

# Introduction

The oil spill in the Gulf of Mexico has turned into a catastrophic event with major environmental and financial implications. Has this stock specific event had an impact on the wider market? What are the implications for institutional portfolios? What are the long-term investment repercussions from this crisis? This research bulletin discusses these important questions facing institutional investors in the aftermath of the BP oil spill crisis.

# Impact of BP crisis on institutional portfolios

Since the BP oil crisis started to unfold on April 20, BP's share price has tumbled and almost halved by June 14, 2010. Exhibit 1 shows that during this period the MSCI UK Index also underperformed the global equity market (represented by MSCI ACWI) by 2.7%.

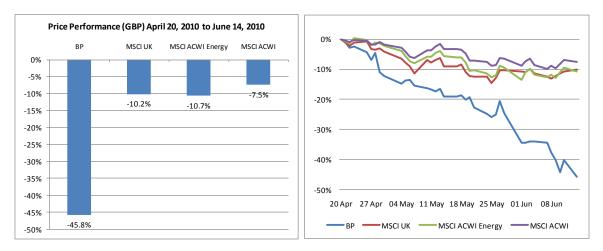
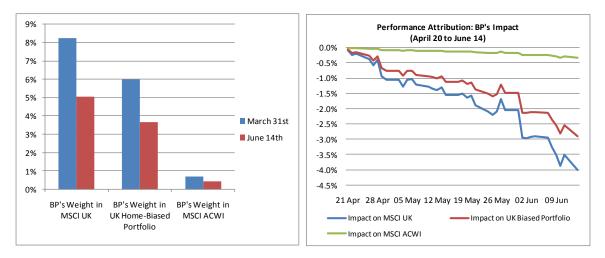


Exhibit 1: Price Performance of BP and Selected MSCI Indices

This event has important investment implications as it highlights the potentially severe impact of stock specific risk on concentrated home-biased institutional portfolios. Exhibit 2 shows that BP represented approximately 6% of a UK home-biased equity portfolio (70% UK / 30% ACWI) as of March 31, 2010. Such a large position in BP would have led to a loss of about 2.9% in the home-biased portfolio during the aftermath of the BP accident over the period 20 April to 14 June 2010. On the other hand, a diversified global equity portfolio would have suffered a loss of only 0.33% during the same period, illustrating the diversification benefits of diminished stock level concentration and the potential power of global diversification. Clearly, this event once again reminds investors of the inherent risks of high concentration in their domestic equity market and the potential diversification merits of allocating assets globally.





#### Exhibit 2: BP's Impact on Equity Portfolio Performance

The sharp fall in the BP share price has led to substantial capital losses in portfolios with high UK concentration. Additionally, there is mounting pressure on BP to suspend its dividend payments until the crisis is resolved. As BP accounts for a significant portion of annual dividend payouts of UK listed companies (approximately 9% as of June 2010), any decision by BP to suspend dividends would likely have a significant impact on the dividend yield of UK equity portfolios. Exhibit 3 shows that the dividend yield of the MSCI UK Index would decline from 3.61% to 3.10% in the event of no BP dividend payout, while the dividend yield of MSCI ACWI would only be impacted marginally.

A potential sharp drop in total portfolio yield following a dividend cut by a single company highlights once again the risks of restricting the investment opportunity set to a highly concentrated domestic equity portfolio.

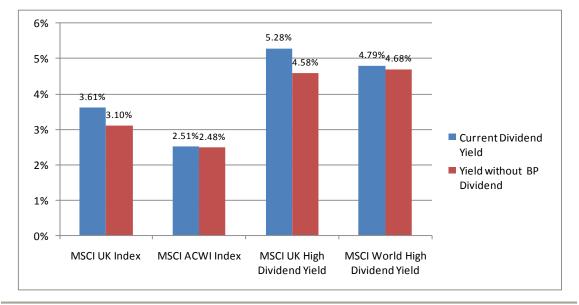


Exhibit 3: Potential Impact on Dividend Yield (data as of 14 June 2010)



# **Risk Analysis**

Exhibit 4 presents various portfolio concentration and forecast risk measures for domestic and global equity portfolios. It is no surprise that a domestic UK portfolio, represented by the MSCI UK Index, is subject to much higher stock selection risk, given its high level of concentration (the top 10 holdings represent 46%). Furthermore, it shows that the BP crisis has had market-wide impact on the risk profile of the UK equity market. In fact, the total risk forecast of the MSCI UK Index has risen significantly from 20.12% on March 31 to 23.81% on June 14. During the same period, the risk of a global equity portfolio, represented by MSCI ACWI, has been almost unchanged. These measures highlight again that stock specific events can have severe impact on the risks of concentrated domestic equity portfolios. Compared with a global allocation, a home-biased equity allocation is much more prone to sudden changes in stock specific risk.

	14-Jun-10			31-Mar-10				
	Weight of Top 10 Stocks	Total Risk	Asset Selection Risk	Weight of Top 10 Stocks	Total Risk	Asset Selection Risk		
MSCI UK	46.00	23.81	3.52	48.38	20.12	3.11		
MSCI ACWI Energy	42.08	24.37	2.59	43.53	23.95	2.58		
MSCI ACWI	7.98	19.90	0.74	7.91	19.75	0.77		

### Exhibit 4: Concentration Risks and Barra Risk Model Forecasts (%, Annualized)

Barra EUE3S model was used for MSCI UK; Barra GEM2 model was used for MSCI ACWI and MSCI ACWI Energy; base currency GBP

The sudden change in stock specific risk is also reflected in the risk forecast of BP and a sample of its peer group (Exhibit 5). Prior to the BP oil spill, the total risks of the five top oil stocks were broadly in line, and their specific risks were very low at below 2%. As of June 14, the total risk of BP has more than doubled to 48.75%, with a dramatic increase in its specific risk from 1% to about 18%. It is worth noting that the specific risks of the other four oil stocks remain fairly low. This suggests that a global portfolio that has diversified exposure to global Energy stocks would have been less impacted by the dramatic increase in the stock specific risk of BP.

In addition, Exhibit 5 also shows that BP's CDS spread has skyrocketed from 44 bps on March 31 to 438 bps on June 10, reflecting the dramatic rise in its perceived credit risk. Meanwhile, the CDS spreads for the other four oil stocks have also widened significantly.

Exhibit 5: Risk Profile of Major Energy Stocks, Barra Model Forecasts	(%, Annualized)
Exhibit 5. Misk I forme of Major Energy otoeks, Darra Model I orecasts	( <sup>70</sup> , Annuanzeu)

	-				31-Mar-10				
		Total	Specific	Local	Momentum	Volatility	Leverage	CDS	1-Year
		Risk	Risk	Beta	Exposure	Exposure	Exposure	Spread	BDP**
BP		21.58%	1.03%	0.94	0.17	-0.60	-0.70	44	0.18%
EXXON MOBIL CORP		22.81%	1.78%	0.68	-0.95	-1.11	-0.85	22	0.04%
ROYAL DUTCH SHELL		21.68%	1.10%	1.00	-0.09	-0.59	-0.70	45	N/A
CHEVRON CORP		25.36%	1.78%	1.05	-0.34	-0.51	-0.76	31	0.07%
TOTAL		24.33%	1.56%	1.05	-0.40	-0.53	-0.61	44	0.45%
					14-Jun-10				
	Return since	Total	Specific	Local	Momentum	Volatility	Leverage	CDS	1-Year
	April 20*	Risk	Risk	Beta	Exposure	Exposure	Exposure	Spread	BDP**
BP	-45.77%	48.75%	18.01%	0.84	-0.26	-0.44	-0.56	438	1.29%
EXXON MOBIL CORP	-10.95%	23.12%	1.73%	0.68	-0.96	-1.02	-0.85	35	0.05%
ROYAL DUTCH SHELL	-10.62%	25.64%	1.68%	0.96	0.06	-0.47	-0.57	85	N/A
CHEVRON CORP	-9.45%	25.61%	1.73%	1.04	-0.31	-0.41	-0.77	64	0.10%
TOTAL	-9.49%	28.35%	1.13%	1.03	-0.47	-0.37	-0.47	92	0.60%

\* From April 20 to June 14 the MSCI ACWI returned -7.5% and the MSCI ACWI Energy returned -10.7%

\*\* Barra Default Probability (BDP) is the equity-implied probability of a company's default

# Conclusions

In this research bulletin we highlighted the impact of the unfolding BP crisis on portfolios with significant concentration in UK equities, such as home biased policy portfolios of UK pension funds and other institutional investors. These portfolios may have suffered severe losses and may have experienced increased volatility as a result of their substantial exposure to a single large UK listed company.

The current BP crisis is also a perfect example of how stock specific shocks can impact the portfolio and underscores the importance of incorporating non-financial risk factors (such as Environmental, Social and Governance factors) into mainstream portfolio risk management. Stress testing and scenario analysis are gaining prominence as risk management tools that can be used to quantify the impact of extreme events, such as an environmental disaster, on investment portfolios. For instance, stress testing could be used to measure the potential loss to the portfolio under different levels of extreme losses from the holdings in BP. Also, even though our earlier analysis in Exhibit 5 suggests that the rise in stock specific risk has been contained to BP for the moment, stress testing can provide insights into the risk of contagion to the entire energy sector as well as other potentially affected sectors (e.g. insurance). Finally, a stress testing and scenario analysis framework enables investors to examine potential long term implications arising from the current crisis, including for example, increased energy industry regulation, a rally in the share prices of renewable energy companies, and a spike in oil prices.

We will address the Environmental, Social and Governance (ESG) implications of the BP crisis in a forthcoming research paper titled "BP Oil Spill: Crude Facts and Green Costs.



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