

Special Report: Erratic Weather Patterns Impact Global Economy

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Global weather patterns have become extreme and erratic across many parts of the world due to climate change issues.

This has led to a number of weather related disasters each year impacting supply chains, curbing retail spending and increasing global commodity prices affecting consumers, businesses and the overall economy.

Nonetheless, many industries like insurance, construction and others related to rebuilding efforts tend to benefit in the long term.

Key points

- Since the early 2000s, global weather patterns have been volatile and extreme due to the effects of global warming and climate change. In 2011, there were 296 global weather related natural disasters (droughts, extreme temperatures, floods, storms and wildfires) with 243 million disaster victims globally according to EM-DAT, the International Disaster Database;

- While this was lower than the average of 349 global weather related natural disasters recorded between 2001 and 2010, the estimated economic losses from global weather related natural disasters in 2011, at US\$136 billion, were the highest ever registered compared to the 2001-2010 average of US\$85.3 billion;

- In 2011, floods had the highest occurrence (55.8% of global weather related natural disasters) followed by storms (30.2%). During the year, floods in Thailand had the highest economic damage from weather related natural disasters at US\$40.0 billion followed by storms in the USA (US\$25.0 billion) and the drought in the USA (US\$8.0 billion);

- Erratic global weather patterns have a direct impact on agricultural production affecting global supply chains and prices of several global commodities. For example, by mid-2012 there was an unprecedented rise in the global prices of corn, soybean and wheat owing to the heat wave and drought in the USA and Eastern European countries like Russia, Ukraine, Kazakhstan and others;

- This increases inflationary pressures affecting consumers and businesses while governments face the challenge of financing high damage costs and rebuilding supply chains that could impede economic growth. Nonetheless, there are some industries like insurance and construction that benefit from extreme weather patterns in the long term.

Floods in Asia – highest occurrence of weather related disasters globally

- According to EM-DAT, historically floods account for the largest share or over 50.0% of global weather related natural disasters each year. In 2011, there were 173 floods globally, lower than the 2001-2010 average of 195 occurrences. However, during the year, floods claimed 140 million victims globally with a damage cost of US\$70.7 billion compared to a 2001-2010 average of 107 million victims with a damage cost of US\$21.4 billion;

- On a regional basis, Asia had the highest number of weather related disasters globally, at 118 in 2011 (or 39.9% of total global weather related disasters). Each year, heavy rains due to the monsoon season adversely affect millions of people in countries like Thailand, China, Pakistan, India, and the Philippines. The region suffered most damage in 2011 at US\$63.9 billion with 210 million victims with the damage costs of floods in the region alone reaching US\$57.0 billion and claiming 131 million victims;

- In 2011, the Philippines witnessed the highest number of weather related natural disasters globally (30 occurrences) affected mainly by floods and storms followed by the USA (23), China (14), India (12), Mexico (10), Indonesia (8) and Brazil (8). Over the last decade, most of these countries feature in the top five countries that are most frequently hit by weather related natural disasters;

- In terms of economic cost, the USA suffered the most globally in 2011 with the damage costs of storms and droughts amounting to US\$59.4 billion. The country is susceptible to the Atlantic hurricane season that runs from June to November annually. Floods in Thailand (US\$40.3 billion) and the combination of droughts and floods in China (US\$14.1 billion) also had high economic costs during the year.

Top Five Countries with Highest Economic Damage Costs from Weather Related Disasters: 2011

Direct impact agricultural production and global commodity prices

Erratic global weather patterns reduce agricultural productivity affecting global supply chains and increasing prices of several global commodities. For example:

- The 2010 wildfires and droughts in Russia “ amongst the largest exporters of wheat globally “ caused a severe drop in agricultural production forcing the government to impose a ban on the export of grain amid fears that the harvest will not meet domestic demand. This not only threatened global food security but also led to a 121% increase (US\$ terms) in global wheat prices between June 2010 and February 2011;

- The acute heat wave and drought in the USA in 2012 is severely affecting over 60.0% of corn and soybean production. This is crucial for global food supplies as the USA is the world's largest exporter of corn, soybean and wheat. Since the end of 2011, corn prices have increased by 45.1% to reach US\$609 per metric ton in July 2012 while soybean prices rose by 28.8% to reach US\$333 per metric ton in the same month;

- Torrential rains in Brazil, delayed monsoons in India and poor precipitation in Australia are dampening sugar production in 2012 which could create supply shortages and drive up sugar prices. Brazil is the world's largest producer of sugarcane and largest exporter of sugar while India is the second largest producer of sugar cane globally;

- Low stocks of staples like corn and soybean have spillover effects and raise the prices of other foodstuffs. Corn and soybean are not only used to feed animals but also produce ethanol and make cooking oil.

Food Index and Prices of Selected Commodities: January 2010 “ July 2012

Implications on economies

- Weather related disasters exacerbate the problem of food shortages and affect the world's poor more severely. For example, prices of many staple cereals in Africa, particularly sub-Saharan Africa have increased by over 100% in July 2012 since the end of 2011 owing to harsh droughts in the region. In 2011, droughts and the food crises in Africa caused 21.0 million victims compared to the 2001-2010 average of 12.3 million victims;

- Although the USA witnessed the highest economic damage costs in US dollar terms from weather related disasters in 2011, low-income or low-middle income economies have higher damage costs as a share of total GDP. During the year, total damage costs in the USA represented only 0.4% of GDP compared to Thailand's 12.7% of GDP. The 2011 floods in Thailand were the most expensive natural disaster in Thailand's history;

- Weather related disasters like floods and storms could destroy a country's infrastructure, manufacturing sector and lower housing stock disrupting a country's production base. Droughts cause lack of drinking water and famines;

- Volatile weather patterns can impede economic growth. For example, in 2012, Paraguay's economy is forecast to contract by 1.5% in real terms owing to supply-side shocks in 2011 caused by a severe drought which led to agricultural losses;

- Extreme weather patterns add pressure on the supply of natural resources by causing environmental degradation. For example, the effect of climate change and high frequency of floods in the Philippines along the coastlines is causing sea levels to rise, endangering drinking water quality and agricultural productivity due to possible salt intrusion in coastal soils;

- The tourism industry in many economies like Australia, Brazil and Thailand is also affected by weather related disasters affecting tourism revenues and related industries. For example, in 2011, Nova Friburgo, the city the most impacted by the floods in Brazil recorded a drop of 50.0% in occupancy rates, resulting in its main hotels shutting down.

Implications on consumers and businesses

- High food prices and tight supply chains increase inflationary pressures, particularly in low-income food importing economies, increasing costs for both, consumers and businesses. The real food price index (1995=100) in Egypt, a net importer of food, rose by 120% between 2006 and 2011 compared to just 6.5% in Morocco or 17.6% in Jordan;

- Erratic weather can lead to fluctuations in consumer spending patterns and lead to mixed implications for the retail industry. Bad weather prevents consumers from stepping out to restaurants, supermarkets, and shopping malls deteriorating retail sales. However, according to the British Retail Consortium, online retailing picks up during extreme weather conditions, particularly cold weather, forcing people to stay at home;

- Businesses are impacted by the damage caused to infrastructure, energy distribution and drop in sales revenues. However, some industries that are climate-sensitive gain from weather related disasters. For example, warmer winters are leading to lower retail sales of winter equipment and garments and negatively impacting energy suppliers but households and businesses are benefitting from lower energy bills;

- In the long term, reconstruction efforts help boost several industries such as construction and related industries, finance and insurance. For example, Thailand's government allocated Bt350 billion (US\$11.0 billion) in early 2012 on short term and long term flood defence involving the construction of dams, dykes and channels as well as dredging and

reforestation.

Prospects

- Incidences of weather related natural disasters are likely to increase over the coming years with the growing effects of climate change. According to EM-DAT, between January and July 2012, there were 35 occurrences of extreme temperatures globally, compared to an average of 21 occurrences in the 2001-2011 period;
- Over the coming years, extreme weather patterns will continue to have far reaching consequences on the global economy , particularly in the current scenario where several downside risks loom over the global economic outlook in 2012. Bumper crops in 2012 could have given some relief to the global economy. However, governments are concerned about an impending food crisis and the prospect of another price shock.

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