

National University of Singapore



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RMI Credit Rating Initiative

Risk Management Institute

National University of Singapore

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Contact: Ms E'leen Lau, rmilyh@nus.edu.sg



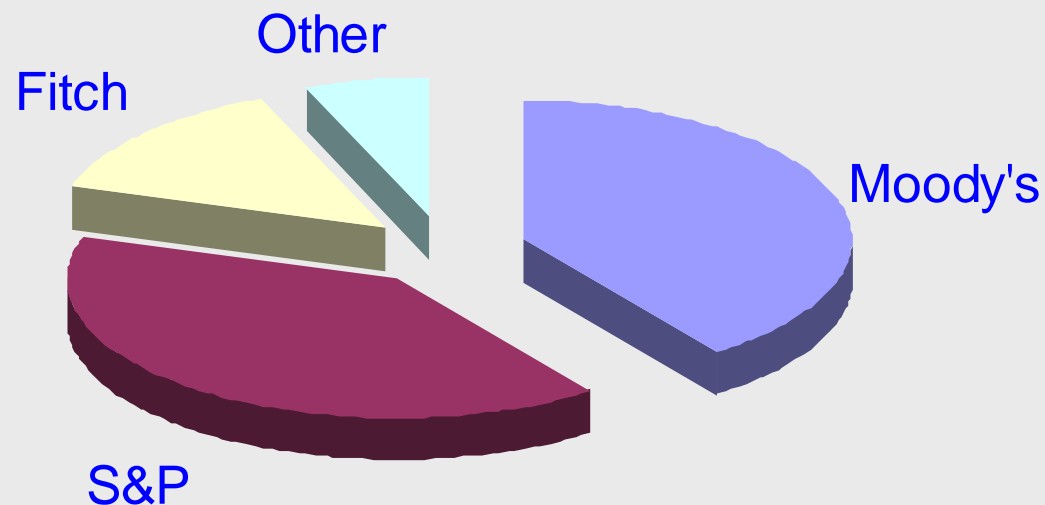
Outline

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Motivation

- The corporate rating market is dominated by three for-profit Credit Rating Agencies (CRAs).

Market Share 2006



Motivation (continued)

- Because major CRAs are for-profit, they need to keep their rating methods proprietary which hinders methodological developments.
- The business model of the dominant CRAs is based on the issuer-pay principle. This could lead to **rating shopping**, meaning that issuers may shop for the most favourable credit rating from a CRA.

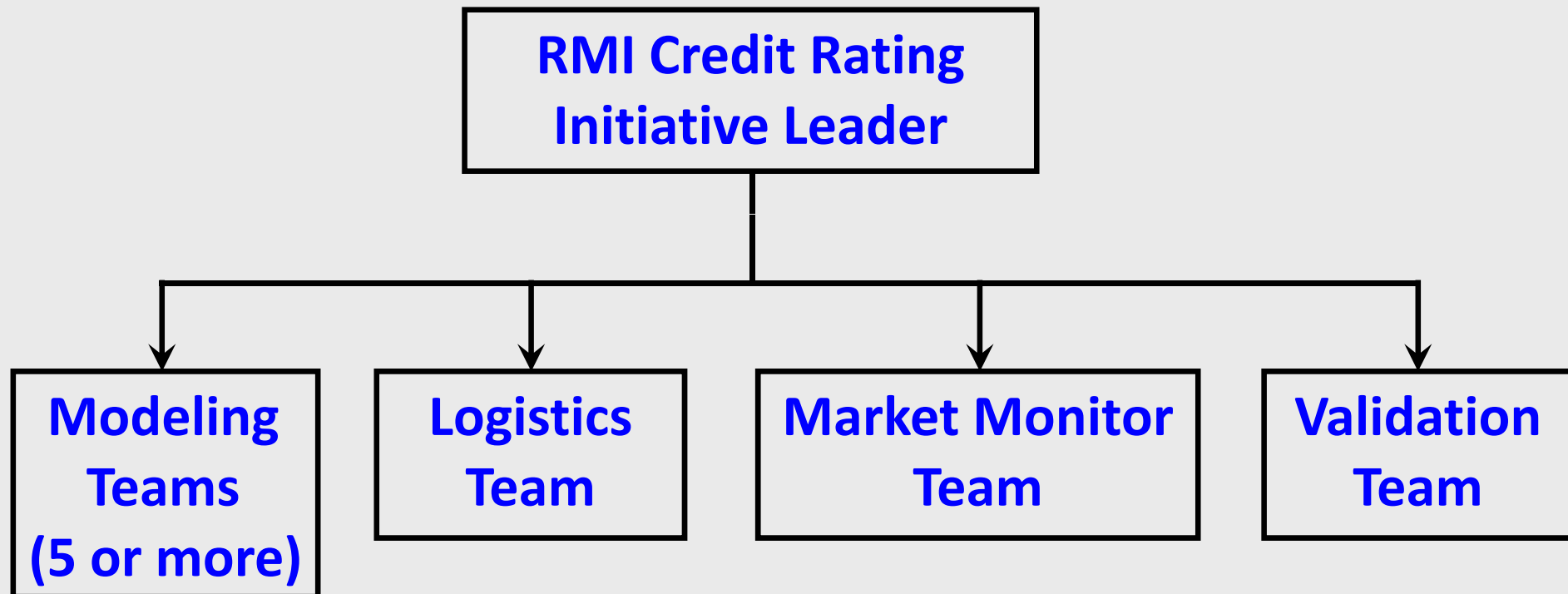
Objectives:

- To develop scientifically sound models for corporate rating.
- To provide alternative ratings on top Asian companies. This rating service is not for-profit.
- To promote Risk Management Institute (RMI) as a global credit risk research center.

Unique features of the RMI initiative

- Being a not-for-profit rating service allows RMI to have complete transparency in its rating methodology.
- A global call for proposals will be conducted, and the winning research teams will be invited to RMI to develop rating models. This approach allows RMI to tap into global talent pool.
- RMI will provide financial support and research infrastructure: IT requirements and a comprehensive database of almost 18,000 listed Asian firms including all defaulted names since 1990.
- This is a “**selective Wikipedia**” approach to research: the final model will be an amalgamation of the best ideas.

Management structure



Management structure (continued)

Modeling teams

- Individually develop scientifically sound models for corporate rating.
- Collectively contribute to each other's model development.

Management structure (continued)

Logistics team

- Collect and update financial and economic data, build up the financial database, and develop the interface for the modelling teams.
- Provide general support for all the other teams (modeling teams, market monitor team and validation team).
- Manage all logistic issues related to executing the chosen rating model and maintaining the rating system.

Management structure (continued)

Market monitor team

- Gather and screen relevant news on the Asia top 500 firms.
- Develop and conduct surveys of security analysts.
- Follow regulatory and macro policy initiatives, and assess their implications with an aim of developing indices that can be incorporated into the rating model.

Management structure (continued)

Validation Team

- Continually checking data accuracy.
- Validating the rating model chosen by RMI.
- Feeding back to model development teams.

Development of the rating model

- Introduction
- Database
- Models
- A case study

Development of the rating model (continued)

Introduction: a corporate rating system

- Data collection
 - Company specific data
 - Industry/Market specific data
 - Country specific data
 - Global economic data
- A reliable rating model
 - Probability of Default (PD)
 - Loss Given Default (LGD) / Recovery Rate (RR)
 - Exposure At Default (EAD)

Development of the rating model (continued)

Database

| Risk type | Data required |
|-------------------------|---|
| Company specific | Financial Statements |
| | Stock prices |
| | Bond prices/spreads |
| | Corporate events |
| | Ratings by other CRAs/ analyst forecasts |
| | Product market shares |

Development of the rating model (continued)

| Risk type | Data required |
|-----------------------------|--|
| Industry/ Market | Competitors & Market Positions |
| | Analyst opinions |
| | Product/material prices |
| | Market demand - stability & diversity |
| | Merger & Acquisition activities |

Development of the rating model (continued)

| Risk type | Data required |
|-------------------------|---|
| Country specific | GDP, other economic indices |
| | Unemployment rate |
| | Exchange rate |
| | Inflation rate |
| Global cycle | Global GDP, other economic indices |

Development of the rating model (continued)

Target markets of the RMI ratings

| Country | Exchanges | # of Listed firms |
|-----------|--------------------------------------|-------------------|
| Australia | ASE | 1808 |
| China | Shanghai, ShenZhen | 1625 |
| Hong Kong | Main Board, Growth Enterprise Market | 1265 |
| India | NSE, BSE, etc | 3507 |
| Indonesia | Indonesia Stock Exchange | 395 |
| Japan | Tokyo, JASDAQ, Nagoya, Osaka, etc | 3838 |
| Malaysia | Main Board, Second Board, MESDAQ | 986 |
| Singapore | Main Board, Catalist | 768 |
| S. Korea | KSE, KOSDAQ | 1851 |
| Taiwan | Listed, OTC | 1264 |
| Thailand | SET | 505 |

Development of the rating model (continued)

Models

- Two or more teams from NUS will join the model development.
- Three to five independent teams external to NUS will be invited to competitively develop the RMI corporate rating model.
- The external teams will be chosen from a global call for proposals.

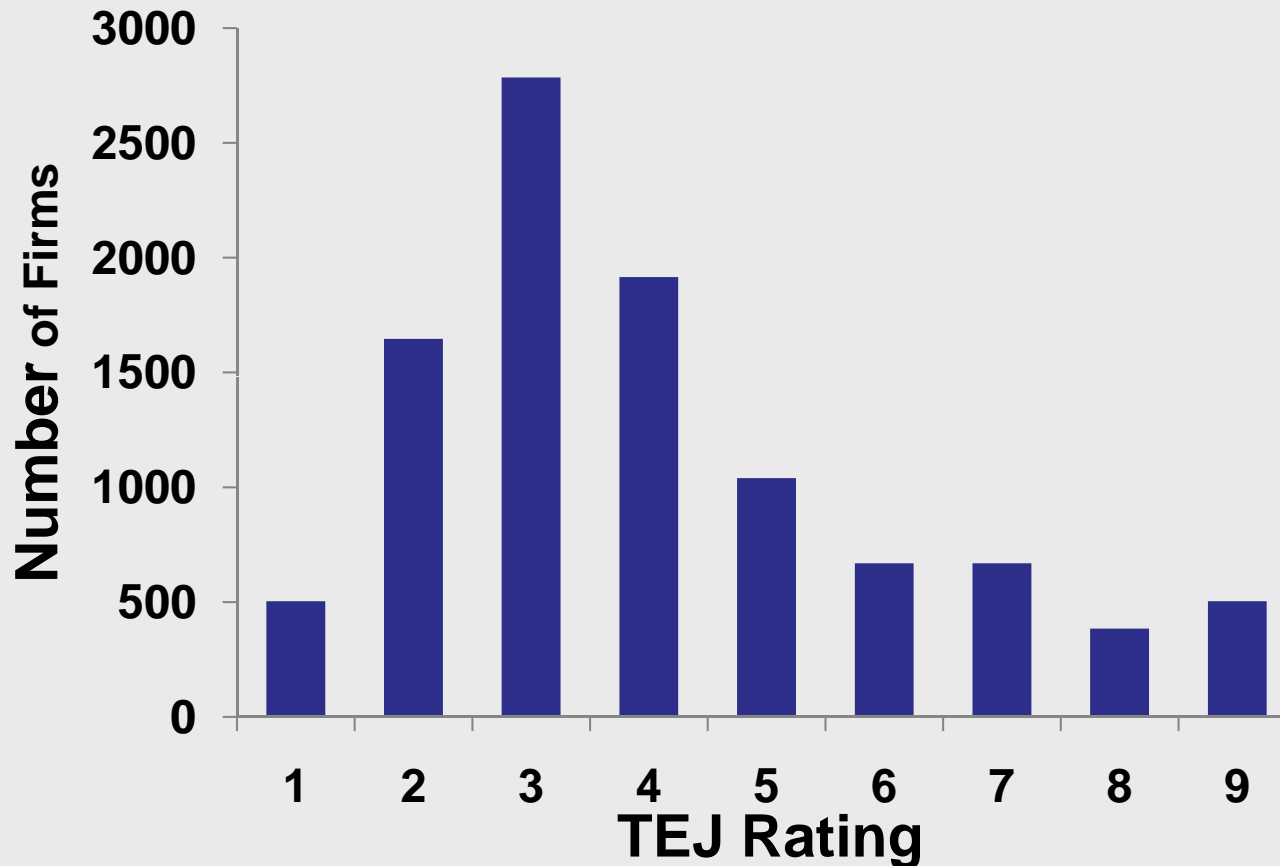
Development of the rating model (continued)

A case study: rating systems of some CRAs

| | Prime | High Grade | | | Medium Grade | | | | | | Speculative | | | | | | | | | In default |
|------------|-------|------------|-----|-----|--------------|----|----|------|------|------|-------------|-----|-----|----|----|----|------|-----|------|------------|
| Moody's | Aaa | Aa1 | Aa2 | Aa3 | A1 | A2 | A3 | Baa1 | Baa2 | Baa3 | Ba1 | Ba2 | Ba3 | B1 | B2 | B3 | Caa | Ca | C | |
| S & P | AAA | AA+ | AA | AA- | A+ | A | A- | BBB+ | BBB | BBB- | BB+ | BB | BB- | B+ | B | B- | CCC+ | CCC | CCC- | D |
| Fitch | AAA | AA+ | AA | AA- | A+ | A | A- | BBB+ | BBB | BBB- | BB+ | BB | BB- | B+ | B | B- | CCC+ | CCC | CCC- | D |
| Egan-Jones | AAA | AA+ | AA | AA- | A+ | A | A- | BBB+ | BBB | BBB- | BB+ | BB | BB- | B+ | B | B- | CCC+ | CCC | CCC- | D |
| TEJ | 1 | 2~3 | | | 4 | | | 5 | | | 6~7 | | | 8 | | | 9 | | | D |

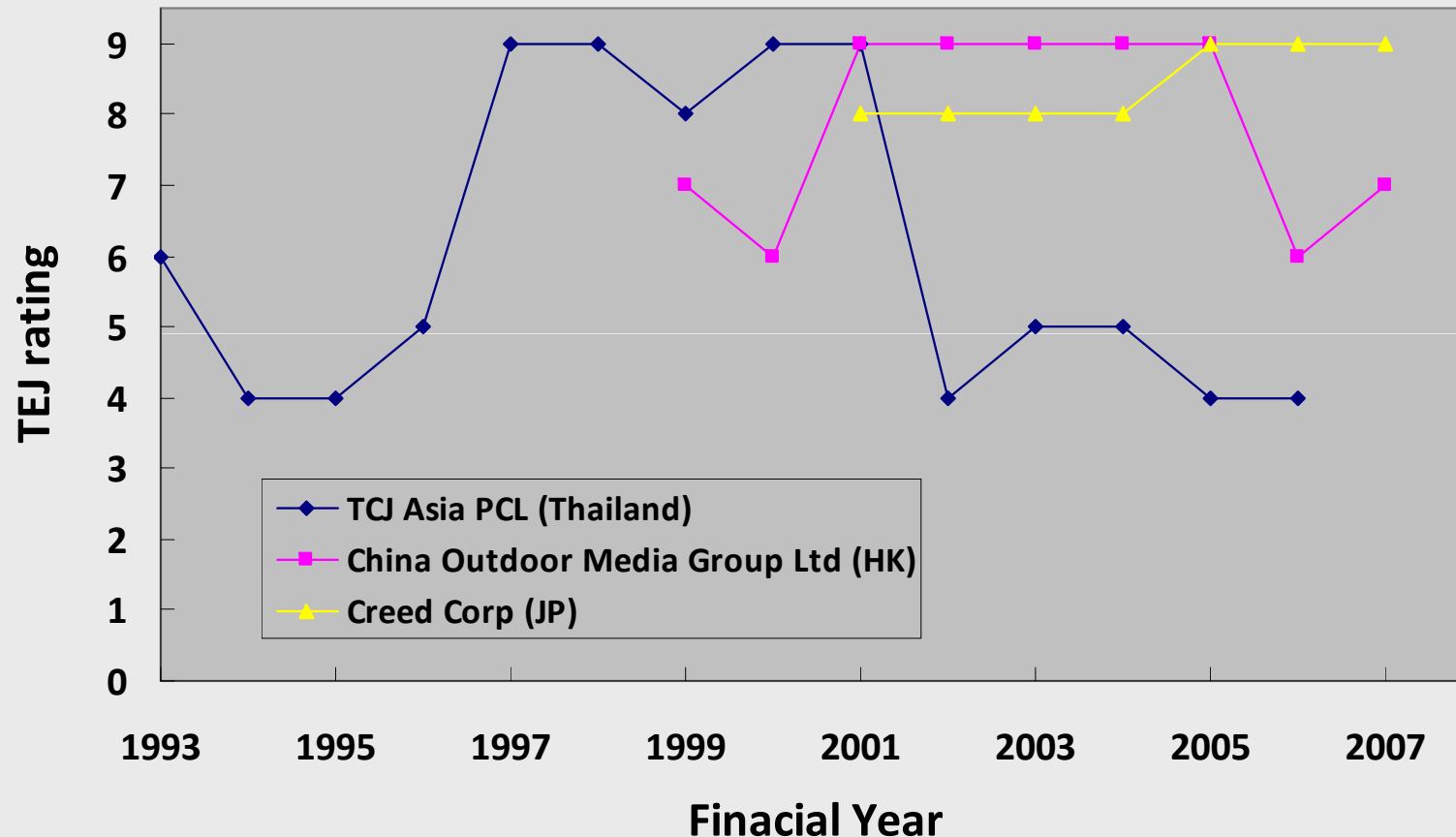
- **Moody's, S&P, and Fitch are the Big 3 CRAs worldwide. Total market share >90%**
- **Egan-Jones is a Nationally Recognized Statistical Rating Organization (NRSRO)**
- **TEJ (Taiwan Economic Journal) is a CRA in Taiwan**

Development of the rating model (continued)



The TEJ rating model is used to test the readiness of the RMI rating process . The sample comprises 1913 Asian companies with revenues over US\$1 billion in at least one of the three years (2006, 2007 and 2008) and 477 firms in default.

Development of the rating model (continued)



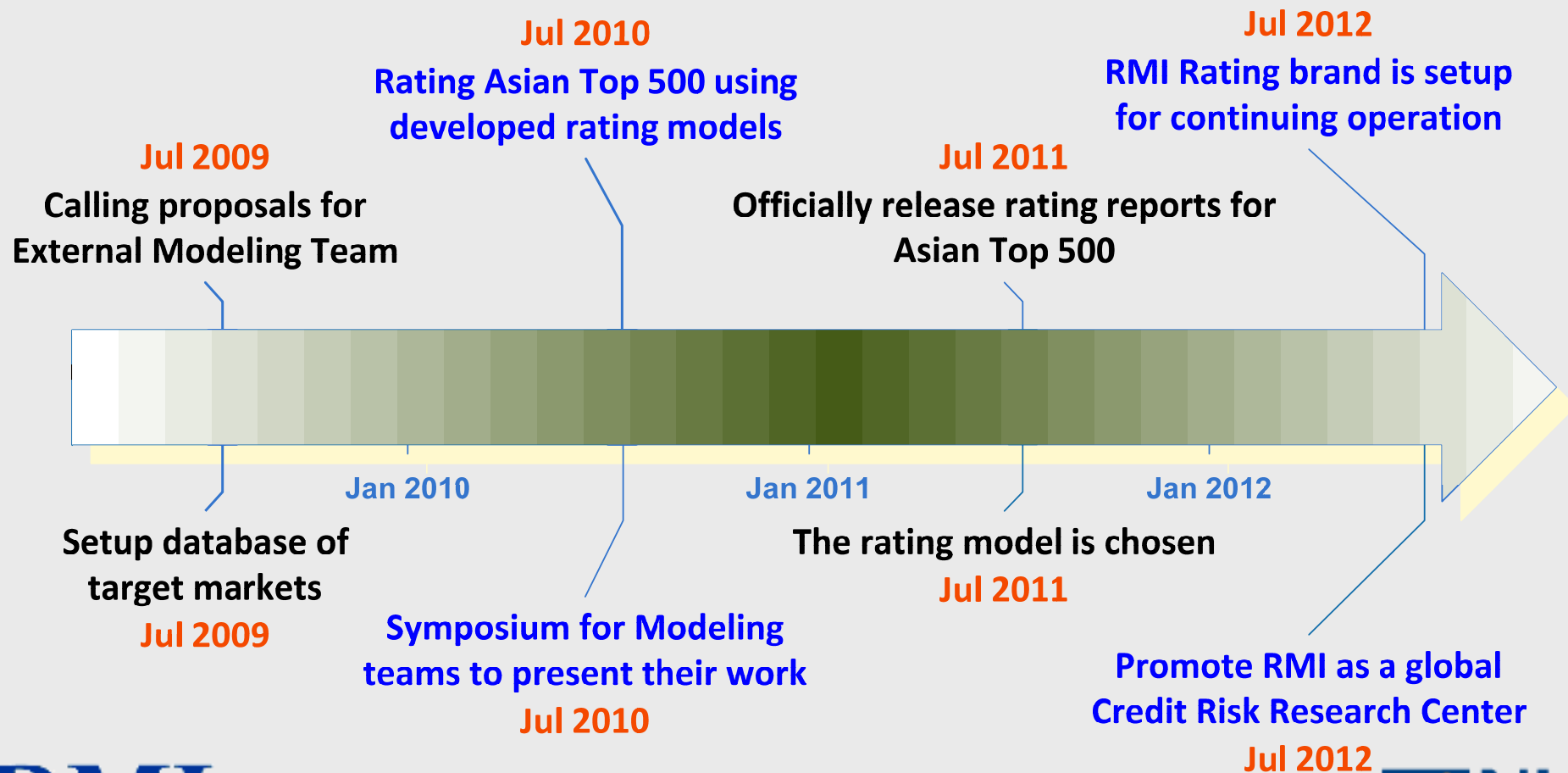
TCJ Asia PCL: Rehabilitation on 27 Feb 2003

China Outdoor Media: Winding Up on 12 Sep 2002

Creed Corp: Japanese CRL on 9 Jan 2009

Timeline and milestones

RMI credit rating initiative:



Timeline and milestones (continued)

Phase 1 (2009.3 – 2009.7)

- The logistics team has been setup and is starting to collect company specific data on the listed firms in 11 targeted markets and on the delisted firms.
- The database will also include industry and macroeconomic factors, the credit ratings from other CRAs, and the opinions of security analysts.
- The database will be made user friendly.

Timeline and milestones (continued)

- **Two internal modeling teams have been setup to develop and implement corporate rating models. More internal teams may be formed later.**
- **Call for proposals as a way of tapping into global talents to form external modeling teams. This will be formally announced at the 3rd Annual Risk Management Conference (16-18 Jul 2009).**

Timeline and milestones (continued)

Phase 2 (2009.7 – 2010.7)

- The external modeling teams will begin to develop and implement rating models, with the output tested for accuracy and effectiveness.
- The market monitor team will be set up. Market information will be collected and incorporated into the financial database.
- The validation team will be set up to continually check for data accuracy, and later to vigorously validate the rating model chosen by RMI.

Timeline and milestones (continued)

Phase 3 (2010.7 – 2011.7)

- A symposium will be held for different rating modeling teams to deliberate and debate their research findings. Other academics from around the world will also be invited to this symposium to comment on the findings.
- The Asian top 500 firms will be provisionally rated and the chosen rating model will be rigorously validated.
- Continue to attract experts to visit RMI to independently evaluate the rating model and to develop advanced rating and credit risk analysis models and methodologies. Our goal is to turn RMI into a global research center in credit risk analysis.

Timeline and milestones (continued)

Phase 4 (2011.7 – 2012.7)

- The Asian top 500 firms will be officially rated and tracked by the logistics team. RMI will release the official ratings and research findings in a publication provisionally titled “**Asian Credit Review**”.
- Establish the RMI rating brand and offer an alternative reference for investors and financial institutions in the Asian markets.

Timeline and milestones (continued)

2012.7 onward

- The RMI rating operation will be continually improved. The updates in the methodology will be periodically released in “**Asian Credit Review**”.
- Expand to other research issues on credit risk.

Financial support

The RMI Credit Rating Initiative will be supported by two sources:

- Grants from governmental bodies and/or private foundations
- Revenue from other RMI operations