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# **Avian Flu: An Economic Assessment for Selected Developing Countries in Asia**

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## Introduction

The outbreak of avian flu in developing Asia in late 2003 to early 2004, following the scare caused by severe acute respiratory syndrome (SARS) in early 2003, attracted attention from policymakers, the international community, and the media. While suppression of information about avian flu in its early stages in Thailand had parallels with the experience of People's Republic of China (PRC) with SARS, all stakeholders were very alert on avian flu and corrective actions were immediately put in place like the culling of chickens on a widespread scale, monitoring of humans, and introducing safeguard measures at airports. Partly as a result of these measures, the hysteria associated with SARS was largely absent with avian flu despite the repeated warnings of the World Health Organization and the Food and Agriculture Organisation about the dangers of widespread contagion. To date, the lessons of SARS control have been internalized, and by and large, there has been little panic over avian flu, an important reason being avian flu has so far been largely confined to poultry. Relatively few humans have been affected by the virus, with a small number of reported deaths.

The purpose of this note is to provide a preliminary economic assessment of avian flu on developing Asia. It begins by describing the role of the poultry industry in some of the countries concerned. This provides the background to assess the production and income losses resulting from avian flu. The macroeconomic impact is assessed based on two scenarios. The first scenario is avian flu is confined to animals, leading to production and income losses; the second scenario is the avian flu virus (H5N1) mutates into a human virus, which could then result in an escalation into a SARS-type crisis. As avian flu has so far been largely confined to poultry, the microeconomic impact of production losses, and the targeted responses needed from governments to assist poultry producers who are relatively poor and living in rural areas with no access to social safety nets are described.

## Background

Poultry constitutes an important industry for many Asian countries. The PRC is currently the world's second largest producer of broiler meat, after the United States (larger than the European Union). It will become the largest producer in less than a decade. Thailand is the sixth largest producer. While it is an important industry, it remains relatively small in terms of its contribution to gross domestic product (GDP). Disaggregated data is very sketchy. Estimates indicate that in the Philippines and Thailand, the poultry industry currently represents about 0.59 and 0.40 percent of GDP, respectively. In Indonesia, the whole livestock sector accounts for just about 2 percent of GDP. In the PRC, animal husbandry represents about 8 percent of GDP. These estimates underestimate the overall economic impact of the industry as they only represent value added. One would need to look also at the sectors in the economy providing inputs to the poultry industry such as animal feed, breeding industry, packaging, etc. Hence the concept of gross output would be more appropriate than that of value added, but such data would require disaggregated input-output data. Rough estimates for Thailand taking into account the importance of the industry in its exports indicate that the sector as a whole might be between 1.2-1.5 percent of GDP. A fair conclusion however is that the poultry and poultry-related industry is relatively small in the economies affected by avian flu.

In most Asian countries, poultry production is essentially for domestic consumption. There is one major exception, Thailand, which is the world's fourth largest exporter of poultry meat. Thailand exports over a \$1 billion of poultry meat a year, which accounts for approximately 1.5 percent of its total exports. The PRC also exports poultry (mainly duck), but is a net importer. The PRC exports close to \$800 million of poultry meat a year, representing about 0.25 percent of its exports.

Asian countries are major consumers of poultry meat, and domestic consumption is rising. Consumer survey data shows for instance that in the Philippines, consumption of poultry meat per capita is about 11.5 kilograms per year. Hence any significant price change would affect consumption, particularly for low-income consumers. However the major impact on poverty would be mainly among small poultry farmers losing production and income, and to a lesser degree in terms of welfare losses among low-income consumers.

## **Macroeconomic Impact: Alternative Scenarios**

In assessing the potential economic impact of avian flu, a number of scenarios need to be envisaged. First, it is imperative to distinguish the scenario of the flu remaining an animal epidemic, from that of the virus mutating to a human virus. The outcomes, as will be shown, will be radically different.

Second, the duration of the impact of the epidemic is another important variable. As a reference, one can refer to the Dutch epidemic of early 2003. The epidemic (which resulted from a relatively mild virus—H7N7) lasted 15 weeks before movement and transport restrictions started to be progressively relaxed, but the overall impact was felt much longer (as restocking took place only under strict conditions for a substantial duration of time afterwards). This happened in spite of very rapid and strong restrictions and containment actions taken in Netherlands and neighboring countries immediately after the outbreak was detected. In view of this experience, it is likely that the impact of the avian flu epidemic will be felt for at least a 6-9 month duration (taking into account restocking).

### **Scenario 1: Epidemic Remains Confined to Animals**

If the epidemic remains confined to animals, as has been the case up to now, it is likely that the aggregate impact on the economies of the region will be relatively limited and hardly perceptible given the underlying strong growth trends projected for the Asian and Pacific region in 2004. Among the countries affected, Thailand will feel the strongest impact due to the importance of the industry in its export sector. Even so, assuming a half-year ban on poultry exports, the impact on Thailand's GDP would probably not be more than 0.5 percent, which is not small but will not be perceptible given the strong growth path of the Thai economy forecast for 2004. This is about one third of the estimated impact of SARS over one quarter in 2003. Of course if production were affected much longer, it could have a one-year impact of 1.2-1.5 percent of GDP. These are rough estimates. The impact on other Asian developing countries would be minimal.

But for several countries, while the direct impact on GDP might be small, there could be an indirect longer-term effect. To combat and contain the epidemic, as well as to assist affected farmers, governments are increasing and will need to increase public expenditures. For most of the countries, particularly the poorer

countries such as Cambodia and Lao PDR, such increases in expenditures will come at a time when they are already facing fiscal constraints and will need to consolidate their fiscal situation.

## **Scenario 2: Epidemic Mutates into a Human Epidemic**

This scenario would probably lead to a major economic crisis, as the avian influenza virus appears to be highly contagious, much more so than the SARS virus. Since this is highly speculative, the Asian Development Bank did not simulate such a scenario. However, if a reference can be made, it is to the impact of the 2003 SARS epidemic. The Asian Development Bank estimated that the impact of the SARS epidemic lasting one quarter was of a magnitude of about \$18 billion in terms of GDP (0.8 percent) or \$59 billion in terms of business losses (measured as total final expenditures). It is clear that if the avian influenza mutates to a human virus, these estimates would provide a floor for expected losses.

### **Microeconomic Impact**

While the macroeconomic impact is expected to be relatively limited, there is no doubt that the microeconomic impact will be very severe in the areas where poultry farming is the main source of livelihood. In most countries, poultry farming tends to be concentrated in a number of areas. In these areas, farming income and rural consumption will be severely affected over a substantial duration, probably lasting at least 6-9 months as a result of massive culling of chickens. Direct income support measures might be required in a first phase. Once the epidemic is brought under control, assistance is likely to be required for restocking and investment in enhanced preventive sanitary measures. Any indirect impact the epidemic might have on food prices would also disproportionately affect consumption by lower-income earners. These microeconomic impacts are difficult to evaluate without data from household surveys in the affected areas. Small-area surveys focusing on a limited number of households to better understand and assess the impact of the epidemic on poorer households are desirable.

## Conclusions

The outbreak of avian flu once again demonstrates the need for developing Asia to be prepared to face unexpected shocks at all times. The challenge is to carefully distinguish the potentially very damaging shocks and those whose economic impacts will be relatively minor. Otherwise, there is a danger of creating a world of hysteria whereby short-term expediency becomes a substitute for addressing major long-term development issues. As compared to the uncertainty and fear caused by SARS, developing Asia has handled avian flu in a pragmatic, confident, and calm manner. Clearly, many of the lessons of SARS have been internalized. For example, with what is known so far, the economic impact of avian flu at the macroeconomic level is expected to be minor. However, at the microeconomic level, with poultry farming concentrated in rural areas among farmers with little access to social safety nets, the losses from chicken culling and the attendant hardships will be severe. On a positive note, the bright economic outlook for developing Asia over the next two years suggests that, despite avian flu, GDP growth rates will be buoyant, making it fiscally easier to address the large microeconomic costs of avian flu.

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