

# PINE BROOK

## Hurricane Harvey Update

09/05/17

Hurricane Harvey was one of the most destructive storms to hit the continental U.S. in the past 100 years. The amount of rainfall (more than 50 inches) and the fact that it hit the country's fourth largest city with a metro area population of 6.7 million has resulted in major damage. An analysis from the University of Wisconsin's Space Science and Engineering Center has determined that Harvey is a 1-in-1,000-year flood event that has overwhelmed an enormous section of Southeast Texas equivalent in size to New Jersey.

While it will take many weeks to assess fully the impact of Hurricane Harvey, we wanted to provide our investors with some initial comments about the potential impact on the industries in which we invest.

### **Macro View of Our Industry Sectors**

#### ***Financial Services***

In the near term, we believe the most significant impact will likely be felt on the insurance sector. Early estimates for total economic loss from the storm vary widely, from \$90 billion to \$180 billion. However, not all of this loss will be covered by traditional insurance. Early estimates of insured loss vary from \$15 billion to \$40 billion, which may make the insured losses from Harvey comparable to that of Hurricane Katrina and greater than Super Storm Sandy. Secondarily, there may be an impact on banks and other financial institutions that lend to consumers and businesses in the storm area.

Although insurance and lending companies may be negatively impacted in the short term, the longer-term prospects are more positive. After such large insurance events as Hurricane Katrina, the insurance markets usually "harden", resulting in increased pricing and performance as annual premiums re-price post event. Also, we expect that credit providers and asset managers may benefit from the increased economic activity and lending to support rebuilding.

#### ***Energy Sector***

Crude Oil demand has been reduced significantly because of refinery shutdowns (~4.0MMbbl/d as of September 4). However, the refinery shutdowns were largely related to flooding and precaution and we expect these companies to resume operations as soon as practicable, which should be a matter of days and weeks, not months. Oil production was significantly curtailed during the storm, but wells are being brought back online quickly. Gas demand and production showed a similar trend to that of oil, with temporary interruptions related to industrial and natural gas processing facility outages, as well as reduced pipeline flows to Mexico. The reduction in gas demand is also attributable to the effect of milder than normal temperatures on power demand. On the services side, there were slight disruptions in drilling and completions, but operations already have begun to resume. Gulf Coast area midstream was disrupted, but operators have reported minimal structural damages and expect

service interruptions to be temporary. Our conclusion is that there is unlikely to be a long-term oil or gas price impact from Hurricane Harvey.

### **Broader Macroeconomic Impact**

One overriding question is whether Hurricane Harvey will have broader regional or national macroeconomic impacts than discussed above for the energy and financial services industries.

The academic literature on this question is mixed, but most studies show that there is unlikely to be a lasting impact at either level, and, in many cases, the rebuilding efforts following a catastrophe outweigh the wealth destruction from the event itself. In addition, the studies of recent events, such as Hurricanes Katrina, Hugo and Andrew found no lasting negative impact from the storms, and, in some studies, a longer-term increase in economic activity was reported.

Why does the loss of over \$100 billion in property have no material macroeconomic impact? GDP measures output, not wealth; thus, the destruction wrought by a storm has no impact on reported GDP. There is some impact from business interruption, but that impact tends to be local, not national, as much of any lost activity is merely displaced to other parts of the country. In addition, there is a small wealth effect, but that is generally offset by the immediate need to rebuild. Finally, at the local level, municipal spending may be impacted as a result of reduced tax collections, but that impact takes place in future years. Offsetting these effects is the boost associated with rebuilding, which is usually substantial and immediate. Importantly, regardless of whether rebuilding is financed with insurance reserves, personal savings, bank loans or government debt, there is no measured impact on GDP from the destruction.

Longer term, there is a negative impact to the extent that consumption is reduced to replenish savings accounts, but that impact tends to spread over a number of years and thus has a minor impact on GDP. Offsetting this increased savings drag is the fact that some businesses use the rebuilding effort to replace obsolete capital or otherwise improve productivity, and a number of inefficient businesses are replaced with newer ones. However, the longer-term impact at the regional level is very hard to measure as other factors associated with a growing and dynamic economy overwhelm the secondary effects of the storm.

Finally, there is the question of whether the need to provide disaster relief causes the federal government to curtail existing programs or increase its deficit. In the former case, the macroeconomic impact should be neutral, as one form of government expenditure merely replaces another, though whether that is the actual impact will depend on what programs are cut and how the appropriated money would have been spent. To the extent that the disaster relief is financed through borrowings, the short-term impact is positive and the long-term impact is no different from any other expenditure.

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