The world currently faces a set of large global imbalances on current account. A group of think tanks¹ are planning to sponsor the drafting of a paper that will offer an assessment of the set of exchange rates that might be consistent with a substantial measure of adjustment to reduce the global imbalances to a less dangerous level. That assessment will be based on simulations generated by a series of macroeconometric models, which will be presented at a workshop tentatively scheduled for Feb 9, 2007². The present note is intended to serve as background for that workshop, and to that end suggests a quantification of the meaning of substantial adjustment and what would be a less dangerous level of global imbalances that could reasonably serve as interim targets and be fed in to the macroeconometric models.

The IMF has forecasts of 2011 current account imbalances on the assumption of unchanged real effective exchange rates in its data base. After scaling these down to 2007 magnitudes (by multiplying by the ratio of 2007 forecast world GDP to forecast 2011 world GDP), they are as follows:

<table>
<thead>
<tr>
<th>Country</th>
<th>$b.</th>
<th>% GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>-946</td>
<td>-6.8</td>
</tr>
<tr>
<td>Canada</td>
<td>24</td>
<td>1.8</td>
</tr>
<tr>
<td>Japan</td>
<td>131</td>
<td>3.2</td>
</tr>
<tr>
<td>Euro area</td>
<td>-23</td>
<td>-0.2</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>-67</td>
<td>-2.6</td>
</tr>
<tr>
<td>Switzerland</td>
<td>44</td>
<td>13.3</td>
</tr>
<tr>
<td>Sweden</td>
<td>27</td>
<td>7.1</td>
</tr>
<tr>
<td>Norway</td>
<td>59</td>
<td>19.4</td>
</tr>
<tr>
<td>Russia</td>
<td>62</td>
<td>4.4</td>
</tr>
<tr>
<td>Other fuel-exporting countries</td>
<td>231</td>
<td>n.a.</td>
</tr>
<tr>
<td>Korea</td>
<td>-5</td>
<td>-0.5</td>
</tr>
<tr>
<td>China</td>
<td>224</td>
<td>6.3</td>
</tr>
<tr>
<td>Taiwan</td>
<td>21</td>
<td>5.3</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>21</td>
<td>n.a.</td>
</tr>
<tr>
<td>Singapore</td>
<td>39</td>
<td>25.6</td>
</tr>
<tr>
<td>Malaysia</td>
<td>21</td>
<td>12.6</td>
</tr>
<tr>
<td>Rest of world and residual</td>
<td>136</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

¹ The Washington-based Peterson Institute for International Economics, the Brussels-based Bruegel, and the Seoul-based KIEP.
² This will be extended to Feb. 8-9 if necessary.
Apart from the “other fuel-exporting countries” and the last line, these are the countries in whose exchange rates we are interested.

The objective often mentioned, and which will presumably be close to that sought by the IMF in its multilateral surveillance exercise, is to reduce the U.S. deficit to about 3% of GDP. The IMF forecasts a GDP of $13.9 trillion in 2007, so in 2007 values (as opposed to those likely to prevail in two or three years time when the adjustment might conceivably have taken effect) this implies an adjustment of about $530b.

One possibility would be for all the surplus areas identified above to accept an equal percentage reduction in the size of their surpluses. Since the sum of the surpluses identified above is $905 billion, this would imply them all aiming for a reduction of about 59%. Scenario I in the table below shows the pattern of global imbalances (in 2007 values) if all the present surplus areas cut their surpluses to 41% of their predicted 2011 values, the United States cut its deficit to 3% of GDP, and the other deficit areas remained unchanged.

<table>
<thead>
<tr>
<th>Count</th>
<th>Value</th>
<th>Count</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>-417</td>
<td>-417</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>10</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>54</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Euro area</td>
<td>-23</td>
<td>-23</td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td>-67</td>
<td>-67</td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>18</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>11</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>24</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>26</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Other fuel-exporting countries</td>
<td>96</td>
<td>231</td>
<td></td>
</tr>
<tr>
<td>Korea</td>
<td>-5</td>
<td>-5</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>93</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>9</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>9</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>16</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>9</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Rest of world and residual</td>
<td>137</td>
<td>146</td>
<td></td>
</tr>
</tbody>
</table>

However, a requirement that all surplus countries cut their surpluses by an equal percentage is clearly highly arbitrary. One possibility would be to require instead that surplus countries come down to a common maximum level of current account surplus as a percentage of GDP. Assuming that the other fuel exporters are going to adjust substantially anyway, as portrayed in the first table, and that they would not be a party to an international agreement to coordinate payments targets, it turns out that the necessary
maximum permissible level of surplus would be about 1.1% of GDP. This would imply the pattern of payments outcomes portrayed in Scenario II in the table above.

A problem with Scenario II is that it takes no account of whether countries are running current account surpluses for welfare-maximizing reasons or not. For example, Norway is building up foreign assets as a counterpart to a part of its oil exports, as part of a national strategy of optimal accumulation, while developing countries that are running current account surpluses and accumulating reserves that are unlikely to serve a welfare function are presumptively damaging their own welfare. Yet these countries are all treated the same and expected to reduce their surpluses to 1.1% of GDP.

The third adjustment scenario to be considered attempts to take some account of these welfare considerations. The two still-developing blocs of East Asia, mainland China and Malaysia, are posited to move to current account balance. A problem is how to handle the oil-exporting countries, since welfare suggests that many ought to remain in substantial surplus for the same reasons as Norway. On the other hand, the past historical experience suggests that the current account surpluses of oil exporters as an aggregate largely disappear within 3 years of an oil shock (IMF World Economic Outlook April 2006, p.82). A reasonable compromise is the assumption that the other oil exporters will have the same current account surplus of $231 billion as in the base case (and in Scenario II). The remaining adjustment needed to achieve a similar residual as in Scenario I is $140 billion. This is spread evenly (in proportion to their projected 2011 surpluses) over the other surplus areas, except that the two fuel exporters (Norway and Russia) are expected to adjust only about half as much as other countries. This makes no special allowance for other large surplus countries, like Switzerland and Singapore, which one could argue run large surpluses as a part of their savings are invested abroad because of low rates of return at home.

These are the three scenarios that the modellers to present results at the Feb. 2007 workshop are being asked to simulate. It is understood that not every model will be in a position to present a simulation result for each of the countries or blocs in the above table, but it is hoped that all will be covered in at least one of the simulations, and that each model will present results for as many countries or regions as possible. It is expected that the modellers may also wish to express their views about the type of adjustment that is to be sought, e.g. by stating their preference for one scenario over another or by indicating where they see a need for further adjustments. However, in the interest of comparability we wish to encourage them to give answers related to the specific scenarios laid out in this paper.

It is of course understood that exchange rate changes need to be accompanied by changes in absorption if they are to be effective and “stick”. The paper to be written after the conference will emphasize this point, but we may not endeavour to quantify what it implies, if we conclude that this task will be performed by the IMF surveillance report at least as well as we could hope to do it.
## Scenario III
### Welfare-related imbalances

<table>
<thead>
<tr>
<th>Country</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>-417</td>
</tr>
<tr>
<td>Canada</td>
<td>7</td>
</tr>
<tr>
<td>Japan</td>
<td>36</td>
</tr>
<tr>
<td>Euro area</td>
<td>-23</td>
</tr>
<tr>
<td>UK</td>
<td>-67</td>
</tr>
<tr>
<td>Switzerland</td>
<td>13</td>
</tr>
<tr>
<td>Sweden</td>
<td>7</td>
</tr>
<tr>
<td>Norway</td>
<td>30</td>
</tr>
<tr>
<td>Russia</td>
<td>31</td>
</tr>
<tr>
<td>Other fuel-exporting countries</td>
<td>231</td>
</tr>
<tr>
<td>Korea</td>
<td>-5</td>
</tr>
<tr>
<td>China</td>
<td>0</td>
</tr>
<tr>
<td>Taiwan</td>
<td>7</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>7</td>
</tr>
<tr>
<td>Singapore</td>
<td>10</td>
</tr>
<tr>
<td>Malaysia</td>
<td>0</td>
</tr>
<tr>
<td>Rest of world and residual</td>
<td>133</td>
</tr>
</tbody>
</table>