



University  
of Glasgow

Roxburgh, James (2018) *The impact of uncertainty on the UK's office market*. [MSc]

Copyright © 2018 The Author

Copyright and moral rights for this work are retained by the author(s)

A copy can be downloaded for personal non-commercial research or study, without prior permission or charge

This work cannot be reproduced or quoted extensively from without first obtaining permission in writing from the author(s)

The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the author

When referring to this work, full bibliographic details including the author, title, institution and date must be given

<http://endeavour.gla.ac.uk/326/>

Deposited: 13 December 2018



University  
of Glasgow

**University of Glasgow**

**School of Social and Political Sciences**

**Urban Studies**

## **The Impact of Uncertainty on the UK's Office Market**

**Presented in partial fulfilment of the requirements for the degree of M.Sc. in  
Real Estate**

**August 2018**

**Word count: 14, 544**

**Urkund Score:**

## **Abstract**

***Purpose*** – This paper aims to explore the impact of uncertainty on the office market in the UK. The paper discusses economic and policy uncertainty generally before narrowing its focus to recent events which cause uncertainty, examining the impact this has on various different aspects of the office market. The office market is crucially interlinked to the economic health of the UK hence making this an important topic to research.

***Design/methodology/approach*** – The existing literature is reviewed to give a background to the research, before three case study cities are examined through the use of questionnaire data and information from market reports.

***Findings*** – The paper finds that the various forms of uncertainty do have an impact on the UK's office market, however the severity of which differs depending on the cause and timing.

# Table of contents

Chapter 1 - Introduction .....	1
1.1 Background .....	1
1.2 Purpose of Study.....	2
1.3 Research Aims and Objectives.....	3
1.4 Research Questions .....	3
1.5 Definition of Terms .....	3
1.6 Dissertation Outline .....	4
Chapter 2 - Literature Review .....	5
2.1 Context.....	5
2.2 Policy Uncertainty .....	6
2.3 Macroeconomic Uncertainty .....	8
2.4 Uncertainty and Real Estate Cycles.....	11
2.5 Post-Uncertainty .....	12
2.6 Brexit Uncertainty .....	12
2.7 Summary.....	15
Chapter 3 - Methodology.....	16
3.1 Quantitative and Qualitative research.....	16
3.2 Data collection methods .....	17
3.2.1 Case Study.....	17
3.2.1.1 Limitations .....	18
3.2.2 Questionnaire.....	18
3.2.2.1 Questionnaire Sample .....	19
3.2.2.2 Questionnaire Structure .....	19
3.2.2.3 Limitations .....	20
3.2.3 Market Reports .....	21
3.2.3.1 Limitations .....	21
3.3 Data Analysis.....	22
3.4 Ethical Considerations .....	22
3.5 Summary.....	23
Chapter 4 - Findings .....	24
4.1 Case Study Backgrounds .....	24
4.1.1 Glasgow.....	24
4.1.2 Manchester.....	25
4.1.3 London .....	26

4.2 Monitoring Uncertainty and its Impact on the Market .....	26
4.3 Investment.....	28
4.3.1 Questionnaire Data.....	28
4.3.2. Market Reports .....	31
4.4 Demand for space .....	33
4.4.1 Questionnaire Data.....	34
4.4.2 Market Reports .....	36
4.5 Supply levels – New Construction .....	37
4.5.1 Questionnaire Data.....	37
4.5.2 Market Reports .....	39
4.6 Vacancy Rates .....	40
4.6.1 Questionnaire Data.....	40
4.6.2 Market Reports .....	42
4.6 Post Uncertainty Boom.....	42
4.6.1 Questionnaire Data.....	43
4.6.2. Market Reports .....	44
4.7 Summary.....	44
Chapter 5 - Conclusion .....	46
5.1 Research Aims and Objectives .....	46
5.2 Limitations .....	48
5.3 Future Studies .....	49
Reference List .....	50
Appendices .....	56
Appendix A: Questionnaire.....	56

## List of Figures

Figure 1: Barras (1994) Building cycle .....	11
Figure 2: Questionnaire results: Importance of office market.....	27
Figure 3: Questionnaire results: Investment from the UK .....	29
Figure 4: Questionnaire results: Investment from overseas .....	30
Figure 5: Questionnaire results: Demand.....	34
Figure 6: Questionnaire results: New Construction .....	38
Figure 7: Questionnaire results: Vacancy Rates .....	41
Figure 8: Questionnaire results: Uncertainty resolved .....	43

## **Acknowledgements**

I would like to thank my supervisor, Julie Tian Miao, for her guidance and advice that she provided throughout the year, and her swift responses over the summer despite being overseas. I would also like to thank the surveyors who participated in the questionnaires. Lastly, I would like to thank friends and family for their continued support.





# Chapter 1 - Introduction

## 1.1 Background

In June 2016, the United Kingdom voted in a referendum on whether to leave or remain within the European Union, with a 52% majority voting to leave. This triggered a period of political and economic uncertainty which at the time of writing, over two years after the vote, does not appear to be any closer to ending. A wide range of issues have been raised over which uncertainty remains, with policies regarding immigration and trade in particular, in a state of flux. The lack of definitive progress in the time since the vote has encouraged uncertainty as speculation around these issues continues. This is not the only cause of uncertainty in the last decade though. In the last ten years the office market has had to contend with two coalition governments, a referendum on Scottish independence (Indyref) with a serious possibility of a 2<sup>nd</sup> referendum (Indyref2), and constantly fluctuating political tension between the world's superpowers resulting in trade sanctions. All of these issues have occurred whilst the world still recuperates from the Global Financial Crisis of 2008-09, which has been compared in severity to the great depression of the 1930s (Crowe et al, 2013). These events create uncertainty in political terms but also in economic policies, forcing governments to change and adapt to new circumstances. These changes affect the wider economy, but especially the office market.

Considering uncertainty, and the impact it has, is important to the office market for several reasons. The office market itself is vital to the overall health of the economy, with the two being intimately tied to one another. The office market contributes to the economy - as of 2016, all Commercial Real Estate (CRE) contributed £63 billion to the economy (BPF, 2017). The market is also a significant storage of wealth in the economy - all CRE is valued at £883 billion, representing 10% of the UK's net wealth, with Offices accounting for £273 billion (31%) of this value (BPF, 2017). Offices provide a workplace for a large number of firms and individuals, as an estimated 10.1 million out of the 32 million people in the labour market work in office space (ONS, 2017a). The sheer quantity of employed individuals, and number of firms who will be

using office space is critical to the economy, especially through the tax receipts gained and the multiplier effect, helping this money spread further through the economy.

These statistics show the vital importance of monitoring the office market, and being able to understand how and why it is impacted from issues surrounding uncertainty.

## **1.2 Purpose of Study**

The problem with the literature is that few pieces make a direct link between policy uncertainty, macroeconomic uncertainty, and their impact on specifically the office market. This dissertation aims to address this gap in knowledge.

The office market was specifically chosen instead of other types of real estate, for example industrial or residential, due to the large levels of capital held in office buildings as stated previously. While the same could be said for industrial and especially residential, offices provide the extra incentive as the market serves as such a vast holder of jobs within them. The move of the British workforce into office space means that ensuring the office market is preserved and allowed to flourish, even in the face of external factors, is vital. The office market is crucial due to the fact that many offices are in central locations in towns and cities across the country. If the office market is in good health then it likely means that employment is high, and these offices produce the multiplier effect, where large numbers of workers travel into town and city centres, and spend money in other local businesses and use public transport. Business rates are also a huge contributor to local economies, helping stimulate even further growth and attract even more investment. A thriving office market also helps city centres visually, whether it's brand new innovatively designed buildings, or renovation of older buildings. Large demand for office space encourages development of these new spaces on undeveloped or underdeveloped land, and a sufficient supply of office space allows companies to operate at their desired level through expansion.

### **1.3 Research Aims and Objectives**

The aim of this paper is to help further understand the impact of uncertainty on the office market. The recent political and economic uncertainty has helped form the following research objectives:

- To examine the different forms of uncertainty that could impact on the office market
- To establish how and why the office market may be impacted by the different forms of uncertainty
- To analyse, through the use of case studies, how recent uncertainty has impacted on the office market

### **1.4 Research Questions**

1.4.1 How is the office market affected by uncertainty?

1.4.2 Why does uncertainty impact the office market?

1.4.3 How severe is the uncertainty surrounding Brexit?

### **1.5 Definition of Terms**

Before discussing the subject and reviewing the literature, some clarifications are essential.

Uncertainty is a word that is often misunderstood and confused with risk. Millington (2000) differentiates risk and uncertainty by declaring that risk is related to the known factors, while uncertainty is unknown factors. Knight (2006) identifies risk as being a measurable uncertainty, contrasting to uncertainty which is an unmeasurable uncertainty. Tsolacos and McGough's (1999) paper uses the term uncertainty in the context of real estate cycles in the British office market, defining it as the: "Difficulty associated with the prediction of present and future movements in economic activity (proxied by real GDP) and office market prices (proxied by real office rents)" (Tsolacos

and McGough, 1999, p1140). While it is evident there is not just one clear right or wrong definition to give, the researcher proposes using a mixture of the three cited papers to give the following definition of uncertainty: the difficulty of predicting current and future trends in the economy and office market.

While the definition of a market would simplistically be seen as the interaction between buyers and sellers, or demand and supply, property markets are seen as being made up of numerous intertwined markets – the user market, financial assets, development market and the urban land market (Ball et al., 1998). Investment is a key aspect of this paper, and can be defined as the acquisition of land or buildings which give the right to receive rental income and capital value growth (Ball et al., 1998). Macroeconomics refers to the economic features of the country's economy as a whole, including inflation, interest rates and unemployment (CD, 2018).

## **1.6 Dissertation Outline**

Chapter 2 will critically review numerous pieces of literature, highlighting key themes and establishing gaps in the knowledge. Chapter 3 will explain the methods used to carry out the research for this dissertation. The positive and negative aspects of these methods are established, describing how the data will be analysed and addressing any ethical considerations. Chapter 4 will assess the data collected from the questionnaires. The findings will be analysed in thematic fashion to allow comparisons to be drawn from the researchers' findings and the findings in Chapter 2. Finally, Chapter 5 will summarise the dissertation, linking the chapters together to establish whether the objectives set out in this chapter were accomplished. This paper's limitations will be discussed as well as suggestions for future studies on the subject.

## **Chapter 2 - Literature Review**

To examine the effects of uncertainty on the office market in the UK, it is first important to understand the literature on uncertainty and its relationship with the economy. While uncertainty majorly affects property in the context of each assets individual valuation, this section will only discuss it in a broader sense of the whole real estate market. Likewise, the relationship between uncertainty and other property types including industrial and residential may provide some useful literature with comparable theory, however the researcher has chosen to focus only on the office market.

In this chapter, important information is given about uncertainty, investment and the office market.

### **2.1 Context**

There are several external factors currently facing the office market in the UK, including macroeconomic, political, and financial concerns, both globally and locally. These ensure that uncertainty is a topic which is as important to understand now as it has ever been. At the time of writing, the known problems include trade wars, refugee/migrant crises, political uncertainties which include the possibility of a second Scottish independence referendum, and arguably the biggest, Britain's imminent departure from the European Union. Likewise, shock events such as war, terrorism, or disease are all potential impactors on investors attitudes, government policies and the regulation of real estate.

Investment is the most obvious aspect of the market that uncertainty could impact. The basic understanding of how uncertainty will potentially affect investment in the office market is straightforward – when there is a stable period for the economy and government policies, both individual investors and firms will feel comfortable parting with their capital. Conversely, when there is a period of doubt and uncertainty regarding the future of a local or national economy and the policies governing it, these groups will feel more cautious and be less inclined to use their capital. Therefore, it would be expected to see that the literature finds this link of higher policy and economic uncertainty causing decreased investment.

## 2.2 Policy Uncertainty

An important paper on the subject is Holland et al (2000), which analyses the role of uncertainty in investment within commercial real estate. This paper advocates the economic and political stability of a country in order to promote investment and economic growth and provides results that uncertainty is primarily caused by changes in fiscal, monetary, and regulatory policies (Holland et al, 2000). The paper looks back to Keynes (1936), agreeing with the conclusions drawn from this paper that investors will delay investment under high periods of policy uncertainty unless the decision is completely irreversible or it cannot be delayed. Baker et al (2016) and Kohlert (2010) agree with Holland et al (2000), all suggesting that the issue of policy uncertainty is important to the wider real estate market and is an issue requiring research.

Crowe et al (2013) looked at how a period of economic policy uncertainty could be tackled within the real estate industry, emphasising how important an area of research this is due to real estate being such a huge storage of wealth within an economy. The paper discusses the policy options available when dealing with periods of uncertainty, but these potential options are themselves fraught with difficulties, such as knowing at what point in time to make decisive action, and how to predict the costs of intervention versus the costs of inaction. They argue that changing the interest rates at a time of a real estate boom would help lessen the size of the trough in the property cycle, and assist in reducing uncertainty (Crowe et al, 2013).

Gulen and Ion (2015) address the topic and also obtain the same results when assessing how economic policy uncertainty affects investment, finding that heightened policy uncertainty leads to falling investment. They did however state a primary challenge in this area of research. While many studies will focus on specifically economic policy, mainly monetary and fiscal, there are few papers which encapsulate the level of all policy uncertainty, and they state how challenging it is to find a suitable measure of policy uncertainty (Gulen and Ion, 2015).

However, contradictory to the previous papers mentioned, Grenadier (1996) argues that if policy uncertainty increases then it could be logically argued that investment may increase also. He shows that it may be rational to invest if policy uncertainty has caused prices to decline as investors will obtain a relative bargain (Grenadier, 1996). There is

a condition of this investment though, that it must be in a very active asset market where prices are high. The office market could be argued to be an active asset market with high prices, and so it could be speculated that Grenadier's (1996) suggestion may be found accurate in the findings chapter. This may be an accurate prediction due to the recent weakening of the British pound due to economic policy uncertainties, therefore allowing foreign investors to obtain property at a cheaper price than they normally would have. This topic is discussed further in section 2.6.

While this bank of literature emphasises the importance of assessing economic policy uncertainty, Byrne (1995) takes a different view. He looks at uncertainty as a consequence primarily of time, as opposed to specifically certain doubts over monetary policy. Given this, the longer a period of policy uncertainty goes on for with an indefinite timeframe, with the present indecision relating to Brexit negotiations being a strong example, this will severely affect investment decisions. However, this opposes what Gulen and Ion (2015) found. Their belief was that while firms can find it beneficial to delay investments whilst being challenged with uncertainty, they may feel forced into investing anyway, as projects cannot be postponed forever (Gulen and Ion, 2015). After running an analysis based upon the frequency of key terms around policy uncertainty being used in newspapers, they found that policy uncertainty does negatively affect investment, however the effects were less pronounced after persistent periods of high policy uncertainty – specifically after a year and a half (Gulen and Ion, 2015). Additionally, Byrne (1995) can be criticised as this is not specifically about the wider real estate market, and it is more focusing on individual properties. Given this, the researcher would be inclined to find the research of Gulen and Ion (2015) a more accurate depiction of how the market is impacted.

Likewise, Aizenman and Marion (1993) studied the effects of policy uncertainty on investment, across a number of countries, and found a consistently negative relationship between uncertainty and private investment, as increased policy uncertainty results in falling investment and reduce employment. While Lensink et al (1999) finds the results of Aizenman and Marion (1993) to be consistent with expectations, there is also doubts on the dependability of the results as no robustness analysis was given. Despite the criticism of the paper, it does raise another resulting aspect of uncertainty to be assessed, employment, which is discussed in the following section.

Some corners of the literature do appear to contest the relationship between monetary policy and general high economic uncertainty. Aastveit et al (2013) questioned the effectiveness of monetary policy, emphasising the irreversible nature of investments. The main finding in this paper was that shocks to monetary policy tend to be much weaker than anticipated when uncertainty is high. This could result in investor-developers viewing the doubts surrounding monetary policy as being relatively unimportant compared to the total levels of uncertainty in an economy when debating whether to invest in the office market. This paper's importance to the overall debate must be criticised though due to its non-real estate focus, and so will not take into consideration some of the office market specific factors that a number of the other papers have deliberated.

### **2.3 Macroeconomic Uncertainty**

Policy uncertainty goes hand in hand with macroeconomic uncertainty, as doubts at a government decision making level feed through to the economy. Given that economic activity is the primary driver for office space (Ball et al, 1998), macroeconomic uncertainty and its impact on the office market is discussed in this section.

Higher levels of economic uncertainty give investors and firms good cause to postpone investment and the hiring of staff, especially if projects are pricey to back out of or staff are expensive to hire, and in many cases actually lead to an accelerated reduction in employment growth and result in lowered employment levels (Baker et al, 2016). This delay in the hiring of staff is an important aspect of this subject, given that the demand for office space critically depends on firms and their employee numbers.

While discussing the macroeconomic sources of uncertainty seen in other pieces of literature, Grenadier (1995) also talks more specifically about uncertainty in real estate markets. Both local and global sources of uncertainty are relevant to real estate markets but the writer flags two as being important to bear in mind; uncertainty of the effects of certain changes in the law or regulation/deregulation, and how this can affect the number of new, speculative developments, and; the uncertainty regarding the requirements of firms and their future demand for space, causing headaches for both tenants and landlords (Grenadier, 1995). The paper establishes that these issues of



uncertainty regarding demand from tenants, may lead to an excessively large rise in high vacancy rates within office space (Grenadier, 1995). While this appears to be a valid point regarding falling demand, it does not fully incorporate the supply side too, with the interaction between the two producing the market rental values and vacancy rates. Given this the researcher is inclined to believe that short term vacancy rates will rise due to the direct impact on demand, but due to the time taken to bring new space to the market, the vacancy rates will remain relatively constant in the long-run.

McCue and Kling (1994) assessed the literature on the link between real estate returns and the economy, as well as conducting their own empirical research. They found that shocks to economic output and monetary policy, particularly interest rates, are strongly linked to the levels of office construction, and conclude that there is sufficient evidence to state that the health of the economy is linked to real estate returns through investment behaviour (McCue and Kling, 1994). This paper discusses little in the way of uncertainty, however it can be used in this discussion by suggesting that macroeconomic uncertainty would have a detrimental effect on investment, given that shocks in the markets would lead to lower returns for the investors. This links well with Matysiak and Tsolacos (2003), who tied the supply and demand of office space to economic activity, and therefore the key indicators of the economy (unemployment, Gross Value Added, Inflation) would offer advance warnings to all connected parties in the office market (Matysiak and Tsolacos, 2003).

A number of papers highlight how falling investment in real estate leads to reduced employment (Hill et al, 2017; Baker et al, 2016; Moore, 2016). While of course this reduced employment may be focussed on one specific sector, or type of job, it is highly probable that this would impact the office market to some extent, given the ever increasing number of jobs in the tertiary sector, and therefore jobs in offices (Harris, 2005). This provides some explanation as to the relevance, and importance, of Lensink et al, (1999); uncertainty leads to lowered investment from the occupiers of office space, which decreases the employment levels in offices.

Hekman (1985) discussed employment as a vital factor in the market, and did not seem to give policy uncertainty much importance, establishing that construction was linked primarily to rent values and the growth in office based employment. However, this view

appears flawed, given that: “Rental values are seen as an outcome of the interaction of the demand and supply for office space” (Kohlert, 2010, 90).

Foo Sing (2000) investigated the optimal timing of a real estate development under uncertainty. It was acknowledged that uncertainty would likely cause a developer to delay, but the uncertainty in itself would not necessarily cause a delay and it would be dependent on specific measurements such as the forecasted rental income at the time of completion (Foo Sing, 2000). However, this paper also considered the possibility that a developer would simply switch the proposed use of the development from one use to another, depending on how profitable each use may be forecasted to be (Foo Sing, 2000). This is an interesting consideration, one which the literature discussed so far in this paper seems to have overlooked. From this, it could be suggested that macroeconomic uncertainty may lead to a potential office development being scrapped in favour of building residential or industrial space, or vice versa. One criticism of this suggestion is that these different uses are very location dependent. A developer seeking to build grade A office space in the Central Business District of a city is highly unlikely to change this to industrial or residential space purely because of a period of high uncertainty – they would simply delay the project.

Discussing it in the context of the British office market, Tsolacos and McGough (1999) also investigate economic uncertainty. They criticise the existing real estate literature at the time of writing because it ignores the rate and subsequent effects of uncertainty, in the context of both the office market and wider economic situation, on the construction of new office space (Tsolacos and McGough, 1999). Using their model of office development, they theorise how this uncertainty will affect both the demand and supply side of the market. They establish that economic uncertainty will result in firms being more cautious regarding expansion, and therefore demanding less office space while uncertainty remains (Tsolacos and McGough, 1999). On the supply side of the market, they predict that uncertainty will affect the approach of the developers as they do not commence new projects whilst in a period of uncertainty (Tsolacos and McGough, 1999).

One conclusion that can be drawn from this section is the interlinked nature of the office market, and if uncertainty impacts one aspect, such as demand for space, this will have a knock on effect on the rental values and a subsequent effect on the supply of space.

## 2.4 Uncertainty and Real Estate Cycles

A further look at the relationship between macroeconomic uncertainty and the office market should incorporate an assessment of Real Estate Cycles, as any changes in the market could be suggested to simply be a result of its stage in the cycle, instead of a result of uncertainty.

The literature found on the subject unanimously agrees that real estate markets are cyclical in the long run by nature. These cycles are characterised by periods of surplus construction, followed by contractions in construction, with demand conditions and the elasticity of supply affecting real estate prices (Malpezzi and Wachter, 2005). Chinloy (1996) offers the explanation of the existence of real estate cycles as coming from the cost of leasing, vacancy, and re-leasing, and that real estate supply depends on predictions of future prices and income.

Real estate cycles have a lengthier lifecycle than the traditional economic cycles, due in part to the characteristics of property, facing depreciation in both physical and actual use terms (Barras, 1994). An example of the building cycle can be seen in **Figure 1**.

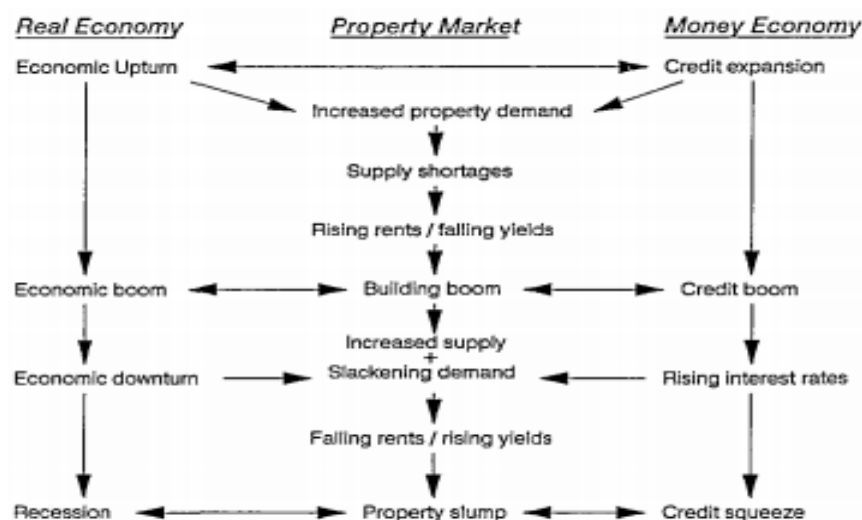


Figure 1: How the building cycle works (Barras, 1994, p185)

Grenadier (1995) links the real estate cycle with uncertainty, as if it is unclear how much demand there will be for office space, a pricey transaction process between landlords and tenants would cause high levels of vacancy.

The paper by Malpezzi and Wachter (2005) discusses the role of speculation, in this case a synonym for investment, within real estate cycles. They come to the conclusion that the relationship between cycles and uncertainty are primarily linked by the elasticity of supply of real estate (Malpezzi and Wachter, 2005). This is due to a new office building in the UK normally taking at least two years to complete.

This brief section was incorporated to help further understand the intertwined nature of the office market, and establishes that the timing of uncertainty will have differing levels of impact on the market.

## **2.5 Post-Uncertainty**

An element of uncertainty which needs to be addressed is how the office market is impacted once uncertainty surrounding a particular issue is resolved. Given how the literature has said the market will be affected in a time of uncertainty, it could be predicted that when uncertainty is lowered, investment and office-based demand will increase. Pieces from the literature agree with this idea, stating that demand will have been backlogged and firms would increase investment to fulfil this, increasing staff hiring to meet the pent up demand (Gulen and Ion, 2015; Baker et al, 2016). Moore (2016) agrees, but goes as far as saying that when firms catch up on the postponed decisions it will lead to overshooting, investing more, and hiring more staff than actually required and causing a surplus, something echoed by Harris (2005) who suggests that the industry builds too much space in a boom. One criticism of this is the suggestion that hiring firms lack foresight and act in the moment. Given that uncertainty comes and goes, it would be fair to reason that most firms will still remain cautious when hiring new staff or taking more office space, as they will be aware that so many circumstances can change in a short space of time.

This theory will be further tested in Chapter 4.

## **2.6 Brexit Uncertainty**

Uncertainty has been discussed in the context of policy, the macroeconomic situation and real estate cycles, however will now be focussed into specifically Brexit. The

uncertainty created in the run up to the referendum has not subsided and has arguably increased even further since, and whilst there is not yet a large bank of literature discussing the impact on the office market, there is still a sufficient number of papers to discuss the matter.

Given what the previous literature has stated, it would be predicted that papers surrounding Brexit would suggest the policy and economic uncertainty has caused, or will cause, declining investment from both local and international sources.

A large piece of work looking at the impact of Brexit on specifically foreign investment in the UK is Dhingra et al (2016). Highlighting Brexit as a leap into the unknown it is predicted there will be a decline in foreign investment because of weaker ties, especially during the indefinite period of renegotiation with other nations, a period which will be simultaneously characterised with the UK government needing to pass legislation on areas that are presently set by EU regulations (Dhingra et al, 2016). Using a quantitative model of trade within the global economy, they find the subsequent short-run shock from Brexit uncertainty would probably cause an initial 1% fall in GDP, and would be expected to have a larger impact in the medium and long-run, however the exact level of this decline from uncertainty is difficult to accurately predict (Dhingra et al, 2016). This paper also highlights how important financial services is to the economy and as an employer of the population, and notes that this industry is a huge benefactor of foreign direct investment, which would be put at great risk following the actual departure from the EU.

The result of these uncertainties is a “wait and see attitude” (Belke et al, 2018, p3752) regarding investment decisions, with firms delaying these decisions along with hiring decisions, especially FDI from the EU (Belke et al, 2018). The uncertainty had in fact already stunted investment even before the referendum, with firms deciding to delay the commencement of projects with uncertainty over business conditions and hiring decisions, complementing the statement that “uncertainty is a drag on UK growth” (Kierzenkowski et al, 2016, p13).

It could be suggested that a leave vote would undeniably create additional policy uncertainty and cause a noticeable corrosion in the economic conditions of the UK for a long time, especially since immigration was responsible for approximately half of the GDP growth in the UK from the previous decade (Kierzenkowski et al, 2016). The

doubts over the post immigration stance has resulted in net migration declining, as EU citizens understandably query their rights in the UK post departure, reducing overall employment levels (Portes and Forte, 2017). These aspects would indisputably affect the office market, in investment due to the links between the real estate market and the economy as suggested by Barras (1994), and also in terms of the numbers of people in office-based employment stagnating or even declining.

While the mentioned papers highlight the effects of Brexit uncertainty, it should be noted that these are primarily not real estate specific pieces of literature. Given this, it is difficult to say with any accuracy whether the declining overall investment would be replicated in the office market in the UK, despite the literature predicting that Brexit uncertainty would compare closely with previous periods of uncertainty. However, it could potentially also be suggested that the uncertainty may cause prices to fall as a result of the weakening of the pound, and therefore actually increasing investment as overseas investors seek to obtain a bargain whilst prices are relatively lower. Discussion around whether this has taken place can be found in Chapter 4.

Steinberg (2017) creates a model which intertwines both the economic situation and the policy uncertainty. Contrasting with the majority of the literature, the model predicts that the uncertainty will have a negligible impact on the U.K. macroeconomic situation, and suggests that investment will marginally increase in the period between the referendum and the actual date of departure, as firms anticipate higher costs in the future (Steinberg, 2017). The model does however show that the economy will be hit once the uncertainty ends, as real GDP and consumption fall, and will still be relatively worse off compared to being within the EU (Steinberg, 2017). This paper however primarily focuses on policy issues surrounding trade, with investment and other policies such as immigration and the status of EU residents being a secondary matter. Therefore, the importance of Steinberg's (2017) findings should be given less significance compared to other studies.

Morgan (2017) predicts that monetary policy via the Bank of England will dominate the battle to counteract the economic uncertainties, and despite the historically low interest rates, business investment will be delayed as a consequence of this uncertainty. Some papers do however have real estate specific figures, and have already seen a declining investment in real estate, as the Real Estate Investment and Services sector

saw an abnormal decline compared to data of the previous six years, of 3.65% (Ramiah et al, 2017).

The literature in this section should be criticised though as it is mostly predictions, as opposed to papers in the previous sections which have used actual data to give the impacts of uncertainty. Given this, it would be suitable to revisit some of the predictions given in this section in the future to test their accuracy.

## **2.7 Summary**

This chapter has defined uncertainty in the context of the office market. Bar some exceptions, the literature has mostly found that a primary consequence of uncertainty, both in economic policy and also general policy uncertainty, is a decline in investment as firms seek to delay decisions. This was shown to affect the office market as one aspect of the market is the buying and selling of office space, whilst also affecting it if firms delay on hiring employees which will impact the demand and supply of space, with knock on effects on rental values. It was also argued that a decline in employment growth, resulting from uncertainties over post-Brexit security for EU workers, would similarly stunt the take up of office space demanded by firms.

The chapter covered these matters quite generally, and in the case of investment not specifically regarding the office market, before narrowing the focus down to uncertainty in the case of Brexit. The literature discussing Brexit uncertainty was mainly in agreement with the general literature. However, while there has been some number of papers discussing Brexit specific uncertainty and the consequential impacts on the British office market, there is still much more to be seen on this.

## **Chapter 3 - Methodology**

This chapter explains the methodology used to carry out the research for this paper. The chapter will first discuss the characteristics of both qualitative and quantitative data, discussing the rationale behind choosing both questionnaires and the case study approach, critically analysing these methods including their limitations. The details of the chosen methods will be discussed, including how the data was collected and then the subsequent results analysed. The chapter will finish with a brief discussion on the ethical concerns raised in social research.

### **3.1 Quantitative and Qualitative research**

To collect and analyse data, quantitative and qualitative methods can be used, as well as a mixture of the two. While quantitative can be viewed as a safer, reliable method as it is based around numbers with statistical analysis, qualitative methods allow for greater insight and general understanding of a subject, giving “voice to the participants in the study” (Pathak et al, 2013, p192). In qualitative research, the participants have a lack of restrictions to discuss what they see as the most appropriate information on the topic (Flick, 2015).

While quantitative data was used in many of the studies analysed in the literature review, with statistics used in many of the papers focussing on investment, qualitative was assessed to be the most suitable for this paper. This was due to the research aims of assessing the how and why uncertainty impacts the office market, not specifically how much it quantifiably affects certain aspects of it. Measuring the numerical degree that market data such as the amount of money invested, the exact rise or fall in rental values, or the demand and supply of office space changes would be extremely challenging to measure accurately, given the timeframe involved as well as the researchers limited experience. Therefore, it was decided that obtaining the general feelings and opinions of professionals was the preferred way of collecting the data.



## **3.2 Data collection methods**

In order to focus the research, three cities were chosen as case studies. It was decided that a multiple case study should be used, as selecting one city's office market would not be an adequate example when trying to test a particular theory. While interviews were considered a strong option for data collection, the researcher wanted to obtain as high a number of responses as possible in order to give a large pool of data to analyse. The multiple-case study utilises a questionnaire, combined with second hand market reports, in order to obtain the first hand views of the professionals involved with the office market on a day-to day basis.

### **3.2.1 Case Study**

Case studies are useful as they enable the researcher to use real-life applications, linking well to more theoretical points in the literature (Cottrell, 2014), and utilising evidence from multiple-case studies is seen as more convincing compared to single case studies (Yin, 2014).

Given the differences in size, location, workforce and other general characteristics, it was decided that Glasgow, Manchester and London would be selected as the case study cities. The three cities were chosen for the case study as they were predicted to give an accurate representation of the UK market as a whole, despite London being unique to anywhere else in the country, as it is significantly larger and is seen by many as the financial capital of the world. It is the primary focus to a number of large companies with offices and to some foreign investors - particularly those who may only be interested in investing in projects of an extremely high value. Manchester and Glasgow were deemed to be fair representations of the other regional cities, due to their comparable size and composition to many of the other regional cities.

The decision to choose the cities was also influenced by Yin (2014): "In doing case study research, your goal will be to expand and generalize theories (analytic generalisation) and not to enumerate frequencies (statistical generalisation)" (Yin, 2014, p21). Office market specific data was not a factor used when choosing these cases, as the selection of cases "should always be theoretically guided...selection of cases is not based on statistical grounds but derived from a particular theory which we seek to test" (Silverman, 2017, p267).

### **3.2.1.1 Limitations**

Many researchers see case studies as being a weak method and inferior to experiments (Yin, 2003; Yin, 2014). This is due to several reasons; they are often not rigorous enough; bias enters the conducting of case studies more often than other methods; there is an inability to generalise from findings; they can possibly be too time consuming, and most importantly; a good case study is challenging to accomplish, as the skillset required for a good case study are not yet strictly defined (Yin, 2014).

Despite these limitations, the case study was selected as the primary method of data collection as it was deemed the most appropriate method for addressing the research questions.

### **3.2.2 Questionnaire**

Once a multi-case study was selected as the primary research method, the next decision was the method used to gather data, with a questionnaire chosen as the most appropriate method. For this study, the questionnaire was posted to participants, with a pre-paid envelope included to encourage participants to respond and to hopefully achieve a high response rate. The questionnaire is a useful research tool as it is relatively cost-effective, has a quick turnaround time in data collection and analysis, and they are easy to use if designed to a high standard (Clarke and Jack, 1998; Cresswell, 2014; Cottrell, 2014). The questionnaire was a particularly useful method for the three chosen case studies, allowing data to be gathered from locations hundreds of miles from one another, something that would have been very time consuming and costly if done by face to face interviews. Of course, these interviews could have been done over phone or video call, but the researcher felt the questionnaire method would yield a greater response as it requires less effort, and does not need the participant to book out a specific slot in their busy schedule for it.

However, response levels are traditionally lower than other forms of data collection, the participants may give answers that they think the researcher is hoping for, and participants may misinterpret questions or misunderstand scales, especially if the researcher is not present while they are filling it out as is the case for this paper (Cottrell,

2014). To mitigate this, participants were reminded at each question involving scales what the scale represented, and the questions used in the questionnaire had been screened by the pilot sample as discussed in the next section.

### **3.2.2.1 Questionnaire Sample**

The target sample was commercial property surveyors, specifically those who are involved in the office market. These participants' names and contact details were primarily found by looking at the websites of the largest, and some small independent, surveying companies in the UK, and from there searching for staff who worked in Glasgow, Manchester and London within the offices department. A small number of participants' details had also been acquired through the researcher's industry contacts. Surveyors were deemed the best target participants as they have the in-depth knowledge and experience required to provide reliable, informed evaluations on the market and any changes it may see. In total, the researcher identified 168 potential participants.

Before the questionnaire was sent to the research sample, it was sent to a pilot sample of surveyors, some of whom the researcher knows personally, which is useful for assessing its validity and reliability (Clarke and Jack, 1998). After this pilot sample, 168 questionnaires were sent out with 77 returned, giving a **46%** response rate, higher than the researcher anticipated. This breaks down as 26 completed out of 38 for Glasgow (**68%**), 21 completed out of 41 for Manchester (**51%**), and 30 completed out of 89 for London (**34%**). It was predicted that Glasgow would have the highest response rate due to being the researcher's home city and therefore having more industry contacts. Manchester was predicted to have a strong response rate as the researcher also had contacts there, but was expecting lower than Glasgow.

### **3.2.2.2 Questionnaire Structure**

The questionnaire consisted of a mixture of closed ended questions and open ended questions. Closed ended questions with fixed choices are an efficient form of data collection as they provide data which is both easily analysed and easy to draw comparisons between responses (Bryman, 2012; Flick, 2015). However close ended

questions may lead to researcher – specification bias, as only certain answers can be given, which can lead to the researcher just obtaining the results they want (Bryman, 2012). While open ended questions do give the participant the opportunity to provide further insight into a topic and add to the amount of qualitative data, they also demand more time and effort and therefore may result in a lower response rate (Cottrell, 2014). This challenges the reliability of open ended questions, as the researcher should “beware of giving undue weight to a small percentage of respondents who offer comments” (Cottrell, 2014, p151).

The questionnaire was designed so the demographic questions were at the end, hopefully creating a less intrusive, more inviting, questionnaire and therefore a higher response rate. A screening question was included at the end of the questionnaire, as per **Appendix A**, asking “How long have you been involved in commercial property, with focus primarily within the office market”. If the respondent selected the options below 2-5 years, their responses were disregarded in the final data analysis, as it was assumed they would not have sufficient knowledge to provide an accurate depiction of the market in this time.

To enable as high a response rate as possible, it was sent to the target group - commercial property surveyors, with questions kept as basic and easy to understand as they could (Denscombe, 2014). While it could have consisted of even more questions to produce greater detail in the findings, the pilot sample had indicated that there were too many questions, and that busy professionals taking time to fill out the questionnaire would not be willing to spend too long helping someone they have never met before. Avoiding a low response rate is important for questionnaires, as the findings from a low response rate will omit data from participants that decided not to respond to certain questions, leading to non-response bias (Denscombe, 2014).

### **3.2.2.3 Limitations**

The questionnaire has potential to give unrepresentative results for a city, given that different companies may have different levels of activity than others. For instance, a surveying firm like Savills will likely have different clients from CBRE, and so will face different situations regarding their levels of activity that they oversee in any given

period, meaning that both companies could potentially have contrasting views on the market.

Another limitation is that including investors may have been more suitable to give commentary on some aspects of the market, given a key theme from the literature review was that as uncertainty increased, investment decreased. While surveyors may be very well placed to comment on the effects of uncertainty on investment, it would have been preferable to speak to investors themselves about the issue. The researcher decided this would be extremely difficult to obtain good information from a variety of investors though, particularly as research indicates investors are difficult to engage with (Leete et al, 2013), coupled with the fact that investment is not the only factor that uncertainty affects.

There is also no guarantee of a good amount of returns, and many of these could be returned later than expected, leaving the researcher with little time to complete paper and poor data. To mitigate this, a large database of potential participants was created, allowing for a sufficient number of questionnaires to be returned even if there was a low response rate.

### **3.2.3 Market Reports**

Aside from the questionnaire, market reports were consulted. These sources provide expert insight and market commentary from talented professionals within the commercial property market in the U.K. (RICS, 2017). These can also be useful at filling in some gaps in the literature, as these are produced quite frequently, usually quarterly or bi-annually, informing of any changes which have occurred soon after the event.

#### **3.2.3.1 Limitations**

While these market reports do provide useful information, these are primarily produced by profit making private companies, and as such should be viewed with caution as there is potential for the author to have ulterior motives in stating certain opinions or figures.

### **3.3 Data Analysis**

After collecting the data, it was input into a Microsoft Excel spreadsheet which allowed the findings to be organised and then summarised accordingly. The material was organised by the themes that were found in the literature. Within these themes, there is a discussion on the general observations followed by some reflection on the differences and similarities between the questionnaire findings and the wider findings in the literature review.

### **3.4 Ethical Considerations**

Ethical issues must be considered when undertaking social research, as: “research involves collecting data from people, about people” (Creswell, 2014, p92). When involving participants in first hand research such as a questionnaire, there are some general issues and principles which need to be considered. The Economic and Social Research Council (ESRC) outlines six principles for ethical research:

- “Research should aim to maximise benefit for individuals and society and minimise risk and harm
- the rights and dignity of individuals and groups should be respected
- wherever possible, participation should be voluntary and appropriately informed
- research should be conducted with integrity and transparency
- lines of responsibility and accountability should be clearly defined
- independence of research should be maintained and where conflicts of interest cannot be avoided they should be made explicit.” (ESRC, 2018)

Alongside these principles, issues such as ensuring participant confidentiality, anonymity and data protection should also be treated with utmost importance (Bryman, 2012; Flick, 2015), and this was done throughout the data collection for this paper.

For this study, questionnaires were a vital component of the data collection. Before commencing with the research, the project outline was submitted to the University of Glasgow College of Social Sciences Ethics Committee, outlining the aims of the paper and the methods used to collect data. This initially gained partial approval but then

gained full approval once the completed Questionnaire was submitted. Participants completed the consent form and read the Plain Language Statement before filling out the questionnaire, indicating they agreed to the terms of the research.

### **3.5 Summary**

This paper is using a multi-case study approach as the primary research method, utilising questionnaires to obtain first-hand qualitative data from surveyors in Glasgow, Manchester and London. The positive aspects of this approach were laid out in this chapter, with the limitations also being addressed. The data will be analysed according to the themes that come from the results, linking these back to the literature to show any contrasting or comparable results.

## **Chapter 4 - Findings**

This section will present the results from the case studies, discussing general observations while reflecting on the differences and similarities between the results and the literature review. The results are given according to the themes presented in the literature review.

The questionnaire results are presented and then analysed. Market reports from Leading Commercial Property firms were also consulted, and these provided additional findings to the questionnaires.

### **4.1 Case Study Backgrounds**

Before discussing the results, a brief background to each city used as a case study should help give key information to the reader. To help understand the strength of each city's economy, the Gross Value Added (GVA) and unemployment rates are given, which are common methods for measuring this strength.

#### **4.1.1 Glasgow**

With 620,000 inhabitants (Nomis, 2018a), rising to 1,160,000 when counting the wider Glasgow conurbation (SG), the City of Glasgow is the most populous city in Scotland. After decades of economic stagnation since the decline of heavy industries such as shipbuilding, the city has reinvented itself as a thriving commercial and cultural hub, regenerating much of the land around the River Clyde and the City Centre. A large amount of this city centre space was regenerated as the International Financial Services District (IFSD), with investment creating high quality offices designed to attract businesses to take up space. The city now has over 50,000 people in office-based employment within the I.T. and financial and business services sector, and is ranked in the top 20 European Financial Centres (Business Glasgow, 2018), with notable firms including Morgan Stanley, Barclays Wealth, J.P. Morgan and BNP Paribas establishing themselves within the city.

The GVA of Glasgow city is £33,660 per capita (ONS, 2017), with an unemployment rate of 5.9% - above the Scotland and UK averages of 4.2% and 4.3% (Nomis, 2018a). Headline rent for office space is between £29.50 (Knight Frank, 2018a) and £30 per sq.



ft. (GVA, 2018a), and prime yields are between 5.00% (GVA, 2018a) and 5.25% (Knight Frank, 2018a; Ryden, 2018). Compared to the other two key office markets in Scotland, this headline rent is similar to Aberdeen but lower than Edinburgh. Edinburgh's headline rent is between £34.00 (GVA, 2018a) and £34.50 per sq. ft. (Knight Frank, 2018a), while Aberdeen's is £30.00 per sq. ft. (Knight Frank, 2018a; Ryden, 2018). The prime yield in Aberdeen is 6.50% (Knight Frank, 2018a), representing the fact it is a riskier market for investors due to its smaller workforce and heavy reliance on the oil and gas sector. Prime yields in Edinburgh are between 4.75% (GVA, 2018a) and 5.00% (Knight Frank, 2018a), showing its relatively low levels of risk – it is viewed as a 'safe' market due to the number of companies with headquarters or large offices here.

#### **4.1.2 Manchester**

Manchester is home to a population of 545,000 (Nomis, 2018b), rising to 2.8 million when including Greater Manchester (ONS, 2018), and has a comparable office market history to Glasgow. With an economy deeply dependent on industry and manufacturing, the city experienced a decline in fortunes through the 70s and 80s as these sectors diminished. The City economy has been revived through development action to encourage professional services sectors to set up in the city. Manchester is now host to the second largest financial, professional and business services industry outside of London, employing over 260,000 people, having doubled in the last decade (IIM, 2018). This is in addition to over 80,000 working for creative and digital companies, many of whom will also be employed in offices. Despite this vastly greater number of professional sector employees than Glasgow, the unemployment rate of 5.6% (Nomis, 2018b), and GVA of £33,063 per person (ONS, 2017) indicate a comparable level of economic health.

Headline rent for office space is between £33.50 (GVA, 2018a) and £34.00 (Knight Frank, 2018a) per sq. ft., and prime yields are estimated at 4.75% (GVA, 2018a) and 5.00% (Knight Frank, 2018a).

### 4.1.3 London

London is a global city in many aspects, but the city is widely regarded as the financial capital of the world. With a population of 8.8 million (Nomis, 2018c), growing to 22.7 million when incorporating the wider city region (LG, 2018a), it has been a key economic and cultural hub of the world for centuries. Financial and related professional services alone account for employment of almost 800,000 people in London, demonstrating the size of the city's office market. However, this traditionally predominant sector of employment within the office market, was overtaken in 2013 by technology, media and telecoms (TMT) – the share of take-up in Central London has changed from 31% to 19% for the financial sector, and 16% to 42% in the last decade (Knight Frank, 2018). The gap between the two is expected to increase during the pre-Brexit uncertainty and also post-Brexit, as TMT firms operate without borders whereas the financial sector is expected to marginally shrink due to the need to work with EU based companies (Knight Frank, 2018).

Despite the unemployment rate of 5.0% (LD, 2018) being similar to Glasgow and Manchester, the GVA of Inner London is £93,306 per person, with the whole of London at £51,945 per person (ONS, 2017). This indicates that London is not only home to an enormous office market when compared to Glasgow and Manchester, but is also a wealthier and more prosperous city as a whole.

## 4.2 Monitoring Uncertainty and its Impact on the Market

A brief but important finding of the literature review, as well as purpose of this paper, was looking at why it is so vital to look at uncertainty and the impact it has on the office market.

As per **Appendix A**, the 1<sup>st</sup> question put to the respondents asked them to score: '*How important do you think the office market is to the overall health of the City economy*', with the 2<sup>nd</sup> asking them to discuss what their biggest concerns for their city's office market was at present.

The participants were steadfast in how they strongly they valued the office market and its ties with the city's overall economic health, as shown in Figure 2.

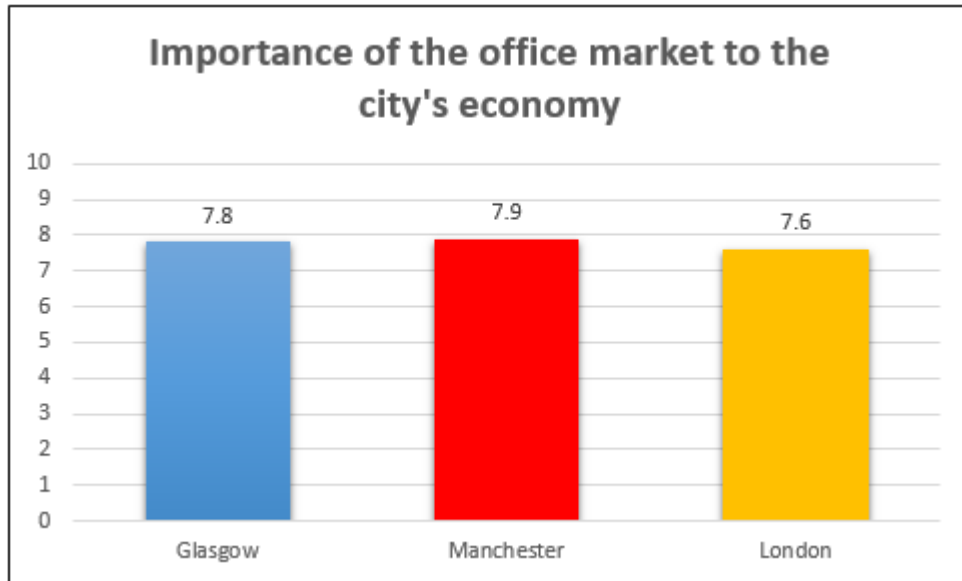


Figure 2: Respondents average scoring out of 10 to the question: How important do you think the office market is to the overall health of the [City] economy?

This supports the researcher’s decision to choose this subject, as the office market is crucial to the strength of a city’s economy. The strong scores from the three cities show that it is a highly valuable part of the economy, across the UK as a whole.

When given the open ended question regarding their biggest concerns for their city’s market, this again produced a strong argument for the purpose of this paper. Only **21%** out of all the participants did not state “uncertainty”, “Brexit” or “macroeconomic conditions” as one of their biggest concerns – this breaks down to **15%** in Glasgow, **19%** in Manchester, and **27%** in London. Again, comparably low scores indicate that both the economic uncertainty surrounding Brexit, as well as the policy uncertainty which surrounds it, is a concern for surveyors across the three cities. One point to comment on is regarding the slightly higher score for London – it could be theorised that due to its difference in size that London would feel less concerns regarding these issues, however this will be discussed further on in this chapter.

These questions can produce the first finding of the questionnaires: that uncertainty is an important issue to the office market, which itself is vital to the health of the economy.

## 4.3 Investment

A key theme from the literature review was that investment in the office market decreases during periods of uncertainty.

### 4.3.1 Questionnaire Data

The questionnaire responses provided both contrasting and comparable results when compared with the findings from the literature review.

The participants scored total investment as **8.2/10** when assessing how important it was to the performance of their city's office market, with overseas investment scoring slightly higher than this, and UK led investments marginally below this average.

When asked to determine the level of UK investment in the office market since the Brexit vote in June 2016, the majority of the participants across the chosen cities scored this as decreasing as shown in **Figure 3**, with averages of **4.1** (Glasgow), **4.2** (Manchester) and **3.9** (London) out of 10. While the results do indicate a decrease in UK led investment within the office market, they are only marginally below 'no change' and were not as close to 0 as anticipated given the quantity of literature that suggests investment falls during periods of uncertainty.

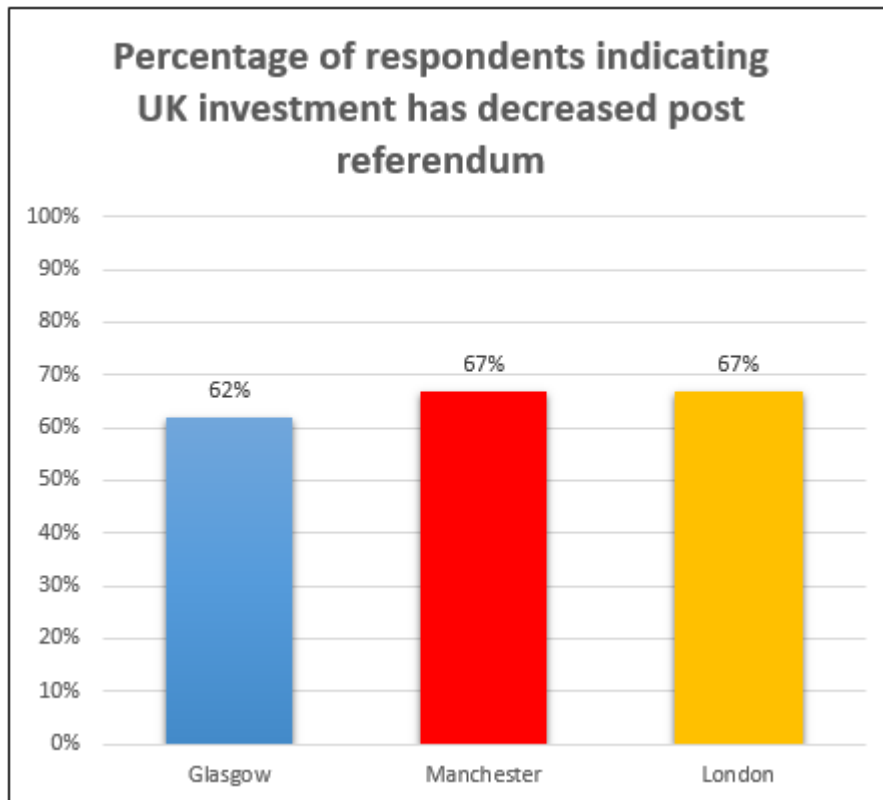


Figure 3: The percentage of respondents that scored lower than 5- 'no change' for UK investment levels since the referendum, identifying a decrease

The literature review findings that investment would generally fall during uncertain times were not entirely accurate though, as the questionnaire participants scored overseas investment as increasing post referendum as per **Figure 4**.

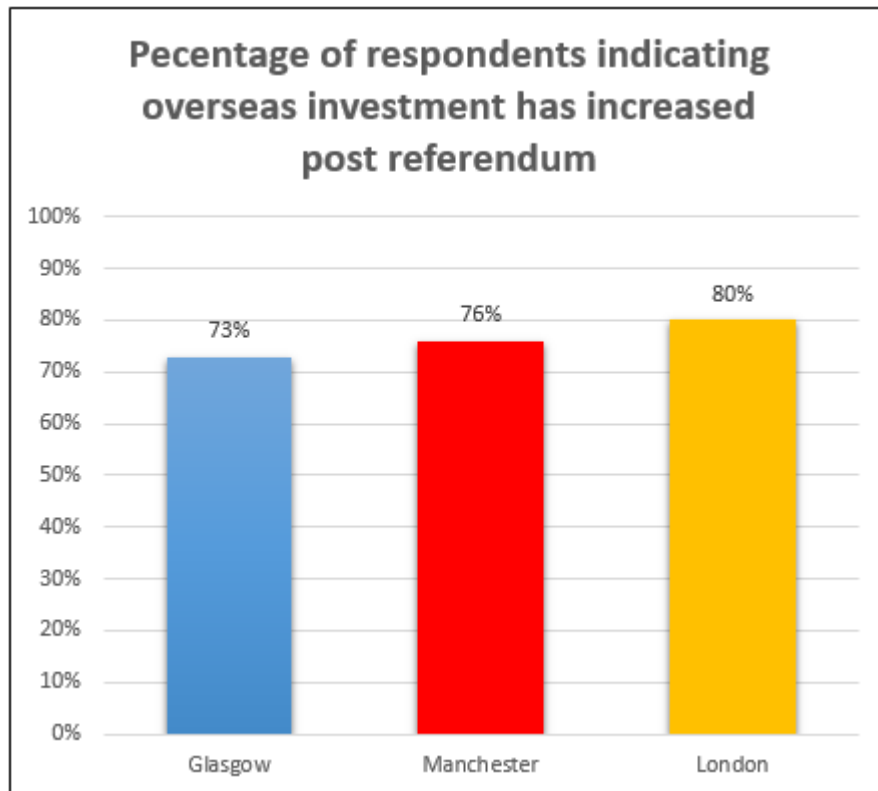


Figure 4: The percentage of respondents that scored higher than 5- 'no change' for overseas investment since the referendum, identifying an increase.

Some additional commentary from the questionnaires provides a useful insight into the potential cause of this, as was suggested may happen in the literature review, as one London respondent commented that: “In a perverse way it [*Brexit*] may also have helped inward foreign investment through the devaluation of the pound.” The depreciation in Pound Sterling straight after the referendum is still an issue, and is yet to recuperate to pre-referendum levels. Given this, it would be fair to assume that overseas investors took the opportunity to invest in the UK office market, with this respondent believing this to be the case.

A participant from Manchester believed that the impact of the political uncertainty has now subsided: “Following the referendum, there was a period of uncertainty in the investment market across the whole industry, not just the office market. Within less than 6 months there was evidence of investor confidence returning to normal. Brexit was and still is a big theme in the media, but in the property industry it caused a brief hiatus to investor trading and certainly has had no lasting impact on the office market in Manchester”.

This is a useful piece of commentary to the researcher, and confirms that the initial spike in uncertainty has faded and investment is continuing as normal.

As per **Question 4** in **Appendix A**, an additional question was given to Glasgow participants which was centred around any changes in the market in the run up to the Scottish Indyref vote. It was assumed by the researcher that this would produce similar results to the question regarding the Brexit vote. However, during this period of uncertainty the surveyors identified both UK and overseas investment as declining. Overseas investment decreased according to 13 of the participants, with an average score of **4.4/10** indicating that while it decreased, it was by a marginal amount. The levels of UK led investment into the Glasgow office market was also found to decrease during the pre-Indyref period of uncertainty, however the average score was **2.2**.

A potential conclusion to draw from these results is that the uncertainty before Indyref had a bigger impact on the market than the uncertainty post-Brexit vote. While this could be argued to be a consequence of other factors and not uncertainty, the follow up question showed that all but one participant who said investment decreased, identified uncertainty surrounding either ‘Macroeconomic conditions’ or ‘Currency Issues’ as a reason for this.

Despite this evidence, more themes will need to be analysed before confidently drawing this conclusion regarding the comparable severity of the two periods.

#### **4.3.2. Market Reports**

The market reports indicate a similar story to the questionnaire responses.

In Glasgow, investment in Q2 2018 was £32 million, significantly lower than the 12 months’ quarterly average of £109 million and the ten-year quarterly average of £55 million (GVA, 2018a). Despite this low figure, it would be inaccurate to say this was definitely due to uncertainty, given the previous year’s average was over three times higher, when this was still a period of uncertainty. Conversely, the figures from JLL (2018a) suggest that investment in the Glasgow office market increased by 133%, with £486 million compared to 2016’s figure of £208 million. Although 2016 was the year of the referendum, it could be argued that the political, and economic policy uncertainty seen in 2017 was of equal proportions due to the general election producing a minority

government. Under a minority government, voting through legislation becomes more difficult as the primary party, in this instance the Conservatives, requires the backing of other political parties which is not always guaranteed, and will vary depending on the policy change in question. This will likely cause greater political, and policy specific, uncertainty.

The commentary in the market reports has helped the discussion around how investment has been affected by uncertainty, more so than the figures presented.

The market reports indicate the market has unarguably been harmed by political and economic policy uncertainty, by both the Indyref: “Investment activity in the office sector progressively slowed in the run up to the Scottish Referendum as investors called for time out pending the result” (Ryden, 2014, p18), and the Brexit and Indyref2 uncertainty: “As the Scottish Referendum hangover subsided after 2014, the Scottish commercial property market had enjoyed a period of steady recovery. However, this process slowed to a near standstill in Q2 2016. With many decisions delayed until post-EU Referendum... many transactions that were under offer were either renegotiated or fell through.” (Ryden, 2016, p16).

Ryden’s (2018) most recent report however suggests that investment is resisting against the current uncertainty, as: “Investors appear to have set aside the political concerns of recent years and are now firmly back in the market. The Brexit negotiations will clearly continue for some time yet, although so far there seems to be little impact on investor appetite.” (Ryden, 2018, p14).

In Manchester, investment in Q2 2018 was also below the recent averages, with £85 million being significantly less than the 12-month quarterly average of £254 million and the £138 million ten-year quarterly average (GVA, 2018a). Similar to Glasgow though, investment in the Manchester office market dramatically increased from 2016 to 2017, rising by 41% from £643 million to £908 million (JLL, 2018a). The Manchester office market appears to be shrugging off the current uncertainty and is the subject of strong investor demand, due to the strong occupier market within the city (LSH, 2018)

For London, GVA (2018 CL) shows that inward investment is finally increasing its share of the market after a sustained period of stalling, as transaction values for Q2 2018 were 40% higher than the 5-year average for Central London, with £5.8 billion invested making it the largest volume invested since the final quarter of 2014 (GVA, 2018 CL).



This would indicate that UK lead investment dipped during this period, however it is unclear if this was due to uncertainty. As well as U.K. investment, foreign investment is also strong for the capital. Knight Frank (2018) puts Central London at number 1 in the world at the top cities for cross-border investment, with £14.2 billion in 2017 alone, and does not predict this to dip over 2018: “While Brexit will cause periods of uncertainty, we believe that global buyers of London real estate will continue to transact” (Knight Frank, 2018, p20). They believe that the uncertainty being felt after the EU referendum is strongly counteracted by appealing factors such as the market’s transparency, liquidity, and landlord friendly leases (Knight Frank, 2018). However, this has not carried through for Q1 2018 as foreign investment fell by 31% compared to Q1 2017 (GVA, 2018c). With the initial depreciation of the pound from the vote now levelling out, coupled with uncertainty rising again due to an ever nearing deadline for the British government to secure an exit deal, investment in the office market is predicted to be stifled for the remainder of 2018 and through to the middle of 2019 (CBRE, 2018).

The results from the questionnaires and market reports can also be found to agree with Gulen and Ion (2015), who believed that investment would only be stunted temporarily under uncertainty, as projects cannot be postponed forever, contradicting Byrne (1995) who proposed that investment will only ever decrease as long as economic uncertainty remains. The results also match Grenadier (1996), who suggested that investors would seek to use uncertainty to their advantage and obtain an asset for a price below its normal level, as was suggested with the depreciation of the pound.

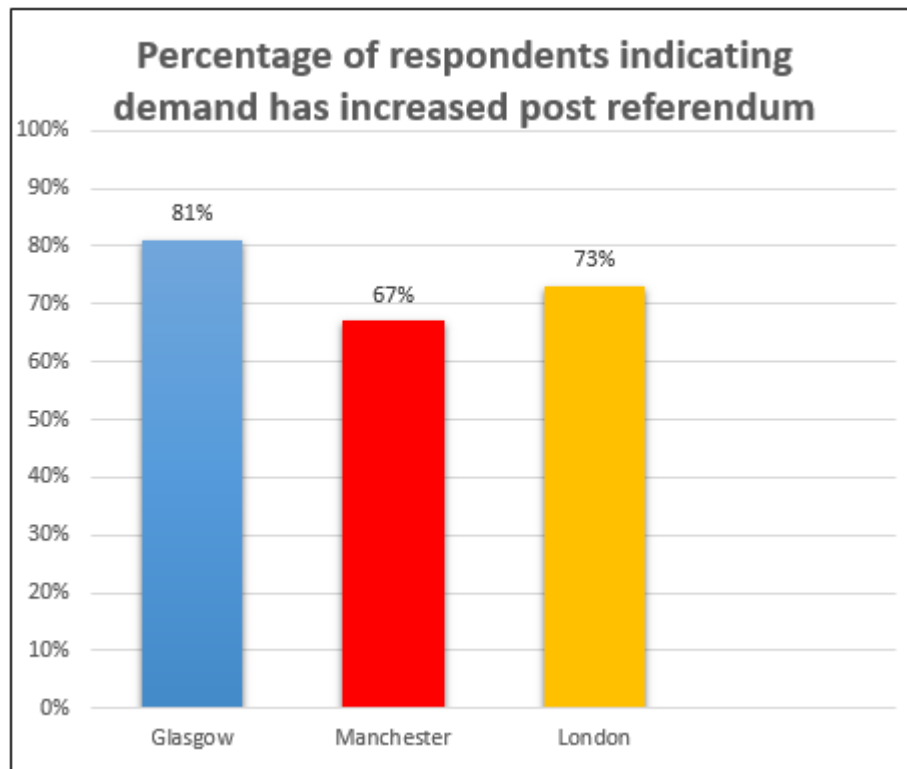
#### **4.4 Demand for space**

Another key theme from the literature review was that demand for office space would drop during periods of uncertainty. This was because firms would delay on decisions regarding staff numbers and their needs for their existing levels of space, or additional space, if the future is unclear to them. This was especially true if staff are expensive to hire.

#### 4.4.1 Questionnaire Data

The questionnaires did not come to the same conclusions as the literature review regarding demand for office space during periods uncertainty.

The percentage of respondents who indicated increased demand since the vote can be found in **Figure 5**. With 10 representing increased significantly, the average score out of 10 for each city was **6.0** in Glasgow, **6.8** in Manchester and **6.7** in London, showing that although all three of the case studies saw an increase in demand, the level of the increase varied dependent on location.



*Figure 5: The percentage of surveyors that scored above '5- no change' for Question 8c, and therefore identified an increase in demand for office space since the referendum.*

In the additional Indyref question, the Glasgow based participants indicated that demand for space decreased, with all participants scoring this below 5. The average score of **3.3**, showed that demand was seen to drop, although not as significantly as the researcher had expected. This contrasting finding throws further weight behind the proposition that the uncertainty surrounding Indyref was greater than the present

uncertainty following the Brexit vote. All respondents indicated that they believed that these changes were due to uncertainty surrounding Macroeconomic conditions and Currency issues, with only 1 participant believing that any changes in the Glasgow market during the indyref uncertainty were due to the market's stage in the property cycle.

Some respondents provided insightful commentary on this theme.

Despite the questionnaire showing increased demand since the Brexit referendum, a senior surveyor based in Glasgow discussed future occupier demand as one of their biggest concerns: "The key to any market is the strength of occupier demand...due to political uncertainties decisions to lease new accommodation will be put on hold, and the same uncertainties will lead to a lack of economic growth that leads to reducing staff levels rather than increasing. The major uncertainty that poses this threat is Brexit." This shows that although demand appears to have risen, it may not continue like this, and if it does not then it will pose serious issues for the office market and the economy.

A Manchester based respondent noted their surprise at the lack of significant occupier changes in the Manchester market, but also stated they believe there would have been a significant growth in levels of take up had the resulting uncertainty from Brexit not occurred.

One London-based respondent stated that uncertainty would often only marginally affect demand in London, and that during this recent period demand in the market has largely been unaffected as "the office market in London is generally very well insulated...London is a bit of a bubble".

A surveyor in London, who is the head of offices for one of the leading real estate advisory firms in the UK, discussed why the office market would potentially be aided by Brexit despite the uncertainty. This would be due to no customs union being in place after leaving the single European market, resulting in the UK government needing to set up new departments for issues such as trading and legislation: "Brexit means a significant increase in Government requirements...HMRC are rapidly expanding their footprint and headcount to cope with the extra workload". While this does not necessarily mean that all of this new demand for government office space would be in London, this particularly senior surveyor believed that a large proportion of it would be. Of course, this Government space would still only represent a fraction of the total

market for London, but for the other case study cities government take-up has been seen to play a big role in influencing overall demand figures, which is evidenced in section 4.4.2.

#### **4.4.2 Market Reports**

The market reports complement the findings from the questionnaires, showing demand remaining strong despite the fact that: “Occupiers now face considerable uncertainty across a range of fundamental issues including their ability to trade with the EU and hire labour from the EU, as well as a more uncertain economic outlook” (GVA, 2016, p44)

Take-up in Glasgow for Q1 2018 was not only above the five year Q1 average but the H1 2018 level was above any previously recorded (Cushman and Wakefield, Q1 2018). While record breaking levels are often down to only one or two large deals, which did occur in this instance especially with 187,000 sq. ft. being taken by the Government Property Unit (GPU), the Glasgow market managed to reinforce these large deals with eight deals over 10,000 sq. ft. (GVA, 2018a). The overall take-up for Q2 2018 was over 320,000 sq. ft., which is more than double the 10-year quarterly average of 145,000 sq. ft. This indicates that demand for all sizes of space remains high in the Glasgow market despite the current uncertainty.

Manchester also saw the take-up of office space well above the five year average for Q1 2018, with 440,000 sq. ft. leased (Cushman and Wakefield, 2018). Comparable to Glasgow, the market benefitted greatly from the GPU taking up 157,000 amount of office space, supplemented by a number of small and medium sized requirements (Cushman and Wakefield, 2018). Manchester looks to be a main beneficiary of ‘Northshoring’, where jobs relocate out of London due to the large difference in occupancy and employee costs, helping to maintain the high take-up levels already seen (Cushman and Wakefield, 2018)

Take-up for Central London totalled 3.5 million sq. ft. in Q2 2018, a 41% increase on Q1 2018 and a significant 55% rise on the same period last year, as “The excellent level of take-up for the quarter shows the market remains resilient in face of wider economic uncertainties” (GVA, 2018b, p4).

Brexit-related immigration policy uncertainties may see “growth inhibited in the short to medium term, as firms possibly delay expansion, while some companies may start to struggle to attract and retain EU workers” (Cushman and Wakefield, 2018, p1), however CBRE (2018) believes that occupiers are much less anxious about Brexit than they were in 2017.

## **4.5 Supply levels – New Construction**

Another important impact of uncertainty identified in the literature review was that the supply of office space, in the form of new developments, would be constrained. This was for similar reasons to occupiers delaying on hiring decisions, with developers delaying on any decisions to begin construction on projects until uncertainty had diminished. The paper by Hekman (1985) however established that new construction was mainly tied to rental values and the number of people employed in offices.

### **4.5.1 Questionnaire Data**

The questionnaires provided similar results compared to the literature review regarding the levels of new construction.

The current amount of supply was a concern raised by every single Glasgow participant, however this must be differentiated from the levels of new construction, given the timeframe between initiating a new development and being able to add the space to the market. The Glasgow respondents indicated that the uncertainty before the Indyref led to a complete halt in any new construction. With a 0 representing Decreased significantly, **77%** of respondents scored New Construction as 0, and the remaining participants all scoring between 1 and 4. It would be fair to say for the Indyref, that the findings from Glasgow confirm the theory from the literature review, that uncertainty causes a decline in new construction.

When bringing the issue of uncertainty post Brexit referendum into the discussion, the respondents across Glasgow, Manchester and London produced similar results.

When asked how the construction of new space has changed since the Brexit vote, the majority of respondents across the case study cities indicated that the initiation of new construction has decreased post referendum, as shown in **Figure 6**.

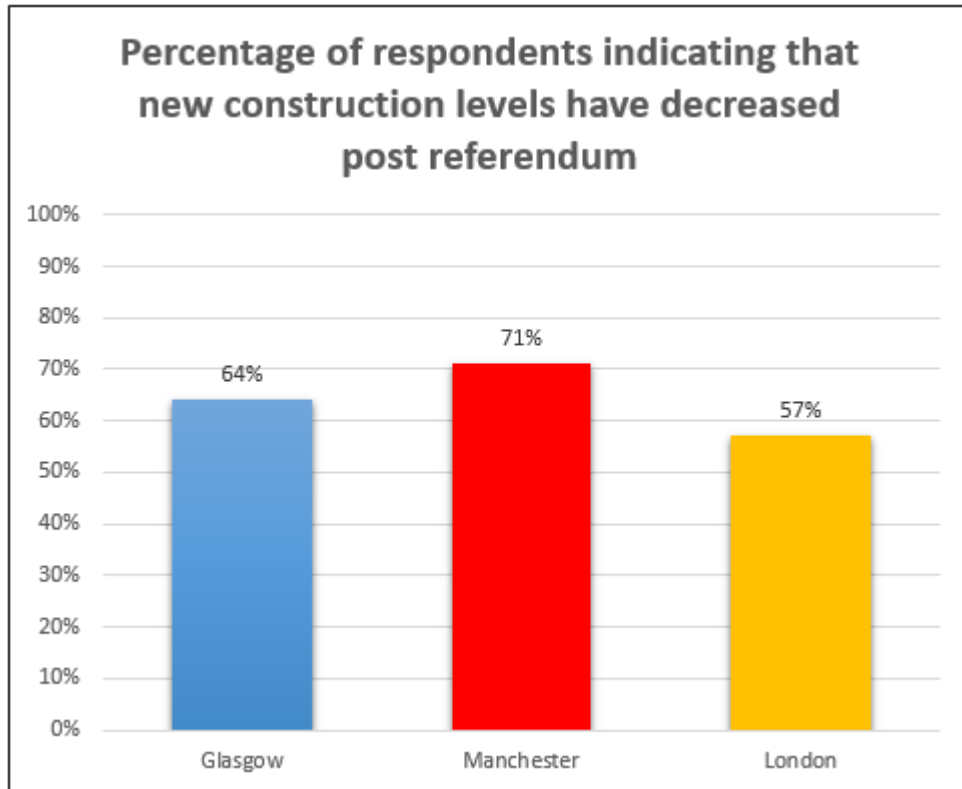


Figure 6: The percentage of surveyors that scored below '5- no change' for Question 8e, and therefore identified a decrease in 'New Construction' levels of office space since the referendum.

Participants from Manchester felt quite strongly about this issue, commenting that: “There is a lack of prime/Grade A office accommodation at the moment across the city”, and that “The development pipeline is fairly constrained”.

One participant from London who provided additional commentary, suggested that without the uncertainty surrounding Brexit: “developer decisions to carry out new development would have led to increased levels of development. There is a distinct lack of appetite at present for new speculative development and that is potentially leading to another shortage of top quality accommodation”.

The questionnaire data appears to tie with the literature review, with uncertainty causing new construction to decrease.

## 4.5.2 Market Reports

The market reports agree strongly with the findings from the questionnaires. GVA (2018c) states that the development pipeline is constrained as developers are wary to commence new projects given the uncertain economic outlook caused by Brexit, as this lack of future supply combines with the ongoing uncertainty from firms regarding hiring decisions and economic growth levels continuing to be below forecasts, to seriously affect the overall health of the market (GVA, 2018c).

Across the regional cities such as Glasgow and Manchester, the yearly level of new construction commencements fell for the 2<sup>nd</sup> consecutive year, and speculative developments are expected to continue falling (GVA, 2018a).

Glasgow saw 0 sq. ft. of speculative space under construction in Q4 2016, and this figure has remained the same for Q4 2017 (JLL, 2018a). This lack of new supply could be argued to be a result of investor delays due to uncertainty, but in the case of the Glasgow market it appears to have been an issue which has been a concern for a while, as Ryden (2014) suggests the limited development pipeline has been a known issue for several years due to limited development opportunities in the prime city-core submarket.

In Manchester, the development pipeline is similarly constrained, however a huge commitment by a development firm to complete a scheme at 8 First Street, which had to be delayed due to the liquidation of the main contractor, showing confidence in the market (GVA, 2018a). At the end of Q4 2017 there was 830,890 sq. ft. of speculative space under construction, a decrease from 1.13 million sq. ft. a year earlier (JLL, 2018a), however still a sizeable amount compared to the up-take seen in section 4.4.2.

For Central London, developers would have usually sought to commence large scale projects in the past with little hesitation due to the high likelihood it would be purchased by an investor and occupied by tenants once completed, however they are now increasingly wary of commencing larger projects unless a pre-let is secured (GVA, 2018b).

This theme has provided interesting results – the questionnaire data shows post-Brexit construction levels increasing yet the market reports indicate this to not be the case. The reason for this is unclear, but the researcher would suggest one possible reason is that the surveyors who responded worked for particular firms that had large or many

development projects commencing. This would cause bias and lead them to believe that this is representative of the market as a whole, when in fact is just their firm who is advising on these projects.

## **4.6 Vacancy Rates**

A minor theme that prevailed from the literature review, particularly from Grenadier (1995), was that a period of uncertainty would lead to a large rise in vacancy rates within office space. This was a consequence of uncertainty because firms were unclear about their requirements for space in the future, and will not be drawn into the costly transaction process that may occur between themselves and landlords when the process of re-leasing takes place. Vacancy rates are a result of the relationship between demand and supply, however the researcher believes the issue merits its own section of discussion, as **86%** of participants across the three case studies identified that having low vacancy rates was important to the performance of their respective city's office market.

### **4.6.1 Questionnaire Data**

The questionnaire data contradicts this finding from the literature review, suggesting that there has not been a substantial rise in vacancy rates as per **Figure 7**.



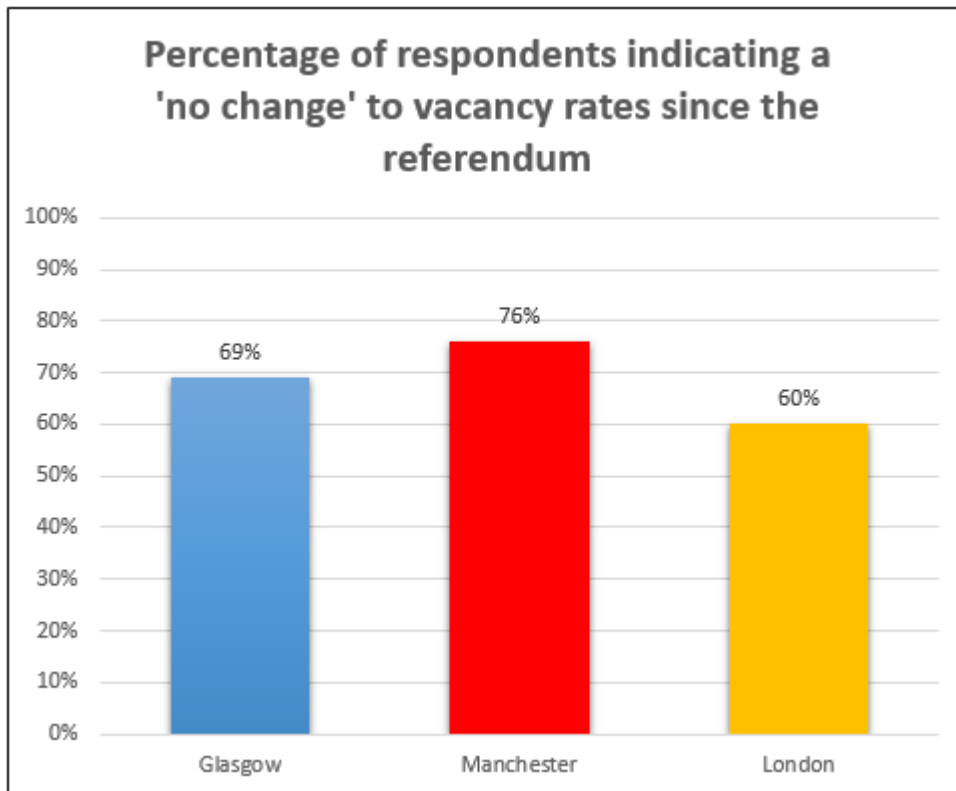


Figure 7: The percentage of participants that scored '5- no change' for Question 8g, and therefore identified no change in vacancy rates of office space since the referendum.

Of the remaining respondents across the three cities, 23/25 chose either 4 or 6, indicating that the change they saw was a relatively insignificant amount. Likewise, **85%** from Glasgow chose between numbers 4-6 when looking at how the vacancy rate changed before the Indyref vote, indicating a very marginal change if at all.

One critique of the responses from Glasgow and Manchester is that as previously discussed, there is a critical shortage of office space – particularly grade A space. Given this, it would be fair to assume that tenants find themselves with less bargaining power and would be less fussy regarding their demands for new or re-lease terms and would then potentially find that vacancy rates in Glasgow and Manchester dropped during these recent periods of uncertainty. Given this lack of supply, it was predicted that vacancy rates would actually fall in Glasgow despite the uncertainty, however this appears to be untrue.

No London participants provided additional commentary regarding vacancy rates but the data throws up an interesting result, as the researcher had anticipated London to score the highest for 'no change', against Glasgow and Manchester. This was due to

commentary from respondents regarding the other factors of the market, and that the city is itself in a 'bubble' and therefore would feel the least impacted of the three case studies. As shown in **figure 7** though this was an inaccurate prediction.

#### **4.6.2 Market Reports**

The vacancy rates for office space in Glasgow was estimated at 8.1% at the end of 2017, down from 9.2% at the end of 2016. The Grade A Vacancy is 1.4%, down from 1.8%, showing the critical levels of supply highlighted in section 4.5.2 (JLL, 2018a). The vacancy rate in Manchester was 5.1% at the end of 2017, down from 5.6% a year earlier – these figures change to 1.6% for Grade A space, which is an increase from 1.4% a year earlier (JLL, 2018a). The researcher was unable to find reliable data showing the vacancy rates pre-referendum, however these relatively low figures would allow the suggestion to be made that rates have not dramatically increased during this period of uncertainty.

According to JLL (2018b), the vacancy rate in Central London was 4.8% at Q1 2018, which is below the 10-year average of 5.5%, while Knight Frank (2018b) estimate the Q1 2018 figure to be at 6.8%, below the long term quarterly average of 7.3%. While the researcher is unable to identify which of these figures is most accurate, it is clear from both that the current vacancy rate is below the normal rate.

The findings from both the questionnaires and market reports contradict Grenadier (1995), who suggested that vacancy rates would have a significant increase during a period of political uncertainty.

#### **4.6 Post Uncertainty Boom**

The literature review identified that once levels of political and macroeconomic uncertainty have diminished, investment, demand for space, and the construction of new space will likely increase again, and actually spike past their pre-uncertainty levels. This of course is dependent on the new period of lessened uncertainty being one with a positive market sentiment. From this it could be fair to suggest that in terms of Brexit, if the final terms of the departure of the UK are resolved then it will impact the market.

#### 4.6.1 Questionnaire Data

It is obviously impossible to predict the future, and what may occur once the current period of uncertainty subsides. However, when asked the Question: ‘Do you think that establishing the final conditions of ‘Brexit’ will have an impact on the *City* office market?’, the questionnaires provided mixed results as per **Figure 8**.

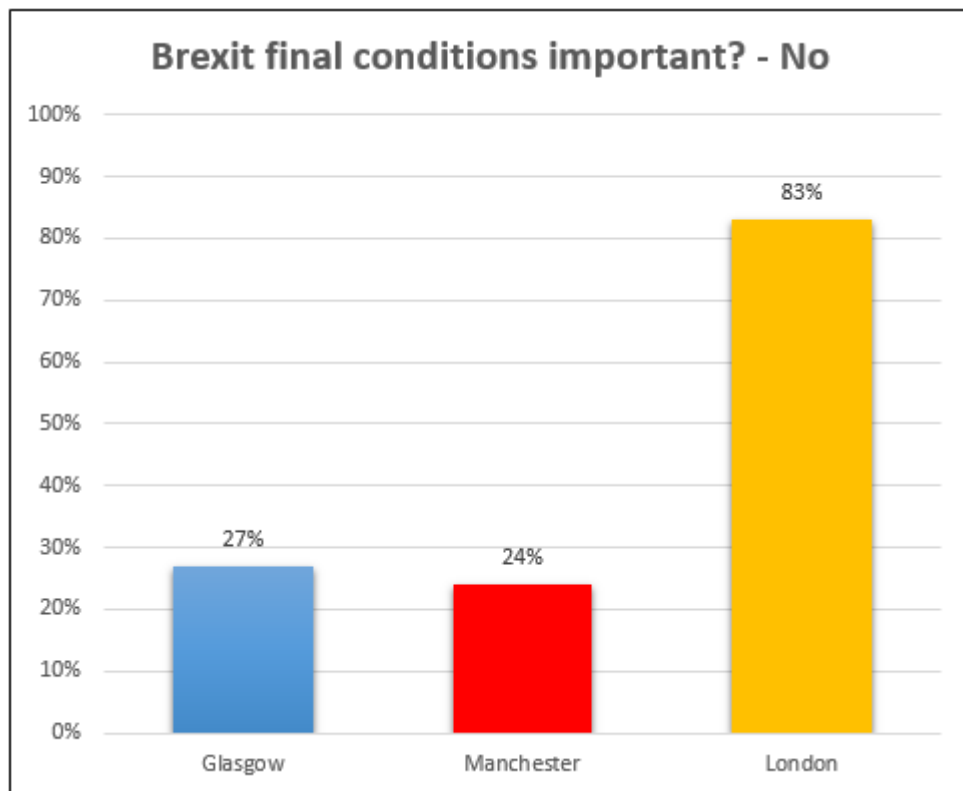


Figure 8: The percentage of respondents that selected ‘No’ for Question 10 – ‘Do you think that establishing the final conditions of Brexit will have an impact on the [City] office market?’

One respondent identified clarification surrounding economic policy following Brexit as potentially having a major impact on the Glasgow office market – although whether this is positive or negative would depend on the final terms: “Once there is clarity on either a ‘Brexit-lite’ deal or a ‘hard Brexit’ this will at least allow decision making and forward planning possible”.

One London respondent suggested that the final terms of Brexit would have no impact on the office market “unless something dramatic happens such as another vote is called”. However, the same participant mentioned another area of uncertainty, which was the deepening issue of the trade barriers being imposed by the US, suggesting that if

uncertainty regarding this continued then it “may even sharpen the focus of overseas buyers towards the UK”.

This question provides the first major difference in responses between the case study cities, and can be analysed through earlier comments suggesting London is in a bubble of its own, and therefore might be so large in itself it is immune to such issues.

#### **4.6.2. Market Reports**

Given the period of uncertainty around Brexit is still ongoing, there was no way to obtain any data from market reports regarding how the market has recovered.

### **4.7 Summary**

This chapter discussed the key themes identified by the literature review, and within these themes compared the findings from the literature to the researcher’s findings from questionnaires and market reports.

The findings appeared to contradict the theories regarding investment levels falling, demand for space falling, and the vacancy rates increasing during periods of uncertainty, but the results appear to agree with new construction levels falling. One explanation for this might be due to potential bias in the timing of the data collection, which occurred well after the initial spike in ‘Brexit’ uncertainty whilst the market was recovering. This explanation for the results would agree with the findings from Gulen and Ion (2015), who found that the effects of uncertainty would start to diminish after a period of just over one year.

One important conclusion to draw from the findings is that uncertainty has varying degrees of severity, and that making all-encompassing statements regarding how uncertainty impacts on different segments of the office market will be unfairly stereotyping. A plausible reason suggested was that compared to other events in recent times, the uncertainty surrounding Brexit is relatively insignificant. A respondent from London, who holds a very senior position at one of the country’s leading surveying and advisory firms, believes that “the market is weathering the storm much better than 2009-2011 when it was very much worse, as was the uncertainty around the Scottish referendum”.

The evidence shown in this chapter has suggested that the impact of Brexit related political and macroeconomic uncertainty on the office market is relatively weak compared to other events, such as the global financial crash and the Scottish independence referendum.

## Chapter 5 - Conclusion

This chapter will discuss the final conclusions that can be drawn from this dissertation. The research aims, objectives and questions set out in Chapter 1 will be analysed, establishing if they have been met. After this, the paper's limitations will be set out and then suggestions for future research on the subject will be proposed.

### 5.1 Research Aims and Objectives

The aim of this paper was to help further understand the impact that uncertainty has on the office market. The objectives given in Section 1.3 can now be assessed.

- **To examine the different forms of uncertainty that could impact on the office market**

The literature establishes that uncertainty can exist in the form of policy uncertainty, for example fiscal, monetary, and more specific policy issues such as immigration. Macroeconomic uncertainty was considered and found to be tied closely with policy uncertainty. This objective was achieved by reviewing the vast amount of literature on the subject and obtaining the thoughts and feelings of surveyors regarding their concerns for the office market, most of whom highlighted the above uncertainties.

- **To establish how and why the office market may be impacted by the different forms of uncertainty**

Through the use of literature and questionnaires, the major impacts on the office market were discovered and expanded on. The office market is impacted due to its interlinked nature with the economy and therefore any political or economic uncertainty feeds through to the market. The parts of the market affected include investment, demand, supply and new construction.

- **To analyse, through the use of case studies, how recent uncertainty has impacted on the office market**

The case studies allowed the researcher to obtain their thoughts on any recent policy or economic uncertainties. It was found to contradict many corners of the literature, by either not impacting it at all, or by impacting the market in the opposite manner than predicted.

Alongside these research objectives, research questions were created, and attempts were made to answer them.

#### **Q 1.4.1 How is the office market affected by uncertainty?**

The literature review establishes that the office market is impacted by uncertainty in multiple ways. It was found that investment in the market would decrease from domestic investors, but overseas investment could potentially increase depending on currency and asset pricing issues.

Demand was found to be harmed in theory, but this was unproven under recent uncertainty. The construction of new space was found to decline in both theory and the findings, while vacancy rates were largely unaffected under uncertainty as the market found its standard rate. The literature suggested that after recuperating from uncertainty, the market would overshoot on their required demand levels, creating an increase in rental values.

#### **Q 1.4.2. Why does uncertainty impact the office market?**

Investment was found to decrease from UK investors for the simple reason they are wary of parting with large sums of money when the future is unclear. Overseas investment may increase but this is dependent on if they are able to take advantage of the uncertainty and obtain assets for below their normal prices.

Likewise, demand would be impacted as firms are cautious regarding hiring new staff due to expensive hiring and firing costs. New construction will also be stunted due to the large sums of capital required, these two issues simultaneously impacting on rental values, albeit with supply taking longer to have an impact than demand

### **Q 1.4.3 How severe is the uncertainty surrounding Brexit?**

In answering this question, the effects, and potential future impacts, of the recent macroeconomic and political uncertainty were first established, before then comparing this to other periods of uncertainty through the questionnaires. The period was recognised as being drawn out and is still ongoing at the time of writing. Although the assessment of the severity is mixed depending on the method used, this period of uncertainty is generally found to be less severe compared to the global financial crisis or the Scottish independence referendum.

## **5.2 Limitations**

This study has several limitations.

With regards to the literature review, the number of papers on the subject made it impossible to consult them all and therefore many valid views and statistics will have been omitted. Given this, the literature selected could be argued to have been chosen to support particular points the researcher wants supported, and may not be an accurate picture of the entire bank of literature. The Brexit specific literature will also be constantly changing and updated, and as this period of uncertainty is not yet over, it was difficult to use the literature for hard facts and figures about the impact this has had on the market compared to other events.

The data collection also has several limitations. The data collection had many questions directly linked to Brexit and was done over July and August 2018 – more than two years after the referendum. While economic policy and wider political uncertainty will have still been a concern, the initial spike of wariness will have occurred straight after the referendum. It is likely that the participants will have responded with a more recent viewpoint on the period, a likely positive sentiment, rather than casting their minds back two years to the initial period after the vote. Given this, their responses likely downplayed the impact of uncertainty surrounding Brexit on the market, as was evident by some additional commentary. There are other professionals involved in the office market aside from surveyors, who may hold different viewpoints, and so it would also be inaccurate to suggest that surveyors are the only or most important opinions to



represent the whole market. The questionnaire itself could have contained either more questions, or more in-depth and less vague questions, to gain a much deeper understanding of the subject.

### **5.3 Future Studies**

Given these limitations, future research could consider different sources of collecting the data. A paper looking at the impact of uncertainty on investment alone would allow a more experienced researcher to assess the impact using quantitative methods and allow for statistical results to be produced. This would also allow for other property professionals apart from surveyors to give their views. Future researchers may also want to wait until the final terms of Brexit have been established. This would allow the impact on the market to be assessed more accurately and allow a full comparison to other uncertainty triggering events.

## Reference List

- Aastveit, K.A., Natvik, G.J.J., Sola, S. (2013) *Economic uncertainty and the effectiveness of monetary policy*. Norges Bank Working Paper 17.
- Aizenman, J., and Marion, N.P. (1993) *Policy Uncertainty, Persistence and Growth*. Review of International Economics Volume 1, Issue 2, pp145-163.
- Baker, S.R., Bloom, N., Davis, S. (2016) *Measuring Economic Policy Uncertainty*. The Quarterly Journal of Economics, Volume 131, Issue 4, 1 November 2016, pp 1593–1636.
- Ball, M., Lizieri, C., MacGregor, B.D. (1998) *The Economics of Commercial Property Markets*. Routledge, London.
- Barras, R. (1994) *Property and the economic cycle: Building cycles revisited*. Journal of Property Research. Volume 11, 1994 – Issue 3. pp183-197.
- Belke, A., Dubova, I. and Osowski, T. (2018) *Policy uncertainty and international financial markets: the case of Brexit*. Applied Economics, 50:34-35, 3752-3770.
- British Property Foundation (2017) *Property Data Report 2017*.  
<https://www.bpf.org.uk/sites/default/files/resources/PIA-Property-Data-Report-2017.PDF>
- Business Glasgow (2018). *10 Reasons to do business in Glasgow*.  
<https://www.business-glasgow.co.uk/Blogs/10-reasons-to-do-business-in-glasgow>
- Bryman, A. (2012) *Social Research Methods*. 4<sup>th</sup> edition. Oxford. Oxford University Press.
- Byrne, P. (1995) *Fuzzy Analysis: A vague way of dealing with uncertainty in real estate analysis*. Journal of Property Valuation and Investment, Vol. 13 Issue: 3, pp22-41. Applied Economics, Volume 50, 2018 – Issue 34-35: Finance and the real economy.
- CBRE (2018) *Brexit and Northern Ireland - A Guide for Real Estate Decision Makers*. <https://www.cbre.co.uk/research-and-reports/Brexit-And-Northern-Ireland---A-Guide-For-Real-Estate-Decision-Makers>

Chinloy (1996) *Real Estate Cycles: Theory and Empirical evidence*. *Journal of Housing Research*. Volume 7, No.2, Special Issue: House Price Indices: Policy, Business, and Research Applications, pp. 173-190

Collins Dictionary (2018) *Macroeconomics Definition*.

<https://www.collinsdictionary.com/dictionary/english/macroeconomics>

Cottrell, S. (2014) *Dissertations and project reports: a step by step guide*. Palgrave Macmillan.

Cresswell, J.W. (2014) *Research design: qualitative, quantitative, and mixed methods approaches*. 4<sup>th</sup> International student edition.

Crowe, C., Dell’Ariccia, G., Igan, D., Rabanal, P. (2013) *How to deal with real estate booms: Lessons from country experiences*. *Journal of Financial Stability*. Volume 9, Issue 3, 300-319.

Cushman & Wakefield (2018): *Regional Offices Marketbeat – Q1 2018*.

<http://www.cushmanwakefield.co.uk/en-gb/research-and-insight/2018/uk-marketbeat-q1-2018>

Denscombe, M. (2014) *The good research guide: for small-scale social research projects*. 5<sup>th</sup> edition. Open University Press.

Dhingra, S. Ottaviano, T.S, and Van Reenen, J. (2016) *The Impact of Brexit on foreign investment in the UK*. Centre for Economic Performance. London School of Economics and Political Science.

Economic and Social Research Council (2018) *Our Core Principles*.

<https://esrc.ukri.org/funding/guidance-for-applicants/research-ethics/our-core-principles/>

Flick, U. (2015) *Introducing Research Methodology: A Beginner’s Guide to Doing a Research Project*. London: Sage Publications.

Foo Sing, T. (2001) *Optimal timing of a real estate development under uncertainty*. *Journal of Property Investment & Finance*, Vol. 19 Issue: 1, pp.35-52

Gulen, H. and Ion, M. (2015) *Policy Uncertainty and Corporate Investment*. *The Review of Financial Studies*, Volume 29, Issue 3.

Grenadier (1995) *The persistence of real estate cycles*. *Journal of Real Estate Finance and Economics* Volume 10, Issue 2, pp95-119.

<https://doi.org/10.1007/BF01096984>

- Grenadier (1996) *The Strategic exercise of options: Development cascades and overbuilding in Real Estate Markets*. The Journal of Finance, Volume 51, Issue 5, pp1653-1679.
- GVA (2016) *Offices who needs them? Autumn 2016*.  
<https://www.gva.co.uk/media/4197/2016-offices-who-needs-them-autumn-2016.pdf>
- GVA (2018a): *The Big Nine Q2 2018*. <https://www.gva.co.uk/insights/research/the-big-nine/>
- GVA (2018b): *Central London office analysis Q2 2018*.  
<https://www.gva.co.uk/insights/research/central-london-office-analysis/>
- GVA (2018c): *Economic and Property Market Review Summer 2018*.  
<https://www.gva.co.uk/insights/research/economic-and-property-market-review/>
- Hekman, J.S. (1985) *Rental Price Adjustment and Investment in the Office Market*. *Rental Price Adjustment and Investment in the Office Market*. Real Estate Economics, Volume 13, Issue1, 32-47.
- Hill, P., Korczak, A., Korczak, P. (2017) *Political Uncertainty Exposure of Individual Companies: The Case of the Brexit Referendum*.
- Holland, A.S., Ott, S., Riddiough, T.(2000) *The Role of Uncertainty in Investment: An Examination of Competing Investment Models Using Commercial Real Estate Data*. Real Estate Economics, volume 28, Issue 1.
- Invest in Manchester (2018): *The Largest F&PS Industry Outside of London*.  
<https://www.investinmanchester.com/sectors/financial-professional-business-services>
- Jack, B. and Clarke, A.M. (1998) *The purpose and use of questionnaires in research*. Professional Nurse (London, England). 14 (3), pp 176-179.
- JLL (2018a) *UK Office Market Outlook H2 2017*. <http://www.jll.co.uk/united-kingdom/en-gb/research/436/uk-office-market-outlook-research-report-h2-2017>
- JLL (2018b) *Central London Office Market Report Q2 2017*.  
<http://www.jll.co.uk/united-kingdom/en-gb/research/455/central-london-office-market-research-report-q2-2018>
- JLL (2018c) *JLL UK Capital Markets – H1 2018 Review/Outlook*.  
<http://www.jll.co.uk/united-kingdom/en-gb/research/456/jll-uk-capital-market-h1-2018>
- Kierzenkowski, R., Pain, N.,Rusticelli, E., Zwart, S.(2016) *The Economic Consequences of Brexit: A Taxing Decision*. OECD Economic Policy paper. April 2016. No.16.

- Knight Frank (2018a) *UK Regional Cities Office Market Report – 2018*.  
<http://www.knightfrank.com/research/uk-regional-cities-office-market-report-2018-5298.aspx>
- Knight Frank (2018b) *Central London Quarterly – Q1 2018*.  
<http://www.knightfrank.co.uk/research/central-london-quarterly-q1-2018-5488.aspx>
- Kohlert, D. (2010) *The determinants of regional real estate returns in the United Kingdom: a vector error correction approach*. *Journal of Property Research*, 27:1. 87-117.
- Leete, S., Xu, J., Wheeler, D. (2013) *Investment barriers and incentives for marine renewable energy in the UK: An analysis of investor preferences*. *Energy Policy*, Volume 60, pp 866-875.
- Lensink, R., Bo, H., Sterken, E. (1999) *Does uncertainty affect economic growth? An empirical analysis*. *Weltwirtschaftliches Archive*, Volume 135, Issue 3, 379-396.
- London Datastore (2018) *Labour Market update for London – March 2018*.  
[https://data.london.gov.uk/apps\\_and\\_analysis/labour-market-update-for-london/](https://data.london.gov.uk/apps_and_analysis/labour-market-update-for-london/)
- London Gov (2018). *Policy 2.2 London and the wider metropolitan area*.  
<https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan/london-plan-chapter-two-londons-places/policy-22>
- Malpezzi, S. and Wachter, S. (2005) *The role of speculation in real estate cycles*. *Journal of Real Estate Literature*: 2005, Vol. 13, No. 2, pp 141-164.
- Matysiak, G., and Tsolacos, S. (2003) *Identifying short-term leading indicators for real estate rental performance*. *Journal of Property Investment & Finance*, Vol. 21 Issue: 3, pp.212-232
- McCue, T. and Kling, J. (1994) *Real Estate Returns and the Macroeconomy: Some Empirical Evidence from Real Estate Investment Trust Data, 1972-1991*. *Journal of Real Estate Research*: 1994, Vol. 9, No. 3, pp. 277-287.
- Millington, A.F. (2000) *Property Development*. Estates Gazette, London.
- Moore, A. (2016) *Measuring Economic Uncertainty and its effects*. *Economic Record*, Volume 93, Issue 303.
- Morgan, J. (2017) *Brexit: Be careful what you wish for?* *Globalizations*, Volume 14, Issue 1, pp 118-126.
- Nomis (2018a) *Labour Market Profile – Glasgow City*.  
<http://www.nomisweb.co.uk/reports/lmp/la/1946157420/report.aspx#tabempunemp>

- Nomis (2018b) *Labour Market Profile – Manchester*  
<http://www.nomisweb.co.uk/reports/lmp/la/1946157083/report.aspx>
- Nomis (2018c) *Labour Market Profile –Inner London.*  
<http://www.nomisweb.co.uk/reports/lmp/la/1967128593/report.aspx?town=london>
- ONS (2017a) *EMP04: Employment by occupation.*  
<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/employmentbyoccupationemp04>
- ONS (2017b) *Regional gross value added (income approach).*  
<https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/regionalgrossvalueaddedincomeapproach>
- Pathak, V., Bijayini, J. and Sanjay, K. (2013) *Qualitative Research*. Perspectives in Clinical Research; Mumbai Vol. 4, Issue 3.
- Portes, J. and Forte, G. (2017) *The Economic Impact of Brexit-induced reductions in migration*. Oxford Review of Economic Policy, Volume 33, Issue 1, pp 31–44.
- Ramiah, V., Pham, H., and Moosa, I. (2017) *The sectoral effects of brexit on the british economy: early evidence from the reaction of the stock market*. Applied Economics, Vol 49, No. 26, pp 2508-2514
- Ryden (2014) *75<sup>th</sup> Scottish Property Review*.  
<https://www.ryden.co.uk/advice/knowledge/scottish-property-reviews>
- Ryden (2016) *79<sup>th</sup> Scottish Property Review*.  
<https://www.ryden.co.uk/advice/knowledge/scottish-property-reviews>
- Ryden (2018) *82<sup>nd</sup> Scottish Property Review*.  
<https://www.ryden.co.uk/advice/knowledge/scottish-property-reviews>
- Scottish Government (2018): *Health Board Area – Greater Glasgow and Clyde*.  
<https://statistics.gov.scot/atlas/resource?uri=http%3A%2F%2Fstatistics.gov.scot%2Fid%2Fstatistical-geography%2FS08000021&inactive=false>
- Steinberg, J.B. (2018) *Brexit and the Macroeconomic Impact of Trade Policy Uncertainty*. University of Toronto.
- Tsolacos, S. and McGough, T. (1999) *Rational Expectations, Uncertainty and Cyclical Activity in the British Office Market*. Urban Studies, Vol. 36., No. 7, pp 1137-1149.
- Yin, R. K. (2003). *Case study research: Design and methods* (3rd Ed.). Thousand Oaks, CA: Sage publications.

Yin, R.K. (2014) *Case Study research: design and methods* (5<sup>th</sup> Ed.) Thousand Oaks, California : SAGE Publications.

# Appendices

## Appendix A: Questionnaire

The Glasgow specific questionnaire is used for this example.

### Instructions

Answer questions as they relate to you. For most answers, check the box(es) most applicable to you or fill in the blanks. Please feel free to add in any additional commentary where necessary.

### Opinions on the Glasgow office market

1. How important do you think the office market is to the overall health of the Glasgow economy?

**Extremely Unimportant**

**Extremely Important**

0    1    2    3    4    5    6    7    8    9    10

Please explain why you think this:

*2. What are your biggest concerns for the Glasgow office market at the moment?*



3. How important do you think the following factors are to the performance of the Glasgow office market? Please number your answer with 10= extremely important, and 0= extremely unimportant

	Extremely Unimportant	Extremely
Important		
Investment (Overseas)	<u>0 1 2 3 4 5 6 7 8 9</u>	
<u>10</u>		
Investment (U.K.)	<u>0 1 2 3 4 5 6 7 8 9</u>	
<u>10</u>		
High demand for space	<u>0 1 2 3 4 5 6 7 8 9</u>	
<u>10</u>		
Sufficient supply of space	<u>0 1 2 3 4 5 6 7 8 9</u>	
<u>10</u>		
Speculative construction	<u>0 1 2 3 4 5 6 7 8 9</u>	
<u>10</u>		
Low rent levels	<u>0 1 2 3 4 5 6 7 8 9</u>	
<u>10</u>		
High rent levels	<u>0 1 2 3 4 5 6 7 8 9</u>	
<u>10</u>		
Low vacancy rates	<u>0 1 2 3 4 5 6 7 8 9</u>	
<u>10</u>		
Occupier friendly leases	<u>0 1 2 3 4 5 6 7 8 9</u>	
<u>10</u>		
Landlord friendly leases	<u>0 1 2 3 4 5 6 7 8 9</u>	
<u>10</u>		
<b><u>Variation in:</u></b>		
Types of space demanded	<u>0 1 2 3 4 5 6 7 8 9</u>	
<u>10</u>		
Grades of space demanded	<u>0 1 2 3 4 5 6 7 8 9</u>	
<u>10</u>		
Other (please specify below)	<u>0 1 2 3 4 5 6 7 8 9</u>	
<u>10</u>		

4. Going back to the Scottish Independence Referendum in 2014, were there any noticeable changes in the Glasgow market prior to the 'Indyref' vote in September 2014?

**(Select only one)**

- Yes
- No
- Don't know

**If no, skip to question 7**

5. In what way?

	Decreased significantly			No Change			Increased			
Investment (overseas)	0	1	2	3	4	5	6	7	8	9
<u>10</u>										
Investment (U.K.)	0	1	2	3	4	5	6	7	8	9
<u>10</u>										
Overall demand for space	0	1	2	3	4	5	6	7	8	9
<u>10</u>										
Supply of space	0	1	2	3	4	5	6	7	8	9
<u>10</u>										
New construction	0	1	2	3	4	5	6	7	8	9
<u>10</u>										
Rent Levels	0	1	2	3	4	5	6	7	8	9
<u>10</u>										
Vacancy rates	0	1	2	3	4	5	6	7	8	9
<u>10</u>										
Lease lengths	0	1	2	3	4	5	6	7	8	9
<u>10</u>										
Leases - occupier friendly	0	1	2	3	4	5	6	7	8	9
<u>10</u>										
Leases - landlord friendly	0	1	2	3	4	5	6	7	8	9
<u>10</u>										

**Variation in:**

Types of space demanded 0 1 2 3 4 5 6 7 8 9  
10

Grades of space demanded 0 1 2 3 4 5 6 7 8 9  
10

Other (please specify below) 0 1 2 3 4 5 6 7 8 9  
10

*6. Why do you think this occurred?*

**(Select all that apply)**

- The market's stage in the property cycle
- Macroeconomic conditions
- Business conditions
- Firms' change in preferences
- Investors' change in preferences
- Changes in legislation

**Uncertainty surrounding:**

- Macroeconomic conditions
- Trading policy
- Taxation policy
- Immigration policy
- Currency issues
  
- Other (please specify)

Please expand below:

*7. Have there been any noticeable changes in the Glasgow market since the 'Brexit' vote in June 2016?*

**(Select only one)**

- Yes
- No
- Don't know

**If no, skip to question 10**

8. In what way?

	Decreased significantly			No Change			Increased			
significantly										
Investment (overseas)	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
<u>10</u>										
Investment (U.K.)	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
<u>10</u>										
Overall demand for space	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
<u>10</u>										
Supply of space	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
<u>10</u>										
New construction	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
<u>10</u>										
Rent Levels	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
<u>10</u>										
Vacancy rates	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
<u>10</u>										
Lease lengths	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
<u>10</u>										
Leases - occupier friendly	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
<u>10</u>										
Leases - landlord friendly	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
<u>10</u>										
<b>Variation in:</b>										
Types of space demanded	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
<u>10</u>										
Grades of space demanded	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
<u>10</u>										
Other (please specify below)	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
<u>10</u>										

9. *Why do you think this is?*

**(Select all that apply)**

- The market's stage in the property cycle
- Macroeconomic conditions
- Business conditions
- Firms' change in preferences
- Investors' change in preferences
- Changes in legislation

**Uncertainty surrounding:**

- Macroeconomic conditions
- Trading policy
- Taxation policy
- Immigration policy
  
- Other (please specify)

**Please expand below:**

10. *Do you think that establishing the final conditions of 'Brexit' will have an impact on the Glasgow office market?*

**(Select only one)**

- Yes
- No
- Don't Know

**Please expand below:**

11. Do you think that more needs to be done to protect the Glasgow office market from uncertainty?

**(Select only one)**

- Yes
- No
- Don't Know

**Please expand below:**

12. Do you think the impact of uncertainty on the office market is a topic which requires further research?

**(Select only one)**

- Yes
- No

**Please expand below:**

**Additional Space for commentary is found at the end of the questionnaire.**

### About You

13. Your Position level

**(Select only one)**

- Graduate Surveyor
- Chartered Surveyor
- Associate
- Senior Surveyor
- Director
- Partner
- Other (please specify)

14. How many employees are based in your office?

**(Select only one)**

- 10 or less
- 11-30
- 31-50
- 51-100
- 100+

15. How long have you been with your current employer?

**(Select only one)**

- less than 1 year
- 1-2 years
- 2-5 years
- 5-10 years
- 10-15 years
- 15-20 years
- More than 20 years

16. How long have you been involved in commercial property, with focus primarily within the office market?

**(Select only one)**

- Never
- less than 1 year
- 1-2 years
- 2-5 years
- 5-10 years
- 10-15 years
- 15-20 years
- More than 20 years

*If you would like to obtain a copy of the published results, please contact*

**Additional commentary:**