

# **Flood insurance in the UK – a survey of the experience of floodplain residents**

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## **Abstract**

Flood insurance, or the lack of it, is one of the factors that determine whether building on floodplains is sustainable. Availability of insurance can provide flood victims with the financial security to restore, maintain and sell their property but can also induce moral hazard increasing the eventual cost of flooding to the wider community. Flood cover in the UK has come under the spotlight in recent years following an increase in the frequency of flood events. The long-term gentlemen's agreement between Government and the private insurance industry has been revised in the light of these events leaving many property owners in an ambiguous position as regards home insurance. The results of a survey of residents in and outside the floodplain reveal that despite recent changes in the policies of insurers they are in general providing insurance at reasonable rates to flood victims and to homeowners at risk of flood. However floodplain residents are experiencing a variety of difficulties in achieving cover and are pursuing a wider range of strategies to obtain cover. A minority of residents find their insurance compromised. The research concludes that the diverse and competitive market for insurance in the UK fulfils the short term need of the floodplain resident for cover but may not serve their best interests in the longer term.

*Keywords: competition, finance, flood, insurance, moral hazard, risk.*

## **1 Introduction**

The management of buildings on the floodplain in a developed economy is a delicate balance between the needs of the floodplain residents and the wider population. Historic settlement patterns have placed a large part of the world



population in the floodplain and in the current era of climate change and increased flood frequency the question of who should be responsible for maintaining floodplain buildings is a vexed one. Across the world flood regimes differ (Gaschen, *et al.* [1]) and the balance shifts from reliance on emergency aid to sophisticated insurance regimes.

Whatever regime is in place, the aim to maintain communities in their present position is a central one in the majority of cases. Only where repeated flooding is inevitable and devastating does the notion of “managed retreat” find widespread support (Werrity, *et al.* [2], Kenney, *et al.* [3]). In the UK the pressure of housing demand and the desire to increase housing density and reuse brownfield sites Barker [4] increase the likelihood that property will remain on the floodplain. In fact despite recent regulation significant development is still being planned within the floodplain (Entec [5] and Wynn [6]).

For the UK in recent years spiralling insurance losses have caused a re-examination of the status quo. Insurers have argued that the provision of cheap and universal insurance has resulted in moral hazard, that is that government and property stakeholders have been enabled to ignore flood risk in their investment calculations. Industry statements about the potential removal of insurance from those at risk of flooding together with media reports of home owners unable to renew insurance or renewing at punitive rates has led to anxiety and confusion for floodplain residents. Government reaction has been to make a renewed commitment to fund flood defence but this funding is regarded as insufficient to realistically address the previous shortfall (ABI [7]).

An ideal insurance and regulation regime would enable established property within the floodplain to be maintained while encouraging responsible flood management of those properties (Huber [8]). It should not impose hardship upon vulnerable floodplain residents who may have purchased their property in ignorance of flood risk. It should also not induce moral hazard by allowing floodplain residents or other bodies responsible for flood management to act irresponsibly. The regime would discourage further building on the floodplain unless the sensible flood management of those properties could be ensured (Crichton [9]). This paper uses the results from a survey of homeowners to examine how the UK flood insurance regime as it is experienced by domestic insurance customers compares to this ideal.

## 2 The UK flood insurance regime

In the United Kingdom flood insurance is contained within the standard general household insurance policy provided by private insurance companies. Buildings and contents insurance can be purchased separately or as a package, and flood cover is almost invariably included in both buildings and contents policies. Insurance is not compulsory but buildings cover is usually mandatory where homes are purchased using mortgage finance. There is no state provision for flood insurance. Government funds for flood mitigation have been diverted to prevention rather than grants to victims. Those householders who do not



purchase insurance have to rely on disaster relief, emergency aid and loans to reinstate their property.

## 2.1 The “gentleman’s agreement”

Until 2002 the universal availability of private coverage was the result of a “gentlemen’s agreement” between the insurance industry and government. The agreement was entered into in 1961 in response to severe government pressure and by the end of the 1970s the majority of home insurance policies included flood risk as standard (Arnell, *et al.* [10]). The main content of the agreement was that the insurance industry guaranteed to provide cover whatever the risk, and that the cover would not exceed 0.5% of the sum insured except in circumstances where regular flooding was seen to be inevitable (Huber [8]).

The events of the last ten years have tested the accord between insurer and the government to the full. However the agreement was formalised via a “statement of principles” which was issued in 2002 (ABI [11]) and renewed in 2005 (ABI [12]) and in effect continues the commitment of the insurance industry to underwrite flood risk property which is or is planned to be defended to a minimum standard. The new statement opens up the possibility of more risk based pricing and the refusal of insurance to properties which have no flood defences.

## 2.2 Structure of the UK property insurance market

The embedding of flood insurance within the standard domestic policies presents difficulties both to researchers of the UK flood insurance market and to the insurers themselves. Insurers, customers and researchers find it hard to identify the elements of insurance that relate to flooding. The general property insurance market must be considered. This market is fairly fragmented – while it is true that the top ten insurance companies represent 85% of the market (Euromonitor [13]) there are a multitude of smaller companies supplying insurance. To the customer the choice looks much wider than the figures suggest because many insurance agents, for example supermarkets and banks, repackage and rebrand other companies policies.

Domestic policies also vary in the level of cover they provide, many optional extras exist and discounts are possible for security features. The price of any insurance policy is a complex combination of its features, the location of the insured property and the profile of the insured. In the past, flood risk has not been a central consideration in the pricing of insurance policies. This position is changing because the need to relate premiums to risk coincides with a greater ability to do so.

## 2.3 Recent developments in the flood insurance market

Two recent developments have facilitated risk based premium pricing: the provision of improved flood risk mapping and the tendency towards direct distribution channels.



Mapping of the floodplain has been carried out by the Environment Agency and is available on their website free of charge (EA [14]), insurers can purchase a more detailed classification from the agency. Individual insurers have also invested in their own systems. Norwich Union in particular commissioned their own national height map to assign risk on a property by property basis (Munich Re [15]).

In the past, most home insurance policies were purchased at the time of obtaining mortgage finance and were placed in block policies with the preferred supplier of the mortgage company. This resulted in the insurer having little knowledge of individual policies and an inability to price on individual risk. The advent of phone and then internet selling of policies direct to the home owner has shifted the concentration from mortgage tied insurance towards shopping around (Defaqto [16]).

## 2.4 The analysis problem

The complexity of the UK flood insurance market and the action of competition within the market provides challenges for analysts. Knowledge of the designated flood risk, the property features and the history of the insured will not yield a good prediction of insurance premium actually paid. The presence of competition ensures that it is unlikely that insurance pricing strategies will be transparent or consistent across companies. This could lead to owners of very similar properties with similar flood histories having vastly different experiences and paying totally different insurance premiums.

Previous anecdotal evidence and media attention has suggested there are grave problems in the flood insurance market whereas research by the Association of British Insurers has shown that very few customers are being refused insurance (ABI [17]). Clearly a more complete picture of the UK flood insurance regime can be gained by collecting the experience of policy holders but this has not been done in any publicly available survey and therefore the survey described below was in part designed to address this issue (Lamond, *et al.* [18]).

## 3 Survey method

A self-administered postal questionnaire was selected as the most cost effective delivery mechanism for the survey. Survey locations were chosen from sites flooded or narrowly avoiding flooding in the autumn 2000 event.

### 3.1 Survey instrument

The questionnaire was designed for maximum ease of response consisting mainly of categorical closed questions requiring ticks in the relevant boxes. Questions were designed after examining the information collected by insurance companies on their websites and in consultation with industry experts. Sections on property details, flood experience, insurance held, costs and claims history,



selection mechanism and difficulties encountered whilst searching for insurance were included. A final free text section allowed respondents to proffer further details or explanations about flood and insurance history. Personal information was not collected apart from respondent age.

### 3.2 Sample selection

The target population was households in the floodplain, at all levels of flood risk with a control group of households not in the floodplain. In addition households with differing flood histories were desired, flooded and not flooded within each risk category where possible. The population of households in the floodplain is unknown and its characteristics remain unmeasured. Environment Agency lists of properties in the floodplain are not generally available to researchers and lists of which properties actually flooded are not compiled. Structured sampling techniques on national databases were therefore inappropriate and a pragmatic approach had to be taken. Samples from four study sites (Southsea, Shrewsbury, Malton and West Bridgford) were chosen from addresses taken from the council tax register. Their flood histories are described below. Flood status was assigned from the published Environment Agency indicative floodplain maps

### 3.3 Summary of locations

Shrewsbury is the county town of Shropshire in the West Midlands of the UK has a medieval history with many historic buildings situated in the floodplain. Shrewsbury town centre is almost entirely surrounded by the river Severn and during floods access is severely restricted. Shrewsbury has a long history of flooding, and is one of the most frequently flooded places in the UK, with properties in all flood risk categories.

Malton and Norton are situated on opposite sides of the river Derwent in North Yorkshire and effectively form one conurbation. Major flood events occurred in Malton and Norton in 1947, 1999 and 2000 (ARUP [19]). Many residents in Malton and Norton therefore represent owners of frequent flooded properties which are still at risk.

West Bridgford is an area of Nottingham, a large city in the Midlands, situated within the flood plain of the river Trent. It is a leafy suburb of mainly residential housing with many large properties. Nottingham and West Bridgford experienced floods in 1901, 1910 and 1932; West Bridgford last experienced serious flooding in 1947. Although there was no flooding of West Bridgford itself in 2000, adjacent areas did suffer inundation and therefore awareness of flood risk may be high in this area. Residents of West Bridgford represent owners of property at risk of flooding but with no recent flood history.

Portsmouth is a major port on the south coast of England which is at risk of coastal flooding. Other flooding can occur due to flash flooding during heavy rainfall. The 2000 floods occurred in the Southsea area due to pumping station failure (Clark [20]) during heavy rainfall. In this population flood claims were lodged by residents at relatively low flood risk.



3.4 Questionnaire distribution and response rate

The questionnaires were mailed to 2,100 addresses within one week and a reminder postcard sent to non-respondents three weeks later as the responses were seen to tail off. A nineteen percent response rate was achieved representing 403 returns spread evenly across locations as shown in Table 1 and representing householders in all four flood risk categories.

Table 1:        Distribution of responses by location.

	issued	returned	percent return
Shrewsbury	657	144	22
Southsea	575	92	16
West Bridgford	277	60	22
Malton and Norton	585	107	18
<b>Total</b>	<b>2094</b>	<b>403</b>	<b>19</b>

4 Survey results

The results of the survey are described below in order of difficulty experienced, from outright refusal of cover through to difficulties encountered when seeking cover. Finally the strategies pursued by homeowners are presented.

4.1 Failure to insure

The vast majority of residents held insurance policies for their property. Ninety three percent of respondents reported having insurance. Figure 2 shows the differences between floodplain and non floodplain respondents are small but that there is a slight tendency for floodplain respondents to be less insured.

However, only one respondent (0.2%) reported being unable to obtain buildings insurance and only three respondents (0.7%) reported being unable to obtain contents insurance due to flood risk. Other respondents gave reasons such as cost of insurance or not wanting insurance as reasons for being uninsured.

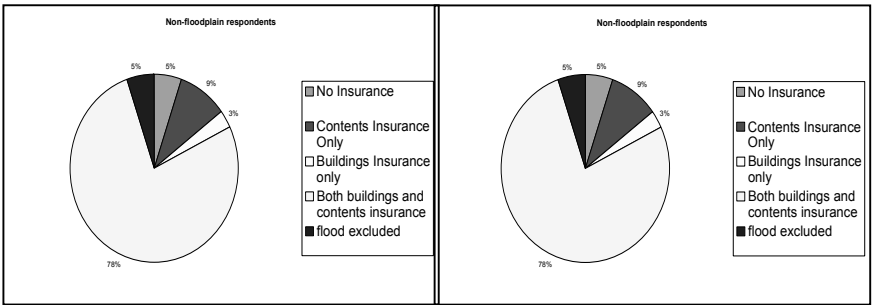


Figure 1:        Type of insurance held by respondents.



## 4.2 Flood exclusion

Although flood risk is included as standard in domestic insurance policy it is possible to negotiate exclusions on an individual basis. Flood exclusions were accepted by six percent of respondents to this survey. A larger percentage (20%) of respondents did not know whether their policy included flood risk or not. It is fair to assume that if they had not been alerted to flood exclusion that there policy would include flood.

It has also been suggested that a high flood damage excess charge on an insurance policy could be regarded as excluding flood risk from a policy. No respondent reported flood excess charges which approached average flood damage claims.

## 4.3 Increased cost of insurance

The average cost of insurance was the same for those in or outside the floodplain but the cost was less consistent for floodplain residents with a few having to pay a lot more and some paying less than the non-floodplain. Fifteen percent of previously flooded residents thought that their insurance premium went up because of claiming on their insurance and one percent thought that they had been refused renewal because of claiming. People who had moved in since the flood in 2000 found their insurance to be slightly more expensive on average.

## 4.4 Problems encountered when seeking insurance

Quotes for insurance may be sought at property purchase but also during a residence period if policy holders seek better value quotes. The insurer can choose to renegotiate the price at the annual renewal date or refuse to renew a policy. Thus many respondents had experience with seeking quotes and most should have experienced annual renewal. Figure 2 shows the percentage of respondents who reported difficulties in renewing or obtaining quotes for insurance.

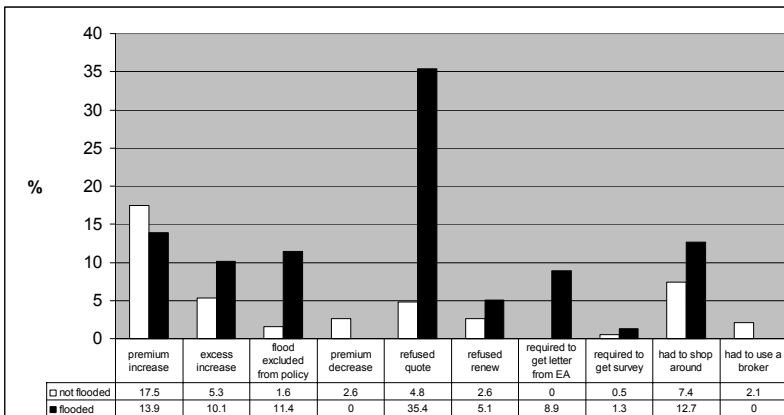


Figure 2: Difficulties encountered while seeking insurance.



The majority of respondents found no difficulties in obtaining quotes for insurance. Flooded respondents experienced more difficulty than those not flooded but still less than half reported any difficulty. Although 35% of flooded residents had been refused a quote for insurance at some time the majority found quotes elsewhere. Respondents observed that some insurers would provide cover despite multiple flood claims but that shopping around was necessary.

Although half of new residents in the floodplain had some difficulties in insuring their new home, only 10% had to pay more or have flood excluded. Existing insurers will extend cover to new residents subject to their status. 4% of residents used the same insurer as the previous owners.

During the insurance negotiation it would also be possible for insurers to specify flood risk management conditions to policyholders. This survey saw no evidence that insurers are pursuing this option, only one respondent reported being asked to make alterations to their home in order to obtain cover.

4.5 Strategies employed by homeowners in choosing insurance

Respondents were asked about their method of choosing an insurance policy. The responses are summarised in Figure 3 which displays the difference between respondents inside and outside the floodplain.

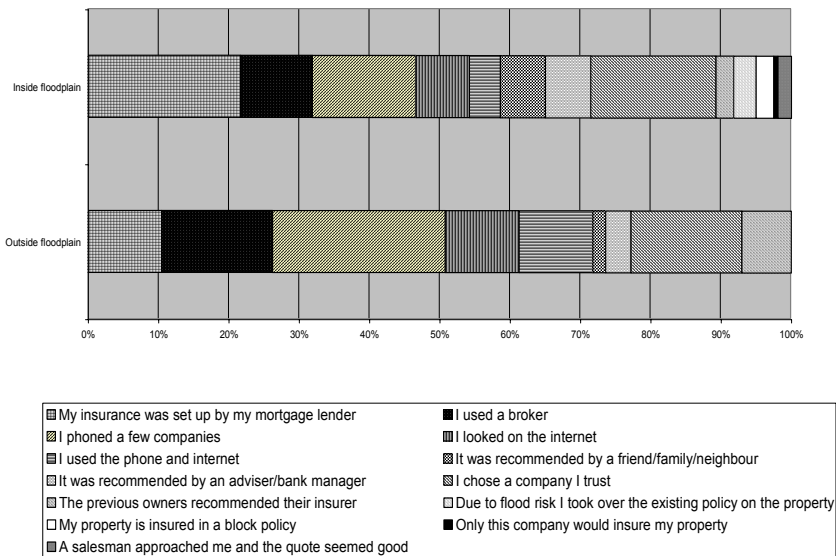


Figure 3: Main strategy for choosing insurance.

The floodplain respondent was most likely to be insured with their mortgage lender (21%) whereas the respondent outside the floodplain was most likely to have used a broker, the internet or phoned around for quotes (25%). The floodplain residents exhibit a wider range of strategies including four options which were completely absent from the non floodplain population.





These findings are consistent with the idea that the resident in the floodplain is having greater difficulty in finding cover. They may be staying with their mortgage insurer, using recommendations from neighbours or taking over policies due to their concerns that they may not find cover elsewhere. They are less likely to be concerned solely with price than the non floodplain resident.

The fact that using these strategies has enabled almost all floodplain residents to gain cover reduces the chance that they will pursue other strategies for example flood proofing their homes. Competition in this market is allowing home owners to avoid the issue of flood risk and inducing moral hazard.

## 5 Discussion

The respondents in this survey are fairly unique in comparison to the international floodplain population in the respect that most were insured. This is due to the unusual UK flood insurance regime which ties flood insurance in with other domestic property risks. A small minority suffered compromised insurance. Despite the difference in regime, however, the findings from this survey are consistent with results from other surveys of floodplain populations in that they display a lack of focus on actions taken to mitigate floods by homeowners.

It seems to be a universal characteristic of floodplain populations to ignore flood risk unless forced to consider it either via regulation or repeated flood events. However within the unique UK flood insurance regime there exists the opportunity of using the desire for general insurance to encourage resilient and resistant installations. Conversely the competitive nature of the UK market means that this opportunity is unlikely to be realised because policyholders can switch companies if conditions are attached to their cover.

The ideal insurance regime is seen to be far from realised within the UK. Whilst in the short term the vast majority of home owners can get insurance and can reinstate their homes if flooded, in the longer term they are not taking sensible flood mitigation precautions. This may eventually lead to a situation where more insurers will withdraw cover. The long term outlook for affordable flood insurance is damaged by the short term benefits to home owners. It is difficult to see how individual insurers can make an impact on this situation but an industry standard or government regulation might do so if flood risk and benefits of mitigation could be reliably evaluated.

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