

Foreign Life Insurers in China: Their Entry and Competitiveness

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This paper uses survival analysis to examine the firm-specific factors influencing 104 foreign insurers' decisions to enter the China market from 1998 to 2008. Firm size and the extent of international operations are found to have a significant positive impact on the probability of entry. Wholly life insurance firms from home markets with high insurance penetration ratios, having more product-specific knowledge, are also found to be more likely to enter the Chinese market. However, due to the market restrictions in China, these sources of potential comparative advantage of foreign life insurers do not appear to have enabled them to compete more effectively with domestic firms.

Field of Research: Economics, FDI in Insurance

JEL Codes: G22, C41

1. Introduction

China formally opened up its life insurance sector in 1992 when American International Assurance (AIA) was the first foreign firm to set up a branch in Shanghai. In 1995, the country enacted the first nationwide Insurance Law, which requires a foreign firm in the life insurance sector to operate as a joint venture. In 1996, the Canadian-based Manulife set up China's first joint-venture life insurance firm, *Manulife-Sinochem*, in Shanghai. Under the agreements with World Trade Organization (WTO) for China membership from 2001, a foreign firm can choose its own Chinese partner in a life insurance joint venture, taking a maximum of 50% share of equity. From December 2004, in addition to life insurance products, the joint venture firm can sell group policies, health and pension products, and the restrictions on the location of its branches have also been removed. Prompted by its huge potential, an increasing number of foreign firms have entered this increasingly liberalized and competitive market. Against this background, it will be of both academic and business interests to examine the firm-specific factors facilitating a foreign firm's entry to the Chinese market as they are also the likely sources of potential comparative advantages, contributing to more informed discussions about the role and prospects of foreign life insurers in China.

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More specifically, this paper uses a dynamic econometric framework, survival analysis, to investigate the firm-specific factors which determine when a foreign firm establishes a life insurance joint venture in the Chinese market in the period 1998 to 2008. To the best of our knowledge, no similar empirical studies on the foreign direct investment (FDI) in insurance in China have been undertaken to date. The paper is organised as follows. The relevant literature is first reviewed in Section 2. Given a descriptive account on foreign life insurers in China, the research method and data set for the survival analysis are presented in Section 3. The empirical results are reported and discussed in Section 4. Section 5 concludes the paper.

2. Literature Review

There have been many empirical studies on the FDI in the USA and other banking markets (Goldberg & Saunders 1981, Goldberg & Grosse 1994, Hondroyiannis & Papapetrou 1996). These studies are essentially based on Dunning's (1988) eclectic approach, which highlights the importance of a bank's ownership-specific advantages and the location-specific advantages of the host market. In fact, as an example of the reverse of FDI theory, Allen, Chakraborty and Watanabe (2011) show that capital constraints resulting from the 1990s banking crisis forced Japanese banks to close their overseas branches.

Leung, Rigby and Young (2003), who analyse the (first) entry of foreign banks in China from 1985 to 1996 using the FDI approach, show that foreign banks operating in the Chinese market are likely to be from Asia, large in size and have branches in many countries established from a dynamic entry strategy. Lin (2011) shows that less opaque firms and non-state-owned firms benefit more from foreign bank entry in China. In addition, Xu (2011) provides strong empirical evidence that foreign bank entry is supportive of a more competitive and efficient banking industry in China. The above studies on FDI in banking have provided a theoretical base for the analysis of FDI in insurance, an area which has received less attention in the empirical literature.

The early papers on FDI in insurance have focused on the developed US insurance market.¹ Moshirian (1997) shows that the demand for insurance, the exchange rate, relative rate of return, and the size of the home country's insurance sector were the major determinants of FDI in the US insurance sector. Li and Moshirian (2004) further add that the financial development of the USA has contributed to the expansion of the FDI in insurance in the country. Outreville (2008) provides evidence that location-specific advantages such as size, education, regulatory barriers, competitiveness, and cultural distance were determinants of the internationalization of insurance firms in target markets. Ye et al. (2009) examine a wider set of host market-specific institutional factors including life expectancy, incomes, rule of law and political stability and report that they have significant positive impacts on foreign participation in life insurance markets for 24 OECD countries during the period 1993 to 2000.

In China, Leung and Young (2002) using logit analysis first report that a foreign life insurer with certain attributes viz. large parent assets and operations in Hong Kong is more likely to enter the Chinese market. Yao, Han and Feng (2007) and Chen, Powers and Qiu (2009) both find that foreign life insurers are less efficient than

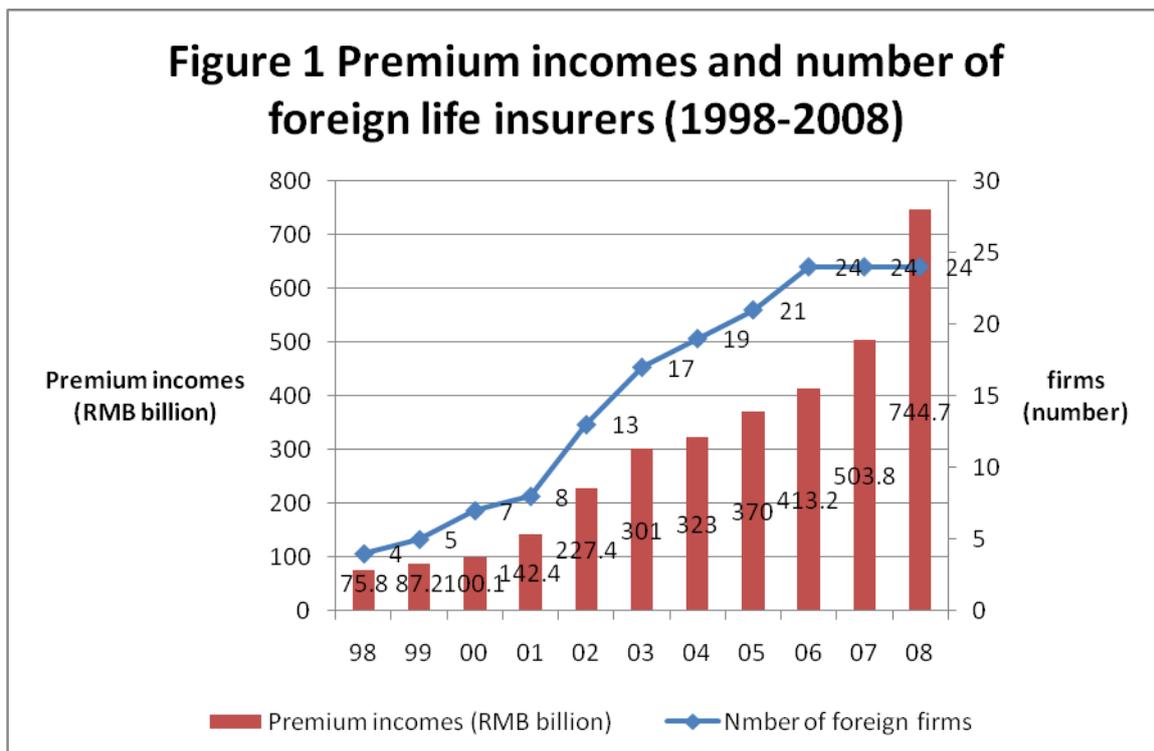
domestic firms. Leverty, Lin and Zhou (2009) observe a structural improvement in efficiency in the Chinese insurance industry after WTO accession, but geographic and product market restrictions placed on foreign firms reduce these positive effects.

Against this background, this paper seeks to enrich the existing literature on the FDI in insurance. More specifically, it will investigate the impacts of firm-specific factors on a foreign insurer's entry to the Chinese market, using the dynamic econometric framework of survival analysis. The findings will provide a base for more informed discussions about why foreign life insurers are less efficient than domestic firms in China, given the former's firm-specific factors or the potential sources of comparative advantage facilitating their entry to the country.

3. Methodology and Data

3.1. Foreign Insurers' Entry to the Chinese Market

Figure 1 shows the life premium incomes (at 1993 price levels) and the number of foreign life insurers in China during the period 1998 to 2008. The real premium incomes are found to have registered an annualized growth rate of 23.1% for the period. It can also be seen that the peaks of entry are clustered in the years in 2002 and 2003, right after China's entry to the WTO in 2001, with the entry of 9 firms, the entry then slowed down from 2006 to 2008.²



Sources: China Insurance Regulatory Commission websites; Yearbook of China's Insurance, various issues.

3.2 Survival Analysis and AFT Model

Foreign firms are expected to possess some firm-specific attributes which would facilitate their entry into China. We first identify what these factors might be and whether they have made significant impacts on a foreign firm's entry decision. For this purpose, we use survival analysis which focuses on the length of time that elapses between the beginning of an event and its end, or until the measurement is taken ("censoring").

The form of survival analysis adopted is the Accelerated Failure Time (AFT) model rather than the somewhat more restrictive Proportional Hazards model. In the AFT model, the explanatory variables speed up or slow down the time to the transition event. Here the duration or the time until entry into China is posited as a function of a set of covariates and an error term. Specifically,

$$\ln t_{ij} = X_j\beta_i + v_{ij} \quad (1)$$

where t_{ij} denotes survival time in state i ($i = 1,2$) at observation j , X_j is a vector of covariates, which in this case comprise specific features of a foreign firm (X_j), β is a vector of coefficients, and v is the error term. In this specification the time scale is changed (either accelerated or decelerated) by a factor of $\exp(-X_j\beta)$. For a continuous random variable T , which measures the length of a spell, the survival function, $S(t) = \Pr(T > t)$, gives the probability that a spell is of length at least t . The hazard function, defined as $h(t) = f(t) / S(t)$, where $f(t)$ denotes the density function, indicates the rate at which spells will be completed at duration t , conditional upon having lasted up to that point.

The choice of distribution for the error term v_j in (1) determines the form of the regression model. The exponential and Weibull models are derived with the extreme-value density, the log-logistic and log-normal models are obtained with the logistic and normal densities respectively, and for the generalized gamma model a three-parameter gamma density is assumed. Unlike the exponential and Weibull models, the log-logistic specification permits non-monotonic hazard rates.

Based on the previous empirical works on FDI in banking and insurance, particularly in the Chinese markets, five insurance covariates explaining the entry decision for the i th foreign firm are proposed as follows:

$Assets_t$	= asset size of the parent company in year t (USD million)
$Forsub_t$	= number of foreign subsidiaries in year t
$Dumlife_t$	= 1, with 100% life insurance business in year t = 0 otherwise.
$Markpen_t$	= (premium incomes/GDP of the firm's home country)% in year t
$Distance_t$	= distance between Shanghai and the firm's location in year t

A priori, first, the larger the asset size, the greater the scale and scope economies, and the informational and reputational advantages a financial institution enjoys (Campbell & Kracaw 1980). Parent size (*Assets*) has been shown to be a significant factor in explaining the FDI in the insurance and banking markets in China (Leung & Young, 2002, Leung, Rigby & Young 2003). Second, having more overseas

insurance subsidiaries (*Forsub*) may help to achieve international diversification of risks, while the accumulation of expertise and staff in international insurance markets may facilitate a firm's venture into the Chinese market.

Third, a foreign firm with 100% business in life insurance (*Dumlife* =1) may be more likely to enter the Chinese market as it has a deeper knowledge of life products. However, it may also be the case that financial groups, composites and other insurance firms may seek to widen the scope of their business activities by exploring the Chinese market. Meanwhile, a firm from a home market with a high penetration ratio (*Markpen*) may be more likely to enter the Chinese market as it may have a better corporate governance system in place, more product knowledge and investment expertise from its more active and developed market (Moshirian 1997). A long physical distance (*Distance*) between Shanghai and the location of a foreign firm may infer a greater difference in culture and this will increase transaction costs in negotiation and monitoring for the business in China. Long distance will tend to discourage the entry of foreign firms into China.

3.3 Data

Time-series firm data of foreign insurance firms have been collected for the period 1998 to 2008 from electronic databases, *Osiris* and *Compustat Global* (Wharton Research Data Services), websites and annual reports of sample companies. 1998 is chosen as the start year when the regulator, China Insurance Regulatory Commission was set up and the legal framework had been put in place. The sample contains 104 insurance companies (19 pure life insurance, 76 composite insurance, 9 others) from 25 countries that have complete records from 1998 to the year of entry or to the final sample date, 2008. The end of the event is the foreign firm's entry as a joint venture. However, as some foreign firms had not entered by the end of the sample period (2008) but may do so at a later date, their information set is truncated, or censored.

Table 1: Distribution of sample foreign insurance firms by geographical origin

<i>Geographical Origin</i>	<i>Total no. of insurance firms</i>	<i>No. of entrants</i>	<i>Proportion of group entering</i>
Asia	37 (35.6)	5	0.135
North America	34 (32.7)	6	0.176
Europe	23 (22.1)	10	0.435
Africa, S.America	10 (9.6)	0	0
Total	104 (100.0)	21	0.20

Percentages are presented in parentheses

Table 1 shows that 35.6% of the sample insurance firms are from Asia, 32.7% from North America, 22.1% from Europe and 9.6% from Africa and South America. The highest proportion of foreign insurance firms entering the Chinese market is those from Europe. Over 43.5% of these firms in the sample had entered China by 2008, compared with 17.6% of the North American insurance firms and 13.5% of those from Asia. No firms from Africa and South America had entered the Chinese market by 2008. Table 2 shows the summary statistics of the insurance covariates used.

Table 2: Summary statistics for covariates relating to entry

Variable	Mean	Std. Dev.	Min.	Max.
<i>Assets (US\$mn)</i>	30400.18	76062.8	5.5	751258
<i>Forsub</i>	1.65	3.53	0	28
<i>Dumlife</i>	0.16	3.69	0	1
<i>Markpen (%)</i>	7.03	3.90	0.62	20.63
<i>Distance (Km)</i>	8232.6	4758.57	678	18887

4. Findings and Discussions

Table 3: Modelling the entry decision

	Log-logistic	Exponential	Weibull	Lognormal	Gamma	Gompertz
LLF	-31.55	-35.66	-33.30	-32.57	-32.65	-34.37
p	1		1	1	2	1
c	5	5	5	5	5	5
AIC	77.10	83.32	80.59	79.14	81.30	82.74

AIC = $-2(LLF) + 2(c+p+1)$ where c = no. of covariates, p = number of auxiliary parameters.

Six versions of the AFT model were estimated, each incorporating the full set of potential explanatory variables. Table 3 shows that the log-logistic model recorded the lowest value of the LLF and also offered the best overall fit in terms of the Akaike information criterion (AIC). In fact, as the number of firms entering reached a peak in the two years after China joined the WTO and then slowly declined, it is unsurprising that a model such as the log-logistic, which permits non-monotonic hazard rates (Gupta, Akman & Lvin 1999), is preferred.

Table 4: Results of the log-logistic model

	Coefficient(β)	Z
<i>Assets (US\$mn)</i>	-3.27e-06*	-2.06
<i>Forsub</i>	-0.13895**	-3.04
<i>Dumlife</i>	-1.21954**	-4.90
<i>Markpen (%)</i>	-0.07211**	-2.32
<i>Distance (Km)</i>	0.00008	1.91
<i>_constant</i>	4.28291	8.19
γ	.42474	
LLF	-31.55020	
No. of firms = 104		

Notes: **- significant at 1% level, * - significant at 5% level

Table 4 shows the results of the best fitted log-logistic model. It can be seen that the length of spell is significantly related to *Forsub*, *Dumlife* and *Markpen* (at 1%

level of significance) and to *Assets* (at the 5% level). They all have a positive influence on the conditional probability of entering the PRC market, so reducing the expected time to entry.

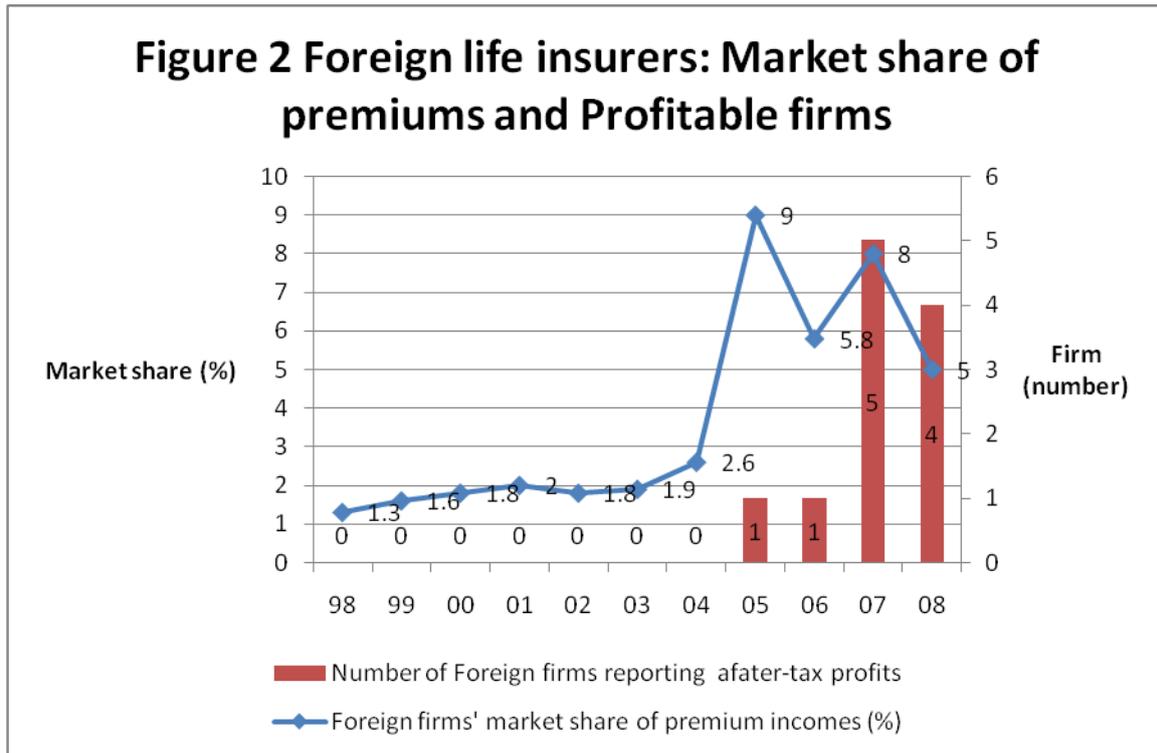
A foreign firm with only life premium incomes (*Dumlife* =1) will take a shorter time to enter the Chinese market. As already noted, this may reflect these firms' greater understanding of the life insurance market and the opportunities which China offers, whereas composite or other non-life insurance firms may be more reluctant to diversify their risks and engage in life insurance operations in China, possibly due to the restrictions in that market.

Similarly, a foreign firm with a larger size (*Assets*), more foreign subsidiaries (*Forsub*), and from a home market with a high penetration ratio (*Markpen*) will also take a shorter time to enter the Chinese market. This suggests that such firms are taking advantage of the benefits of scale economies, their experiences in different insurance markets abroad, better corporate governance system and product innovations in their home market. On the other hand, a long physical distance (*Distance*) between a foreign firm and the new market will delay the firm in starting its life operations in China but this factor is not statistically significant.

These specific attributes of foreign firms which significantly influence their entry are also like to be the sources of their potential comparative advantage over domestic firms, as Chinese firms tend to be smaller, less internationalized and less well governed. Figure 2 however shows that despite the steady increase in number of foreign life insurers in China, their market shares in terms of premium incomes during the period 1998 to 2008 have been kept at an average share of 3.7%. In fact, after a long break-even period of more than 10 years, only one foreign life insurer, AIA, started to make after-tax profits on a consolidated basis from 2005. The number of profitable foreign life insurers has then increased to 4 in 2008. Yao, Han and Feng (2007) and Chen, Powers and Qiu (2009) both report that foreign insurance firms, despite their presumed comparative advantages in corporate governance and investment expertise, have lower technical and scale efficiency levels than domestic firms due to the restricted market conditions in China.

Foreign firms have been facing tough competition from the five big nationwide Chinese firms (China Life, Ping An, China Pacific, Taikang, and New China) which together have more than 80% market shares by assets and premium incomes and dominate the distribution channels, resulting in a concentrated market with a relatively simple product structure. There have also been administrative obstacles to the launch of new products and branch expansion.³ With foreign exchange control in place, all insurance firms in China essentially have to invest in domestic financial markets in which foreign firms will not have superior knowledge and expertise. Furthermore, with almost equal equity holdings by the Chinese and foreign partner, they can easily become embroiled in conflicts over management style and business practices.⁴ In fact, some foreign partners have chosen to withdraw or reduce their equity holding in their joint-ventures. In December 2009, Hancock Tianan Life converted to a Chinese insurance firm, after the foreign partner Hancock sold equities to four Chinese companies, and was re-named Tianan Life. In July 2010, Sun Life Everbright also became a Chinese company

when Sun Life reduced its holdings from 49% to 24.99% and became the second largest single shareholder after the capital expansion.



Sources: Yearbook of China’s Insurance, various issues.

5. Conclusions

This paper has sought to enrich the literature on FDI with a study of an under-researched but topical area, namely the life insurance market in China. Prompted by its large market potential, an increasing number of foreign firms have entered the Chinese life insurance market over the period 1998 to 2008. This study, using the dynamic econometric framework of survival analysis, verifies that firm-specific factors such as size, the extent of international operations, concentration on life insurance, and home markets with wide life insurance penetration are found to have significant positive effects on the likelihood of early entry. in the specific

These robust findings are consistent with both *a priori* reasoning and the results of earlier empirical studies on FDI in insurance and banking, particularly those in the Chinese markets. The positive effect of asset size on the probability of entry may highlight the importance of economies of scale and scope, informational and reputational advantages which larger insurance firms enjoy and their ability to bear the costs and risks of early entry. Size accompanied by brand name and reputation are also important for gaining the trust of customers of an insurance company. As foreign firms establish more overseas insurance subsidiaries, this also serves to diversify risk and moreover fosters expertise in international insurance services. With its focus and knowledge in life insurance products, a pure life insurance firm from a home market with a high insurance penetration ratio is also expected to be more competitive in the Chinese market. These firm-specific factors or advantages however have not allowed the foreign life insurer to compete more effectively with

domestic firms. This may be reflected in the relatively small market share and long pay-back periods of foreign life insurers, which in turn can be attributed to the restrictions on products and branch establishment for foreign firms, the oligopoly structure of Chinese life insurance sector, the inherent conflicts between Chinese and foreign partners, and the foreign exchange control in China. The present study could benefit from an expanded dataset on foreign firms when this becomes available. Future research could investigate how those firm-specific attributes significantly facilitating a host market entry, and other factors, such as the evolving equity relationship between Chinese and foreign partners in life insurance joint ventures, and cooperation between banks and life insurance firms in developing the bancassurance products, would affect their performance and integration into the domestic life insurance market in China.

Endnotes

¹ This may be due to the fact that a great number of insurance firms are wholly-owned subsidiaries of financial groups and do not have independent account statements.

¹ The number of entrants has excluded the AIA branches in Shenzhen (1999), Suzhou (2002) and Beijing (2002) as AIA already entered Shanghai market in 1992. All branch operations of AIA were consolidated and reported as a single firm.

¹ Foreign firms have experienced longer delays in getting the approval for opening branches whereas Chinese firms would be able to get multiple branch approvals within a short period of time (PricewaterhouseCoopers 2010).

¹ It is interesting to note that Chinese banks with foreign strategic investors with total equity less than 25% are more efficient than state-owned banks (Berger, Hasan & Zhou 2009).

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