Worldwide Inflation, Bank Regulation, and Monetary Reform: Exchange Rates or Interest Rates?

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The Role of Central Banks in Financial Stability: How Has it Changed?

Federal Reserve Bank of Chicago
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Overview

• Problem with fast moving financial events
• The main paper deals with the world as it was before August 2011
• Ultra-low interest rates in stagnant mature industrial economies induce “hot” money flows into fast growing Emerging Markets (EM) with naturally higher interest rates
• Then the flow reverses from August into October 2011 because of a threatened bank credit crunch from the euro crisis
Figure 1: U.S. Short-term Interest Rates (%)
## Interest Rate Structure, China and US

<table>
<thead>
<tr>
<th>Year</th>
<th>China Deposit Rate</th>
<th>China Lending Rate</th>
<th>China Interbank Overnight</th>
<th>China GDP Growth</th>
<th>United States Deposit Rate</th>
<th>United States Lending Rate</th>
<th>United States Federal Funds Rate</th>
<th>United States GDP Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>2.25</td>
<td>5.58</td>
<td>10.41</td>
<td>3.73</td>
<td>6.92</td>
<td>3.89</td>
<td>3.36</td>
<td>3.36</td>
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<tr>
<td>2002</td>
<td>1.98</td>
<td>5.31</td>
<td>2.4</td>
<td>10.50</td>
<td>1.88</td>
<td>4.67</td>
<td>1.67</td>
<td>3.46</td>
</tr>
<tr>
<td>2003</td>
<td>1.98</td>
<td>5.31</td>
<td>2.18</td>
<td>13.41</td>
<td>1.23</td>
<td>4.12</td>
<td>1.13</td>
<td>4.70</td>
</tr>
<tr>
<td>2004</td>
<td>2.25</td>
<td>5.58</td>
<td>2.01</td>
<td>17.69</td>
<td>1.79</td>
<td>4.34</td>
<td>1.35</td>
<td>6.51</td>
</tr>
<tr>
<td>2005</td>
<td>2.25</td>
<td>5.58</td>
<td>2.01</td>
<td>16.38</td>
<td>3.76</td>
<td>6.19</td>
<td>3.21</td>
<td>6.49</td>
</tr>
<tr>
<td>2006</td>
<td>2.52</td>
<td>6.12</td>
<td>1.31</td>
<td>18.76</td>
<td>5.27</td>
<td>7.96</td>
<td>4.96</td>
<td>6.02</td>
</tr>
<tr>
<td>2007</td>
<td>4.14</td>
<td>7.47</td>
<td>1.97</td>
<td>19.62</td>
<td>5.25</td>
<td>8.05</td>
<td>5.02</td>
<td>4.95</td>
</tr>
<tr>
<td>2008</td>
<td>2.25</td>
<td>5.31</td>
<td>2.21</td>
<td>18.46</td>
<td>3.05</td>
<td>5.09</td>
<td>1.93</td>
<td>2.19</td>
</tr>
<tr>
<td>2009</td>
<td>2.25</td>
<td>5.31</td>
<td>0.83</td>
<td>9.57</td>
<td>1.12</td>
<td>3.25</td>
<td>0.16</td>
<td>-1.74</td>
</tr>
<tr>
<td>2010</td>
<td>2.5</td>
<td>5.56</td>
<td>2.24</td>
<td>12.88</td>
<td>0.518</td>
<td>3.25</td>
<td>0.17</td>
<td>3.57</td>
</tr>
</tbody>
</table>

Source: IMF.
Emerging Markets (EM) include the following countries: Russia, Poland, Czech Republic, Hungary, Romania, Ukraine, Turkey, Israel, UAE, Saudi Arabia, South Africa, China, India, Hong Kong, Korea, Singapore, Indonesia, Malaysia, Thailand, Brazil, Mexico, Chile, Peru, Colombia, Argentina, Venezuela.
The Malfunctioning Dollar Standard

– Near zero U.S. short-term interest rates launch hot money outflows into Emerging Markets (EM) including China.
– EM central banks intervene to prevent their currencies from appreciating precipitately
– They lose monetary control and begin inflating
– Primary commodity prices rise worldwide
– This inflation on the dollar’s periphery only registers in the U.S. “core” CPI with a long lag
The Greenspan-Bernanke Bubble Economy (From Steve Hanke)

SOURCES: International Monetary Fund, International Financial Statistics; Federal Reserve Bank of St. Louis; Standard and Poor’s; Bloomberg and Author’s Calculations.
<table>
<thead>
<tr>
<th>Funding Currency</th>
<th>Interest rates</th>
<th>Returns from</th>
<th>Returns of</th>
<th>Investment Currencies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Funding Investment</td>
<td>Appreciation</td>
<td>Carry trades</td>
<td></td>
</tr>
<tr>
<td>US Dollar</td>
<td>3.4 10.2</td>
<td>1.1</td>
<td>7.9</td>
<td>Brazil, Mexico, and Canada</td>
</tr>
<tr>
<td>Euro</td>
<td>3.2 7.4</td>
<td>1.0</td>
<td>5.2</td>
<td>Iceland, Poland, and Czech Republic</td>
</tr>
<tr>
<td>Japanese Yen</td>
<td>0.1 5.3</td>
<td>5.2</td>
<td>10.7</td>
<td>Australia, Korea, and New Zealand</td>
</tr>
</tbody>
</table>

Data Source: *IMF*
EM and CHN Nominal Exchange Rate Appreciation, Jan'05 = 100

Source: Haver Analytics, Morgan Stanley Research
Emerging Markets (EM) include the following countries: Russia, Poland, Czech Republic, Hungary, Romania, Ukraine, Turkey, Israel, UAE, Saudi Arabia, South Africa, China, India, Hong Kong, Korea, Singapore, Indonesia, Malaysia, Thailand, Brazil, Mexico, Chile, Peru, Colombia, Argentina, Venezuela.

Source: IFS

Emerging Markets’ Foreign Exchange Reserves ($MM)
The ratio uses annual GDP of the corresponding year in the denominator. The months in 2011 use 2010 GDP in the denominator.

Emerging Markets (EM) include the following countries: Russia, Poland, Czech Republic, Hungary, Romania, Ukraine, Turkey, Israel, UAE, Saudi Arabia, South Africa, China, India, Hong Kong, Korea, Singapore, Indonesia, Malaysia, Thailand, Brazil, Mexico, Chile, Peru, Colombia, Argentina, Venezuela
Composition of China’s Foreign Exchange Reserve

Source: Standard Chartered Research
Emerging Markets (EM) and Developed Markets (DM) Inflations

Source: Haver Analytics, Morgan Stanley Research
Developed Markets (DM) include the following countries: United States, Germany, France, Italy, Spain, Japan, United Kingdom, Canada, Sweden, Australia
Bank Regulation In China

• PBC imposes controls on capital inflows. Banks limited from borrowing dollars to convert into RMB. More difficult for banks to provide forward cover to Chinese exporters who want to sell future dollar earnings forward.

• PBC sterilizes some of the domestic monetary effect of its foreign exchange purchases by
  (1) selling central bank bonds; and
  (2) increasing reserve requirements on banks

(2) is preferred to (1) to prevent higher interest rates attracting more hot money. But China’s int. rates are now too low for fighting inflation (now over 6%) or preventing low-yield investments.
Bank Regulation in U.S.

• Low or near zero interest rates disrupts bank intermediation
• Collapse in Interbank market restrains retail bank lending
Holdings of bank assets at commercial banks in the U.S. ($ Trillion)

- **Interbank Loans**
  - Sep 2011: 0.12
  - May 2010: 0.17
  - May 2009: 0.41
  - May 2008: 0.45

- **Real Estate Loans**
  - Sep 2011: 3.48
  - May 2010: 3.69
  - May 2009: 3.88
  - May 2008: 3.65

- **Commercial and Industrial Loans**
  - Sep 2011: 1.30
  - May 2010: 1.22
  - May 2009: 1.52
  - May 2008: 1.54

- **Cash Assets**
  - Sep 2011: 1.79
  - May 2010: 1.23
  - May 2009: 1.04
  - May 2008: 0.32

- **Treasury and Agency Securities**
  - Sep 2011: 1.67
  - May 2010: 1.51
  - May 2009: 1.26
  - May 2008: 1.11

Source: Federal Reserve Economic Data
US Pro-cyclical Bank Lending Policy
(last obs. August 2011, estimate September 2011)

Under regulatory scrutiny, U.S. banks cut lending sharply after the 2008 crisis, contributing to the weakness of the recovery.

Source: Federal Reserve; Encima Global
China’s Countercyclical Bank Lending Policy
(last obs. August 2011)

China’s bank lending grew sharply after the 2001 and 2008 crises helping avoid a sharp slowdown.

Source: Bloomberg; Encima Global
Countercyclical Bank Lending: U.S. and China Compared (D. Malpass)

- **United States**: bank credit is *pro-cyclical*
  - animal spirits with few controls in booms
  - heavy controls after busts: increased bank capital, mark-to-market accounting, closer regulatory scrutiny.

- **China**: bank credit is *counter-cyclical*
  - lending restricted during booms with rationing
  - lending encouraged (required?) in a bust

- A natural consequence of indirect Regulation in U.S. against state ownership of banks in China?
Real Growth in East Asia: China as a Stabilizing Influence

Source: IMF.
Global Growth Performance: China Relatively Stable after 1994

Source: IMF.
The Return of Stagflation to U.S.?

Consequence of near-zero U.S. Int Rates

(1) Worldwide inflation that eventually hits U.S.
(2) Disrupts bank intermediation within the U.S.: bank credit continues to fall, employment and growth remain stagnant

Springing the U.S. Stagflation Trap

– Federal Reserve gradually raises short rates to some modest level, say 2 percent—in concert with ECB, BOJ, and BOE to damp FX movements among mature economies
China as an Immature Creditor

• China has a large net saving surplus (S—I) as manifested in its large trade surplus
• But China is also an immature creditor: claims on foreigners are largely in dollars and not RMB
• This currency mismatch makes it too risky for domestic banks, insurance companies, or pension funds to hold the dollar claims.
• Floating the RMB becomes impossible.
• Thus international financial intermediation devolves to government agencies: PBC, CIC, EX-IM Bank, and so on
Exchange Rate and the Trade Balance

\[ X - M = S - I = \text{Trade (Saving) Surplus} \]

\( X \) is exports and \( M \) is imports broadly defined, \( S \) and \( I \) are gross domestic saving and investment.

Two theoretical Approaches:

1. Microeconomic focus on \( X - M \): the elasticities approach to the trade balance; and
2. Macroeconomic focus on \( S - I \): the absorption approach to the trade balance.
Effect of Appreciating the Renmimbi?

• **Elasticities Approach:**
  \[ X \downarrow \quad M \uparrow \quad \text{and trade surplus declines} \]

• **Absorption Approach:**
  \[ S \uparrow \quad I \downarrow \quad \text{and trade surplus?} \]
  But if \( I \) is sensitive to the exchange rate and slumps, trade surplus increases. Investment in China’s open economy, with multinational firms, is huge: more than 40% of GDP.

• Japan’s experience with ever-higher yen, 1971 – 95: Investment eventually slumped with general deflation, followed by “lost” decades, but the trade surplus remained.
Big Mac prices vs GDP per person, July 2011

Big Mac index, local currency under(-)/over(+) valuation against the dollar, %

- Raw index
- Adjusted for GDP per person

Brazil
- 6.16
Argentina
- 4.84
Sweden
- 7.64
Switzerland
- 8.06
Euro area
- 4.93
Canada
- 5.00
South Korea
- 3.50
Mexico
- 2.74
Australia
- 4.94
Russia
- 2.70
Britain
- 3.89
Japan
- 4.08
China
- 2.27
United States
- 4.07
India
- 1.89

Sources: McDonald’s; IMF; The Economist

*At market exchange rate (July 25th)  †Average of member countries  ‡Average of four cities  §Maharaja Mac
Springing China’s Money Trap

• **First Best:**
  - U.S. increases short-term interest rates
  - China re-stabilizes yuan/dollar rate to remove fear of future appreciations
  - Hot money inflows and inflation diminish
  - China reduces reserve requirements on banks and relaxes capital controls

• **Second Best:** (No change in U.S. policies)
  - China tightens controls on financial inflows, keeps high reserves required of commercial banks, but also re-stabilizes yuan/dollar rate
Addendum: Collapse of the Second Greenspan-Bernanke Bubble

First Bubble collapses in 2008 with the global credit crunch and seizing up of bank credit: speculators can no longer hold long positions in commodities or foreign currency. Dollar appreciates sharply

Second Bubble seems to be collapsing since August 2011 as bank credit seizes up from the euro crisis. Dollar appreciates sharply against EM currencies and primary commodities.
Figure 5. The Nominal Broad Dollar Index Movements
(Jan 2002=100)

Dollar Carry Trade

Credit Crunch

New Dollar Carry Trade?

Source: Federal Reserve Economic Data
EM Currencies per Dollar; August to October 2011

- Brazilian real
- Russian rouble
- Indian ruppee
- Chinese RMB
- South Korean won
- Indonesian rupiah
Moral of this Unhappy Story: What Governments Should Do

• Suppress bubble-producing carry trades by limiting interest differentials between the “center” and the “periphery”.

• U.S. Fed should abandon its zero interest policy, and phase in modestly higher rates in conjunction with the other industrial countries represented by the ECB, Bank of England, and Bank of Japan