



From: Name Redacted

Team: MFP

Ext.: I&S

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**Scenario testing for the economy and public finances:
Swine flu pandemic**

Issue:	The attached paper sets out an analysis of the economic and fiscal consequences of a swine flu pandemic.
Recommendation:	No action required: for information only
Timing:	None: for information only
Related papers:	Name Redacted and Name Redacted submission and attached papers of 2 July, 'Scenario testing for the economy and public finances: oil price spike and financial sector shock'

Background:

1. The attached paper sets out an analysis of the economic and public finances impact of a swine flu pandemic in the UK, occurring over 6 months starting in the last quarter of this year.

2. Our normal approach to analysing shocks to the economy between PBR and Budget forecasting rounds would be to characterise the shock as either a demand or supply side shock and then work through the economic and public finances consequences. Within this framework, the pandemic flu scenario can be perceived as a negative shock to the economy with both supply and demand side effects in the short-run and a permanent effect on supply.

3. This analysis is presented relative to the Budget forecast, examining the partial direct effects on the economy and public finances in the two scenarios, all else being equal. In this context, the analysis highlights the main direct effects we would expect to see in this scenario to frame the risks to the economic and fiscal outlook.

4. There is a large degree of uncertainty around the parameters for estimating the impact of a swine flu pandemic on the economy and public finances. These include both uncertainties around the severity of the pandemic and how this will then affect the economy.

5. The key points from the scenario analysis are summarised below.

Pandemic Flu Scenario

6. The most obvious **supply-side** channels for a flu pandemic to affect the economy in the short run would be lost output arising from workers being off ill, prophylactic absenteeism (healthy workers staying at home for fear of exposure), lower productivity due to residual ill health and absence to care for sick relatives and/or to care for children. There may also be a permanent supply side effect from fatalities.

7. On the **demand side** the most immediate effect would arise from individuals trying to avoid activities that require people to congregate (e.g. restaurants, bars, cinemas and clubs) and a serious reluctance to travel. Confidence may also be temporarily dented, and heightened uncertainty about economic developments would make it likely that businesses would postpone investment. There may also be a negative impact on financial markets.

8. The **assumptions underlying the analysis of the impact of the flu pandemic** on the economy are adapted from the existing literature and evidence available. The key assumptions underlying the pandemic flu scenario analysis are:

- i. The **pandemic is spread over 6 months** in Q4 2009 and Q1 2010.
- ii. **35 per cent of the workforce are infected** in total.
- iii. A further 34% of the workforce is assumed to be absent for other reasons related to the pandemic e.g. prophylactic absenteeism. Taking both illness and other absences together, **around 69 per cent of the workforce are assumed to be absent from work at some point over the 6 month period** i.e. around 20 million absentees.
- iv. It is assumed that **each absence lasts for 1 week**.
- v. A **fatality rate of 0.4%** is observed.

9. The estimates of the economic impact of a pandemic are **relative to the Budget forecast and assume policy is unchanged**. They do not measure the negative effects of ill health on economic welfare or the spending impact on the Health service.

10. On the **supply side**, the **temporary reduction in labour supply** (and therefore trend output), due to absences is **around -2.6% over the duration of the pandemic**. The **permanent impact on potential output is around -0.1% due to the impact of fatalities**.

11. The estimated **Impact on GDP growth** is to **reduce growth by 3 per cent relative to the Budget forecast**; this reduces GDP growth by 0.4ppt in 2009 and 2.6ppt in 2010. When the pandemic has passed, **GDP growth is expected to resume at a slightly stronger rate relative to Budget forecast**, reflecting the need to close a larger output gap, and adding around 0.5ppt to the annual growth rate from 2012.

12. Over the period of the pandemic, **the temporary impact on supply potential exceeds the negative impact on demand and reduces the degree of spare capacity in the economy** relative to the Budget forecast. The **short-term reduction in the supply potential of the economy would be expected to put upward pressure on inflation** relative to the Budget forecast.

13. As people return to work and the majority of the temporary supply shock dissipates **the degree of spare capacity in the economy rapidly widens again** as the permanent impact on supply from fatalities is relatively small. From Q1 2010, the output gap in this scenario is much larger than the Budget forecast and this would be expected to exert **strong additional downwards pressure on inflation**.

14. In addition to direct costs (e.g. vaccines etc), there would be an effect on the **public finances** from the weaker economy and lower inflation. This would **push up net borrowing to a peak of over 13% of GDP in 2010-11 and leave net debt around 10% of GDP higher** by the end of the forecast horizon.

Next Steps

15. The Public Sector Finances team is providing you with a note looking at the impact of news since the Budget on the AME forecast.

16. The attached scenario analysis and previous work on other scenarios including an oil price shock and financial sector shock will feed into your pre-summer discussion on the economy and public finances.

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