

# Regional Differences in the Sale of Individual Annuities in Japan<sup>†</sup>

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## 1. Introduction

Since the 1990s, the life insurance market in Japan has experienced considerable changes as a result of mergers, acquisitions, and reorganizations, including demutualization.<sup>1</sup> At the same time, the financial authorities instituted liberalization and deregulation. Mahlberg and Url (2003) measure the effects of liberalization on the technical efficiency and productivity development of the insurance industry in Austria. They predict that bancassurance, the selling insurance through a bank's established distribution channels, could improve the productivity of insurance companies. Teunissen (2008) introduces the four typical bancassurance models: the pure distributor model, the strategic alliance model, the joint venture model, and the financial holding company model. Although the pure distribution model is presently the most common form of bancassurance in Japan, other models of bancassurance could become more prevalent in the future. Consequently, liberalization, deregulation, and competition have diversified the distribution channels of insurance products.<sup>2</sup>

Obviously, the prevalence of the Internet influences insurance markets throughout the world. Brown and Goolsbee (2002) investigate the market for term life insurance in the United States from 1992 to 1997. They find that expanding the share of people in a group who use the Internet to research insurance online lowers their quality-adjusted prices.

Brockett et al. (2005) examine the financial intermediary approach by using a new data envelopment analysis model to consider the efficiency of the marketing distribution channels and organizational structure for insurance companies. Trigo-Gamarra (2008) measures the service quality provided by insurance intermediaries in Germany. By comparing independent and exclusive agencies, Trigo-Gamarra shows that the independent agencies had higher levels of service quality than the exclusive agencies.

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<sup>1</sup> The other financial institutions have been reorganized in most countries as well, but Beltratti and Corvino (2008) answer the simple question of why insurance companies are different from other financial intermediaries.

<sup>2</sup> Demyanyk et al. (2007) estimate the effects of the deregulation of U.S. banking restrictions on interstate personal income insurance for the period 1970 to 2001. Rajatanavin and Speece (2003) examined how customer views were integrated into the new service development process in the Thai insurance industry.

Although customers are able to select the most suitable way to purchase insurance from the multiple distribution channels, several researchers have shed light on a new problem. Cooper and Nakabayashi (2010) compare the views of groups of leading U.S. and Japanese life insurance sales professionals on the extent to which certain ethical issues were perceived as contributing to unethical behavior in the industry in the period from 1990 to 2006. Chen and Mau (2009) analyze the relationship between ethical sales behavior and customer loyalty in the life insurance industry in Taiwan. They conclude that the ethical sales behavior is important for the competitive advantage of life insurance companies as manifested by customer loyalty through the mediation of customer trust.

This paper is organized in the following manner. Section 2 reviews the sales of individual annuity products in Japan from FY 1998 to FY 2009. Section 3 focuses on the market share of insurance companies in the annuity products market. Section 4 explains the econometric model and presents empirical results. The final section contains a brief conclusion.

## **2. Sales of Annuity Products**

Japanese financial authorities permitted banks to market individual annuities in October 2002 and to sell a variety of insurance products in December 2007.<sup>3</sup> However, Sakamoto (2010) points out that the private annuity market in Japan, as well as in most other countries, is very small. Sakamoto lists several limiting factors on the annuity market, including high cost, the need for liquidity to meet health care needs, unethical business practices of insurance companies, and a tax system that does not encourage annuities. Davidoff (2009) notes that demand for consumption-smoothing products such as annuities, long-term care insurance and reverse mortgages is usually weak. In that work, the relationships among these types of products are theoretically investigated, showing that demand for long-term care insurance and annuities is highly sensitive to the liquidity and amount of home equity.

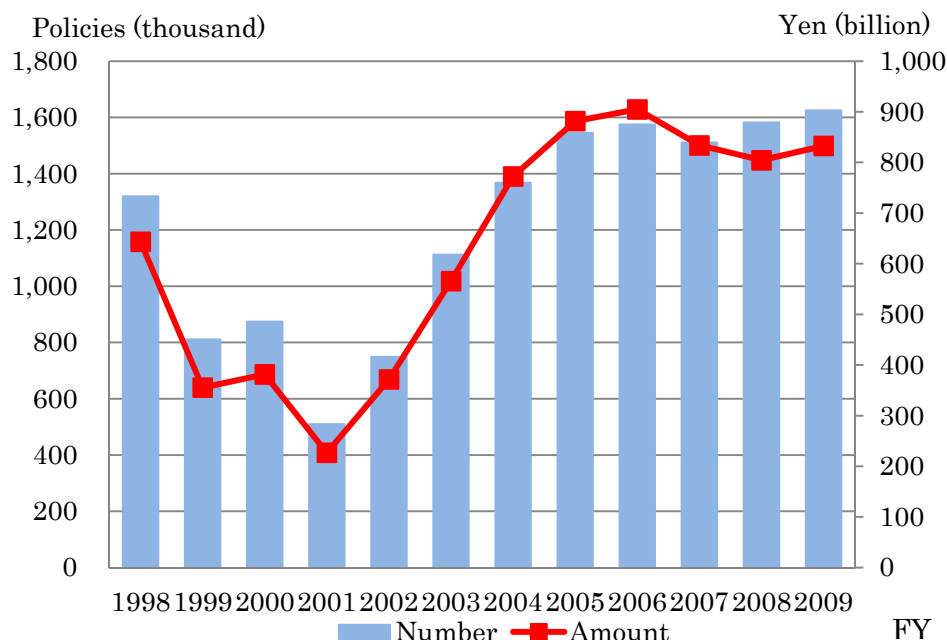
Figure 1 shows the purchases of new individual annuity contracts provided by private life insurance companies from FY 1998 to FY 2009. Both the number and value of contracts<sup>4</sup> grew rapidly from FY 2002 to FY 2006.

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<sup>3</sup> Insurance Business Act (Act No. 105 of 1995), Article 275 (Restrictions on Insurance Solicitation)

<sup>4</sup> They include converted contracts.

**Figure 1. Purchases of New Individual Annuity Contracts in Japan (1998-2009)**



Source: The Life Insurance Association of Japan (LIAJ)

Note: Sales by Japan Postal Insurance are included in 2009 only. Sales by agricultural cooperatives and mutual cooperatives are excluded.

Since insurance products are intangible goods, insurance companies and cooperatives can provide them extensively with a little transportation costs. Several studies note the regional differences in sales of insurance products, for example, Gelb and Khumawala (1984), Marović et al. (2010), and Singh (2008).

Table 1 shows the existing regional differences in insurance sales in Japan's 47 prefectures. In FY 2001 the highest number of new individual annuity contracts per thousand residents is 15.72 in Kagawa prefecture and the lowest is 2.66 in Okinawa prefecture. As seen from the value of policies in force per thousand residents, the market is expanding.

**Table 1. Individual Annuity by Prefecture**

FY	New contracts per thousand residents							
	Number				Amount (mil. yen)			
	Min.	Max.	Mean	St. Dev.	Min.	Max.	Mean	St. Dev.
2001	2.66	15.72	11.16	2.32	5.84	27.70	18.55	4.30
2003	2.98	23.85	14.82	3.83	9.54	71.35	42.67	13.51
2005	6.42	22.37	16.86	3.60	26.25	95.06	63.85	19.17
2007	5.58	19.50	14.13	3.05	26.27	93.06	61.95	16.45
2009	5.69	19.00	15.17	2.57	22.76	79.87	62.26	11.63

FY	Policies in force per thousand residents							
	Number				Amount (mil. yen)			
	Min.	Max.	Mean	St. Dev.	Min.	Max.	Mean	St. Dev.
2001	51.1	235.8	178.5	33.7	175.37	725.78	501.23	116.78
2003	48.2	247.3	185.2	36.7	160.27	713.04	510.00	123.05
2005	52.7	262.8	200.8	42.3	186.13	836.73	591.01	150.90
2007	42.7	208.0	155.0	35.3	206.63	869.59	628.15	161.47
2009	48.9	223.8	171.7	36.8	224.41	908.96	682.88	163.56

Source: "Statistics of Life Insurance Business in Japan 2001, 2003, 2005, 2007, and 2009" by Insurance Research Institute and Population Census Japan.

### 3. Insurance Companies and Regions

The number of life insurance companies in Japan was 43 in FY 2001, 40 in FY 2003, 38 in FY 2005, 40 in FY 2007, and 46 in FY 2009. Postal Life Insurance Service was publicly controlled until October 2007, and it was reorganized into a private company named Japan Post Insurance. Therefore, Japan Post Insurance was included in the data in FY 2009, but not in preceding years. Since data on the business results of Postal Life Insurance Service (Japan Post) and Japanese agricultural cooperatives (JA) are available, I treat them as private insurance companies in the following sections.<sup>5</sup> The number of companies decreased between FY 2001 and FY 2005 as a result of mergers and acquisitions, but increased to 47 (including JA) in FY 2009 as a result of the establishment of several new companies.

Table A1 provides insurance companies' market shares for annuity sales in Japan. Some companies do not have annuity products, so that their market share is shown as 0%. Zurich, for instance, provides term life, whole life, health, cancer, and cancer indemnity insurances, but no annuities.

Table A2 shows the distribution of new annuity products sales by prefecture. It seems that, during the study period, the distribution does not drastically change in line with the population distribution. However, both the number and value of sales are diverse among prefectures, as shown in Table 1.

To examine whether each regional market is competitive or monopolistic, I calculated the Herfindahl index (HI) by prefecture for each year between FY 2001 and FY 2009. Data on the market shares of each company are sometimes unavailable, especially for the smaller regions, but we can get the detailed information on a company's share in each prefecture from "Statistics of Life Insurance Business in Japan." HI of each prefecture is listed in Table A3.<sup>6</sup>

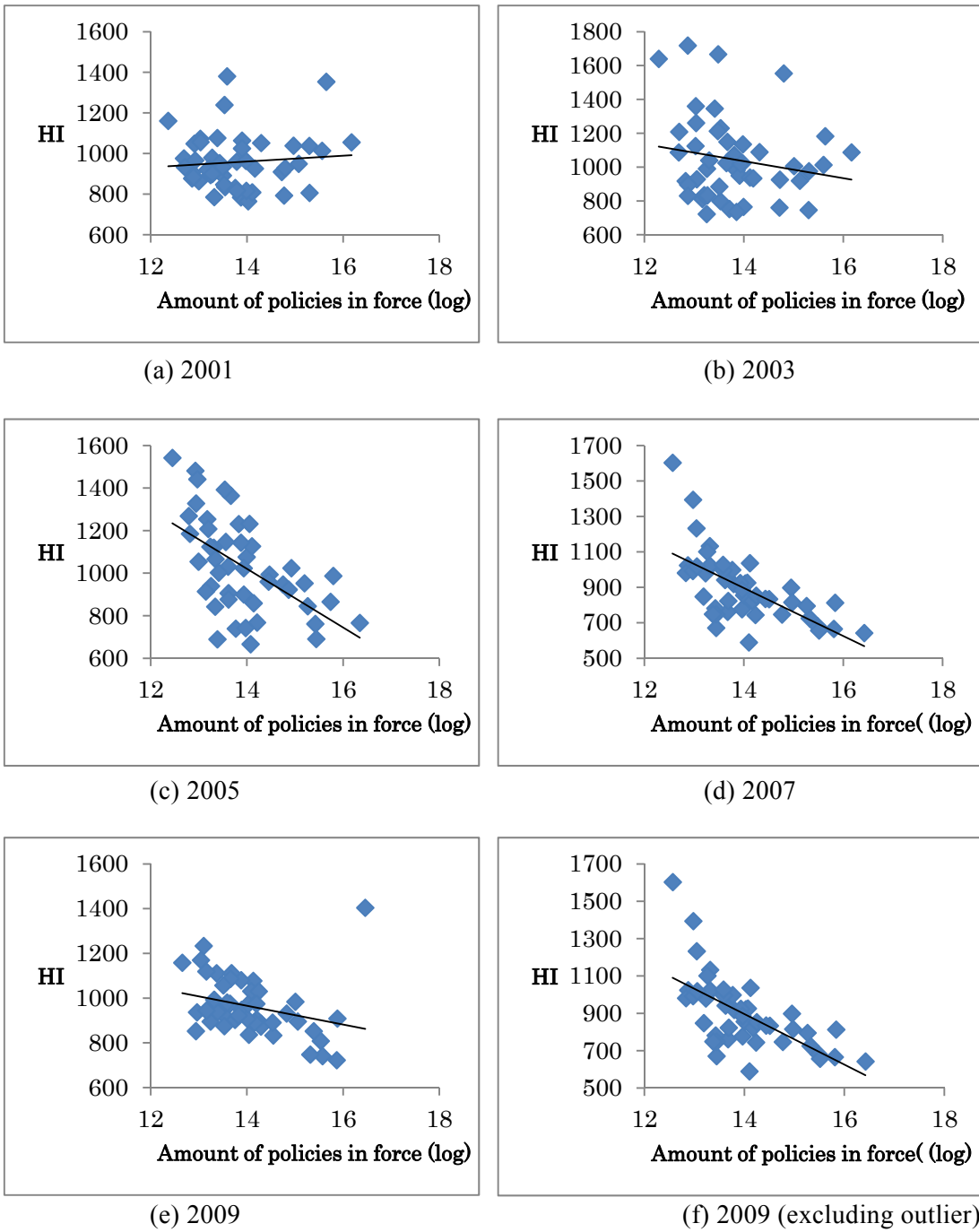
Adopting the total value of policies in force as a proxy for the measure of market size, the six panels in Figure 2 depict the relationship between the size and concentration of markets. A straight line through a cluster of points indicates a linear fit to the data. The line in panel (a) trends upward, but the other five lines have negative slopes. From these scatter plots, two scenarios are hypothesized: (1) insurance companies are drawn to the larger markets and (2) intense competition between insurance companies expands the markets. HI will be inserted as an explanatory variable into the regression model in the next section.

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<sup>5</sup> 716 agricultural cooperatives provided financial services, including insurance, in 2011. They call themselves JA, which stands for the Japanese agricultural cooperatives. The JA group consists of the cooperatives and some central organizations. Zenkyoren (National Mutual Insurance Federation of Agricultural Cooperatives) belongs to the JA group and provides "mutual aid."

<sup>6</sup> Herfindahl index (HI) is defined as the sum of the square of share values. That is, HI in prefecture  $j$  is calculated as follows:  $H_j = \sum_{i=1}^m s_i^j{}^2$ , where  $s_i^j$  is the percent market share of company  $i$  in prefecture  $j$  and  $m$  denotes the number of companies. Of course,  $\sum_{i=1}^m s_i^j = 100$  and  $0 \leq H_j \leq 10000$ .

**Figure 2. Market Size and HI (2001-2009)**



Source: "Statistics of Life Insurance Business in Japan 2001-2009" by Insurance Research Institute and Population Census Japan.

Note: Panel (a)-(e): n=47. Panel (f): n=46. Because Tokyo's point in Panel (f) is an outlier, it has been excluded.

#### 4. Empirical Studies

Table 1 shows that more residents purchase annuities in some particular areas than in others. We would like to recognize what factors influence the sale of individual annuities in prefectures. Empirical studies help us to understand the relationships among the relevant variables.

##### Dependent variable

**Value of new contracts.** The individual annuity market was emerging in the 2000s in Japan, but annuity products have not spread uniformly through the areas. The per capita number and value of new contracts for individual annuities vary greatly among prefectures. Since the value of an annuity contract varies depending on its duration and benefits, I choose the value of new contracts per resident for dependent variable.

##### Independent variables

**Marketing.** Because the first-mover advantage theory holds true in an emerging market, a temporary monopolist may occupy the market. *Herfindahl index* for each prefecture calculated in Section 3 is inserted into the model.

The *number of policies in force per resident* represents the penetration rate of individual annuities. If a market is completely saturated, new sales of the commodity do not markedly grow.

The ban on insurance sales by banks was gradually lifted in the 2000s. The *number of bank branches per resident* may positively affect the value of new contracts for individual annuities.

**Individual Portfolio.** If a person annuitizes a part of his or her bank deposits, the amount outstanding in deposits is necessarily reduced. However, a person who has greater assets invests more diversely because financial goods are usually normal. From a macroeconomic perspective, the value of new contracts for individual annuities may be positively related to the *amount outstanding in bank deposits* by individual depositors.

**Bequest Motive.** Many theoretical studies have examined the trade-off relationship between bequest motive and annuitization behavior. A homeowner may invest more money to annuities than a tenant because his or her real estate is an inheritable asset. The *rate of homeownership* and the *percent of the elderly married* are chosen for proxies of bequest motive.

**Income Flow.** Every year individual annuities with the greatest value were sold to people age sixty and over. Elderly persons who have a job and earn income may be more optimistic about longevity risk than retirees. If this prediction is true, the *labor force participation rate for people age fifty-five and over* will be negatively related to the dependent variable.

### **Notation**

AMNEW<sub>t</sub><sup>p</sup> Amount of new contracts for individual annuities

POP<sub>t</sub><sup>p</sup> Population

HI<sub>t</sub><sup>p</sup> Herfindahl index

NOFORCE<sub>t</sub><sup>p</sup> Number of individual annuity contracts in force

BRANCH<sub>t</sub><sup>p</sup> Number of bank branches

DEPOSIT<sub>t</sub><sup>p</sup> Amount outstanding in bank deposits by individual depositors

HOMEOWN<sub>t</sub><sup>p</sup> Rate of homeownership: owned/(owned + rented)

ELDSPOU<sub>t</sub><sup>p</sup> Number of elderly persons age sixty and over who have a spouse

ELDPR<sub>t</sub><sup>p</sup> Labor force participation rate for people age fifty-five and over

### **Regression equation**

$$(1) \quad \ln \frac{\text{AMNEW}_t^p}{\text{POP}_t^p} = \beta_0 + \beta_1 \text{HI}_t^p + \beta_2 \ln \frac{\text{NOFORCE}_t^p}{\text{POP}_t^p} + \beta_3 \ln \frac{\text{BRANCH}_t^p}{\text{POP}_t^p} + \beta_4 \ln \frac{\text{DEPOSIT}_t^p}{\text{POP}_t^p} + \\ \beta_5 \text{HOMEOWN}_t^p + \beta_6 \frac{\text{ELDSPOU}_t^p}{\text{POP}_t^p} + \beta_7 \text{ELDPR}_t^p,$$

p = 1, ..., 47, t = 2001, 2003, 2005, 2007, 2009

HOMEOWN<sub>t</sub><sup>p</sup>, t = 2000, 2003, 2005, 2008, 2010

ELDSPOU<sub>t</sub><sup>p</sup>, t = 2000, 2005, 2010

ELDPR<sub>t</sub><sup>p</sup>, t = 2002, 2007.

The regression results for equation (1) are listed in Table 2. It can be seen that the market concentration is positively related to annuity sales for the period 2003 to 2007. Since no coefficients of HI are negative and significant, it is not clear whether competition increases the per capita value of annuities. Every coefficient of in-force contracts in number is significantly positive, indicating that the individual annuity market is not yet saturated. As annuity products were not provided through banks in 2001, it is natural that the number of bank branches per resident had no influence on the sale of annuities. However, its coefficient is significantly positive only in the case of all companies in 2003. Excluding the data of Japan Post and JA, the coefficient of the bank branch number is significantly negative through 2001 to 2007. This result indicates that bancassurance was not utilized for distributing individual annuity products until 2007.

The coefficients of the amount outstanding in bank deposits per resident and in-force contracts in number are significantly positive in each year. Although each individual has to allocate a finite portion of the value of his or her wealth between several uses, an individual

with a large amount of wealth is likely to have higher values of annuity and deposits than persons with less wealth. The regression results demonstrate that both annuity and bank deposits are superior goods.

If an individual has a so strong bequest motive that he or she hopes to leave as much wealth as possible to a spouse or children, then he or she does not purchase annuity products. The homeownership rate and the labor force participation rate for the elderly do not have a strong influence on the purchasing behavior of consumers toward annuities. However, the share of the elderly persons who are married negatively relates to the dependent variable after 2005.

**Table 2. Regression Results**

	YEAR	Constant	HI	Number of contracts in force	Number of bank branches	Amount outstanding of deposits	Share of homeowners	Share of the elderly married	Participation rate for the elderly	adj. R <sup>2</sup>	
<i>All Companies</i>	2001	-3.867 ***	0.000	0.731 ***	-0.213 ***	0.229 ***	-0.535 **	0.347	0.953 **	0.884	
		0.664	0.000	0.080	0.054	0.077	0.248	1.121	0.408		
	2003	-1.401	0.000 **	0.130 ***	0.093 *	0.125 ***	0.522	2.167	0.771	0.816	
		1.161	0.000	0.130	0.093	0.125	0.522	0.516	2.324		
	2005	-1.038	0.000 **	0.812 ***	-0.209 **	0.509 ***	0.227	-4.787 **	0.144	0.808	
		1.131	0.000	0.137	0.089	0.118	0.465	2.117	1.151		
	2007	0.023	0.000 *	0.808 ***	-0.112	0.400 ***	0.421	-4.650 ***	-1.270	0.867	
		0.839	0.000	0.093	0.069	0.086	0.350	1.537	0.845		
	2009	0.275	0.000	0.731 ***	0.009	0.282 ***	0.055	-2.935 *	-0.837	0.795	
		0.885	0.000	0.106	0.072	0.092	0.397	1.485	0.880		
	<i>Excluding Japan Post and JA</i>	2001	-3.616 ***	0.000	0.768 ***	-0.224 ***	0.225 ***	-0.436 *	-0.601	0.778 *	0.897
			0.659	0.000	0.076	0.056	0.077	0.243	1.113	0.410	
2003		-1.013	0.000 *	0.820 ***	-0.180 *	0.693 ***	0.788	-2.638	0.049	0.837	
		1.137	0.000	0.129	0.097	0.126	0.507	2.132	0.746		
2005		-0.878	0.000 **	0.793 ***	-0.198 **	0.522 ***	0.241	-4.895 **	0.304	0.832	
		1.064	0.000	0.134	0.092	0.120	0.455	1.978	1.269		
2007		-0.156	0.000 *	0.800 ***	-0.131 *	0.447 ***	0.384	-4.202 ***	-1.793 *	0.889	
		0.755	0.000	0.090	0.071	0.086	0.339	1.391	0.908		
2009		0.273	0.000	0.715 ***	0.005	0.315 ***	-0.024	-2.456 *	-1.282	0.827	
		0.848	0.000	0.098	0.073	0.090	0.386	1.366	0.970		

Values of standard error are lower figures.

Statistical significance: \*\*\*p < 0.01; \*\*p < 0.05; \*p < 0.1.

## 5. Conclusion

There are still a number of small villages and towns in Japan without financial services establishments. The accessibility of insurance services is different among regions as well. Deregulation and competition diversified distribution channels in the insurance markets during these two decades, but nevertheless regional disparities in the accessibility of insurance products have not diminished yet.

Insurance companies are required to make their best effort to acquire customers through various channels. If an insurance company successfully develops a delivery channel to improve accessibility, it could gain the dominant position in the market. Bancassurance has been expected to be a major sales channel after removing the ban on over-the-counter sales at



banks. However, the number of bank branches is decreasing all over the country

The results of empirical studies in this study did not completely success to show that the sales of individual annuities positively related to the number of bank branches per resident. Accordingly, one of the remaining issues is to develop alternative measure of the bank branches in a region.

## **【References】**

- Avery, R.B., Bostic, R. W., Calem, P. S., and Canner, G. B. 1999 Consolidation and bank branching patterns, *Journal of Banking and Finance* vol. 23 pp. 497-532
- Azegami, H. 2010 Factors that prompt financial institutions to close branches in the Tohoku region of Japan, (in Japanese), *Studies in Regional Science* vol. 40, no. 1 pp. 217-228
- Beltratti, A. and Corvino, G. 2008 Why are insurance companies different? The limits of convergence among financial institutions, *The Geneva Papers* vol. 33 pp. 363-388
- Brockett, P. L., Cooper, W. W., Golden, L. L., Rousseau, J. J., and Wang, Y. 2005 Financial intermediary versus production approach to efficiency of marketing distribution systems and organizational structure of insurance companies, *Journal of Risk and Insurance*, vol. 72, no. 3, pp. 393-412
- Brown, J. R. and Goolsbee, A. 2002 Does the Internet Make Markets More Competitive? Evidence from the Life Insurance Industry, *Journal of Political Economy* vol. 110, no. 3 pp. 481-507
- Chen, Mei-Fang and Mau, Liang-Hung 2009 The impacts of ethical sales behaviour on customer loyalty in the life insurance industry, *The Service Industries Journal* vol. 29, no.1, January pp. 59-74
- Cooper, R. and Nakabayashi, M. 2010 Serious ethical turmoil in the U.S. and Japanese life insurance markets, *Journal of Financial Service Professionals* March pp. 64-76
- Davidoff, T. 2009 Housing, health, and annuities *Journal of Risk and Insurance* vol. 76, no. 1 pp. 31-52
- Demyanyk, Y., Ostergaard, C., and Sørensen, B. 2007 U.S. banking deregulation, small businesses, and interstate insurance of personal income, *Journal of Finance* vol. LXII, no.6 December pp. 2763-2801
- Evanoff, D. D. 1998 Branch banking and service accessibility, *Journal of Money, Credit, and Banking* vol. 20, no.2 pp. 191-202
- Gelb, B. D. and Khumawala. B. M. 1984 Reconfiguration of an insurance company's sales regions *Interface* November-December pp. 87-94

- Mahlberg, B. and Url, T. 2003 Effects of the single market on the Austrian insurance industry, *Empirical Economics* vol. 28 pp. 813-838
- Marović, B., Njegomir, V., Maksimović, R. 2010 The implications of the financial crisis to the insurance industry - Global and regional perspective *Ekonomika istraživanja* vol. 23 no. 2 pp. 127-141
- Rajatanavin, R. and Speece, M. 2003 The sales force as an information transfer mechanism for new service development in the Thai insurance industry, *Journal of Financial Service Professionals* vol. 8 no.3 pp. 244-258
- Sakamoto, J. 2010 Annuity markets in Japan *Pension Research Council Working Paper* 2010-21
- Singh, S. 2008 Potential for life insurance companies in Indian suburban areas: A special case of suburban areas in Faridabad District *The Icfai University Journal of Risk & Insurance* vol. 5, no. 4 pp. 53-58
- Teunissen, M. 2008 Bancassurance: tapping into the banking strength, *The Geneva Papers on Risk and Insurance* vol. 33 pp. 408-417
- Trigo-Gamarra, L. 2008 Reasons for the coexistence of different distribution channels: an empirical test for the German insurance market, *The Geneva Papers* vol. 33 pp. 389-407

## Appendix

### Table A1. Insurance companies' market shares for annuities

2001			2003			2005		
Company	Amount of new contracts	Amount of policies in force	Company	Amount of new contracts	Amount of policies in force	Company	Amount of new contracts	Amount of policies in force
Dai-ichi	5.6%	9.3%	Dai-ichi	2.6%	8.8%	Dai-ichi	4.0%	7.9%
AIG Star	0.0%	1.0%	AIG Star	0.1%	0.9%	AIG Star	1.5%	0.9%
Fukoku	2.5%	3.2%	Fukoku	3.7%	3.3%	Fukoku	3.9%	3.3%
AXA Group Life	0.0%	2.8%	AXA Group Life	0.0%	2.1%	Gibraltar	1.0%	1.0%
Gibraltar	0.3%	1.3%	Gibraltar	0.1%	1.2%	Nippon	13.7%	19.3%
Nippon	21.4%	21.4%	Nippon	13.4%	21.0%	Asahi	0.6%	4.4%
Asahi	2.3%	7.5%	Asahi	1.0%	5.7%	Meiji Yasuda	2.4%	12.9%
Yasuda	5.7%	6.1%	Meiji Yasuda	6.2%	15.5%	Daido	1.1%	1.5%
Meiji	5.9%	10.5%	Daido	1.3%	1.6%	T&D Financial	1.4%	0.7%
Daido	2.4%	1.5%	T&D Financial	1.5%	0.4%	Mitsui	3.4%	3.2%
T&D Financial	0.0%	0.3%	Mitsui	3.5%	3.3%	Sumitomo	12.8%	13.5%
Mitsui	4.8%	3.5%	Sumitomo	9.6%	14.3%	Mass Mutual	0.9%	0.3%
Sumitomo	11.2%	14.8%	Mass Mutual	0.0%	0.3%	Taiyo	0.1%	4.7%
Yamato	0.0%	0.1%	Taiyo	0.8%	6.1%	Sony	0.3%	0.2%
Mass Mutual	0.1%	0.3%	Sony	0.3%	0.2%	Sompo Japan Himawari	0.0%	0.1%
Taiyo	5.3%	6.8%	Sompo Japan Himawari	0.7%	0.1%	Winterthur Swiss	0.4%	0.1%
Saison	0.0%	0.4%	Credit Suisse	0.2%	0.0%	Prudential	0.0%	0.5%
Sony	0.9%	0.1%	Prudential	0.0%	0.0%	PCA	0.1%	0.0%
Sompo Japan Himawari	0.1%	0.1%	PCA	0.0%	0.0%	ORIX	0.0%	0.0%
Credit Suisse	0.0%	0.0%	ORIX	0.0%	0.0%	AXA	1.2%	2.2%
Prudential	0.0%	0.0%	AXA	1.7%	0.4%	ING	6.8%	1.8%
PCA	0.0%	0.0%	ING	2.0%	0.4%	TOKYO MARINE&NICHIDO	1.4%	1.1%
ORIX	0.0%	0.0%	TOKYO MARINE&NICHIDO	3.7%	0.9%	NIPPONKOA	0.2%	0.3%
AXA	1.4%	0.2%	NIPPONKOA	1.4%	0.2%	Fuji	0.0%	0.0%
ING	0.1%	0.0%	Fuji	0.0%	0.0%	Aioi	0.6%	0.2%
TOKIO MARINE	0.4%	0.2%	Aioi	0.4%	0.1%	Kyoei Kasai Shinrai	0.2%	0.1%
Nichido	0.1%	0.0%	Kyoei Kasai Shinrai	0.1%	0.0%	Mitsui Sumitomo Kirameki	0.7%	0.4%
NIPPONKOA	0.3%	0.1%	Mitsui Sumitomo Kirameki	2.0%	0.3%	TOKYO MARINE&NICHIDO Financial	4.8%	0.8%
Fuji	0.1%	0.0%	TOKYO MARINE&NICHIDO Financial	0.4%	0.2%	AIG Edison	1.4%	1.8%
Aioi	0.4%	0.1%	Aoba	0.0%	0.6%	Manulife	4.2%	1.2%
Kyoei Kasai Shinrai	0.0%	0.0%	AIG Edison	3.8%	1.8%	Sompo Japan DIY	0.0%	0.0%
Mitsui Sumitomo Kirameki	0.3%	0.1%	Manulife	1.0%	0.5%	Hartford	11.4%	3.4%
Sandía	0.9%	0.1%	Sompo Japan DIY	0.0%	0.0%	Yamato	0.0%	0.1%
Aoba	0.0%	0.7%	Hartford	7.3%	1.0%	Mitsui Sumitomo MetLife	5.3%	1.9%
GE Edison	4.3%	1.2%	Yamato	0.0%	0.1%	ALICO Japan	9.3%	4.4%
Manulife	0.7%	0.5%	Mitsui Sumitomo City	6.5%	0.6%	American Family	1.7%	0.6%
Sompo Japan DIY	0.0%	0.0%	ALICO Japan	17.6%	1.8%	Zurich	0.0%	0.0%
Hartford	2.0%	0.1%	American Family	1.1%	0.4%	Cardif	0.0%	0.0%
Azami	0.0%	0.0%	Zurich	0.2%	0.0%	Japan Post	1.4%	3.0%
ALICO Japan	4.0%	0.3%	Cardif	0.0%	0.0%	JA	1.7%	2.3%
American Family	1.6%	0.2%	Japan Post	2.7%	3.5%			
Zurich	0.0%	0.0%	JA	3.2%	2.3%			
Cardif	0.0%	0.0%						
Japan Post	8.2%	3.3%						
JA	6.6%	2.0%						

2007			2009		
<i>Company</i>	<i>Amount of new contracts</i>	<i>Amount of policies in force</i>	<i>Company</i>	<i>Amount of new contracts</i>	<i>Amount of policies in force</i>
Dai-ichi	4.0%	7.8%	Dai-ichi	5.3%	7.5%
AIG Star	0.8%	0.9%	AIG Star	0.2%	0.7%
Fukoku	2.1%	3.3%	Fukoku	1.5%	3.1%
Gibraltar	1.5%	1.1%	Gibraltar	1.6%	1.2%
Nippon	13.5%	19.0%	Nippon	16.0%	18.7%
Asahi	1.1%	4.0%	Asahi	1.4%	3.5%
Meiji Yasuda	6.3%	12.4%	Meiji Yasuda	10.9%	12.2%
Daido	0.8%	1.4%	Daido	2.2%	1.4%
T&D Financial	1.1%	0.8%	T&D Financial	3.5%	1.2%
Mitsui	1.6%	3.0%	Mitsui	0.6%	2.7%
Sumitomo	12.0%	14.0%	Sumitomo	11.7%	13.9%
Mass Mutual	1.7%	0.6%	Mass Mutual	3.7%	0.9%
Taiyo	1.3%	4.1%	Taiyo	1.1%	3.6%
Sony	0.7%	0.3%	Sony	0.4%	0.3%
Sompo Japan Himawari	0.0%	0.1%	Sompo Japan Himawari	0.0%	0.1%
AXA financial	0.4%	0.1%	Prudential	0.0%	0.4%
Prudential	0.0%	0.4%	PCA	0.0%	0.1%
PCA	0.2%	0.1%	ORIX	0.0%	0.0%
ORIX	0.0%	0.0%	AXA	1.6%	1.9%
AXA	1.3%	1.8%	ING	0.5%	2.2%
ING	6.9%	2.3%	TOKYO MARINE&NICHIDO	0.8%	1.1%
TOKYO MARINE&NICHIDO	0.7%	1.1%	NIPPONKOA	0.1%	0.2%
NIPPONKOA	0.1%	0.2%	Fuji	0.1%	0.0%
Fuji	0.0%	0.0%	Aioi	0.4%	0.3%
Aioi	0.4%	0.3%	Fukoku Shinrai	3.5%	0.5%
Fukoku Shinrai	0.0%	0.0%	Mitsui Sumitomo Kirameki	0.4%	0.3%
Mitsui Sumitomo Kirameki	0.5%	0.4%	TOKYO MARINE&NICHIDO Financial	2.0%	2.6%
TOKYO MARINE&NICHIDO Financial	6.0%	2.2%	AIG Edison	0.5%	1.3%
AIG Edison	1.8%	1.6%	Manulife	1.9%	1.7%
Manulife	5.0%	1.6%	Sompo Japan DIY	0.0%	0.0%
Sompo Japan DIY	0.0%	0.0%	Hartford	0.1%	3.8%
Hartford	7.2%	4.3%	Prudential Gibraltar Financial	0.0%	0.0%
Yamato	0.0%	0.1%	Mitsui Sumitomo MetLife	4.8%	3.1%
Mitsui Sumitomo MetLife	6.6%	2.7%	Credit Agricole	0.1%	0.0%
Credit Agricole	0.0%	0.0%	Dai-ichi Frontier	9.5%	1.3%
Dai-ichi Frontier	1.1%	0.1%	Japan Post	8.7%	1.6%
Japan Post	2.6%	0.2%	Allianz	0.6%	0.1%
ALICO Japan	7.6%	4.8%	NEXTIA	0.0%	0.0%
Aflac	1.0%	0.7%	Lifenet	0.0%	0.0%
Zurich	0.0%	0.0%	AIRIO	0.0%	0.0%
Cardif	0.1%	0.0%	Midori	0.0%	0.0%
JA	1.9%	2.2%	AEGON Sony	0.1%	0.0%
			ALICO Japan	1.4%	4.0%
			Aflac	0.9%	0.7%
			Zurich	0.0%	0.0%
			Cardif	0.0%	0.0%
			JA	1.6%	2.0%

**Table A2. Prefecture's share to national total**

<i>Prefecture</i>	<i>Amount of new contracts</i>					<i>Amount of policies in force</i>				
	<i>2001</i>	<i>2003</i>	<i>2005</i>	<i>2007</i>	<i>2009</i>	<i>2001</i>	<i>2003</i>	<i>2005</i>	<i>2007</i>	<i>2009</i>
Hokkaido	3.6%	2.3%	2.3%	4.2%	2.7%	3.5%	3.3%	3.0%	2.7%	2.9%
Aomori	0.9%	0.7%	0.5%	1.4%	0.7%	0.8%	0.6%	0.7%	0.3%	0.7%
Iwate	0.9%	0.5%	0.7%	0.9%	0.7%	0.8%	0.5%	0.7%	0.4%	0.7%
Miyagi	1.8%	1.2%	1.2%	1.8%	1.4%	1.4%	1.3%	1.3%	2.2%	1.3%
Akita	0.6%	0.4%	0.5%	0.5%	0.6%	0.5%	0.4%	0.5%	0.6%	0.5%
Yamagata	0.9%	0.9%	0.7%	1.0%	0.7%	0.8%	0.7%	0.8%	0.9%	0.8%
Fukushima	1.4%	0.9%	0.9%	2.8%	1.2%	1.3%	1.2%	1.1%	1.3%	1.1%
Ibaraki	1.6%	1.8%	1.2%	2.9%	1.6%	1.7%	0.8%	1.5%	1.3%	1.5%
Tochigi	1.5%	1.3%	1.2%	2.5%	1.6%	1.5%	1.6%	1.4%	2.2%	1.4%
Gumma	1.4%	1.5%	1.3%	1.0%	1.4%	1.3%	1.4%	1.3%	1.0%	1.4%
Saitama	5.7%	5.1%	5.4%	4.9%	4.9%	6.0%	5.8%	5.9%	6.5%	5.8%
Chiba	4.5%	5.0%	4.8%	6.0%	4.6%	4.8%	5.0%	5.0%	3.7%	5.0%
Tokyo	13.4%	17.5%	17.0%	12.7%	16.9%	14.4%	12.8%	14.8%	12.6%	14.6%
Kanagawa	7.1%	7.5%	7.8%	7.2%	6.7%	7.8%	8.9%	8.1%	5.8%	8.1%
Niigata	1.6%	1.4%	1.5%	2.0%	1.5%	1.6%	1.6%	1.6%	1.9%	1.6%
Toyama	1.0%	1.1%	1.0%	3.4%	1.1%	1.0%	0.8%	1.0%	0.4%	1.1%
Ishikawa	0.8%	0.7%	0.8%	1.1%	1.0%	1.0%	0.6%	1.0%	1.0%	1.0%
Fukui	0.6%	0.6%	0.6%	0.7%	0.8%	0.6%	0.6%	0.6%	0.7%	0.6%
Yamanashi	0.7%	0.6%	0.6%	1.6%	0.6%	0.6%	0.5%	0.6%	0.8%	0.6%
Nagano	1.8%	1.7%	1.4%	2.6%	1.3%	1.8%	1.7%	1.7%	2.4%	1.7%
Gifu	1.5%	1.6%	1.8%	1.0%	1.5%	1.6%	1.2%	1.6%	1.9%	1.7%
Shizuoka	3.6%	3.0%	3.6%	2.3%	2.9%	3.4%	3.4%	3.4%	3.1%	3.4%
Aichi	6.2%	5.0%	5.9%	3.7%	5.5%	6.0%	5.7%	6.0%	8.4%	6.0%
Mie	1.5%	1.5%	1.2%	0.9%	1.4%	1.3%	1.4%	1.4%	1.3%	1.5%
Shiga	0.9%	1.4%	1.3%	0.7%	1.1%	1.0%	1.2%	1.2%	0.7%	1.3%
Kyoto	2.3%	2.2%	2.4%	1.9%	1.9%	2.2%	2.6%	2.3%	2.7%	2.2%
Osaka	9.0%	8.4%	9.0%	5.5%	8.1%	8.5%	10.9%	8.5%	11.2%	8.2%
Hyogo	4.4%	5.0%	5.2%	2.2%	4.7%	4.3%	5.2%	4.7%	5.6%	4.7%
Nara	1.2%	1.4%	1.5%	1.0%	1.3%	1.1%	1.6%	1.3%	1.7%	1.3%
Wakayama	0.7%	0.8%	0.8%	0.4%	0.8%	0.7%	0.6%	0.7%	0.9%	0.8%
Tottori	0.4%	0.4%	0.4%	1.1%	0.4%	0.4%	0.4%	0.4%	0.6%	0.4%
Shimane	0.4%	0.4%	0.4%	1.3%	0.5%	0.5%	0.5%	0.4%	0.1%	0.4%
Okayama	1.5%	1.6%	1.4%	2.0%	1.6%	1.5%	1.4%	1.5%	1.4%	1.5%
Hiroshima	2.0%	2.0%	2.3%	2.3%	2.4%	1.9%	1.9%	2.2%	1.8%	2.1%
Yamaguchi	1.0%	1.2%	0.9%	0.9%	0.9%	0.9%	1.0%	1.0%	0.5%	0.9%
Tokushima	0.6%	1.0%	0.8%	0.5%	0.8%	0.6%	0.6%	0.7%	0.4%	0.7%
Kagawa	0.9%	0.9%	0.8%	1.1%	0.9%	0.9%	1.0%	0.9%	0.6%	0.9%
Ehime	1.0%	0.7%	0.7%	0.7%	1.0%	1.0%	0.7%	0.9%	0.5%	0.9%
Kochi	0.5%	0.4%	0.4%	0.5%	0.5%	0.6%	0.7%	0.5%	0.4%	0.5%
Fukuoka	3.6%	4.0%	3.4%	2.4%	3.8%	3.6%	3.5%	3.6%	3.1%	3.6%
Saga	0.6%	0.6%	0.5%	0.7%	0.6%	0.5%	0.4%	0.5%	0.5%	0.5%
Nagasaki	0.8%	0.7%	0.8%	0.8%	1.0%	0.8%	0.7%	0.8%	1.2%	0.8%
Kumamoto	1.2%	0.8%	0.9%	1.1%	1.4%	1.0%	0.9%	1.0%	1.1%	1.1%
Oita	0.6%	0.7%	0.7%	0.8%	0.6%	0.6%	0.6%	0.6%	0.4%	0.6%
Miyazaki	0.6%	0.5%	0.6%	1.3%	0.7%	0.5%	0.5%	0.5%	0.5%	0.5%
Kagoshima	0.9%	0.8%	0.7%	1.2%	1.1%	0.8%	0.7%	0.7%	0.5%	0.8%
Okinawa	0.3%	0.2%	0.4%	0.3%	0.4%	0.3%	0.4%	0.3%	0.2%	0.3%

**Table A3. Herfindahl index in each prefecture**

<i>Prefecture</i>	<i>Amount of new contracts</i>					<i>Amount of policies in force</i>				
	<i>2001</i>	<i>2003</i>	<i>2005</i>	<i>2007</i>	<i>2009</i>	<i>2001</i>	<i>2003</i>	<i>2005</i>	<i>2007</i>	<i>2009</i>
Hokkaido	794	761	947	747	931	1,036	1,074	984	983	920
Aomori	980	991	1,120	1,133	958	1,166	1,164	1,112	1,192	1,086
Iwate	926	812	939	1,013	1,111	926	1,101	987	1,040	958
Miyagi	785	982	900	777	836	1,061	1,116	1,010	1,017	934
Akita	908	918	1,481	1,394	1,233	943	1,007	965	1,108	1,085
Yamagata	895	723	689	671	922	932	913	792	782	786
Fukushima	831	753	739	919	948	982	1,036	949	1,004	929
Ibaraki	765	1,135	666	589	905	917	868	762	790	752
Tochigi	1,064	950	1,075	922	1,077	1,101	1,111	1,057	1,082	997
Gumma	961	1,071	1,023	856	1,031	1,018	1,111	1,003	997	959
Saitama	1,038	976	761	681	808	1,071	1,199	991	948	897
Chiba	950	920	845	726	852	1,099	1,190	977	942	907
Tokyo	1,056	1,088	766	642	1,404	1,111	1,168	916	878	858
Kanagawa	1,014	1,013	865	666	722	1,188	1,237	994	935	885
Niigata	965	1,024	1,126	823	1,030	1,026	1,077	1,007	1,010	962
Toyama	892	1,230	1,364	998	1,080	993	1,053	946	913	894
Ishikawa	836	799	906	762	903	1,088	1,170	1,007	967	890
Fukui	1,074	929	1,254	980	978	1,150	1,156	1,087	1,119	1,028
Yamanashi	864	1,125	914	848	895	1,079	1,068	946	993	942
Nagano	809	939	768	853	886	951	954	857	869	839
Gifu	817	765	859	744	873	1,022	1,007	851	847	825
Shizuoka	910	926	922	898	983	1,056	1,100	919	890	856
Aichi	807	747	691	657	741	1,033	1,066	870	851	832
Mie	818	736	742	926	891	1,050	1,011	857	854	834
Shiga	1,240	1,024	1,231	924	908	1,256	1,103	1,034	1,039	1,010
Kyoto	1,052	1,089	993	834	833	1,227	1,175	978	985	931
Osaka	1,354	1,183	987	813	908	1,601	1,555	1,232	1,205	1,146
Hyogo	1,039	1,006	952	795	748	1,233	1,174	952	933	887
Nara	1,381	1,149	1,143	886	973	1,433	1,322	1,135	1,047	973
Wakayama	921	835	1,066	782	875	902	880	817	822	776
Tottori	977	1,087	1,185	1,024	937	1,157	1,188	1,113	1,156	1,045
Shimane	933	1,209	1,269	981	852	1,010	1,094	1,043	1,077	952
Okayama	1,026	1,018	1,232	1,036	975	1,131	1,084	1,030	1,037	977
Hiroshima	926	934	960	835	891	1,080	1,065	871	925	855
Yamaguchi	953	1,667	1,031	941	1,111	1,066	1,052	971	1,021	977
Tokushima	966	1,261	1,124	1,023	938	1,165	996	849	870	801
Kagawa	1,077	1,346	1,392	996	1,086	1,230	1,238	1,224	1,204	1,130
Ehime	935	1,213	1,147	1,027	975	1,286	1,346	1,224	1,278	1,206
Kochi	1,049	896	1,328	992	1,170	1,298	1,290	1,206	1,252	1,151
Fukuoka	929	1,554	1,024	816	895	1,056	1,061	957	966	909
Saga	878	1,719	1,054	1,233	1,119	957	963	937	1,030	1,024
Nagasaki	786	1,040	1,003	748	980	999	1,030	922	932	854
Kumamoto	847	885	876	823	922	985	1,039	923	917	814
Oita	1,057	1,360	1,208	1,101	993	1,009	1,004	867	898	854
Miyazaki	885	831	1,441	1,018	944	979	996	967	997	917
Kagoshima	900	834	842	749	1,057	961	930	849	860	744
Okinawa	1,161	1,640	1,542	1,603	1,158	1,490	1,543	1,240	1,238	1,193
Nation	906	813	752	679	798	1,065	1,093	917	904	863