

Economic Implications of a Human Influenza Pandemic¹

Introduction

A severe pandemic (worst case scenario) will have devastating repercussions for trade and economies everywhere. While the virulence of the virus will be a significant factor in determining the overall economic impact of a pandemic on trade, production and consumption patterns, other factors such as fear, over-reaction, the role of the media, national and local levels of preparedness, and government policies, will also determine the extent to which world trade will contract.²

Short-term impact

- A pandemic is likely to result in a series of shocks to the global economy, with both demand- and supply-side effects.³ This includes a **sharp decline in demand in service sectors** such as tourism, mass transportation, retail sales, hotels and restaurants, as people try to avoid infection by minimizing face-to-face interactions. Other sectors, such as the insurance industry, would be significantly affected also. However, health care services would experience an increase in demand and would be quickly overwhelmed.
- A pandemic is likely to affect consumer confidence and lead to a **decline in aggregate consumption**, as well as a change in consumption patterns.
- A severe pandemic would lead to a downturn in world trade. Investor confidence would be affected so that economic implications could be exacerbated by the markets' tendency to overreact in contexts of great uncertainty.
- A pandemic would result in a **supply shock** due to a reduction in the size and productivity of the labour force,⁴ disruption of production processes⁵, and a shift to more costly procedures.⁶
- At the same time, the advances in technology of recent years may allow some companies, especially those in service industries (such as finance, IT), to **conduct business via electronic communications**, which would permit their employees to work from home.
- Economic impacts would also occur in tandem with the efforts of governments to prevent the start of a pandemic, to contain the pandemic once it has begun, and to mitigate its harmful effects on the health of the population.
- Attempts to quarantine people would probably amplify anticipated reductions in trade, travel, and tourism. The use of blanket measures to curb movement within and between countries could cause major economic disruption given the increasingly globalized nature of modern production processes.
- **International travel will decline if not cease**, as people will be reluctant to fly and governments will probably close borders.⁷
- A meltdown or reduction of global trade and economic systems would have significant implications for **remittances** (*see below*) that are a critical factor in poverty levels in many parts of the world. A global economic contraction would have significant implications for livelihoods

¹ It is worth noting at the outset that economic implications will, in part, be determined by the severity of a pandemic. It is likely that a severe pandemic will result in system failures that will be ruinous for many businesses and sharply curtail many business interactions. Thus the short and long term impacts listed below draw on a variety of literature that do not necessarily relate to a HPAI pandemic.

² The SARs experience has provided some insights, particularly for South East Asia and Canada, on the potential economic implications of a pandemic but it is worth noting that SARs directly affected a little over 8,000 people, some 800 of whom died. Similarly, HIV/AIDS that has been devastating for millions, particularly in Africa, is significantly different to a AHI pandemic in that it plays out in slow motion and infects much fewer people.

³ The main impact of SARS was on the demand side as consumption, and demand for services, contracted.

⁴ Workers will become ill, die, or stay at home to take care of children/sick relatives or because of fear.

⁵ Supply-chains and just-in-time inventories would be affected as transportation systems would be dysfunctional and key business services would not be available.

⁶ "In a typical flu season, productivity costs are ten times greater than all other flu-related costs combined." See Laurie Garrett, "The Next Pandemic?" Foreign Affairs July-Aug 2005.

⁷ At the peak of the SARS outbreak in April 2003, airline passenger arrivals in Hong Kong had declined by nearly two-thirds relative to their levels in March 2003.

everywhere and the ability of individual households to recover from the economic shocks of the pandemic.

Long-term impact

- The most important long-term economic impact of a pandemic would be a **reduction in human capital**, possibly over a long time.
- While it will take years for the investment climate to recuperate, a pandemic would also produce winners – particularly in the property market – as well as losers.

Differing levels of vulnerability

- **Open** economies are likely to be more vulnerable to international economic shocks, although issues of scale will be key.
- Economies that are significant **exporters of services** are likely to be hit hardest.
- Countries that **rely extensively on tourism** will suffer more than those with more diversified economies.
- Countries with **well-developed human and animal health systems** will be better able to cope with the problems caused by excess illness and death.
- **Large and flexible** economies will have more room to manoeuvre than those economies that are not diversified including, for example, cash-crop economies.

Estimated decline in GDP

- The **general slowdown in economic activity** would reduce gross domestic product (GDP).
- **Severe pandemic scenario:** the US Congressional Budget Office (CBO) assumed that for most sectors of the US economy, on average, 30 percent of the workers in each sector would become ill and 2.5% of those workers would die. Further, CBO assumed that those who survived would miss three weeks of work, because they were sick, they feared the risk of infection, or they needed to care for family or friends. In total, it is estimated that there would be 5% reduction in GDP in the year of the pandemic.
- **Mild pandemic scenario:** CBO assumed that the attack rate would be 25 percent (except in the farm sector, where it was assumed to be 5 percent), the case fatality rate would be just over 0.1 percent, and the time out of work would be less than four days on average. In total, the decline in output would amount to about 1.5 percent of GDP.

Global costs

- According to the World Bank, there could be a loss of \$550 billion based on extrapolations from the US to all high-income countries.⁸
- According to the World Bank, SARS led to an immediate economic loss of around 2% of East Asian regional GDP in the second quarter of 2003. Some 800 people died from the disease, a figure that pales in significance to projected AHI death rates. A 2% loss of global GDP during a pandemic would represent around \$200 billion in just one quarter (or \$800 billion over a whole year).
- According to Oxford Economic Forecasting, for every 1% of world population lost in a pandemic there would be an annual loss of world output of about 0.5 percent (\$200 billion).

⁸ A 1999 study of the United States calculated that, based on past patterns, a flu pandemic could lead to between 100,000 and 200,000 deaths in the US, together with 700,000 or more hospitalizations, up to 40 million outpatient visits and 50 million additional illnesses. The present value of the economic losses associated with this level of death and sickness was estimated at between \$100 and \$200 billion for the US alone (in 2004 dollars).

Remittances

- Migration is on the increase; it is up by 65% in the last two decades.
- More than 200 million migrate annually; wage levels in high-income countries are approximately five times those of low-income countries for similar occupations
- Remittance flows are steadily increasing and have doubled in the past five years.
- Remittances are the fastest growing and most stable capital flow to developing countries. In 2005, remittances were expected to reach \$167 billion.
- Remittance data is weak. Unrecorded flows are estimated at double or triple formal volumes.
- Aggregate remittance flows overtook those of global overseas aid in 1995 and represent as much as 40% of foreign direct investment.
- South-South remittance flows make up between 30 and 45% of total remittances; over half of 3W migrants go to other developing countries.
- Internal migration in countries such as China and India is significant but little data is available in terms of numbers or implications for rural households.
- In Africa, remittances are significant and provide a vital source of support to millions but country-specific data is weak.
- Relative to GDP, South Asia is the largest recipient with remittance receipts amounting to 2.5% of GDP. In Lesotho, remittances amount to 25% of GDP.
- From a global perspective, Latin America and the Caribbean receive the lion's share of remittances. However, in Asia, a country such as the Philippines receives \$7 billion annually.
- Remittances are important in terms of foreign exchange. In India, 74% of the trade deficit is financed through remittances receipts.
- 75% of remittances go to developing countries, much of it to the very poor.
- Remittances play a significant role in reducing the incidence and severity of poverty. Remittances are particularly important in times of stress, such as crop failure or illness. It is estimated that 80% of remittances go to meet household consumption. Countries as diverse as Uganda, Bangladesh and Guatemala have recorded declines in poverty of 11, 06 and 20 percentage points respectively.

Key Policy Issues

- One clear lesson from the SARS outbreak was its **psychological impact on economic activity**. The experience with SARS shows that the public and markets often panic in the face of uncertainty.
- The overall impact of the pandemic will depend as much on **indirect behaviours** (e.g. public reaction, government actions, media response) as on the **direct behaviour** of the virus (its infectiousness and virulence).⁹
- **Economic impact is not correlated with the severity of the outbreak**. Many of the short-run disruptions to the economy that would come to pass under the conditions of a severe scenario might also occur in the event of a relatively mild outbreak. In other words, the public's response to a pandemic might be disproportionate to the event's clinical severity or lethality, as was the case for the SARS outbreak.
- A key policy question is how to minimize the ratio of costs to benefits of the private precautionary actions that are taken during a pandemic.
- A **prompt and transparent public information policy** could help reduce the economic costs of a pandemic by reducing panic and maintaining confidence in public policies.

⁹ The most immediate economic impact of a pandemic might not arise from actual death or sickness, but from the efforts of individuals to avoid becoming infected, as well as public policy actions like quarantines and travel restrictions. This at least was the experience during SARS.

- The health benefits of reducing contact with the rest of the world should be carefully weighed against the economic costs of such a policy choice.
- Given the **role of the business community** in maintaining routine every-day services, including food and water supplies, it is important that such actors are involved in planning and preparedness measures at the national and local level.
- A reduction in remittances will have significant implications for poverty levels and the realization of the MDGs. A pandemic-induced global economic retrenchment is likely to significantly erode remittance flows.

Key readings

- World Bank. “Spread of Avian Flu Could Affect Next Year’s Economic Outlook”. Excerpts from *East Asia Update – Countering Global Shocks*. November 2005. (<http://siteresources.worldbank.org/INTEAPHALFYEARLYUPDATE/Resources/EAP-Brief-avian-flu.pdf>)
- Congressional Budget Office. “A Potential Influenza Pandemic: Possible Macroeconomic Effects and Policy Issues”. 8 December 2005. “Economic Effects of a Pandemic”, p. 9-16. (<http://www.cbo.gov/ftpdocs/69xx/doc6946/12-08-BirdFlu.pdf>)
- Erik Bloom, Vincent de Wit, and Mary Jane Carangal-San Jose. “Potential Economic Impact of an Avian Flu Pandemic on Asia”. ERD Policy Brief No. 42. Asian Development Bank, November 2005. (http://www.adb.org/Documents/EDRC/Policy_Briefs/PB042.pdf)
- IFAD “Remittances” 2005
- World Bank “Global Economic Prospects: economic implications of remittances and migration 2006” November, 2005
- DFID “International Conference on Migrant Remittances: Development Impact, Opportunities for the Financial Sector and Future Prospects” October, 2003

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