

Report on Establishing a Residual Market Mechanism for Flood Insurance

Prepared for
The South Carolina Department of
Insurance

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ABOUT THIS REPORT

The South Carolina Department of Insurance was asked to study and report on the feasibility of establishing a residual market mechanism for flood insurance for the State of South Carolina by the Chair of the Insurance Subcommittee of the South Carolina Senate. Professor Gregory Niehaus was engaged by the Department to conduct this research and report his findings. The University acknowledges the cooperation and assistance of government officials in providing information and support services for the completion of this report including the staff of South Carolina Department of Insurance and the South Carolina Department of Natural Resources.

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REPORT ON ESTABLISHING A SOUTH CAROLINA RESIDUAL MARKET MECHANISM FOR FLOOD INSURANCE

1. Introduction

Property damage from flooding has been an important risk exposure facing property owners in the U.S. for many decades. In 1968, the National Flood Insurance Program (NFIP) was created in large part to encourage property owners to purchase flood insurance and to promote mitigation of flood losses in flood prone communities. The NFIP essentially serves as a national residual market mechanism. As of October 2014, there were over 5.29 million NFIP policyholders across the U.S.¹

The program, however, has been criticized on a number of dimensions. For example, by providing subsidies to some policyholders, the program creates a moral hazard problem by encouraging people to live in areas with a high probability of flooding and discourages mitigation efforts. Also, many people who have significant flood exposure still do not purchase coverage and many property owners fail to renew policies that they previously purchased.² In addition, flood losses from Hurricane Katrina revealed that the NFIP was not financially self-sustaining.

The Biggert-Waters Flood Insurance Reform Act of 2012 addressed some of these problems by eliminating many of the rate subsidies. However, the Homeowners Flood Insurance Affordability Act of 2014 repealed many of the provisions in the Biggert-Waters Act. Under the new law, flood insurance rates will increase over time, but at a more gradual pace than would have occurred under the Biggert-Waters Act. Nevertheless, higher NFIP rates are on the horizon. These developments have led to concern that the higher rates could lead to flood insurance affordability problems for some property owners in South Carolina.

For the purpose of this report, we assume that an affordability problem for a property owner exists if he/she cannot afford to pay flood insurance premiums that reflect insurers' expected costs of providing flood insurance for the owner's property. Note that this statement of the problem establishes the benchmark premium from which affordability is defined; i.e., the premium that covers the expected cost of insuring the individual's property, which we refer to as the "fair premium" in what follows. To define affordability, we assume that a household cannot afford the fair premium if paying the

¹ See Knowles and Kunreuther (2014) for a history of the NFIP.

² See e.g., Landry and Jahan-Parvar (2011), Michel-Kerjan, Lemoyne de Forges, and Kunreuther, 2012, and Michel-Kerjan and Kousky, 2010. Explanations include the anticipation of disaster assistance, under-estimation of the likelihood of flood losses, and perception that the price of coverage is high.

fair premium prevents the household from being able to pay for necessities.³ While these definitions are useful conceptually, it is worth highlighting that identifying and measuring when affordability problems exist for flood insurance is likely to be difficult.

Many states have created residual insurance market mechanisms to combat affordability problems associated with a variety of different types of insurance. This report analyzes the issues associated with creating a Residual Market Mechanism in South Carolina for flood insurance.

2. Status of the Flood Insurance Market

Overview of the National Flood Insurance Program (NFIP)

The NFIP was created in 1968. In return for communities enforcing building and zoning ordinances to reduce flood risk, the federal government committed to provide insurance to property owners in the community. Over the past 45 years, the program was amended several times, which together with the occurrence of major catastrophes and increased development in coastal areas, increased the size of the program significantly. As of September, 2014, there were 5.3 million policies in-force, \$3.8 billion in written premiums in-force, and \$1,275 billion of coverage. Despite being called a National program, the policies are largely concentrated in a handful of coastal states, with six states accounting for over 70% of the policies. South Carolina had the sixth most policies with 191,581 policies in-force (3.6 percent of total), \$138 million premiums in-force (3.6 percent of the total), and \$51 billion in coverage (4.0 percent of the total).⁴

The NFIP is housed within the Federal Emergency Management Administration (FEMA), which is within the Department of Homeland Security. The program provides coverage for the structure and contents. Most policies are sold through private insurers, who receive a portion of the premium for marketing, administrative, and claim processing costs.⁵ Private insurers, however, are not responsible for claim costs; they are paid by the NFIP.

There are two NFIP programs, the Emergency Program and the Regular Program, where the former program is for properties in communities that do not have a flood map that identifies flood hazard areas. The Regular Program is for properties in communities that have a Flood Insurance Rate Map (FIRM) and have met the floodplain management

³ This is consistent with a statement from Federal Insurance Office (FIO) in which it comments that one could “interpret premiums as affordable if they do not prohibit individuals or families from purchasing other necessities.” Another approach mentioned by the FIO is that premiums are affordable if policies are purchased.

⁴ Based on data downloaded from the NFIP website: <http://bsa.nfipstat.fema.gov/reports/1011.htm#SCT>.

⁵ Michel-Kerjan (2010) reports that on average private insurers and agents receive about one-third of the NFIP premiums.

requirements.⁶ The amount of coverage available depends on the program as summarized in Table 1.

Table 1
Amount of Coverage Available through the NFIP

	<u>Emergency Program</u>	<u>Regular Program</u>
Building Coverage		
Single Family Dwelling	\$35,000	\$250,000
2-4 Family Dwelling	\$35,000	\$500,000
Other Residential	\$100,000	\$500,000
Non- Residential	\$100,000	\$500,000
Contents Coverage		
Residential	\$10,000	\$100,000
Non-Residential	\$100,000	\$500,000

Rates (premium per dollar of coverage) charged for NFIP policies are based on the location of the property, characteristics of the structure (e.g., elevation, the number of stories, whether there is a basement, whether there are other obstructions, whether it is a single family versus multi-family dwelling), and coverage amounts. In addition, rates can vary depending on the year that the dwelling was constructed. The impact of location on rates depends on several factors. Residents of communities in the Emergency Program are eligible for a limited amount of coverage (see Table 1) at less than actuarial fair rates (i.e., subsidized rates). Under the Regular Program, areas within a community are designated as either special flood hazard areas (SFHA), which have relatively high probabilities of experiencing flooding, or non-special flood hazard areas (NSFHA), which have relatively low probabilities of flooding. Within each of these categories, areas are further divided into zones, and rates vary by zone. The zones in the SFHA are those beginning with the letter A or V (e.g., zones A, A0, A1-A30, AE, etc. and V1-V30, VE, and V). Zones beginning with the letter V are also subject to damage from waves. Zones in NSFHA areas begin with the letters B, C, or X; and zones designated as D have not been mapped for flood risk.

Properties located in zone B, C, or X that meet eligibility requirements based on the property’s flood loss history and that are located in a community that is in the Regular program are referred to as Preferred Risk Policies (PRP), indicating relatively low flood

⁶ See <http://www.fema.gov/national-flood-insurance-program-2/emergency-program> for details.

risk. As will be discussed below, these policies are treated differently on some dimensions than policies that are not PRPs.

If the date of construction is prior to the date that the flood insurance risk map (FIRM) was created for the community or is before 1975, then the property is called pre-FIRM; otherwise, it is called post-FIRM. Pre-FIRM properties receive subsidized rates. FEMA estimates that about 22 percent of policyholders nationwide pay subsidized rates i.e., premiums that do not cover what the NFIP expects to pay in claim costs and administrative costs.⁷

Table 2 provides an example of how flood insurance rates vary based on some of the factors mentioned above. All of the rates listed in Table 2 are for a policy on single-family primary residence with a crawlspace. The Table illustrates that rates vary by program (Emergency versus Regular), pre- vs. post-FIRM status, and zone on the flood map. In addition, it illustrates that rates vary depending on whether the property is a primary residence versus a non-primary residence (NPR) and whether the property has experienced more than two claims of over \$1,000 over a ten year period, a so-called Severe Repetitive Loss Property (SRLP). Finally, Table 2 illustrates that rates on post-FIRM policies vary significantly based on the elevation of the property relative to the base flood elevation (BFE), i.e., the 99th percentile flood level.

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⁷ Note that there is some concern that the full-risk premiums charged by the NFIP do not actually cover the full expected costs. *See e.g.*, PCI (2011) and GAO (2014b).

Table 2

Rates per \$100 of Coverage for Single Family Residential Building
Elevated on Crawlspace
(effective October 2014, information from NFIP Bulletin, May 29, 2014)

Rate Table	Rate	Program	Description	Zones	Elevation vs BFE
1	0.85	Emergency			
2A	0.85	Regular	Pre-FIRM	A, EE, A1-A30, A0, AH, D	
	1.11	Regular	Pre-FIRM	V, VE, V1-V30	
	0.99	Regular	Pre-FIRM	A99, B, C, X	
2B	1.14	Regular	Pre-FIRM,NPR, 1/1/14	post A, EE, A1-A30, A0, AH, D	
	1.48	Regular	Pre-FIRM,NPR, 1/1/14	post V, VE, V1-V30	
	0.99	Regular	Pre-FIRM,NPR, 1/1/14	post A99, B, C, X	
2C	0.91	Regular	Pre-FIRM, SRLP	A, EE, A1-A30, A0, AH, D	
	1.18	Regular	Pre-FIRM, SRLP	V, VE, V1-V30	
	0.99	Regular	Pre-FIRM, SRLP	A99, B, C, X	
3A	0.99	Regular	Post-FIRM	A99, B, C, X	
	1.66	Regular	Post-FIRM	D	
3B	0.46	Regular	Post-FIRM	AE,A1-A30	+1 ft
	1.00	Regular	Post-FIRM	AE,A1-A30	0 ft
	2.28	Regular	Post-FIRM	AE,A1-A30	-1 ft
3D	2.49	Regular	Post-FIRM	'75-'81, V1-V30, VE	0 ft
	4.90	Regular	Post-FIRM	'75-'81, V1-V30, VE	-1 ft
3E	2.06	Regular	Post-FIRM, RC Ratio>0.75	'81,V1-V30, VE	1 ft
	2.70	Regular	Post-FIRM, RC Ratio>0.75	'81,V1-V30, VE	0 ft
	3.58	Regular	Post-FIRM, RC Ratio>0.75	'81,V1-V30, VE	-1 ft

NPR = non primary residence; SRLP = Severe Repetitive Loss Property (a property that has experienced two or more claims in excess of \$1,000 within a 10 year period); RC Ratio = Replacement Cost Ratio; BFE = Base flood elevation = the 99th percentile flood level.

Even though subsidized policies make up only about 22% of NFIP policies, the impact of removing the subsidies on the overall financial soundness of the NFIP is substantial for two reasons. First, on average the fair premium for subsidized policies is estimated to be five times larger than the actuarially fair premium of unsubsidized policies. Second, the premiums on subsidized policies are on average only about 40 percent of the fair premium. As a consequence, premiums on currently subsidized policies will increase 150 percent on average when subsidies are finally eliminated. These figures and calculations, which are based on 2011 data, are summarized in Table 3.⁸

⁸ See GAO (2013) for more information on subsidized NFIP policies.

Table 3

Characteristics of Subsidized and Unsubsidized NFIP Policies
and the Impact of Subsidized Policies on NFIP Revenues

	<u>Unsubsidized</u>	<u>Subsidized</u>
Proportion of policies	0.78	0.22
Ratio of the fair premium to the fair- premium for unsubsidized policies, on average	1.00	5.00
Ratio of actual premium to fair premium, on average	1.00	0.40
Average % increase in premium if charged fair premium	0%	150%
% of revenue received under current program ⁹	0.64	0.36
% increase in revenue if subsidies were eliminated ¹⁰	54%	

Numbers based on FEMA (2011).

Discounts on NFIP premiums are also available for communities that make special efforts in informing its citizens about flood risk and mitigating flood risk. The Community Rating System (CRS) provides discounts ranging from 5 percent to 45 percent depending on the extent to which communities engage in mitigation activities. Of the 229 NFIP communities in South Carolina, 41 communities receive discounts. Charleston County receives the largest discount of the communities in South Carolina – 40 percent.

In 2011, the Congressional Budget Office examined the value of properties that are insured by the NFIP. They found that 40 percent of subsidized coastal properties in their sample were worth more than \$500,000 and 12 percent were worth more than \$1 million. They also found that 23 percent of the subsidized coastal properties in their sample are residential properties that are either second homes, vacation properties, or properties rented year-round (see CBO, 2011). While these numbers indicate that relatively wealthy property owners often obtain subsidized policies, it is also worth noting that not all NFIP policies are sold to households with high income or wealth.

The NFIP has run a relatively modest operating deficit throughout most of its existence (Michel-Kerwan, 2010). This deficit, however, jumped in 2006 as the program paid claims resulting from hurricanes in 2005 (mostly notably Katrina). The NFIP had

⁹ $(0.78) / [(0.78)+0.22(5)(0.4)]$.

¹⁰ $(0.22)(5)(1-0.4) / [0.78 + 0.22(5)(0.4)]$.

to borrow over \$18 billion from the U.S. Treasury to cover its costs in 2006. This raised concerns about the viability of the NFIP program and whether premiums were adequate to cover major catastrophes. These concerns were reinforced in 2013 when the NFIP borrowed another \$9.7 billion from the Treasury to pay for losses from Hurricane Sandy.

Considerable research has been conducted regarding the demand for flood insurance. A difficulty in conducting this research is that good data on the number of properties that are significantly exposed to flood risk is not widely available. However, one study estimates that 49 percent of single-family homes in SFHA areas have NFIP policies, and that one percent of single family homes in NSFHA areas have NFIP policies. Relative to other parts of the county, the South has a higher proportion of single-family homes in SFHAs with NFIP policies, approximately 60 percent (Rand, 2006). In addition, there is evidence that many property owners who buy NFIP policies often let their policies lapse after a few years (Michel-Kerjan et al., 2012).

Not surprisingly, research indicates that demand for NFIP policies decreases with the price of insurance (Rand, 2006) and increases with the income of the property owners (Raschky, 2013, Browne and Hoyt, 2000, Kunreuther et al., 1978; Michel-Kerjan and Kousky, 2010). Research also indicates that demand for flood insurance in Europe is less when public assistance is expected (Raschky, 2013). Interestingly, demand for NFIP policies increases in communities that experience a flood and then steadily declines over the subsequent years. Demand also increases in communities that did not experience flood losses when these communities are in the same television media market as flooded communities (Gallagher, 2014).

A study conducted by Rand in 2006 examined demand for NFIP policies by single-family homeowners. It found that demand is (1) greater in communities with a larger number of single-family homes, consistent with marketing efforts being greater in such communities, (2) greater in communities with a larger proportion of single-family homes in SFHA areas, consistent with people in these communities being more aware of flood risk, and (3) greater in communities that are subject to coastal flooding.

Recent Reforms

Biggert-Waters Flood Insurance Reform Act, which was passed in 2012, changed flood insurance rates to more accurately reflect expected claims costs. When fully implemented, the Act would have increased rates on subsidized policies so that premiums would equal fair premiums for all policies. Biggert-Waters also established a Reserve Fund to pay claims in years in which claims exceed premiums. The Reserve Fund is funded through assessments on policies. The assessment in 2013 and 2014 applied only to non-preferred risk policies and was five percent of the premium. The assessment applies to all policies in 2015 and is 10 percent of the premium on preferred risk policies and 15 percent of the premium on non-preferred risk policies.

In 2014, The Homeowners Flood Insurance Affordability Act (HFIAA) was enacted. It repeals or modifies many of the provisions in the Biggert-Waters Act. Under the new law, most pre-FIRM policies continue to receive subsidized rates, but rates will increase over time until rates are no longer subsidized. The annual rate increases, however, are capped at 18 percent. For other policies on residential properties, rate increases are also limited to 18 percent per year. Many of the policyholders who were charged the higher rates imposed by Biggert-Waters in 2013 and 2014 are eligible to receive refunds equal to the difference between the premiums required under the two laws.¹¹

In an effort to increase NFIP revenue, all policyholders are required to pay an annual surcharge equal to \$25 for policyholders of primary residences and equal to \$250 for other policyholders. These surcharges remain in effect until rates are no longer subsidized. The surcharge is not considered part of premiums and therefore not subject to the maximum rate increases.

Importantly, HFIAA also requires that FEMA conduct an Affordability Study of NFIP policies. To fulfill this requirement, FEMA has asked the National Academy of Sciences to provide two reports. The first report is due in February 2015 and will provide a framework for defining and measuring affordability problems and discuss policy options to address potential affordability problems. The second report will discuss data needs and analytical methods to be used for a national analysis of flood insurance affordability. It is due in September 2015.

¹¹ The following types of properties are exempted from the cap on rate increases of 18 percent per year and instead can have up to 25 percent increases as required by Biggert-Waters (see FEMA, 2014):

- Older business properties insured with subsidized rates
- Older non-primary residences insured with subsidized rates;
- Severe Repetitive Loss Properties insured with subsidized rates;
- Buildings that have been substantially damaged or improved.

Impact of Recent Reforms

As stated earlier, FEMA reports that approximately 78% of policyholders nationwide do not receive subsidized rates. Consequently, these policyholders are minimally affected by the Biggert-Waters and the HFIAA laws. The impact of the laws is felt mostly by the NFIP policyholders who received subsidized rates. In the Appendix, Tables A, B, C and D, which are from FEMA (2014a and 2014b), outline the impact of HFIAA on various types of policyholders. A brief summary of these Tables is as follows:

Table A: Pre-Firm Primary Residences continue to receive subsidized rates, but they increase over time with an 18 percent limit.

Table B: Other Pre-Firm Building policies in SFHA areas continue to receive subsidized rates, but they increase at 25 percent rate per year.

Table C: Post-Firm policies and policies in zones B, C, or X are not affected. Some policies affected by a flood risk map change are grandfathered in their original rate class and some policies are eligible to continue to receive a preferred-risk rate for one year after a rate map change and then rates increase by no more than 18 percent per year thereafter.

Table D: Policies for post-FIRM business buildings, constructed in compliance with NFIP standards are not affected. Policies for pre-Firm business buildings continue to receive subsidies but premiums will increase at a rate of 25 percent per year.

NFIP Policies in South Carolina

Unfortunately (but consistent with the rest of the country), data on the number or value of properties in South Carolina that have significant flood risk are not available. Table 4 provides descriptive information on the number of policies, the amount of written premium, and the amount of coverage in force as of September, 2014 for the 12 counties in South Carolina with the most policies. Table E in the Appendix provides the same data for all of the counties in South Carolina. The data are sorted by the number of policies in force. Not surprisingly, the communities with the greatest number of policies are on the coast. Charleston County has the most policies in force. Relative to population, Beaufort County has the most policies, with 326 policies per 1,000 people. Georgetown County has the highest average premium and coverage amount per policy.

Since 1978, property owners in South Carolina have paid NFIP premiums equal to about \$138 million and have received claim payments equal to about \$440 million.

Table 5
NFIP Policies in 12 South Carolina Counties
with the most policies as of September 2014

<u>County</u>	<u># of Policies</u>	<u>Insurance Coverage</u>	<u>Written Premium</u>	<u>Average Coverage</u>	<u>Average Premium</u>	<u>Population</u>	<u>Policies per 1,000 People</u>
Charleston	70,972	19,211,418,900 14,598,987,60	59,215,374 33,236,58	270,690	834	365,170	194
Beaufort	54,759	0	7 23,728,95	266,604	607	168,016	326
Horry Georgetown	38,315 8,006	10,120,051,800 2,457,857,300	3 9,522,880	264,128 307,002	619 1,189	282,024 60,240	136 133
Dorchester	3,820	966,242,800	1,784,437	252,943	467	142,490	27
Berkeley	2,857	746,551,200	1,288,381	261,306	451	189,837	15
Lexington	2,248	473,933,200	1,693,532	210,824	753	270,272	8
Colleton	2,178	557,023,800	2,494,200	255,750	1,145	38,211	57
Richland	1,525	353,759,700	1,192,946	231,974	782	393,853	4
Jasper	1,127	321,416,100	652,056	285,196	579	25,879	44
Greenville	963	224,653,800	628,338	233,285	652	466,772	2

Private Flood Insurance in South Carolina¹²

Historically, there has been limited, if any, insurance coverage available in the private market with limits that compete with the limits provided by the NFIP program (e.g., \$250,000 for private residences). However, coverage in excess of the limits provided by the NFIP has been provided via the non-admitted (excess and surplus lines) marketplace. This market generally serves property owners with structures that are valued higher than the NFIP limits. This excess coverage is typically provided by syndicates at Lloyds of London, and other insurance carriers, such as AIG, Chubb, and PURE.

Recently, an insurance agency located in Gainesville, Florida has offered residential policies in South Carolina (and other states) that compete with the NFIP. The agency is called The Flood Insurance Agency (TFIA). The policies are underwritten by syndicates at Lloyds of London. As of December, 2014, TFIA had 203 flood insurance policies in force in South Carolina providing \$56 million of property coverage. Across all states, TFIA has 3,191 active policies and \$700 million of property coverage.¹³

¹² The information contained in this section is based in part on conversations with insurance agents in the coastal areas of South Carolina.

¹³ Reported in an email from TFIA to the DOI on December, 15, 2014.

A potential impediment for a private flood insurance market to develop is the requirement that properties backing mortgages from a federally regulated or federally insured lender must have a NFIP policy or one with as broad of coverage as a NFIP's policy. Moreover, the Biggert-Waters Act increased fines to lenders who do not enforce this requirement. There are many dimensions on which policies could potentially differ and determining whether one policy offers as broad of coverage as another can be subject to debate. Until confidence develops that private policies meet the insurance requirements of mortgages, insurance agents may be reluctant to put their reputation at risk or take on the liability risk associated with selling a private policy.¹⁴

Conceptually, it is difficult to identify why a private market for flood insurance would not develop in the absence of subsidized NFIP policies. For sure, losses in a given geographical area are correlated, which makes insuring just those areas costly, but flood losses in one area can be pooled with flood losses in other areas and with losses from other perils in other areas (either by a primary insurer or through reinsurance). Also, tools for assessing expected flood losses are much better now than 45 years ago, when the NFIP was created. As stated by Edward Noonan, Chief Executive Officer of reinsurer, Validus Group, which sells flood coverage globally: "The [U.S.] flood-insurance program shouldn't exist. The private sector can provide all the capacity required. There's just nothing unique about flood that requires a government program today." (Scism, 2014). Indeed, the fact that private flood insurers emerged around the same time that the federal government passed legislation that would increase NFIP premiums to cover the full cost of the insurance is unlikely to be a coincidence. However, as long as the NFIP program sells policies below cost, it is likely to crowd-out private sector insurance.

There have been several recent studies on the viability of a private flood insurance market, including studies by the Government Accounting Office (2014a), Deloitte (2014), and Dixon, Hughes, Goodman (2014). While each of these studies identify hurdles that must be overcome before a vibrant private flood insurance market exists and highlight various supporting roles that the federal government could provide to a private flood insurance market (e.g., provide means-tested subsidies or vouchers, provide reinsurance, be a residual insurer for high-risk properties), they are generally optimistic about the prospects of private flood insurance market developing provided subsidized policies from the NFIP go away.

3. Residual Market Mechanisms

What is a Residual Market Mechanism?

As the name suggests, residual markets provide insurance to individuals or companies that either cannot find or are not willing to purchase insurance through private

¹⁴ See Thompson (2013) for a discussion of this issue.

insurance markets. Although it is not the case in South Carolina currently, sometimes residual market mechanisms are designed to provide coverage to some entities at subsidized prices. When this occurs, these mechanisms often collect less in premiums than they pay out in claims and administrative costs on the subsidized policies. The shortfall is charged to either other insurers, directly to insurance consumers, or to taxpayers in general.

Most states have residual market mechanisms for automobile liability insurance and for workers' compensation insurance. Residual market plans also have been established to provide property insurance for urban areas (FAIR plans) and for areas that are subject to a relatively high probability of natural catastrophes (e.g., Wind plans or Beach plans).¹⁵ We discuss the various ways of organizing and operating a residual market mechanism below. First, we discuss arguments that support subsidizing insurance coverage through residual market mechanisms and some of the downsides of these subsidies.

Why Have a Residual Market Mechanism?

Typically, residual market mechanisms are created when some consumers are not purchasing insurance in the private marketplace, but policymakers view insurance coverage for these people to be in the public interest. Thus, the economic justification for a residual market mechanism rests on some type of failure in the private market place that leads some people to not purchase coverage.

Often advocates of residual market mechanisms argue that a residual market is needed because there is a lack of availability of coverage. One way to interpret a lack of availability is from the supply side of the market, i.e., insurers are not willing to supply coverage. However, insurers would typically supply coverage provided they can charge a price that covers their costs. Thus, as a general rule, the supply of coverage from the private insurance market is unlikely to be a major problem unless regulation restricts prices (rates) to be below the costs of providing coverage or another insurer (such as a residual market mechanism) is providing coverage at a price below costs.

Having stated what generally is true, the private market place does not always work perfectly and in some cases there will be entities who cannot find insurance in the private marketplace even though they are willing to pay the price that would cover the insurer's costs. In this case, a residual market mechanism can provide the needed coverage. In this situation, the reason for the residual market is to provide coverage to those who temporarily or for unusual circumstances cannot find insurance in the private marketplace. Accordingly, there is no reason to have the residual market provide

¹⁵ For a brief background on residual market mechanisms and links to individual state mechanisms, go to <http://www.aiadc.org/AIAdotNET/docHandler.aspx?DocID=295953>.

subsidized coverage. Instead, the residual market is the insurer of last resort and should be able to cover costs from premium revenue.

Another interpretation of the argument that there is a lack of availability is that there is a lack of availability of coverage at a price that consumers are willing to pay and that consumers are not willing to pay a price that covers the cost of supplying the coverage. This is a demand side interpretation. According to this perspective, the lack of availability of private flood insurance coverage is not due to the unwillingness of insurers to supply coverage. Instead, it is due to the lack of demand for coverage when consumers have to pay a price that reflects the cost of providing the coverage. There are at least three non-mutually exclusive reasons for this lack of demand: (1) the coverage is not affordable, (2) consumers have other forms of indemnity such as public assistance, or (3) consumers underestimate the risk that they face and therefore do not view the insurance as being worth the cost. We briefly discuss each of these explanations.¹⁶

Affordability issues arise when the cost of coverage prevents people from being able to also pay for necessities. Given the frequency and severity of flood losses, insurance premiums for flood coverage can be substantial. Thus, for many low-income households, affordability of flood insurance could be a problem. Furthermore, the removal of subsidies on NFIP policies could exacerbate the affordability problem associated with flood insurance. To illustrate, if premiums increase 150% (see discussion earlier), then a household that currently pays \$1,000 for flood insurance would need to pay \$2,500 for the same policy. Changes of this magnitude can make flood insurance unaffordable for low-income households. If affordability problems explain why consumers do not purchase insurance, then subsidization of coverage through a residual market mechanism can help induce people to buy more insurance. Importantly, this reasoning implies that the subsidy should be targeted to low-income property owners.¹⁷

When people expect to be compensated for their losses (indemnified) through public assistance, then their incentive to purchase insurance is diminished. Thus, some consumers will forego insurance coverage that is priced to reflect the cost of coverage and instead hope that if a flood occurs that they will receive free coverage through public assistance. One of the main justifications for subsidizing flood insurance policies has been to encourage property owners to purchase insurance so that they rely less on public

¹⁶ One of the main justifications for creating the NFIP was that a private market for flood insurance coverage never developed, i.e., there was an availability problem. Some commentators suggest that this was at least in part because of the correlation in flood losses across property owners and therefore the potential for very large flood losses in a given year. But private insurance coverage exists for other perils, such as windstorms, that can cause losses to be correlated and therefore large losses in a given year.

¹⁷ As discussed above, the subsidies for NFIP policies, however, have been based on the age of the structure and when a flood insurance map was first established (pre-FIRM versus post-FIRM), not on characteristics of the property owner that would be correlated with ability or willingness to pay, such as income.

assistance. The idea is that taxpayers are better off paying part of the cost of insurance through subsidies than paying the entire cost of insurance through aid.

There is also evidence that many property owners underestimate the likelihood and/or severity of flood losses, and therefore do not view flood insurance coverage as being worth the premium that they would need to pay to cover the true cost of coverage (see *e.g.*, Kunreuther and Pauly, 2004). Again subsidized insurance can increase the demand for coverage from people who underestimate their flood risk.

In summary, the three main arguments in favor of creating a residual market mechanism to subsidize insurance prices of some consumers are (1) subsidies lower the price of coverage to households who otherwise could not afford to buy coverage, (2) without subsidized insurance, more households would rely on public assistance, and (3) subsidies lower the price of coverage to households who underestimate their risk of flood losses.

Problems with Subsidized Insurance

When flood insurance is priced to reflect expected flood losses, policyholders internalize (pay the costs associated with) the expected flood losses associated with their decision to own property in a flood zone. In addition, when flood insurance is priced to reflect expected flood losses, policyholders have an incentive to make cost-effective investments that reduce the likelihood and the severity of flood losses. However, when prices are subsidized, the location and mitigation decisions are distorted. With subsidized flood coverage, some of the costs of flood losses are now borne by others, and consequently, subsidized policyholders have less incentive to mitigate flood losses. For example, the incentive to elevate a home to meet current building codes is greatly reduced. Put another way, the subsidization of flood coverage introduces or exacerbates moral hazard.

The other issue associated with subsidized insurance coverage is who bears the cost of the subsidy. If premiums are set below the cost of coverage, then some other party must cover the unmet costs. With the NFIP, federal taxpayers cover these costs. With many residual market mechanisms, other insurance consumers cover the costs. In this case, the cost of their insurance is higher than the true cost of insuring them, which can reduce the amount of insurance that they purchase and distort their decisions involving risk.

Summary

When insurance coverage is deemed to be in the public interest, but when some consumers do not obtain coverage in the private marketplace because of affordability issues, underestimation of risk, or other forms of indemnity, a residual market mechanism can be created to subsidize insurance coverage for those who would otherwise

not purchase it. Of course, someone must pay for the subsidy and the subsidy can distort decisions about how much risk to undertake, i.e., where to live and how much to invest in mitigation.

4. Single Peril State Residual Market Mechanisms

State and federal programs provide coverage for single-peril losses when such coverage is not purchased in the voluntary market. These single peril mechanisms include mine subsidence funds, wind pools, the California Earthquake Authority and the National Flood Insurance Program (NFIP). Of these, the NFIP is the residual mechanism that focuses exclusively on flood losses. These single peril mechanisms (except the NFIP, which was described above) are described in the discussion that follows. The key facets of the programs discussed are: governance; financing and method of operation, claims handling procedures, eligibility, coverage, pricing, and the financial status of the entity or program.

Examples of Single Peril State Mechanisms

i. Mining Subsidence Funds

There are six states with mine subsidence facilities, Pennsylvania, Illinois, West Virginia, Kentucky, Indiana, and Ohio. Most of these programs are housed within the state departments of insurance. These programs are managed by a board consisting of individuals working in the insurance industry as well as governmental employees including the state treasurer and representatives from the state insurance department. These facilities function as reinsurers much like the South Carolina Reinsurance Facility that was repealed effective January 1, 2006 by 1997 S.C. Act No. 154.

Claims are handled differently by different facilities. In some facilities, the insurers are responsible for claims investigations. In others, the facility handles the claims investigations. Most facilities require coverage to be offered through the property insurance policy or through an endorsement. Insureds have the ability to waive losses in all states but Ohio. In Ohio, insureds cannot waive coverage in counties that are susceptible to mine subsidence losses. Coverage, limits and pricing vary greatly. Some facilities cover property at replacement cost while other only offer coverage on an actual cash value basis. Maximum amounts of coverage also vary by state and by facility. These facilities appear to be operating on a financially sound basis i.e., premiums cover administrative expenses and claims costs.

ii. Wind Pools

Wind Pools (also referred to as beach plans) generally provide wind and hail insurance coverage to properties in designated coastal areas with high exposures to windstorm damage. They are created to address the availability of wind and hail

insurance coverage. South Carolina's Wind Pool is the South Carolina Wind and Hail Underwriting Association (SCWHUA). The SCWHUA provides limited coverage for dwellings, condominiums, manufactured homes and commercial property. Policies are issued for one year and are not renewable; they are rewritten upon expiration. The SCWHUA provides maximum limits of \$1.3 million on residential structures and \$2.5 million on commercial properties. All new policies require an inspection of the property and existing policies are inspected every 3 to 5 years. The SCWHUA is managed by its own staff under a Board of Directors.

iii. California Earthquake Authority

The California Earthquake Authority offers earthquake insurance to all residents through a network of participating insurers. The cost for coverage varies based on factors such as proximity to known fault lines, age of the building stock and the type of construction. The governance of the California Earthquake Authority differs from the mine subsidence funds. The California Earthquake Authority has a board and a twelve-member advisory panel. Coverage is based upon the limit under the property owner's existing homeowners' insurance policy. Coverage is provided for the dwelling and personal property, but not other structures.

Policy Considerations for Establishing a Residual Market Mechanism in South Carolina

i. How will the Entity Operate?

A critical decision is whether the mechanism will operate as a direct insurer like the South Carolina Wind and Hail Underwriting Association (SCWHUA) or as a reinsurer like the now defunct South Carolina Reinsurance Facility. If the mechanism operates like a direct insurer, the mechanism takes on the role of writing coverage directly for insureds without using the resources of other insurers operating in the market. As a reinsurer, the mechanism would reimburse insurers for covered losses paid as a result of the insured peril. The scope of responsibilities vary significantly. Therefore, a detailed analysis of the tasks required of a flood insurance mechanism must be performed before a final decision can be made on the structure of such an entity.

ii. How will the Mechanism be Organized?

South Carolina has residual market mechanisms to provide coverage for automobile insurance, workers' compensation insurance, wind and hail insurance, and medical malpractice insurance coverages. As is typical of residual market mechanisms generally, all of South Carolina's residual market mechanisms are free standing

operations.¹⁸ An alternative is to place a flood insurance mechanism within an existing entity. The key issue in this decision is whether there are significant scale or scope economies with an existing entity. Given the SCWHUA's knowledge and experience in dealing with the coastal property insurance market and with catastrophe reinsurers, it is the natural choice among the existing residual market mechanisms to consider placing a residual market mechanism for flood insurance.

The decision about whether the mechanism would be a free standing or a component of the SCWHUA depends in part on whether it is a direct writer of coverage or a reinsurer. Reinsurance programs have limited operational activities. Most of the operational activities are carried out through servicing carriers i.e., other insurers that contract with the mechanism to provide coverage. Consequently, the scope economies are likely to be less for a reinsurance mechanism than for a direct writer mechanism. In contrast, a direct writer would be responsible for a complex set of administrative, financial and insurance processes. A stand-alone direct writer would have to hire the necessary personnel and secure the physical resources necessary to perform these tasks or obtain some or most of these resources from one or more outside vendors. The use of a stand-alone direct writer also increases the consistency of the product and services provided to the public. While additional resources would certainly be needed, there are likely to be some efficiencies associated with placing a direct writer of flood insurance within the SCWHUA.

iii. How will the Mechanism be Governed?

Most residual market mechanisms in South Carolina are governed by a board of directors that consists of government, consumer, and industry members. Industry members are included because they have the knowledge and experience necessary to provide oversight and guidance. Private insurance companies have an interest in ensuring that a residual market mechanism operates efficiently because they are generally subject to assessment if the mechanism has a deficit. Noninsurance members are also included to provide a broader consumer oriented perspective.

The Director of Insurance or his designee serves as a representative on the boards of most residual market mechanisms. Additionally, the plans of operation that details how the entity will operate in the state must be submitted to and, in most instances, approved by the Department. In order for the entity to qualify for an exemption under Section 501(c)(6) of the Internal Revenue Code, the mechanism must demonstrate that it is an integral part of the state. Consequently, the governance structure is critical. When the operation of the mechanism is tied to the state, the potential liability and other financial consequences for the state must also be considered.

¹⁸ Mine subsidence funds are exceptions.

The IRS will look at the nature and degree of control that the state has over the mechanism. Additionally, the South Carolina Constitution does not permit the delegation of legislative authority to entities controlled solely by private persons. *See Garris v. The Governing Board of the South Carolina Reinsurance Facility*, 333 S.C. 432, 511S.E.2d 48 (1998). If the General Assembly wants the flood mechanism to be exempt from federal income tax, it should consider: 1) placing the entity within a state agency or a quasi-state entity (e.g., the SCWHUA), where the entity would be under the direct control of a state official; or 2) create the facility as a free-standing entity with a plan of operation that must be approved by a state official. The second approach is the approach that is generally used in South Carolina.

iv. How will the Mechanism be Funded?

Funding is critical to the success of any residual market mechanism. A determination must be made as to how the mechanism will be funded initially to cover start-up costs, as well as options for the mechanism's ability to meet its on-going financial obligations. State appropriations have been used to cover start-up costs of mine subsidence funds in some states, but appropriations have not been used for South Carolina residual market mechanisms. Fifteen years ago, start-up funding for other South Carolina residual market mechanisms ranged from \$1 to \$4 million. Start-up costs will be significantly more for this type of mechanism given flood insurance is not a line of insurance that has been written at the state level.

The initial funding for existing residual market mechanisms in South Carolina has generally been raised through an assessment on the insurers writing coverage in that market in proportion to their market share of premiums written. However, the relatively few insurers that write flood insurance in South Carolina do so mostly through the non-admitted (excess and surplus lines) market, and insurers in this market have not participated in market assessments. Thus, some other method must be identified to cover start-up costs.

Regarding on-going operating costs, ideally premiums are sufficient to cover claim costs and administrative costs. There are several potential options to handle the contingency that an operating deficit occurs. One possibility is for the entity to hold capital/surplus and pay the shortfall from the capital cushion. This, of course, requires a method to raise the necessary capital. Another possibility, which is used by some residual market mechanisms, is to assess insurers or consumers to cover the shortfall. A third possibility is to give the entity the ability to borrow funds from the state.

Another alternative would be to surcharge homeowners' insurance policies. This approach is used with some mine subsidence or FAIR plans. However, South Carolina homeowners would likely object to subsidizing the policyholders who live in flood prone or low lying areas, just as South Carolina consumers objected to subsidizing the insurance

costs of high risk drivers through the South Carolina Reinsurance Facility. The public outcry from automobile insurance consumers eventually led to the repeal of the South Carolina Reinsurance Facility. Moreover, insurers may object to including any surcharge as a part of the property policy because such policies specifically exclude flood.

v. Coverage and Pricing Issues

Other important questions include:

1. Who will be offered coverage through the mechanism?
2. For whom, if anyone, would coverage be mandatory?
3. And perhaps most importantly, how would the price of coverage be determined and would there be explicit subsidies for some property owners?
4. Will South Carolina create its own zones and do its own mapping?
5. Will federally-backed mortgage companies accept coverage offered by a state residual market mechanism? Will such coverage qualify for federally backed mortgage programs?

The answers to these questions are critical to effective policy design.

The SCWHUA offers coverage to property owners in certain statutorily designated areas, which are near the coast. Flood hazard areas, however, are not limited to coastal areas, as there are flood areas in many parts of the state. One approach could be to make flood insurance mandatory by all property owners regardless of the property location. In this case, rates would have to recognize the variations in risk from one area to another. The advantage of mandating coverage is that rate levels may be lower on average because every residential policyholder in the state would be covered and there would be no adverse selection against the mechanism.

The disadvantage is that many people who do not want or need coverage would be forced to buy it. Another approach is make coverage mandatory in high flood risk areas and optional in areas with little to no flood risk. A potential disadvantage of optional coverage is that some homeowners may not understand their options or risk or they may later allege that they did not understand their options. A third option is to have flood insurance coverage optional for everyone, although lenders could still require coverage.

There are numerous decisions that would have to be made regarding coverage that would be offered, including:

1. What losses will be covered? Will flood losses be covered like all other losses within the homeowners' policy? Will there be coverage for damage to structures only (Coverages A or Coverages A and B) or all Section I Coverages? Will coverage follow the same parameters as the NFIP?
2. Will the limit of coverage be consistent with the limit provided within the homeowners' policy or will a separate maximum limit be established?

3. Will specific types of property, such as sidewalks, driveways, fences, pools, septic tanks, and landscaping be covered?
4. Will the policy pay for structural losses at replacement cost or actual cash value?
5. How will the insurability of property be affected if repairs to the structure are not made?
6. Will commercial coverage include loss of income from business interruption?

The broader the coverage and the more property items covered, the more expensive the policy. These are issues that are generally addressed by an Underwriting Committee established to make recommendations about the coverage offered through the mechanism.

To price the coverage, historical data on flood losses in South Carolina would ideally be obtained from the National Flood Insurance Program. These data would be needed to evaluate flood loss costs trends, to develop expected loss costs, and to evaluate funding options, all of which are needed to price policies to cover costs. The use of catastrophe models, such as those used for predicting expected claims from hurricanes, should be considered. In addition, decisions need to be made about whether some types of policyholders would be subsidized, i.e., charged premiums below expected costs.

vi. Tax Implications

The decisions the General Assembly makes regarding the structure, placement, governance, and financing issues discussed above will be the primary determinants of whether a flood mechanism will be exempt from federal income taxation as an integral part of the state. Because the size of a flood mechanism may be much smaller than other residual mechanisms, the General Assembly will need to carefully evaluate other considerations to establish the priority to place on achieving tax-exempt status.

Traditionally, residual market mechanisms in the United States for auto insurance, property insurance, and other lines of insurance have been subject to federal income taxation, either directly or indirectly, through allocation of revenues and expenses to taxable member insurers. While these mechanisms are not for profit, they are usually structured as associations of their member insurers and are governed by boards whose members are selected substantially or wholly by the member insurers. Most mechanisms in South Carolina are tax exempt under Section 501(C) (6) of the Internal Revenue Code.

vii. Other Considerations

When designing a residual market mechanism (i.e., answering many of the questions raised in this section), it is important to keep in mind the purpose of the mechanism and the underlying reasons why a mechanism is being created. For example, if the primary purpose is to provide flood insurance coverage to those who otherwise would not purchase it because it is not affordable, then the mechanism should (1) target low-income households and (2) make the coverage affordable to low-income households. If the primary purpose is to provide flood insurance to those who “fall through the cracks” and cannot find insurance in the private insurance market even though they are willing to pay a price that covers the insurer’s costs, then the mechanism should charge fair premiums and be self-sustaining.

If coverage is made affordable by using price subsidies, then the behavior of those being subsidized is likely to be distorted. Yes, they will buy more insurance, but they will also likely take actions that increase exposure to flood losses by living in areas with greater flood risk and not taking actions to mitigate flood risk, such as elevating the structure.

An interesting alternative approach has been proposed by Kousky and Kunreuther (2014), who suggest that a means-tested voucher and loan program be created. Under their proposal, low-income property owners would be eligible for vouchers to pay part of the cost of flood insurance as well as the cost of loans to cover the cost of mitigation activities (e.g., elevating the structure), provided the property owner engages in certain mitigation activities.

5. Conclusion

In considering whether South Carolina should establish a residual market mechanism for flood insurance, there are numerous issues that need to be considered. First and foremost, the underlying purpose of the residual market mechanism needs to be identified. Once the underlying purpose of a flood residual market mechanism is identified, then more specific issues regarding the design and operation of the mechanism that were discussed in the report can be addressed.

One purpose of a residual market mechanism is to fill gaps in the supply of coverage that can arise even when consumers are willing to pay a price that reflects the true cost of coverage. Provided private insurers can charge premiums that reflect the cost of coverage and there is not a government sponsored insurer that is providing subsidized insurance, there would be relatively few consumers who would be expected to fall into the residual market. In this case, the residual market mechanism would not provide subsidized insurance and would be self-sustaining.

Another purpose of a residual market mechanism is to provide coverage to consumers who are not willing to pay the full cost of coverage because (i) they cannot afford the coverage, (ii) they expect to be covered by public assistance, and/or (iii) they underestimate the risk that they face. In this case, the residual market mechanism would provide subsidized coverage to targeted consumer groups, e.g., low-income consumers. A concern with subsidies is that they decrease incentives to mitigate against flood losses. Thus, if this approach is chosen, then consideration should be given to how to simultaneously provide incentives for property owners to mitigate against flood losses. In addition, decisions need to be made as to who will pay the cost of the subsidy.

The existing flood insurance market is dominated by the NFIP, which can be viewed as a national residual market mechanism. Even though the NFIP is going through changes (see below) it is unlikely to go away. Thus, decisions would need to be made as to how a South Carolina Flood Insurance Mechanism would coexist with the NFIP program and the infant private flood insurance market.

There have been several developments in the flood insurance market in recent years, the impact of which are still uncertain. First, premiums for NFIP policies are scheduled to increase over time until the premiums reflect the cost of providing coverage. Second, private insurance that competes with NFIP policies has emerged. This is most likely due to the increase in NFIP premiums and therefore the private market can be expected to grow as NFIP premiums increase. Over time, information will be revealed regarding the extent to which a private flood insurance market will provide coverage for property owners in high flood risk areas. Third, in compliance with the Homeowners Flood Insurance Affordability Act of 2014, two national reports on affordability issues associated with flood insurance will be released in 2015. These reports are expected to provide guidance on how to measure and address affordability problems. Fourth, there is greater recognition that incentives for flood risk mitigation should be an important consideration when considering public policy related to flood insurance. Given the uncertainty in how these developments will impact the flood insurance market, it may be premature to pursue a South Carolina residual market mechanism at this time. The impact of these developments on the flood insurance market in South Carolina over the coming years will help inform policymakers on the desirability of creating a state residual market mechanism.

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Appendix

Table A

Pre-FIRM Primary Residence Policies in High-Risk Areas (FEMA, 2014a)

<u>POLICY TYPE</u>	<u>IMPACT ON RATES</u>
Existing policies	Policies can be renewed at subsidized rates.
Newly written policies	Policies can be issued and renewed at subsidized rates.
Policies on newly purchased buildings	Policies can be issued and renewed at subsidized rates.
Policies re-issued after a lapse	Policies for pre-FIRM buildings in high-risk areas that lapsed due to a late renewal payment (received after the 30-day grace period but less than 90 days after expiration) can be re-issued and renewed at subsidized rates.

Table B

Other Pre-FIRM Building Policies in High-Risk Areas (FEMA, 2014a)

<u>POLICY TYPE</u>	<u>IMPACT ON RATES</u>
Policies for non-primary residences (secondary or vacation homes or rental properties)	25% annual increases at policy renewal until premiums reach their full-risk rates.
Policies for business buildings	Future 25% annual increases at policy renewal.
Policies for Severe Repetitive Loss properties	25% annual increases at policy renewal for severely or repetitively flooded properties that include 1 to 4 residences.

Table C

Other Policy Types (FEMA, 2014a)

<u>POLICY TYPE</u>	<u>IMPACT ON RATES</u>
Policies for newer (“post-FIRM”) buildings in high-risk areas	Not affected by subsidies; already paying full-risk rates.
Policies for buildings in moderate- to low-risk areas	Not affected by subsidies; properties in these areas (shown as B, C, or X zones on flood maps) do not pay subsidized rates.
Policies for buildings “grandfathered in” when map changes show higher flood risk	Grandfathering remains in effect at this time. Buildings constructed in compliance with earlier maps or continuously covered by flood insurance stay in their original rate class when maps change or properties are sold.
Policies for buildings covered by Preferred Risk Policy Eligibility Extension (PRP EE)	Properties continue to be eligible for lower, preferred-risk rates for the first year after a map change. Starting the following year, rates will increase by no more than 18% for any individual policy until premiums reach their full-risk rate.

Table D

Impact on Business Buildings in High-Risk Areas (FEMA,2014b)

<u>Policy Type</u>	<u>Impact on Rates</u>
Policies for post-FIRM buildings, constructed in compliance with NFIP standards	Already pay full-risk rates.
Existing policies for pre-FIRM business buildings	Policies can be renewed at subsidized rates. When FEMA is able to separate businesses from other properties, future rates will increase by 25 percent per year until reaching full-risk rates.
Newly written policies for pre-FIRM business buildings or for newly purchased pre-FIRM buildings	Policies can be issued and renewed at subsidized rates. When FEMA is able to separate businesses from other properties, future rates will increase by 25 percent per year until reaching full-risk rates.
Policies for pre-FIRM buildings re-issued after a lapse	Policies that lapsed due to a late renewal payment (received after the 30-day grace period but less than 90 days after expiration) can be re-issued and renewed at subsidized rates. When FEMA is able to separate businesses from other properties, future rates will increase by 25 percent per year until reaching full-risk rates. Also note that in the future, the exception allowing policies to be issued using subsidized rates after a lapse will only apply to policies that lapsed because coverage was no longer required by the lender (e.g., the mortgage was paid off). The bottom line: Don't let a policy lapse. It could cost you more when you reinstate it.
Policies for business buildings in moderate- to low-risk areas	Already pay full-risk rates.

Table E**NFIP Policies in South Carolina Counties**

<u>County</u>	<u># of Policies</u>	<u>Insurance Coverage</u>	<u>Written Premium</u>	<u>Average Coverage</u>	<u>Average Premium</u>	<u>Population</u>	<u>Policies per 1,000 pop</u>
Charleston	70,972	19,211,418,900 14,598,987,60	59,215,374	270,690	834	365,170	194
Beaufort	54,759	0 10,120,051,80	33,236,587	266,604	607	168,016	326
Horry	38,315	0	23,728,953	264,128	619	282,024	136
Georgetown	8,006	2,457,857,300	9,522,880	307,002	1,189	60,240	133
Dorchester	3,820	966,242,800	1,784,437	252,943	467	142,490	27
Berkeley	2,857	746,551,200	1,288,381	261,306	451	189,837	15
Lexington	2,248	473,933,200	1,693,532	210,824	753	270,272	8
Colleton	2,178	557,023,800	2,494,200	255,750	1,145	38,211	57
Richland	1,525	353,759,700	1,192,946	231,974	782	393,853	4
Jasper	1,127	321,416,100	652,056	285,196	579	25,879	44
Greenville	963	224,653,800	628,338	233,285	652	466,772	2
Aiken	510	129,175,200	235,613	253,285	462	163,299	3
Sumter	469	101,060,400	284,114	215,481	606	108,127	4
Florence	453	101,773,000	269,701	224,664	595	137,939	3
York	425	102,275,100	218,802	240,647	515	234,608	2
Kershaw	372	84,860,100	350,886	228,119	943	62,200	6
Fairfield	288	62,544,800	268,355	217,169	932	23,338	12
Spartanburg	264	62,019,700	147,829	234,923	560	288,583	1
Orangeburg	212	47,634,200	150,530	224,690	710	91,399	2
Marion	172	27,583,800	121,907	160,371	709	32,414	5
Anderson	164	37,765,600	85,882	230,278	524	189,357	1
Newberry	150	27,893,900	113,086	185,959	754	37,587	4
Pickens	138	34,314,700	98,056	248,657	711	119,745	1
Lancaster	135	33,646,600	61,618	249,234	456	79,153	2
Laurens	115	25,355,700	113,936	220,484	991	66,234	2
Clarendon	114	29,445,300	89,628	258,292	786	34,367	3
Greenwood	104	25,213,100	61,815	242,434	594	69,800	1
Darlington	103	25,086,500	67,317	243,558	654	68,178	2
Williamsburg	89	16,399,400	73,950	184,263	831	33,581	3
Oconee	86	21,367,300	36,253	248,457	422	74,628	1
Hampton	76	18,095,200	41,829	238,095	550	20,738	4
Dillon	51	8,261,400	30,985	161,988	608	31,451	2
Abbeville	37	7,253,400	19,078	196,038	516	25,071	1
Cherokee	37	5,558,300	16,901	150,224	457	55,760	1
Bamberg	34	5,696,200	27,082	167,535	797	15,777	2
Saluda	34	7,735,700	28,993	227,521	853	19,940	2

Marlboro	33	4,805,700	23,393	145,627	709	28,141	1
McCormick	33	8,612,500	17,605	260,985	533	9,976	3
Chester	26	4,757,900	28,040	182,996	1,078	32,615	1
Chesterfield	19	4,168,000	11,025	219,368	580	46,151	0
Edgefield	19	5,516,800	12,024	290,358	633	26,389	1
Lee	17	3,367,000	7,053	198,059	415	18,632	1
Calhoun	15	3,834,000	7,519	255,600	501	14,928	1
Barnwell	10	2,290,000	4,367	229,000	437	22,271	0
Allendale	6	1,924,400	25,614	320,733	4,269	10,003	1
unknown	1	300,000	527	300,000			
Union	0	0	0			28,273	0
			138,588,99				
Total	191,581	51,119,487,100	7	266,830	723	4,723,417	41