

# What Can the United States Learn from the United Kingdom's New Flood Reinsurance Pool?

Swenja Surminski\*

## Key Points

- Flood Re is a new not-for-profit reinsurance pool in the UK. Operated by the insurance industry, it is designed to be a transitional arrangement to support the private insurance market and secure affordability of flood insurance through premium subsidies.
- The UK government has approved Flood Re despite not meeting cost-benefit targets, justifying it due to wider benefits to property markets and mortgage lending.
- Since its launch in April 2016, Flood Re has been supporting the commercial market in providing affordable insurance, but it has not yet been tested by a major flood event.
- Flood Re is likely to come under pressure in the face of rising flood risk, since it fails to incentivize flood risk management and risk reduction efforts.
- Flood Re demonstrates that flood insurance cannot be kept affordable without a concerted effort to reduce the underlying risk.

## 1. Introduction

Flooding is the most common and costliest kind of natural disaster that occurs in the United Kingdom (Harries 2012). As such, it is listed as a major risk on England's National Risk Register (Cabinet Office 2015). Climate change expected to increase the severity of flood risk,

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\* Grantham Research Institute for Climate Change and the Environment, London School of Economics. The author would like to thank the following individuals for their input, support, and critical comments: Joel Hankinson (Grantham Research Institute for Climate Change and the Environment, LSE), Robert Muir-Wood (RMS), and Jonathan Gascoigne (Willis Towers Watson), and Aidan Kerr (Flood Re).

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particularly with rising population density and wealth in vulnerable areas (Committee on Climate Change 2016).

A major component of the UK government’s approach to flood risk management is ensuring that flood insurance is affordable and available, based on the understanding that insurance mechanisms offer a more effective way of addressing the costs of disasters than relying on postdisaster assistance (e.g., Hallegatte 2014; Brainard 2008). Flood insurance allows risk to be transferred financially, with a premium paid by policyholders to the insurer, effectively allowing them to continue to live and work in at-risk areas without suffering major financial losses after a flood event (Surminski et al. 2015).

In the United Kingdom, flood insurance is exclusively available through private insurance companies, with take-up rates of around 95 percent (HM Government 2016). However, concerns about rising costs of flooding and possible unaffordability of insurance protection for those living in high-risk areas led to the establishment in April 2016 of Flood Re, a not-for-profit reinsurance pool operated by the insurance industry. The pool is designed as a temporary support measure for those high-risk properties that may face rising insurance premiums. It has been described by the government as an “innovative way to ensure the availability and affordability of flood insurance, without placing unsustainable costs on wider policyholders and the taxpayer” (Defra 2013). However, it is unclear how Flood Re will achieve its objectives effectively because it offers little incentive for property owners to reduce their personal risk to flooding.

This raises questions of whether Flood Re is fit for its purpose and fit for the future, and what lessons can be drawn for governments seeking to navigate between public policy and private market solutions to address affordability and availability of flood insurance.

## **2. How Does Flood Insurance in the United Kingdom Work?**

Flood insurance coverage in the United Kingdom is available through private insurers as part of standard home and contents policies, meaning that customers do not choose to purchase flood insurance but automatically receive it along with their standard coverage. Flood insurance is also a requirement for homeowners taking out a mortgage. This and the bundling into standard policies explain the high penetration rates, reaching approximately 95 percent (HM Government 2016), though some studies suggest that take-up may be as low as 55 percent for renters in high-risk areas (Flood Re 2016).

Over recent decades, in the wake of significant floods, the government entered into a series of informal arrangements with the insurance industry to keep insurance affordable and available. The first of these arrangements was the 1961 Gentleman’s Agreement, which the insurance industry agreed to enter into under threat of nationalization following significant flooding in the early 1950s (Penning-Rowsell et al. 2014). Under the Gentleman’s Agreement, the insurance industry agreed to provide affordable flood insurance when requested to do so for certain dwellings.

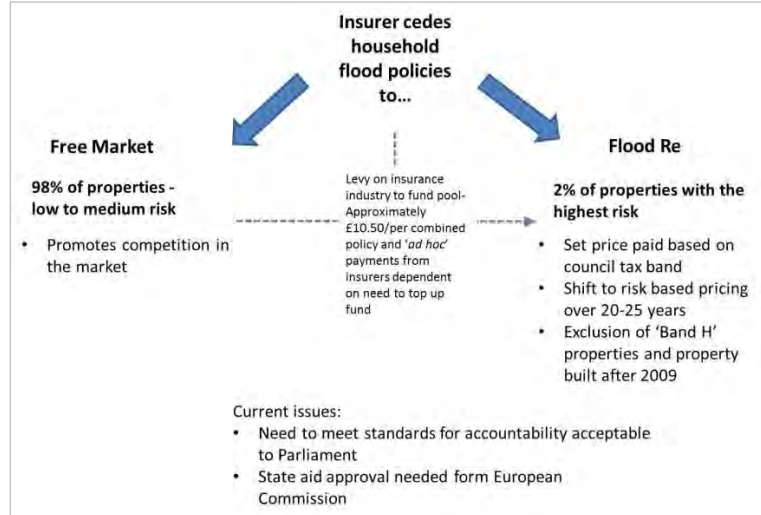
In the 2000s, industry and government entered a series of Statements of Principles, triggered by floods and growing fears about withdrawal of insurance coverage (Surminski and Eldridge 2014). Under these agreements, private insurers vowed to continue providing flood

insurance up to a risk level of 1:75 return period for households and small businesses, in return for greater government investment in flood risk reduction measures, better public flood risk mapping, and clearer planning policy and land-use restrictions. These agreements between government and industry were seen as a temporary means to ensure a functioning market while improving flood risk management standards. However, the principles did not address growing concerns about pricing implications for property owners in high-risk areas (Oxera 2015). This started a new round of negotiations between industry and government, which eventually led to the creation of Flood Re in 2016.

### 3. Why Was Flood Re Introduced?

Flood Re’s purpose is to serve as a cushion to keep flood insurance affordable for policyholders in high-risk areas while the UK market transitions to risk-based pricing (expected to occur by 2039) (Surminski 2014). It is driven by policyholders’ concerns that recent improvements in risk analysis technologies, such as data mapping, would enable an insurer to more accurately identify high-risk areas, and their flood insurance would then become unaffordable (Oxera 2015). Negotiations between the government and the insurance industry to replace the Statements of Principles started in 2012. After a public consultation on four options, the government selected Flood Re, which had initially been proposed by the insurance industry. Figure 1 outlines the pool concept that was presented jointly by the government and the Association of British Insurers.

**FIGURE 1. ROLES OF PRIVATE INSURANCE MARKET AND FLOOD RE**



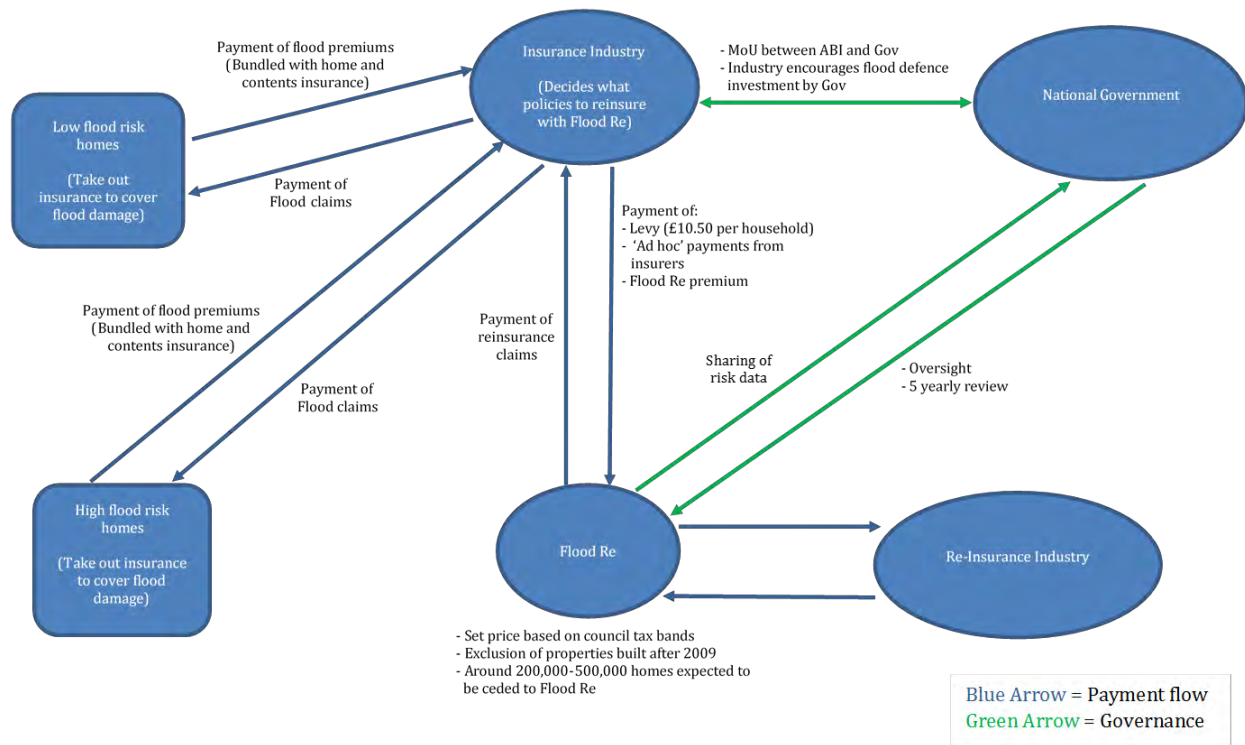
Sources: Flood Re insurance proposal, Environment, Flood and Rural Affairs Committee (House of Commons 2013) and Flood Re Memorandum of Understanding (Defra and ABI 2013).

### 4. How Does Flood Re Work?

Flood Re is a transitional arrangement that is designed to simultaneously support the private insurance industry and promote the affordability of flood insurance. It gives insurers the option of reinsuring policies with Flood Re, a reinsurance pool owned and operated by the insurance industry, at a highly discounted price. The subsidy is collected as a levy, estimated to

be £10.50 per policy (Aviva 2016), from insurers, which may pass it on to policyholders. The discounted price for a policy is calculated based on the council tax banding (property tax charged by local government) of the insured property: the more affluent the council tax banding, the higher the price (Flood Re 2016). The logic is that because insurers can pass on their risk for a reduced price, they can charge lower premiums to policyholders. If they fail to do so, they may be outcompeted by other insurance providers (Flood Re 2016). Flood Re’s premium is set regardless of the flood risk; it is based purely on the council tax banding. The operation of Flood Re is diagrammed in Figure 2.

**FIGURE 2. STRUCTURE AND OPERATION OF FLOOD RE**



Source: Crick et. al. 2016

Generally speaking, only high-risk policies (approximately 2 percent of all policies) are likely to be reinsured with Flood Re (Defra and ABI 2013). This makes sense from an economic perspective: if an insurer can offer flood insurance at a rate that is lower than the subsidized price it is required to pay under Flood Re, there is no incentive to cede the policy. Thus low- to medium-risk properties are expected to continue receiving flood insurance as before, albeit with a possible increase in their premiums if the levy is passed on to all policyholders

Policyholders have no direct interaction with Flood Re; instead, consistent with the history of flood insurance in the United Kingdom, private insurers remain the sole source of flood insurance. Flood Re should therefore be seen as balancing flood insurance affordability and availability with the market autonomy of the insurance industry.

Importantly, Flood Re is intended to be a temporary measure. Government has stated that Flood Re should help lead the way to a purely risk-based flood insurance system over its

lifetime of 26 years. Beginning in 2039, government expects policyholders to pay premiums based on their level of risk to flooding, without any subsidization required. Flood Re is considered a transitional tool designed to smooth the path toward the charging of risk-based premiums.

## 5. What Are the Roles of Insurers and National Government?

Flood Re can be described as a public-private partnership (Surminski 2014). Although it is owned and operated by the insurance industry, it is ultimately accountable to Parliament, and the Secretary of State performs an oversight function. This can create some governance confusion, with the government treating Flood Re as a quasi-public body subject to public procurement processes, and Flood Re taking a much more commercially oriented approach to reinsurance (Defra and Flood Re, pers. comm.).

Government also remains responsible for general flood risk management activities, such as constructing flood defenses and regulating water utility companies that construct and maintain sewers. It also continues activities like providing grants to victims of floods, as it did after Storm Desmond in 2015 (HM Government 2016). The fulfillment of these policy demands has been subject to political debate, particularly with regard to investment levels and success of the planning system.

Beyond this, government's role is limited. On paper, it bears no direct financial liability, unlike in many other pools and disaster insurance schemes, where government picks up losses beyond a defined threshold. Throughout the negotiations between industry and government, this point was highly controversial, with the Association of British Insurers calling for government to take on a clear financial obligation, and government refusing to commit.

Under Flood Re the private insurance market remains the sole source of flood insurance and is responsible for funding the pool through the abovementioned flood levy. There remains the possibility that government could step in with an emergency bailout should Flood Re fail, but since the pool must comply with standard solvency regulation and is buying commercial reinsurance cover, this risk remains low at the moment. Also, if insufficiently funded, Flood Re can make the Levy II call for increased contribution from insurers (Surminski 2014).

## 6. Is Flood Re Fit for Purpose?

Flood Re is a new insurance mechanism whose long-term benefits remain unclear. At the beginning of the Flood Re negotiations, government and industry developed the following design principles for flood insurance (Defra 2011):

1. Insurance cover for flooding should be widely available.
2. Flood insurance premiums and excesses should reflect the risk of flood damage to the property insured, taking into account any resistance or resilience measures.
3. The provision of flood insurance should be equitable.
4. The model should not distort competition between insurance firms.

5. Any new model should be practical and deliverable.
6. Any new model should encourage the take up of flood insurance, especially by low-income households.
7. Where economically viable, affordable and technically possible, investment in flood risk management activity, including resilience and other measures to reduce flood risk, should be encouraged. This includes, but is not limited to, direct Government investment.
8. Any new model should be sustainable in the long run, affordable to the public purse and offer value for money to the taxpayer.

Those principles are a comprehensive list of features for sustainable flood insurance and could help inform the design of schemes in other countries. However, in the initial UK negotiations, potential trade-offs between certain principles, particularly between affordability and risk-based pricing, became apparent (Surminski and Eldridge 2014). In subsequent negotiations, the remit of the new flood insurance intervention was limited to principles 1, 3, and 8, stating at its core the aim to “ensure the availability and affordability of flood insurance, without placing unsustainable costs on wider policyholders and the taxpayer” (Defra 2013). Table 1 summarizes an initial verdict on how Flood Re is meeting those initial design objectives.

**TABLE 1. VERDICT ON FLOOD RE**

1. Available 👍
2. Not risk reflective 🚩
3. Equitable?
4. No competition distortion 👍
5. Practical 👍
6. Encourage take-up?
7. No risk reduction incentives 🚩
8. Sustainable and value for money? 🚩

Initial data suggest a positive start; however, Flood Re has not yet been tested by a significant flood, and a full evaluation will be possible only after Flood Re establishes what risks have been ceded. Despite this positive start, concerns remain.

***A. Effectiveness in Operation: Availability and No Distortion?***

Based on interim results, Flood Re appears to achieve its objectives of providing affordable flood insurance cover and supporting the commercial market. First indications are

that the private market has adopted Flood Re: insurance providers representing 85 percent of the flood insurance market have so far agreed to participate (Insurance Newslink 2016). Since inception, Flood Re is estimated to have underwritten 53,000 policies (Flood Re, pers. comm., October 2016); the stated annual aim is to reach 350,000 policies. Whether insurers decide to cede their policies is outside Flood Re’s control, and therefore it is difficult to interpret these initial figures. Early figures also suggest that the price of insurance has remained stable, and there have been no reports of homeowners struggling to access flood insurance.

**B. Value for Money?**

The cost-effectiveness of Flood Re remains controversial. Even the UK government declared that Flood Re had not meet its minimum cost-benefits standard (Defra 2013). Consequently, the Secretary of State had to sign an exemption statement to permit its adoption. The justification was the wider benefits of Flood Re: “wider socio-economic and equity reasons for pursuing the Flood Re scheme which are not fully reflected in the strict value for money calculations made in this Impact Assessment—for example it brings more certainty to future evolution of insurance prices with beneficial effects not only on policy holders but also in other markets such as the property market and mortgage lending” (Defra 2014). The Flood Re model has also been touted as too expensive an option for flood insurance in Ireland, raising questions about its suitability outside the United Kingdom (IFPCG 2016).

**C. Equitable and Fair?**

The move from the Statement of Principles system to Flood Re has not significantly altered how the costs of catastrophes are distributed (Surminski 2017). The cost of ceding a property to Flood Re depends on the council tax banding of the property being ceded (Table 2).

**TABLE 2. FLOOD RE’S PRICING STRUCTURE**

Property tax band, England and Scotland	A	B	C	D	E	F	G	H
Property tax band, Wales	A, B	C	D	E	F	G	H	I
Flood Re category, Northern Ireland	1	2	3	4	5	6	7	8
Building only, net	£132	£132	£148	£168	£199	£260	£334	£800
Contents only, net	78	78	98	108	131	148	206	400
Combined, net	210	210	246	276	330	408	540	1,200

Source: Flood Re 2016.

Households that are asset rich but income poor can therefore expect to pay more for flood insurance than homeowners who are asset poor but have more disposable income (or, alternatively, invest in different assets, such as financial instruments or automobiles) (Herrington & Carmichael 2009). This dynamic may raise serious questions of justice. Ultimately, council tax banding is useful as a measure of wealth only, not risk. Davey (2015, page 28) highlights some regional disparities between the council band categories, noting that “the level of Band A–H houses varies considerably between regions and is not perfectly

correlated with levels of disposable income. It represents instead historic differences in property value.”

Distributional effects arising for properties outside the scope of Flood Re or not insured remain unclear. First, it is unclear how the private market will react. Just because a property is not eligible for Flood Re does not mean that it will not get flood insurance. Small and medium-size enterprises (SMEs) and properties built after 2009 are not eligible for Flood Re, and it has been argued that this places an unfair burden on owners of small businesses and new homes. This uncertainty has led to calls for a separate flood insurance regime for SMEs; the British Insurance Brokers’ Association has confirmed that it is working on developing a scheme to make flood insurance more affordable (Barton 2016).

#### ***D. Incentivizing Risk Reduction?***

A major concern raised throughout the inception stage of Flood Re is the lack of risk reduction incentives provided through the pool. For example, reducing risk is not compulsory, and flood-damaged properties are not required to be restored to a higher standard of protection (Surminski and Eldridge 2014). The only form of incentive comes through the exclusions of properties built after 2009, which cannot be reinsured with Flood Re. This is in line with earlier practices, when insurers in 2008 decided that new buildings would no longer require the flood insurance guarantee given through the SoP based on the assumption that a strengthened planning system, as well as increased awareness of developers, should deliver and prevent new high risk properties from being built (Alexander et al., 2016). This can be interpreted as a deterrent for new developments in high risk areas (Hoban, 2016). Overall the effectiveness of the planning system remains a cause of debate, with around 12% of all new residential development in England between 2001 and 2014 taking place in floodplains, and around 25% of that floodplain development occurring in areas at medium or high levels of flood risk (Committee on Climate Change, 2015).

The 2009 exclusion remains controversial, and it could place an unfair burden on new home-owners. Therefore, this requirement may become subject to political lobbying and be amended, for example in the wake of a flood that hits a new property development, which then subsequently suffers from rising costs of insurance or is denied cover. A similar process occurred during the Flood Re negotiations with regards to high-value properties (council tax band H), which were initially excluded from the Flood Re proposal, but later added, in part because of flooding of affluent areas in the South of England (Davey 2015).

Regardless, Flood Re still has opportunities to promote risk reduction. For example, its comprehensive data set of at-risk homes could allow the government to calibrate efforts to reduce flood risk in high-risk areas (Oxera 2015). It could also form an important part of a broader discussion of the effectiveness of measures taken by policyholders. A recent survey suggests that approximately 40 percent of insurers do not think that property-level flood protection measures are effective (Defra 2016).

Table 3 shows how Flood Re’s effectiveness at encouraging policyholders to reduce their flood risk compares with the previous Statement of Principles system.



**TABLE 3. COMPARISON OF PRIOR INSURANCE SYSTEM WITH FLOOD RE**

<i>Does the insurance system ...</i>	<i>Statement of Principles</i>	<i>Flood Re</i>
... increase risk awareness and knowledge of risks through flood risk information provision?	Yes	No – but could change if Flood Re loss data is shared.
... build capacity for risk reduction through advice on risk reduction measures?	Limited – insurance industry has provided advisory guidance for home owners	No
... provide financial incentives for policyholders toward mitigation investment?	No	No
... promote resilient reinstatement techniques after a flood loss?	No	No
... incentivize public flood risk management policy?	Yes; is part of SoP agreement	Encouraged through Memorandum of Understanding
...require compulsory risk reduction?	No for policyholders, yes for government	No
... discourage development in flood-risk areas?	Yes	Yes

Source: Author, based on Surminski and Eldridge 2014.

***E. Is Flood Re Fit for the Future?***

In the long term, Flood Re’s main objective is to provide a smooth transition to a competitive market. To achieve this, a combination of amending premium thresholds and reducing flooding risk will be necessary to keep flood insurance affordable (Flood Re 2016). In large part, Flood Re is built on the assumption that government, homeowners, and other stakeholders will do their part to reduce flood risk—an assumption that seems to be more wishful thinking than an effective strategy. Indeed, the Committee on Climate Change (2015) has found that the absence of risk reduction incentives is likely to make Flood Re counterproductive to the long-term management of flood risk. Furthermore, a recent study by Jenkins et al. (2016) found that Flood Re is likely to increase the gap between subsidized premiums and risk-based prices. These findings were highlighted by the Bank of England in its first report on the effect of climate change on the insurance industry; the report called for more efforts to address flooding risk in general (Prudential Regulation Authority 2015). How Flood Re will be able to promote affordability in the long term is unclear.

Overall, the success of Flood Re will heavily depend on factors beyond its control, such as risk trends, loss events, and market behavior. A series of floods, together with an improved understanding of growing future risks, vulnerabilities, and exposure levels, would strain any insurance system, public or private.

## 7. Relevance for the US National Flood Insurance Program

Flood insurance is technically challenging and often highly politically charged, with questions of fairness, justice, and effectiveness arising at the interface between public and private sector activities. Therefore, any effort to reform an existing scheme or introduce a new insurance solution needs to reflect on the broader context: What are the aims and objectives of different stakeholders? Where is there existing capacity to underwrite, inform, incentivize, and take action to reduce risks? And how can insurance provide a mechanism that is transparent about risk levels and risk trends and ensures fair and equitable access to those who need it without creating unnecessary burdens for those who don't? Addressing those points is difficult in any context, but when changing risk levels and conflicting views on responsibilities and ownership are added to the mix, the challenge becomes a "wicked problem" (Rittel and Webber 1973) in planning and decision making. In fact, the difficulties explain the patchwork of flood insurance approaches in operation across the world and the lack of such insurance in a large number of countries (Surminski 2015).

The introduction of Flood Re in the United Kingdom highlights a fundamental challenge facing any flood insurance mechanism: the concern about affordability is usually seen in a short-term context, often driven by election cycles and the one-year nature of insurance contracts, while there is no strategy for the longer term. Although the government, laudably, appears committed to risk-based pricing, whether Flood Re can deliver it remains highly questionable. The pool is built on the perhaps mistaken assumption that over time, government, homeowners, and other stakeholders will all reduce flood risk, thereby eliminating the need for further public intervention in the market.

Insurance is not a silver bullet: it must form part of a broader flood risk management program. This requires involvement from a broad suite of stakeholders—the government, the insurance industry, property owners, and property developers, among others. Many of these stakeholders are indirectly benefiting from insurance without paying for it but remain relatively unengaged. It is important that insurers also acknowledge their own prejudices when it comes to reducing flood risk. For example, UK insurers have been ineffective in encouraging their policyholders to reduce their flood risk (Lamond et al. 2009) and do not necessarily value risk-reduction measures adopted by property owners (Defra 2016). Collaboration requires either a broad shift in culture or a degree of formalization in the flood insurance program itself. One example would be a requirement for resilient reinstatement for properties covered through Flood Re. The long-term consequences of Flood Re's failure to formalize collaborative efforts to reduce risk may be dire. Similarly, the US National Flood Insurance Program (NFIP) is allegedly failing to discourage unsafe flood development (Schmitt 2016).

Furthermore, Flood Re is a relatively specialized model based on the long tradition of private market flood insurance. It has been rejected as cost-ineffective in Ireland (IFPCG 2016), and the UK government itself had to sign an exemption statement to get it accepted despite its low value-for-money rating. This recalls debates on whether the NFIP should be subsidized or self-sustaining (Postal 2014); unfortunately, as a new entity, Flood Re provides limited guidance on this question. However, the UK government has been very successful in avoiding any formal underwriting obligation to Flood Re and maintaining a competitive private market. This may appear particularly attractive for US policymakers, but caution is appropriate here: the United

States has different geography and different flood risks, and its state-federal political system also has different implications. Notably, states that are net “donors” to the NFIP might seek to opt out and establish their own flood insurance regimes (Clark 2016).

Finally, note that it is still very early days for Flood Re, and much of the above analysis is driven by assumptions, expectations, and scenarios rather than hard evidence from the market. It will therefore be important to see how Flood Re and the wider market perform—and to monitor the wider risk trends and flood risk behavior.

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