The role of foreign investors

Ila Patnaik       Ajay Shah

March 14, 2012
The great debate about financial globalisation

- Growth regressions find little impact of capital account liberalisation upon growth.
- If anything, there is a small increase in crisis probability
- But the systematic fact is: EMs continue to open up.
The great debate about financial globalisation

- Growth regressions find little impact of capital account liberalisation upon growth.
- If anything, there is a small increase in crisis probability.
- But the systematic fact is: EMs continue to open up.
- Existing explanations:
  1. Growth regressions have problems.
  2. There is a one-time rise in GDP (only).
  3. Decontrol helps raise financial development.
  4. Finance follows trade.
The key idea of this paper

- There are infirmities in the domestic financial system
- These effects are large
- Foreign investors help alleviate distortions of resource allocation of the local financial system
Misallocation is of first order importance in poor countries

- Banerjee and Duflo (2005), Jeong and Townsend (2007), Restuccia and Rogerson (2008), Hsieh and Klenow (2009), Bartelsman et al. (2008), Alfaro et al. (2008) and Buera et al. (2008) all argue that the extent of misallocation of resources in poor countries is large enough to explain a very large part of the TFP gap between rich and poor countries.
- A weak financial system is one potential source of misallocation.
- Example: In China, formal finance starves private and small firms.
Could it be that foreign investors allocate capital wisely?

- The home bias literature has emphasised that foreign investors send too little money out.
- Portes & Rey: Notions of the gravity model in the capital account also.
- Clearly, information processing is hard for foreign investors.
- Could the imperfect information processing of foreign investors be superior to the imperfect information processing of a weak financial system?
Investment behaviour of foreign and domestic institutional investors

- E.g. Dahlquist & Robertsson, JFE, 2004
- Their main finding: there is no difference between the firm characteristics sought by domestic vs. foreign institutional investors
- Could domestic institutional investors differ from foreign institutional investors:
  1. Home bias, information distance?
  2. Domestic institutional investors part of a weak financial system?
- This motivates the questions:
  1. Are the investment choices of DII different from FII?
  2. If so, are these differences related to home bias or are they related to infirmities of domestic finance?
  3. Is there an economically significant impact upon firms and their growth?
Part I

Empirical strategy
Firm data in India, where ownership structure is observed for each firm.

Unbalanced panel data from 2007 to 2011 (five years). Number of firms:

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1765</td>
<td>1917</td>
<td>1889</td>
<td>2030</td>
<td>2115</td>
</tr>
</tbody>
</table>

Observe a broad array of firm characteristics.
Three kinds of investors

1. Foreign institutional investors “FII”
2. Mutual funds “MF”
3. Other domestic institutions (banks, insurance companies) “ODII”

(Sum of the latter two is “DII”)

**FII**  Only foreign *institutional* investors are permitted into India; fairly free once they register.

**MF**  Market share of public sector has dropped to 10%; the best regulatory structure found in India.

**Other DII**  Public sector market share is 80% with banks and 90% with insurance. Weak regulation in both areas.
Firms with non-zero institutional ownership

<table>
<thead>
<tr>
<th>Year</th>
<th>FII</th>
<th>MF</th>
<th>ODII</th>
<th>DII</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>1031</td>
<td>1136</td>
<td>1350</td>
<td>1485</td>
<td>1765</td>
</tr>
<tr>
<td>2008</td>
<td>1158</td>
<td>1205</td>
<td>1391</td>
<td>1580</td>
<td>1917</td>
</tr>
<tr>
<td>2009</td>
<td>1132</td>
<td>1141</td>
<td>1362</td>
<td>1529</td>
<td>1889</td>
</tr>
<tr>
<td>2010</td>
<td>1175</td>
<td>1186</td>
<td>1407</td>
<td>1595</td>
<td>2030</td>
</tr>
<tr>
<td>2011</td>
<td>1243</td>
<td>1218</td>
<td>1477</td>
<td>1652</td>
<td>2115</td>
</tr>
</tbody>
</table>
The preferences of institutional investors

- Want to run regressions explaining ownership based on firm characteristics
- But there are many zeros
- Hence, use a Tobit model (with clustered standard errors and year fixed effects)
Simple patterns in the data: by firm age

<table>
<thead>
<tr>
<th></th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>13</td>
<td>19</td>
<td>24</td>
<td>32</td>
<td>61</td>
</tr>
<tr>
<td>FII</td>
<td>1.91</td>
<td>0.02</td>
<td>0.28</td>
<td>0.07</td>
<td>2.96</td>
</tr>
<tr>
<td>ODII</td>
<td>0.09</td>
<td>0.02</td>
<td>0.09</td>
<td>0.62</td>
<td>8.24</td>
</tr>
</tbody>
</table>
Simple patterns in the data: by asset tangibility

<table>
<thead>
<tr>
<th></th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangibility</td>
<td>6</td>
<td>29</td>
<td>46</td>
<td>65</td>
<td>95</td>
</tr>
<tr>
<td>FII</td>
<td>8.8</td>
<td>1.7</td>
<td>0.9</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>ODII</td>
<td>0.4</td>
<td>0.1</td>
<td>0.2</td>
<td>0.4</td>
<td>1.7</td>
</tr>
</tbody>
</table>
## Tobit results comparing FII vs. DII

<table>
<thead>
<tr>
<th></th>
<th>FII</th>
<th>'t'</th>
<th>DII</th>
<th>'t'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log mktcap</td>
<td>7.806</td>
<td>31.064</td>
<td>4.153</td>
<td>22.748</td>
</tr>
<tr>
<td>Turnover ratio</td>
<td>0.000</td>
<td>0.194</td>
<td>-0.001</td>
<td>-2.517</td>
</tr>
<tr>
<td>1yr Returns</td>
<td>-0.010</td>
<td>-2.927</td>
<td>-0.006</td>
<td>-4.411</td>
</tr>
<tr>
<td>Yield</td>
<td>-0.226</td>
<td>-1.845</td>
<td>0.055</td>
<td>0.703</td>
</tr>
<tr>
<td>Domestic $\beta$</td>
<td>2.020</td>
<td>2.560</td>
<td>1.189</td>
<td>1.856</td>
</tr>
<tr>
<td>Global $\beta$</td>
<td>0.835</td>
<td>1.825</td>
<td>-0.217</td>
<td>-0.606</td>
</tr>
<tr>
<td>Total risk</td>
<td>-0.035</td>
<td>-1.749</td>
<td>-0.055</td>
<td>-3.936</td>
</tr>
<tr>
<td>Insider holding</td>
<td>-0.151</td>
<td>-7.272</td>
<td>-0.008</td>
<td>-0.547</td>
</tr>
<tr>
<td>Exports to sales</td>
<td>0.000</td>
<td>2.999</td>
<td>-0.001</td>
<td>-2.699</td>
</tr>
<tr>
<td>Age</td>
<td>-0.087</td>
<td>-4.611</td>
<td>0.110</td>
<td>7.331</td>
</tr>
<tr>
<td>Is public sector</td>
<td>-6.100</td>
<td>-2.984</td>
<td>9.540</td>
<td>4.771</td>
</tr>
<tr>
<td>Tangibility</td>
<td>-0.049</td>
<td>-4.839</td>
<td>0.071</td>
<td>7.413</td>
</tr>
<tr>
<td>Low R&amp;D</td>
<td>-1.854</td>
<td>-2.869</td>
<td>1.023</td>
<td>2.012</td>
</tr>
<tr>
<td>High R&amp;D</td>
<td>1.470</td>
<td>2.093</td>
<td>-1.678</td>
<td>-2.762</td>
</tr>
</tbody>
</table>
## Breaking DII into MF vs. ODII

<table>
<thead>
<tr>
<th></th>
<th>FII</th>
<th>'t'</th>
<th>MF</th>
<th>'t'</th>
<th>ODII</th>
<th>'t'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turn. ratio</td>
<td>0.000</td>
<td>0.194</td>
<td>-0.000</td>
<td>-2.000</td>
<td>-0.000</td>
<td>-1.604</td>
</tr>
<tr>
<td>1r Returns</td>
<td>-0.010</td>
<td>-2.927</td>
<td>-0.001</td>
<td>-1.987</td>
<td>-0.005</td>
<td>-4.215</td>
</tr>
<tr>
<td>Yield</td>
<td>-0.226</td>
<td>-1.845</td>
<td>0.117</td>
<td>1.773</td>
<td>0.042</td>
<td>0.577</td>
</tr>
<tr>
<td>Domestic $\beta$</td>
<td>2.020</td>
<td>2.560</td>
<td>1.367</td>
<td>2.824</td>
<td>1.587</td>
<td>2.685</td>
</tr>
<tr>
<td>Global $\beta$</td>
<td>0.835</td>
<td>1.825</td>
<td>0.045</td>
<td>0.152</td>
<td>-0.468</td>
<td>-1.422</td>
</tr>
<tr>
<td>Total risk</td>
<td>-0.035</td>
<td>-1.749</td>
<td>-0.078</td>
<td>-5.841</td>
<td>-0.013</td>
<td>-1.073</td>
</tr>
<tr>
<td>Insider holding</td>
<td>-0.151</td>
<td>-7.272</td>
<td>0.012</td>
<td>0.920</td>
<td>-0.040</td>
<td>-2.868</td>
</tr>
<tr>
<td>Exp. to sales</td>
<td>0.000</td>
<td>2.999</td>
<td>-0.001</td>
<td>-1.438</td>
<td>-0.001</td>
<td>-2.463</td>
</tr>
<tr>
<td>Age</td>
<td>-0.087</td>
<td>-4.611</td>
<td>-0.004</td>
<td>-0.406</td>
<td>0.128</td>
<td>9.640</td>
</tr>
<tr>
<td>Is public sector</td>
<td>-6.100</td>
<td>-2.984</td>
<td>-2.539</td>
<td>-1.687</td>
<td>11.162</td>
<td>6.143</td>
</tr>
<tr>
<td>Tangibility</td>
<td>-0.049</td>
<td>-4.839</td>
<td>0.013</td>
<td>2.187</td>
<td>0.082</td>
<td>8.504</td>
</tr>
<tr>
<td>Low R&amp;D</td>
<td>-1.854</td>
<td>-2.869</td>
<td>1.701</td>
<td>3.802</td>
<td>0.063</td>
<td>0.154</td>
</tr>
<tr>
<td>High R&amp;D</td>
<td>1.470</td>
<td>2.093</td>
<td>0.250</td>
<td>0.505</td>
<td>-2.131</td>
<td>-4.008</td>
</tr>
</tbody>
</table>
Part II

Does this matter?
Perhaps this merely induces clientele effects – foreign investors invest in certain kinds of firms; other firms obtain local investors.

How do we evaluate the consequences of the choices of institutional investors?

A design

- Identify firms which have no institutional investment – they are the controls
- Identify firms who have foreign institutional investment but not domestic institutional investment.
- Identify firms who have domestic institutional investment but not foreign institutional investment.
- Mahalanobis matching on log size, b/p and beta.
- Measure the changes in firm fundamentals over a four year horizon.
Match balance: Size (FII as treatment)

KS test statistic: 0.569
Prob value: 7.92e−56
Match balance: Beta (FII as treatment)

KS test statistic: 0.0581
Prob value: 0.291

KS test statistic: 0.0568
Prob value: 0.478
Match balance: Book-to-price (FII as treatment)

- Control
- Treated

KS test statistic: 0.0349
Prob value: 0.621
Outcome

1. Sales growth
2. Capital growth
3. Change in sales/Change in capital
4. Employment growth
5. Change in employment/Change in capital
1. Sales growth

**FII**

- **Growth (%)**
- **2004**
- **2005**
- **2006**
- **2007**

**DII**

- **Growth (%)**
- **2004**
- **2005**
- **2006**
- **2007**

Ila Patnaik, Ajay Shah ()

The role of foreign investors

March 14, 2012
2. Growth of gross fixed assets

![Graph of FII and DII growth over years 2004 to 2007 with treated and control categories.](image)
3. Delta sales by delta capital

![Graph showing Delta sales by delta capital for FII and DII]
4. Employment growth

**FII**

- **Treated**
- **Control**

**DII**

- **Treated**
- **Control**
5. Delta employment by delta capital

Ila Patnaik, Ajay Shah ()

The role of foreign investors

March 14, 2012 27 / 30
Conclusions

- Unlike the Swedish results, foreign and local investors are not alike.
- Foreign investors distinctly favour a certain kind of firm.
- Mutual funds are the least distorted DII – and they are closer to the FII.
- Foreign capital is emphasising dispersed shareholding, exports, young firms, private firms, low asset tangibility and high R&D.
- These things matter! Firms with FII ownership, which are shunned by DII had greater sales growth, greater employment growth, and achieved this growth with better use of capital.
Of what use are foreign investors in an emerging market? They help alleviate infirmities of the local financial system.
Thank you.