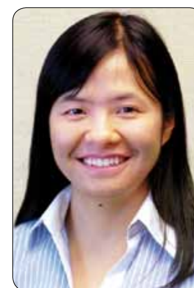
Capturing the dynamics of China's and India's non-life insurance markets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China and India are among the fastest growing emerging markets within the global economy. Accompanying this is a boom in their non-life insurance markets. But they show some peculiar characteristics when compared to well-developed markets, such as a disproportionately high percentage of short tail business. Under these conditions, traditional non-life insurance analytics based on underwriting experience like reserving risk will prove unsatisfactory. In this article, **Ms Yisi Lu** and **Mr Evan Leite** of **Risk Lighthouse** identify trends and the complex dynamics present in these two major markets through creative analytics of available data.

Non-life insurance helps mitigate unexpected financial losses that individuals and businesses face every day, be it from car accidents to hurricanes and malpractice lawsuits. Economies experiencing rapid growth have a growing need for non-life insurance products, not just in volume but also in variety.

It is no surprise that China and India have observed double-digit percentage growth in non-life insurance premiums, after adjusting for inflation, which is outstanding when compared with other economies (Table 1).

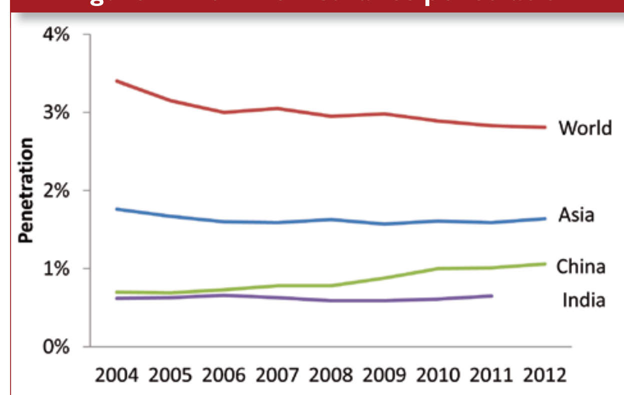
What makes entering these markets even more desirable for non-life insurers are the low penetration rates there. Non-life penetration rates usually increase with the earlier stages of an economy's development, but they subsequently decline as alternative risk transfer methods emerge.

Table 1: Real non-life premium growth

Inflation Adjusted

Country/Region	2010	2011	2012
China	27.5%	10.4%	13.6%
India	7.8%	13.9%	10.2%
Asia	9.0%	8.0%	8.1%
North America	-0.2%	0.4%	1.7%
Europe	0.8%	0.1%	0.0%
World	1.8%	1.9%	2.6%

Figure 1: Non-life insurance penetration



As of 2012, the penetration of non-life insurance in China and India remains lower than average levels in Asia and the world average levels (Figure 1), this even after many years of development. This combination of robust economic growth and low penetration rates leads to great opportunities for non-life insurance premium growth and market development as these two emerging countries gradually catch up.

Market development: A comparison

Despite regulatory and cultural differences, how are China's and India's non-life insurance markets progressing when compared to a mature market like the United States? Though the development of an insurance market depends on various factors, we examine three specific metrics:

- Expense ratio: the expense to gross written premium ratio of the entire market, measuring the efficiency of insurance operations;
- Insurance penetration: non-life premiums to GDP ratio, measuring the development of insurance segments in the economy; and
- Interquartile range (IQR) of loss ratio: measuring the variation in underwriting performance.

Table 2 shows the progress of China's and India's non-life insurance market development.

For comparison purposes, the indicators are standardised by calculating the relativity to the level of the United States' non-life insurance market between 2009 and 2011. A relativity greater than 1 indicates a more developed market, that is, lower expense ratio, higher insurance penetration and lower loss ratio IQR.

Historical data from 1988 to 1990 in the US is also included as a reference, though the only significant difference from the current situation in the US is that the penetration was higher two decades ago, consistent with the natural cycle of penetration mentioned earlier.

Figure 2 indicates that China and India closely resemble the US in terms of expense ratio, but both markets fall quite far behind in insurance penetration.

India has a lower loss ratio IQR than the US, but considering that India has far fewer insurance companies (only 19 as of 2013) than the US, the lower loss ratio IQR does not indicate a more developed market. China, on the other hand, has greater variation in loss ratio, meaning that its market

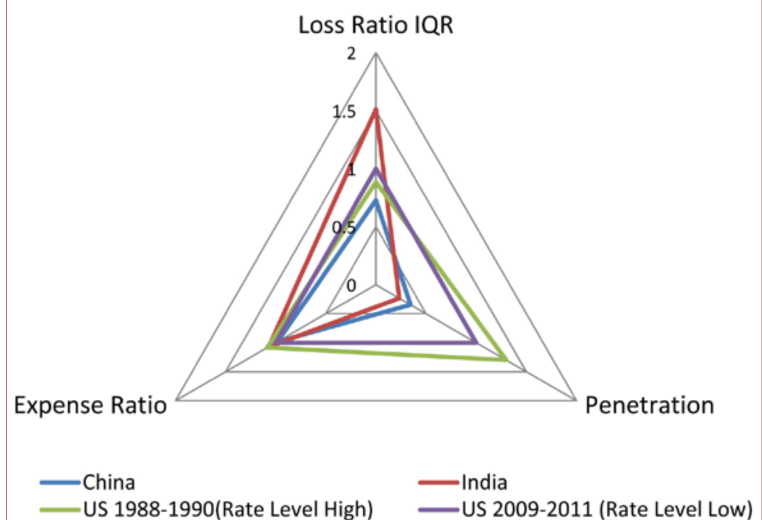
Table 2: Market development metrics								
Year	Number of Companies		Loss Ratio IQR		Expense Ratio		Penetration	
	China	India	China	India	China	India	China	India
2006	33	12	42.33%	21.82%	29.64%	21.47%	0.73%	0.66%
2007	40	14	39.73%	21.23%	29.19%	23.67%	0.78%	0.63%
2008	41	16	30.70%	16.55%	27.88%	26.90%	0.78%	0.59%
2009	47	17	20.29%	16.28%	29.27%	27.00%	0.88%	0.59%
2010	47	19	14.07%	18.66%	26.43%	27.52%	1.00%	0.61%
2011	50	19	15.63%	13.33%	26.31%	24.20%	1.01%	0.65%

still needs time to reach maturity and develop more sophisticated underwriting techniques.

To narrow the gap, China and India need to embrace market competition and further develop non-life penetration. In China, there are new companies engaging in competition every year and this will cause the market to become quite dynamic before it reaches a certain level of development when underperformers will either exit the market or be acquired, as outperformers solidify their market position.

In India, many are still waiting for an opportunity to enter the market. Foreign companies, in particular, are currently limited by a 26% foreign ownership cap that has been in effect since 2000. Increasing non-life insurance penetration will be a long and winding road for both countries, as it will not happen without economic growth and regulatory development, in addition to increased recognition of the importance to risk management.

Figure 2: Market development metrics relative to US 2009-2011



Recognising performance through data efforts: An example

Valuable insights can be gained when we are able to identify the performance of an individual company's certain book of business through data cleaning and data segmentation.

One particularly important non-life product line is motor vehicle insurance, which contributes nearly 60% of non-life premium income in India and 73% in China. The third party liability portion of motor vehicle insurance coverage (motor third party liability insurance, MTPL) has unique underwriting performance because it is mandatory and its ratemaking is subject to tariff.

Table 3: Underwriting summary of motor insurance, China			
Line of Business	Year	Combined Ratio	Rate Level per 1000 Face Value
Motor Vehicle	2010	97.25%	13.72
	2011	96.25%	13.12
	2012	97.69%	11.80
Non-compulsory	2010	90.06%	NA
	2011	88.51%	NA
MTPL	2010	116.30%	NA
	2011	116.49%	NA

However there is no rule regarding separation of business in data reported to insurance regulators or contained in financial statements. But by collecting data from different sources and making reasonable assumptions and adjustments, we are able to slice and dice the data and obtain further segmentation.

For example, we can gather from Table 3 that MTPL in China is operating at a deficit while profits from non-compulsory, including voluntary third party liability coverage and property coverage for the policyholder's vehicle, help turn the entire motor line slightly underwriting profitable. However, as the rate level decreases, it is challenging for insurers to remaining profitable in the non-life industry's largest line of business.

Ms Yisi Lu and Mr Evan Leite work for Risk Lighthouse LLC in Atlanta, US and have worked on this project commissioned by the Insurance Risk and Finance Research Centre (IRFRC).

The IRFRC was established in 2011 to produce research and extend the dialogue on insurance and insurance-related risk in the Asia-Pacific region. The ideas expressed in this article present the views of the named researchers. For more information, please visit www.irfrc.com.