The Impact of a Border-Adjustment Tax on the U.S. Insurance Market

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I. Introduction

In June 2016, House Republicans issued a tax reform proposal "A Better Way: Our Vision for a Confident America" (the "Blueprint").[1] It proposed a number of far-reaching changes to the U.S. tax system that include, among other things, (1) moving from a worldwide to a territorial tax system, (2) cutting the corporate income tax rate from 35 percent to 20 percent,[2] and (3) converting from an origin-based tax system to a "destination-based cash-flow tax" system. The latter, which would be implemented via a border adjustment tax ("BAT"), is hugely controversial for many sectors of the U.S. economy. Advocates of a BAT claim that the tax will incent businesses to stay in or return to the U.S. and fund the reduction of corporate and individual tax rates, while opponents argue that it will invite retaliatory taxes imposed by the U.S.'s trading partners and increase prices for U.S. consumers.[3] This report focuses on the impact of the proposed BAT on the U.S. insurance industry and its consumers.[4]

Under the proposed BAT, a tax is imposed when a product is imported from a foreign country, and a tax is rebated when a product is exported to a foreign country.[5] Although the Blueprint lacks specificity on the BAT's coverage of financial services, the BAT could subject reinsurance ceded by U.S. insurers to foreign reinsurers to a 20 percent import tax.[6] This

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1 House Republicans, "A Better Way: Our Vision for a Confident America," June 24, 2016, available at http://abetterway.speaker.gov/_assets/pdf/ABetterWay-Tax-PolicyPaper.pdf.

2 While the Blueprint calls for a tax rate of 20 percent, the Trump tax outline released on April 26, 2017 calls for a decrease in the corporate tax rate to 15 percent. See Julie Hirschfeld Davis and Alan Rappeport, "White House Proposes Slashing Tax Rates, Significantly Aiding Wealthy," The New York Times, April 26, 2017.

3 Naomi Jagoda, "Flake becomes latest GOP senator concerned about border tax," March 8, 2017, available at http://thehill.com/policy/finance/322971-flake-becomes-latest-gop-senator-to-raise-concerns-about-border-tax-proposal.

4 The overall impact of the comprehensive Blueprint is beyond the scope this report.

5 Our analyses do not incorporate any potential impact on foreign exchange rates caused by border adjustments. We note, however, that foreign reinsurance companies writing U.S. business incur the majority of the expenses such as claims, claims reserves, loss adjustments expenses, *etc.* in U.S. dollars.

6 A BAT could deny the deduction of premiums paid to a foreign reinsurer, which is equivalent to applying a 20 percent import tax on the ceded reinsurance.

differs from practices in many developed economies to exclude reinsurance from value-added taxes ("VAT"), to which the BAT proposal can be analogized. In those countries, reinsurance transactions are typically excluded from the VAT because reinsurance is considered an export of risk rather than an import of a service.[7]

This report builds on our prior analyses in a January 2017 report titled "The Impact of Offshore Affiliate Reinsurance Tax Proposals on the U.S. Insurance Market, An Updated Economic Analysis,"[8] which focused on the Neal/Warner Bill tax proposal. Because the Neal/Warner Bill shares many similar features with the BAT, the January report also provided a preliminary estimate of the impact of a BAT. It calculated that the reduction in reinsurance due to a BAT would lead to a large decline in the supply of U.S. insurance. For example, it estimated that a 50 percent reduction in reinsurance due to a BAT would lead to a $40.9 billion drop in the supply of U.S. insurance, and that U.S. consumers would pay $22.1 billion more to obtain the same coverage.[9] However, we noted a number of reasons that our estimate underestimated the potential impact. Most importantly, we stated that the BAT would severely reduce or even eliminate the global diversification benefit for the insurance industry, leading to further adverse effects.

This paper examines the BAT's incremental impact on the U.S. insurance industry with a particular focus on catastrophe insurance, which is particularly critical for U.S. insurers to diversify exposure to natural catastrophes and other infrequent but high-loss events. A BAT would negatively affect insurance coverage for both natural catastrophes and man-made catastrophes. Natural catastrophes include hurricanes, earthquakes, and tornados. Man-made catastrophes include terrorism and cyber-attacks, such as the recent large scale cyber-attack

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7 Additionally, the multiple bilateral cash flows involved in such transactions are often too complex to be covered by a simple VAT. See for example Ernst & Young, "VAT and GST: Tax Treatment of Insurance in Developed Countries," January 18, 2017, and US Government Accountability Office (GAO) Report to Congressional Requesters, "Value-Added Taxes - Lessons Learned from Other Countries on Compliance Risks, Administrative Costs, Compliance Burden, and Transition," April 2008, pp. 23 and 54.

8 Michael Cragg, *et al.*, "The Impact of Offshore Affiliate Reinsurance Tax Proposals on the U.S. Insurance Market, An Updated Economic Analysis," January 23, 2017.

9 *Ibid*, p. 37, Table 8, $654.7 billion × 3.37% = $22.1 billion (column [1] × column [7]).

on May 12, 2017 that involved more than 200,000 computers in at least 150 countries.[10] Our analysis in this report shows that, if the BAT provision is applied to reinsurance premiums paid to foreign reinsurers, in addition to the results of our January report noted above, it would adversely affect the reinsurance industry and ultimately the direct insurance market in the U.S. as follows:

- The Blueprint's proposed 20 percent import tax on reinsurance premiums amounts to an increase in U.S. insurer costs, equivalent to up to a 24.6 percent decline in profits.[11] After a decade of low reinsurance rates in the U.S., reinsurers have limited ability to help absorb any of the cost increase.
- As a result, the U.S. insurers have to either (1) continue to purchase reinsurance from foreign reinsurers, and pass on the brunt of the reinsurance taxes to U.S. consumers, or (2) severely curtail or eliminate reinsurance from foreign reinsurers but raise sufficient capital in the U.S. to help manage the insured risks.
    - Under the first scenario, and if all the reinsurance taxes are passed on to the consumers, insurance premiums in the U.S. will increase by 2.8 percent.
    - Under the second scenario, U.S. (re)insurers would need to increase their natural catastrophe capital by at least 40 percent, or $52.3 billion, to maintain the same level of catastrophe coverage. Higher capital needs for the same risks leads to a 1.5 percent increase in consumer prices for catastrophe insurance on average.
- Adverse impacts could also be felt by mutual insurance companies. They account for 45 percent of the U.S. insurance supply and would be more negatively impacted by the reduction in reinsurance due to their inability to access external equity capital.

The rest of this report is organized as follows. Section II contains background information on importance of U.S. catastrophe insurance and reinsurance. Sections III through V detail potential negative outcomes for the U.S. catastrophe insurance industry and its policyholders

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10 Jordan Robertson and Rebecca Penty, "New Wave of Ransom Threats Seen in Unprecedented Attack," Bloomberg, May 13, 2017, available at https://www.bloomberg.com/news/articles/2017-05-14/hospitals-gain-control-in-ransom-hack-more-attacks-may-come.

11 If instead, a 15 percent corporate tax rate is used, the reduction in net income would be 18.5 percent.

resulting from a BAT. Section VI concludes with a short discussion of widened protection gap between insured and uninsured losses and the potential burden on the U.S. government.

II. Foreign Insurers and Reinsurers Are Critical for the U.S. Insurance Market and Consumer Welfare

A key function of insurance is diversification, or risk pooling, which decreases society's overall risk by spreading the risk across the pool. An insurer can bear these risks more efficiently than individuals when it assumes risks from a variety of uncorrelated sources and/or develops a specialty in certain lines of insurance. The amount of insurance an individual Property and Casualty ("P&C") company can sell is partly a function of how much capital it maintains. The greater the expected volatility of its insured loss claims, the more capital the company is required to hold to comply with the standards of regulators and rating agencies that the insurance company be able to pay policyholder claims. Reinsurance is a critical source of capital, as it allows the insurance company to access risk capital held by reinsurers. An insurer can transfer or cede premiums collected from customers to a reinsurer that agrees contractually to bear a portion of the insured losses. Because reinsurance transfers the risk, the insurer typically does not have to maintain capital or reserves to cover potential losses from the risk it cedes.

Foreign insurer groups contribute to the U.S. insurance market through two primary vehicles – direct insurance and reinsurance. First, some foreign-owned insurers are licensed in the U.S. and offer direct insurance to U.S. customers.[12] Of the $586.7 billion direct premiums across 33 property & casualty lines of insurance in 2015, $88.0 billion or 15 percent is sold directly by foreign-owned insurers (Table 1). For some lines of insurance, foreign insurers provide over 40 percent of the overall coverage.

12 Foreign insurers conduct their U.S. operations through separately incorporated subsidiaries or branches of the foreign parents. For U.S. subsidiary operations, ceding reinsurance to foreign affiliates is a dominant and effective method of risk management. It allows for rating and regulatory compliance without actually transferring money between group members unless it is necessary.

Table 1. Foreign Insurer Share of Direct Premiums Written by Insurance Line (2015, $ Millions)

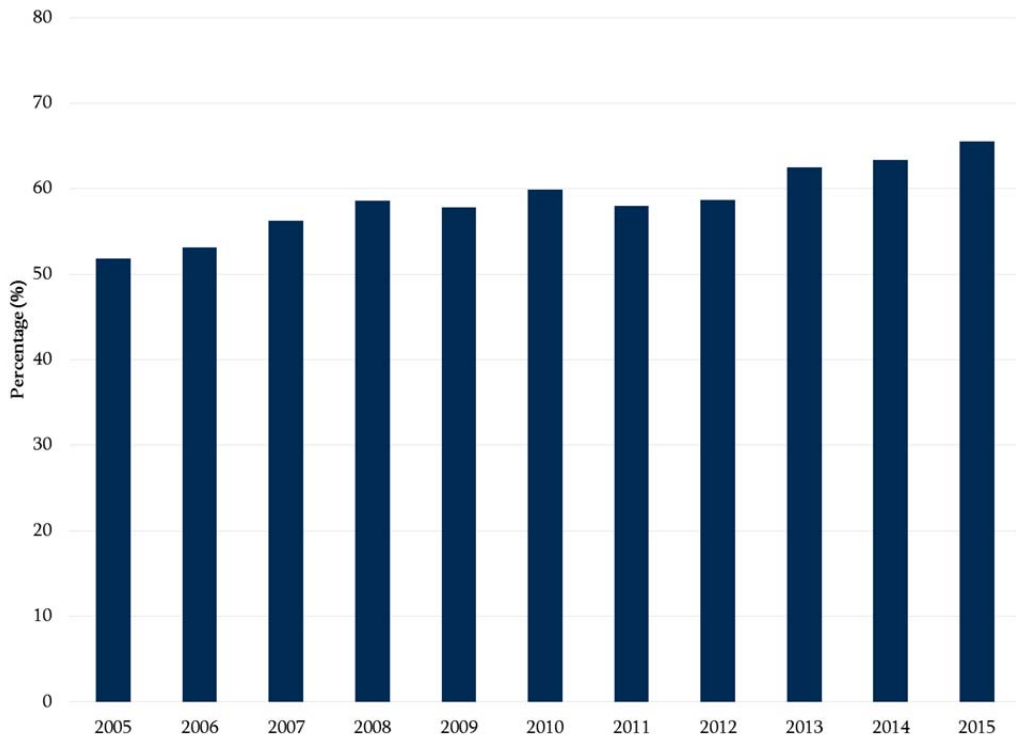
	Foreign Insurers	Overall Insurers	Foreign Insurers Share
Excess Workers' Comp	875	1,181	74.1%
Aircraft	973	1,592	61.1%
Financial Guaranty	318	543	58.7%
Product Liability	266	507	52.4%
Group Accident & Health	2,083	4,353	47.9%
Other Liability	9,635	21,326	45.2%
Credit	831	1,876	44.3%
Ocean Marine	1,603	3,760	42.6%
Burglary & Theft	117	282	41.7%
Product Liability (Occurrence)	1,285.0	3,160.0	40.7%
Earthquake	923	2,305	40.0%
Fidelity	453.9	1,240.9	36.6%
Other P&C	508.9	1,412.2	36.0%
International	24.8	69.9	35.5%
Allied Lines	8,428.9	25,056.9	33.6%
Other Liability (Occurrence)	13,064.3	39,754.9	32.9%
Surety	1,857.5	5,654.5	32.9%
Fire	3,328.6	12,902.8	25.8%
Boiler & Machinery	438.8	1,761.6	24.9%
Inland Marine	4,792.9	20,519.7	23.4%
Commercial Multiple Peril	8,555.7	39,795.1	21.5%
Commercial Auto Liability	4,415.2	23,774.5	18.6%
Other Accident & Health	297.0	1,603.8	18.5%
Workers' Comp	9,783.6	55,002.6	17.8%
Warranty	449.9	2,784.1	16.2%
Mortgage Guaranty	503.9	4,871.1	10.3%
Medical Professional Liability (Claims Made)	687.9	7,020.0	9.8%
Homeowners Multiple Peril	5,278.0	88,751.1	5.9%
Farmowners Multiple Peril	191.8	4,073.8	4.7%
Auto physical damage	3,364.2	87,802.7	3.8%
Private Passenger Auto Liability	2,630.8	119,466.6	2.2%
Medical Professional Liability (Occurrence)	46.2	2,366.8	2.0%
Credit A&H (Group & Individual)	0.8	171.1	0.5%
Total	88,013	586,741	15.0%

Source: NAIC Annual Statement data.

Foreign reinsurers contribute to the U.S. insurance market more generally by also assuming risk from affiliates and non-affiliates alike. According to the Reinsurance Association of

America, foreign reinsurance consistently accounts for a majority of U.S. reinsurance activity (65.5 percent in 2015) (see Figure 1). In terms of insurance recoveries, almost 60 percent of the insurance payments for the 9/11 terrorist attacks and the 2005 trio of hurricanes came from foreign insurers and reinsurers.[13] Global reinsurance diversification enhances the efficiency of insurance markets by reducing the amount of capital required for a given level of financial strength. This in turn allows insurers to increase the supply of insurance to U.S. consumers.

Figure 1. Market Share of Foreign Reinsurers (U.S. Cessions)



Source: Reinsurance Association of America.

The importance of foreign insurers and reinsurers can be further seen based on the types of coverage they provide and the states in which they participate. Foreign insurers focus more than U.S. insurers on (1) infrequent but high impact lines such as natural disasters, and (2) "long-tail" insurance lines that involve a significant time lag between enactment of a contract and receipt of recoverable losses.

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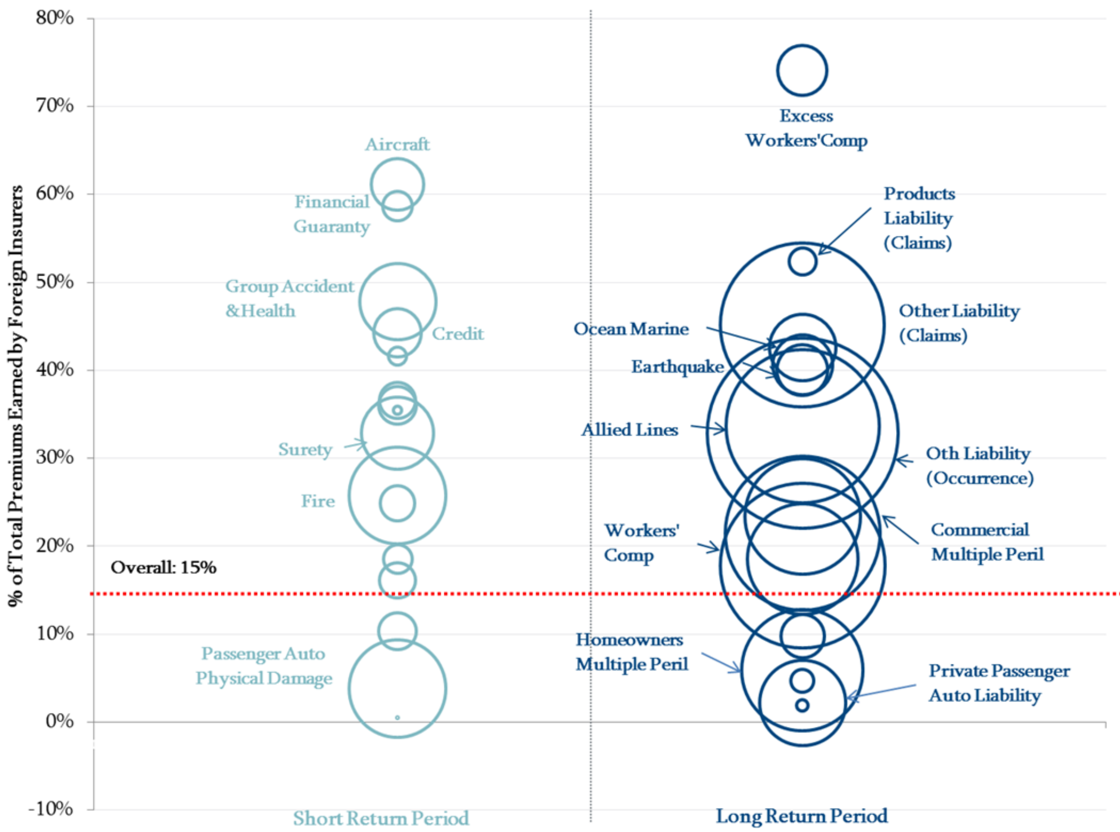
13 Michael Cragg, *et al.*, *op cit.*, p. 13 and Figure 6.

We refer to these lines collectively as long-return period lines. The inherent uncertainty associated with long-return lines increases the amount of capital insurers and reinsurers must hold. Figure 2 shows the percentage of total direct premiums written by foreign-owned groups in the U.S. for each insurance line. In 2015, foreign-owned groups comprised more than 20 percent of premiums for 21 out of 33 different insurance lines, many of which have long-return periods. For example, foreign groups represented 43 percent of the direct premiums for Ocean Marine insurance, and 40 percent for Earthquake. Prior years show similar results.

Figure 2. Percent of Direct Premiums Written by Foreign-Owned Groups (2015)

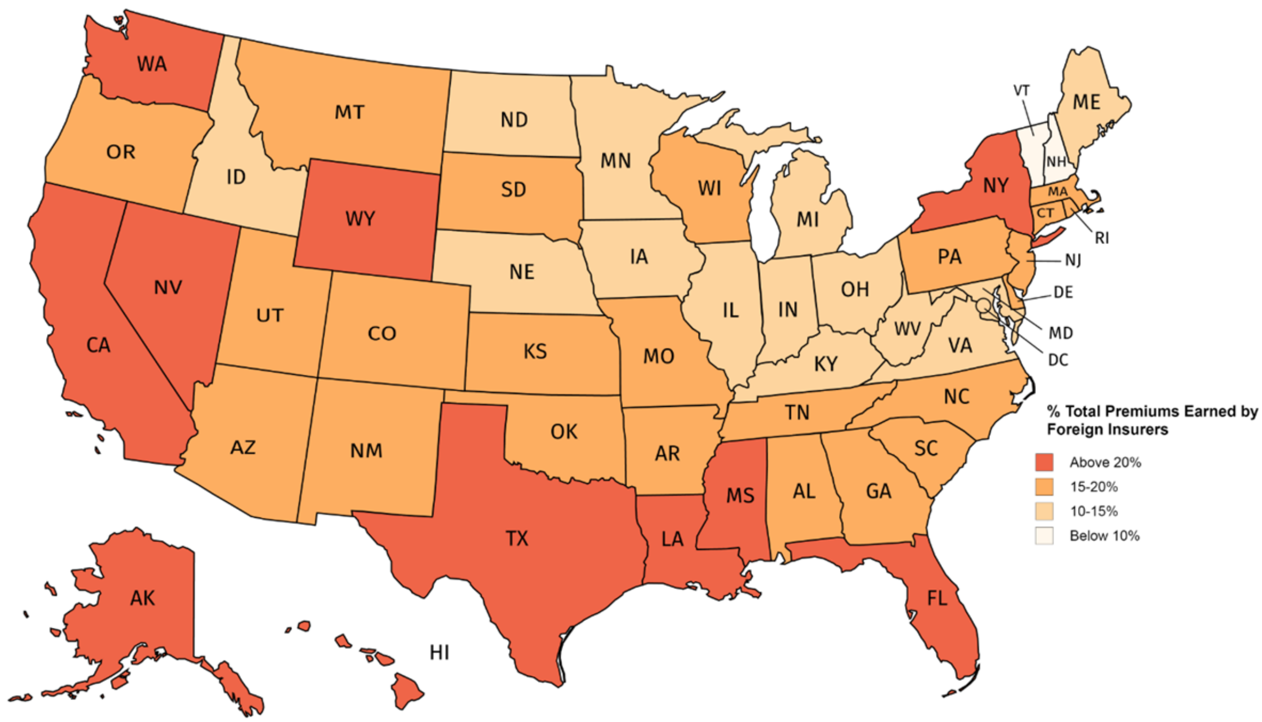


Source: NAIC Annual Statement data.

Note: The chart is updated to include all 33 lines instead of 26 lines reported in our previous report. The diameter of each circle represents the amount of direct premiums written by foreign-owned groups.

The importance of foreign insurers can further be seen in selected coastal states. Take commercial multiple peril as an example.[14] As shown in Figure 3, foreign insurers represent a large portion of U.S. commercial multiple peril insurance in many states vulnerable to hurricanes. In Florida alone, four large foreign insurance groups (Zurich, Chubb, QBE, and Swiss Re) underwrote 18.7 percent of CMP premiums in 2015.[15]

Figure 3. Direct Premiums Earned by Foreign-Owned Groups in Commercial Multiple Peril



Source: NAIC Annual Statement data via SNL Financial.

Note: The percentage is calculated using 2011-2015 average.

Table 2 shows that out of $52.9 billion total direct insurance premiums written in Florida in 2015, $5.4 billion or 10 percent is from foreign-owned U.S. insurers. Several of the top 10 lines with the highest foreign insurer share, such as allied, fire, and commercial multiple peril, are related to catastrophic risks. Of the reinsurance purchased by private insurers in

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14 According to the Insurance Information Institute, 48 percent of the insured losses from Hurricane Sandy were covered by the commercial multiple peril line. (Insurance Information Institute, "Superstorm Sandy: Impacts for Insurers, Reinsurers and the Debate on Climate Change," March 1, 2013, p. 7, available at http://www.iii.org/sites/default/files/docs/pdf/Sandy-030113.pdf.)

15 Dowling & Partners, IBNR Weekly, October 6, 2016, p. 6.

Florida, 91 percent is sourced from foreign companies. Foreign reinsurers also provide 98 percent of the private reinsurance purchased by Florida Citizens Property Insurance Corporation, a Florida government insurance entity.[16]

Table 2. Top 10 Lines with Highest Foreign Insurer Share in Florida (2015, $ Thousands)

Line of Business	Total Premium Earned	Premium Earned by Foreign-owned U.S. Insurers	Foreign-owned U.S. Insurer Share
Multiple peril crop	76,402	52,715	69.0%
Aircraft (all perils)	99,696	54,747	54.9%
Group accident and health	139,790	62,216	44.5%
Allied lines	1,621,572	624,238	38.5%
Ocean marine	295,694	113,816	38.5%
Fire	1,006,495	358,291	35.6%
Earthquake	23,392	7,792	33.3%
Burglary and theft	16,142	5,211	32.3%
Commercial multiple peril	1,779,254	572,866	32.2%
Products liability	198,606	54,162	27.3%
Total (Top 10 Lines)	**5,257,042**	**1,906,056**	**36.3%**
Total (All 26 Lines)	**52,849,690**	**5,356,379**	**10.1%**

Source: NAIC Annual Statement data.

Likewise, foreign insurers play an important role in covering earthquake risk in the highest risk states. Foreign insurers underwrote over half of the earthquake premiums in California.

U.S. consumers rely heavily on foreign insurance and reinsurance for a number of reasons. First, as shown in Section IV, global diversification is critical for certain low-frequency but high-impact lines of insurance. Both U.S. and foreign insurers need a means of sharing each other's risks to achieve the optimal risk pooling and lower insurance premiums. Second, foreign reinsurers may be more nimble and better able to raise capital in a global market than U.S. firms.[17] Certain redundancies in U.S. insurance rate and form regulation appear to

[16] Dowling & Partners, IBNR Weekly #15, April 21, 2016, pp. 2, 7, 9.

[17] Insurance is state regulated, and insurers need to be licensed by each state in which they operate. The licensing process is lengthy and complex, sometimes taking months or years, which makes starting a new insurance or reinsurance company in a timely fashion almost impossible.

impede the ability of insurers to quickly adjust rates and coverage terms. As a result, many U.S. firms have shied away from highly volatile risks; while non-U.S. firms have embraced such risks.

III. The BAT Will Significantly Isolate the U.S. Catastrophe Risk Insurance Market from the Global Insurance Market

If the BAT is applied to the purchase of foreign reinsurance, U.S. insurers' costs will increase and their profit margins will decrease. In this section, we will first examine the impact of a BAT on a typical insurer's cost structure, and then explore the options the insurers and reinsurers can take to mitigate the adverse impact. These options include reinsurance substitution, capital infusion, and the reduction of exposure to certain insurance lines. We examine the impact of raising capital for U.S. catastrophe risks in Section IV.

A. U.S. Insurers Have to Either Increase Capital Infusion or Exit Certain Insurance Lines

There are various possible treatments of reinsurance under a potential BAT, many of which create negative implications for the U.S. insurance market and its consumers. Consider the following example of a U.S. insurer under the most literal interpretation that reinsurance premiums ceded to foreign reinsurers cannot be deducted for U.S. federal income taxes. Table 3 shows that in 2015, the U.S. P&C industry had premium revenue of $668.9 billion, of which they ceded $78.6 billion to foreign reinsurers.[18] If U.S. insurers were unable to deduct the cession of premiums to reinsurers, this would create an additional tax cost of $15.7 billion.[19] The additional tax lowers the U.S. P&C industry net income from $63.9 billion to $48.2 billion, a decline of 24.6 percent.[20] Return on equity would be reduced from 8.9 percent to 6.7 percent.

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18 NAIC Annual Statement Schedule F data accessed via S&P Global Market Intelligence.

19 This is equal to 20 percent BAT tax rate times the $78.6 billion in premiums ceded to foreign reinsurers.

20 If instead, a 15 percent corporate tax rate is used for the BAT, the reduction in net income would be 18.5 percent instead of 24.6 percent.

Table 3. Reduction in P&C Insurer Net Income Due to BAT Assuming Insurers Absorb All BAT Impact ($ Billions)

		Status Quo	20% BAT Tax on Foreign Reinsurance
[1]	Premiums	668.9	668.9
[2]	Ceded Premium	(139.8)	(139.8)
[3]	Ceded Premium - Foreign	(78.6)	(78.6)
[4]	Ceded Premium - U.S.	(61.2)	(61.2)
[5]	Net Premium Earned	529.1	529.1
[6]	Loss Incurred	(304.8)	(304.8)
[7]	Other Underwriting Expenses	(213.6)	(213.6)
[8]	Investment Income	62.1	62.1
[9]	Other Income	1.6	1.6
[10]	Statutory Income	74.4	74.4
[11]	Dividends	(3.4)	(3.4)
[12]	Taxable Income	71.0	149.6
[13]	Tax Liability	(10.5)	(26.2)
[14]	Statutory Net Income	63.9	48.2
[15]	**Change in Net Income**		-24.6%
[16]	Average Equity (2014-2015)	715	715
[17]	Return on Equity	8.9%	6.7%

Source: NAIC 2015 Annual Statement for Status Quo.

Note for BAT column:

[12] = Status Quo Column Row [12] - BAT Column Row [3]

[13] = Status Quo Column Row [13] + BAT Column Row [3] × 20%.

If all of the BAT taxes are passed onto U.S. consumers ($15.7 billion), the insurance price in the U.S. will increase by 2.8 percent.[21] When prices increase, demand for insurance declines. This is possible when consumers are able to forgo insurance if they deem the costs too high. However, insurance is required in the U.S. in certain cases, creating an inelastic demand that

[21] $15.7 billion is the excess tax liability under BAT ($26.2 billion - $10.5 billion in column [14]). $15.7 billion / (1 – 15%) / $668.9 billion = 2.8%. In order for the insurers to receive the same return on equity, the premiums have to cover additional tax liabilities on the higher pre-tax income. 15 percent is the effective tax rate in 2015 for the insurance industry (Table 3).

would increase the level of tax impact that is borne by U.S. consumers. For example, homeowners are legally required by the terms of their mortgage to hold homeowner's insurance. Additionally, workers' compensation, which is uniquely exposed to terrorism risk, is required for almost all employees in the U.S.

The estimated impacts presented in this example illustrate the BAT's immediate impacts on a typical P&C insurer under two simplifying assumptions: (1) the insurance recovery is in the distant future; and (2) the U.S. insurer does not or cannot alter its business lines, reinsurance, and capital. With regard to (1), since most reinsurance ceded to foreign reinsurers is for catastrophic risks or other low frequency but high-impact lines, future loss recoveries to U.S. insurers could partially offset the BAT tax, albeit on a present value basis. For example, if loss recoveries are received on average in ten years from the ceding of premiums,[22] the present value of the tax benefit from a BAT is equal to $5.6 billion,[23] thus reducing the additional tax liabilities to about $10 billion, or a reduction in net income of 16 percent.

As for (2), for certain lines of insurance such as automobile property damage, fire, *etc.*, where the U.S. domestic market itself may be sufficiently large and diversified, the U.S. insurers rely to a lesser extent on foreign reinsurance. For these lines, adverse consequences of the BAT are less significant. For long-returned lines such as catastrophe risks where foreign reinsurance is heavily used by U.S. insurers, however, U.S. reinsurers cannot effectively pool and diversify U.S. risks.[24]

Besides strategies discussed in Sections III.A and III.B, other options available to the U.S. insurers are exiting long-return lines or raising capital. Companies exiting from catastrophe lines will increase the protection gap, and that gap may be borne by the government (Section

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22 The Blueprint does not specify whether future insurance recoveries could be used to reduce the BAT on reinsurance ceded abroad.

23 We assume that the foreign ceded insurance has the same rate of losses incurred as the non-ceded premiums do (57.6% = 304.8 billion / 529.1 billion). This leads to reinsurance recoverables from foreign reinsurers of $45.3 billion ($45.3 billion = 57.6% × $78.6 billion ceded premiums to foreign reinsurers), and a related tax benefit of $5.6 billion in present value, assuming a discount rate of 5 percent. (For data on premiums and losses incurred, see NAIC 2015 Annual Report, p. 15.)

24 Spreading the higher BAT burden over the catastrophe lines of insurance only will increase the average price impact and loss of consumer welfare.

VI). On the other hand, exclusive reliance on U.S. capital will reduce capital efficiency, leading to higher insurance prices and lower consumer welfare (Section IV).

B. Foreign Reinsurers Have to Move Capital Onshore to Maintain Access to the U.S. Market

From the reinsurers' perspective, if a BAT is passed, foreign reinsurers would face difficult choices among three unpleasant options: (1) stay offshore and offer reinsurance to U.S. insurers; (2) move capital onshore to participate directly in the U.S. market; or (3) discontinue their U.S. business. For a global reinsurer, the U.S. often accounts for about 50 percent of the reinsurer's business mix. Abandoning such a large market is not a realistic option. Similarly, as discussed in Section III.A, offering reinsurance from offshore is also not realistic, unless reinsurers can offer price reductions to offset the imposition of the BAT tax on U.S. insurers.

However, the current market for catastrophic reinsurance coverage has been characterized by decreasing prices and returns for more than a decade. From 2006 to 2015, the price of catastrophe reinsurance—the U.S. Property Catastrophe Rate-on-Line Index[25] defined as the ratio of the premium to the reinsurance limit—has decreased by about 42 percent (Figure 4). Industry analysts expect the softening in reinsurance rates to continue going forward.[26] A lower rate-on-line indicates lower prices received by reinsurers. As a result, reinsurers' ability to absorb any tax impact on price is limited. This has led many investors, including long-time reinsurance investor Warren Buffett, to shift away from the industry as lower returns going forward are expected.[27] Historically, reinsurers have seen spikes in the rate-on-line following significant catastrophes.[28] However, as the Federal Insurance Office ("FIO")

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25 Guy Carpenter, "Regional Property Catastrophe Rate-On-Line Index," available at http://www.artemis.bm/indices/regional-property-cat-rate-on-line-index.html.

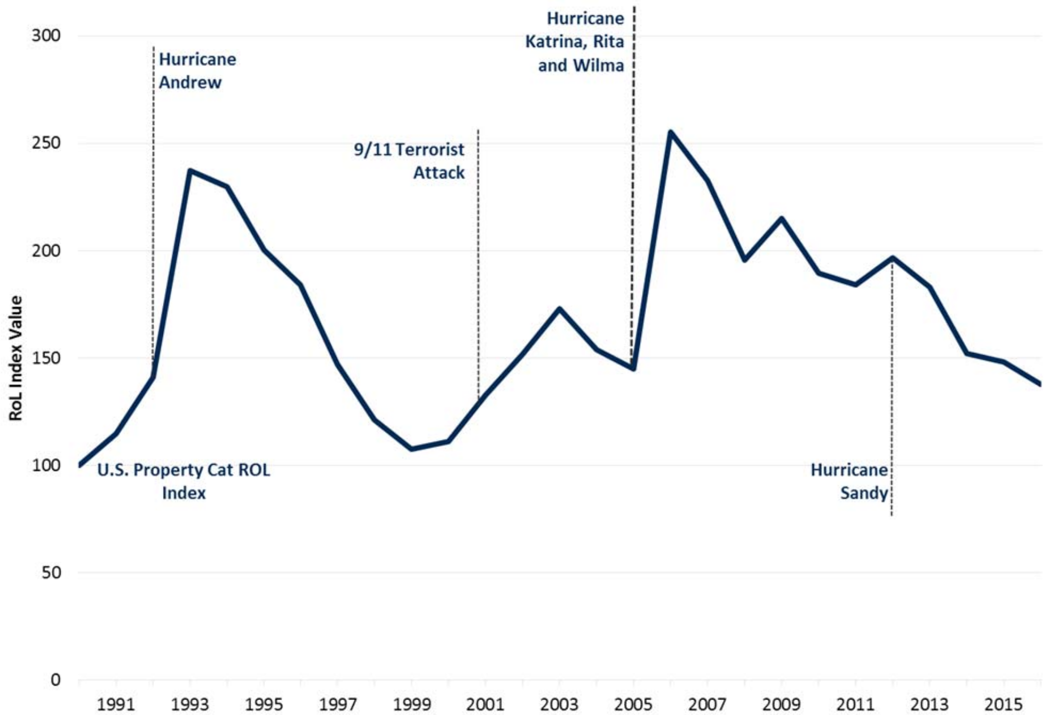
26 Ciutina, Iulia. "Reinsurance Pricing Approaches Bottom: Analysts," The Insurance Insider, January 17, 2017.

27 Wall Street Journal, "Warren Buffett Re-Examines Reinsurance," July 2, 2015, available at https://www.wsj.com/articles/warren-buffett-re-examines-reinsurance-1435876468.

28 For example, Hurricanes Katrina, Rita, and Wilma in 2005 were followed by a significant increase in U.S. catastrophic reinsurance rates, and rates almost doubled after Hurricane Andrew in 1992.

noted, there have not been large increases in rates following catastrophic events over the past decade, due in part to increases in reinsurance capital.[29]

Figure 4. US Property Catastrophe Rate-On-Line Index



Source: Guy Carpenter.

With respect to a foreign (re)insurer who decides to move its operations to the U.S., that (re)insurer would become subject to direct U.S. insurance regulation and taxation. Both features of the U.S. market dampen the efficiency with which domestic (re)insurers can effectively develop a global diversification strategy. Moreover, anticipated retaliatory border adjustment taxes imposed by other countries would further increase the expense of global diversification.[30] Retaliatory taxes would create a disincentive for foreign risks to be reinsured by U.S. domestic reinsurers and would isolate capital in each country, requiring each country to bear its own risk.

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[29] For example, see Federal Insurance Office (FIO), U.S. Department of the Treasury, "Report Providing an Assessment of the Current State of the Market for Natural Catastrophe Insurance in the United States," September 2015, p. 48.

[30] Nick Wells, "Taxing imports at the border could cost America billions – in retaliation," CNBC, February 28, 2017, available at http://www.cnbc.com/2017/02/28/border-adjustment-tax-make-other-countries-retaliate.html.

IV. The Benefits from Global Diversification Would be Materially Diminished under a BAT and Capital Requirements for U.S. Risks Would Increase Significantly

Section III shows that a BAT would force insurers and reinsurers to raise a substantial amount of new capital just to maintain current levels of financial strength. Capital so raised would be allocated exclusively to U.S. exposures, without the benefit of global diversification. In this section, we demonstrate the inefficiency, and estimate the cost, of such a policy.

A. Rating Agencies and Insurance Regulators Will Require Higher Capital

Ratings from A.M. Best[31] are an important measure for insurance and reinsurance companies, and they would be negatively affected by a BAT's reduction in global diversification. A.M. Best measures the sufficiency of insurers' capital by Best's Capital Adequacy Ratio ("BCAR"). In addition to BCAR, A.M. Best provides ratings within Best's Credit Rating ("BCR") as a measure of forward-looking creditworthiness of insurance-related entities. A.M. Best analyzes company-specific data, including capital levels, within its proprietary models to calculate a company-specific BCAR. According to A.M. Best,

> A company's book of business must be analyzed by line in terms of its geographic, product and distribution diversification… For property/casualty companies, the geographic location and concentration of a book of business can have a great impact on its exposure to catastrophic losses, such as terrorist attacks, hurricanes, tornadoes, windstorms, hail or earthquakes.[32]

Diversification of risks thus impacts the measures of A.M. Best ratings. If an insurer is no longer able to use foreign reinsurance effectively, it must increase its capital levels in order to stay at the same level of BCAR and rating.

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31 A.M. Best is a widely used provider of insurance company ratings, rating approximately 3,400 companies in more than 80 countries.

32 "Best's Credit Rating Methodology: Global Life and Non-Life Insurance Edition," A.M. Best, May 10, 2017, p. 17, available at http://www3.ambest.com/ambv/ratingmethodology/OpenPDF.aspx?rc=250950.

U.S. states may require that insurers hold capital for particular state-specific risks.[33] Isolation of capital prevents the use of capital for multiple uncorrelated risks. Any segregation works counter to global diversification benefits and reduces the efficiency of capital.

B. A BAT Would Lead to Higher Levels of Required Capital for the Same Set of Risks

The U.S. has a high demand for natural disaster risk insurance. These tend to be uncorrelated with risks outside the U.S. (*e.g.*, hurricanes in Florida, earthquakes in Japan, cyclones in Europe). Hence, global diversification of risks is critical for both U.S. and foreign insurers. Risk-pooling from reinsurers allows U.S. insurers to provide more-affordable domestic insurance, because pooling reduces the amount of capital required by the reinsurer to cover these exposures, and thus lowers the cost of reinsurance for the insurer.

Global diversification of catastrophe risk exposure is essential to U.S. insurance markets. Figure 5 shows the expected cost of 1-in-250-year catastrophic events in several countries and regions. These estimates are calculated using commercial catastrophe models developed by AIR and RMS, two of the leading catastrophe-modeling firms in the world.[34] Extreme concentration of high-value property in areas exposed to catastrophic perils leaves the U.S. with substantially greater exposure than all other countries combined. Even with the benefit of global diversification, the sheer mass of U.S. exposure leads to capital constraints and risk-transfer challenges that increase cost and decrease availability of insurance for tens of millions of U.S. consumers.

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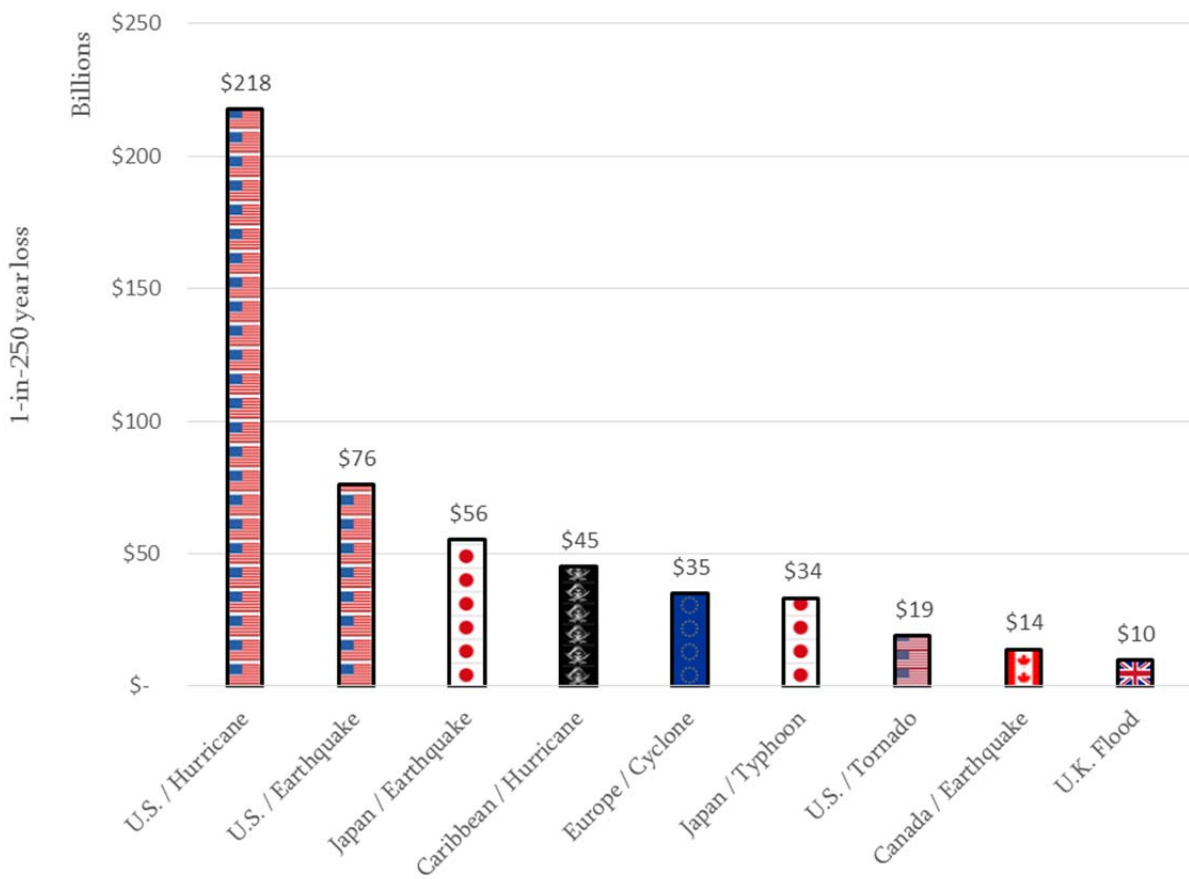
33 For example, see NAIC, "Statutory Minimum Capital and Surplus Requirements," January 12, 2017, available at http://www.naic.org/documents/industry_ucaa_chart_min_capital_surplus.pdf.

34 Consistent with industry practice, we report the average of estimates from the two models.

Figure 5. Exposure to Catastrophic Perils ($ Billions)



Source: Average of AIR and RMS catastrophe models insured perils output. Estimated March 2017.

These risk models estimate the probability and severity of losses from catastrophes by simulating potential catastrophic events.[35] They are used by insurance ratings agencies, such as A.M. Best in determining financial strength ratings. The models can be used to estimate the effect of a BAT on capital available to support U.S. catastrophe exposure. Consider two scenarios: (1) U.S. and foreign risks are each insured separately by one insurer; and (2) U.S. and foreign risks are pooled together and insured by one insurer. Their results are summarized in Figure 6.

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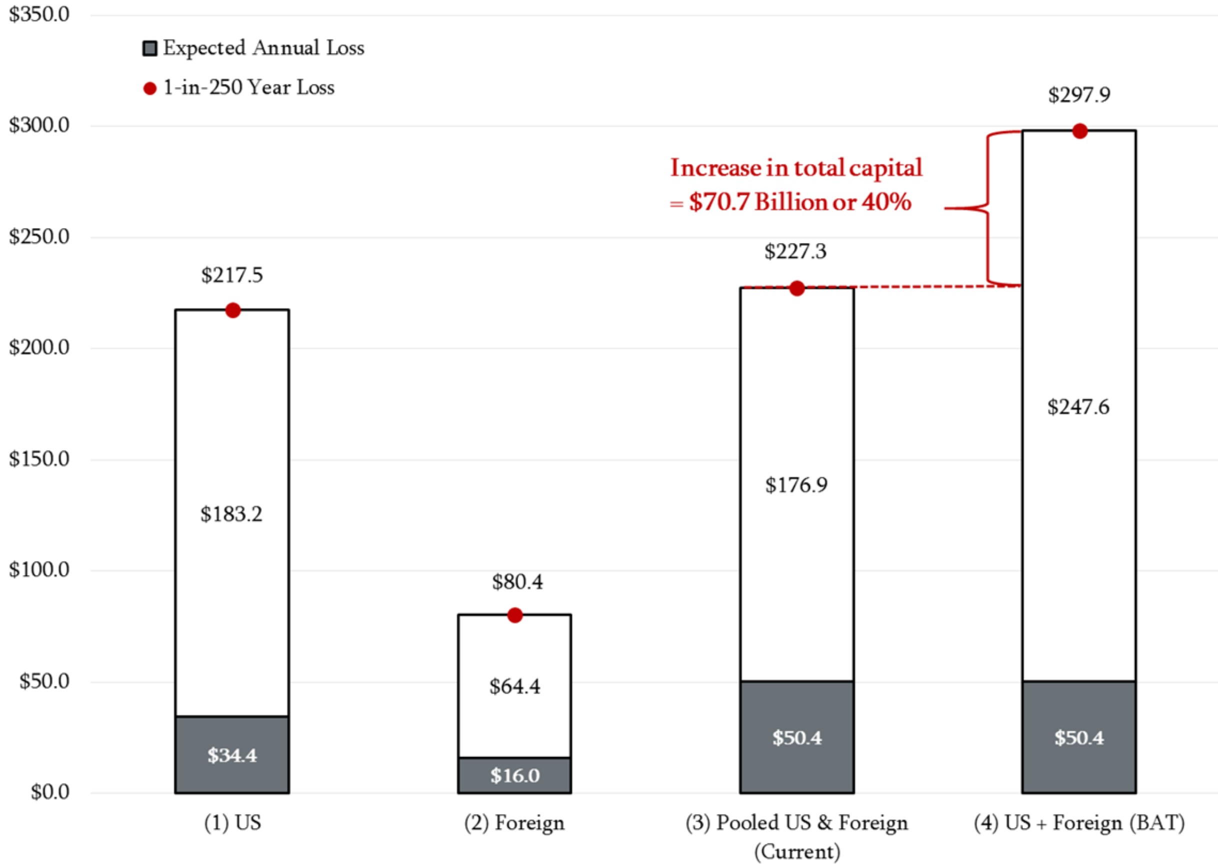
35 For more information, see, for example: http://www.air-worldwide.com/Models/About-Catastrophe-Modeling/ and http://www.rms.com/blog/2015/06/22/what-is-catastrophe-modeling/.

Figure 6. Effect of a BAT on Global Catastrophe Reinsurance Capital ($ Billions)



Source: Average of AIR and RMS model output for the U.S. and pools primary catastrophe exposures of other modeled perils and countries. Total capital is equal to the 1-in-250 year loss (99.6 percent PML).

The red circle at the top of the first bar in Figure 6 shows the 1-in-250 year loss from hurricanes, earthquakes, and tornadoes in the U.S. is $217.5 billion. In other words, there is a 99.6 percent probability that insured losses in the U.S. from the combination of these perils will be less than $217.5 billion. The bottom shaded portion of the first bar shows the expected annual loss ($34.4 billion). To insure such catastrophes, the U.S. insurer needs to hold the difference between the expected annual loss and the 1-in-250 year loss as capital. Similarly, foreign insurers need to hold $64.4 billion, equal to the 1-in-250 year expected loss less the annual expected loss, for the combined distribution of all modeled catastrophe losses outside the U.S. (shown in the second bar).

Comparing the third bar, labeled "Pooled U.S. & Foreign (Current)," to the fourth bar, "US + Foreign (BAT)," demonstrates the powerful effect of pooling uncorrelated global natural disaster loss exposures. When these exposures are pooled in the current global reinsurance market (the third bar), the total capital above the expected annual losses is only $176.9

billion. However, under a BAT, such pooling would not take place, resulting in higher capital requirements. In this scenario, the capital above the expected annual losses increases by $70.7 billion, or 40 percent, from $176.9 billion to $247.6 billion.

Assuming the additional capital has to be split between the U.S. and Foreign entities in proportion to their relative differences between the 1-in-250 capital and the expected annual loss, the U.S. has to increase capital by $52.3 billion, or a 40 percent increase. Holding additional capital is expensive for insurers, because the providers of that capital require a return on their investment. If the cost of the additional capital is passed through to the consumer, the insurance premium will increase by $2.6 billion for the U.S. insurers to keep their return on capital constant.[36] This would lead to a 1.5 percent nationwide increase in the price of catastrophe insurance.[37]

The above calculations are from the perspective of a perfectly efficient market, with a single representative insurer, rather than autonomous firms in the industry. In a realistic market setting, there are many insurers and reinsurers, large and small, multi-line and mono-line, such that the total capital required for these firms well exceeds the level assumed in the risk modeling.[38] Practical consideration such as contracting costs, moral hazard, adverse selection, rate regulation, and idiosyncratic behavior reduce the maximum practical level of diversification. At the same time, insurers and reinsurers may keep capital at a level above the optimal level. The record-high levels of surplus in the current market certainly suggest this is the case. These two factors work in opposite directions. To the extent the first factor dominates the second, the industry will require additional capital to achieve the same

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36 We use a pre-tax return on capital of 5 percent. Applying the 5 percent pre-tax return to the additional U.S. capital required for catastrophe risks of $52.3 billion yields required additional revenue of $2.6 billion.

37 When compared to the current total premiums for U.S. catastrophe insurance lines of $172.1 billion, $2.6 billion in additional required revenue leads to a 1.5 percent price increase ($2.6 billion / $172.1 billion).

38 A perfectly symmetrical and efficient distribution of catastrophe exposures would resemble that considered by Borch (1962) and Cummins, *et al.* (2002) in which each (re)insurer holds an identical portfolio of liabilities in exact proportion to its share of industry capital. Karl Borch, 1962, Equilibrium in a reinsurance market, *Econometrica*, v30n3:424–444. J. David Cummins, Neil Doherty, and Anita Lo, 2002, Can insurers pay for the "big one"? Measuring the capacity of the insurance market to respond to catastrophic losses, *Journal of Banking and Finance*, v26n2-3:557-583.

financial strength. From this perspective, one might consider results from this analysis as a lower bound.

C. State-Level Impact of the BAT

Our analysis thus far has focused on how a BAT tax on foreign reinsurance would affect U.S. consumers nationwide. In this section, we estimate the impact of the BAT on individual states, in two ways. As described in more detail below, we first use a linear allocation based on total direct premiums written in each state and insurance line, and second, we allocate using each state's contribution to total catastrophe risk. The insurance for hurricanes, and wind more generally, can be required under mortgage mandates, while earthquake coverage is typically not mandated. This causes the allocation based on relative risks to allocate larger increases to wind insurance and smaller increases to earthquake insurance.

Appendix C presents a summary of our premium increase allocation by state and by insurance line. It includes the expected premium increase due to Neal/Warner and the increase due to BAT. If both Neal/Warner and a BAT are passed, the expected premium increase is the sum of the impact of each.

1. Linear Allocation of Nationwide Impact

We allocate the above 1.5 percent nationwide catastrophic insurance premium increase across all states and the District of Columbia and across all insurance lines that include catastrophic risks in Appendix A. We use a simple linear allocation based on the value of direct premiums earned in each state and in each line.

For example, Appendix A shows that U.S. insurers wrote $1.6 billion of direct premiums for earthquake insurance in California in 2015, or 1.0 percent of the nationwide $158.3 billion of direct premiums written for insurance lines containing natural catastrophe insurance. Applying 1.0 percent to our estimated aggregate price increase for natural catastrophe lines ($2.6 billion) leads to Californians seeing a price increase of $27.1 million for earthquake insurance for the same coverage as a result of the BAT.

2. Allocation of Nationwide Impact by Risk Contribution

Alternatively, we allocate the 1.5 percent nationwide catastrophic insurance premium increase using the relative catastrophe risk borne by each state. We perform a two-step calculation to reach the allocation by state and line in Appendix B. The first step is to allocate the $2.6 billion nationwide premium increase across states using RMS data on each state's relative proportion of catastrophe risks. After allocating by state, the second step is to allocate the premium increase to individual insurance lines containing catastrophe risks using a linear allocation. Appendix B shows the results.

For example, based on RMS data, Florida bears 29.3 percent of nationwide catastrophe risk. In step one, we calculate the estimated premium increase for Florida to be equal to $767 million (see Appendix B, Panel B), calculated by multiplying our estimated aggregate price increase of $2.6 billion times the 29.3 percent that is attributable to Florida. In step two, we allocate Florida's $767 million across the insurance lines that contain catastrophe risk. Panel A shows that Florida wrote $8.8 billion of direct premiums for the homeowner multiple peril line, or 69.8 percent of the $12.6 billion total for the insurance lines containing catastrophe risks. Multiplying 69.8 percent by the $767 million Florida-wide figure from step one results in an increased premium for Florida homeowners multiple peril of $535.6 million, as shown in Panel B.

3. Comparison of State-by-State Premium Increase Allocations

Appendix C presents a summary of our calculations of expected premium increases. First, Appendix C shows the expected premium increase under a BAT using each the two methods described above and shown in Appendices A and B. Panel A shows the results under a linear allocation (from Appendix A) and panel B shows the figures using the relative catastrophe risk borne by each state (from Appendix B).

Further, Panel C of Appendix C shows the state-by-state allocations of expected premium increases under the Neal/Warner Bill tax proposal. This analysis was part of our January 2017 report on the potential impact of the Neal/Warner Bill. Similar to Panels A and B, we show the expected increases for the insurance lines that contain catastrophe risks.

The Neal/Warner Bill and the BAT proposal would have different adverse impacts on the price consumers pay for insurance. If both were to become effective, the expected premium increase would be the sum of the expected increase due to a BAT (the figures in either Panel A or Panel B) and the expected increase due to Neal/Warner (Panel C).

V. A BAT Would Negatively Impact Mutual Insurance Companies' Ability to Access Capital through Reinsurance

There are two primary organizational forms of insurance companies in the U.S. – mutual insurers (45 percent of the total written premiums per year, see Table 4) and stock insurers (55 percent).[39] Mutual insurance companies are those that are owned by policyholders and operate for the purpose of serving their customers. This contrasts with stock insurers that are owned by stockholders and seek to provide returns to their stockholders. Stock insurance companies have a greater ability to raise capital by issuing equity, whereas mutual insurance companies do not have this ability. Given this constraint, mutual insurance companies tend to focus on certain lines of insurance, maintain higher capital cushions, and rely more heavily on reinsurance for risk management.[40] Table 4 shows the top ten insurance lines with the highest coverages from mutual insurers in 2015. These lines include farm owners, homeowners, and commercial multiple peril.

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39 Over the period 2006 – 2015, mutual insurers have accounted for 43 – 46 percent of annual written premiums. Lawrence S. Powell, "What it Means to be Mutual," National Association of Mutual Insurance Companies, April 2017, p. 5, available at https://www.namic.org/pdf/publicpolicy/1703_WhatItMeansToBeMutual.pdf.

40 Powell, *op cit.*, pp. 3, 8, 14, and 17.

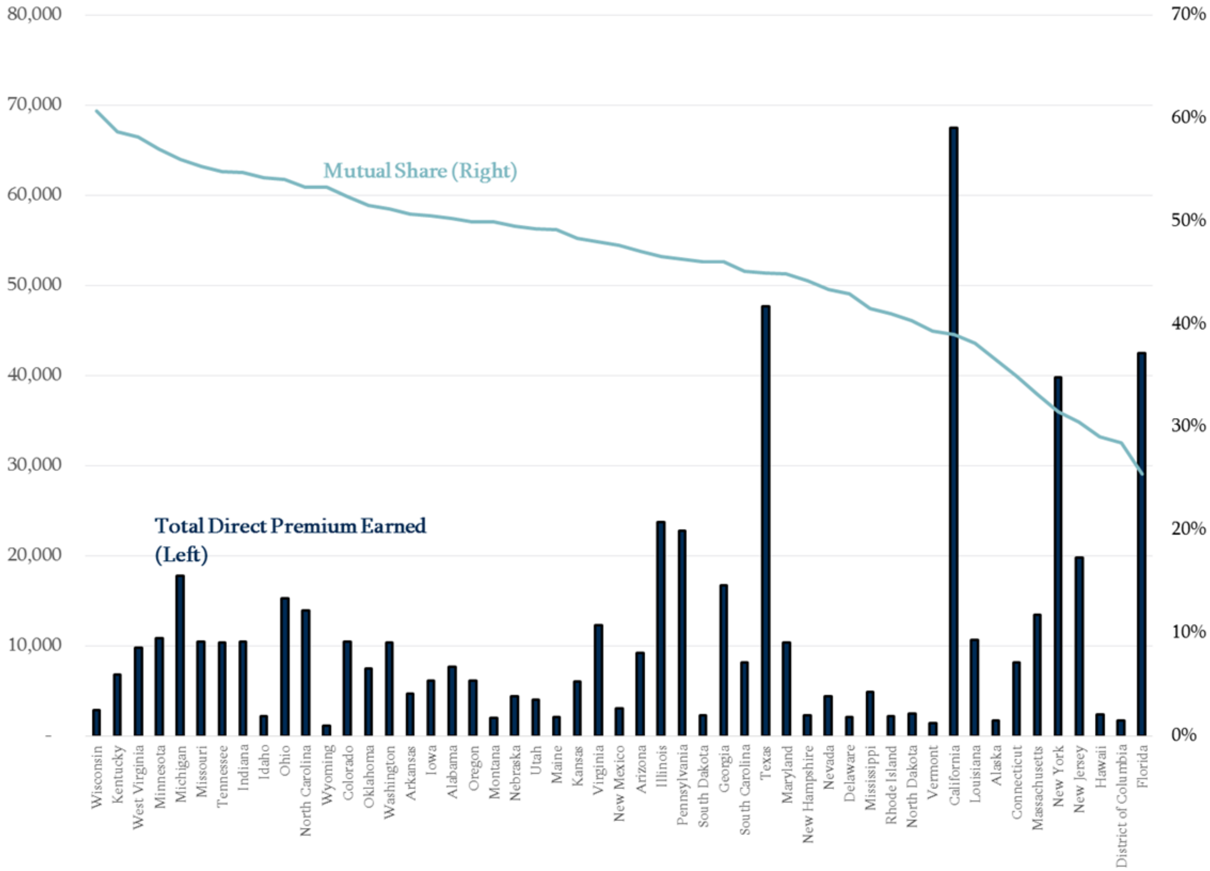
Table 4. Top 10 Lines with the Highest Mutual Shares (2015, $ Millions)

Line of Business	Total Premium Earned	Premium Earned by Mutual Companies	Mutual Share
Farmowners	3,984	3,130	78.6%
Homeowners	86,411	55,060	63.7%
Personal Automobile	195,326	111,819	57.2%
Medical Professional Liability	9,347	4,353	46.6%
Commercial Multiple Peril	38,665	17,358	44.9%
Commercial Automobile	30,035	11,778	39.2%
Boiler and Machinery	1,542	601	39.0%
Fire and Allied Lines	23,068	8,482	36.8%
Inland Marine	19,680	6,831	34.7%
Workers Compensation	54,296	17,661	32.5%
Subtotal (10 Lines)	**462,355**	**237,074**	**51.3%**
Total	**566,408**	**255,499**	**45.1%**

Source: NAIC InfoPro Database, 2015.

Mutual insurers are important to the P&C industry. They accounted for 45 percent of all P&C premiums in the U.S. in 2015. Figure 7 shows the share of premiums earned by mutual insurers in each state, ranked from the highest mutual share to the lowest. Mutual insurers operate in all 50 states, accounting for between 25 percent (Florida) to more than 60 percent (Wisconsin) of the P&C insurance in all states.

Figure 7. Mutual Insurer Share of Premiums Earned by State (2015, $ Millions)



Source: NAIC InfoPro Database, 2015.

Certain mutual insurers are particularly important for small markets, niche markets, and markets with hard-to-insure risks. One such example is for insurance in Florida, where 25 percent of premiums earned are by mutual insurance companies. Given their importance in small markets, mutual insurers are important to industry competition and making rates more reasonable for U.S. policyholders.

Mutual insurers that rely to a large extent on foreign reinsurance would be negatively impacted a BAT policy, especially for their catastrophic risk exposures. For example, A.M. Best's 2016 Report stated that "mutual [insurers] maintain comprehensive reinsurance structures to mitigate catastrophic weather events through smaller retentions, quota shares, and additional unique coverages."[41]

VI. Conclusion

We calculated in our January 2017 report that a reduction in reinsurance due to a BAT would lead to a large drop in the supply of U.S. insurance – for example, a 50 percent reduction in reinsurance would cause an estimated $40.9 billion drop in the supply of U.S. insurance, and that U.S. consumers would pay $22.1 billion more to obtain the same coverage.

Additional analyses in this report demonstrate that a BAT would be incrementally adverse to the U.S. insurance industry and U.S. insurance consumers under each of the potential ways in which the market would respond. Under the scenario where the U.S. maintains its foreign reinsurance purchases despite their higher cost, U.S. insurers will see a 24.6 percent decline in profits, or they will have to raise premiums by 2.8 percent. Under the alternative scenario, the U.S. would curtail its foreign insurance purchases, leading to increased risks remaining in the U.S., the need to raise additional capital, and a loss in the benefits of global diversification. For the U.S. catastrophic risks, raising additional capital in the U.S. would lead to price increases of 1.5 percent.

Premium increases lower the overall level of insurance in the U.S. The contraction of reinsurance following a BAT would widen the "protection gap," the difference between economic and insured losses. Figure 8 shows that even without a BAT, the trend in overall losses[42] is increasing faster than in insured losses, indicating a growing "gap" in coverage for catastrophic losses. The burden of this gap will likely fall most heavily on Federal and state governments as the ultimate safety nets for losses.

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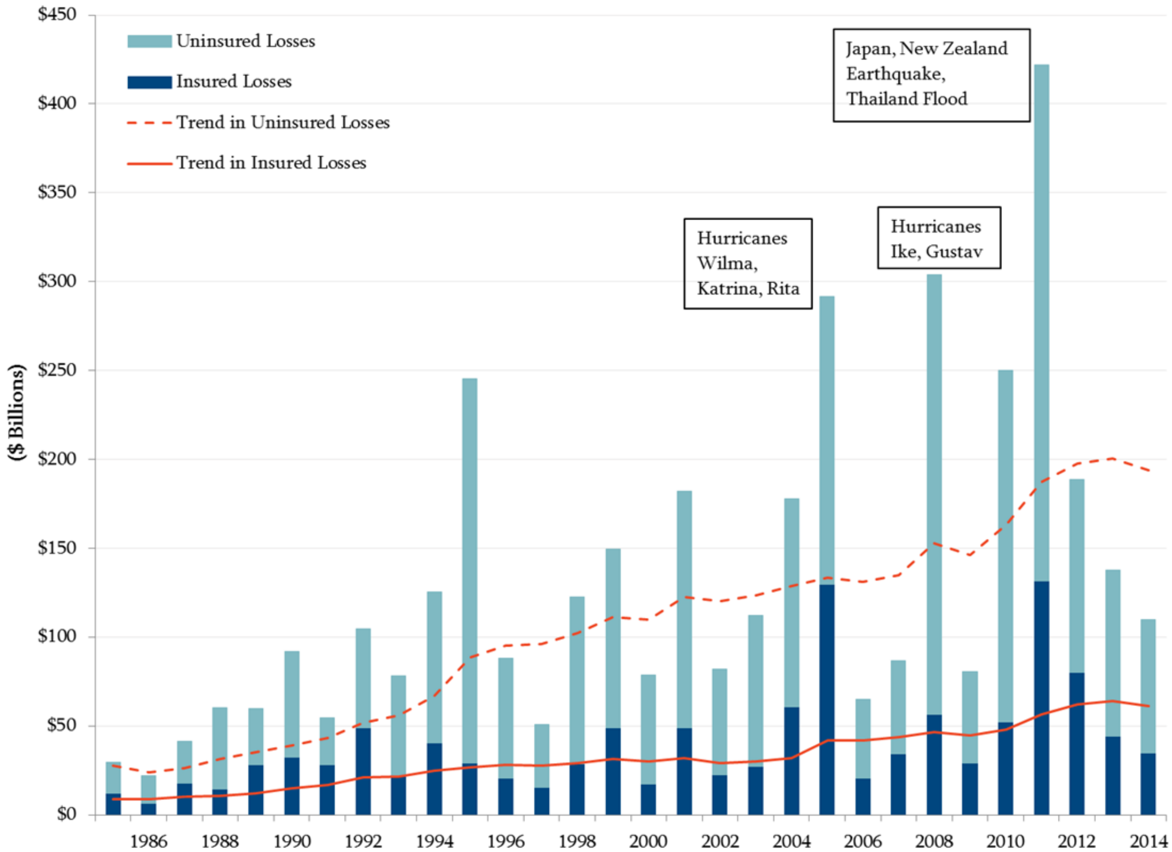
41 A.M. Best, "Best's Special Report: Mutual P/C Insurers Managing Market Challenges," September 22, 2016, p. 1, available at http://www.naic.org/documents/cipr_events_impact_rating_amb_m_report.pdf.

42 The trend lines in Figure 8 are 10-year moving averages.

Figure 8. Gap between Insurance Losses and Overall Losses



Source: Swiss Re, “Underinsurance of Property Risks: Closing the Gap,” No. 5/2015.

Appendix A: Linear Allocation of Nationwide Premium Increases

State-Level Impact of BAT Proposal: Linear Allocation (page 1 of 6)

($ in Thousands)

A. State-by-State Direct Premium Earned (DPE) in 2015

Line of Business	Total DPE	Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	District of Columbia
Farmowners multiple peril	4,086,173	74,050	633	15,988	28,608	209,485	78,943	5,894	5,756	-
Homeowners multiple peril	89,123,076	1,657,676	164,273	1,519,049	863,215	7,462,747	2,024,785	1,408,185	244,064	151,109
Commercial multiple peril	39,226,781	568,579	107,869	610,403	323,955	4,552,394	761,544	638,210	303,839	163,331
Ocean marine	3,074,234	37,875	37,391	19,143	16,690	280,178	12,813	87,409	7,658	3,642
Inland marine	19,962,268	276,656	146,994	326,165	202,259	2,585,927	352,208	293,154	77,972	110,974
Earthquake	2,812,354	8,029	25,182	8,840	31,615	1,643,302	10,800	8,277	1,173	2,610
Total	158,284,886	2,622,867	482,342	2,499,587	1,466,342	16,734,033	3,241,093	2,441,130	640,462	431,666

B. State-by-State Allocated Premium Increase

Line of Business	Total Required Increase in Revenue	Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	District of Columbia
Farmowners multiple peril	67,504	1,223	10	264	473	3,461	1,304	97	95	-
Homeowners multiple peril	1,472,326	27,385	2,714	25,095	14,260	123,286	33,450	23,263	4,032	2,496
Commercial multiple peril	648,032	9,393	1,782	10,084	5,352	75,206	12,581	10,543	5,019	2,698
Ocean marine	50,787	626	618	316	276	4,629	212	1,444	127	60
Inland marine	329,780	4,570	2,428	5,388	3,341	42,720	5,819	4,843	1,288	1,833
Earthquake	46,461	132.65	416	146	522	27,148	178	137	19	43
Total	2,614,889	43,330	7,968	41,294	24,224	276,449	53,543	40,328	10,581	7,131

The above figures illustrate the impact of the BAT proposal to insurance consumers in the state and were calculated by applying the estimated national increase in insurance costs to direct premiums earned in the state. Only lines that include catastrophe are included. These figures do not include additional increases in costs that would result from the non-proportional reinsurance lines and international, which are not reported on a state by state basis.

State-Level Impact of BAT Proposal: Linear Allocation (page 2 of 6)
($ in Thousands)

A. State-by-State Direct Premium Earned (DPE) in 2015

Line of Business	Total DPE	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky
Farmowners multiple peril	4,086,173	23,481	118,657	460	57,224	170,482	201,698	194,132	233,692	158,011
Homeowners multiple peril	89,123,076	8,772,206	2,844,022	368,755	315,632	3,423,857	1,851,696	731,293	1,104,651	1,115,395
Commercial multiple peril	39,226,781	2,221,245	981,971	174,298	195,885	1,721,225	803,114	373,834	380,403	506,951
Ocean marine	3,074,234	313,912	55,871	15,693	5,071	92,191	29,554	7,598	8,857	26,726
Inland marine	19,962,268	1,210,054	569,706	95,576	87,785	754,952	317,942	195,492	188,199	257,611
Earthquake	2,812,354	23,490	14,871	11,557	3,597	67,210	36,466	5,844	7,119	41,992
Total	158,284,886	12,564,388	4,585,099	666,339	665,193	6,229,917	3,240,471	1,508,193	1,922,922	2,106,685

B. State-by-State Allocated Premium Increase

Line of Business	Total Required Increase in Revenue	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky
Farmowners multiple peril	67,504	387.92	1,960.24	7.60	945.35	2,816.39	3,332.08	3,207.09	3,860.62	2,610.37
Homeowners multiple peril	1,472,326	144,918.13	46,983.67	6,091.88	5,214.28	56,562.61	30,590.29	12,081.07	18,249.00	18,426.48
Commercial multiple peril	648,032	36,695.29	16,222.31	2,879.43	3,236.04	28,434.89	13,267.57	6,175.80	6,284.31	8,374.90
Ocean marine	50,787	5,185.87	922.99	259.26	83.78	1,523.02	488.24	125.52	146.32	441.52
Inland marine	329,780	19,990.26	9,411.63	1,578.94	1,450.21	12,471.91	5,252.45	3,229.55	3,109.08	4,255.77
Earthquake	46,461	388.06	245.67	190.92	59.42	1,110.32	602.43	96.54	117.61	693.71
Total	2,614,889	207,566	75,747	11,008	10,989	102,919	53,533	24,916	31,767	34,803

The above figures illustrate the impact of the BAT proposal to insurance consumers in the state and were calculated by applying the estimated national increase in insurance costs to direct premiums earned in the state. Only lines that include catastrophe are included. These figures do not include additional increases in costs that would result from the non-proportional reinsurance lines and international, which are not reported on a state by state basis.

State-Level Impact of BAT Proposal: Linear Allocation (page 3 of 6)
($ in Thousands)

A. State-by-State Direct Premium Earned (DPE) in 2015

Line of Business	Total DPE	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana
Farmowners multiple peril	4,086,173	13,541	4,607	26,987	3,257	142,183	145,046	22,557	169,216	65,832
Homeowners multiple peril	89,123,076	1,851,819	387,943	1,628,226	2,155,538	2,658,451	2,013,736	957,972	1,912,187	300,539
Commercial multiple peril	39,226,781	530,484	226,195	636,161	1,124,973	1,066,692	707,248	328,052	764,843	174,613
Ocean marine	3,074,234	185,278	26,244	96,325	86,661	65,390	24,997	17,810	37,043	3,435
Inland marine	19,962,268	413,479	73,960	329,301	459,290	529,603	370,689	179,506	333,903	84,257
Earthquake	2,812,354	6,262	2,035	12,270	20,926	8,340	6,850	17,364	91,411	4,692
Total	158,284,886	3,000,863	720,984	2,729,270	3,850,645	4,470,659	3,268,567	1,523,262	3,308,602	633,367

B. State-by-State Allocated Premium Increase

Line of Business	Total Required Increase in Revenue	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana
Farmowners multiple peril	67,504	223.70	76.11	445.83	53.81	2,348.89	2,396.18	372.65	2,795.48	1,087.55
Homeowners multiple peril	1,472,326	30,592.33	6,408.88	26,898.54	35,609.81	43,918.00	33,267.21	15,825.84	31,589.60	4,964.95
Commercial multiple peril	648,032	8,763.67	3,736.78	10,509.48	18,584.72	17,621.91	11,683.85	5,419.46	12,635.32	2,884.63
Ocean marine	50,787	3,060.82	433.55	1,591.30	1,431.66	1,080.26	412.96	294.23	611.95	56.74
Inland marine	329,780	6,830.74	1,221.83	5,440.10	7,587.53	8,749.12	6,123.84	2,965.47	5,516.13	1,391.94
Earthquake	46,461	103.45	33.62	202.71	345.70	137.77	113.17	286.86	1,510.13	77.51
Total	2,614,889	49,575	11,911	45,088	63,613	73,856	53,997	25,165	54,659	10,463

The above figures illustrate the impact of the BAT proposal to insurance consumers in the state and were calculated by applying the estimated national increase in insurance costs to direct premiums earned in the state. Only lines that include catastrophe are included. These figures do not include additional increases in costs that would result from the non-proportional reinsurance lines and international, which are not reported on a state by state basis.

State-Level Impact of BAT Proposal: Linear Allocation (page 4 of 6)
($ in Thousands)

A. State-by-State Direct Premium Earned (DPE) in 2015

Line of Business	Total DPE	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio
Farmowners multiple peril	4,086,173	216,270	7,843	3,150	2,622	25,354	41,296	58,237	115,129	163,692
Homeowners multiple peril	89,123,076	649,522	535,066	383,096	2,556,089	489,700	5,220,744	2,376,336	196,937	2,785,059
Commercial multiple peril	39,226,781	262,711	310,843	231,881	1,424,250	225,469	3,706,915	935,094	143,982	1,265,653
Ocean marine	3,074,234	5,422	6,696	11,249	135,249	2,764	406,485	44,524	1,570	52,694
Inland marine	19,962,268	176,152	158,983	79,832	552,530	103,030	1,508,686	526,154	79,718	559,011
Earthquake	2,812,354	2,701	19,481	2,579	19,597	2,525	53,503	13,809	989	29,806
Total	158,284,886	1,312,777	1,038,913	711,785	4,690,336	848,843	10,937,629	3,954,156	538,326	4,855,914

B. State-by-State Allocated Premium Increase

Line of Business	Total Required Increase in Revenue	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio
Farmowners multiple peril	67,504	3,572.80	129.57	52.03	43.32	418.85	682.22	962.09	1,901.95	2,704.21
Homeowners multiple peril	1,472,326	10,730.20	8,839.37	6,328.80	42,226.96	8,089.92	86,247.45	39,257.42	3,253.43	46,009.58
Commercial multiple peril	648,032	4,340.02	5,135.17	3,830.70	23,528.82	3,724.78	61,238.78	15,447.90	2,378.60	20,908.77
Ocean marine	50,787	89.57	110.62	185.83	2,234.33	45.67	6,715.20	735.54	25.94	870.52
Inland marine	329,780	2,910.06	2,626.43	1,318.83	9,127.87	1,702.08	24,923.71	8,692.15	1,316.96	9,234.94
Earthquake	46,461	44.62	321.84	42.60	323.74	41.72	883.87	228.13	16.34	492.40
Total	2,614,889	21,687	17,163	11,759	77,485	14,023	180,691	65,323	8,893	80,220

The above figures illustrate the impact of the BAT proposal to insurance consumers in the state and were calculated by applying the estimated national increase in insurance costs to direct premiums earned in the state. Only lines that include catastrophe are included. These figures do not include additional increases in costs that would result from the non-proportional reinsurance lines and international, which are not reported on a state by state basis.

State-Level Impact of BAT Proposal: Linear Allocation (page 5 of 6)
($ in Thousands)

A. State-by-State Direct Premium Earned (DPE) in 2015

Line of Business	Total DPE	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah
Farmowners multiple peril	4,086,173	161,694	64,656	103,859	276	13,152	116,988	143,342	285,031	13,563
Homeowners multiple peril	89,123,076	1,595,082	749,220	3,248,515	370,153	1,601,721	221,501	1,909,045	7,994,072	489,732
Commercial multiple peril	39,226,781	527,709	459,370	1,704,178	150,488	471,680	128,504	696,206	2,674,326	259,607
Ocean marine	3,074,234	20,981	32,858	60,086	45,318	28,162	1,063	55,573	311,755	10,467
Inland marine	19,962,268	244,026	232,083	667,865	79,338	298,246	61,416	378,711	1,985,336	139,310
Earthquake	2,812,354	18,858	79,096	16,953	2,421	40,740	1,007	78,908	35,706	44,999
Total	158,284,886	2,568,351	1,617,283	5,801,456	647,994	2,453,701	530,480	3,261,785	13,286,226	957,677

B. State-by-State Allocated Premium Increase

Line of Business	Total Required Increase in Revenue	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah
Farmowners multiple peril	67,504	2,671.21	1,068.13	1,715.76	4.55	217.27	1,932.66	2,368.04	4,708.75	224.06
Homeowners multiple peril	1,472,326	26,351.00	12,377.22	53,665.95	6,114.98	26,460.66	3,659.22	31,537.70	132,063.24	8,090.44
Commercial multiple peril	648,032	8,717.83	7,588.85	28,153.28	2,486.09	7,792.23	2,122.91	11,501.43	44,180.26	4,288.75
Ocean marine	50,787	346.61	542.81	992.62	748.66	465.24	17.57	918.07	5,150.24	172.92
Inland marine	329,780	4,031.35	3,834.05	11,033.23	1,310.67	4,927.07	1,014.61	6,256.35	32,798.04	2,301.42
Earthquake	46,461	311.54	1,306.68	280.07	40.00	673.02	16.64	1,303.57	589.87	743.38
Total	2,614,889	42,430	26,718	95,841	10,705	40,535	8,764	53,885	219,490	15,821

The above figures illustrate the impact of the BAT proposal to insurance consumers in the state and were calculated by applying the estimated national increase in insurance costs to direct premiums earned in the state. Only lines that include catastrophe are included. These figures do not include additional increases in costs that would result from the non-proportional reinsurance lines and international, which are not reported on a state by state basis.

State-Level Impact of BAT Proposal: Linear Allocation (page 6 of 6)
($ in Thousands)

A. State-by-State Direct Premium Earned (DPE) in 2015

Line of Business	Total DPE	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming
Farmowners multiple peril	4,086,173	14,677	75,397	71,375	14,364	174,985	28,801
Homeowners multiple peril	89,123,076	190,047	2,126,210	1,585,812	427,551	1,344,228	188,617
Commercial multiple peril	39,226,781	135,019	779,795	791,229	204,764	686,942	101,855
Ocean marine	3,074,234	5,163	64,187	130,224	3,704	35,530	1,053
Inland marine	19,962,268	39,910	424,448	462,227	76,795	257,320	47,527
Earthquake	2,812,354	28,341	18,759	169,354	1,281	5,864	2,952
Total	158,284,886	413,157	3,488,795	3,210,222	728,459	2,504,869	370,805

B. State-by-State Allocated Premium Increase

Line of Business	Total Required Increase in Revenue	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming
Farmowners multiple peril	67,504	242.47	1,245.57	1,179.12	237.29	2,890.77	475.79
Homeowners multiple peril	1,472,326	3,139.60	35,125.29	26,197.85	7,063.21	22,206.84	3,115.98
Commercial multiple peril	648,032	2,230.53	12,882.33	13,071.22	3,382.73	11,348.39	1,682.66
Ocean marine	50,787	85.30	1,060.38	2,151.32	61.19	586.96	17.40
Inland marine	329,780	659.32	7,011.95	7,636.06	1,268.66	4,250.97	785.16
Earthquake	46,461	468.20	309.90	2,797.75	21.17	96.88	48.76
Total	2,614,889	6,825	57,635	53,033	12,034	41,381	6,126

The above figures illustrate the impact of the BAT proposal to insurance consumers in the state and were calculated by applying the estimated national increase in insurance costs to direct premiums earned in the state. Only lines that include catastrophe are included. These figures do not include additional increases in costs that would result from the non-proportional reinsurance lines and international, which are not reported on a state by state basis.

Appendix B: Allocation of Nationwide Premium Increases by Risk Contribution

State-Level Impact of BAT Proposal: Risk Allocation (page 1 of 6)
($ in Thousands)

A. State-by-State Direct Premium Earned (DPE) in 2015

Line of Business	Total DPE	Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	District of Columbia
Farmowners multiple peril	4,086,173	74,050	633	15,988	28,608	209,485	78,943	5,894	5,756	-
Homeowners multiple peril	89,123,076	1,657,676	164,273	1,519,049	863,215	7,462,747	2,024,785	1,408,185	244,064	151,109
Commercial multiple peril	39,226,781	568,579	107,869	610,403	323,955	4,552,394	761,544	638,210	303,839	163,331
Ocean marine	3,074,234	37,875	37,391	19,143	16,690	280,178	12,813	87,409	7,658	3,642
Inland marine	19,962,268	276,656	146,994	326,165	202,259	2,585,927	352,208	293,154	77,972	110,974
Earthquake	2,812,354	8,029	25,182	8,840	31,615	1,643,302	10,800	8,277	1,173	2,610
Total	158,284,886	2,622,867	482,342	2,499,587	1,466,342	16,734,033	3,241,093	2,441,130	640,462	431,666

B. State-by-State Allocated Premium Increase

Line of Business	Total Required Increase in Revenue	Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	District of Columbia
Farmowners multiple peril	37,851	1,497	4	37	283	2,380	562	81	53	-
Homeowners multiple peril	1,577,231	33,518	1,007	3,551	8,551	84,798	14,422	19,381	2,229	1,305
Commercial multiple peril	583,936	11,497	661	1,427	3,209	51,728	5,424	8,784	2,774	1,411
Ocean marine	61,560	766	229	45	165	3,184	91	1,203	70	31
Inland marine	319,137	5,594	901	762	2,003	29,383	2,509	4,035	712	958
Earthquake	35,174	162	154	21	313	18,673	77	114	11	23
Total	2,614,889	53,035	2,957	5,842	14,525	190,146	23,086	33,598	5,848	3,728

The above figures illustrate the impact of the BAT proposal to insurance consumers in the state and were calculated by applying the estimated national increase in insurance cost and a state by state cat risk percentage from RMS. State by state cat risk is calculated using (250 year probable maximum loss (PML) – Expected Loss) / sum of all states (250 year PML – Expected Loss). to direct premiums earned in the state. Only lines that include catastrophe are included. These figures do not include additional increases in costs that would result from the non-proportional reinsurance lines and international, which are not reported on a state by state basis.

State-Level Impact of BAT Proposal: Risk Allocation (page 2 of 6)
($ in Thousands)

A. State-by-State Direct Premium Earned (DPE) in 2015

Line of Business	Total DPE	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky
Farmowners multiple peril	4,086,173	23,481	118,657	460	57,224	170,482	201,698	194,132	233,692	158,011
Homeowners multiple peril	89,123,076	8,772,206	2,844,022	368,755	315,632	3,423,857	1,851,696	731,293	1,104,651	1,115,395
Commercial multiple peril	39,226,781	2,221,245	981,971	174,298	195,885	1,721,225	803,114	373,834	380,403	506,951
Ocean marine	3,074,234	313,912	55,871	15,693	5,071	92,191	29,554	7,598	8,857	26,726
Inland marine	19,962,268	1,210,054	569,706	95,576	87,785	754,952	317,942	195,492	188,199	257,611
Earthquake	2,812,354	23,490	14,871	11,557	3,597	67,210	36,466	5,844	7,119	41,992
Total	158,284,886	12,564,388	4,585,099	666,339	665,193	6,229,917	3,240,471	1,508,193	1,922,922	2,106,685

B. State-by-State Allocated Premium Increase

Line of Business	Total Required Increase in Revenue	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky
Farmowners multiple peril	37,851	1,434	948	79	72	1,025	1,061	1,214	1,940	1,229
Homeowners multiple peril	1,577,231	535,569	22,719	63,690	395	20,580	9,742	4,573	9,171	8,673
Commercial multiple peril	583,936	135,613	7,844	30,104	245	10,346	4,225	2,338	3,158	3,942
Ocean marine	61,560	19,165	446	2,711	6	554	155	48	74	208
Inland marine	319,137	73,877	4,551	16,508	110	4,538	1,673	1,223	1,562	2,003
Earthquake	35,174	1,434	119	1,996	5	404	192	37	59	327
Total	2,614,889	767,093	36,628	115,088	832	37,446	17,049	9,432	15,964	16,381

The above figures illustrate the impact of the BAT proposal to insurance consumers in the state and were calculated by applying the estimated national increase in insurance cost and a state by state cat risk percentage from RMS. State by state cat risk is calculated using (250 year probable maximum loss (PML) – Expected Loss) / sum of all states (250 year PML – Expected Loss). to direct premiums earned in the state. Only lines that include catastrophe are included. These figures do not include additional increases in costs that would result from the non-proportional reinsurance lines and international, which are not reported on a state by state basis.

State-Level Impact of BAT Proposal: Risk Allocation (page 3 of 6)

($ in Thousands)

A. State-by-State Direct Premium Earned (DPE) in 2015

Line of Business	Total DPE	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana
Farmowners multiple peril	4,086,173	13,541	4,607	26,987	3,257	142,183	145,046	22,557	169,216	65,832
Homeowners multiple peril	89,123,076	1,851,819	387,943	1,628,226	2,155,538	2,658,451	2,013,736	957,972	1,912,187	300,539
Commercial multiple peril	39,226,781	530,484	226,195	636,161	1,124,973	1,066,692	707,248	328,052	764,843	174,613
Ocean marine	3,074,234	185,278	26,244	96,325	86,661	65,390	24,997	17,810	37,043	3,435
Inland marine	19,962,268	413,479	73,960	329,301	459,290	529,603	370,689	179,506	333,903	84,257
Earthquake	2,812,354	6,262	2,035	12,270	20,926	8,340	6,850	17,364	91,411	4,692
Total	158,284,886	3,000,863	720,984	2,729,270	3,850,645	4,470,659	3,268,567	1,523,262	3,308,602	633,367

B. State-by-State Allocated Premium Increase

Line of Business	Total Required Increase in Revenue	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana
Farmowners multiple peril	37,851	636	37	204	50	367	926	824	1,535	141
Homeowners multiple peril	1,577,231	86,925	3,156	12,331	33,216	6,860	12,862	35,015	17,348	645
Commercial multiple peril	583,936	24,901	1,840	4,818	17,336	2,753	4,517	11,991	6,939	375
Ocean marine	61,560	8,697	213	730	1,335	169	160	651	336	7
Inland marine	319,137	19,409	602	2,494	7,078	1,367	2,368	6,561	3,029	181
Earthquake	35,174	294	17	93	322	22	44	635	829	10
Total	2,614,889	140,861	5,865	20,670	59,337	11,536	20,877	55,676	30,017	1,360

The above figures illustrate the impact of the BAT proposal to insurance consumers in the state and were calculated by applying the estimated national increase in insurance cost and a state by state cat risk percentage from RMS. State by state cat risk is calculated using (250 year probable maximum loss (PML) – Expected Loss) / sum of all states (250 year PML – Expected Loss). to direct premiums earned in the state. Only lines that include catastrophe are included. These figures do not include additional increases in costs that would result from the non-proportional reinsurance lines and international, which are not reported on a state by state basis.

State-Level Impact of BAT Proposal: Risk Allocation (page 4 of 6)
($ in Thousands)

A. State-by-State Direct Premium Earned (DPE) in 2015

Line of Business	Total DPE	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio
Farmowners multiple peril	4,086,173	216,270	7,843	3,150	2,622	25,354	41,296	58,237	115,129	163,692
Homeowners multiple peril	89,123,076	649,522	535,066	383,096	2,556,089	489,700	5,220,744	2,376,336	196,937	2,785,059
Commercial multiple peril	39,226,781	262,711	310,843	231,881	1,424,250	225,469	3,706,915	935,094	143,982	1,265,653
Ocean marine	3,074,234	5,422	6,696	11,249	135,249	2,764	406,485	44,524	1,570	52,694
Inland marine	19,962,268	176,152	158,983	79,832	552,530	103,030	1,508,686	526,154	79,718	559,011
Earthquake	2,812,354	2,701	19,481	2,579	19,597	2,525	53,503	13,809	989	29,806
Total	158,284,886	1,312,777	1,038,913	711,785	4,690,336	848,843	10,937,629	3,954,156	538,326	4,855,914

B. State-by-State Allocated Premium Increase

Line of Business	Total Required Increase in Revenue	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio
Farmowners multiple peril	37,851	2,250	40	19	36	112	458	1,634	701	580
Homeowners multiple peril	1,577,231	6,757	2,726	2,360	35,455	2,165	57,954	66,682	1,199	9,869
Commercial multiple peril	583,936	2,733	1,584	1,428	19,756	997	41,150	26,239	877	4,485
Ocean marine	61,560	56	34	69	1,876	12	4,512	1,249	10	187
Inland marine	319,137	1,832	810	492	7,664	455	16,748	14,764	485	1,981
Earthquake	35,174	28	99	16	272	11	594	387	6	106
Total	2,614,889	13,656	5,293	4,385	65,059	3,753	121,417	110,957	3,278	17,207

The above figures illustrate the impact of the BAT proposal to insurance consumers in the state and were calculated by applying the estimated national increase in insurance cost and a state by state cat risk percentage from RMS. State by state cat risk is calculated using (250 year probable maximum loss (PML) – Expected Loss) / sum of all states (250 year PML – Expected Loss). to direct premiums earned in the state. Only lines that include catastrophe are included. These figures do not include additional increases in costs that would result from the non-proportional reinsurance lines and international, which are not reported on a state by state basis.

State-Level Impact of BAT Proposal: Risk Allocation (page 5 of 6)

($ in Thousands)

A. State-by-State Direct Premium Earned (DPE) in 2015

Line of Business	Total DPE	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah
Farmowners multiple peril	4,086,173	161,694	64,656	103,859	276	13,152	116,988	143,342	285,031	13,563
Homeowners multiple peril	89,123,076	1,595,082	749,220	3,248,515	370,153	1,601,721	221,501	1,909,045	7,994,072	489,732
Commercial multiple peril	39,226,781	527,709	459,370	1,704,178	150,488	471,680	128,504	696,206	2,674,326	259,607
Ocean marine	3,074,234	20,981	32,858	60,086	45,318	28,162	1,063	55,573	311,755	10,467
Inland marine	19,962,268	244,026	232,083	667,865	79,338	298,246	61,416	378,711	1,985,336	139,310
Earthquake	2,812,354	18,858	79,096	16,953	2,421	40,740	1,007	78,908	35,706	44,999
Total	158,284,886	2,568,351	1,617,283	5,801,456	647,994	2,453,701	530,480	3,261,785	13,286,226	957,677

B. State-by-State Allocated Premium Increase

Line of Business	Total Required Increase in Revenue	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah
Farmowners multiple peril	37,851	1,129	676	470	4	510	805	1,245	5,728	177
Homeowners multiple peril	1,577,231	11,134	7,839	14,695	6,003	62,170	1,524	16,578	160,642	6,385
Commercial multiple peril	583,936	3,684	4,806	7,709	2,441	18,308	884	6,046	53,741	3,385
Ocean marine	61,560	146	344	272	735	1,093	7	483	6,265	136
Inland marine	319,137	1,703	2,428	3,021	1,287	11,576	423	3,289	39,896	1,816
Earthquake	35,174	132	828	77	39	1,581	7	685	718	587
Total	2,614,889	17,928	16,921	26,243	10,509	95,240	3,650	28,325	266,989	12,486

The above figures illustrate the impact of the BAT proposal to insurance consumers in the state and were calculated by applying the estimated national increase in insurance cost and a state by state cat risk percentage from RMS. State by state cat risk is calculated using (250 year probable maximum loss (PML) – Expected Loss) / sum of all states (250 year PML – Expected Loss). to direct premiums earned in the state. Only lines that include catastrophe are included. These figures do not include additional increases in costs that would result from the non-proportional reinsurance lines and international, which are not reported on a state by state basis.

State-Level Impact of BAT Proposal: Risk Allocation (page 6 of 6)
($ in Thousands)

A. State-by-State Direct Premium Earned (DPE) in 2015

Line of Business	Total DPE	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming
Farmowners multiple peril	4,086,173	14,677	75,397	71,375	14,364	174,985	28,801
Homeowners multiple peril	89,123,076	190,047	2,126,210	1,585,812	427,551	1,344,228	188,617
Commercial multiple peril	39,226,781	135,019	779,795	791,229	204,764	686,942	101,855
Ocean marine	3,074,234	5,163	64,187	130,224	3,704	35,530	1,053
Inland marine	19,962,268	39,910	424,448	462,227	76,795	257,320	47,527
Earthquake	2,812,354	28,341	18,759	169,354	1,281	5,864	2,952
Total	158,284,886	413,157	3,488,795	3,210,222	728,459	2,504,869	370,805

B. State-by-State Allocated Premium Increase

Line of Business	Total Required Increase in Revenue	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming
Farmowners multiple peril	37,851	51	826	959	65	644	109
Homeowners multiple peril	1,577,231	656	23,293	21,317	1,934	4,949	713
Commercial multiple peril	583,936	466	8,543	10,636	926	2,529	385
Ocean marine	61,560	18	703	1,750	17	131	4
Inland marine	319,137	138	4,650	6,213	347	947	180
Earthquake	35,174	98	206	2,276	6	22	11
Total	2,614,889	1,426	38,220	43,152	3,295	9,222	1,402

The above figures illustrate the minimum impact of the proposal to insurance consumers in the state and were calculated by applying the estimated national increase in insurance costs to direct premiums written in the state. Only lines of business with a long return period were included. These figures do not include additional increases in costs that would result from the non-proportional reinsurance are not reported on a state by state basis.

Appendix C: Summary of Allocated State-Level Premium Increases

Summary of Allocated State-Level Premium Increases (page 1 of 6)

($ in Thousands)

A. State-by-State Premium Increase due to BAT Proposal (from Appendix A: Linear Allocation)

Line of Business	Total Required Increase in Revenue	Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	District of Columbia
Farmowners multiple peril	67,504	1,223	10	264	473	3,461	1,304	97	95	-
Homeowners multiple peril	1,472,326	27,385	2,714	25,095	14,260	123,286	33,450	23,263	4,032	2,496
Commercial multiple peril	648,032	9,393	1,782	10,084	5,352	75,206	12,581	10,543	5,019	2,698
Ocean marine	50,787	626	618	316	276	4,629	212	1,444	127	60
Inland marine	329,780	4,570	2,428	5,388	3,341	42,720	5,819	4,843	1,288	1,833
Earthquake	46,461	133	416	146	522	27,148	178	137	19	43
Total	2,614,889	43,330	7,968	41,294	24,224	276,449	53,543	40,328	10,581	7,131

B. State-by-State Premium Increase due to BAT Proposal (from Appendix B: Risk Allocation)

Line of Business	Total Required Increase in Revenue	Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	District of Columbia
Farmowners multiple peril	37,851	1,497	4	37	283	2,380	562	81	53	-
Homeowners multiple peril	1,577,231	33,518	1,007	3,551	8,551	84,798	14,422	19,381	2,229	1,305
Commercial multiple peril	583,936	11,497	661	1,427	3,209	51,728	5,424	8,784	2,774	1,411
Ocean marine	61,560	766	229	45	165	3,184	91	1,203	70	31
Inland marine	319,137	5,594	901	762	2,003	29,383	2,509	4,035	712	958
Earthquake	35,174	162	154	21	313	18,673	77	114	11	23
Total	2,614,889	53,035	2,957	5,842	14,525	190,146	23,086	33,598	5,848	3,728

C. State-by-State Premium Increase due to Warner/Neal Proposal (from January Report, Appendix B: Linear Allocation)

Line of Business	Total Required Increase in Revenue	Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	District of Columbia
Farmowners multiple peril	11,311	205	2	44	79	580	219	16	16	-
Homeowners multiple peril	251,930	4,686	464	4,294	2,440	21,095	5,724	3,981	690	427
Commercial multiple peril	310,432	4,500	854	4,831	2,564	36,027	6,027	5,051	2,405	1,293
Ocean marine	92,417	1,139	1,124	575	502	8,423	385	2,628	230	109
Inland marine	212,056	2,939	1,561	3,465	2,149	27,470	3,741	3,114	828	1,179
Earthquake	69,956	200	626	220	786	40,876	269	206	29	65
Total	948,101	13,668	4,632	13,429	8,520	134,471	16,364	14,995	4,198	3,073

Summary of Allocated State-Level Premium Increases (page 2 of 6)
($ in Thousands)

A. State-by-State Premium Increase due to BAT Proposal (from Appendix A: Linear Allocation)

Line of Business	Total Required Increase in Revenue	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky
Farmowners multiple peril	67,504	388	1,960	8	945	2,816	3,332	3,207	3,861	2,610
Homeowners multiple peril	1,472,326	144,918	46,984	6,092	5,214	56,563	30,590	12,081	18,249	18,426
Commercial multiple peril	648,032	36,695	16,222	2,879	3,236	28,435	13,268	6,176	6,284	8,375
Ocean marine	50,787	5,186	923	259	84	1,523	488	126	146	442
Inland marine	329,780	19,990	9,412	1,579	1,450	12,472	5,252	3,230	3,109	4,256
Earthquake	46,461	388	246	191	59	1,110	602	97	118	694
Total	2,614,889	207,566	75,747	11,008	10,989	102,919	53,533	24,916	31,767	34,803

B. State-by-State Premium Increase due to BAT Proposal (from Appendix B: Risk Allocation)

Line of Business	Total Required Increase in Revenue	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky
Farmowners multiple peril	37,851	1,434	948	79	72	1,025	1,061	1,214	1,940	1,229
Homeowners multiple peril	1,577,231	535,569	22,719	63,690	395	20,580	9,742	4,573	9,171	8,673
Commercial multiple peril	583,936	135,613	7,844	30,104	245	10,346	4,225	2,338	3,158	3,942
Ocean marine	61,560	19,165	446	2,711	6	554	155	48	74	208
Inland marine	319,137	73,877	4,551	16,508	110	4,538	1,673	1,223	1,562	2,003
Earthquake	35,174	1,434	119	1,996	5	404	192	37	59	327
Total	2,614,889	767,093	36,628	115,088	832	37,446	17,049	9,432	15,964	16,381

C. State-by-State Premium Increase due to Warner/Neal Proposal (from January Report, Appendix B: Linear Allocation)

Line of Business	Total Required Increase in Revenue	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky
Farmowners multiple peril	11,311	65	328	1	158	472	558	537	647	437
Homeowners multiple peril	251,930	24,797	8,039	1,042	892	9,678	5,234	2,067	3,123	3,153
Commercial multiple peril	310,432	17,578	7,771	1,379	1,550	13,621	6,356	2,958	3,010	4,012
Ocean marine	92,417	9,437	1,680	472	152	2,771	888	228	266	803
Inland marine	212,056	12,854	6,052	1,015	933	8,020	3,377	2,077	1,999	2,737
Earthquake	69,956	584	370	287	89	1,672	907	145	177	1,045
Total	948,101	65,316	24,240	4,198	3,775	36,235	17,321	8,013	9,222	12,187

Summary of Allocated State-Level Premium Increases (page 3 of 6)
($ in Thousands)

A. State-by-State Premium Increase due to BAT Proposal (from Appendix A: Linear Allocation)

Line of Business	Total Required Increase in Revenue	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana
Farmowners multiple peril	67,504	224	76	446	54	2,349	2,396	373	2,795	1,088
Homeowners multiple peril	1,472,326	30,592	6,409	26,899	35,610	43,918	33,267	15,826	31,590	4,965
Commercial multiple peril	648,032	8,764	3,737	10,509	18,585	17,622	11,684	5,419	12,635	2,885
Ocean marine	50,787	3,061	434	1,591	1,432	1,080	413	294	612	57
Inland marine	329,780	6,831	1,222	5,440	7,588	8,749	6,124	2,965	5,516	1,392
Earthquake	46,461	103	34	203	346	138	113	287	1,510	78
Total	2,614,889	49,575	11,911	45,088	63,613	73,856	53,997	25,165	54,659	10,463

B. State-by-State Premium Increase due to BAT Proposal (from Appendix B: Risk Allocation)

Line of Business	Total Required Increase in Revenue	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana
Farmowners multiple peril	37,851	636	37	204	50	367	926	824	1,535	141
Homeowners multiple peril	1,577,231	86,925	3,156	12,331	33,216	6,860	12,862	35,015	17,348	645
Commercial multiple peril	583,936	24,901	1,840	4,818	17,336	2,753	4,517	11,991	6,939	375
Ocean marine	61,560	8,697	213	730	1,335	169	160	651	336	7
Inland marine	319,137	19,409	602	2,494	7,078	1,367	2,368	6,561	3,029	181
Earthquake	35,174	294	17	93	322	22	44	635	829	10
Total	2,614,889	140,861	5,865	20,670	59,337	11,536	20,877	55,676	30,017	1,360

C. State-by-State Premium Increase due to Warner/Neal Proposal (from January Report, Appendix B: Linear Allocation)

Line of Business	Total Required Increase in Revenue	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana
Farmowners multiple peril	11,311	37	13	75	9	394	401	62	468	182
Homeowners multiple peril	251,930	5,235	1,097	4,603	6,093	7,515	5,692	2,708	5,405	850
Commercial multiple peril	310,432	4,198	1,790	5,034	8,903	8,442	5,597	2,596	6,053	1,382
Ocean marine	92,417	5,570	789	2,896	2,605	1,966	751	535	1,114	103
Inland marine	212,056	4,392	786	3,498	4,879	5,626	3,938	1,907	3,547	895
Earthquake	69,956	156	51	305	521	207	170	432	2,274	117
Total	948,101	19,588	4,525	16,411	23,010	24,149	16,550	8,241	18,861	3,529

Summary of Allocated State-Level Premium Increases (page 4 of 6)
($ in Thousands)

A. State-by-State Premium Increase due to BAT Proposal (from Appendix A: Linear Allocation)

Line of Business	Total Required Increase in Revenue	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio
Farmowners multiple peril	67,504	3,573	130	52	43	419	682	962	1,902	2,704
Homeowners multiple peril	1,472,326	10,730	8,839	6,329	42,227	8,090	86,247	39,257	3,253	46,010
Commercial multiple peril	648,032	4,340	5,135	3,831	23,529	3,725	61,239	15,448	2,379	20,909
Ocean marine	50,787	90	111	186	2,234	46	6,715	736	26	871
Inland marine	329,780	2,910	2,626	1,319	9,128	1,702	24,924	8,692	1,317	9,235
Earthquake	46,461	45	322	43	324	42	884	228	16	492
Total	2,614,889	21,687	17,163	11,759	77,485	14,023	180,691	65,323	8,893	80,220

B. State-by-State Premium Increase due to BAT Proposal (from Appendix B: Risk Allocation)

Line of Business	Total Required Increase in Revenue	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio
Farmowners multiple peril	37,851	2,250	40	19	36	112	458	1,634	701	580
Homeowners multiple peril	1,577,231	6,757	2,726	2,360	35,455	2,165	57,954	66,682	1,199	9,869
Commercial multiple peril	583,936	2,733	1,584	1,428	19,756	997	41,150	26,239	877	4,485
Ocean marine	61,560	56	34	69	1,876	12	4,512	1,249	10	187
Inland marine	319,137	1,832	810	492	7,664	455	16,748	14,764	485	1,981
Earthquake	35,174	28	99	16	272	11	594	387	6	106
Total	2,614,889	13,656	5,293	4,385	65,059	3,753	121,417	110,957	3,278	17,207

C. State-by-State Premium Increase due to Warner/Neal Proposal (from January Report, Appendix B: Linear Allocation)

Line of Business	Total Required Increase in Revenue	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio
Farmowners multiple peril	11,311	599	22	9	7	70	114	161	319	453
Homeowners multiple peril	251,930	1,836	1,513	1,083	7,225	1,384	14,758	6,717	557	7,873
Commercial multiple peril	310,432	2,079	2,460	1,835	11,271	1,784	29,336	7,400	1,139	10,016
Ocean marine	92,417	163	201	338	4,066	83	12,220	1,338	47	1,584
Inland marine	212,056	1,871	1,689	848	5,869	1,094	16,026	5,589	847	5,938
Earthquake	69,956	67	485	64	487	63	1,331	343	25	741
Total	948,101	6,615	6,369	4,177	28,927	4,479	73,785	21,550	2,933	26,606

Summary of Allocated State-Level Premium Increases (page 5 of 6)
($ in Thousands)

A. State-by-State Premium Increase due to BAT Proposal (from Appendix A: Linear Allocation)

Line of Business	Total Required Increase in Revenue	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah
Farmowners multiple peril	67,504	2,671	1,068	1,716	5	217	1,933	2,368	4,709	224
Homeowners multiple peril	1,472,326	26,351	12,377	53,666	6,115	26,461	3,659	31,538	132,063	8,090
Commercial multiple peril	648,032	8,718	7,589	28,153	2,486	7,792	2,123	11,501	44,180	4,289
Ocean marine	50,787	347	543	993	749	465	18	918	5,150	173
Inland marine	329,780	4,031	3,834	11,033	1,311	4,927	1,015	6,256	32,798	2,301
Earthquake	46,461	312	1,307	280	40	673	17	1,304	590	743
Total	2,614,889	42,430	26,718	95,841	10,705	40,535	8,764	53,885	219,490	15,821

B. State-by-State Premium Increase due to BAT Proposal (from Appendix B: Risk Allocation)

Line of Business	Total Required Increase in Revenue	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah
Farmowners multiple peril	37,851	1,129	676	470	4	510	805	1,245	5,728	177
Homeowners multiple peril	1,577,231	11,134	7,839	14,695	6,003	62,170	1,524	16,578	160,642	6,385
Commercial multiple peril	583,936	3,684	4,806	7,709	2,441	18,308	884	6,046	53,741	3,385
Ocean marine	61,560	146	344	272	735	1,093	7	483	6,265	136
Inland marine	319,137	1,703	2,428	3,021	1,287	11,576	423	3,289	39,896	1,816
Earthquake	35,174	132	828	77	39	1,581	7	685	718	587
Total	2,614,889	17,928	16,921	26,243	10,509	95,240	3,650	28,325	266,989	12,486

C. State-by-State Premium Increase due to Warner/Neal Proposal (from January Report, Appendix B: Linear Allocation)

Line of Business	Total Required Increase in Revenue	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah
Farmowners multiple peril	11,311	448	179	287	1	36	324	397	789	38
Homeowners multiple peril	251,930	4,509	2,118	9,183	1,046	4,528	626	5,396	22,597	1,384
Commercial multiple peril	310,432	4,176	3,635	13,486	1,191	3,733	1,017	5,510	21,164	2,054
Ocean marine	92,417	631	988	1,806	1,362	847	32	1,671	9,372	315
Inland marine	212,056	2,592	2,465	7,095	843	3,168	652	4,023	21,090	1,480
Earthquake	69,956	469	1,967	422	60	1,013	25	1,963	888	1,119
Total	948,101	12,825	11,353	32,279	4,503	13,325	2,676	18,959	75,900	6,390

Summary of Allocated State-Level Premium Increases (page 6 of 6)
($ in Thousands)

A. State-by-State Premium Increase due to BAT Proposal (from Appendix A: Linear Allocation)

Line of Business	Total Required Increase in Revenue	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming
Farmowners multiple peril	67,504	242	1,246	1,179	237	2,891	476
Homeowners multiple peril	1,472,326	3,140	35,125	26,198	7,063	22,207	3,116
Commercial multiple peril	648,032	2,231	12,882	13,071	3,383	11,348	1,683
Ocean marine	50,787	85	1,060	2,151	61	587	17
Inland marine	329,780	659	7,012	7,636	1,269	4,251	785
Earthquake	46,461	468	310	2,798	21	97	49
Total	2,614,889	6,825	57,635	53,033	12,034	41,381	6,126

B. State-by-State Premium Increase due to BAT Proposal (from Appendix B: Risk Allocation)

Line of Business	Total Required Increase in Revenue	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming
Farmowners multiple peril	37,851	51	826	959	65	644	109
Homeowners multiple peril	1,577,231	656	23,293	21,317	1,934	4,949	713
Commercial multiple peril	583,936	466	8,543	10,636	926	2,529	385
Ocean marine	61,560	18	703	1,750	17	131	4
Inland marine	319,137	138	4,650	6,213	347	947	180
Earthquake	35,174	98	206	2,276	6	22	11
Total	2,614,889	1,426	38,220	43,152	3,295	9,222	1,402

C. State-by-State Premium Increase due to Warner/Neal Proposal (from January Report, Appendix B: Linear Allocation)

Line of Business	Total Required Increase in Revenue	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming
Farmowners multiple peril	11,311	41	209	198	40	484	80
Homeowners multiple peril	251,930	537	6,010	4,483	1,209	3,800	533
Commercial multiple peril	310,432	1,069	6,171	6,262	1,620	5,436	806
Ocean marine	92,417	155	1,930	3,915	111	1,068	32
Inland marine	212,056	424	4,509	4,910	816	2,733	505
Earthquake	69,956	705	467	4,213	32	146	73
Total	948,101	2,930	19,295	23,979	3,828	13,668	2,029

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