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## ANALYSIS OF H.R. 920, "MULTIPLE PERIL INSURANCE Act of 2007"

At the request of the American Insurance Association, we have analyzed the potential effects that H.R. 920, "Multiple Peril Insurance Act of 2007," would have on the National Flood Insurance Program (NFIP). In summary, our analysis indicates that the expansion of the NFIP to cover wind losses would substantially exacerbate the potential for deficits in the program. Depending on the extent to which the expanded NFIP replaces private insurance coverage, program deficits from catastrophic wind events in a single year could be \$100 to \$200 billion, or potentially even higher.

### Background

H.R. 920 would expand the scope of the National Flood Insurance Program to offer insurance to personal and commercial properties for damage from flood or windstorm. Currently, NFIP offers insurance for losses from flood only.

For residential structures, the new program would have coverage limits of \$500,000 per structure or dwelling unit and \$150,000 for combined contents and loss of use. For nonresidential structures, coverage limits would be \$1,000,000 per structure and \$750,000 for combined contents and business interruption. These limits are double those of the current NFIP for structures and are 50% higher for contents, etc.

According to CBO reports<sup>1</sup>, the National Flood Insurance Program currently has a deficit of \$17.5 billion, arising largely from flood claims from Hurricanes Katrina and Rita in 2005. The CBO has also estimated that, given current subsidy rates, the deficit can be expected to grow an average of \$900 million per year. Of course, actual deficits will fluctuate with the level of flooding each year.

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<sup>1</sup> CBO Paper, "Value of Properties in the National Flood Insurance Program", Pub. No. 2925, June 2007.

## Analysis

H.R. 920 stipulates that rates for multiple peril coverage must be “actuarially based”. The current National Flood Insurance Program already has a similar stipulation for flood coverage, but NFIP has been plagued with deficits over its history. These deficits persist for a variety of reasons; however, a principal contributing factor is the explicit subsidization of premiums for “grandfathered properties” — those built before their communities joined the program. The CBO estimates that one quarter of the properties currently in the NFIP fall into this category, with an estimated average discount of 60-65%.

An additional factor contributing to the deficits is the use of historical experience as the basis for determining NFIP rates. While historical experience is certainly relevant, and is fundamental to actuarial rate setting for many insurance coverages, it is not an appropriate basis for rates when the historical experience is highly volatile. In such cases the historical experience must be supplemented with other information and approaches, such as the use of computer simulation models that generate hypothetical losses over many different possible weather scenarios. Since the volatility of wind losses is equal to — or even potentially greater than — the volatility of flood losses, this issue will be exacerbated by the expansion of the NFIP to cover wind if rates are based solely on historical experience.

A third factor is the unaffordability of coverage in wind-prone areas. This is a major issue in the Atlantic/Gulf coastal states, and we expect that it would be an issue in the expanded NFIP program.

For the purposes of this analysis, our assumption is that NFIP wind premiums (excluding expense provisions) would be set at levels providing an average national subsidy of 20%. While firm estimates are hard to obtain, we believe that this is consistent with current private insurance market conditions, where rate suppression exists in many coastal states. This assumption reflects the belief that, notwithstanding H.R. 920's directive that premium rates be actuarially sound, wind-exposed coastal properties would receive coverage at reduced rates in order to encourage availability.

For this analysis, we have relied on probable maximum losses (PMLs) from the Risk Management Solutions (RMS) computer simulation model. The model produces estimates of industry annual aggregate losses for personal and commercial property as a result of windstorms, for various return periods. A return period of 1-in-X means that the probability that such losses occur in a given year are 1/X. These PMLs reflect exposures and costs at 2006 levels. For years subsequent to 2006, it is likely that the aggregate annual losses will increase due to inflation, new construction, and other factors.

Exhibits 1 and 2 model potential NFIP deficits due to wind coverage. Exhibit 1 assumes that NFIP provides coverage for 100% of all personal and commercial properties. Essentially, this scenario depicts what the additional risk to the NFIP would be if they were to replace the entire private market for property wind insurance as it exists today. As can be seen in Exhibit 1, if the NFIP wind program were to completely displace the private market, there would be a reasonable potential for the program to generate deficits of \$100 billion to \$200 billion.

Exhibit 2 provides an alternative scenario, under which NFIP provides coverage for only roughly 20% of the existing market (as measured by expected wind claims, not numbers of policies). However, rather than providing coverage uniformly across the entire country, the NFIP coverage is concentrated in only three wind-prone states (i.e., a 40% market share in Florida, South Carolina, and Texas). In other words, in this scenario there is a degree of adverse selection, as those with greater-than-average exposure to wind losses gravitate to the expanded NFIP. As can be seen in this alternative case, the premium revenue is reduced proportionately to about one-fifth of that shown on Exhibit 1; however, the PMLs do not decrease proportionately because of the higher risk levels in the three states.

It is important to understand that Exhibit 2 is intended to be illustrative; it does not depict an extreme example of adverse selection, as there are many inland exposures in the three selected coastal states. If the NFIP were to insure only the highest-exposed 10% of the properties along the entire Atlantic/Gulf hurricane basin, the program would receive about 10% of the premium and pick up almost the entire countrywide PML exposure.

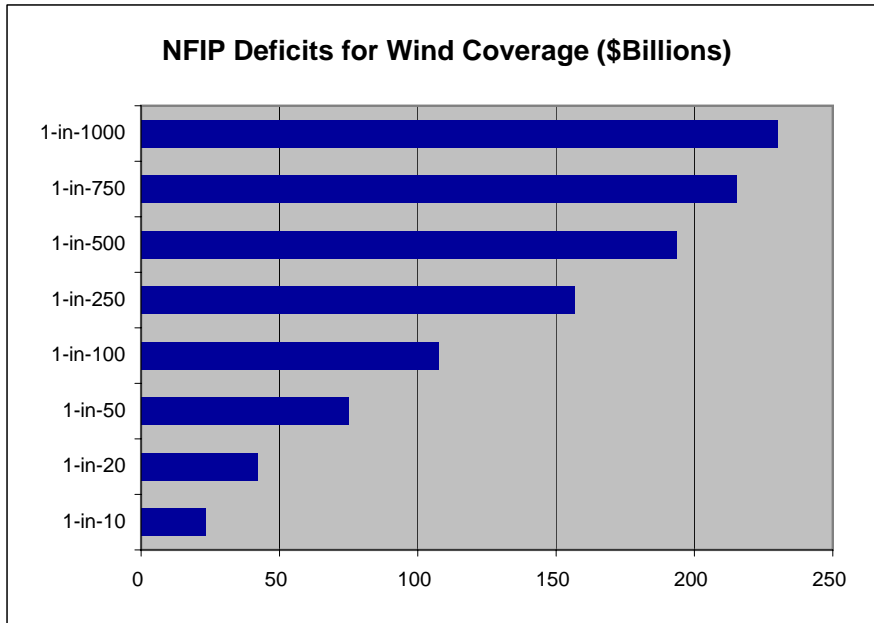
Finally, the potential deficits shown in these exhibits relate only to losses from windstorms. In the event of catastrophic losses from a major hurricane, it is likely that NFIP would experience large flood losses from the same event (as was the case with Katrina).

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Analysis of HR 920 -- Multiple Peril Insurance Act of 2007**

NFIP Deficits for Wind Coverage  
Assuming NFIP Covers 100% of Current Insurance Industry Exposures  
(Dollar Amounts in Billions)

<u>Return Period</u> (1)	<u>Aggregate Annual Losses</u> (2)	<u>Annual Premiums</u> (3)	<u>Aggregate Annual Deficit</u> (4)
1-in-10	33.8	10.4	23.4
1-in-20	52.3	10.4	41.9
1-in-50	85.4	10.4	75.0
1-in-100	117.9	10.4	107.5
1-in-250	166.9	10.4	156.5
1-in-500	203.9	10.4	193.5
1-in-750	225.4	10.4	215.0
1-in-1000	240.3	10.4	230.0



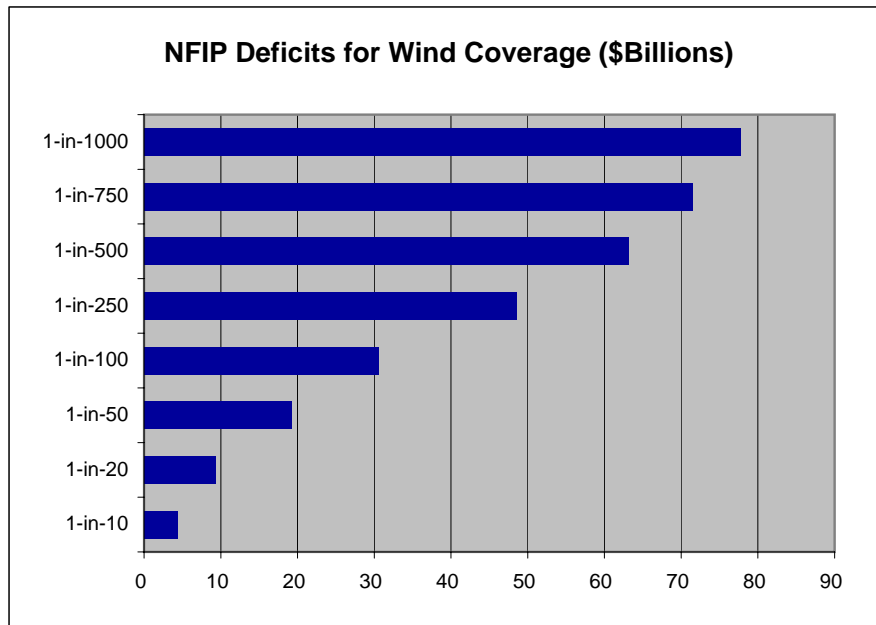
**Notes:**

- (1) A return period of 1-in-X means that the probability that aggregate losses at this level in a given year are 1/X.
- (2) 2006 industry wind PML data based on RMS wind model. These are aggregate covered losses from all wind events nationally in a calendar year.
- (3) Assumes that premiums are 80% of average annual expected losses.
- (4) = (2) - (3).

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NFIP Deficits for Wind Coverage  
Assuming NFIP Covers 20% of Industry Exposures, with Adverse Selection  
(Dollar Amounts in Billions)

<u>Return Period</u> (1)	<u>Aggregate Annual Losses</u> (2)	<u>Annual Premiums</u> (3)	<u>Aggregate Annual Deficit</u> (4)
1-in-10	6.5	2.2	4.3
1-in-20	11.4	2.2	9.2
1-in-50	21.4	2.2	19.2
1-in-100	32.7	2.2	30.5
1-in-250	50.8	2.2	48.6
1-in-500	65.3	2.2	63.1
1-in-750	73.7	2.2	71.5
1-in-1000	79.9	2.2	77.7



**Notes:**

- (1) A return period of 1-in-X means that the probability that aggregate losses at this level in a given year are 1/X.
- (2) 2006 industry wind PML data based on RMS wind model. These are aggregate losses from all wind events in the three states in a calendar year.
- (3) Assumes that premiums are 80% of average annual expected losses.
- (4) = (2) - (3).