Confluence INVESTMENT MANAGEMENT

# Weekly Geopolitical Report

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*September 29, 2014*

## Ebola

Last week marked six months since the Ebola outbreak was identified in the African country of Guinea. The current Ebola epidemic is the largest, most severe and most complex outbreak of the disease in the history of the virus. More cases have been diagnosed and more people have died than in all the prior outbreaks combined. All 24 of the previous outbreaks have occurred in Central Africa. The virus was able to spread undetected for months as this is the first episode of the virus to take place in West Africa. Complicating the initial diagnosis was the fact that the symptoms of Ebola are identical to many other diseases in the region.

Ebola is a viral hemorrhaging fever that attacks the blood vessels, causing internal bleeding and leading to multiple organ failure. Fast-spreading and fatal in more than half the cases, the virus can be easily spread through direct contact with an infected person's bodily fluids or contact with contaminated items. The symptoms start after an incubation period of two to 21 days, and it is believed that a person is only contagious after symptoms appear.

Since the disease is so fast-spreading and healthcare facilities so strained, it is hard to keep an accurate running count but as of the time of this writing the World Health Organization (WHO) estimates the case count is currently at 6,574 and the death count is 3,091. Global observers believe that this number is underestimated. The Centers for Disease Control (CDC) estimated last week that the total number of cases could reach between 550,000 and 1.4 million by January 2015. Without a significant improvement in fighting the disease, the number of cases could double every 20 days. We note that this estimate does not account for the recently announced funding support from the U.S. to combat the disease.

The countries that are most affected by the virus are Guinea, Liberia and Sierra Leone, but Nigeria and Senegal have also experienced cases. Liberia has been the hardest hit, with more than half the fatalities occurring in this country. In addition to being extremely poor, these countries also have weak healthcare systems and very few doctors. In Liberia, there is one doctor per population of 100,000. By comparison, the U.S. has 250 doctors per 100,000. During any Ebola outbreak, but especially in the developing world where hospital sanitation standards are lower, healthcare workers are at a higher risk of contracting the virus. This further robs these countries of experienced medical personnel.

This week, we will explore the Ebola outbreak, looking at the origin of the disease, how it has spread and how it has developed into a serious epidemic. Although it is hard to find comparable epidemics due to the complexities of the disease, we will look at a couple of other disease outbreaks in order to gain a better understanding of the scale of the current Ebola epidemic. As always, we will finish with geopolitical and market ramifications.

**The Origins of Ebola**

It is unknown how the virus initially originated, but scientists believe that "patient zero" contracted the virus from an animal. Scientists believe that a certain kind of fruit bat is a natural host of the virus, but other small mammals are also known to be carriers of the disease. The virus may have spread to humans through consuming wild animal meat, preparing the meat or touching surfaces that were contaminated with bat droppings.

The 1976 outbreak near the Ebola River in what is now the Democratic Republic of Congo (DRC) was the first recognition of the disease. Interestingly enough, the first outbreaks happened simultaneously in Sudan and DRC. Since then, Ebola outbreaks have occurred periodically in Africa. The initial fatality rate from the disease was 90%, which has now been reduced to around 50%. In each of the previous outbreaks, the total number of Ebola-related deaths in Africa has been under 500, and the deadliest events were mostly spread within hospitals via the use of contaminated syringes. Earlier outbreaks have been relatively easily smothered, partially due to the fact that they occurred in remote villages, not cities, where it's easier to contain.

All cases of human illness and death from the virus have occurred in Africa, with the exception of three cases of laboratory contamination. No cases have been reported in the U.S. As has been widely reported by the media, three American healthcare workers were flown back to the U.S. after contracting Ebola in Africa. Two of these patients have been released after they were declared "cured" of the virus.

**The Current Outbreak**

In December of last year, a two-year-old boy in a remote village in Guinea became ill with fever and vomiting. Two days later, the boy died. He would retrospectively be called "patient zero" of the current Ebola epidemic in West Africa. The disease went unnoticed for months, resulting in several transmissions, with all 14 people that were initially infected dying within a short period of time. Although hundreds of cases of a virus had been reported, health workers did not suspect Ebola since Guinea had never had a case of the virus. Complicating matters was the fact that the symptoms mimic many other viral diseases in the region, such as malaria and cholera. Four months after the first death, in March 2014, the mysterious virus was finally diagnosed as Ebola. All countries involved are extremely impoverished, resulting in a more rapid spread of the virus. The countries' healthcare systems are in their infancies following years of civil war.


(Source: The Times Colonist)

One reason behind this sudden appearance of Ebola in West Africa was thought to have been due to bats moving closer to human habitats as forests were cut down for timber and to make room for mines. Bat hunting for food is common in this part of Guinea as is hunting for other small forest mammals.

Ebola can spread quickly within family members and healthcare settings. A swift response to this outbreak is critical as currently the virus is thought to be spread

only through direct contact with bodily fluids. It is not known whether the virus could mutate to become airborne.

The already thin resources of these countries' healthcare systems have been stretched even further, with not enough beds in treatment centers. Unfortunately, some people are dying on the streets before they can be admitted. The Liberian ambulance and Ebola hotlines have been so overwhelmed that people sometimes have to wait days before help can arrive.

Fear in the communities has also added to the spread of the disease. Some locals were worried that Ebola would be more prevalent in hospitals and therefore did not seek medical help when Ebola symptoms appeared. Some doctors were worried about increased exposure to the virus and quit, stretching thin the already fragile medical system. Angry villagers in Guinea attacked doctors and government officials that came to communities to educate about the Ebola outbreak. Although the actual number of cases is widely believed to be under-reported by global observers, some politicians in Liberia have accused their government of over-stating the numbers to gain international monetary concessions.

The UN estimates that the international effort would take $1 billion to fight the virus. By comparison, Liberia's entire national budget was $553 million last year, with only $11 million allocated to healthcare.

**Comparable Epidemics**

It is hard to find a virus comparable to Ebola. Within the last several years, we have seen the avian flu and the swine flu reach a pandemic stage. However, these diseases occurred in more developed countries which had better healthcare systems. The number of fatalities was also lower.

Ebola is extremely dangerous due to its high fatality rate, which has reached as high as 90% during past episodes. Malaria is another virus that kills around half a million people annually, and the majority of these fatalities take place in Africa. However, malaria is different as the fatality rate is much lower and the disease is preventable and curable in most cases, while there is no cure or immunizations available for Ebola. The flu also kills about half a million people per year, but the rate of fatality is much lower (0.02% in the U.S.) and there is a vaccine that works with some degree of efficacy.

The Spanish Flu in 1918 has been the most severe pandemic in modern times. It is estimated that this flu killed at least 25 million and perhaps as many as 100 million people. Some of the anecdotal evidence is astounding. In Ghana, 5% of the population died within two months. Arctic explorers noted that entire Inuit villages were wiped out. In 1918, the average life span in the United States declined by 10 years. Troop movements associated with WWI helped to spread the disease. In the United States, it is estimated that the Spanish influenza had a mortality rate of 2.5%.

The 2002-2003 Severe Acute Respiratory Syndrome (SARS) outbreak is the closest comparison to the current Ebola outbreak as neither has a known cure nor vaccine. SARS is also believed to have originated from bats and is easily transmitted, including through air. This respiratory disease has a mortality rate of about 10%. The most recent outbreak was the most severe, in which more than 8,200 cases were diagnosed and more than 700 people died.

**Geopolitics**

The Ebola epidemic has unfortunately happened at a time when international relief organizations were not ready for the epidemic. Global contributions from member countries to the WHO have declined since 2011 and the medical budget has been reduced significantly. The international agencies that deal with humanitarian crises have a difficult task ahead of them in both actual work to be done and politically, since the groups depend on member contributions that are often voluntary.

The localized effects include food shortages reported due to quarantines of whole neighborhoods. Travel has been affected in the region, with air traffic extremely limited and some ports also being closed for a period of time. The affected countries import most of their food products, including staple grains. If imports and intra-country transportation of basic foods are slowed, civil disorder could develop, but we would expect this to be a local development. Given the instability in the region, we could see another civil war emerge. However, it's more likely that borders will be closed for immigration. This is likely to happen in Africa as well as globally.

Sierra Leone and Liberia do not export many commodities and products, and even within their largest products, diamonds and rubber, they are small producers globally, thus global trade is not likely to be affected. However, the affected countries' economic growth rates are likely to suffer, with some estimates assuming GDP growth reductions of up to 1% this year.

There is risk of increased acts of global terrorism. We note that during the Cold War, the Soviet Union maintained a library of biochemical hazards and evidently some terrorist groups have gone to Africa in search of the Ebola virus that could be used in a biochemical attack. Terrorist groups could obtain the virus for use in other regions, although it seems that the spread of the virus would be much easier to contain in a developed country with a modern healthcare system.

**Ramifications**

The initial market reaction to the epidemic has been minor, if not non-existent. Global markets have shrugged off the effects, as well as many other global geopolitical developments (including Syria, Gaza and Ukraine), and have marched higher. Local equity markets have declined somewhat. Nigeria, Africa's largest economy and a country also affected by Ebola, has seen an 11% increase in its stock index since the WHO declared the Ebola epidemic in March. South Africa's stock index has risen over 1% during the same time-frame. Clearly the markets are not currently worried about this outbreak.

In terms of industries affected, we would expect healthcare to do well, especially the sectors and companies that manufacture the supplies needed to combat this epidemic. Mining and timber exports from Africa could be negatively affected due to port closures, but this should be temporary.

Overall, this epidemic seems to be currently overlooked by investors as the world copes with many other events. Markets may be vulnerable if the virus spreads globally or mutates to become airborne, but for now we would expect the effects to remain localized.

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## Confluence Investment Management LLC

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