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Investor sentiment and local bias in extreme circumstances: The case of the Blitz

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A B S T R A C T

This paper treats the Blitz, the bombing of Britain during World War Two, as a natural experiment which can provide insights into the effects of investor sentiment on stock returns. The period of the Blitz is very interesting in that one of the world's major financial centres was under regular and severe air attack, as were many other industrial and commercial centres. These conditions provide a unique opportunity to study both investor sentiment and local bias effects in extreme circumstances. We show that negative investor sentiment during the Blitz as a whole was not evident. However major bombings in London generate negative investor sentiment on stock returns while major bombings outside of London generate no negative investor sentiment on stock returns, which is consistent with local bias effects.

1. Introduction

This paper examines an interesting period that, to the best of our knowledge, has not been investigated in the finance literature. The Blitz, from 7th September 1940 to 12th May 1941, was a period of almost continual air attack by German forces on Britain during World War Two (WW2 hereafter) with well over 30,000 tonnes of bombs dropped on the country (Ellis, 1990, Table 28). The bombings of the Blitz caused great numbers of causalities and damage, with over 40,000 civilians killed and 46,000 injured and more than one million houses destroyed or severely damaged. This was accomplished with the loss of about 600 German aircrafts (Richards, 1953). A substantial proportion of the bombings and many of the heaviest raids were on London,[1] with other major cities also frequently and heavily bombed due to their significance in the war effort. The period of the Blitz is very interesting in terms of finance theory in that one of the world's major financial centres was under prolonged and serious attack. Since London is the hugely pre-eminent finance centre in Britain, it is no exaggeration to say that most market participants were directly exposed to serious danger for a substantial period of time. Given the extensive recent literature on the effect of sentiment and particularly anxiety and fear on stock returns, the conditions of the Blitz generates a unique opportunity to contribute to the literature by examining investor sentiment in extreme circumstances.

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[1] London was bombed every night bar one, for eleven weeks during the Blitz period.

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The Blitz period also provides an excellent natural experiment to explore the local bias hypothesis by investigating whether the Blitz bombings in London had a stronger adverse effect on stock returns than bombings outside of London.

This paper contributes to the literature in several ways. First, we examine a period of the British stock market that has not been studied in great detail. Second, we investigate investor sentiment in the extreme circumstances of the Blitz taking account of the real economic and strategic conditions at the time. Third, we explore the possibility of local bias on the stock market. The results show that stock market returns were not negative during the Blitz as a whole, despite the massive damage and loss of life, but that the days after major London bombings had negative average stock market returns while non-London bombings were associated with positive returns. This suggests that local bias is evident in that investors placed more emphasis on the London bombings than bombings outside of London.

The remainder of the paper is organised as follows. The next section explains the historical background of the Blitz while Section 3 provides a literature review. Section 4 presents the methodology while Section 5 presents the data and empirical results. Section 6 summarises the findings and provides conclusions.

2. Historical background

The Blitz occurred in a period of the war after the fall of France where the only major participants were Germany, Britain and Italy, although Italy took very little part in the Blitz itself. The Blitz was immediately after the Battle of Britain, which was the attempt by Germany to establish daylight air superiority over Britain after the fall of France in the summer of 1940. The object of the Battle of Britain was to prepare for a cross channel invasion and operations largely pitted one air force against another and much of the fighting took place around airfields. The Battle of Britain was a British victory in that Germany suffered heavy losses and did not achieve the air superiority they hoped before the bad weather of autumn came which led to the invasion of Britain being postponed. The German forces then switched their attack to night bombings of major British cities and this period is now known as the Blitz. They conducted their operations at night as the German bombers were hard to see and engage so German casualties would be relatively low. London was a very major objective of the bombers, although many cities that were important to the war effort were also attacked. At the time the potential effect on moral of the bombings on civilians was largely unknown and probably overestimated. It was thought by some that mass panic was possible which could serious dent Britain's war effort (Beevor, 2012).

The London Stock Exchange (LSE hereafter) stayed open during the Blitz, although fear of destruction caused 514 of its 784 members to establish an emergency address (Murchie, 1999). Damage only closed the LSE from 16th to 24th September 1940, although trading was switched to the settlement room on the 17th September, so only one day's business was lost. Consequently, the LSE stayed open virtually throughout the war although with slightly reduced hours. Nevertheless, the LSE turnover was affected with it falling to half its pre-war level by 1941. By 1942 however, business began to increase and the LSE was recovering back to its pre-war state (Murchie, 1999).

London was not the only major city to be bombed by German forces. For example, one of the biggest and most damaging attacks during the Blitz was on the manufacturing city of Coventry on the 14th November 1940. Some 437 German aircrafts dropped bombs repeatedly for 10 h, with twelve important aircraft plants and nine other major industrial works being targeted. There was a loss of some 500 retail shops, as well as the blocking of railway lines, causing great disruption to the war effort (Richards, 1953). Other major cities were also targeted due to their importance in the war effort, including Birmingham, Bristol, Clydebank,[2] Hull, Manchester, Merseyside,[3] Portsmouth, Plymouth, Southampton and Sheffield. For example Merseyside suffered over sixty raids and was Hitler's number one target outside of London due to its granaries, power stations, dry docks, gasworks and its port which brought food and materiel across the Atlantic (Gardiner, 2011). Other easily located coastal cities of strategic importance, such as Hull, Portsmouth, Plymouth and Southampton were attacked very frequently (Hull approaching 50 times and Plymouth over 30, Gardiner, 2011).

3. Literature review

Investor sentiment on stock returns has been well documented in the economic and finance literature in recent years (see Hirshleifer, 2001). Many routine and seemingly economically unimportant factors have been shown to affect returns including the amount of daylight (Kamstra et al., 2003), sunshine (Hirshleifer and Shumway, 2003), and even sports results (Edmans et al., 2007). An obvious question is how more extreme events may affect investor sentiment. There has been very little research conducted in this area. Kaplanksi and Levy (2010) investigate the effect of aviation disasters and find that they cause stock market drops that are disproportionately larger than their economic effects and ascribe these to bad moods and anxiety being induced among investors. Yet, aviation disasters can only affect the mood of investors in a very indirect way by causing them to think about the risk they may encounter on future flights. One study that examines the sentiment of stock returns in the case of extreme circumstances is Shan and Gong (2012) who investigate the effect of the Wenchuan Earthquake on stock returns. They find that during the 12 months following the earthquake, stock returns are significantly lower for firms near the epicentre of the earthquake and that these results cannot be explained by actual economic losses or

[2] The conurbation around Glasgow.
[3] The conurbation around Liverpool.