Financial Services Forum Publications

Financial Services Forum

11-2006

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Financial Services Forum
College of Management
University of Massachusetts Boston

November 2006

Working Paper 1013

COLLEGE OF Management
UMASS BOSTON

Financial Services Forum

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Introduction

The pace of demutualization among major U.S. life insurance companies increased sharply after the mid-1990s. Five of the fifteen largest U.S. life insurers demutualized between 1997 and 2001, and the largest, Metropolitan Life Insurance Company, demutualized in 2000. Ten other major life insurance companies, with total assets in 2003 of $775 billion, demutualized over the same time period. The regulatory and competitive environment in the life insurance industry has changed dramatically in recent years. These changes include: (1) the fact that consumers have shown declining interest in the traditional life insurance products of risk bearing and transfer, while revenues from the wealth management and annuity business have offered new growth opportunities; (2) deregulation of the financial services industry, culminating in passage of the Gramm-Leach-Bliley Act in 1999, which demolished the traditional barriers between commercial banking, insurance, and investment banking; (3) changes in the Internal Revenue Code that eliminated the tax advantages of a mutual insurer; and finally, (4) increasing interest shown by foreign life insurance companies in the U.S. market. Demutualization has been undertaken by many mutual life insurance companies as a strategic response to deal with these numerous changes in the financial services market. This study focuses on the long-run performance of life insurance IPOs issued pursuant to demutualization and compares the performance of these IPOs to the performance of several market indexes.

The Process of Demutualization via IPO

Demutualization is the process of converting a mutual life insurance company, which is owned by its policyholders, into a publicly traded stock company owned by shareholders, pursuant to a plan of conversion approved by policyholders and state regulators.

There are two categories of demutualization: partial and full demutualization. Partial demutualization, commonly called the Iowa method, is accomplished by the formation of a mutual holding company (MHC) which owns at least 50.1% of a newly formed subsidiary stock insurance company. In the Iowa method, policyholder interests are automatically converted into membership interests in the MHC, while the policy contracts are transferred to the stock subsidiary. Policyholders do not receive any distribution of accumulated surplus. Policyholders, regulators and investors generally have not been satisfied with this method of conversion since policyholders lose control of the operating subsidiary and management is not accountable to investors and the capital markets.

A full demutualization can be accomplished in one of two ways – (1) the subscription method (commonly called the Illinois/Pennsylvania method), or (2) the New York method,

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whereby surplus is fully transferred to policyholders. In the Illinois/Pennsylvania method, non-transferable subscription rights are given to the policyholders. These subscription rights allow the policyholders to make cash purchases of stock in the company, but policyholders do not get any compensation from the company in either cash or stock. These rights to purchases are perishable and have no market value. This method does not deplete surplus and allows for accessing cash resources from the existing policyholders. However, this method is controversial and may invite policyholder lawsuits. Only a few states have statutes requiring this method of conversion.

The New York method of full demutualization, the method of conversion required in most states, is where the policyholders receive stock, cash and/or policy credits for their ownership rights in the mutual organization. This method of conversion has been the most widely used in the recent past.

As an example of full demutualization using the New York method, the Prudential Insurance Company, which demutualized in 2001, created and then distributed 454.6 million shares directly to policyholders. In addition, it sold 110 million shares to the public at $27.50 per share. Part of the $3 billion in proceeds was paid to cash-out small policyholders and to other policyholders choosing not to receive shares of stock in the new company.

This study analyzes the stock market performance of IPOs of life insurers which have gone through full demutualization using the New York method. There are several reasons for choosing this population for study: First, under the New York method of demutualization, accumulated surplus is fully transferred to the policyholders through the creation of new, marketable securities. Second, other methods of demutualization are controversial and litigious, and have not received widespread regulatory approval. Finally, in the New York method of full demutualization, management does become accountable to shareholders and the financial markets, and this does not happen in the other methods of demutualization.

Previous Literature

This section firstly reviews the literature regarding performance of IPOs in general. And then, we discuss the performance associated with the different forms of corporate governance in the insurance industry.

Previous Research on IPOs. It is a well-established phenomenon (Ritter and Welch 2002) that IPOs are characterized by three definite patterns: (1) short-run underpricing, (2) hot issue markets, meaning that sometimes IPOs are very hot and therefore outperform the market in the short-run, and (3) long-run underperformance of IPOs compared with market and industry benchmarks. This latter finding generally holds true in the U.S. and across the international financial markets.

The reasons for long-run underperformance of IPOs have been the subject of considerable research by several authors. The various reasons set forth are: constraints on shorting IPOs and the presence of heterogeneous expectations (Miller 1977; Gao, Mao and Zhong 2006), high-volume waves of IPOs saturating the markets (Schultz 2001), institutional flipping (Kraigman, et. al. 1999), optimistic accounting in the early life of the firm (Teoh, Welch and Wong 1998), and over-confidence of the entrepreneurs and investors in the early stages of the firms (Bermado and Welch 2001; Daniel, Hershleifer and Subrahmanyam 1998).

However, IPOs in some industries and in some cases have provided excess returns over the long-run. For example REITS (Buttimer, Hyland and Sander 2005) and banks in India (Gosh 2005) have provided excess returns. Also, Fernando, Krishnamurthy and Spindt (2004), find a positive signaling effect of share-price level on long-run performance.

It is worth noting that Jain and Kinnai (1994), and Mikkelson, Partch and Shah (1997), find evidence that IPO long-run underperformance is associated with poor financial accounting/operating performance. Also, Chemmanur and Paeglis (2005) set forth evidence that management quality is associated with positive long-run performance. Finally, an aggressive change in management strategy, resulting in measurable improvement in key indicators of operating performance, can result in superior long-run performance (Gosh 2005).

Previous Research on Governance in the Insurance Industry. Most of the previous research has focused on accounting and operating performance in the insurance industry rather than IPO and stock performance. Boose (1990) and Cummins (1999) find that stock life insurance companies demonstrate greater efficiency in operations than mutual insurers. Similarly, demutualized life insurance firms have demonstrated cost efficiency gains when contrasted with their prior operations as mutuals (McNamara and Rhee 1992).

The above studies, in general, have tended to focus on accounting performance and have used older time periods. Additionally, these studies do not distinguish between full and partial demutualizations. Other studies regarding characteristics of demutualizing firms use mixed samples of life and non-life insurance companies (Viswanathan and Cummins 2003).

Meador and Chugh (2006) examine pre- and post-IPO strategic and operating performance of life insurance companies, using a recent time period, and a sample of firms which have gone through full demutualization using the New York Method. They find that the newly stockicized firms implemented thoroughgoing and widespread changes in strategy after demutualization. The new strategy emphasized higher growth, greater cost effectiveness, higher risk in asset management, and a shift in product mix towards wealth and pension funds management businesses and away from traditional life insurance products, resulting in consistently higher rates of profitability.

Sample and Methodology

This paper examines major life insurance firms that have recently demutualized and compares their post-IPO stock performance to the returns of several market indexes. The study identifies eleven dominant U.S. and Canadian life insurance companies that demutualized via IPO between 1997 and 2001. These firms have about 20 percent of the U.S. life insurance revenue market. The names of these companies and their corresponding year of IPO are described in Exhibit 1.

We calculate three-year compounded annual rates of return for each company's stock price, starting from the closing price on the first day of issue. Computations are not based on the offer price; in this way, most of the one-day underpricing that typically exists in IPOs is eliminated. Correspondingly, three-year compounded annual rates of return for various market indexes—S&P 500 index, DJIA and the NASDAQ 75-company Insurance Index—have been calculated.

The study also computes long-run risk adjusted rates of return for the life insurance IPOs and market indexes using the Sharpe and Sortino ratios, as described below. The Sharpe ratio, the standard measure of risk-adjusted performance (Sharpe 1966), computes the excess returns over the risk free rate for the sample period, normalized by the standard deviation of each company for that period. The Sortino ratio, on the other hand, uses only the deviations below the required minimum acceptable rate of return (RMAR), as opposed to the total series standard deviation used in the Sharpe ratio, and thus is a more stringent measure of risk adjusted performance. It calculates riskiness of returns lower than a required minimum acceptable rate of return (RMAR) and does not incorporate returns above the RMAR.

As each company has its own date/month of demutualization, therefore each company has a unique set of 36-months' data and a corresponding set of risk-free rates of return, and a set of rates of return for the market indexes.

The Sharpe ratio is calculated as follows:

$$\text{Sharpe ratio} = R_i - R_i / \sigma_i \qquad \textit{(Equation 1)}$$

where R_i = is the average monthly return (36 observations) on the stock price for company i,
$\quad R_f$ is the average 30-day T-bill rate for each corresponding month,
$\quad \sigma_i$ is the standard deviation of the series of monthly company returns.

The Sortino Ratio (Sortino and Forsey 1996) is calculated as follows:

$$\text{Sortino Ratio} = (\text{Compound Period Return} - \text{RMAR}) \div \text{DDMAR} \qquad \textit{(Equation 2)}$$

$$\text{DDMAR} = [\,(S(L_I)^2) \div N\,]^{1/2}$$

Where $L = (R_I - \text{RMAR})$ [if $R_I - \text{RMAR} < 0$] or 0 [if $R_I - \text{RMAR} \geq 0$]
$\quad R_I$ = Return for period I
$\quad N$ = Number of Periods
$\quad \text{RMAR}$ = Require Minimum Acceptable Rate of Return
$\quad \text{DDMAR}$ = Downside Semi-Deviation

The RMAR, or required minimum acceptable rate of return, is set at zero in our study. This standard is considered the most relevant, as life insurance policyholders who become shareholders are likely to be highly risk averse, intolerant of negative returns and more interested in the preservation of principal, rather than maximization of returns.

Discussion of Results

Contrary to a well-established body of literature regarding long-run underperformance of IPOs and portfolios of IPOs, our results demonstrate that there have been superior long-run performance of the IPOs of demutualizing life insurance companies. The results are reported in exhibits two through five in two parts: stock price performance and risk-adjusted returns.

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Stock price performance. The study finds that ten of the eleven life insurance IPOs had positive, three-year, compounded annual rates of return, as shown in Exhibit 2. In contrast, the DJIA had six cases of negative returns, and the S&P 500 Index had seven reported cases of negative returns for the corresponding time periods. Secondly, the equally weighted portfolio of the IPO stocks of these firms demonstrated substantial excess returns over the indexes (Exhibit 3). This portfolio had a 144 percent average annual return in excess of DJIA and a 176 percent average annual return over the S&P 500 index. At the same time, this portfolio had average annual excess returns of 35 percent above the industry benchmark, the NASDAQ Insurance Company Index. Thirdly, these excess returns are widespread: nine of the eleven demutualized firms outperformed the S&P 500 Index and eight exceeded the returns of the Dow Jones Industrial Average. Moreover, six of the eleven bested the returns of the industry benchmark, the NASDAQ Insurance Company Index.

Risk-adjusted returns. The study finds that the life insurance IPOs also earned consistently higher risk-adjusted rates of return. First, as reported in Exhibit 4, nine of the eleven life insurance companies had higher Sharpe ratios (Equation 1) than the Sharpe measures for the S&P 500 Index. (Parametric tests of significance for the Sharpe and Sortino ratios do not exist, as was also noted by the anonymous reviewer.) Also, seven of the IPOs had higher Sharpe ratios than those for the NASDAQ Insurance Index. Secondly, as reported in Exhibit 5, nine firms had higher Sortino ratios (Equation 2) than the similar ratios for the S&P 500 Index. Similarly, seven IPOs had higher Sortino ratios than the Sortino ratios of the NASDAQ Insurance Index. Thirdly, the average risk-adjusted returns on equally weighted portfolios of life insurance IPOs exceeded the returns of the S&P 500 Index and the NASDAQ Insurance Company Index, as measured by both the Sharpe and the Sortino ratios (Exhibits 4 and 5).

Summary and Conclusion

The literature documents the general long-run underperformance of IPOs and the reasons for this phenomenon. These reasons are noted above in the literature review section of this paper. It is also documented that IPO underperformance generally is associated with poor financial/operating performance. In contrast, our study demonstrates that the IPOs of life insurance firms using the New York method of full demutualization achieved superior long-run returns, compared with the various market indexes. Similarly risk adjusted returns of these IPOs outperformed those of the market indexes as measured by both the Sharpe and Sortino ratios. This superior performance was widespread and consistent amongst the sample companies. The authors of this paper believe that reasons for the superior performance of these IPOs may be due to changes in strategies related to product composition, markets and operations. A paper by Meador and Chugh (2006), which investigates the pre- and post-IPO operating performance and strategies of demutualizing life insurance companies, finds that the newly stockicized companies achieved gains in cost efficiency and higher profitability. The growth rates of such companies were higher. The companies shifted product focus toward wealth and pension fund management and away from traditional life insurance products. The management of such companies also was willing to take higher risks in asset and debt management. The authors believe, and this is

supported by their conversations with industry executives, that the management in the stockicized life insurance firms becomes more accountable to stockholders and strives for higher stock prices, forsaking past patterns of the expense preference behavior associated with mutuals. The stock form of organization also enhances transparency of operations and adds to the option value of the stock by enabling these firms to engage in follow-on mergers and acquisitions.

Exhibit 1
Companies Included in the Study and Their Year of IPO

Company Name	Year of IPO	Company Name	Year of IPO
AmerUS Life Insurance Company	1997	Phoenix Life Insurance Company	2001
Canada Life Assurance Company	1999	Principal Life Insurance Company	1998
John Hancock Life Insurance Company	2000	Prudential Insurance Company of America	2000
Manufacturers Life Insurance Company	1999	Standard Insurance Company	1999
Metropolitan Life Insurance Company	2000	Sun Life Assurance Company of Canada	2000
MONY Life Insurance Company	1998		

Exhibit 2
Compound Annual Rates of Return Post-Demutualization

Company Name	Month and Year of IPO	Company Returns	Dow Jones Industrial Average	S&P 500 Index	NASDAQ Insurance Company Index
AmerUS	January 1997	6.58	19.06	23.07	9.46
Canada Life	December 2001	3.18	2.37	1.82	12.62
John Hancock	January 2000	16.5	-9.71	-15.00	8.43
Manufacturer's Life	September 1999	21.03	-9.78	-14.02	3.00
Metropolitan	June 2000	10.53	-4.90	-12.50	13.05
MONY	November 1998	0.41	2.62	-0.70	10.42
Phoenix	June 2001	-13.00	-0.21	-2.33	10.46
Principal	October 2001	18.82	3.38	2.19	10.62
Prudential	December 2001	18.31	2.47	1.82	12.61
Standard Insurance	April 1999	34.46	-2.67	-6.05	6.46
Sun Life	March 2000	20.21	-9.89	-17.28	4.92

Exhibit 3
Compound Annual Excess Rates of Return

Company Name	Excess Returns over DJIA	Excess Returns over S&P 500 Index	Excess Returns over NASDAQ Insurance Company Index
AmerUS	-12.48	-16.49	-2.88
Canada Life	0.81	1.36	-9.44
John Hancock	26.21	31.50	8.07
Manufacturer's Life	30.81	35.05	18.03
Metropolitan	15.43	23.03	-2.52
MONY	-2.21	1.11	-10.01
Phoenix	-12.79	-10.67	-23.46
Principal	15.44	16.63	8.20
Prudential	15.84	16.49	5.70
Standard Insurance	37.13	40.51	28.00
Sun Life	30.10	37.49	15.29
Total Excess Return	**144.29**	**176.01**	**34.98**

Exhibit 4
Risk-adjusted Measures of Performance:
Sharpe Ratio

Company Name	Company Sharpe Ratio	S&P 500 Sharpe Ratio	NASDAQ Insurance Company Index —Sharpe Ratio
AmerUS	0.009	0.268	0.056
Canada Life	0.220	-0.280	0.106
John Hancock	0.156	-0.277	0.106
Manufacturer's Life	0.179	-0.272	0.007
Metropolitan	0.114	-0.223	0.215
MONY	0.011	-0.066	0.107
Phoenix	-0.062	-0.043	0.238
Principal	0.308	0.037	0.245
Prudential	0.307	0.030	0.281
Standard Insurance	0.306	-0.172	0.057
Sun Life	0.170	-0.337	0.052
Average	0.156	-0.121	0.134

Exhibit 5
Sortino (semi-deviation) Risk-adjusted Measures of Performance:
RMAR Equals 0

Company Name	Company Ratio	S&P Ratio	Insurance Index Ratio
AmerUS	0.095	0.614	0.229
Canada Life	0.779	-0.361	0.330
John Hancock	0.437	-0.361	0.330
Manufacturer's Life	0.514	-0.332	0.141
Metropolitan	0.292	-0.283	0.509
MONY	0.086	0.023	0.393
Phoenix	-0.081	-0.028	0.532
Principal	0.651	0.100	0.528
Prudential	0.700	0.088	0.619
Standard Insurance	0.703	-0.172	0.254
Sun Life	0.410	-0.431	0.207
Average	**0.417**	**-0.104**	**0.370**

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