

the bp oil spill catastrophe and its potential effects on fixed income portfolio strategy

THE CURRENT SITUATION

It has been over three months since the explosion and sinking of the Deepwater Horizon deepwater drilling rig that killed 11 employees and created the largest oil spill in U.S. history. It has already caused extensive damage to the economy in the Gulf States and the environment of the Gulf of Mexico itself. BP faces mounting clean up costs, claims from businesses all over the Gulf, and potentially enormous fines resulting from the spill. Efforts to contain the oil have improved, but the leak will likely not be stopped until mid-August at the earliest. While most people knowledgeable about the situation are optimistic about the timeline, there is still a lot that can go wrong. There have been many oil spills in the past, but none have been at the ocean depth of this disaster's Macondo well. This characteristic of the well creates a good deal of uncertainty about the methods used, and the amount of time that BP will need to ultimately plug the well.

Since the beginning of the oil spill, BP has attempted many different measures to stop or slow the flow of oil from the well. Early attempts to contain the oil leaking from the damaged blowout preventer and attached lines have failed. Because of the extreme depth of this spill, most of the methods that have worked in the past are not guaranteed to work. BP attempted a relatively untested "top kill" procedure, which was designed to stop the flow of the well altogether. Using remotely operated vehicles, BP attached lines to the failed blowout preventer and pumped heavy drilling mud at a high pressure in order to stop the advancing oil. The amount of pressure needed to stop the oil from flowing was high enough to potentially cause damage to the structure of the well, so the experiment was called off.

The decision was then made to try and contain the oil, instead of stopping the flow altogether. Since then, BP attached the Lower Marine Riser Package (LMRP) containment cap to the top of the blowout preventer. This cap allowed some oil and gas to escape from underneath it and through vents in the top. Engineers were unable to get a secure fit for the cap after a diamond embedded saw failed to cut through the piping that the cap needed to be attached to. Instead, BP was forced to use heavy shears, which did not provide as precise a cut as was needed to create a good fit for the cap. This containment cap was collecting about 15,000 barrels of oil per day until it was replaced.

To add to the containment capacity, BP brought in the Q4000 vessel, which was previously used in the top kill operation. This vessel collects oil and gas from the lower choke line of the blowout preventer. It collects oil and flares the natural gas

that it brings to the surface. This added around another 10,000 barrels per day to the containment effort. In mid July, BP placed a tighter-fitting cap on the wellhead, effectively stopping the leak. Concerns about the integrity of the well below the surface remain but have significantly lessened.

In addition to trying to contain oil coming from the surface of the seabed, BP has been drilling two relief wells designed to intercept the main well at a depth of 18,000 ft. These wells, which were started in early May, will connect with the main well and will pump down heavy fluids in an attempt to stop the flow of oil for long enough to permanently seal the well with cement. Each well will take approximately 90 days from beginning to end to complete, with a projected finishing date of early to mid-August. As of late July, the first relief well was within just feet of the main well. At this point, drilling has slowed down, as precise ranging methods have been used at intervals to ensure a successful interception of the main well. In addition to the relief wells, BP will attempt to permanently seal the original well using a "static kill," which will pump heavy mud and cement into the well. BP is also collecting oil on the surface of the ocean by using booms and skimming. They are also using controlled burns in some areas when the sea is calm enough. So far BP has collected close to a million barrels of oil from the Gulf using these methods.

A HISTORICAL PERSPECTIVE

Estimates suggest that 35,000 to 60,000 barrels of oil were spilling per day until the leak was capped in mid July, however BP internal documents suggest it could have been as much as 100,000 barrels per day. Assuming the middle of that spectrum, over 3 million barrels of oil have spilled into the Gulf of Mexico to date. If the 60,000 barrel per day number is correct, the total is upwards of 5 million barrels. The last major spill in the Gulf of Mexico, the Ixtoc I well, spilled a total of 3 million barrels of oil in 297 days. The Macondo well has likely surpassed that at this point. The Ixtoc I spill occurred in June of 1979 after a blowout occurred on a shallow water well that was being operated by Pemex. The well began flowing at 30,000 barrels per day and was ultimately slowed to 10,000 barrels per day. The spill had a negative impact on the environment and economy of the Mexican coastline. Fisheries were out of work for a year, until fish supplies returned to their previous levels. However, past damage due to overfishing was similar to the impact that the oil spill had on fish populations, so numbers returned to normal very quickly.

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The largest oil spill in history occurred during the Gulf War, when Iraqi forces intentionally dumped about 10 million barrels of oil into the Persian Gulf. Two to 3 million barrels of this washed ashore, and little was done to contain the oil. Early studies suggested that the impact on the coast was limited. However, recently, scientists have concluded that the environment in Saudi Arabia and Kuwait is still recovering almost two decades later. The oil is underneath much of the sand in the area and has made its way into fresh water.

BP estimates that the well will be permanently plugged by early to mid-August. So far they are ahead of schedule drilling the relief wells, so the timeline is realistic if everything goes according to plan. However, many things can go wrong with the relief well, creating delays and potentially more serious problems. Even though the relief well is already very close to the main well, having the two intersect is a very difficult process. Last year, the Montara well in the Timor Sea blew out and relief wells were drilled to stop the oil flow. Once a drilling rig was put into place, it took three and a half weeks to drill the relief well. The time period was shorter than the current spill because of the relatively shallow depth of the Montara well. Once the relief well was completed, it took another four weeks to successfully locate the well and stop the flow of oil. A total of five passes were made, four of which failed, and equipment changes were needed. This well was in much shallower water, not as far beneath the seabed, and flowing at a slower rate than the Macondo well. If the same problems arise in the much more challenging Gulf of Mexico spill, this permanent solution may not be in place until late fall.

ASSESSING A WORST CASE SCENARIO

In addition to delays, the relief wells are subject to much more serious problems that could result in a worst case scenario. Many scientists have remarked that there could be damage to the well casing below the blowout preventer, and that the integrity of the wellbore may have been compromised. The top kill operation may have intensified the damage and was probably halted because of these concerns. If oil is seeping horizontally from the well, for which BP is in the process of testing, a relief well “bottom kill” may not be as effective. Oil could leak in places away from the failed blowout preventer, making containment very difficult. Indeed, we see concern over that today as BP tests for “seepage” in areas away from the wellhead. If the problems with the well casing and the seafloor intensified, it is possible that the well could turn into an open gusher, with very little hope of containment. This is highly improbable, but has not been ruled out. The same result would arise from a blowout in one of the relief wells. Critics have remarked that the relief well design is very similar to the original well, making it vulnerable to a blowout. In May, BP estimated that a relief well blowout would cause 240,000 barrels of oil per day to

leak from the two wells. With over an estimated 50 million barrels of oil in the Macondo well, the resulting spill would be over five times larger than the one in the Persian Gulf if the leak could not be permanently stopped.

A worst case scenario oil spill would be much more devastating to the economy and environment of the Gulf Coast. The most immediate areas of impact would be in the oil, fishing, and tourism areas. So far, 33% of federal commercial fishing waters in the Gulf have been closed due to fear of contamination. If more oil were to spill, this number would certainly rise. The Gulf area fishing industry brings in about \$660 million per year. The Gulf shrimp industry accounts for \$367 million, or 73% of the U.S. total shrimp supply. The Gulf also harvests 53% of the U.S. total oyster supply, which is worth around \$60 million. This impact would be localized, because the U.S. imports 83% of its seafood, and the Gulf only accounts for 2% of the total domestic supply. The recreational fishing industry brings in \$1 billion in trip sales, and would be greatly impacted by a larger spill. The spill will have a very large impact on the tourism industry; already causing cancellations all over the Gulf. If a worst case scenario were to occur, an enormous amount of damage would be done to the \$20 billion tourist industry in the area (0.137% of U.S. GDP). The west coast of Florida will also be affected, and some say that it is possible for oil to reach the East Coast if it makes its way into the Gulf Stream.

A complete release of the oil from the Macondo well would also impact the oil industry in the area. The U.S. government already imposed a six month moratorium on deepwater drilling, which was overturned by a federal judge. Despite this, many companies have not returned to drilling, because they fear that the U.S. government’s appeal will be successful. The immediate impact affects the major oil companies who lease the drilling rigs. They must keep paying for the rigs without gaining any production value from the wells. This industry contributes about \$3 billion a year to Louisiana’s economy alone. Louisiana gains 32% of the revenues made from the oil produced in its waters, and this accounts for 16% of the state’s GDP.

The secondary effects of the spill would reach a variety of industries. Durable goods sales related to recreational fishing were over \$10 billion in 2008, and the region could see a decrease in this figure if less people travelled to the area to fish. Currently, shipping routes have been unaffected by the spill, but a larger amount of oil could result in lanes being impacted. Ships can travel through oil, but they must be cleaned each time they enter port, which greatly slows down the docking process. Since 7 of the top 10 U.S. ports are located in the Gulf, this slowdown would affect exports coming from the area. The Port of South Louisiana is the largest volume U.S. port and the 9th largest in the world. It is also the largest bulk cargo port in the world. It handles 60%

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of all raw grain exports from the U.S., which controls almost half of the world market. If oil in the Gulf slowed shipping routes or altogether blocked them, the ports and shipping companies would be negatively impacted. Companies would favor other means of transportation, potentially boosting business for railways. As a result, grain and other exporting companies would face higher transportation costs which could lead to a raise in prices. The area's ports export corn, soybeans, iron, steel, wheat, and forestry products. All of these industries would be hit with higher shipping costs, and would look for cheaper ways to transport goods. A major import into the Gulf of Mexico is crude oil. If shipping lanes were impacted, companies would need to spend more to bring oil into the country.

LONG-TERM IMPLICATIONS

In the long-term, oil companies, specifically those in the Gulf, would likely suffer from a massive oil spill. New legislation will likely be put into place that raises safety and drilling costs for oil companies that operate in offshore waters. The U.S. could also impose a new gas tax, designed to decrease the country's reliance on oil. Smaller producers will likely not be able to afford these new costs, and could have trouble finding insurance that is affordable. Lawmakers may also raise the maximum liability from \$75 million, making it impossible for smaller companies to cover a potential accident. This would shift the majority of production to the larger oil companies.

The U.S. may also follow in Canada's footsteps and make it necessary for relief wells to be drilled simultaneously with exploratory wells. This would greatly increase the cost to oil companies, while at the same time increasing revenues for drilling rig operators. There is also a possibility that the fear of future spills would cause the U.S. to become even more dependent on foreign oil. Tighter restrictions and rising costs could force drilling companies to move rigs elsewhere in the world. This would negatively impact the entire Gulf Coast, which relies on the oil and gas industry for tax revenues and employment.

Because of the added costs to oil companies, the marginal price of oil would inevitably rise, creating more interest in the already growing alternative energy field. This, added to the new respect for the dangers involved in drilling, could lead to more investment in these experimental forms of energy. This could be the spark needed to provide funding for many of the new alternative energy companies that have not been able to get off of the ground. The U.S. government has already expressed an interest in increasing federal funding to this area in response to the oil spill. The President has called for a reduction in our dependence on oil. This could lead to a good opportunity for growth in the alternative energy sector.

A DOUBLE DIP AND CHANGE IN STRATEGY

The states in the Gulf Coast would be economically devastated by a worst case scenario. A more expansive moratorium on offshore drilling would cripple the area's oil production industry, leading to a greater dependence on imported oil, and the loss of thousands of jobs. Vacation home values would plummet, and the \$20 billion dollar tourism industry would take an enormous hit due to beach and water closures. With significantly less tourists visiting the area, local businesses would have trouble staying afloat. The Gulf Coast's successful seafood industry would see a sharp decline, due to the fear of oil polluted fish. Businesses would shut down, and people would be left jobless. The high unemployment in the area would cause a sell-off in the housing market as residents left the area, looking for opportunity in places unaffected by the spill. Every industry in the Gulf Coast would be impacted by this shift in population.

The combined effects of a much larger oil spill would cause a dramatic shock to the U.S. economy. Consumer fear and uncertainty would negate much of the progress made in moving out of the recession. High unemployment in the Gulf region, falling grain exports, rising oil prices, and devastated Southeastern economies could materially impact the nation's GDP. To get an idea of where a state like Florida's economy would be with a sharp decline in tourism, we equated it to the state of Michigan. Michigan saw a similar decline in its auto industry, which was its major source of revenue. If Florida's economy were to reduce to the size of Michigan's, it would lose 49% of its value, and hurt national GDP by nearly 2.5% alone. If this same decrease was observed throughout the Gulf States, then the total impact to the nation's economy could be as high as 4.8%. With GDP growing at a slower rate than normal, this would lead to a 2% drop annually. This decline could certainly lead to the feared double dip recession.

Our current portfolios are allocated in anticipation of a "check mark" shaped recovery. While it now looks as though the worst case scenario is extremely unlikely, the expectation of a double dip would require a different strategy to insulate against a market shock (For example, the "flight to quality" would likely continue). Interest rates are expected to rise with a recovery, so the portfolio duration is currently lower than the benchmark. In a double dip recession scenario, interest rates would remain low, and more rate risk would be tolerable. Therefore, more duration would be added to the portfolio. The current corporate credit allocation is also anticipating recovery, and in the event of an economic downturn, such we would expect to decrease this exposure as well. In the first instance, we would likely remove any bonds in the industries affected by the spill, both directly and from a secondary impact perspective as well. Exposure to oil, drilling, gulf coast shipping, and grain exporters would need to be minimized. Certain property

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and casualty insurance companies may also need to be removed from the portfolio to further reduce corporate exposure.

CONCLUSION

While we believe that the probability of a worst case scenario remains extremely low, it is still a risk scenario we are measuring. It is instructive to consider this worst case scenario in order to anticipate its effects on the economy and the resulting portfolio strategy change. Should the situation worsen, being prepared for and executing this change in strategy will protect portfolios until the longer-term implications are realized.

about the author



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