Foreign currency mismatches and leverage in emerging market companies

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This presentation reflects my views, not necessarily those of the BIS.
EM external financing since the global financial crisis

Capital flows and emerging market non-financial corporations

Graph 1

Balance of payments of major reserves accumulators

Net international bond issuance by EME non-financial corporations

1 Include Brazil, China, Hong Kong SAR, India, Indonesia, Israel, Korea, Malaysia, Mexico, Poland, Thailand Russia, Singapore and Turkey.

Sources: IMF; BIS international debt securities statistics.
Risks related to EM external borrowing

- Currency mismatches
  - How to gauge currency mismatches

- Corporate balance sheets
  - Leverage
  - Profitability
  - Debt-servicing capacity
  - Currency risks
Aggregate effective currency mismatch measures:

1. Foreign currency share of total debt

   % of total debts in foreign currency \( (FC\%TD) \) scaled by the share of tradables in GDP (proxied by \( X/GDP \))

   \[
   = \frac{FC\%TD}{X/GDP}
   \]

2. Modified foreign currency share of total debt (ie, taking into consideration a country’s net foreign currency position \( NFCA \))

   \[
   = \frac{NFCA}{GDP} \times \frac{FC\%TD}{X/GDP}
   \]
Foreign currency debt as a percentage of total debt\(^1\)

In percentages

<table>
<thead>
<tr>
<th>Latin America(^2)</th>
<th>Asia, larger economies(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Graph" /></td>
<td><img src="image2.png" alt="Graph" /></td>
</tr>
</tbody>
</table>

Other Asia\(^4\)

<table>
<thead>
<tr>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Graph" /></td>
</tr>
</tbody>
</table>

\(^1\) This table updates Table 4.4 (and the final column of Table 4.5) of *Controlling currency mismatches in emerging markets*, Goldstein and Turner (2004). Outstanding positions of year-end, calculated with aggregates of the economies listed in footnotes 2-6.  

\(^2\) Brazil, Chile, Colombia, Mexico, Peru.  

\(^3\) China, Chinese Taipei, India, Korea.  

\(^4\) Indonesia, Malaysia, the Philippines, Thailand.  

\(^5\) The Czech Republic, Hungary, Poland.  

\(^6\) Bulgaria, Romania, Estonia, Latvia, Lithuania.

Sources: IMF; CEIC; BIS; national data; BIS calculations.
Net foreign currency assets as a percentage of exports

In percentages

Graph 3

Latin America

Asia, larger economies

Other Asia

Europe

1 For net foreign currency assets, outstanding positions of year-end. Calculated with aggregates of the economies listed in footnotes 2-6. 2 Brazil, Chile, Colombia, Mexico, Peru. 3 China, Chinese Taipei, India, Korea. 4 Indonesia, Malaysia, the Philippines, Thailand. 5 The Czech Republic, Hungary, Poland. 6 Bulgaria, Romania, Estonia, Latvia, Lithuania.

Sources: Datastream; IMF; BIS; national data; BIS calculations.
Currency exposure can be different from external debt

**Residence concept**

- Foreign currency debts, assets and income of residents – including:
  - Foreign-owned firms
  - vis à vis non-residents (external)
  - and vis à vis other residents (internal)

**Nationality concept**

ADD

- Affiliates of local firms based overseas (excluded from export earnings and resident debt)

SUBTRACT

- Foreign-owned firms operating in the domestic market (included in export earnings and resident debt)
International debt securities outstanding in foreign currencies, by residence and by nationality

In billions of US dollars

Graph 4

Brazil

China

India

Russia

Other major Asia1

South Africa

1 Sum of Indonesia, Korea, Malaysia, the Philippines and Thailand.

Sources: BIS international debt securities statistics.
Issuance of international bonds by EM non-bank corporations

Nationality basis

Graph 5

Year

Maturity in years


1 Bulgaria, Brazil, Chile, China, Colombia, Czech Republic, Estonia, Hong Kong SAR, Hungary, Indonesia, India, Iceland, Korea, Lithuania, Latvia, Mexico, Malaysia, Peru, Philippines, Poland, Romania, Russia, Singapore, Slovenia, Thailand, Turkey, Venezuela and South Africa.

Maturity is calculated as a weighted average

Source: Dealogic; Euroclear; Thomson Reuters; Xtrakter; BIS
Tracking corporate financial flows using balance-of-payments data

Nonfinancial corporations and capital flows

Source: BIS.
Within-company flows have increased in recent years

FDI: equity and debt flows to major EMs

In billions of US dollars

Graph 7

Gross FDI inflows to major EMEs

Gross intra-company inflows to selected EMEs

1 Brazil, Chile, Czech Republic, Hungary, India, Indonesia, Korea, Mexico, the Philippines, Poland, Russia, South Africa, Thailand and Venezuela.

2 Data for China start from 2010.

Source: IMF.
Company level data: an analysis of 280 companies

<table>
<thead>
<tr>
<th>Tradables</th>
<th>Non-tradables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diversified/conglomerates</td>
<td>Consumer goods</td>
</tr>
<tr>
<td>Industrial</td>
<td>Infrastructure</td>
</tr>
<tr>
<td>Metals and mining</td>
<td>Real estate</td>
</tr>
<tr>
<td>Oil and energy</td>
<td>Telecommunications</td>
</tr>
<tr>
<td>Pulp and paper</td>
<td>Utilities</td>
</tr>
<tr>
<td>Transport/airlines</td>
<td></td>
</tr>
</tbody>
</table>
Gross debt issuance by EM non-financial corporations

In billions of US dollars

Graph 8

Full sample

Tradable sectors

Non-tradable sectors

Source: Thomson Reuters Eikon.
EM non-financial firms’ international bond issuance and amounts outstanding

Currency shares of gross issuance between 2006 and 2014

Share of US dollar denominated bonds in total bond outstanding as of May 2015


Source: Thomson Reuters Eikon.
Profitability – return on equity

In percent

Graph 10

All countries

Latin America

China

Other Asia

1 Ratio of net income/stockholder’s equity; sample median. 2 Brazil, Chile, Colombia, Mexico and Peru. 3 India, Indonesia, Korea, Malaysia, the Philippines and Thailand.

Source: S&P Capital IQ.
Profitability of non-financial companies is declining

<table>
<thead>
<tr>
<th>Return on equity of non-financial companies in EMs</th>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010/11</td>
</tr>
<tr>
<td>25th percentile</td>
<td>11.1</td>
</tr>
<tr>
<td>Median</td>
<td>16.6</td>
</tr>
<tr>
<td>75th percentile</td>
<td>26.2</td>
</tr>
<tr>
<td>Tradables</td>
<td></td>
</tr>
<tr>
<td>25th percentile</td>
<td>13.9</td>
</tr>
<tr>
<td>Median</td>
<td>19.2</td>
</tr>
<tr>
<td>75th percentile</td>
<td>27.0</td>
</tr>
<tr>
<td>Nontradables</td>
<td></td>
</tr>
<tr>
<td>25th percentile</td>
<td>9.5</td>
</tr>
<tr>
<td>Median</td>
<td>16.0</td>
</tr>
<tr>
<td>75th percentile</td>
<td>24.8</td>
</tr>
</tbody>
</table>

Source: A sample of 280 companies which have issued international bonds; S&P Capital IQ.
Leverage – debt to equity\(^1\)

In percent

Graph 11

**All countries**

![Graph showing debt to equity for all countries over years 2010 to 2014, with two lines representing tradables and non-tradables.]

**Latin America\(^2\)**

![Graph showing debt to equity for Latin America over years 2010 to 2014, with two lines representing tradables and non-tradables.]

**China**

![Graph showing debt to equity for China over years 2010 to 2014, with two lines representing tradables and non-tradables.]

**Other Asia\(^3\)**

![Graph showing debt to equity for Other Asia over years 2010 to 2014, with two lines representing tradables and non-tradables.]

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\(^1\) Ratio of debt/stockholder’s equity; sample median.  
\(^2\) Brazil, Chile, Colombia, Mexico and Peru.  
\(^3\) India, Indonesia, Korea, Malaysia, the Philippines and Thailand.

Source: S&P Capital IQ.
Interest coverage ratio \(^1\)

In percent

Graph 12

All countries

Latin America \(^2\)

China (note different scale)

Other Asia \(^3\)

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1. Ratio of EBITDA /interest expense; sample median.
2. Brazil, Chile, Colombia, Mexico and Peru.
3. India, Indonesia, Korea, Malaysia, the Philippines and Thailand.

Source: S&P Capital IQ.
It is difficult to gauge to what extent fx risks are financially hedged

Table 2
Derivative losses of non-financial corporations during the global financial crisis

<table>
<thead>
<tr>
<th>Country</th>
<th>Company/ Sector</th>
<th>End-2007</th>
<th>End-2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Profitability (%)</td>
<td>Solvency/leverage (X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ROA</td>
<td>ROE</td>
</tr>
<tr>
<td>Brazil</td>
<td>Paper</td>
<td>6.7</td>
<td>20.5</td>
</tr>
<tr>
<td></td>
<td>Supermarket</td>
<td>5.6</td>
<td>27.1</td>
</tr>
<tr>
<td></td>
<td>Diversified</td>
<td>2.1</td>
<td>20.5</td>
</tr>
<tr>
<td>Korea</td>
<td>Shipbuilding</td>
<td>2.0</td>
<td>16.7</td>
</tr>
<tr>
<td>Mexico</td>
<td>Retail</td>
<td>5.2</td>
<td>12.0</td>
</tr>
<tr>
<td></td>
<td>Cement</td>
<td>4.3</td>
<td>14.1</td>
</tr>
<tr>
<td></td>
<td>Chemicals</td>
<td>4.5</td>
<td>10.1</td>
</tr>
<tr>
<td></td>
<td>Glass</td>
<td>5.6</td>
<td>1.4</td>
</tr>
</tbody>
</table>

¹ Total debt/EBITDA (earnings before interest, taxes, depreciation, and amortization). ² EBITDA/interest expenses. ³ Compound annualised growth rate.

Sources: S&P Capital IQ; company reports.
Conclusions

From a macroeconomic perspective . . .

1. Aggregate currency mismatches have increased in EMs – but standard residence-based statistics do not take account of debt of offshore affiliates of EM companies.

2. Low world real long-term rates have increased borrowing in global dollar bond markets and raised foreign holdings of local currency domestic government bonds.

3. Lengthening of the average maturity of EM bond debt in their portfolios may make foreign investors more “flighty” as interest rate expectations change. (Has it also accentuated contagion from bond to forex markets?)
... and a microeconomic perspective

4. Many EM companies face financing challenges:

- Lower profitability and increased leverage have made the corporate sector more vulnerable to demand shocks, to currency shocks and to interest rate shocks.
- Some firms producing non-tradable goods borrowed heavily in dollars – creating microeconomic mismatching.
- Debt-servicing capacity – earnings over interest expense – has been declining since late-2012 (eventhough interest rates have remained low).
References


