

فراخوان ترجمه کتاب

پژوهشکده بیمه، به منظور کمک به گسترش دانش بیمه‌ای، ترجمه کتاب

Financial Economics of Insurance

را در دستور کار خود قرار داده است. لذا از کلیه اساتید، پژوهشگران، صاحب‌نظران و کارشناسان دعوت می‌شود که در صورت تمایل به ترجمه کتاب مذکور، کاربرگ درخواست ترجمه پیوست را به همراه سوابق علمی و اجرایی خود و ترجمه صفحات ذکر شده با ذکر عنوان کتاب، حداکثر تا تاریخ ۱۴۰۲/۰۸/۰۸ به آدرس ایمیل nashr@irc.ac.ir ارسال فرمایند.



ضریب	امتیازات	معیارهای ارزیابی
۱	میانگین امتیاز ۲ داور (حداکثر ۱۰)	کیفیت ترجمه
۰.۲	سوابق علمی مرتبط با موضوع کتاب: دکترا ۱۰ - ارشد ۸ - کارشناسی ۶ سوابق علمی غیرمرتبط: دکترا ۴ - ارشد ۳ - کارشناسی ۲	سوابق علمی
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کاربرگ درخواست ترجمه کتاب

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شغل و سمت فعلی	
مرتبۀ علمی (ویژه اعضای هیات علمی)	
آخرین مدرک تحصیلی و رشته	
آدرس	
شماره تماس ثابت	
شماره تماس همراه	
پست الکترونیک	

ب - سابقه تألیف/ترجمه (حداقل ۳ عنوان از آثار خود را اعلام بفرمائید)

ردیف	عنوان کتاب/ترجمه	سال انتشار	ناشر

ج - سابقه اجرایی

ردیف	محل خدمت	مدت زمان خدمت

3

Insurance Pricing

IN SECTION 3.1, we start with evidence on the extraordinary pricing of fixed annuities and life insurance during the global financial crisis. Insurers reduced the prices of term annuities, life annuities, and guaranteed universal life insurance from November 2008 to February 2009, when falling interest rates implied that they should have instead raised prices. The average markup, relative to the actuarial value, was -16% for 30-year term annuities and -19% for life annuities at age 60. Similarly, the average markup was -57% for guaranteed universal life insurance at age 30. In the cross section of policies, pricing was lower for policies with looser statutory reserve requirements. In the cross section of insurers, pricing was lower for insurers that suffered larger balance sheet shocks.

This extraordinary pricing behavior is a consequence of two unusual circumstances. First, as we discuss in Chapter 2, the global financial crisis had an adverse impact on insurers' balance sheets, especially insurers with variable annuity liabilities. Second, as we discuss in Section 3.2, statutory reserve regulation allowed insurers to record far less than a dollar of reserve per dollar of economic liability around December 2008. Thus, insurers could generate accounting profits by selling policies at a price far below actuarial value as long as that price was above the reserve value.

In Section 3.3, we extend the insurance pricing model in Section 1.5 to multiple types of policies with different statutory reserve requirements. The model explains the extraordinary pricing behavior during the global financial crisis. In the cross section of policies, the model predicts lower pricing for policies with looser statutory reserve requirements. In the cross section of insurers, the model predicts lower pricing for insurers that are more constrained.

In Section 3.4, we use the insurance pricing model to estimate the marginal cost of capital for the cross section of insurers. Relative to other industries, life insurance presents a unique opportunity to identify the marginal cost of capital for two reasons. First, we can accurately estimate the frictionless marginal cost of fixed annuities and life insurance as the actuarial value. Second, statutory reserve regulation specifies a constant discount rate for reserve valuation, regardless of the maturity of the policy. This mechanical rule generates exogenous variation in required reserves across policies of different maturities, which acts as relative shifts in the supply curve that are plausibly exogenous.

In Section 3.5, we find that the holding companies that are parents of the insurers in our sample appear constrained during the global financial crisis. These holding companies applied for government assistance, issued public equity, or suspended dividends. Thus, capital injections from these holding companies to their subsidiaries could have been limited by frictions in external capital markets.

3.1 Annuity and Life Insurance Prices

3.1.1 Summary Statistics

As we discuss in Section 1.3.2, the data on term and life annuity prices are from the WebAnnuities Insurance Agency, and the data on life insurance premiums are from Compulife Software. These data sources draw from the larger insurers in the industry with an A.M. Best rating of A– or higher and agency- or broker-based marketing (instead of direct sales). In 2011, our sample covers 47 of 275 insurers with an A.M. Best rating of A– or higher and agency- or broker-based marketing. These insurers represented 61% of the immediate annuity market and 42% of the life insurance market (Kojien and Yogo, 2015, table 1).

Table 3.1 summarizes the data on annuity and life insurance prices. We have 870 semiannual observations on 10-year term annuities from January 1989 to July 2011. The markup, defined as the percent deviation of the quoted price from the actuarial value, has a mean of 7.0% and a median of 7.2%. We can rule out adverse selection as a source of this markup because term annuities are essentially straight bonds. Instead, the markup must arise from market power, financial frictions, or marketing and administrative costs. The price of 10-year term annuities varies significantly across insurers, summarized by a standard deviation of 4.2%.

We have 13,675 monthly observations on life annuities from January 1989 to July 2011. The average markup is 7.9% with a standard deviation of 7.6%. Although the average markup is high, the large price dispersion means that the cheapest annuities are better than actuarially fair. Therefore, the high average markup does not necessarily justify a low participation rate for life annuities (Friedman and Warshawsky, 1990). The puzzle is rather that many policyholders do not buy cheaper annuities, similar to the puzzle that demand across S&P 500 index funds is only weakly correlated with the fee (Hortaçsu and Syverson, 2004).

The pricing data on life annuities with guarantees are available from May 1998. For 10-year guaranteed annuities, the average markup is 4.2% with a standard deviation of 6.7%. For 20-year guaranteed annuities, the average markup is 4.5% with a standard deviation of 6.5%.

We have 31,226 monthly observations on guaranteed universal life insurance from January 2005 to July 2011. The average markup is -5.8% with a standard deviation of 16.0%. The negative average markup does not mean that insurers lose money on these policies. With a constant premium and a rising mortality rate, policyholders are essentially prepaying for coverage later in life. When a life insurance policy is lapsed after the acquisition costs have been recovered, the insurer earns a windfall profit because the present value of the remaining premiums is typically less than the present value of the future death benefit. Since there is currently no agreed-upon standard for lapsation pricing, our calculation of the actuarial value does not account for lapsation. We are not especially concerned that the average markup might be slightly mismeasured because our analysis focuses on the variation in markups over time and across policies of different maturities.

3.1.2 Pricing during the Global Financial Crisis

Figure 3.1 shows the average markup on term annuities at various maturities, averaged across insurers and reported with a 95% confidence interval. The average markup usually varies between 0% and 10%, except around November 2008. The time variation in the average markup implies that insurers do not change annuity prices to perfectly offset interest rate movements (Charupat, Kamstra, and Milevsky, 2012).

For 30-year term annuities, the average markup fell to an extraordinary -15.7% in November 2008. Much of this large negative markup arises from price reductions for term annuities from May 2007 to November 2008, as

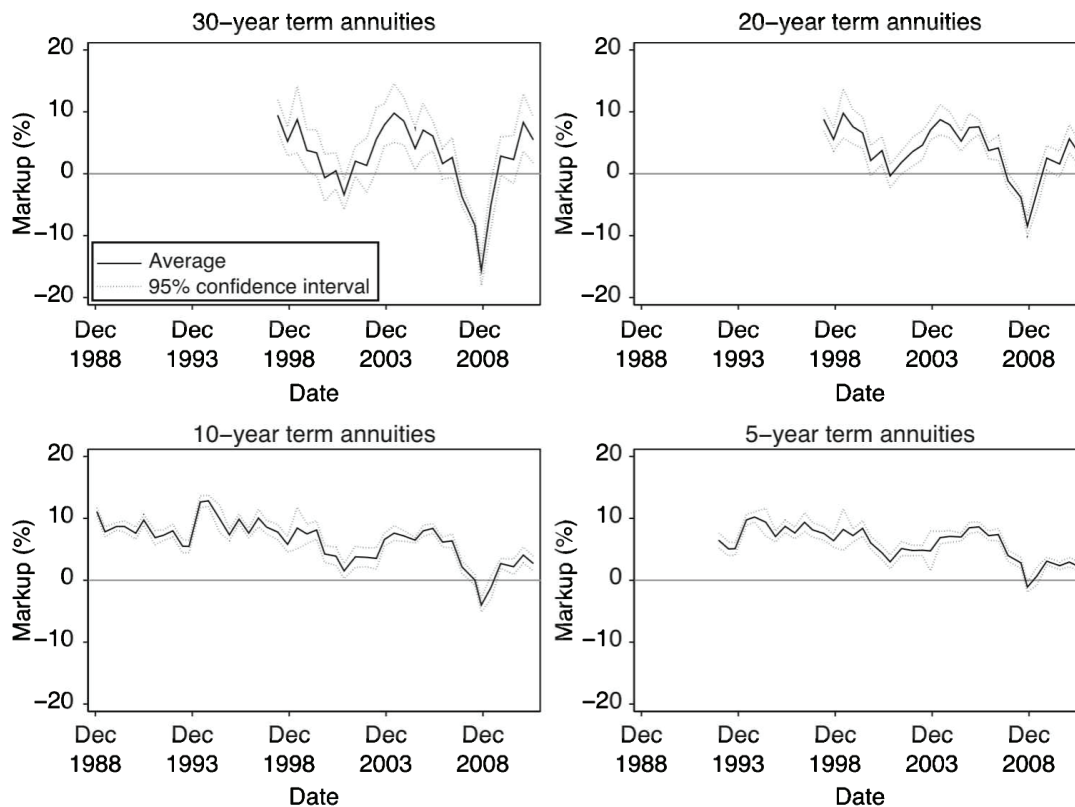


FIGURE 3.1. Average Markup on Term Annuities. Copyright American Economic Association; reprint of Kojien and Yogo (2015, figure 1) with permission. The markup is defined as the percent deviation of the quoted price from the actuarial value. The actuarial value is based on the zero-coupon Treasury yield curve. The sample covers insurers with an A.M. Best rating of A– or higher from January 1989 to July 2011.

we discuss below. In November 2008, the magnitude of the average markup is monotonically related to the maturity of the term annuity. The average markup was -8.5% for 20-year, -4.0% for 10-year, and -1.1% for 5-year term annuities. Excluding the extraordinary period around November 2008, the average markup was negative for 30-year term annuities only twice before in our semiannual sample (in October 2000 and October 2001).

Figure 3.2 shows the average markup on life annuities for males at various ages. Our findings are similar to those for term annuities. For life annuities at age 60, the average markup fell to an extraordinary -19.0% in December 2008. The magnitude of the average markup is monotonically related to age, which is negatively related to the effective maturity. The average markup on life annuities was -14.7% at age 65, -10.3% at age 70, and -5.7% at age 75.

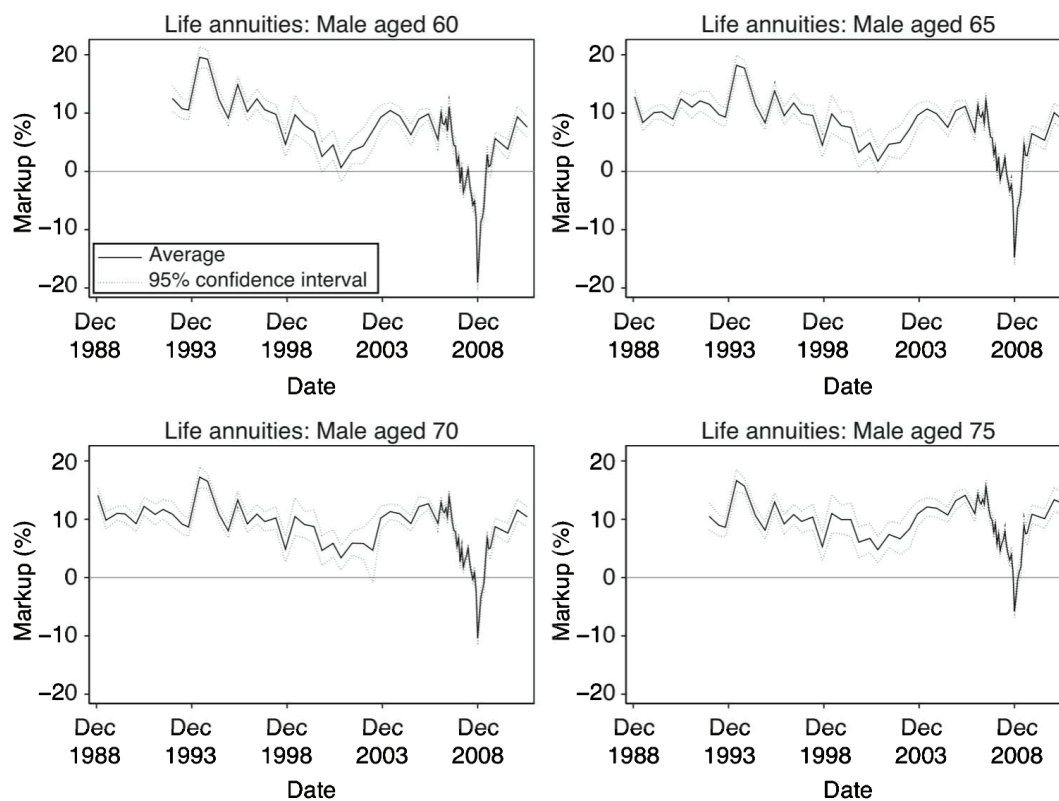


FIGURE 3.2. Average Markup on Life Annuities. Copyright American Economic Association; reprint of Kojien and Yogo (2015, figure 2) with permission. The markup is defined as the percent deviation of the quoted price from the actuarial value. The actuarial value is based on the appropriate basic mortality table from the American Society of Actuaries and the zero-coupon Treasury yield curve. The sample covers insurers with an A.M. Best rating of A– or higher from January 1989 to July 2011.

Figure 3.3 shows the average markup on guaranteed universal life insurance for males at various ages. Our findings are similar to those for term and life annuities. For guaranteed universal life insurance at age 30, the average markup fell to an extraordinary -57.0% in December 2008. The magnitude of the average markup is monotonically related to age. The average markup on guaranteed universal life insurance was -50.2% at age 40, -42.1% at age 50, and -27.5% at age 60.

Figure 3.4 shows the cross-sectional relation between changes in annuity prices from May 2007 to November 2008 and four measures of balance sheet shocks at fiscal year-end 2008. The figure reveals two important facts. First, most insurers reduced prices during this period, which is remarkable given that falling interest rates implied rising actuarial values. Second, the price

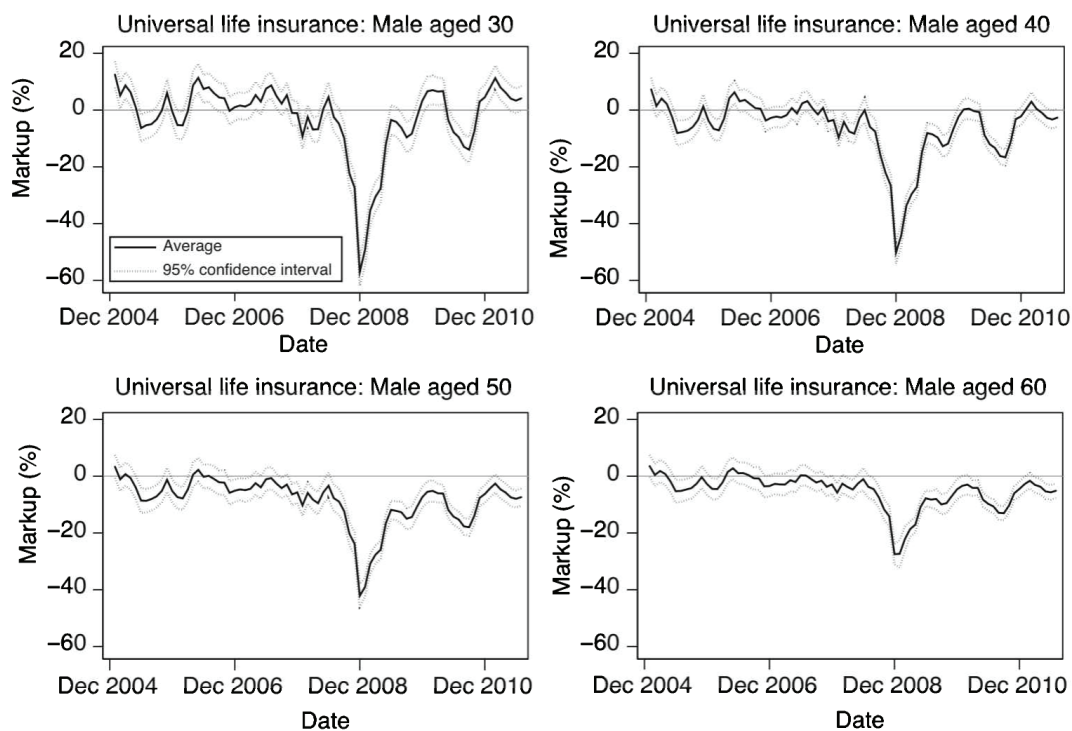


FIGURE 3.3. Average Markup on Life Insurance. Copyright American Economic Association; reprint of Kojien and Yogo (2015, figure 3) with permission. The markup is defined as the percent deviation of the quoted price from the actuarial value. The actuarial value is based on the appropriate basic mortality table from the American Society of Actuaries and the zero-coupon Treasury yield curve. The monthly sample covers insurers with an A.M. Best rating of A– or higher from January 2005 to July 2011.

reductions were larger for insurers with lower asset growth, a higher leverage ratio, lower risk-based capital relative to guideline, and a higher ratio of deferred annuity liabilities to equity. Deferred annuities include fixed and variable annuities, whose minimum return guarantees were unprofitable during the global financial crisis. The fact that the price reductions were larger for insurers that suffered larger balance sheet shocks suggests financial frictions as a potential explanation.

3.1.3 Evidence against Default Risk

Pricing below the actuarial value could reflect the possibility that policyholders may not receive the full face value of policies in the event of future default. However, the only scenario in which a policyholder would not be fully repaid is if all insurers associated with the state guaranty association were to default