Big Financial Institution’s Profit: Failure of New Bank Business Model and Regulation

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Roadmap

1. Changes in bank business model and profit

2. Securitization in the new bank business model:
   - Main origin of recent financial crisis
   - What is securitization?
   - Interests of securitization
   - Origin of profit
   - Innovations in securitization to boost profit
   - Can these profits be justified?

3. Securitization and regulation
   - Prohibition of securitization?
   - More transparency?
   - Incentivization
Traditional Bank Business Model

- A commercial bank’s traditional activity
  - Taking deposit
  - Originating loans (lending money)
  - Taking interest margin
    (loan rate - deposit rate)

- Interest margin
  - Monopoly rent
    (as banking competition has been highly controlled till the early 80’s)
  - Reward for monitoring and screening on behalf of small depositors
Traditional Bank Business Model (Cont’d)

• Source of banks’ profit
  : Monitoring their loans
• Selection of good investment projects (screening)
• Interim monitoring of ongoing projects

• The role of banks
  — contribute to distribute available funds in economy to profitable investment projects
Change in Bank Business Model

• Traditional model
  – Retain their loans in their balance sheet
  – Responsible for their loans
    (taking profit but assuming loss)
  – Incentive to monitor and screen
  – “Originate-to-hold “model

• New model (since mid – 90’s)
  – Banks sell their loans to other investors
  – Transfer the cash flow from loans
    (interest + principal reimbursed) to third investors
  – “Originate-to-Distribute” model
  – The main cause of 2007 financial crisis
Securitization: Simple example

Bank

<table>
<thead>
<tr>
<th>loan 1</th>
<th>loan 2</th>
<th>loan 3</th>
<th>.....</th>
<th>loan 100</th>
<th>loan 101</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other assets</td>
<td>.......</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Investors

- Institutional investors
- Other banks & Financial institutions
- Hedge funds
Securitization: Simple example

• SPV (Special Purpose Vehicule) : legally independant company for the purpose of separating cash-flow from sold loans and other assets of the bank
• Cash-flow from loans (principal + interest) : Bank ->SPV->Investors

<table>
<thead>
<tr>
<th>Bank</th>
<th>SPV</th>
<th>Investors</th>
</tr>
</thead>
<tbody>
<tr>
<td>loan 1</td>
<td>loan1</td>
<td>• Institutional investors</td>
</tr>
<tr>
<td>loan 2</td>
<td>loan 2</td>
<td>• Other banks &amp;</td>
</tr>
<tr>
<td>loan 3</td>
<td>loan 3</td>
<td>Financial institutions</td>
</tr>
<tr>
<td>.....</td>
<td>.....</td>
<td>• Hedge funds</td>
</tr>
<tr>
<td>loan 100</td>
<td>loan 100</td>
<td></td>
</tr>
<tr>
<td>loan 101</td>
<td>Total outstanding</td>
<td></td>
</tr>
<tr>
<td>...</td>
<td>100mil.$</td>
<td></td>
</tr>
<tr>
<td>Other assets</td>
<td>(Average return 10%)</td>
<td></td>
</tr>
</tbody>
</table>
Interest of securitization

1. Making profit from Excess spread
   = Return of sold loans (10%)
     - return proposed to investors (9.5%)

2. Recuperate funds before the maturity of loans and lend to other borrowers (increase leverage)

• Profit
  1. If average return of new loans are the same (10%)
     Return = (10-9.5)+10=10.5%>10%
  2. If you sell again new loans and duplicate the same operation, you can multiply the profit from excess spread
  3. By financial innovation, you can boost excess spread
Boosting Excess Spread

Excess spread = 100*0.10 - (75*0.06 + 20*0.10 + 5*0.30) - 0.5 = 1.5 M$

The additional profit without change of quality or performance of the loan!!
Perception of return

*Interest*+principal
of loans

Type 1 security holders

Type 2 security holders

Type 3 security holders
Secret of excess spread

• Tranching
  – Structuring of the securities backed by the loans in several slices differentiated by risk and return
• Garantee of payment by insurer for less risky slice (slice 1 in our example)
• Certification by Rating Agency
Securitization: More realistic example

<table>
<thead>
<tr>
<th>Bank</th>
<th>SPV</th>
<th>Investors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset</td>
<td>Liability</td>
<td></td>
</tr>
<tr>
<td>loan 1</td>
<td>security (type 1) AAA</td>
<td></td>
</tr>
<tr>
<td>loan 2</td>
<td>75M$</td>
<td></td>
</tr>
<tr>
<td>loan 3</td>
<td>Return: 5%</td>
<td></td>
</tr>
<tr>
<td>.....</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prêt 100</td>
<td>security (type 2) BBB</td>
<td></td>
</tr>
<tr>
<td>loan 100</td>
<td>20M$</td>
<td></td>
</tr>
<tr>
<td>loan 101</td>
<td>Return: 9%</td>
<td></td>
</tr>
<tr>
<td>Other assets</td>
<td>Slice 3 (type 3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5M$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Return: 30%</td>
<td></td>
</tr>
</tbody>
</table>

**Excess spread** = 100*0.10-(75*0.05+20*0.09+5*0.30)-0.7=1.8M$

Another additional profit without change of quality or performance of the loan!!
Alchemy of financial innovation ???
MBS, ABS, CDO

• ABS : The generic name of these securities with securitization process

• MBS (Mortgage Backed Security) : If the sold loans are mortgages

• CDO (Collateralized debt obligation)
An example of CDO

- MBS of B1
  - 1 million $
  - Slice 1 75%
  - Slice 2 20%
  - Slice 3 5%

- MBS of B2
  - 1 million $
  - Slice 1 75%
  - Slice 2 20%
  - Slice 3 5%

- MBS of B10
  - 1 million $
  - Slice 1 75%
  - Slice 2 20%
  - Slice 3 5%

CDO
- MBS From 0.1M$ of 10 different MBS
  - 1 million $
  - Senior 75%
  - Mezzanine 20%
  - Equity 5%

- An example of CDO
An example of CDO$^2$

CDO of B1
1 million $

- Slice 1 75%
- Slice 2 20%
- Slice 3 5%

CDO of B2
1 million $

- Slice 1 75%
- Slice 2 20%
- Slice 3 5%

CDO$^2$
- CDO From 0.1M$ of 10 different CDO
- 1 million $
- Slice 1 75%
- Slice 2 20%
- Slice 3 5%
How many?
Ratio to outstanding bank loans

Source: ESF Securitisation Forum; Datastream; OECD calculations.
How many? Absolute terms

Securitization Market Activity

$Billions

Source: Thomson Reuters

00 01 02 03 04 05 06 07 08 09

CDO  ABS  CMBS  RMBS
Profit of financial sector

• US financial sector
  – 1970-1989 : 15% of all US profit
  – 2000-2005 : 25% of all US profit
  (Source : Zuckerman, 2009)

• We can induce that securitization and excess spread contribute these changes
Securitization: 
Add some value in economy?

• At best
  – No amelioration of quality of loans (invested projects in economy)

• At worst
  – As banks have no stake after securitization, they do not care about any more the quality of loans
    • Generating loans just to sell (even if banks know the quality of borrowers are not good. ex. Ninja loans)
    • Lazy monitoring
      – Deterioration of quality of loans
      – But they always make same profit from excess spread

• In terms of economy as a whole,
• Waste of funds because banks lend the money to undeserved firms, households
Prohibit the securitization?

• Thanks to securitization, with the same amount of funds, banks can finance more investment projects.
• If we can discipline banks such that they do their job (monitoring & screening), securitization would allow to finance more good projects in the economy with the same capacity of banking sector.

• How to regulate?
  – 2 competing philosophies
More transparency

1. Oblige banks to communicate more information about the securitized products
   – How much and Which information?
   – Difficulty of interpretation may remain.

2. Certification by a third institution
   – Private: Existing Rating agencies failed to do.
   – Public:
     • national? International?
     • One vs. multi?
     • Who finance them?
Incentivization

1. Oblige banks to retain a part of securities backed by their sold loans
   – Banks care about the quality as a part of return will come back to them.
   – Make them responsible of their acts (taking risk, lazy monitoring) by loss.

2. Banning too complex products (CDO2, CDO3)
   – Chain is too long from sold loans
   – Banks can not added any value by monitoring and just take excess spread