The Operation of Global Financial Markets

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- 1. What are global financial markets?

- 2. How do the global financial markets operate?

- 3. How about the current global financial markets?
1. What are global financial markets?
1.1 How to define global financial markets?

Globally, financial products and financial services take place both in exchange or over the counter or in the linked computer system. When we mention, it includes at least the followings:

- Financial institutions: investment banks, commercial banks, insurance companies, various kinds of funds management companies, etc..
- Financial products/services: CD, stock, bonds, CMP, future contracts, options, CDS, etc.
- Operating mechanism: differ from each other, more open than ever.
- Regulatory system: separate regulations in different economies, Basel I, II.
1.1 How to define global financial markets?

Structure of the global financial markets

◆ Global monetary markets

- Inter bank loan market: large size, low interest, easy process; LIBOR, SHIBOR

- World deposit market: Notice/Call deposit, term deposit, Negotiable Certificate of Deposit/ Large-denomination/Negotiable Certificates of Time Deposit, CDs, Certificate of deposit, CD.

◆ Global commercial market: European CMP market
1.1 How to define global financial markets?

◆ Global capital markets:

● Global inter bank loan market: LIBOR + management fee + commission; longer term; Euro denominated.

◆ Global bond markets:

● Foreign bonds: bonds denominated in the local currencies in which the bond is issued, like bulldog bond in UK, Yankee bond in US, Samurai bond in Japan and Panda bond in China.

● European bond: global bonds denominated in the currencies in Europe.
Global bond markets by the end of 2008

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>UK</th>
<th>Germany</th>
<th>Holland</th>
<th>Spain</th>
<th>Cayman</th>
<th>Italy</th>
<th>France</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>22.2%</td>
<td>14.8</td>
<td>9.9%</td>
<td>7.5%</td>
<td>5.7%</td>
<td>4.90%</td>
<td>4.4%</td>
<td>6.8%</td>
<td>23.6%</td>
</tr>
</tbody>
</table>
1.1 How to define global financial markets?

- Global stock market
  - Stock Exchange markets: NYMEX, LSE, DAX, FWB, TSE, SEX, HKSE, SHSE, etc..
  - Over the counter markets: NASDAQ, etc.
  - Primary market/Secondary market
1.1 How to define global financial markets?

![Pie chart showing global financial markets share.]

- New York Stock Exchange (NYSE) 28.30%
- Tokyo Stock Exchange (TSE) 9.60%
- London Stock Exchange (LSE) 6.50%
- Paris Bourse (Euronext) 6.50%
- Hong Kong Stock Exchange (HKEX) 4.10%
- NASDAQ 7.40%
- Shanghai Stock Exchange (SSE) 4.40%
- Other 34.20%
1.1 How to define global financial markets?

- Global foreign exchange market:
  - inter bank trading system: spot market, forward market and swap market.
- Global integrated marketing system
- 24 hour per day
- Global gold markets: futures markets in futures exchange and spot markets inter bank.
1.1 How to define global financial markets?

- Financial derivative markets: most trading in OTC markets
  - Futures market and option market: commodity markets
  - Swap market
  - Forward market
  - Structural financial products market
1. 2 Why virtual markets more developed?

- Physical markets: financial institutions like various exchanges

- Virtual markets: (NASDAQ, global foreign exchange market, SWIFT, CHIPS, etc.)
1.2 Why virtual markets more developed?

- More cross border transaction
- Computer based trading more efficient esp. through the inter banking system
- Less information disclosure esp. for hedge funds and PE. funds.
- More liberalization in financial innovation
1.3 The infrastructure of global financial markets


- 95% or more settlement of cross border US dollar, 1.4 trillion US$ are processed per day.
1.3 The infrastructure of global financial markets

- SWIFT (Society for Worldwide Interbank Financial Telecommunication): transaction information exchange system based in Brussels.
- 300 millions of transaction per day.
- By the end of June 2007, spreads in 207 economies, 8100 financial institutions as members.
1.4 Why more off-shore financial business?

- **On-shore international financial markets in Tokyo, New York City and Hong Kong.**

- Transaction between residents and non-residents;

- Denominated in local currency in which the transaction occurs;

- Regulated by the regulations in which it locates.
1.4 Why more off-financial business?

- Denominated in the currency not in the place in which the transaction occurs;
- Lower cost of operation;
- Transaction occurs between the non-residents;
- Not regulated by the regulations in which the transaction locates;
- Information easy to keep prudential;
- Liberalized capital account and easy to flow across the world.
1.4 Why more off-shore financial business?

<table>
<thead>
<tr>
<th>Africa</th>
<th>Asia Pacific</th>
<th>Europe</th>
<th>Mid-East</th>
<th>Latin America</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seychelles</td>
<td>Hong Kong</td>
<td>London</td>
<td>Barron</td>
<td>Cayman Island</td>
</tr>
<tr>
<td>Mauritius</td>
<td>Marshall Islands</td>
<td>Gibraltar</td>
<td>Lebanon</td>
<td>Bermuda</td>
</tr>
<tr>
<td>Liberia</td>
<td>Singapore</td>
<td>The Principality of Liechtenstein</td>
<td>Israel</td>
<td>Virgin Island</td>
</tr>
<tr>
<td>Djibouti</td>
<td>Micronesia</td>
<td></td>
<td>Kuwait</td>
<td>Panama</td>
</tr>
</tbody>
</table>

London, Hong Kong and New York now are on-shore and off-shore financial centers.
1. 4 Why more off-shore financial business?

Off-shore Deposit/Loan in 2001-Sept.2006 (US$100 millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deposit</td>
<td>2002</td>
<td>2162</td>
<td>2655</td>
<td>3142</td>
<td>3253</td>
<td>3799</td>
</tr>
<tr>
<td>Loan</td>
<td>1236</td>
<td>1276</td>
<td>1525</td>
<td>1856</td>
<td>2041</td>
<td>2411</td>
</tr>
</tbody>
</table>
1. 4 Why more off–shore financial business?

◆ 350,000 corporations in Virgin Island which is 153 square kilos. and another 2000 corporations are established per month.

◆ More than 10,000 companies are associated with China, which is the second biggest place China’s FDI come from, exceeding US and Japan and most of them are for the preferred tax.
2. How do the global financial markets operate?
2.1 Pricing mechanism

- aggregated pricing: price priority, time priority
- auction:
- bid/ask: inter bank transaction and security firms
2.2 Market marker

- Market maker serves as both the buyer and the seller in the market, and makes the deal by bidding.

- Market maker is obliged to make the deal in the price it provides with:
  - Providing with liquidity
  - Maintain continuousness
  - Against over speculation
2.3 Margin Call

- Margin call: the most important institutional arrangement in futures market
- Market-to-market: control the risk according to the market value of the position
- Initial margin: initial requirement to open the account to trade
- Maintenance margin: the lowest margin to maintain the position
2.4 New trends of the global financial markets

- More securitization in financing: ABS, MBS, CDO, CLO, CDS, CMBS, etc..
- More liberalization of finance:
  - Liberalized interest
  - Liberalization of capital account
  - Mixed financial management
  - Opening of the financial markets
- Globalization of the markets
- Accelerated regional integration: Euro Zone, etc.
3. How about the current global financial markets?
3.1 Main phenomenon in current global financial markets

- Phenomena I: More sovereign debt risks across the global markets: Dubai crisis, Greece crisis; concerns about the debts in Spain, UK. Portugal.
Sovereign Debts Ratio of Some Main Economies

AT: Australia; BE: Belgium; DE: Germany; ES: Spain; FI: Finland; FR: France; GB: UK; GR: Greece; IE: Iceland; IT: Italy; NL: New Zealand; PT: Portugal; US: US
Sovereign Debts Ratio vs. CDS premia

AT: Australia; BE: Belgium; DE: Germany; ES: Spain; FI: Finland; FR: France; GB: UK; GR: Greece; IE: Iceland; IT: Italy; NL: New Zealand; PT: Portugal; US: US
3.1 Main phenomenon in current global financial markets

- Phenomena II: Increasing risks of the commercial banks’ cross border positions in the emerging markets

By the end of 2009, net cross border exposures increase to 12.6 billions US dollars in emerging market. Financial asset in emerging market increased 7.8 billions US dollar and debt increased 4.8 billions us dollar. Tremendous capital flow into the emerging market across the border esp. Asian Pacific markets, Latin American markets and Caribbean markets, while the capital flight out of European emerging markets.
3.2 Broad money M2 slowed gradually in EM.

Chart 1: Overall M2 growth

Overall broad money growth is slowing

Chart 2: M2 growth by region

Although the trends are a bit more volatile between regions
### 3.2 Short credit indicators in Asia

<table>
<thead>
<tr>
<th>%</th>
<th>3m bank borrowing</th>
<th>Short corp borrowing</th>
<th>3m T bills</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>5.31</td>
<td>1.9</td>
<td>5.3</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>-</td>
<td>0.1</td>
<td>5.0</td>
</tr>
<tr>
<td>Singapore</td>
<td>-</td>
<td>0.6</td>
<td>4.3</td>
</tr>
<tr>
<td>Taiwan</td>
<td>1.25</td>
<td>0.2</td>
<td>2.6</td>
</tr>
<tr>
<td>Malaysia</td>
<td>2.25</td>
<td>2.6</td>
<td>5.8</td>
</tr>
<tr>
<td>Thailand</td>
<td>1.25</td>
<td>1.4</td>
<td>5.9</td>
</tr>
<tr>
<td>Korea</td>
<td>2.00</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Philippines</td>
<td>6.00</td>
<td>4.4</td>
<td>8.9</td>
</tr>
<tr>
<td>India</td>
<td>5.25</td>
<td>4.7</td>
<td>12.0</td>
</tr>
<tr>
<td>Indonesia</td>
<td>6.50</td>
<td>7.0</td>
<td>12.6</td>
</tr>
</tbody>
</table>

Short bank rates: China: SHIBOR; Hong Kong: 3-month HIBOR, CEIC, Indonesia: 3-month JIBOR, Korea: 3-month certificate of deposit, Malaysia: 3-month KLIBOR, Philippines: 3-month PHIBOR, Singapore: 3-month SIBOR, Taiwan: 31-90 day commercial paper, Thailand: 3-month BIBOR, India: 3-month MIBOR.


Short-term corporate borrowing rate: China: 1-year lending rate, India: Prime LR, Korea: 6-month corp bond; Singapore: PLR, Malaysia: Base LR, Indonesia: Base LR; Thailand: Min LR; Taiwan: Base LR; Hong Kong: Best LR.
### 3.2 External and fiscal stresses in East Asia

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>5.4</td>
<td>-3.0</td>
<td>151.8</td>
<td>20.2</td>
</tr>
<tr>
<td>India</td>
<td>-2.5</td>
<td>-8.0</td>
<td>147.0</td>
<td>78.0</td>
</tr>
<tr>
<td>Korea</td>
<td>0.9</td>
<td>-1.1</td>
<td>149.5</td>
<td>29.1</td>
</tr>
<tr>
<td>Taiwan</td>
<td>7.3</td>
<td>-2.3</td>
<td>141.2</td>
<td>31.6</td>
</tr>
<tr>
<td>Singapore</td>
<td>25.7</td>
<td>-2.5</td>
<td>-182.5</td>
<td>110.5</td>
</tr>
<tr>
<td>Malaysia</td>
<td>17.8</td>
<td>-6.0</td>
<td>182.5</td>
<td>53.7</td>
</tr>
<tr>
<td>Indonesia</td>
<td>2.3</td>
<td>-2.2</td>
<td>56.1</td>
<td>31.2</td>
</tr>
<tr>
<td>Thailand</td>
<td>4.5</td>
<td>-3.8</td>
<td>149.1</td>
<td>43.8</td>
</tr>
<tr>
<td>Philippines</td>
<td>4.2</td>
<td>-3.2</td>
<td>-</td>
<td>64.1</td>
</tr>
</tbody>
</table>
Turning to actual performance over the next quarters, GDP growth trends fell almost exactly into line with the regional risk differences above; Asia managed to avoid recession altogether, while output simply collapsed in Central and Eastern Europe over the course of 2009 (Chart 2).
At first glance, not much has changed. Most of Asia still falls at the far low end of the spectrum, with Latin America and other EMEA markets in the middle, meanwhile, Central and Eastern European countries still show very considerable exposures and fragilities. And this should come as no surprise, since many of the index components are “sticky” in nature, e.g., 5-year cumulative changes in credit/GDP and aggregate loan/deposit ratios, public debt levels, etc.
3.2 Risk scores in emerging markets

On the “increased risk” side of the table, much of the action came from higher public sector debt and, for commodity producers, the drop in oil prices and thus the reduction in their external surplus positions. In the case of China – which saw the single largest net increase in its risk reading – the culprit was the extraordinary jump in new lending during 2009 (although China still shows up in Chart 4 with the lowest absolute risk level overall).

Chart 5: Change in risk, 2009 vs. 2008
3.2. Balance of payments

The EM current account balance is falling steadily.

While FX reserves are now back to positive growth.

Chart 1: Balance of payments

Chart 2: Monthly FX reserve growth
3.2. Balance of payments

The image shows two diagrams. The first one is labeled "Overall balance (12m, share of GDP, %)", and the second one is labeled "Current account balance (12m share of GDP, %)". Both diagrams compare the performance of different regions, including Africa, Asia, Central and Eastern Europe, Middle East, and Latin America, over the years 1995 to 2010.
3.2 Exchange rates in emerging markets

EM currencies have rebounded moderately...

...although they are more stable against the dollar.
3.2 Interest rates in emerging markets

EM currencies have rebounded moderately...

... although they are more stable against the dollar.
3.2 Credit growth in emerging markets

Chart 1: EM credit growth trends

Chart 2: Bank lending growth by region

Chart 3: Financial asset growth by region

Chart 4: Private credit growth by region

Source: Haver, CEIC, IMF, UBS estimates
3.2 Stock markets in emerging markets

Chart 1: Overall equity market trends

Chart 2: Equity markets by region

Chart 3: Daily trends

Chart 4: Daily trends by region

Source: Bloomberg, Haver, CEIC, UBS estimates
3.2 Foreign buying of Asian Equity has tracked Asian growth
3.2 Foreign buying of Asian debts has been growing
3.2 Credit growth in Emerging markets?

**Chart 1: EM credit growth trends**
- Growth rate (% y/y)
- Source: Haver, CEIC, IMF, UBS estimates

**Chart 2: Bank lending growth by region**
- Bank lending growth (Growth, % y/y)
- Source: Haver, CEIC, IMF, UBS estimates

**Chart 3: Financial asset growth by region**
- Financial assets growth (Growth, % y/y)

**Chart 4: Private credit growth by region**
- Private sector credit growth (Growth, % y/y)
Affected by Greek debt crisis and large fiscal deficit, Euro and UK. Pound slump, US dollar goes up, from 78 to 87 in early May, 2010.
Affected by the solid US dollar, tightening housing market in China and Euro debt crisis, crude oil price in NYMEX fluctuated with the stock index, slumped in January and May, 2010 and even slipped to $67.41, which is the lowest.
What would the global financial markets go next step?
Thanks for your attention!

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