under stress and they may face challenges in meeting regulatory norms. Market operations could become more disorderly in the case of a breakdown in the trading infrastructure, leading to limited or intermittent trading.

9. **A severe pandemic may also lead to a significant but temporary reduction in net capital flows to emerging markets.** Some capital flight from residents seeking safe havens could be expected. Based on the SARS experience, foreign direct investment plans may change little, although major investments may be postponed. At the same time, a shift in risk preferences could lead to modest portfolio outflows, particularly from those members where equities are relatively highly priced, or with weaker public finances, or with current accounts highly dependent on commodity prices and export of services. To varying degrees, members would be able to address temporary balance of payments pressures in some countries by drawing on reserves—which for many countries are at a historical high. However, net flows to emerging market countries might decline as a result of some combination of possible operational disruptions in the financial systems, a loss of confidence in more vulnerable countries, and abrupt shifts in risk preferences. The possibility of severe balance of payments pressures under an adverse scenario cannot be precluded. It is important to note, however, that even severe disruptions to the financial system caused by uncontrollable events would not necessarily lead to loss in confidence if governments were seen to be dealing effectively with the emergency.

10. **Aside from sharp changes in asset prices, operational risks constitute the greatest challenge to the global financial system in the event of a severe pandemic**. Although it is uncertain how much absenteeism a pandemic would cause, high absentee rates without adequate contingency plans in place could result in disruptions of critical functions and services of the financial system, including payments, clearing and settlement, and trading. Financial systems' information technology and communication infrastructures might also be affected. Operational disruptions could prevent transactions from being completed and obligations from being met. Moreover, disruptions in one jurisdiction could spill over into other jurisdictions.

11. **As noted above, in the event of a less severe pandemic, similar issues would arise, but with less intensity.** Precision is difficult in this area, on account of the uncertainties concerning the links between the severity of pandemics and the magnitude of their economic effects.

III. Public Policy Issues and the Role of the Fund

12. **The need to help prepare for a pandemic is becoming an important focus for many governments and international organizations, including the Fund**. At the Beijing International Conference, US$1.9 billion was pledged to support efforts at all levels to help fight avian flu and prepare for a possible human flu pandemic. The World Bank, the World Health Organization, the Food and Agriculture Organization, and the World Organization for Animal Health are taking the lead in preparing a global coordinated response strategy on the possibility of an avian flu crisis, and helping members improve surveillance and control

capacity and to develop national action plans that focus primarily on human and animal health.

13. **The Fund's role will complement these efforts.** While there is uncertainty as to the timing and severity of a pandemic, appropriate preparations can help mitigate output and income losses and minimize disruptions to financial systems. The Fund can play an important role in encouraging members to prepare for a possible pandemic, in facilitating cooperation across the membership, and, should one emerge, advising members on appropriate macroeconomic policies and helping to support them with balance of payments financing where this is needed.

A. Business Continuity Plans

14. **The Fund's near-term efforts will focus primarily on helping members prepare their economic and financial systems to limit the possible disruptions that may be caused by a pandemic**. Business continuity planning in the financial sector is essential to minimizing possible disruptions. The Fund is well-positioned to collect information from members that are most advanced in this area, and to share their experience with officials from members that are at an earlier stage of preparedness.

15. **Business continuity planning has become a critical component of operational risk management in the financial sector**. In recent years, financial institutions, central banks, and regulators have devoted significant resources to strengthening business continuity plans (BCPs) to enhance the resilience of their national financial system and to minimize the impact of a sudden failure of critical infrastructure from terrorism and natural disasters. Financial institutions, central banks, and regulators have adopted and tested contingency plans with the aim of ensuring that critical operations and services can be maintained or recovered in a timely fashion to ensure rapid resumption of business operations after a disruption. Such plans may involve identification of recovery teams and backup facilities at alternate sites.

16. **However, in many countries, business continuity planning has not yet addressed the specific risks arising from a pandemic, particularly from possible high absenteeism.** Based on the limited discussions Fund staff has had to date, the level of preparedness among national authorities and financial institutions varies greatly (Box 2). In a few countries, particularly those affected by the 2003 SARS outbreak, preparations are well advanced and comprehensive. This level of economic and financial preparedness, however, does not appear to be uniform or yet widespread. Perhaps because an avian flu pandemic may appear to be a low-probability event, albeit one with high potential costs, many countries are only starting to develop a comprehensive approach to this threat. While enhancing preparedness will entail upfront costs, the benefits of mitigating the risks associated with a pandemic appear to outweigh these costs. Cross-country coordination is also at an early stage, although both the

Financial Stability Forum and the Joint Forum are discussing avian flu pandemic preparedness.[5]

Box 2. Country Preparedness and Business Continuity Planning

Fund staff has collected information on avian flu pandemic preparedness in the financial sector from a broad range of countries (predominantly from mature and emerging market countries), through brief surveys of central bank practices and more detailed discussions with some private and public sector institutions in Asia, Europe, and North America. Followup contacts with these and other country authorities are being pursued to gather further information on good practices in preparedness.

Based on the information collected so far, most countries have some basic tools in place—notably BCPs for financial institutions and central banks. BCPs aim to ensure the resilience of individual institutions in the face of disruptive shocks such as terrorist attacks and natural disasters. However, they generally focus on restoring infrastructure and critical functions in the face of a short-lived event. In many cases, adaptation of these plans to the specific issues likely to arise in an AFP such as high staff absenteeism is just beginning. Major disruptions to critical financial services could occur if a large number of staff could not report work.

The level of preparedness varies significantly:

- Preparedness is highest among countries that experienced the SARS outbreak, some countries that have recently dealt with avian flu outbreaks, and several countries with large, complex financial systems. Several large global financial institutions also have advanced preparations, as do providers of payment services, mainly by establishing alternative sites, and recovery task forces.

- Other authorities have progressed in identifying the critical issues in handling an avian flu pandemic, but have not yet finalized their response plans, or undertaken all the necessary steps to increase resilience. In most of these cases, decisions over significant investments (e.g. in IT or telecommunications infrastructure) or cross-training of staff in different functions have yet to be made, and coordination with other private and public institutions is just beginning.

- Finally, some members have yet to prepare specific plans. Some of these countries have, however, expressed an interest in developing their preparedness plans.

Among the most advanced cases, BCPs have been adjusted to account for the characteristics of a pandemic. Country plans are detailed and widely distributed, and often integrated into a government-wide initiative headed by a senior crisis management body. For both private and public entities, BCPs consider issues such as suspension of noncore activities, geographical dispersal of functions, working from home, response to heavy demand for cash by the public, health and safety issues for staff, and transportation for key personnel. Implementation of these plans is now beginning. Stockpiles of cash and supplies have been built up in several locations. Some private and public institutions are testing their BCPs—e.g., "desk top" exercises and scenarios, assuming absentee rates between 20-40 percent or higher, and checking whether their infrastructure can handle a surge in remote access activities. Finally, some regulatory authorities are working with private financial institutions to ensure adoption of adequate BCPs.

17. **The Fund staff has initiated discussions with central banks, supervisors, regulators, and financial institutions to understand their preparedness and to collect information on business continuity plans.** In this context, Fund staff has prepared a distillation of common elements of well-prepared business continuity planning for pandemic

[5] The Joint Forum consists of the Basel Committee on Banking Supervision, the International Organization of Securities Commissions and the International Association of Insurance Supervisors. The Joint Forum organized a meeting in Hong Kong, SAR on February 22 to discuss business continuity planning. The Financial Stability Forum plans to meet March 16-17 in Australia and will discuss, among other things, avian flu preparedness.

risks in the financial sector (see Attachment). As this general area of business continuity planning is developing rapidly, this distillation is work in progress, rather than a final product.

18. **In the coming months, the Fund will be active in collecting and disseminating elements of good business planning for a pandemic across the membership.** Regional seminars are planned to bring together business continuity managers from central banks and supervisory authorities to facilitate a sharing of knowledge and experience. Before the Spring Meeting of the IMFC, five such seminars are under preparation, including three hosted at the Fund's training facilities in Singapore, Tunis, and Vienna. If requested, the Fund would be willing to organize targeted technical assistance programs, mainly in the financial sector. A short report on the Fund's work in this area will be prepared for the Spring Meeting. The global economic and financial risks as well as policy response will be covered in more detail in the WEO and GFSR, respectively. Finally, Fund staff will discuss preparations in members' financial sectors in the course of their interactions with country authorities and private sector representatives.

B. Macroeconomic Policy Response

19. **A pandemic will likely put substantial pressure on the fiscal balance, due to increased spending on health, public safety, social welfare, and subsidies to businesses and lost revenues (Box 3).** In response, allowing a temporary easing in the fiscal stance would be appropriate in most cases. The expected temporary character of a pandemic-related shock would argue for greater emphasis on financing rather than adjustment, and in poor countries, the extra expenditures may need to be financed by external grants to minimize crowding out and the difficulties governments may face in mobilizing domestic resources and new debt creation.

20. **The monetary stance may be eased temporarily to accommodate the expected surge in liquidity demand and shock-related price increases**. In particular, central banks will need to ensure an adequate supply of cash notes and capacity to deliver them to financial institutions in a timely fashion and to ensure that banks can meet a sudden increase in the demand for liquidity. To calm markets, financial regulators may need to consider a degree of prudential forbearance. For instance, liquidity requirements, capital adequacy rules, and provisioning requirements could be temporarily eased, and regulatory requirements could be adjusted for a "work at home" environment. To contain asset price deflation, regulators, including those supervising the insurance and pension industries, may have to consider temporary forbearance where prudential limits are breached by an initial decline in asset prices.

Box 3. Fiscal Implications of an Avian Flu Pandemic

The WHO has urged governments to put in place measures to prevent the emergence and contain the spread of avian flu. While some of the measures required may be relatively costly for some lower income countries (LICs), and may strain their absorptive capacity in the medical and veterinary sectors, most countries should be able to bear the fiscal consequences of such measures. More challenging may be the likely fiscal impact of an avian flu pandemic and the actions required for governments to prevent and respond to it.

Direct effects. If the pandemic hits, government finances, at least in nominal terms, will likely deteriorate sharply. Expenditure on health and public safety will surge, as governments implement WHO instructions, deploy security and police forces, distribute essentials, and meet heavy demands for health goods and services. Simultaneously, revenues will be hit as business and consumers put off purchases in the face of uncertainty, firms scale back production as employee attendance drops, and borders close. Disruptions to the payment system may also result in less revenue flowing into national treasuries and absenteeism in government ministries may also disrupt government activity.

Indirect effects. Governments will likely face many calls for compensation by affected sectors. Most immediately, in the pre-pandemic phase, compensation for losses from culling will be demanded by those involved in the poultry business. But if there is a full-blown pandemic, many other sectors will likely suffer, especially tourism, transport, retail, and insurance, and a range of sectors may experience bankruptcies. More generally, even many otherwise viable firms might fail to survive the weeks, or months, of much lower demand and unemployment may rise.

Permanent and temporary effects. If the pandemic proves temporary, so too will be much of the effects. Consumers and investors will start purchasing again, firms will build up to full capacity, international trade will rebound etc. But some effects will last. Most clearly, some in the labor force will not return and some firms may fail. Other firms may have built up debts that the government may be under pressure to assume. And the government too would have built up more debt to finance its weaker fiscal position.

LICs. These effects are likely to be pronounced in LICs as well as emerging markets given the weaker medical infrastructures and, in some cases, lower preparedness levels. Countries with weaker fiscal positions, unless offset by higher external grants, will also tend to be more constrained in the support they can offer. Those relying heavily on external financial markets may also face increased borrowing costs due to higher international risk aversion.

Preparing and responding. The main financial aspect of preparing for a pandemic will most likely involve up-front outlays on items such as medical and food stockpiles. But equally critical will be preparedness planning. And because many, especially the vulnerable, will likely suffer, a social safety net should be in place that will quickly be able to cushion the financial impact of those most affected. Once the pandemic hits, attention could then turn to executing the plan and modifying to the particular circumstances. Financing too will have to be obtained, and with financial markets likely to be thin at best, recourse to central bank borrowing may be inevitable.

21. **As soon as the acute phase of the pandemic is over, the magnitude of more lasting supply and demand shocks will need to be assessed.** In many countries, the shock may be self-correcting; in others, further steps may be needed to restore macroeconomic stability and fiscal sustainability. This may entail adjusting monetary policy to prevent a sustained increase in inflation, withdrawing fiscal stimulus, particularly in countries facing debt sustainability issues, as well as ensuring external viability, including through a rebuilding of international reserves and greater exchange rate flexibility.

C. Fund Financing

22. **The Fund's existing facilities should be sufficient to help members address balance of payments needs on a limited scale.** However, greater obstacles would be faced under normal procedures if a response to large balance of payments needs, for example, related to multiple capital account crises, is required.

23. **For financing needs on a limited scale, the Fund's Emergency Natural Disaster Assistance (ENDA) would allow a quick response to meet limited needs (normally 25 percent of quota), with larger amounts exceptionally available.** Existing on-track arrangements could be augmented—if needed between scheduled reviews. Support for low-income countries can also be provided through the Exogenous Shocks Facility (ESF), and ENDA can be subsidized subject to resource availability. These options could be available even if Fund staff could not travel or conduct more than limited policy discussions with the affected countries.

24. **Larger-scale financing could be more challenging in the event that a pandemic creates larger balance of payments needs.** In cases of exceptionally large financing needs, SBA and ESF-supported programs could be agreed to supplement immediate disbursements under ENDA. This would be most readily the case for countries that have been following good policies. However, in the event of a pandemic, the Fund's ability to diagnose problems and negotiate appropriate policies, including because of restrictions on staff travel, may be challenged.

25. **The Fund's current liquidity situation leaves it well-placed to respond, though this could change quickly in the event of a major crisis**. The one-year forward commitment capacity (SDR120 billion (US$171 billion) at end-February) is at an all-time high, and could be supplemented by existing borrowing arrangements. The Fund also has a concessional loan capacity under the interim PRGF/ESF of SDR 2.7 billion (US$3.9 billion), which could also be used to finance short-term balance of payments needs. However, subsidy resources available for emergency natural disaster assistance are only sufficient to support new lending of about SDR 60 million, and commitments for ESF subsidies so far total SDR 170 million compared with the SDR 500 million target. Thus, additional subsidy resources would likely be needed to support concessional emergency assistance on any significant scale.