Yes	No
➢ I agree to take part in the exercise	Yes	No
➢ I understand that my participation is voluntary and that I can withdraw from the research at any time **without giving any reason**	Yes	No
➢ **I agree to take part in the above study**	Yes	No

Name of participant:

Signature

Date:

Name of researcher taking consent: Mark Simcock

Researcher's e-mail address: msimcock@harper-adams.ac.uk

If you have any concerns about this research that have not been addressed by the researcher, please contact the researcher's supervisor via the contact details below:

Supervisor's name: Dr. Joanna Poon

Supervisor's email address: J.Poon@derby.ac.uk

PARTICIPANT INFORMATION SHEET

BY EMAIL ONLY

June 2017

Dear Fellow Valuer,

Re: Research project into the use of comparable evidence in the valuation of agricultural land

As part of my role as Principal Lecturer in Rural Land Management and Valuation here at Harper Adams University I am in the process of undertaking a Professional Doctorate programme at Salford University. This is a five year programme that will hopefully conclude with the submission of a thesis on my chosen research area.

My chosen research area is the **use of comparable evidence in the valuation of agricultural land**. I have always been fascinated by the way each of us interprets comparable evidence, sometimes the same comparable evidence, in our own way which often results in variable valuation figures. I am particularly interested in how we as valuers make decisions as to the best comparable evidence to use.

In order to carry out this project I inevitably will need the help of practicing agricultural valuers and hence the reason for my email to you. I would like to invite you to participate in the study. The research project will require participants to carry out a paper based/desk top valuation of a piece of agricultural land. I will forward to you, by email, the details of a piece of agricultural land plus a range of comparable evidence. Participants will then be asked to review the comparable information provided and provide an opinion of the market value of the agricultural land based upon the comparable evidence supplied. Participants will then be asked to complete a short feedback questionnaire and return it to me.

Whilst I am unable to pay for your time spent in this research I am able to offer to enter your name into a prize draw for a day out at Uttoxeter Races in Staffordshire or an alternative venue depending on your geographical location. I would also suggest that participation would also be eligible for contribution towards your ongoing requirement for Continuing Professional Development.

I also want to clearly state that the project **will not** be a project that forms a judgement on your valuation work. I also want to make it clear that your name or organisation **will not** be discussed or disclosed to anyone other than myself. Your name and organisation **will not** be published in the final document. If you wish to withdraw from the study at any time then that is acceptable. If you agree to take part and at any time you have any concerns about the study then please do not hesitate to speak with me or my supervisor at the University of Salford.

I hope that this email provides sufficient information to be able to consider if you would be prepared to take part in this research project. If you have any further questions then my contact details are set out below.

If you are willing to participate I will need to you to complete the enclosed consent form and return it to me by email preferably. I would also ask if you could complete the enclosed pre-valuation questionnaire and similarly return it to me by email at msimcock@harper-adams.ac.uk

Please feel under no obligation to assist as I do understand there is a certain time commitment that is needed but I hope the project will yield some interesting discoveries which will be beneficial to agricultural valuers

I look forward to hearing from you.

Kind Regards

Yours sincerely,

Mark Simcock

VALUER DECISION MAKING & THE USE OF COMPARABLE EVIDENCE IN THE VALUATION OF AGRICULTURAL LAND: HUMAN AND BEHAVIOURAL ASPECTS OF THE PROFESSION

PRE-VALUATION QUESTIONNAIRE

Name of Participant	
Organisation/Employer	
Office at which you are based. If more than one please list them all and provide an indication of % of time spent working from each office	
Are you a RICS Registered Valuer?	**YES/NO**
Please describe what you would consider to be your geographical area of practice for conducting valuations of agricultural land	
How many years' experience do you have in conducting valuations of agricultural land? *Please delete as appropriate*	None 0-5 years 6-10 years 11 years +
How many valuations of agricultural land for any purpose would you estimate that you have carried out in the last year?	

COMPARABLE EVIDENCE PRESENTED TO THE CONSISTENT CASE ALLOCATION GROUP

INSTRUCTIONS TO PARTICIPANTS

Many thanks for agreeing to take part in this exercise.

Please note that your participation in this exercise is entirely voluntary and you can withdraw at any time and you do not have to provide a reason.

Please note that your contribution will be anonymised

1. Your instructions are to provide an opinion of the market value of the land at Robin Lane, assuming vacant possession, which amounts to 72 acres or thereabouts as at the date of participation. Attached are some details regarding the land to be valued together with a plan illustrating the extent of the land you are to value, outlined in red

2. You are required to provide an opinion of market value for the purposes of secured lending as at the date of participation.

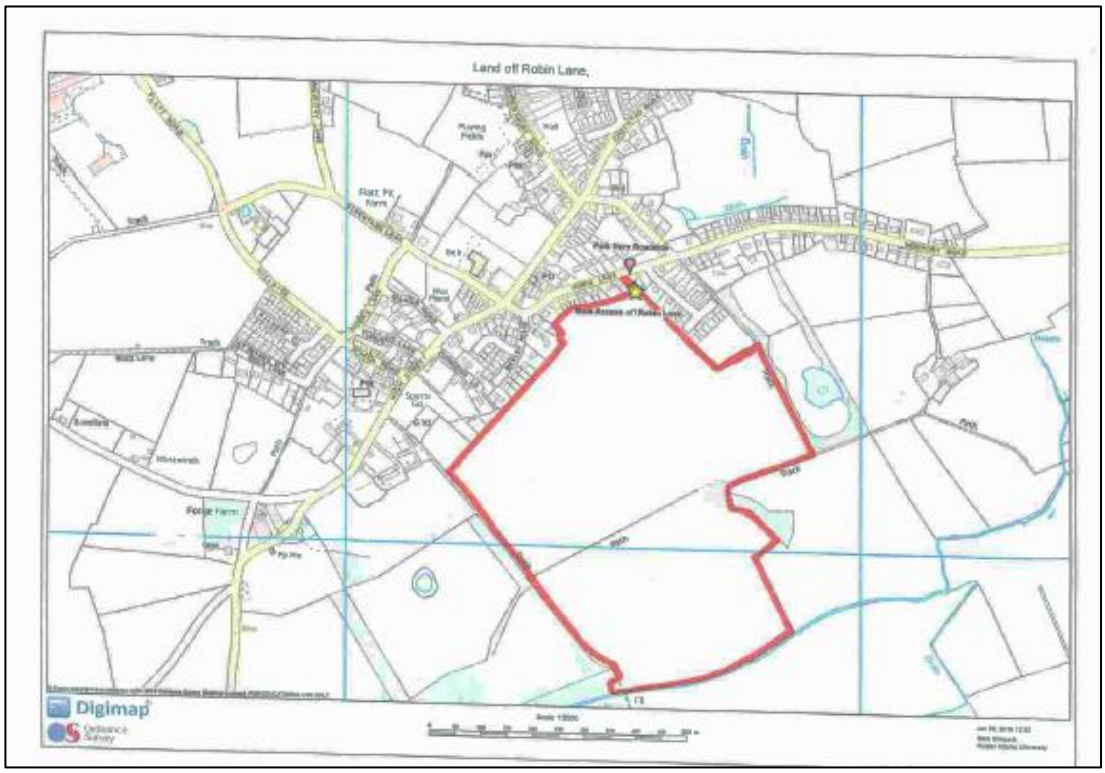
3. You are to assume that the land has no development potential whatsoever.

4. Please proceed to use ONLY the comparable evidence, provided, to determine your opinion of the market value of the land.

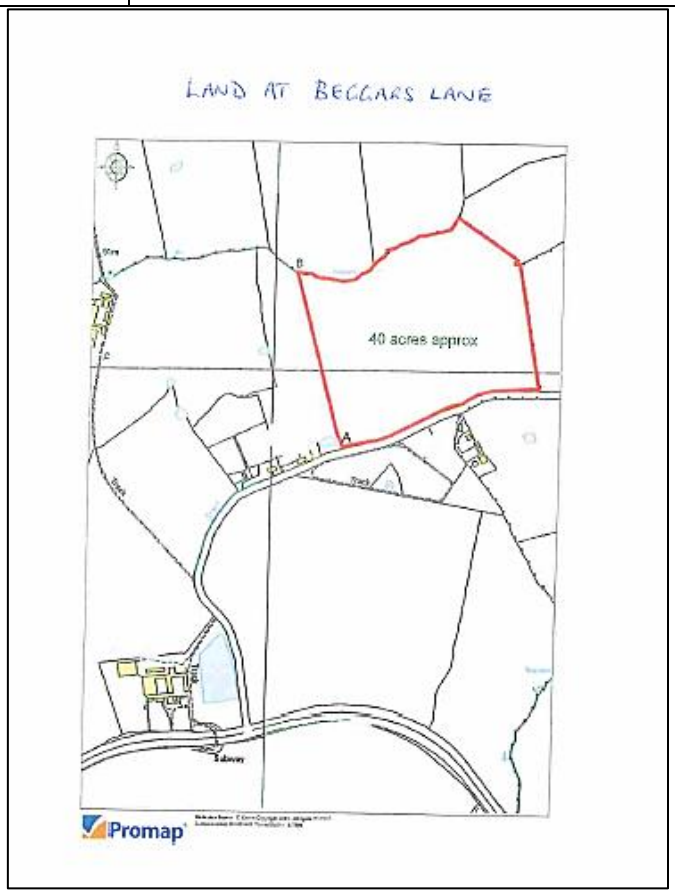
5. Once you have examined the information regarding the land and the comparable evidence you are asked to complete the attached valuation sheet to complete the exercise.

6. You are at liberty to make any assumptions that you wish to but please state clearly what they are when doing so on the valuation sheet.

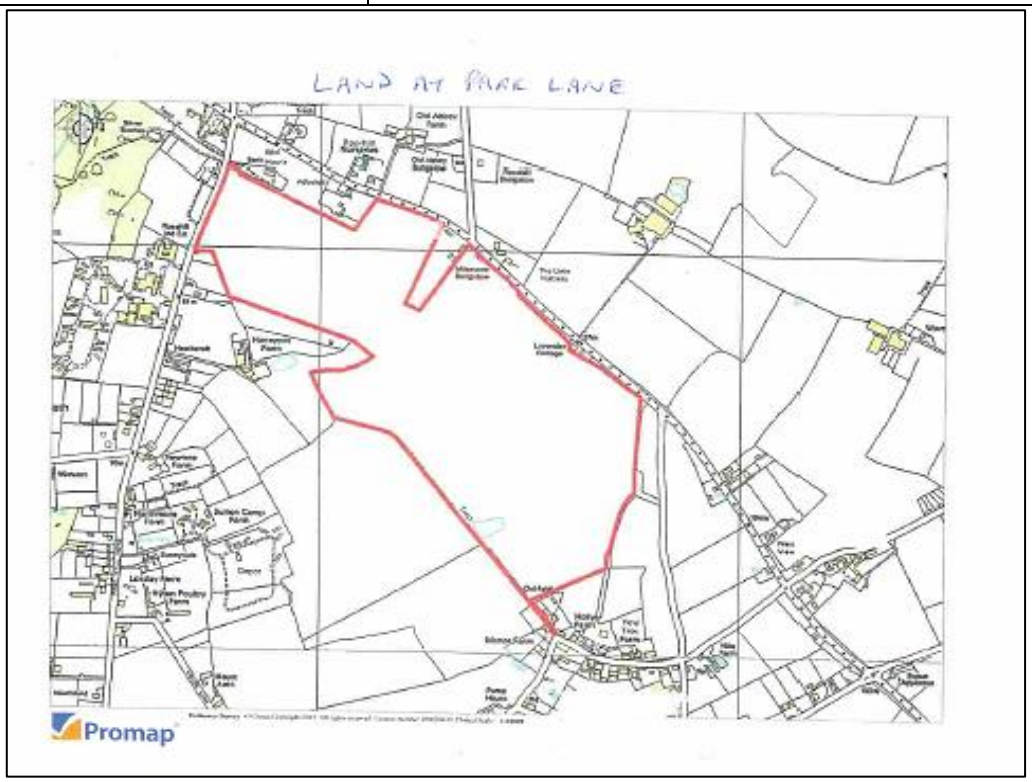
LAND THAT NEEDS TO BE VALUED	Information Sheet
Location	Land off Robin Lane. Access is facilitated off Robin Lane.
Status	This is the land you are being asked to value
Size	72 acres
Description	Contained within a ring fence with a variable soil type. Mixed grade 2 arable (northern portion) and grade 3 grassland cropping (southern portion).
Tenure	Freehold with vacant possession
Basic Payment Scheme	The land has been registered with the Rural Payments Agency for the Basic Payment Scheme and are available to transfer in addition to the sale price
Environmental Designation	The land is contained with an Entry Level Stewardship Agreement (due to expire in 3 years' time) and a NVZ.
Services	Approved abstraction licence from the Strine Brook located at the southern tip of the field allowing for a total abstraction of 17,449 cubic metres per year
Rights of Way/Easements	Footpath crosses the field diagonally the northern portion of the land. There are two further access points onto the land, one to the west and one to the east over which the owner of Bayley Hills has a right of way.
Boundaries	No information
Method of Sale	Not applicable
Other Information	The land is considered to have no development potential at all.
Date of Sale	Valuation as at date of survey completion
Price	*Valuation Required*



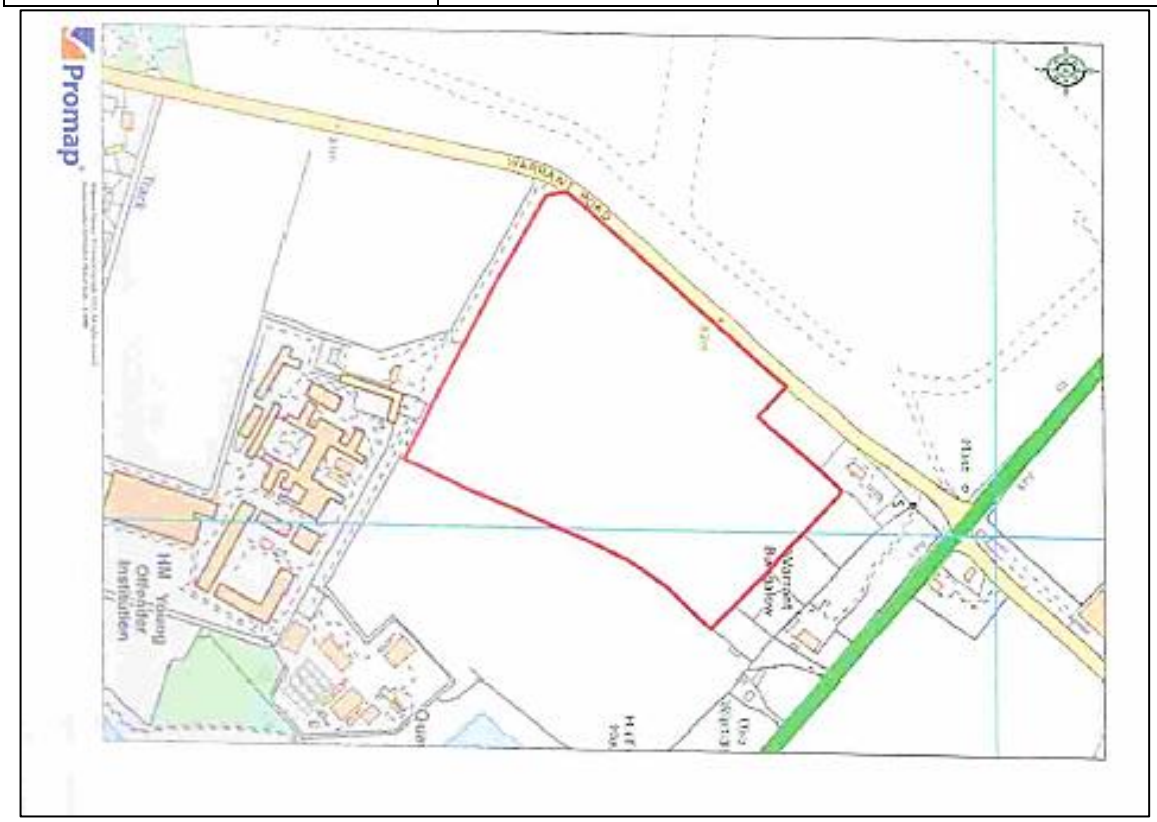
Land at Beggers Lane	
Status	SOLD
Size	40 acres
Distance from Land at Robin Lane	10 km
Description	Versatile land ideal for the growing of combinable crops. The land is level and is in one block being fenced with a combination of post and wire and mature hedgerows. It is currently in grass, but is ideal for cereals or maize. There is road access to the land from an adopted highway
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	Entitlements to pass with the sale of the land
Environmental Designation	NVZ
Services	None
Rights of Way/Easements	None
Boundaries	The buyer will be required to erect a stock proof pig netting and barbed wire fence along the boundary A-B as shown on the plan within three months of completion
Method of Sale	By Public Auction
Estimated date of sale/completion	February 2017
Price	£320,000



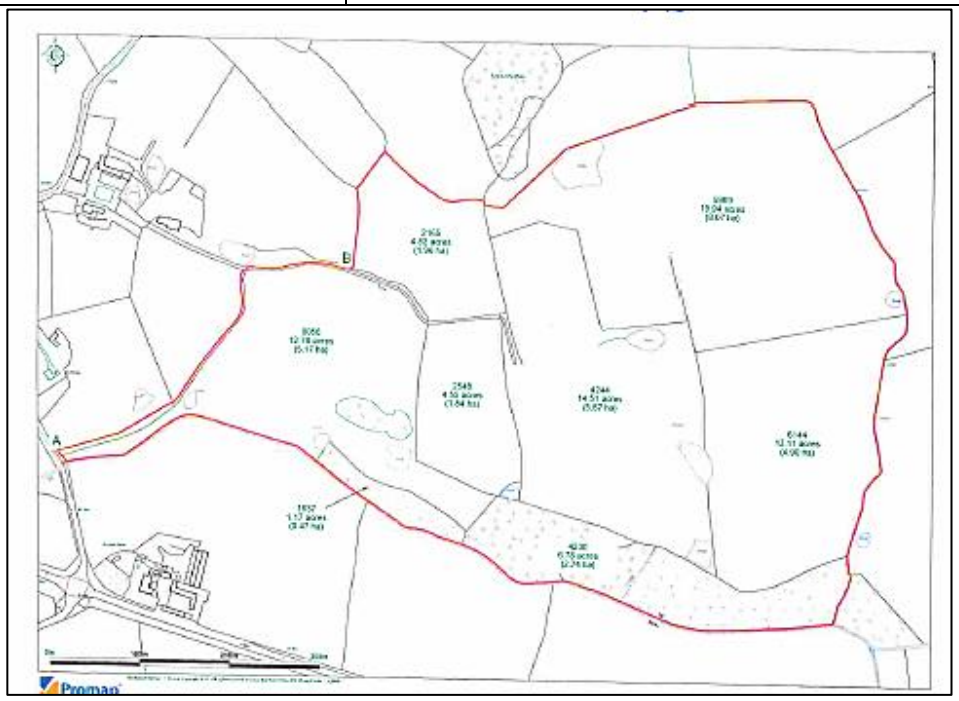
Land at Park Lane	
Status	SOLD
Size	124 acres
Distance from Land at Robin Lane	6 km
Description	An opportunity to purchase a substantial block of prime, arable land with an irrigation reservoir. The cropping is currently potatoes and barley and is capable of growing a wide range of root and combinable crops. The land totals approximately 124.36 Acres and is in one convenient block. The soil is a fertile light to medium loam. There is excellent access both directly off an A road, which runs along the south boundary
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	The land is registered for BPS and entitlements will be available for transfer in addition to the sale price
Environmental Designation	None
Services	The seller has irrigated from the reservoir in the centre of the land. This fills from a natural spring and is considered by the seller to be adequate for 25 acres of potatoes at its current extent, but could easily be extended subject to any necessary consents and licences. There is a section of underground irrigation main. No main services are connected
Rights of Way/Easements	None
Boundaries	
Method of Sale	Private Treaty
Estimated date of sale/completion	November 2016
Price	Was on the market with offers in the region of £1,250,000



Land at Black Bank Road	
Status	SOLD
Size	27 acres
Distance from Land at Robin Lane	7km
Description	The land is conveniently located for access from the nearby A road and has the benefit of two roadside gateways. The field totals approximately 26.93 Acres and is formed in one convenient block currently being sown to Spring Barley. The soil is a well- drained sandy soil, ideal for a variety of purposes. There will be a holdover to allow the vendors to harvest the current crop of spring barley.
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	The land is registered under the Basic Payment Scheme and these entitlements will pass with the sale of the land. The seller will use all reasonable endeavours to transfer the relevant entitlements to the buyer as soon as possible after completion
Environmental Designation	None
Services	No mains services are connected to the land, however both water and electric are available in the area.
Rights of Way/Easements	None
Boundaries	
Method of Sale	Public Auction
Other Information	In the event of planning permission being granted within 15 years of completion for development other than for equestrian or agricultural purposes the current vendors or their heirs will be entitled to 30 % of the increase in value
Estimated Date of sale/completion	August 2016
Price	£260,000



Land at Holehouse Road	
Status	SOLD
Size	76.66 acres
Distance from Land at Robin Lane	18 km
Description	An opportunity to purchase a substantial area of fertile agricultural land in a most sought after locality on the Welsh/English border. The area as a whole totals 76.66 Acres (31.02Ha) of which approximately 14 Acres comprises woodland, ponds and access track. Access is gained off a side road only 100 yds from a main A road and the land is served by a hardcore farm track which runs from the roadside part way across the land. The land has been in arable rotation for some years, most recently maize and grass, and is renowned for its flexibility. The land is a well-drained loamy and sandy soil suitable for cereals and horticultural crops, whilst Salop is a fine loam over clay suitable as grassland and some cereals
Tenure	We are advised that the property is freehold, with vacant possession on completion. .
Basic Payment Scheme	Yes – will be transferred within the sale price
Environmental Designation	NVZ
Services	There are no mains services connected to the land, although the mains supply is believed to cross the land. There is a natural water supply to some fields from natural ponds and access to the brook at certain points. Buyers are advised to make their own investigation as to the suitability of these supplies
Rights of Way/Easements	A footpath runs north to south across the eastern part of the land. The vendor will retain an unrestricted right of access along the access track between points A and B as shown on the attached plan
Boundaries	
Method of Sale	Informal Tender
Estimated date of sale/completion	June 2017
Price	Offers expected £525,000



Land at Top Farm	
Status	FOR SALE
Size	75 acres
Distance from Land at Robin Lane	15 km
Description	A parcel of productive arable and grassland extending to approximately 75 acres, or thereabouts, with access directly on to a B road in a noted farming district. The land, which lies within a ring fence is predominantly level and fertile and retained in convenient sized enclosures with mature boundary hedges surrounding. The land has access on to a B maintained road and is situated in a well known farming district renowned for its heavy stocking capabilities regularly returning high yields of arable and grass crops. The land is extremely versatile and could, therefore, be used for arable or grass production, or even for root crops, if required. It is unusual for such a versatile and well situated parcel of land to become available for purchase in this area and it should, therefore, be of interest to local farmers wishing to add to their existing acreages, or for those wishing to just invest in land and certainly for those with equestrian interests.
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	We are informed that the land is registered on the Rural Land Register. The Vendors will use their best endeavours to transfer, upon completion, the basic payment scheme entitlements, which have been allocated, subject to the RPA Approval.
Environmental Designation	Land subject to an Entry Level Stewardship Agreement
Services	None
Rights of Way/Easements	None
Method of Sale	Private Treaty
Other Information	The purchaser will be responsible for erecting a stockproof fence (marked A - B on the plan on the back of these particulars) within one month of completion
Estimated Time on the Market	4 months
Price	Offers invited £600,000

Land at Edge Hill Road (No plan provided)	
Status	FOR SALE
Size	185 acres
Distance from Land at Robin Lane	15 km
Description	Amounting to 185.11 acres of land, of which 41.05 acres is arable, 133.06 acres is permanent pasture and the remaining 11.01 acres are a mixture of woodland and amenity land located in rural/village location. The land is available as a whole or lots as required. The redominate soil type is Withnell 2, well drained loamy soil over rock. The land which is located with the Shropshire Hills, an Area of Outstanding Natural Beauty.
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	The land is registered on the Rural Land Register and has been used to claim under the Single Payment Scheme. The entitlements which are allocated to the land will be transferred to the Purchaser(s) upon completion, subject to the Rural Payments Agency transfer rules, at a value of £200/entitlement unit which is in addition to the purchase price.
Environmental Designation	The land is subject to Entry Level and Higher Level Stewardship agri-environment agreements, which commenced on 01/11/2009 and expire 30/10/2019. The agreement applies to the Vendor's entire land holding and the Purchaser(s) will be required to comply with the provisions of the agreement until its expiry. Further information is available from the selling agents.
Services	The land has the benefit of a natural water supply
Rights of Way/Easements	The vendor has reserved a right of easement to install an underground pipe between point A and B on the Plan. The Vendor reserves a service easement across the eastern boundary of a field. Right of Access- There is a third party right of access between point C and D on the plan. The vendor has a right of access between points D and E.
Boundaries	
Method of Sale	Private Treaty
Other Information	In addition to the purchase price, and if applicable, the Purchaser(s) will be required to take to and pay for on completion all growing crops and acts of husbandry carried out up to the time of completion, at the valuation of the sole Agents
Estimated Time on the Market	2 months
Price	Asking £1,370,000 (but have been informed there is plenty of interest)

Land at Bottom Lane (No plan provided)	
Status	FOR SALE
Size	289 acres Lot 1 – 95 acres Lot 2 – 189 acres
Distance from Land at Robin Lane	10 km
Description	The land lies in a ring fenced block with a central track providing access to most fields south off a country lane and the local village. The land broadly divides as 151 acres of arable, 123.5 acres of permanent and temporary grassland and 14.5 acres of wetlands adjoining the River to the east. The farmland is predominantly flat ranging in height from 80 to 85 metres above sea level, generally sloping towards the River on the eastern fringe. The land is classified as predominantly Grade 2 and 3 under the MAFF Provisional Agricultural Land Classification. The soils are predominantly from the Arrow series, described as a deep permeable coarse loamy soil suitable for cereal and vegetable cropping. The lower lying riverside grassland is from the Enborne series a deep stoneless fine loamy and clayey soil which is classified as Grade 4. **LOT 1** (Red on plan) Approximately 95.6 acres immediately south of the village comprising of 70.6 acres of permanent and temporary grassland, 25 acres of arable land and river frontage to the River. **LOT 2** (Blue on plan) Approximately 189 acres of land to the west of the River, the land comprises 126 acres of arable land, 48.5 acres of grassland and 14.5 acres of wetland/pond areas. **LOT 3** (Green on plan) Approximately 4.4 acres of permanent pasture ideal for amenity uses close to the village with road frontage and access to a country lane. Offers for part lots or individual fields may be considered. Should the land be sold in separate lots, Lot 2 will benefit from a right of way over Lot 1 along the central access track marked brown, maintenance costs of the track will be split 50/50 to each party
Tenure	The land is currently occupied under two short term Farm Business Tenancy agreements ending September 2016
Basic Payment Scheme	We understand the agricultural land is registered with the Rural Payments Agency. All Entitlements and payments are held and claimed by the tenants, these are therefore excluded from the sale
Environmental Designation	The current tenants have entered the land into a Higher Level Stewardship Scheme. For the avoidance of doubt, the vendor is not party to this agreements and does not receive any income. The purchaser(s) will be required to continue the agreement should they choose not to renew the current tenancies
Services	The vendor has no knowledge of the connection or status of mains services to the land
Rights of Way/Easements	None
Boundaries	
Method of Sale	Informal Tender
Other Information	A non-agricultural development overage will be reserved to the vendor's equivalent to 50% of the uplift in value attributable to the development consented or permitted under the General Permitted Development Order provisions for a period of 50 years
Estimated Time on the Market	3 months
Price	Offers in the region of £6,000 per acre

COMPARABLE EVIDENCE PRESENTED TO THE INCONSISTENT CASE ALLOCATION GROUP

INSTRUCTIONS TO PARTICIPANTS

Many thanks for agreeing to take part in this exercise.

Please note that your participation in this exercise is entirely voluntary and you can withdraw at any time and you do not have to provide a reason.

Please note that your contribution will be anonymised

1. Your instructions are to provide an opinion of the market value of the land at Robin Lane, assuming vacant possession, which amounts to 72 acres or thereabouts as at the date of participation. Attached are some details regarding the land to be valued together with a plan illustrating the extent of the land you are to value, outlined in red.

2. You are required to provide an opinion of market value for the purposes of secured lending as at the date of participation.

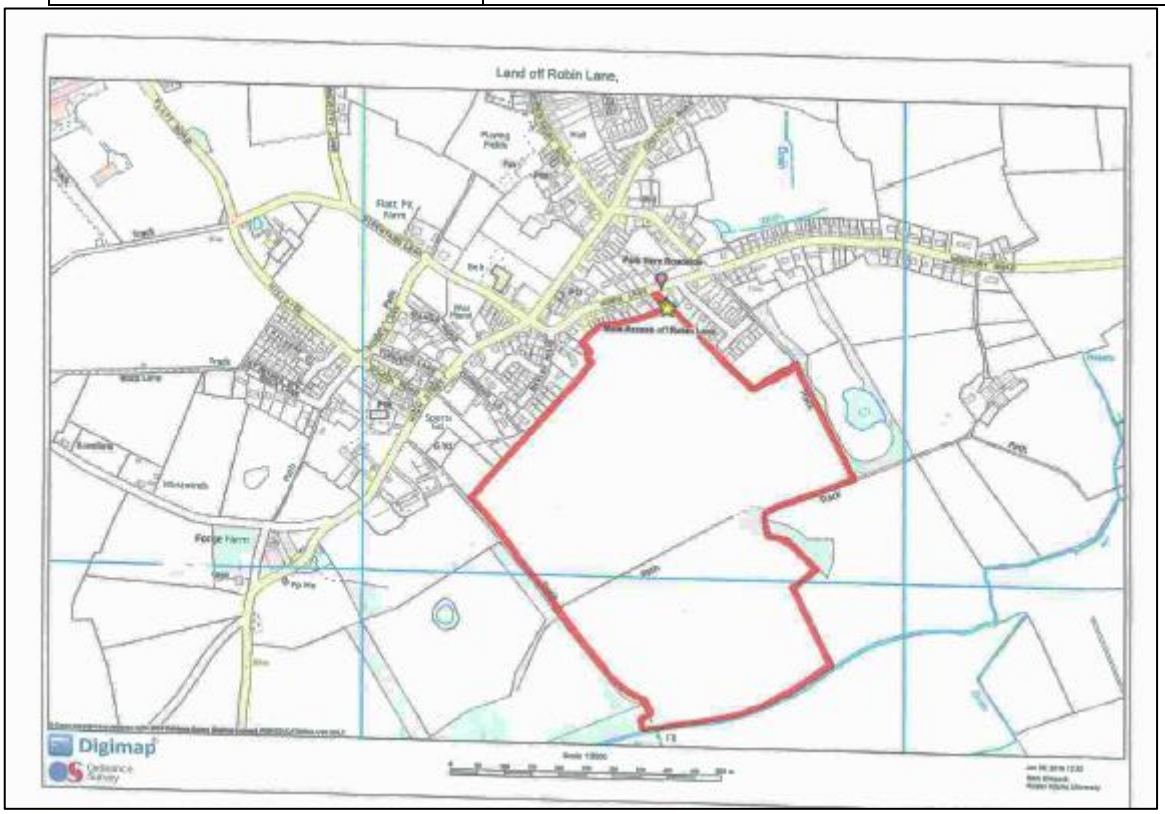
3. You are to assume that the land has no development potential whatsoever.

4. Please proceed to use ONLY the comparable evidence, provided, to determine your opinion of the market value of the land.

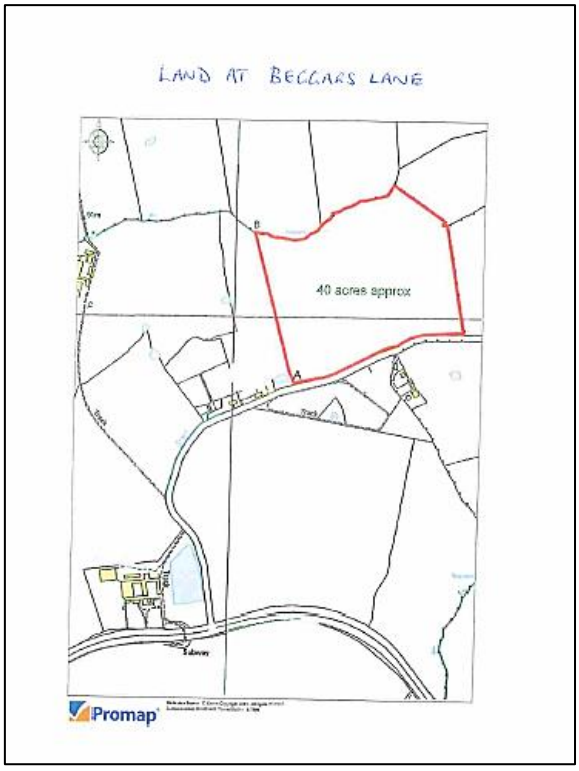
5. Once you have examined the information regarding the land and the comparable evidence you are asked to complete the attached valuation sheet to complete the exercise.

6. You are at liberty to make any assumptions that you wish to but please state clearly what they are when doing so on the valuation sheet.

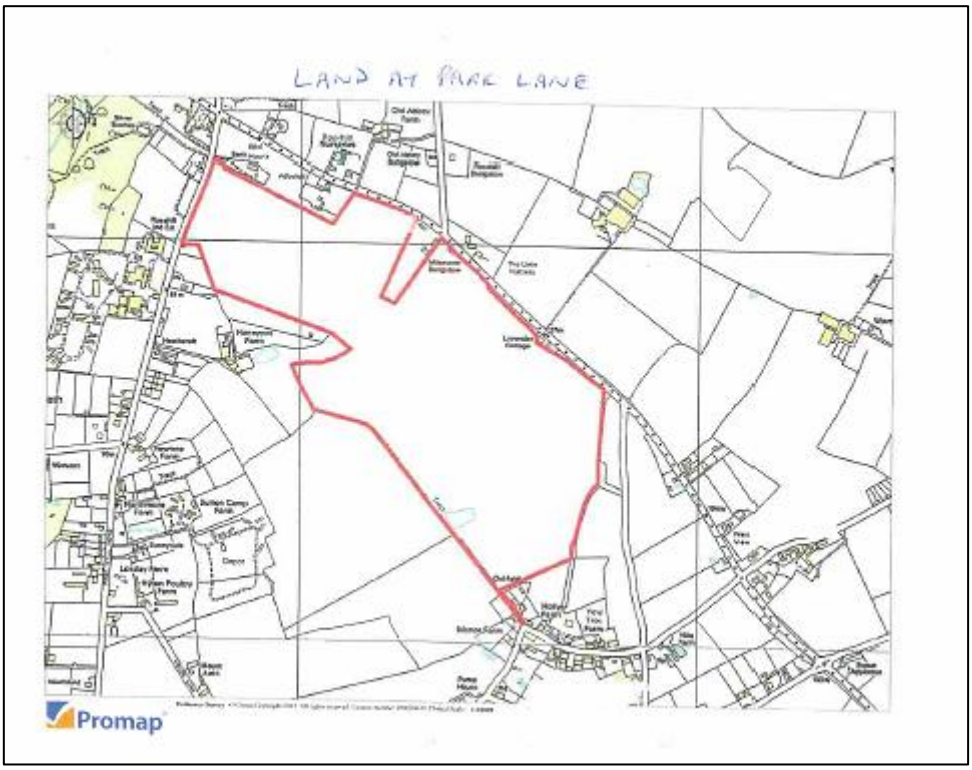
LAND THAT NEEDS TO BE VALUED	**Information Sheet**
Location	Land off Robin Lane. Access is facilitated off Robin Lane.
Status	This is the land you are being asked to value
Size	72 acres
Description	Contained within a ring fence with a variable soil type. Mixed grade 2 arable (northern portion) and grade 3 grassland cropping (southern portion).
Tenure	Freehold with vacant possession
Basic Payment Scheme	The land has been registered with the Rural Payments Agency for the Basic Payment Scheme and are available to transfer in addition to the sale price
Environmental Designation	The land is contained with an Entry Level Stewardship Agreement (due to expire in 3 years' time) and a NVZ.
Services	Approved abstraction licence from the Strine Brook located at the southern tip of the field allowing for a total abstraction of 17,449 cubic metres per year
Rights of Way/Easements	Footpath crosses the field diagonally the northern portion of the land. There are two further access points onto the land, one to the west and one to the east over which the owner of Bayley Hills has a right of way.
Boundaries	No information
Method of Sale	Not applicable
Other Information	The land is considered to have no development potential at all.
Date of Sale	Valuation as at date of survey completion
Price	*Valuation Required*



Land at Beggers Lane	
Status	SOLD
Size	40 acres
Distance from Land at Robin Lane	10 km
Description	Versatile land ideal for the growing of combinable crops. The land is level and is in one block being fenced with a combination of post and wire and mature hedgerows. It is currently in grass, but is ideal for cereals or maize. There is road access to the land from an adopted highway
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	Entitlements to pass with the sale of the land
Environmental Designation	NVZ
Services	None
Rights of Way/Easements	None
Boundaries	The buyer will be required to erect a stock proof pig netting and barbed wire fence along the boundary A-B as shown on the plan within three months of completion
Method of Sale	By Public Auction
Estimated date of sale/completion	February 2017
Price	£260,000

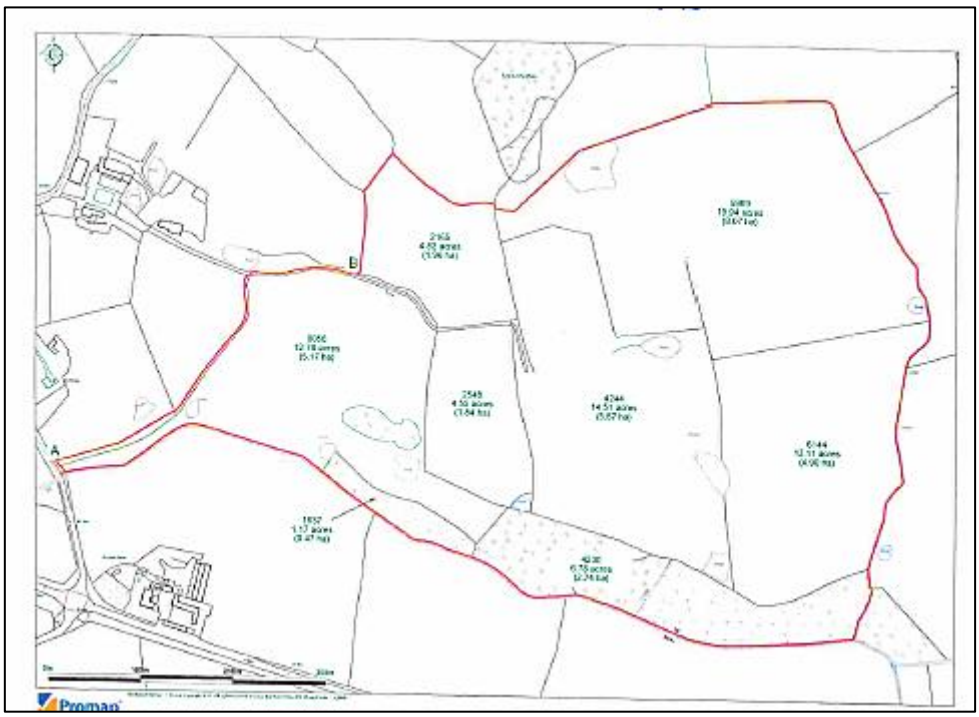


Land at Park Lane	
Status	SOLD
Size	124 acres
Distance from Land at Robin Lane	6 km
Description	An opportunity to purchase a substantial block of prime, arable land with an irrigation reservoir. The cropping is currently potatoes and barley and is capable of growing a wide range of root and combinable crops. The land totals approximately 124.36 Acres and is in one convenient block. The soil is a fertile light to medium loam. There is excellent access both directly off an A road, which runs along the south boundary
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	The land is registered for BPS and entitlements will be available for transfer in addition to the sale price
Environmental Designation	None
Services	The seller has irrigated from the reservoir in the centre of the land. This fills from a natural spring and is considered by the seller to be adequate for 25 acres of potatoes at its current extent, but could easily be extended subject to any necessary consents and licences. There is a section of underground irrigation main. No main services are connected
Rights of Way/Easements	None
Boundaries	
Method of Sale	Private Treaty
Estimated date of sale/completion	November 2016
Price	Was on the market with offers in the region of £1,500,000

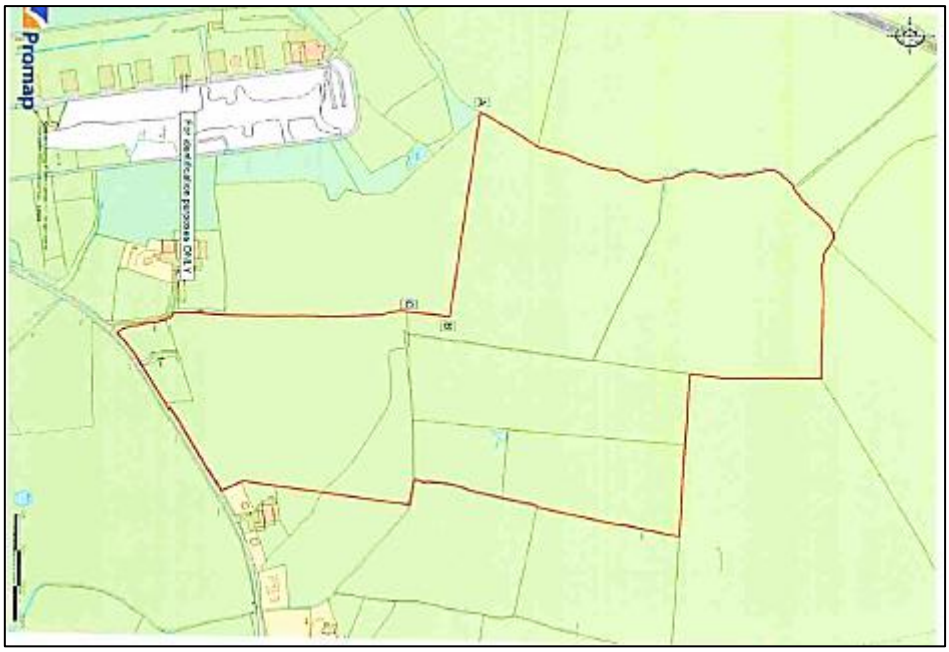


Land at Black Bank Road	
Status	SOLD
Size	27 acres
Distance from Land at Robin Lane	7km
Description	The land is conveniently located for access from the nearby A road and has the benefit of two roadside gateways. The field totals approximately 26.93 Acres and is formed in one convenient block currently being sown to Spring Barley. The soil is a well drained sandy soil, ideal for a variety of purposes. There will be a holdover to allow the vendors to harvest the current crop of spring barley.
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	The land is registered under the Basic Payment Scheme and these entitlements will pass with the sale of the land. The seller will use all reasonable endeavours to transfer the relevant entitlements to the buyer as soon as possible after completion
Environmental Designation	None
Services	No mains services are connected to the land, however both water and electric are available in the area.
Rights of Way/Easements	None
Boundaries	
Method of Sale	Public Auction
Other Information	In the event of planning permission being granted within 15 years of completion for development other than for equestrian or agricultural purposes the current vendors or their heirs will be entitled to 30 % of the increase in value
Estimated Date of sale/completion	August 2016
Price	£400,000

Land at Holehouse Road	
Status	SOLD
Size	76.66 acres
Distance from Land at Robin Lane	18 km
Description	An opportunity to purchase a substantial area of fertile agricultural land in a most sought after locality on the Welsh/English border. The area as a whole totals 76.66 Acres (31.02Ha) of which approximately 14 Acres comprises woodland, ponds and access track. Access is gained off a side road only 100 yds from a main A road and the land is served by a hardcore farm track which runs from the roadside part way across the land. The land has been in arable rotation for some years, most recently maize and grass, and is renowned for its flexibility. The land is a well-drained loamy and sandy soil suitable for cereals and horticultural crops, whilst Salop is a fine loam over clay suitable as grassland and some cereals
Tenure	We are advised that the property is freehold, with vacant possession on completion. .
Basic Payment Scheme	Yes – will be transferred within the sale price
Environmental Designation	NVZ
Services	There are no mains services connected to the land, although the mains supply is believed to cross the land. There is a natural water supply to some fields from natural ponds and access to the brook at certain points. Buyers are advised to make their own investigation as to the suitability of these supplies
Rights of Way/Easements	A footpath runs north to south across the eastern part of the land. The vendor will retain an unrestricted right of access along the access track between points A and B as shown on the attached plan
Boundaries	
Method of Sale	Informal Tender
Estimated date of sale/completion	June 2017
Price	Offers expected £385,000



Land at Top Farm	
Status	FOR SALE
Size	75 acres
Distance from Land at Robin Lane	15 km
Description	A parcel of productive arable and grassland extending to approximately 75 acres, or thereabouts, with access directly on to a B road in a noted farming district. The land, which lies within a ring fence is predominantly level and fertile and retained in convenient sized enclosures with mature boundary hedges surrounding. The land has access on to a B maintained road and is situated in a well known farming district renowned for its heavy stocking capabilities regularly returning high yields of arable and grass crops. The land is extremely versatile and could, therefore, be used for arable or grass production, or even for root crops, if required. It is unusual for such a versatile and well situated parcel of land to become available for purchase in this area and it should, therefore, be of interest to local farmers wishing to add to their existing acreages, or for those wishing to just invest in land and certainly for those with equestrian interests.
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	We are informed that the land is registered on the Rural Land Register. The Vendors will use their best endeavours to transfer, upon completion, the basic payment scheme entitlements, which have been allocated, subject to the RPA Approval.
Environmental Designation	Land subject to an Entry Level Stewardship Agreement
Services	None
Rights of Way/Easements	None
Boundaries	
Method of Sale	Private Treaty
Other Information	The purchaser will be responsible for erecting a stockproof fence (marked A - B on the plan on the back of these particulars) within one month of completion
Estimated Time on the Market	4 months
Price	Offers invited £600,000



Land at Edge Hill Road (No plan provided)	
Status	FOR SALE
Size	185 acres
Distance from Land at Robin Lane	15 km
Description	Amounting to 185.11 acres of land, of which 41.05 acres is arable, 133.06 acres is permanent pasture and the remaining 11.01 acres are a mixture of woodland and amenity land located in rural/village location. The land is available as a whole or lots as required. The redominate soil type is Withnell 2, well drained loamy soil over rock. The land which is located with the Shropshire Hills, an Area of Outstanding Natural Beauty.
Tenure	Freehold with vacant possession upon completion
Basic Payment Scheme	The land is registered on the Rural Land Register and has been used to claim under the Single Payment Scheme. The entitlements which are allocated to the land will be transferred to the Purchaser(s) upon completion, subject to the Rural Payments Agency transfer rules, at a value of £200/entitlement unit which is in addition to the purchase price.
Environmental Designation	The land is subject to Entry Level and Higher Level Stewardship agri-environment agreements, which commenced on 01/11/2009 and expire 30/10/2019. The agreement applies to the Vendor's entire land holding and the Purchaser(s) will be required to comply with the provisions of the agreement until its expiry. Further information is available from the selling agents.
Services	The land has the benefit of a natural water supply
Rights of Way/Easements	The vendor has reserved a right of easement to install an underground pipe between point A and B on the Plan. The Vendor reserves a service easement across the eastern boundary of a field. Right of Access- There is a third party right of access between point C and D on the plan. The vendor has a right of access between points D and E.
Boundaries	
Method of Sale	Private Treaty
Other Information	In addition to the purchase price, and if applicable, the Purchaser(s) will be required to take to and pay for on completion all growing crops and acts of husbandry carried out up to the time of completion, at the valuation of the sole Agents
Estimated Time on the Market	2 months
Price	Asking £1,700,000

Land at Bottom Lane (No plan provided)	
Status	FOR SALE
Size	289 acres Lot 1 – 95 acres Lot 2 – 189 acres
Distance from Land at Robin Lane	10 km
Description	The land lies in a ring fenced block with a central track providing access to most fields south off a country lane and the local village. The land broadly divides as 151 acres of arable, 123.5 acres of permanent and temporary grassland and 14.5 acres of wetlands adjoining the River to the east. The farmland is predominantly flat ranging in height from 80 to 85 metres above sea level, generally sloping towards the River on the eastern fringe. The land is classified as predominantly Grade 2 and 3 under the MAFF Provisional Agricultural Land Classification. The soils are predominantly from the Arrow series, described as a deep permeable coarse loamy soil suitable for cereal and vegetable cropping. The lower lying riverside grassland is from the Enborne series a deep stoneless fine loamy and clayey soil which is classified as Grade 4. **LOT 1** (Red on plan) Approximately 95.6 acres immediately south of the village comprising of 70.6 acres of permanent and temporary grassland, 25 acres of arable land and river frontage to the River. **LOT 2** (Blue on plan) Approximately 189 acres of land to the west of the River, the land comprises 126 acres of arable land, 48.5 acres of grassland and 14.5 acres of wetland/pond areas. **LOT 3** (Green on plan) Approximately 4.4 acres of permanent pasture ideal for amenity uses close to the village with road frontage and access to a country lane. Offers for part lots or individual fields may be considered. Should the land be sold in separate lots, Lot 2 will benefit from a right of way over Lot 1 along the central access track marked brown, maintenance costs of the track will be split 50/50 to each party
Tenure	The land is currently occupied under two short term Farm Business Tenancy agreements ending September 2016
Basic Payment Scheme	We understand the agricultural land is registered with the Rural Payments Agency. All Entitlements and payments are held and claimed by the tenants, these are therefore excluded from the sale
Environmental Designation	The current tenants have entered the land into a Higher Level Stewardship Scheme. For the avoidance of doubt, the vendor is not party to this agreements and does not receive any income. The purchaser(s) will be required to continue the agreement should they choose not to renew the current tenancies
Services	The vendor has no knowledge of the connection or status of mains services to the land
Rights of Way/Easements	None
Boundaries	
Method of Sale	Informal Tender
Other Information	A non-agricultural development overage will be reserved to the vendor's equivalent to 50% of the uplift in value attributable to the development consented or permitted under the General Permitted Development Order provisions for a period of 50 years
Estimated Time on the Market	3 months
Price	Offers in the region of £6,000 per acre

VALUATION SHEET

PLEASE COMPLETE & RETURN to

msimcock@harper-adams.ac.uk

Q1. Please provide your opinion of market value	
Q2. Please indicate the time you have spent on this exercise	
Q3. Please provide an estimate of the length of time you would typically expect to spend on site if you were inspecting the land at Robin Lane	
Q4. Please indicate which of the comparables provided you have used to arrive at your opinion of value	
Q5. If you did not use all the comparables please indicate why you rejected those that you have not used If you used all the comparables please leave this question blank	
Q6. Having selected your comparable evidence please briefly explain how you arrived at your opinion of value	

APPENDIX 5

DESK BASED VALUATION EXERCISE – FULL VALUATION RESULTS

Table 71: Valuer participant invitations and response rates by CAAV Local Association

CAAV Local Association & Method of Approaching Participants	Number of Participants Invited	Number of Participants Agreed to take part		Number of Participants Completing the Exercise	
		No.	% response	No.	% response
Midland Counties (By Email)	131	4	3	3	75
Hereford and Worcester (By Email)	48	2	4	2	100
Cambridgeshire and Isle of Ely (By Letter)	23	1	4	1	100
Berkshire and Oxon (By Letter)	55	3	5	1	33
Gloucestershire (By Email)	90	5	5	1	20
North Yorkshire/South Durham (By Letter)	36	2	5	0	0
Suffolk (By Letter)	28	2	7	1	50
Kent (By Letter)	39	3	8	2	67
Cheshire (By Email)	48	4	8	3	75
Essex (By Letter)	28	3	11	2	67
Hexham/Cumbria (By Letter)	64	7	11	2	29
Norfolk (By Letter)	27	3	11	1	33
Yorkshire (By Letter)	43	5	12	3	60
Sussex & Adjoining Counties (By Letter)	32	4	12	1	25
Cornwall (By Letter)	31	4	13	3	75
Hertfordshire/Buckinghamshire and Bedfordshire (By Letter)	31	4	13	1	25
Lincolnshire (By Letter)	59	8	14	2	25
East Yorkshire (By Letter)	41	6	15	4	67
Western Counties (By Letter)	100	15	15	6	40
Lancashire (By Letter)	47	8	17	4	50
Hampshire/Wiltshire and Dorset (By Letter)	47	10	21	7	70
Wisbech (By Letter)	17	4	23	1	25
Yorkshire/Derbyshire/Nottinghamshire (By Letter)	33	10	30	8	80
Extras (By recommendation)	6	6	100	4	67
Total Number of Participants Invited	**1104**	**123**	**11**	**63**	**51**

Table 72: Participant valuer valuation experience and number of valuations conducted per year (self-declared)

Consistent Case Allocation			*Inconsistent Case Allocation*		
Valuer Number	**Valuation Experience (years)**	**No of valuations conducted per year**	**Valuer Number**	**Valuation Experience (years)**	**No of valuations conducted per year**
101	**11 +**	**10**	**106**	**11 +**	**20**
135	**11 +**	**4**	**141**	**11 +**	**20**
123	**11 +**	**3**	**198**	**0-5**	**15**
150	**11 +**	**20**	**136**	**11 +**	**25**
164	**11 +**	**40**	**168**	**11 +**	**6**
121	**11 +**	**15**	**210**	**6-10**	**50**
159	**6-10**	**10**	**178**	**11 +**	**15**
142	**11 +**	**20**	**192**	**11 +**	**40**
176	**6-10**	**25**	**119**	**11 +**	**50**
160	**11 +**	**25**	**143**	**6-10**	**5**
140	**11 +**	**15**	**102**	**11 +**	**25**
212	**0-5**	**20**	**108**	**6-10**	**2**
207	**11 +**	**40**	**130**	**0-5**	**20**
167	**11 +**	**0**	**117**	**11 +**	**15**
206	**6-10**	**20**	**177**	**0-5**	**5**
124	**0-5**	**10**	**157**	**6-10**	**10**
166	**11 +**	**0**	**104**	**11 +**	**15**
116	**11 +**	**20**	**122**	**11 +**	**25**
202	**11 +**	**20**	**152**	**11 +**	**25**
180	**11 +**	**30**	**163**	**11 +**	**65**
175	**0-5**	**3**	**208**	**11 +**	**20**
144	**6-10**	**10**	**219**	**11 +**	**20**
188	**0-5**	**20**	**200**	**6-10**	**20**
195	**11 +**	**20**	**147**	**0-5**	**25**
128	**6-10**	**30**	**114**	**11 +**	**12**
132	**11 +**	**20**	**115**	**11 +**	**20**
193	**11 +**	**18**	**217**	**11 +**	**10**
109	**11 +**	**15**	**197**	**11 +**	**100**
196	**0-5**	**25**	**120**	**0-5**	**20**
153	**11 +**	**25**	**111**	**0-5**	**5**
204	**11 +**	**8**	**131**	**6-10**	**10**

Table 73: Valuation results from those participating valuers completing the consistent and inconsistent case allocation

Consistent Case Allocation Valuer Group			*Inconsistent Case Allocation Valuer Group*		
Valuer Number	**Valuation (£'000)**	**% deviation from the mean valuation**	**Valuer Number**	**Valuation (£'000)**	**% deviation from the mean valuation**
101	730	23.9	106	900	53.7
135	720	22.2	141	850	45.2
123	685	16.3	198	792	35.2
150	500	15.1	136	432	26.2
164	500	15.1	168	450	23.1
121	525	10.8	210	450	23.1
159	525	10.8	178	465	20.6
142	650	10.3	192	468	20.1
176	650	10.3	119	468	20.1
160	648	10.01	143	470	19.7
140	540	8.3	102	700	19.6
212	540	8.3	108	700	19.6
207	550	6.6	130	486	17.0
167	625	6.1	117	684	16.8
206	556	5.6	177	684	16.8
124	620	5.2	157	680	16.1
166	620	5.2	104	500	14.6
116	560	4.9	122	500	14.6
202	562	4.5	152	500	14.6
180	565	4.0	163	500	14.6
175	612	3.9	208	500	14.6
144	570	3.2	219	500	14.6
188	570	3.2	200	650	11.0
195	570	3.2	147	650	11.0
128	575	2.3	114	540	7.7
132	575	2.3	115	630	7.6
193	575	2.3	217	630	7.6
109	576	2.2	197	612	4.5
196	580	1.5	120	560	4.3
153	595	1.0	111	600	2.4
204	590	0.2	131	598	2.1
Mean	**589,000**	**7.4**		**585,452**	**17.4**

Table 74: Participating valuer experience and their deviation from the mean valuation for the consistent and inconsistent case allocation valuer groups

Consistent Case Allocation Valuer Group			*Inconsistent Case Allocation Valuer Group*		
Valuer Number	**deviation from the mean (%)**	**Experience (years)**	**Valuer Number**	**deviation from the mean (%)**	**Experience (years)**
101	23.9	11	106	53.7	11
135	22.2	11	141	45.2	11
123	16.3	11	198	35.2	0-5
150	15.1	11	136	26.2	11
164	15.1	11	168	23.1	11
121	10.8	11	210	23.1	6-10
159	10.8	6-10	178	20.6	11
142	10.3	11	192	20.1	11
176	10.3	6-10	119	20.1	11
160	10.01	11	143	19.7	6-10
140	8.3	11	102	19.6	11
212	8.3	0-5	108	19.6	6-10
207	6.6	11	130	17.0	0-5
167	6.1	11	117	16.8	11
206	5.6	6-10	177	16.8	0-5
124	5.2	0-5	157	16.1	6-10
166	5.2	11	104	14.6	11
116	4.9	11	122	14.6	11
202	4.5	11	152	14.6	11
180	4.0	11	163	14.6	11
175	3.9	0-5	208	14.6	11
144	3.2	6-10	219	14.6	11
188	3.2	0-5	200	11.0	6-10
195	3.2	11	147	11.0	0-5
128	2.3	6-10	114	7.7	11
132	2.3	11	115	7.6	11
193	2.3	11	217	7.6	11
109	2.2	11	197	4.5	11
196	1.5	0-5	120	4.3	0-5
153	1.0	11	111	2.4	0-5
204	0.2	11	131	2.1	6-10

Table 75: Participating valuer number of agricultural land valuations typically conducted per year and their deviation from the mean valuation for the consistent and inconsistent case allocation valuer groups

Consistent Case Allocation Valuer Group			***Inconsistent Case Allocation Valuer Group***		
Valuer Number	**deviation from the mean (%)**	**Number of Valuations**	**Valuer Number**	**deviation from the mean (%)**	**Number of Valuations**
101	23.9	10	106	53.7	20
135	22.2	4	141	45.2	20
123	16.3	3	198	35.2	15
150	15.1	20	136	26.2	25
164	15.1	40	168	23.1	6
121	10.8	15	210	23.1	50
159	10.8	10	178	20.6	15
142	10.3	20	192	20.1	40
176	10.3	25	119	20.1	50
160	10.01	25	143	19.7	5
140	8.3	15	102	19.6	25
212	8.3	20	108	19.6	2
207	6.6	40	130	17.0	20
167	6.1	0	117	16.8	15
206	5.6	20	177	16.8	5
124	5.2	10	157	16.1	10
166	5.2	0	104	14.6	5
116	4.9	20	122	14.6	25
202	4.5	20	152	14.6	25
180	4.0	30	163	14.6	65
175	3.9	3	208	14.6	20
144	3.2	10	219	14.6	20
188	3.2	20	200	11.0	20
195	3.2	20	147	11.0	25
128	2.3	30	114	7.7	12
132	2.3	20	115	7.6	20
193	2.3	18	217	7.6	10
109	2.2	15	197	4.5	100
196	1.5	25	120	4.3	20
153	1.0	25	111	2.4	5
204	0.2	8	131	2.1	10
Mean		**17**			**23**

Table 76: Participating valuer estimate of time spent inspecting the agricultural land and their deviation from the mean valuation for the consistent and inconsistent case allocation valuer groups

Consistent Case Allocation Valuer Group			*Inconsistent Case Allocation Valuer Group*		
Valuer Number	**deviation from the mean (%)**	**Estimate of Site Visit**	**Valuer Number**	**deviation from the mean (%)**	**Estimate of Site Visit**
101	23.9	120	106	53.7	60
135	22.2	20	141	45.2	120
123	16.3	180	198	35.2	120
150	15.1	120	136	26.2	30
164	15.1	90	168	23.1	240
121	10.8	90	210	23.1	60
159	10.8	75	178	20.6	90
142	10.3	120	192	20.1	60
176	10.3	45	119	20.1	60
160	10.01	60	143	19.7	90
140	8.3	45	102	19.6	120
212	8.3	60	108	19.6	120
207	6.6	60	130	17.0	60
167	6.1	150	117	16.8	180
206	5.6	60	177	16.8	60
124	5.2	60	157	16.1	60
166	5.2	90	104	14.6	90
116	4.9	60	122	14.6	120
202	4.5	60	152	14.6	60
180	4.0	120	163	14.6	90
175	3.9	240	208	14.6	120
144	3.2	60	219	14.6	120
188	3.2	60	200	11.0	60
195	3.2	90	147	11.0	90
128	2.3	210	114	7.7	120
132	2.3	120	115	7.6	30
193	2.3	60	217	7.6	60
109	2.2	60	197	4.5	60
196	1.5	180	120	4.3	60
153	1.0	60	111	2.4	45
204	0.2	120	131	2.1	90
Mean		**95**			**88**

Table 77: Participating valuer time spent on the valuation exercise and their deviation from the mean valuation for the consistent and inconsistent case allocation valuer groups

Consistent Case Allocation Valuer Group			*Inconsistent Case Allocation Valuer Group*		
Valuer Number	**Deviation from the mean (%)**	**Time on Exercise**	**Valuer Number**	**deviation from the mean (%)**	**Time on Exercise**
101	23.9	150	106	53.7	90
135	22.2	20	141	45.2	60
123	16.3	75	198	35.2	60
150	15.1	120	136	26.2	30
164	15.1	60	168	23.1	240
121	10.8	45	210	23.1	80
159	10.8	135	178	20.6	75
142	10.3	15	192	20.1	90
176	10.3	25	119	20.1	60
160	10.01	45	143	19.7	20
140	8.3	150	102	19.6	60
212	8.3	60	108	19.6	120
207	6.6	60	130	17.0	150
167	6.1	120	117	16.8	30
206	5.6	60	177	16.8	45
124	5.2	15	157	16.1	60
166	5.2	60	104	14.6	30
116	4.9	60	122	14.6	40
202	4.5	40	152	14.6	60
180	4.0	120	163	14.6	30
175	3.9	240	208	14.6	60
144	3.2	50	219	14.6	120
188	3.2	45	200	11.0	60
195	3.2	45	147	11.0	15
128	2.3	60	114	7.7	120
132	2.3	60	115	7.6	90
193	2.3	60	217	7.6	30
109	2.2	45	197	4.5	30
196	1.5	90	120	4.3	35
153	1.0	60	111	2.4	30
204	0.2	75	131	2.1	120
Mean		**73**			**69**

Table 78: Identification and use of attributes for rejecting comparable evidence at the initial sifting stage of the *consistent case allocation group*

Consistent Case Allocation Group - Attribute(s) Identified for Rejecting Comparable Evidence														
		Rejection Attributes												
Valuer ID	% difference from the mean	Sale Price	Distance	Plot Size	Method of Sale	Land Quality	Designations	Poor Information	Obligations	Recency	Development Potential	Access	Services	Number of Attributes Used by Participant Valuer
101	23.9	x												1
135	22.2				x									1
123	16.3		x	x										2
150	15.1													0
164	15.1													0
121	10.8	x												1
159	10.8	x		x		x		x				x	x	6
142	10.3	x												1
176	10.3	x												1
160	10.01	x												1
140	8.3													0
212	8.3	x		x	x	x	x		x	x		x		8
207	6.6	x		x		x	x		x					5
167	6.1													0
206	5.6													0
124	5.2	x	x	x		x						x		5
166	5.2	x												1
116	4.9	x												1
202	4.5	x												1
180	4.0													0
175	3.9	x												1
144	3.2	x		x		x	x				x		x	6
188	3.2	x							x		x			3
195	3.2	x												1
128	2.3	x												1
132	2.3		x	x					x					3
193	2.3	x												1
109	2.2	x												1
196	1.5	x												1
153	1.0	x		x		x								3
204	0.2													0
Total Number of Times Identified Attribute Used		**21**	**3**	**9**	**2**	**6**	**3**	**1**	**4**	**1**	**2**	**3**	**2**	-
Average Number of Attributes Used														**1.6**

Table 79: Identification and use of attributes for rejecting comparable evidence at the initial sifting stage of the *inconsistent case allocation group*

Inconsistent Group of Valuers - Attribute(s) Identified for Rejecting Comparable Evidence															
		Rejection Attributes Identified													
Valuer ID	% difference from the mean	Sale Price	Distance	Plot Size	Method of Sale	Land Type/Quality	Designations	Poor Information	Obligations	Recency	Access	Development Potential	Location	Special Purchaser	Services	Number of Attributes Used by Valuer Participant
106	53.7	x		x		x	x	x	x			x			x	8
141	45.2	x		x									x			3
198	35.2			x	x	x	x		x						x	6
136	26.2	x		x		x			x		x					5
168	23.1															0
210	23.1	x														1
178	20.6	x				x				x						3
192	20.1	x		x		x						x				4
119	20.1	x						x								2
143	19.7	x								x						2
102	19.6	x	x	x		x										4
108	19.6	x		x												2
130	17.0												x			1
117	16.8	x	x			x									x	4
177	16.8			x	x			x								3
157	16.1		x	x												2
104	14.6	x							x				x			3
122	14.6	x		x		x	x									4
152	14.6	x		x					x				x			4
163	14.6	x			x							x				3
208	14.6	x			x											2
219	14.6					x	x		x						x	4
200	11.0	x														1
147	11.0	x						x								2
114	7.7	x	x	x					x							4
115	7.6											x	x			2
217	7.6	x	x			x										3
197	4.5	x												x		2
120	4.3	x		x			x	x	x							5
111	2.4					x			x							2
131	2.1															0
Total Identified Attribute Used		**22**	**5**	**13**	**4**	**11**	**5**	**5**	**9**	**2**	**1**	**4**	**5**	**1**	**4**	-
Average Attributes Used																**2.3**

Table 80: Identification and use of attributes for adjusting selected comparable evidence for the *consistent case allocation group*

Consistent Group of Valuers - Adjustment Attributes Identified														
Valuer ID	% difference from the mean	Plot Size	Access	Distance	Land Type/Quality	Designations	Services	Method	Obligations	Sale Price	Special Purchaser	Development Potential	Recency	Number of Attributes Used By Valuer Participant
101	23.9	x			x	x	x	x	x			x	x	8
135	22.2	x	x	x	x									4
123	16.3													0
150	15.1	x		x	x			x						4
164	15.1		x		x				x	x				4
121	10.8													0
159	10.8		x		x									2
142	10.3				x		x							2
176	10.3	x			x		x		x				x	4
160	10.01												x	1
140	8.3	x			x		x	x	x	x				6
212	8.3	x			x	x		x					x	5
207	6.6													0
167	6.1	x	x		x		x		x					5
206	5.6	x		x	x	x	x		x	x	x	x	x	10
124	5.2	x		x	x									3
166	5.2			x	x								x	3
116	4.9	x	x		x									3
202	4.5													0
180	4.0		x		x	x	x		x				x	6
175	3.9		x		x	x	x		x					5
144	3.2	x			x			x						3
188	3.2	x	x	x	x	x	x		x			x	x	9
195	3.2													0
128	2.3	x	x		x	x	x					x		6
132	2.3	x	x	x					x					4
193	2.3	x			x				x				x	4
109	2.2		x											1
196	1.5			x	x	x	x							4
153	1.0	x			x	x			x					4
204	0.2		x		x	x		x	x					5
Total Identified Attribute Used		**16**	**12**	**8**	**23**	**10**	**11**	**6**	**13**	**3**	**1**	**4**	**9**	**-**
Average Number of Attributes Used														**3.9**

Table 81: Identification and use of attributes for adjusting selected comparable evidence for the *inconsistent case allocation group*

Inconsistent Group of Valuers - Adjustment Attributes Identified															
Valuer ID	% difference from the mean	Plot Size	Access	Distance	Land Type/Quality	Designations	Services	Method	Obligations	Sale Price	Location	Development Potential	Special Purchaser	Recency	Number of Attributes Used by Valuer Participant
106	53.7	x	x		x		x								4
141	45.2	x	x		x	x	x		x			x			7
198	35.2	x	x	x	x	x	x		x						7
136	26.2														0
168	23.1	x		x	x	x									4
210	23.1	x	x		x				x			x			5
178	20.6	x	x				x		x			x		x	6
192	20.1	x			x					x					3
119	20.1	x	x		x	x	x					x			6
143	19.7				x		x							x	3
102	19.6	x		x	x		x								4
108	19.6	x	x		x	x	x		x			x			7
130	17.0		x		x	x	x		x	x				x	7
117	16.8														0
177	16.8				x	x	x		x						4
157	16.1	x	x		x		x						x		5
104	14.6				x		x								2
122	14.6		x							x	x				3
152	14.6	x	x		x		x			x	x				6
163	14.6														0
208	14.6					x	x						x		3
219	14.6				x	x	x		x						4
200	11.0				x								x		2
147	11.0	x			x			x				x			4
114	7.7						x				x				2
115	7.6	x			x		x		x	x	x	x			7
217	7.6				x										1
197	4.5	x		x			x								3
120	4.3													x	1
111	2.4		x								x				2
131	2.1				x	x	x			x			x		5
Total Identified Attribute Used		**15**	**12**	**4**	**21**	**10**	**19**	**1**	**9**	**6**	**5**	**7**	**4**	**4**	**-**
Average Number of Attributes Used															**2.8**

Table 82: Decision Rule for the *Consistent Case Allocation Group*

Consistent Group of Valuers - Valuer Decision Rule Identified			
Valuer ID	**% Difference from the mean**	**Decision Rule - Consistent Group of Valuers**	**Decision Rule - Summary**
101	23.9	Rejected 3 pieces of evidence on the basis of **one** attribute (SALE PRICE) and then adjust for (PLOT SIZE, LAND QUALITY/TYPE, DESIGNATIONS, SERVICES, METHOD, OBLIGATIONS, RECENCY, DEVELOPMENT POTENTIAL	Reject (1) then Adjust (8)
135	22.2	Rejected 5 pieces of evidence on the basis of two attributes (SALE PRICE, METHOD) and the adjust for (PLOT SIZE, ACCESS, DISTANCE, LAND QUALITY/TYPE)	Reject (2) then Adjust (4)
123	16.3	Rejected 4 pieces of evidence on the basis on two attributes which looks like (DISTANCE, PLOT SIZE) and then positive and negative factors of selected evidence weighed up and then exercise valuer judgement	Reject (2) then Valuer Judgement
150	15.1	Selected all the evidence and then adjusted for following attributes (LAND QUALITY/TYPE, METHOD, PLOT SIZE, DISTANCE)	Select then Adjust (4)
164	15.1	Selected all the evidence and then adjusted for (ACCESS, LAND QUALITY/TYPE, SALE PRICE, OBLIGATIONS)	Select then Adjust (4)
121	10.8	Rejected 3 pieces of evidence on the basis of **one** attribute (SALE PRICE). Takes average of those selected and adjusts 10% but not clear for what…..	Reject (1) then adjust
159	10.8	Rejected 2 pieces of evidence on the basis of **six** attributes (PLOT SIZE, LAND QUALITY/TYPE, SALE PRICE, POOR INFORMATION, ACCESS, SERVICES) and then adjusts selected evidence for ACCESS, LAND QUALITY/TYPE, and then goes onto to import own views of the market	Reject (6) then Adjust (2)
142	10.3	Rejected 5 pieces of evidence on the basis of **one** attribute (SALE PRICES) and then adjusted for differences in LAND QUALITY/TYPE, SERVICES	Reject (1) then Adust (2)
176	10.3	Rejected 5 pieces of evidence on the basis of **one** attribute (SALE PRICE) and then adjusted for (LAND QUALITY/TYPE, SERVICES, PLOT SIZE, RECENCY, OBLIGATIONS)	Reject (1) then (5)
160	10.01	Rejected 3 pieces of evidence on the basis of **one** attribute (SALE PRICE) and then takes a view adjusting for RECENCY	Reject (1) then Adjust (1)
140	8.3	Rejected 2 pieces of evidence but unclear why and then adjusted that evidence on the basis of the following attributes (LAND QUALITY/TYPE, OBLIGATIONS, PLOT SIZE, SALE PRICE, METHOD, SERVICES)	Reject then Adjust (6)

212	8.3	Rejected 3 pieces of evidence on the basis of **eight** attributes (PLOT SIZE, METHOD OF SALE, ACCESS, RECENCY, LAND TYPE, DESIGNATIONS, OBLIGATIONS, SALE PRICE) and then adjusts for (LAND QUALTY/ TYPE, PLOT SIZE, DESIGNATIONS, METHOD, RECENCY)	Reject (8) the Adjust (5)
207	6.6	Rejected 3 pieces of evidence on the basis of **six** attributes (PLOT SIZE, OBLIGATIONS, DESIGNATIONS, SALE PRICE, DEVELOPMENT POTENTIAL, LAND QUALITY/TYPE) and then compares and contrasts the selected evidence incorporating valuer judgment	Reject (6) then Valuer Judgement
167	6.1	Selected all the evidence and then adjusted for (ACCESS, SERVICES, LAND QUALITY/TYPE, PLOT SIZE, OBLIGATIONS)	Select all then Adjusst (5)
206	5.6	Selected all the evidence and then adjusted for (DISTANCE, SALE PRICE, RECENCY, PLOT SIZE, LAND QUALITY/TYPE, SERVICES, SPECIAL PURCHASERS, DESIGNATIONS, OBLIGATIONS, DEVELOPMENT POTENTIAL)	Select All then Adjust (11)
124	5.2	Rejected 4 pieces of evidence on the basis of **five** tributes which looks like (SALE PRICE, PLOT SIZE, DISTANCE, LAND QUALITY/TYPE, ACCESS) and then adjusts for PLOT SIZE, DISTANCE, LAND QUALITY/TYPE	Reject (5) then Adjust (3)
166	5.2	Rejected 3 pieces of evidence on the basis of **one** attribute (SALE PRICE) and then adjusted for (LAND QUALITY/TYPE, RECENCY, DISTANCE) and then took an average	Reject (1) then Adjust 3)
116	4.9	Rejected 5 pieces of evidence on the basis of **one** attribute (SALE PRICE) and then adjusted for differences on other attributes (PLOT SIZE, ACCESS, LAND QUALITY/TYPE)	Reject (1) then Adjust (3)
202	4.5	Rejected 5 pieces of evidence on the basis of **one** attribute (SALE PRICE) and then placed the subject land in the range	Reject (1) then range
180	4.0	Selects all the evidence and adjusts it for (LAND QUALITY/TYPE, ACCESS, OBLIGATIONS, SERVICES, DESIGNATIONS, RECENCY) but proceeds to not use the evidence in arriving at opinion of value preferring to use own judgement instead	Select all then valuer judgement
175	3.9	Rejected 3 pieces of evidence on the basis of **one** attribute (SALE PRICES) and then sift selected evidence down to two pieces of evidence and then adjusting for (SERVICES, ACCESS, DESIGNATIONS, OBLIGATIONS, LAND QUALITY/TYPE)	Reject (1) Select then Adjust (5)
144	3.2	Rejected 3 pieces of evidence on basis of **six** attributes (PLOT SIZE, LAND QUALITY/TYPE, SALE PRICE, DESIGNATIONS, DEVELOPMENT POTENTIAL, SERVICES) and then adjust for (LAND QUALITY/TYPE, PLOT SIZE, METHOD)	Reject (6) then Adjust (3)

188	3.2	Rejected 5 pieces of evidence on the basis of **three** attribute (SALE PRICE, DEVELOPMENT POTENTIAL, OBLIGATIONS) and then adjustments made for (PLOT SIZE, LAND QUALITY/ TYPE, ACCESS, OBLIGATIONS, SERVICES, RECENCY, DISTANCE, DESIGNATIONS, DEVELOPMENT POTENTIAL	Reject (3) then Adjust (9)
195	3.2	Rejected 3 pieces of evidence on the basis of **one** attribute (SALE PRICE) and then relies on own knowledge and experience of the market - supporting this view with the evidence found	Reject (1) then valuer judgement
128	2.3	Rejected 3 pieces of evidence on the basis of **one** attribute (SALE PRICE) and then adjust for ACCESS, LAND QUALITY/TYPE, PLOT SIZE, DESIGNATIONS, SERVICES, DEVELOPMENT POTENTIAL	Reject (1) then Adjusts (6)
132	2.3	Rejected 1 piece of evidence on the basis of **three** attributes (DISTANCE, PLOT SIZE, OBLIGATIONS) then adjust for other attributes (ACCESS, OBLIGATIONS, PLOT SIZE, DISTANCE)	Reject (3) then Adjust 4)
193	2.3	Rejected 5 pieces of evidence on the basis of **one** attribute (SALE PRICE) and then adjustments made for (PLOT SIZE, LAND QUALITY/TYPE, OBLIGATIONS, RECENCY)	Rejects (1) then Adjusts 4)
109	2.2	Rejected 5 pieces of evidence on the basis of **one** attribute (SALE PRICE) Took average of selected comparables and adjusted for ACCESS	Reject (1) then Adjust (1)
196	1.5	Rejected 3 pieces of evidence on the basis of **one** attribute (SALE PRICE) and then adjust the selected evidence for (DISTANCE, LAND QUALITY/TYPE, DESIGNATIONS, SERVICES)	Reject (1) then adjust 4)
153	1.0	Rejected 4 pieces of evidence on the basis of **three** attribute (SALE PRICE, LAND QUALITY/TYPE, PLOT SIZE) and then adjust for following attributes (OBLIGATIONS, PLOT SIZE, LAND QUALITY/TYPE, DESIGNATIONS)	Reject (3) then adjust 4)
204	0.2	Selected all the evidence and then adjusts for (ACCESS, DESIGNATIONS, OBLIGATIONS, METHOD, LAND QUALITY/TYPE) and then placed the subject land in the range	Select all then adjust (5)

Table 83: Decision Rule for the Inconsistent Case Allocation Group

Inconsistent Case Allocation Group			
Valuer ID	**% Difference from the mean**	**Decision Rule**	**Decision Rule – Summary**
106	53.7	Rejected 4 pieces of evidence on basis of **eight** attributes (LAND QUALITY/TYPE, PLOT SIZE, OBLIGATIONS, DEVELOPMENT POTENTIAL, SALE PRICE, DESIGNATIONS, SERVICES, POOR INFORMATION) and then adjusts the selected evidence for ACCESS, PLOT SIZE, SERVICES, LAND QUALITY/TYPE	Reject (8) then Adjust (4)
141	45.2	Rejected 5 evidence on the basis of **three** attributes (SALE PRICE, PLOT SIZE, LOCATION) and then adjusts the selected evidence for (DEVELOPMENT POTENTIAL, ACCESS, SERVICES, DESIGNATIONS, OBLIGATIONS, LAND QUALITY/TYPE, PLOT SIZE)	Reject (3) then Adjust (7)
198	35.2	Rejected 3 pieces of evidence on the basis of **six** attributes (METHOD, PLOT SIZE, DESIGNATIONS, LAND QUALITY/TYPE, SERVICES, OBLIGATIONS) the selects one comparable from remaining having rejected others on the basis of four attributes (PLOT SIZE, DISTANCE, SERVICES, DESIGNATIONS, ACCESS, OBLIGATIONS, LAND QUALITY/TYPE)	Reject (6) then Select (7)
136	26.2	Rejected 5 pieces of evidence on the basis of five attributes (PLOT SIZE, OBLIGATIONS, SALE PRICE, LAND QUALITY/TYPE, ACCESS) and then unclear as to methodology thereafter	Reject (5) then unclear
168	23.1	Selected all the evidence and then adjusted the selected evidence based on four attributes (DISTANCE, PLOT SIZE, DESIGATIONS, LAND QUALITY)	Select then Adjust (4)
210	23.1	Rejected 3 pieces of evidence on the basis of **one** attribute (SALE PRICE) and then adjusted the selected evidence for (PLOT SIZE, LAND QUALITY/TYPE, DEVELOPMENT POTENTIAL, ACCESS, OBLIGATIONS)	Reject (1) then Adjust (5)
178	20.6	Rejected 5 pieces of evidence on the basis of **three** attributes (SALE PRICE, RECENCY, LAND TYPE) and then adjusted the selected evidence for (PLOT SIZE, RECENCY, SERVICES, DEVELOPMENT POTENTIAL, ACCESS, OBLIGATIONS)	Reject (3) then Adjust (6)
192	20.1	Rejected 4 pieces of evidence on the basis of **four** attributes (DEVELOPMENT POTENTIAL, PLOT SIZE, SALE PRICE, LAND QUALITY) and then adjusted the selected evidence for (SALE PRICE, PLOT SIZE, LAND TYPE)	Reject (4) then Adjust (3)
119	20.1	Rejected 5 pieces of evidence on the basis of **two** attributes (SALE PRICE, POOR INFORMATION) and then adjusts the selected evidence for (PLOT SIZE, ACCESS, LAND QUALITY/TYPE, DESIGNATIONS, SERVICES, DEVELOPMENT POTENTIAL)	Reject (2) then Adjust (6)
143	19.7	Rejected 4 pieces of evidence on the basis of **two** attributes (SALE PRICES, RECENCY) and then place within a range of the selected comparables based on three attributes (LAND QUALITY, SERVICES, RECENCY)	Reject (2) then Range (3)
102	19.6	Rejected 4 pieces of evidence on the basis of **four** attributes (SALE PRICE, DISTANCE, PLOT SIZE, LAND QUALITY) and then adjusted the selected evidence for (SERVICES, DISTANCE, LAND QUALITY/TYPE, PLOT SIZE)	Reject (4) then Adjust (4)
108	19.6	Rejected 4 pieces of evidence on the basis of **two** attributes (SALE PRICE, PLOT SIZE) and then adjust the selected evidence for (ACCESS, OBLIGATIONS, DESIGNATIONS, LAND TYPE, SERVICES, PLOT SIZE, DEVELOPMENT POTENTIAL)	Reject (2) then Adjust (7)
130	17.0	Rejected 1 piece of evidence on the basis of **one** attribute (LOCATION) and then adjusted selected evidence for (SALE PRICE, OBLIGATIONS, RECENCY, LAND QUALITY/TYPE, SERVICES, ACCESS, DESIGNATIONS)	Reject (1) then Adjust (7)
117	16.8	Rejected 5 pieces of evidence on the basis of **four** attributes (SALE PRICES, DISTANCE, SERVICES, LAND QUALITY/TYPE) and then used valuer knowledge using selected comparables as guides	Reject (4) then valuer judgement
177	16.8	Rejected 1 piece of evidence on the basis of **three** attributes (PLOT SIZE, METHOD,POOR INFORMATION) and then identified from the selected evidence the most comparable based on (LAND QUALITY/ TYPE, SERVICES, OBLIGATIONS, DESIGNATIONS)	Reject (3) then Select (4)

157	16.1	Rejected 4 pieces of evidence on the basis of **two** attributes (DISTANCE, PLOT SIZE) and then adjusts the selected evidence for (ACCESS, SERVICES, SPECIAL PURCHASER, LAND QUALITY/TYPE, PLOT SIZE)	Reject (2) then Adjust (5)
104	14.6	Rejected 6 pieces of evidence on the basis of **three** attributes (SALE PRICE, LOCATION, OBLIGATIONS) and then adjusts selected evidence for (SERVICES, LAND QUALITY/TYPE)	Reject (3)then Adjust (2)
122	14.6	Rejected 5 pieces of evidence on the basis of **four** attributes (PLOT SIZE, LAND TYPE/QUALITY, DESIGNATIONS, SALE PRICE) and then adjusted selected evidence for (SALE PRICE, LOCATION, ACCESS)	Reject (4) then Select and Adjust (3)
152	14.6	Rejected 3 pieces of evidence on the basis of **four** attributes (SIZE, LOCATION, SALE PRICE, OBLIGATIONS) and then adjust the selected evidence for (LAND QUALITY/TYPE, PLOT SIZE, LOCATION, SERVICES, ACCESS, SALE PRICE)	Reject (4) then Adjust (6)
163	14.6	Rejected 5 pieces of evidence on the basis of **three** attributes (SALE PRICE, DEVELOPMENT POTENTIAL, METHOD) and then paced in a range but not clear how	Reject (3) then place in a range
208	14.6	Rejected 5 pieces of evidence on the basis of **two** attributes (SALE PRICE, METHOD) and then adjusted selected evidence for (SPECIAL PURCHASER, SERVICES, DESIGNATIONS)	Reject (2) then adjust (3)
219	14.6	Rejected 4 pieces of evidence on the basis of **four** attributes (LAND TYPE, SERVICES, DESIGNATIONS, OBLIGATIONS) and then adjusted the selected evidence for (OBLIGATIONS, SERVICES, LAND TYPE, DESIGNATIONS)	Reject (4) then Adjust (4)
200	11.0	Rejected 5 pieces of evidence on the basis of **one** attribute (SALE PRICE) and then adjusted selected evidence for (LAND QUALITY/TYPE, SPECIAL PURCHASER)	Reject (1) then Adjust (2)
147	11.0	Rejected 4 pieces of evidence on the basis of **two** attributes (SALE PRICE, POOR INFORMATION) and then adjust the selected evidence for (METHOD, PLOT SIZE, LAND QUALITY/TYPE, DEVELOPMENT POTENTIAL)	Reject (2) then Adjust (4)
114	7.7	Rejected 4 pieces of evidence on the basis of **four** attributes (DISTANCE, SALE PRICE, PLOT SIZE, OBLIGATIONS) and then adjusted selected evidence for (SERVICES, LOCATION)	Reject (4) then Adjust (2)
115	7.6	Rejected 2 pieces of evidence on the basis of **two** attributes (DEVELOPMENT POTENTIAL, LOCATION) and then adjusting for (DEVELOPMENT POTENTIAL, LOCATION, SERVICES, PLOT SIZE, OBLIGATIONS, LAND QUALITY/TYPE, SALE PRICE)	Reject (2) then Adjust (7)
217	7.6	Rejected 3 pieces of evidence on the basis of **three** attributes (SALE PRICE, DISTANCE, LAND TYPE) and then refers to applying the selected evidence to the land to be valued dividing it into arable and grassland and adjusting for LAND QUALITY/TYPE	Reject (3) then Adjust (1)
197	4.5	Rejected 6 pieces of evidence on the basis of **two** attributes (SALE PRICE, SPECIAL PURCHASER) and then adjusted the selected comparable for (PLOT SIZE, DISTANCE, SERVICES)	Reject (2) then Adjust (3)
120	4.3	Rejected 1 piece of evidence on the basis of **five** attributes (PLOT SIZE, POOR INFORMATION, OBLIGATIONS, DESIGNATIONS, SALE PRICE) and then adjusted the selected evidence for (RECENCY) and others but not clear what they are	Reject (5) then Adjust (1)
111	2.4	Rejected 3 pieces of evidence on the basis of **one** attributes (LAND QUALITY/TYPE, OBLIGATION) and then adjusted selected evidence for (ACCESS, LOCATION)	Reject (2) then Adjust (2)
131	2.1	Selected all the evidence and then adjusted evidence based on five attributes (SALE PRICE, SPECIAL PURCHASER, SERVICES, LAND QUALITY, DESIGNATIONS)	Select then Adjust (5)

APPENDIX 6 - THE COMPARABLE VALUATION TEMPLATE

FIGURE 27: COMPARABLE VALUATION TEMPLATE FOR USE IN THE VALUATION OF AGRICULTURAL LAND

INSTRUCTIONS TO VALUERS:

This template has been developed to provide you with a template within which you can arrive at your opinion of market value for agricultural land in the UK.

The template has been developed to guide you through a series of steps in assessing and evaluating the land being valued and the comparable evidence before selecting the most appropriate comparable evidence and using that evidence to arrive at your opinion of market value.

The template advises that you to approach this valuation task by proceeding through a number of stages:

Stage 1 – Inspect the land the subject of the valuation exercise

Stage 2 – Identify and evaluate the attributes of that agricultural land that contribute to its value. *That information can be collated within columns A & B of Table 1 presented within this* template

Stage 3 – Evaluate the comparable evidence that you have found by identifying the attributes of that land that give it value and compare the results of that evaluation with the attributes of the subject land.
This comparison can be facilitated by column C in Table 1 presented within this template

Stage 4 – Having completed the comparison between the land being valued and the comparable evidence select the comparable evidence that you are going to use to value the subject land.
That decision can be facilitated by Table 2 presented within this template

Stage 5 – Having selected your comparable evidence, this stage now uses that evidence to arrive at your opinion of market value whereby you are required to adjust the evidence in the light of the differences/similarities identified in Stage 3.
That adjustment can be facilitated by Table 3 presented within this template

Stage 6 – Arrive at opinion of market value

Note: Attributes and their definitions are presented within Table 4 of this template

TABLE 1 – EVALUATING THE LAND BEING VALUED AND THE COMPARABLE EVIDENCE

Having inspected the subject land to be valued and identified the attributes that contribute to its market value this table now facilitates a comparison of the subject land with the comparables found that could possibly be used to value the agricultural land

A	B	C			
Evaluating Attributes	**Details of the Subject Land** (Complete this section with the details of the land being valued and then assess its' comparability with the evidence presented)	**Is the comparable evidence below comparable on the attributes listed in column A?**			
		C1 (insert name)	**C2 (insert name)**	**C3 (insert name)**	**C4 (insert name)**
Services		Y/N	Y/N	Y/N	Y/N
Designations		Y/N	Y/N	Y/N	Y/N
Access		Y/N	Y/N	Y/N	Y/N
Plot Size		Y/N	Y/N	Y/N	Y/N
Distance		Y/N	Y/N	Y/N	Y/N
Method of Sale		Y/N	Y/N	Y/N	Y/N
Land Quality		Y/N	Y/N	Y/N	Y/N
Obligations		Y/N	Y/N	Y/N	Y/N
Special Purchaser		Y/N	Y/N	Y/N	Y/N
Sale Prices		Y/N	Y/N	Y/N	Y/N
Location		Y/N	Y/N	Y/N	Y/N
Development Potential		Y/N	Y/N	Y/N	Y/N
Poor Information		Y/N	Y/N	Y/N	Y/N
Other (please insert)		Y/N	Y/N	Y/N	Y/N
Other (please insert)		Y/N	Y/N	Y/N	Y/N

NOTES

TABLE 2 – SELECTING YOUR COMPARABLE EVIDENCE

Having compared the subject land to the comparable evidence Table 2 facilitates the selection of what you consider to be the most appropriate comparable evidence that you will now use to determine your final valuation figure

Do you want to REJECT or SELECT this comparable?

You are rejecting this comparable because it is not comparable on which of the attributes listed below

Selection Attributes	**REJECT OR SELECT**	**REJECT OR SELECT**	**REJECT OR SELECT**	**REJECT OR SELECT**
	C1 (insert name)	**C2 (insert name)**	**C3 (insert name)**	**C4 (insert name)**
Sale Price				
Plot Size				
Land Type/Quality				
Distance				
Development Potential				
Designations				
Poor Information				
Services				
Recency				
Location				
Method of Sale				
Special Purchasers				
Access				
Obligations				

NOTES

TABLE 3 – ADJUSTMENT OF SELECTED COMPARABLE EVIDENCE

Having now selected the comparable evidence that you are going to use Table 3 facilitates the process of you adjusting that selected evidence to account for the differences and similarities identified in Table 1 to arrive at your opinion of market value

Adjusting Attribute	In this column set out the differences between the subject land and the comparables and select whether you want to adjust the comparable **UP**, **DOWN or NO ADJUSTMENT** in the light of your comparable analysis	**Insert selected comparables below:**			
		C1 (insert name)	**C2 (insert name)**	**C3 (insert name)**	**C4 (insert name)**
Services		ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT
Land Quality		ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT
Access		ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT
Plot Size		ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT
Designations		ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT
Recency		ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT

Obligations		ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT
Development Potential		ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT
Distance		ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT
Method of Sale		ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT
Sale Prices		ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT
Location		ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT
Other (please insert)		ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT	ADJUST UP ADJUST DOWN NO ADJUSTMENT

Other (please insert)		ADJUST UP ADJUST DOWN NO ADJUSTMENT		ADJUST UP ADJUST DOWN NO ADJUSTMENT		ADJUST UP ADJUST DOWN NO ADJUSTMENT		ADJUST UP ADJUST DOWN NO ADJUSTMENT	
Overall Adjustment									
Adjusted Valuation									
Market Value									

TABLE 4 – ATTRIBUTE DEFINITIONS

Attribute	***Definition***
Sale Price	Comparable evidence not an actual sale price
Distance	Comparable evidence is too far from the land being valued
Plot Size	The area of land comprising the comparable evidence is too dissimilar
Land Type/Quality	The quality and/or type of land contained within the comparable evidence is too dissimilar
Designations	The environmental restrictions placed on the land comprising the comparable evidence make it too dissimilar
Poor Information	The comparable evidence lacks sufficient information to make it useful
Recency	The comparable evidence is too out of date to be useful
Development Potential	There is planning or planning potential in the comparable evidence
Location	The comparable evidence has a different location that makes it less useful
Special Purchaser	There is an expectation of special purchaser influence on the comparable evidence
Services	The availability of services on the comparable evidence e.g. water, irrigation is different
Method of Sale	The comparable evidence has been sold via a different method, e.g. Private Treaty, Auction, Tender
Obligations	Overage provisions, rights of way are affecting the comparable evidence
Access	Better or worse access arrangements are evident at the land comprising the comparable evidence