The accumulation of foreign exchange reserves

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Outline of the presentation

1 - Evidence on the accumulation of cross-border official financial assets:
   (a) fx reserves
   (b) alternative uses

2 - Drivers

3 - Impact on U.S. yields

4 - Risks and costs

5 - Conclusions
Part I (a)

Evidence on the accumulation of foreign reserves
The rapid increase in foreign exchange reserves of Asian and oil-exporting countries since 2002

Foreign exchange reserve assets holdings (USD billions)

Source: IMF, World Economic Outlook
8 Asian countries currently rank among the 10 largest reserve holders

Foreign exchange reserves of countries with the largest holdings (2001 - 2005)

The degree of concentration in reserve accumulation increased in 2005

Top-five share in total reserve accumulation:

- 57% in 1995-2001
- 68% in 2004
- 78% in 2005
The emergence of oil exporters in 2005 as the main region with current account surpluses …
… is not clearly reflected in the statistical evidence on reserve accumulation …

Major accumulators are not central banks, but special investment agencies (e.g. Norway’s Petroleum Fund, Abu Dhabi Investment Authority, Kuwait Investment Authority)

Source: IMF WEO and ECB staff calculations

Oil exporters. Net financial outflows (+) (USD billion)
... but may be indirectly detected in the evidence on US portfolio inflows

Net purchases of US long-term securities by UK and Caribbean offshore centres (in USD billion) and oil price (in USD/bbl)

Part 1 (a)
Part 1 (b)

Alternative uses of accumulated cross-border official foreign assets
Main alternative uses

• **Oil funds**: stabilising volatile oil revenues through time (Russia, Norway, Venezuela, Kuwait, Oman, etc.)

• **Heritage funds**: preserving the value of foreign assets for future generations (Singapore, Abu Dhabi, Kuwait)

• **Recapitalising state-owned banks** (China)

• **Repaying external debt** (Russia, Argentina, Brazil) or **domestic debt** (Saudi Arabia)

• **Financing major investment projects** (Taiwan)
The Russian Oil Stabilisation Fund: How does it work now?

USD Oil

Exporters

Central Bank

Fx RESERVE ASSETS

USD 200

Oil

40 RUB (taxes)

Ministry of Finance

OIL STABILISATION FUND (*)

Fx market

USD 100

EUR 100

GBP

100 RUB (base money)

(*) Invested by the central bank on behalf of MoF (45% USD, 45% EUR, 10% GBP)
Part 2

What are the main drivers of reserve accumulation?
The accumulation of foreign reserves: macroeconomic preconditions

Moreover:

- Exchange rate pressure also from net portfolio and banking inflows in certain countries (China, Korea, India, Taiwan)

\[ S > I \]
Three fundamental drivers of reserve accumulation

Given *savings glut/investment drought*:

1. Unilateral **self-insurance** against future financial crises

2. **Export-led growth** (post-crisis recoveries) supported by exchange rates anchored to the US dollar

3. The **underdeveloped financial structure** of several emerging countries, including (i) difficulties to channel private S to I, (ii) dollarization of foreign assets, and (iii) costly hedging if one-way bet
The renminbi REER depreciated by 15% between 2002 and the exchange rate reform of 21 July 2005 ...

Real exchange rate of the renminbi

Source: JP Morgan
... but the “export-led growth” argument should not be overemphasised for China

China: Contributions to real GDP growth

Source: IMF World Economic Outlook.
Contribution by expenditure component, annual growth rates.
Part 3

Measuring the impact on U.S. yields
### Impacts on U.S. government bond yields of reserve accumulation: Some estimates

**Estimates of the effect of reserve accumulation on US Treasury yields**

<table>
<thead>
<tr>
<th>Source</th>
<th>Estimated reduction of yields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merrill Lynch</td>
<td>30</td>
</tr>
<tr>
<td>JP Morgan</td>
<td>30 — 50</td>
</tr>
<tr>
<td>Goldman Sachs</td>
<td>40</td>
</tr>
<tr>
<td><strong>Eurosystem</strong></td>
<td><strong>65</strong></td>
</tr>
<tr>
<td>Edwin Truman</td>
<td>75</td>
</tr>
<tr>
<td>Patrick Arthus</td>
<td>75</td>
</tr>
<tr>
<td>Ben Bernanke et al.</td>
<td>50 — 100</td>
</tr>
<tr>
<td>Bill Gross</td>
<td>100</td>
</tr>
<tr>
<td>Banque de France</td>
<td>125</td>
</tr>
<tr>
<td>Stephen Roach</td>
<td>100 — 150</td>
</tr>
<tr>
<td>Nouriel Roubini et al.</td>
<td>200</td>
</tr>
<tr>
<td>Robert McCauley</td>
<td>Significant, but unstable and short–lived relation</td>
</tr>
<tr>
<td>Vanguard Group</td>
<td>No long–term effect</td>
</tr>
</tbody>
</table>

*Source: Eurosystem.*
Do the “traditional” U.S. TIC data underestimate the relative importance of official portfolio flows to the United States?

![Graph showing foreign official inflows compared to TICS data for US long-term securities.](image)

- **Survey data**: Foreign official inflows provided by U.S. custodians.
- **TICS data**: Foreign official inflows from the U.S. Treasury International Capital Flow reports.

**Foreign official purchases of US long-term securities: Total inflows**

Part 3
Part 4

Risks and costs of reserve accumulation
The accumulation of foreign reserves: potential risks and costs (see ECB Occasional Paper No. 43)

<table>
<thead>
<tr>
<th>Potential risks or costs</th>
<th>Underlying factors</th>
</tr>
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<tr>
<td>Conflict between exchange rate stability and easing of monetary conditions if interventions not fully sterilised ➔ inflation and/or asset price bubbles</td>
<td>Underdeveloped financial markets; shortage of sterilisation instruments; snowball effects: sterilisation coupled with expected exchange rate appreciation ➔ capital inflows ➔ more sterilisation and expected appreciation</td>
</tr>
<tr>
<td>Segmentation in the public debt market</td>
<td>Excessive sterilisation through issuance of central bank liabilities instead of government securities</td>
</tr>
<tr>
<td>Potential deterioration of central bank balance sheet</td>
<td>Domestic currency appreciation (currency risk)</td>
</tr>
<tr>
<td>Opportunity costs</td>
<td>Yields paid on domestic sterilisation instruments exceed those on foreign assets</td>
</tr>
<tr>
<td>Concerns about bank profitability</td>
<td>Because of controls on bank lending, the banking sector might not have alternatives to buying low-yield sterilisation instruments</td>
</tr>
</tbody>
</table>

Source: Eurosystem.
Conclusions

Reserve accumulation and global imbalances:

Short-term effects
- Financing US CA deficit
- Low yield environment
- Insufficient fx flexibility in CA surplus countries
- Less policy discipline in deficit countries

... but:
- Multi-pronged approach to global imbalances (G7 statements): Exchange rate flexibility alone does not work
- There are deep reasons for reserve accumulation which call for some gradualism in its discontinuation

Longer-term effects
Thank you