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The Economics of Insurance Intermediaries

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Abstract

This article analyzes the economic functions of independent insurance intermediaries (brokers and independent agents), focusing on the commercial property–casualty insurance market. The article investigates the functions performed by intermediaries, the competitiveness of the market, the compensation arrangements for intermediaries, and the process by which policies are placed with insurers. Insurance intermediaries are essentially market makers who match the insurance needs of policyholders with insurers who have the capability of meeting those needs. Intermediary compensation comprises premium-based commissions, expressed as a percentage of the premium paid, and contingent commissions based on the profitability, persistency, and/or volume of the business placed with the insurer. Empirical evidence is provided that premium-based and contingent commissions are passed on to policyholders in the premium. However, contingent commissions can enhance competitive bidding by aligning the insurer's and the intermediary's interests. This alignment of interests gives insurers more confidence in the selection of risks and thus helps to break the "winner's curse" and encourages insurers to bid more aggressively. Independent intermediaries also help markets operate more efficiently by reducing the information asymmetries between insurers and buyers that can cause adverse selection.

Introduction

Insurance is a complex product representing a promise to compensate the insured or a third party according to specified terms and conditions should some well-defined contingent event occur. Simply to describe this obligation requires complex language. However, the buyer's decision is made even more difficult because the value of the insurer's promise depends both on the reputation of the insurer for settling claims fairly and on its financial capability to meet these obligations. Thus, the buyer of insurance faces the daunting task of first deciding what sort of insurance protection is

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needed given the risks faced, and then comparing policies offering alternative coverage at different prices from several insurers with different levels of credit risk and reputations for claims settlement and policyholder services.

In most insurance transactions, there is an intermediary, usually an insurance agent or broker, between the buyer and the insurer. In commercial property–casualty (PC) insurance markets, the intermediary plays the role of "market maker," helping buyers to identify their coverage and risk management needs and matching buyers with appropriate insurers. The matching process is complex and multidimensional. The role of the intermediary is to scan the market, match buyers with insurers who have the skill, capacity, risk appetite, and financial strength to underwrite the risk, and then help the client select from competing offers. Price is important but is only one of several criteria that buyers consider in choosing the insurer(s) that provide their coverage. Also important are the breadth of coverage, the risk management services provided, the insurer's reputation for claims settlement and financial strength, and other factors. It is common for the coverage not to be placed with the low bidder.

In October of 2004, New York Attorney General Eliot Spitzer filed suit against global broker Marsh & McLennan alleging that the firm engaged in bid-rigging and received kickbacks from insurers for "steering" specific commercial accounts to them. The lawsuit and ensuing actions against other brokers have created controversy about the role of intermediaries in insurance transactions. In particular, it has been alleged that the compensation of agents and brokers through contingent commissions, often related to the underwriting quality or volume of business placed with an insurer, constitutes an anticompetitive practice that is detrimental to buyers (Spitzer, 2004; Hunter, 2004, 2005).

The goal of the present article is to provide information that will be useful in evaluating the role of intermediaries by objectively discussing intermediaries and their compensation structures. The emphasis is on the market for commercial PC insurance. By way of preview, the analysis shows that intermediaries have a valuable role to play in helping insurance markets to function efficiently, thus benefiting both buyers and insurers. Although contingent commissions, like most business practices, can be misused by the unscrupulous, in general such compensation plans play an important role in aligning incentives between buyers and insurers and thus facilitate the efficient operation of insurance markets.

INSURANCE MARKETING CHANNELS

Insurance is distributed through a variety of marketing channels. Although some insurers market insurance directly to buyers, by mail, telemarketing, or company employees, the vast majority of commercial PC insurance sales involves an intermediary. An intermediary is defined as an individual or business firm, with some degree of independence from the insurer, which stands between the buyer and seller of insurance.[1] The degree of independence of insurance intermediaries varies considerably. Probably the lowest level of independence occurs when insurers use exclusive agents,

[1] The focus of this report is primarily on independent agents and *retail brokers*, i.e., brokers who deal directly with personal and/or commercial insurance buyers. There are also *wholesale brokers*, who serve as intermediaries between retail insurance brokers and specialized markets

who usually are independent contractors rather than employees but represent only one company.[2] Next on the scale of independence are independent agents and brokers, who regularly deal with several insurers. The focus of this article is on the latter intermediaries, referred to in this article as *independent intermediaries*.

The distinction between independent agents and brokers is a subtle one. The usual "textbook" distinction is that insurance agents are "agents" (in the legal sense) of the insurer, whereas brokers are traditionally described as agents of the policyholder. However, the textbook distinction is too simplistic to provide an adequate description of the insurance marketplace because independent agents and brokers perform many of the same functions and provide services to both insurers and policyholders (see also III, 2004). In fact, both independent agents and brokers act in varying degrees as advocates for the policyholder, providing services such as coverage design, loss control, and claims management. In addition, although independent agents do represent several insurers under "agency appointment" contracts, many firms, generally known as brokers, also place a significant proportion of their business under essentially identical contracts.[3]

The primary distinctions between independent agents and brokers relate primarily to size and the range and depth of services provided. Independent agents in general tend to be smaller than brokers and provide services to relatively small businesses and consumers in localized markets, whereas brokers tend to service larger and more complicated business insurance needs. The largest regional, national, and international brokers provide a wide range of sophisticated services, including management of captive insurance companies, loss control services, risk modeling, and risk management consulting. Hence, independent intermediaries are arrayed across a continuum in terms of size, sophistication, and the range of services offered. Thus, while the labels "agent" and "broker" have a disarming legal simplicity, the economic reality is more complex. Independent agents and brokers are best thought of as market makers or matchmakers who match particular needs of policyholders with the products of insurers.

Consider the different ends of the continuum of intermediaries. Most independent agents focus on local or regional commercial and personal lines clients. They compete with each other and with exclusive agents, direct writers, and smaller brokers in the local marketplace. Independent agents provide services to clients, advising them on their insurance needs and then searching for appropriate coverage. Independent agents also provide important underwriting information to insurers because they generally have more information than the insurer about the risk characteristics of smaller clients. This informational function is usually recognized in the agent's compensation. Nevertheless, it also benefits the policyholder to the extent that policyholders matched

such as the surplus lines market and the London market. *Reinsurance brokers* play an important intermediation role between primary (retail) insurers and reinsurers.

[2] The degree of "exclusivity" of exclusive agents varies somewhat. Some exclusive agents are literally exclusive, selling all of their business through a single company. However, others are primarily "exclusive" with one company but place some policies, such as specialty policies, with other insurers.

[3] Insurance intermediaries are examples of "two-sided firms." See for example, Rochet and Tirole (2003).

with appropriate insurers are more likely to be satisfied with post-sale services and less likely to incur costs of switching insurers in the near future.

At the other extreme, large commercial insurance buyers employ brokers to design and place insurance on their behalf. The risks for the largest policyholders are complex and often difficult to place. The broker plays a pivotal role in providing information to prospective insurers to help them in evaluating the risk. In cases where risks are too large or complex to be insured by a single company, the broker often plays a "syndication" role, locating insurers who are willing to take on various "layers" of the coverage being placed. This often involves a complex negotiation process that determines the coverage design, pricing, and ultimate placement of the business.

A significant degree of mutual trust is required in the placement of commercial insurance contracts by independent intermediaries. Thus, the policyholder relies on the relationship between the intermediary and insurer when placing risks. An intermediary needs strong working relationships with insurers to place business on advantageous terms. In the remainder of this article, the term "intermediary" or "independent intermediary" is used to refer to both brokers and independent agents, except in instances where we specifically intend to distinguish between these two types of intermediaries.

COMPETITION AMONG INTERMEDIARIES

It has been argued by some that insurance products are inherently complex and that this restrains competition among insurers (Hunter, 2005). Indeed, such complexity does make it difficult for buyers both to understand fully the coverage they need and to evaluate the service and claims-paying capabilities of insurers. The role of the intermediary is to break through the complexity by helping insurance buyers to understand and purchase insurance. We now discuss competition in the insurance market.

Concentration

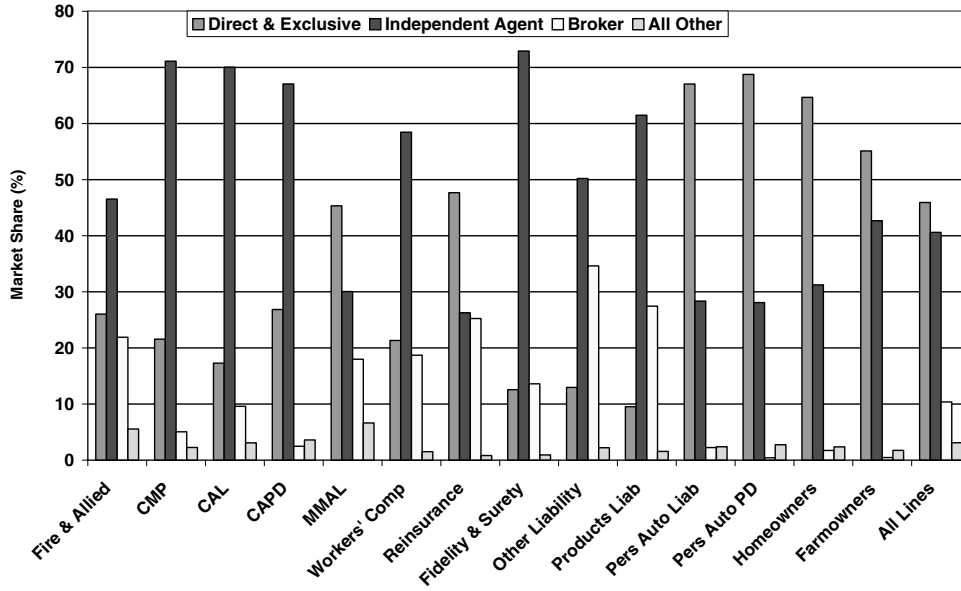
In 2004, there were approximately 39,000 independent agencies and brokers in the United States,[4] who controlled 68 percent of commercial lines PC business and 32 percent of personal lines business (Table 4).[5] The dominance of independent distributors in commercial lines reflects the fact that coverages, loss control, claims settlement, and other services in these lines tend to be relatively complex. In personal lines, where coverages and services tend to be simpler and more homogeneous, the exclusive agency and direct writing insurers are dominant due to lower distribution costs and other factors.

The allocation of premium volume by distribution system in the principal PC lines is further explored in Figure 1, which shows market penetration by the principal

[4] IIABA (2004). In 2000 there were about 42,000 agencies and in 1992 there were 46,000. For an earlier survey, see IIABA (2002).

[5] Table 4 is based on A. M. Best Company (2005). The agents' trade association estimates that independent agents and brokers hold 79.8% of the commercial lines market and 36.6% of the personal lines market. See IIABA (2004).

FIGURE 1
Market Share by Primary Distribution System: 2004



distribution systems for 2004 based on premiums.[6] Insurers primarily using the independent agency system account for at least 50 percent of premium volume in all commercial lines except fire and allied, medical malpractice, and reinsurance. The highest market shares for companies primarily using brokers are in other liability, products liability, and reinsurance.[7] Thus, brokers are relatively important in the more complex and risky lines.

The share of both commercial and personal lines business handled by independent distributors in the United States has been in a very shallow decline over the past two decades (Swiss Re, 2004). Accompanying this decline has been a consistent reduction in the number of independent intermediaries averaging about 1.3 percent per year since 1992 (IIABA, 2004). Though this may have a little to do with loss of market share, it is more a reflection of consolidation, a trend that has shown little sign of abating.

The brokerage segment of the industry is highly concentrated. Table 1 shows the brokerage revenues of the world's top ten brokers and the breakdown of their

[6] There is some ambiguity about the breakdown by distribution system, because many insurers use more than one system. Figure 1 is based on the primary distribution system of each insurer as reported in the A. M. Best Company, *Best's Key Rating Guide: Property-Casualty Edition* (Oldwick, NJ: annual). Best bases marketing type on questionnaires filed with Best annually by each insurer and reflects how a company categorizes itself.

[7] These figures somewhat understate the importance of brokers because many companies that primarily distribute through independent agents also place some of their business through brokers. However, even if all premiums for companies that utilize brokers as either the primary or secondary distribution system are assigned to the brokerage category, the total market share of brokers in all lines is only about 11 percent.

TABLE 1
World's Top 10 Brokers: 2004 Revenues by Line

Broker	Brokerage Revenues $ Millions	Breakdown of Revenues by Line							
		Commercial			Personal				% Contingent
		Retail	Wholesale	Reinsurance	Lines	Services	Investments	Other	Commissions
Marsh & McLennan	$10,365.0	43.0%	2.0%	7.0%	0.0%	34.0%	2.0%	12.0%	7.3%
Aon	$6,902.0	41.0%	4.0%	8.0%	0.0%	14.0%	3.0%	30.0%	2.0%
Willis Group Holdings	$2,205.0	60.0%	1.0%	34.0%	1.0%	2.0%	3.0%	0.0%	4.0%
Arthur J. Gallagher	$1,325.0	49.0%	8.0%	5.0%	1.0%	24.0%	13.0%	0.0%	3.0%
Wells Fargo	$943.8	73.0%	3.7%	0.3%	8.0%	6.1%	1.0%	8.3%	3.4%
Jardine Lloyd Thompson	$857.8	39.0%	16.0%	17.0%	1.0%	24.0%	3.0%	0.0%	NA
BB&T Insurance Services	$679.7	61.0%	25.0%	0.0%	11.7%	0.0%	0.7%	2.1%	NA
Brown and Brown	$638.3	62.0%	24.0%	0.0%	9.0%	4.0%	0.0%	1.0%	NA
Alexander Forbes	$635.9	54.0%	9.0%	2.0%	9.0%	10.0%	2.0%	14.0%	6.0%
Hilb Rogal and Hobbs	$609.7	79.0%	7.4%	0.8%	7.7%	3.6%	0.5%	1.1%	NA
Averages	$2,516.2	56.1%	10.0%	7.4%	4.8%	12.2%	2.8%	6.9%	$0.0

Source: Business Insurance, July 18, 2005. Figures are for world-wide brokerage revenues. Commercial retail refers to revenues related to the placement of insurance programs for commercial insurance buyers. Wholesale refers to revenues generated by placing business originated by other intermediaries in specialty markets such as the surplus lines market and the London market.
Note: NA = not available.

TABLE 2
Top 100 Brokers: Revenues from U.S. Business and Contingent Commissions as Percent of Revenues

Rank	Broker	2004 Revenues $ Millions	% Cont Comm	Mkt Shr %	Cumul %	Rank	Broker	2004 Revenues $ Millions	% Cont Comm	Mkt Shr %	Cumul %
1	Marsh & McLennan	5,804.400	7.3%	31.1%	31.1%	51	The Rutherford Cos	42.691	NA	0.2%	98.0%
2	Aon	3,105.900	2.0%	16.6%	47.7%	52	Webster Insurance	42.207	NA	0.2%	98.0%
3	Arthur J. Gallagher	1,192.680	3.0%	6.4%	54.1%	53	Marshall and Sterling	39.958	8.0%	0.2%	98.0%
4	Willis Group	1,036.350	4.0%	5.5%	59.6%	54	Van Gilder Insurance	39.756	12.0%	0.2%	98.0%
5	Wells Fargo	943.728	3.4%	5.1%	64.7%	55	The Graham Co	39.182	2.4%	0.2%	98.0%
6	BB&T Insurance Services	679.748	NA	3.6%	68.3%	56	Woodruff-Sawyer & Co	38.950	7.0%	0.2%	98.0%
7	Brown and Brown	638.267	6.0%	3.4%	71.7%	57	Barney and Barney	38.900	NA	0.2%	98.0%
8	Hilb Rogal and Hobbs	601.734	NA	3.2%	74.9%	58	The James B. Oswald Co	38.681	5.8%	0.2%	98.0%
9	Wachovia Insurance	410.774	7.2%	2.2%	77.1%	59	Horton Insurance Agency	37.851	4.0%	0.2%	100.0%
10	USI Holdings	405.820	5.0%	2.2%	79.3%	60	Cottingham and Butler	37.369	2.5%	0.2%	100.0%
11	Locton Companies	329.417	4.0%	1.8%	81.1%	61	William Gallagher	36.386	10.0%	0.2%	100.0%
12	Hub International	231.440	6.0%	1.2%	82.3%	62	The Treiber Group	36.108	6.0%	0.2%	100.0%
13	Jardine Lloyd Thompson	205.883	NA	1.1%	83.4%	63	Jenkins Athens	35.922	3.6%	0.2%	100.0%
14	Alliant Resources Group	181.516	5.7%	1.0%	84.4%	64	Hibernia Insurance Agency	35.192	1.0%	0.2%	100.0%
15	ABD Insurance	133.399	3.0%	0.7%	85.1%	65	Capacity Group	34.090	NA	0.2%	100.0%
16	CBIZ Benefits & Insurance	128.918	4.0%	0.7%	85.8%	66	Western States Insurance	33.214	NA	0.2%	100.0%
17	Keenan & Associates	104.822	NA	0.6%	86.4%	67	Trion	33.462	NA	0.2%	100.0%
18	Frank Crystal & Co	99.136	NA	0.5%	86.9%	68	The Mahoney Group	32.957	5.1%	0.2%	100.0%
19	Meadowbrook Group	95.700	1.0%	0.5%	87.4%	69	Andreini & Co	32.630	4.2%	0.2%	100.0%
20	The Leavitt Group	94.673	4.7%	0.5%	87.9%	70	McQueary Henry Bowles Troy	31.700	7.0%	0.2%	100.0%
21	Citizens Financial Group	86.375	4.1%	0.5%	88.4%	71	Roger Bouchard Insurance	31.434	3.5%	0.2%	100.0%
22	Commerce Insurance Srvc	85.484	NA	0.5%	88.8%	72	Riggs, Counselman,. . .	31.076	8.0%	0.2%	100.0%
23	John L Wortham & Son	82.126	3.0%	0.4%	89.3%	73	Fringe Benefits Management	30.987	NA	0.2%	100.0%
24	Bollinger	80.400	7.5%	0.4%	89.7%	74	Eastern Insurance Group	29.983	10.0%	0.2%	100.0%
25	The NIA Group	74.960	6.0%	0.4%	90.1%	75	Bratrud Middleton	29.300	11.0%	0.2%	100.0%
26	Fleet Insurance Services	74.605	4.0%	0.4%	90.5%	76	The Loomis Co	28.559	1.0%	0.2%	100.0%

(*continued*)

TABLE 2
(Continued)

Rank	Broker	2004 Revenues $ Millions	% Cont Comm	Mkt Shr %	Cumul %	Rank	Broker	2004 Revenues $ Millions	% Cont Comm	Mkt Shr %	Cumul %
27	Hylant Group	74.446	6.5%	0.4%	90.9%	77	Lawley Service	28.393	8.3%	0.2%	100.0%
28	Summit Global Partners	71.144	8.1%	0.4%	91.3%	78	Higginbotham & Assoc	27.353	5.4%	0.1%	100.0%
29	UBOC Insurance	68.400	7.0%	0.4%	91.6%	79	Bowen, Miclette and Britt	27.341	6.5%	0.1%	100.0%
30	J. Smith Lanier & Co	68.209	7.0%	0.4%	92.0%	80	DeWitt Stern Group	26.920	NA	0.1%	100.0%
31	Regions Insurance Group	67.387	NA	0.4%	92.4%	81	Starkweather and Shepley	26.852	NA	0.1%	100.0%
32	Brooke Franchise Corp	65.907	3.1%	0.4%	92.7%	82	Payne Financial Group	26.659	9.0%	0.1%	100.0%
33	Holmes Murphy & Assoc	65.316	4.0%	0.3%	93.1%	83	R. C. Knox & Co	25.794	NA	0.1%	100.0%
34	Mesirow Financial	63.613	10.0%	0.3%	93.4%	84	Charles L. Crane Agency	25.467	NA	0.1%	100.0%
35	Brokerage Concepts	62.945	0.0%	0.3%	93.8%	85	The Daniel & Henry Co	25.111	6.1%	0.1%	100.0%
36	Synaxis Group	59.966	3.6%	0.3%	94.1%	86	Lovitt and Touche	24.519	NA	0.1%	100.0%
37	Allied North America	59.800	NA	0.3%	94.4%	87	Scott Insurance	24.510	4.8%	0.1%	100.0%
38	The Hays Group	59.500	NA	0.3%	94.7%	88	Haylor, Freyer and Coon	24.400	8.4%	0.1%	100.0%
39	Compass Insurance	59.160	4.9%	0.3%	95.0%	89	Parker, Smith and Feek	23.537	6.3%	0.1%	100.0%
40	Guaranty Insurance Srvc	58.965	5.0%	0.3%	95.3%	90	Dawson Insurance	23.461	5.5%	0.1%	100.0%
41	Bancorp South Insurance	57.522	6.0%	0.3%	95.7%	91	Seitlin	23.393	6.0%	0.1%	100.0%
42	The IMA Financial Group	54.571	6.4%	0.3%	95.9%	92	Assurance Agency	22.986	NA	0.1%	100.0%
43	Tanenbaum-Harber	54.108	4.6%	0.3%	96.2%	93	North American Insurance	22.893	5.1%	0.1%	100.0%
44	TD Banknorth Insurance	51.939	11.0%	0.3%	96.5%	94	James G. Parker Group	20.830	NA	0.1%	100.0%
45	Heffernan Group	50.352	6.0%	0.3%	96.8%	95	Bolton & Company	20.190	NA	0.1%	100.0%
46	InterWest Insurance	50.299	8.0%	0.3%	97.1%	96	Robertson Ryan & Associates	20.175	NA	0.1%	100.0%
47	Neace Lukens	48.869	5.0%	0.3%	97.3%	97	Thilman and Filippini	19.749	NA	0.1%	100.0%
48	Frenkel & Co.	46.566	9.0%	0.2%	97.6%	98	Fred A. Moreton & Co.	19.421	4.7%	0.1%	100.0%
49	Insurance Office of America	46.524	7.0%	0.2%	97.8%	99	Cobbs, Allen and Hall	19.007	NA	0.1%	100.0%
50	Associated Financial Group	42.838	6.1%	0.2%	98.0%	100	RJF Agencies	17.598	NA	0.1%	100.0%
	Average: Top 50	366.332	5.3%				Average: Bottom 50	29.702	6.1%		

Source: Revenues for U.S. business only and are from *Business Insurance*, July 18, 2005. Contingent commissions are from *Business Insurance*, October 25, 2004.

revenues by line of business, while Table 2 shows the 100 largest brokers based on brokerage revenues from U.S.-based clients. The world's top two brokers, Marsh and Aon, have 68.6 percent of the revenues represented by the top ten global brokers. Marsh and Aon account for 47.7 percent of revenues among the top 100 brokers in the United States. The top five brokers account for 64.7 percent of U.S. revenues, the top ten for 79.3 percent, and the top 50 for 98.0 percent.

On average, for the world's top ten brokers, commercial lines retail brokerage accounts for 56.1 percent of total revenues, services account for 12.2 percent, wholesale brokerage for 10.0 percent, and reinsurance brokerage for 7.4 percent. Personal lines are generally not a significant source of revenue for the top brokers and are less important than commercial lines for most independent agents.[8] Thus, the bulk of commercial PC lines for the large and international buyer segment of the market is placed by a small number of large brokers for each of whom it is their biggest source of revenue. However, smaller brokers and independent agents retain a significant market share among local and regional business buyers.

Mergers and Acquisitions

Many of the current leaders in the insurance intermediary industry owe their positions to M&A activity rather than organic growth. For example in 1997 Marsh made major acquisitions of Johnson and Higgins and Sedgwick, almost doubling its size. In 1996–1997, Aon more than doubled in size with acquisitions of Bain Hogg, Alexander and Alexander, Minet, and Jauch and Hubner. Other players also have achieved top ten positions through aggressive M&A activity. For example, between 1997 and 2003, Arthur J. Gallagher completed 59 deals in North America; Accordia, 13; Brown and Brown a staggering 82; and Hill, Rogal and Hobbs 28 (Swiss Re, 2004). Outside the top tier of the brokerage segment of the industry, the M&A activity has been less dramatic.

The merger activity falls into several patterns. Many were broker–broker deals whereas others were bank acquisitions. Indeed banks now own 10 percent of the broker market, with the two big players being BB&T and Wells Fargo. Many of the acquisitions have been driven by the quest for economies of scale and scope. For example, BB&T acquired MSW in 2003 primarily to build a "distribution network to compete with the global public brokers."[9] Other acquisitions were driven by the desire to expand into new product lines or regions. For example, by acquiring Tri-City, BISYS diversified from wholesale life insurance broking into the PC market. Given the need to compete with the global brokers, significant M&A activity among regional and niche brokerages is expected to continue. Similarly, M&As among independent agents and acquisitions of agencies by larger intermediaries are expected to continue, driven by the need to compete with larger intermediaries in commercial lines and with exclusive agents in personal lines.

[8] Many small independent agencies continue to earn a majority of their revenues in the personal lines, while commercial lines tend to dominate for relatively large agencies. IIABA (2004), p. 6.

[9] WFG Capital Advisors (2004).

COMPETITIVE STRUCTURE

Barriers to Entry

The vast number of independent agencies testifies to low barriers to entry. However, the ease of entry into the market is inversely related to size. It seems relatively easy through consolidation to create regional brokers by purchasing smaller regional and local intermediaries. However, entry becomes progressively more difficult further up the size continuum, and entry into the top tier of brokers would be rather difficult. The largest brokers are global in scope and have developed a level of sophistication and range of service capabilities that would be difficult to duplicate. The megabrokers also have unparalleled capability to syndicate large, complex risks that would take years to develop for *de novo* rivals. Although there have been attempts to match the capabilities of the megabrokers through affiliations of medium-size brokers in various countries, the degree to which such firms can compete internationally with the more fully integrated megabrokers is not clear (Conning & Company, 2005).

Niche and Regional Players

Many of the small to medium-sized intermediaries are niche or regional players. Some of these firms specialize in specific lines of insurance or products or in servicing clients from a particular industry. They play an important role in the market and effectively increase competition. For example, one brokerage firm specializes in independent oil companies, another in hospitals. While these firms are small relative to the megabrokers, they can compete effectively with national and global brokers within their market. Indeed, in terms of expertise, data, and services specialized to a given industry, they may often have superior capability, despite their apparent size disadvantage. Because specialized intermediaries are present in many industry sectors, the megabrokers are effectively competing across much of their range with these smaller firms. Many brokers are regional and can compete effectively with the globals for local clients. Regionals lacking full service capabilities can collaborate with specialist providers to deliver services comparable to the global brokers.

Retail and Wholesale Brokers

The global brokers have full service capabilities, including retail, placement, risk assessment, loss mitigation and control, and risk management. Such firms also have wholesale capabilities either internally or through subsidiaries. Many smaller intermediaries focus on the retail functions and lack the sophisticated capabilities of the global brokers. The smaller intermediaries have the ability to place most local and regional business that comes their way but tend to use wholesalers to access specialized markets such as the surplus lines market or the London market. In this way, smaller retail intermediaries can often compete effectively with global brokers for particular accounts.

Competition among Global Brokers

The concentration of the bulk of commercial lines business in a small number of firms describes an oligopoly market structure. While the medium-sized risks are often fiercely contested between the global brokers and their smaller rivals, the largest risks tend to be placed with the top three or four global brokers. It is difficult to

generalize about the force of competition in the megabroker market. On the one hand, high market concentration grants the megabrokers considerable power to negotiate advantageous terms from both their clients and insurers. On the other hand, competition between a few large firms can be fierce. Indeed, this market structure is usually described as a "prisoner's dilemma" in which cooperation between suppliers is inherently unstable and, as a result, competition usually prevails.[10] Much depends on the individual circumstances. While the top brokers may go head to head on one account, on another account, the size and core skills demanded might only be possessed by one broker who will have an effective monopoly.

The degree of competition among the megabrokers depends upon the phase of the underwriting cycle, i.e., the tendency of commercial PC insurance markets to go through alternating phases of "hard" and "soft" markets. In a hard market, the supply of coverage is restricted and prices rise; while in a soft market, supply is plentiful and prices are more moderate.[11] During a hard market phase, the dominant brokers play a pivotal role in allocating the available supply among competing buyers. This effect is exacerbated in the large-buyer (e.g., Fortune 500) market segment, because large accounts place more risk on insurers and hence absorb significantly more capacity than small accounts, which are easier to diversify. Because the megabrokers have a dominant position in the placement of coverage for the largest buyers, their market power is likely to increase with the intensity of the hard market.

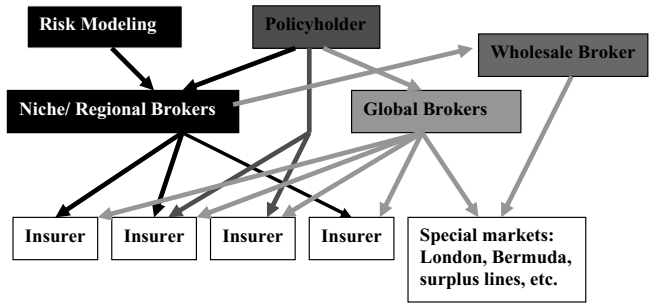
An important distinction between insurance intermediation and many other markets is that the nature of competition is based more on quality than on the price charged by the intermediary.[12] In most markets, buyers are interested in the product and the price, and pre- and post-sale services are minimal. PC insurance is different because of the intensity of the pre- and post-sale services and the fact that the agent helps to design the product (coverages, risk management programs, etc.). The bulk of compensation for both independent agents and brokers comes from commissions; and, while these can be offset against fees negotiated with clients, they are not seen as a competitive tool. Rather, intermediaries compete in the quality of services provided and insurance placements. In these dimensions, competition between the major brokers is intense. In addition, constantly nipping at the heels of the biggest players are the niche and regional players who compete effectively on some types of accounts.

[10] The term "prisoner's dilemma" comes from the practice of plea bargaining. If two suspects are caught, then a conspiracy of silence between them might prevent a successful indictment. However, an offer to one to snitch on the other in exchange for leniency will often break the stalemate. So too with oligopolists. Collaboration by holding prices high yields high joint profits. However, each player has an incentive to undercut the cartel price. If one can gain by breaking rank so can others, and thus the cartel is likely to fall apart and competition thrives.

[11] The consensus in the literature is that hard and soft markets are driven by capital market and insurance market imperfections and information asymmetries such that capital does not flow freely into and out of the industry (Cummins and Doherty, 2002; Cummins and Danzon, 1997; Winter, 1994).

[12] The role of quality competition between insurers with alternative product distribution systems is analyzed in Berger, Cummins, and Weiss (1997).

FIGURE 2
Diagram of the Commercial Insurance Market



Effective Competition

Figure 2 summarizes the market features just described. The chart portrays the choices available to the risk manager of a firm seeking insurance. In some cases, the risk manager accesses the market directly, although this tends to require significant in-house expertise and sophistication. Most commercial lines insurance is placed through some type of intermediary, even for the largest buyers. Small commercial buyers, with relatively simple coverage needs, tend to utilize local intermediaries. For larger risks, the tendency is to place coverage through a regional/niche broker or through one of the global brokers. Many regional players do not maintain in-house capabilities for functions such as risk modeling but tend to outsource these functions. The largest global brokers tend to internalize all of the major brokerage functions, providing full-service capabilities. Hence, it is quite possible for a regional/niche player to put together coverage programs that are competitive with the global brokers, although this becomes increasingly difficult as the size and complexity of risk increases.

It is sometimes thought that the high degree of concentration of the brokerage market in a few hands indicates a lack of competitiveness. Figure 2 suggests that this argument is oversimplified. Not only do the global brokers compete with each other, but they have effective competition on smaller accounts from regional brokers and to a lesser extent from direct placement. The ability of these regional/niche players to compete with the globals is enhanced by their specialized or local capability and by their ability to partner with the specialist service providers and wholesale brokers. Clearly, the midsize firms play an important role in the market for mid-size risks and "there continue to be opportunities for astute middle market brokers to penetrate national accounts in certain lines of business" (Conning & Company, 1999).

The view that the brokerage market is competitive can be challenged by the fact that the bulk of the business in the large-buyer segment of the market is placed by a handful of brokers. Moreover, this concentration has been increasing over time. Risk managers for large national and global firms place much of their risk though the "top five" and have shown an increasing proclivity to do so over the years. Competitiveness varies by market segment. For small and medium-sized risks, many intermediaries compete for business. However, as buyer size increases, the ability of many small and medium

TABLE 3
Leading Brokers in Five Metropolitan Areas

Baltimore		Boston		Cincinnati	
Broker	National Rank	Broker	National Rank	Broker	National Rank
Aon	2	Marsh	1	Marsh	1
Marsh	1	USI Insurance Services of MA	10	Acordia	*
Riggs, Counselman, Michaels	72	Aon	2	USI Midwest	10
HRH of Baltimore	8	William Gallagher Assoc	61	Schiff, Kreidler-Shell	*
HMS Insurance Associates	*	Eastern Insurance Group	74	Brower Insurance Agency	*
Willis	4	The Protector Group Agency	*	Neace Lukens	47
Diversified Insurance Industries	*	Knapp, Schenck & Co	*	Roeding Group	*
PSA Financial Center	*	Marketing Associates Agency	*	Kinker-Eveleigh	*
Inner Harbour Insurance	*	Wells Fargo	5	Hylant Group	27
Insurance Inc.	*	McSweeney & Ricci Agency	*	SP Agency	*
The Jacobs Co.	*	Insurance Marketing Agencies	*	CAI Insurance Agency	*
HTG Insurance Group	*	Sullivan Group	*	Rixey-Berry Insurance	*
CBIZ Insurance Services	16	Rodman Insurance Agency	*	AAA Cincinnati Insurance	*
Katz Insurance Agency	*	Corcoran & Havlin Group	*	Emory P. Zimmer	*
Warfield-Dorsey	*	Eastern States Agency	74	Sibcy Cline Insurance	*

(*continued*)

TABLE 3
(Continued)

Los Angeles		Seattle	
Broker	National Rank	Broker	National Rank
Aon	2	Marsh	1
Marsh	1	Aon	2
Arthur J. Gallagher & Co.	3	MCM	*
Lockton Insurance Brokers	11	Arthur J. Gallagher & Co.	3
Total Financial & Insurance	*	Kibble & Prentice	*
Keenan & Associates	17	Bratrud Middleton Insurance	75
Willis	4	ClearPoint LLC	*
Innovative Solutions	*	Acordia Northwest	*
ABD Insurance	15	Parker, Smith and Feek	89
Sullivan Curtis Monroe	*	Brown & Brown of WA	7
PRB Insurance & Fin Srvc	*	Conover Insurance Group	*
Bolton & Co.	95	ABD Insurance	15
Sander A. Kessler & Assoc	*	USI Northwest	10
Armstrong/Robitaille	*	Bell-Anderson Agency	*
Scanlon Guerra Jacobsen Burke	*	Sprague Israel Giles	*

*Indicates that this firm does not appear in the top 100 brokers list in *Business Insurance*, July 18, 2005.
Source: BizJournals.com, via email. Rankings published in local *BizJournals* based on 2004 data.

firms to compete effectively is diminished, and the largest risks become largely the domain of the megabrokers.

In any one industry or region, smaller specialist intermediaries may have significant market shares. The participation of smaller intermediaries in local markets can be illustrated by comparing the leading players in various local markets with those in the national market. The data, collected by BizJournals.com, are self-reported so there may be some omissions and thus comparisons are illustrative rather than definitive. Table 3 provides the ranking of the top fifteen intermediaries in five metropolitan areas. In every city shown, at least seven of the top fifteen intermediaries are not ranked among the top 100 national intermediaries, indicating significant competition at the local level.

The 2004 Spitzer investigations into Marsh's practices illustrate what can go wrong in the commercial lines brokerage market. Spitzer alleged that Marsh engaged in bid rigging and received more than $1 billion in volume-based contingent commissions through so-called "market services agreements (MSAs)" to steer business to specific insurers. The bid rigging was alleged to have involved the solicitation of inflated price quotations from insurers which were presented to buyers as legitimate offers. On January 31, 2005, Marsh agreed to pay $850 million in restitution to buyers as part of an agreement to settle the suit.[13] Actions were also brought against major brokers in other states, including Aon and Willis, and several lawsuits are working their way through the judicial system. These investigations did result in some criminal indictments for bid rigging. However, the normally competitive market for PC insurance should be carefully distinguished from illegal activities that occasionally occur.

Profitability of Public Brokers and Insurers

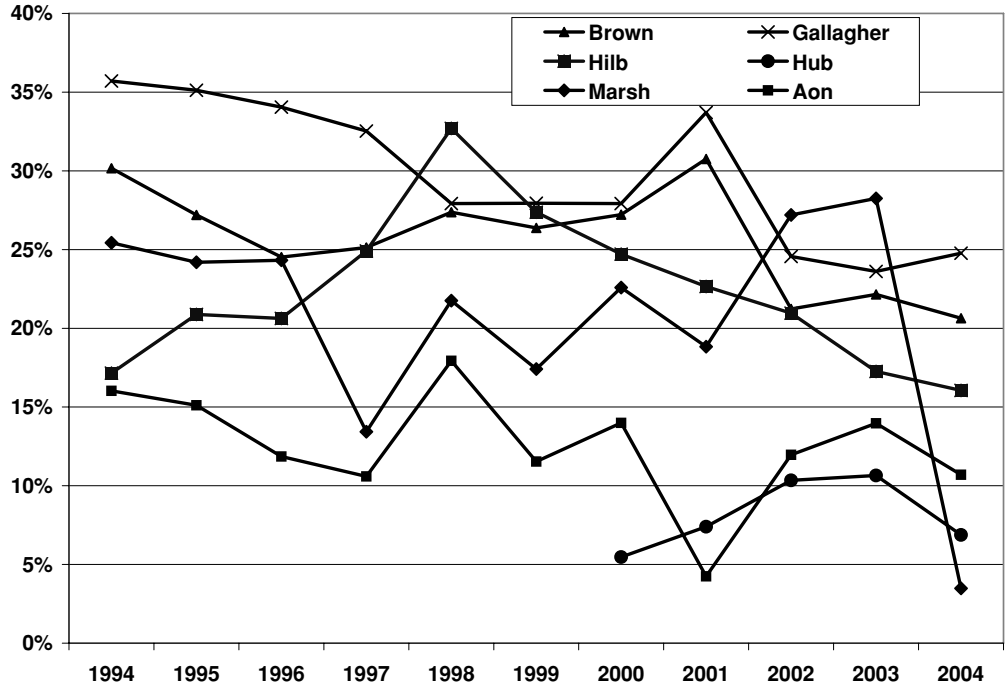
The returns on equity (ROE), based on generally accepted accounting principles (GAAP), for several major brokers listed on U.S. public stock exchanges are plotted in Figure 3 for the period 1994–2004. Except for Aon and Hub, the returns tend to be above 20 percent in most years. Marsh and McLennan's returns exceeded 25 percent in 2002–2003 but dropped sharply in 2004, reflecting the Spitzer settlement and other regulatory problems.

Figure 4 compares the ROEs of the public brokers, traded PC insurers, and all U.S. industries.[14] The public brokers earned significantly higher rates of return than both PC insurers and the U.S. average until 2004, when their returns dropped to the level of all U.S. industries primarily due to the decline at Marsh. PC insurers generally tend

[13] It is also alleged that Marsh and perhaps other brokers engaged in other questionable practices. These include "tying," i.e., requiring primary insurers to place their reinsurance through the intermediary's reinsurance brokerage in order to obtain primary market placements, and "related-party" transactions, where business is placed with insurers that are partially owned or controlled by the broker (see Conning & Company, 2005). Allegations have also surfaced in life insurance. In early 2006, Spitzer negotiated a $2 million settlement with life insurance broker Universal Life Resources over the alleged steering of group life business to insurers in exchange for commissions (*Business Insurance,* January 9, 2006, p. 3). The PC insurers and all U.S. industries data in Figure 4 are from III (2006).

[14] The broker figures are the average returns of the brokers shown in Figure 4.

FIGURE 3
Public Brokers GAAP Return on Equity



to earn somewhat less than the economy-wide average.[15] Whether the high returns of the brokers represent "excess" returns due to market power or legitimately reflect economic value added cannot be determined without further analysis. However, returns tend to be positively correlated with risk, and it would be difficult to argue that PC insurers face lower risk than brokers, because brokers typically bear little underwriting risk. Also, the high returns of the public brokers are not necessarily representative of smaller brokers and agents.

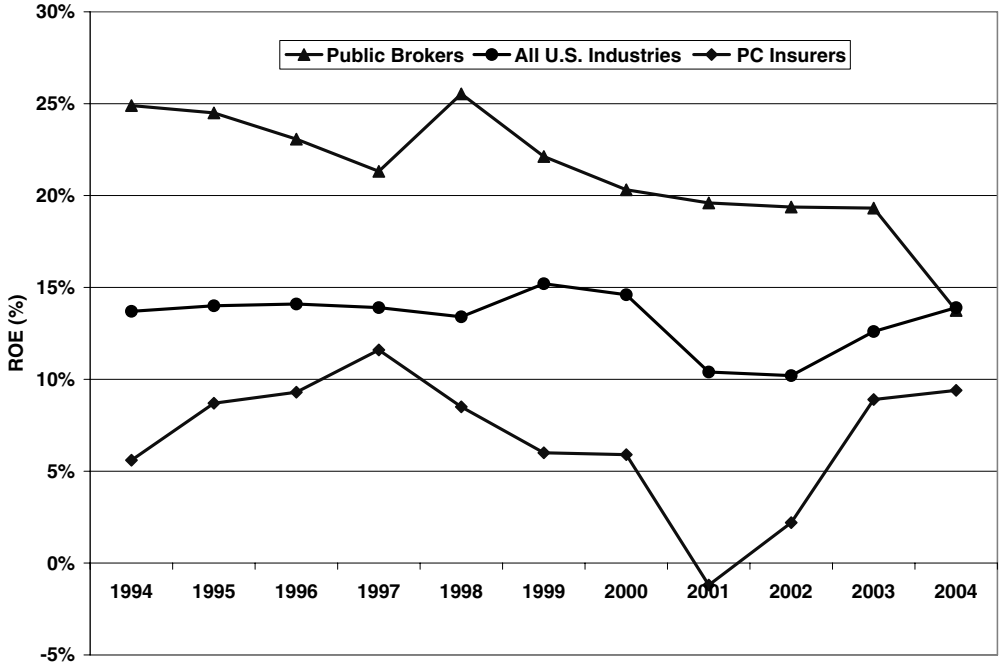
COMPENSATION

Intermediary Compensation

Most compensation for insurance intermediaries consists of a percentage of the premiums paid on each policy. In this article, we refer to these commissions as "premium-based commissions." Industry-wide for U.S. PC business, total commission and brokerage expenses represent 11.4 percent of premiums for commercial lines and 9.4 percent for personal lines (Table 4). The percentage varies significantly by line, ranging from 21.5 percent for fidelity–surety to 3.9 percent for medical malpractice.

[15] GAAP returns of the insurers may be somewhat misleading because they do not fully reflect capital gains. In addition, ROEs for insurers may be lower than for industrials because the carrying value of insurer assets is much closer to market value than for industrials such that their equity capital is correspondingly higher.

FIGURE 4
GAAP Returns on Equity for Public Brokers, PC Insurers, and All U.S. Industries



Although commission rates also depend on average policy size, in general lines that are more difficult to underwrite, i.e., more information-intensive and complex, tend to have higher commissions.

In addition to premium-based commissions, insurance intermediaries may also receive contingent commissions based on various performance criteria such as the profitability of the business placed with an insurer, persistency (i.e., the extent to which policies are renewed with the incumbent insurer), and/or the volume of business. Industry-wide, contingent commissions averaged about 1.1 percent of premiums in 2004. This understates the importance of contingent commissions in commercial lines to the extent that this form of compensation is less important in personal lines. Insurers do not report contingent commissions by line, but most observers agree that they represent 1.5 to 2 percent of premiums in commercial lines. Table 2 shows contingent commissions as a percentage of revenues for the top 100 brokers. The unweighted and weighted averages are 5.7 percent and 5.1 percent of revenues, respectively.[16]

Twenty-two of the top 100 PC insurers ranked by net premiums written do not pay contingent commissions, based on NAIC data, including market leader State Farm.

[16] A survey of brokers showed that contingent commissions accounted for 5% of revenues in 1994 and 4.6% in 1999 (Conning & Company, 1999). The larger brokers have somewhat lower percentages of revenues from contingent commissions, maybe because they get a higher portion of their revenues from ancillary services. For earlier analyses of insurance distribution channels, see Conning & Company (1995, 1996).

TABLE 4
Commission and Brokerage Expense by Line: 2004

Line	Total Industry Net Premiums Written	Independent Distributor Share	Total Comm/NPW
Fidelity & surety	4,708	80.6%	21.5%
Reinsurance	13,295	29.8%	17.7%
Commercial multiple peril	28,470	73.3%	16.7%
Ocean marine	2,525	78.1%	16.3%
Inland marine	7,411	68.0%	14.4%
Commercial auto physical damage	7,029	71.9%	13.1%
Homeowners' multiple peril	48,832	30.3%	13.0%
Commercial auto liability	18,527	76.7%	12.6%
Fire, allied lines, and earthquake	15,560	64.7%	12.2%
Other & products liability	33,290	78.7%	11.7%
Private passenger auto physical damage	62,512	31.4%	8.7%
Private passenger auto liability	89,491	32.6%	8.6%
Workers' compensation	40,049	76.6%	6.5%
Medical malpractice	7,386	51.9%	3.9%
All commercial lines	193,147	68.2%	11.4%
All personal lines	200,834	31.7%	9.7%
All lines	402,092	49.7%	10.5%

Note: Commercial and personal lines do not add to the industry total because the total also includes accident and health insurance written by property–casualty insurers.
Source: A. M. Best Company (2005), *Best's Aggregates and Averages*, 2005 Edition (Oldwick, NJ).

Table 5 shows the top 50 PC insurers that do pay contingent commissions, ranked by the total contingent commissions paid. Although the largest payer of contingent commissions is Allstate, which is primarily a personal lines insurer, in general, the leading payers of contingent commissions are large commercial lines writers such as St. Paul Travelers, Chubb, and AIG. Informational asymmetries are expected to be most severe for complex and unique risks, enhancing the value of underwriting information provided by the intermediary. Hence, contingent commissions are especially important in aligning incentives between the intermediary, the insurer, and the policyholder for complex coverages such as the commercial PC lines. However, contingent commissions also are used by some personal lines insurers to encourage agents to place high quality business with the insurer. The average contingent commission for the top 50 payers is 2.3 percent of premiums and the average premium-based commission is 11.5 percent.

Many brokers also receive fee income from clients. Fees are most common in cases where a significant part of the risk management and risk transfer arranged by the broker is not through insurance but rather through alternative risk transfer techniques such as self-insurance and captive insurance companies. Intermediaries also provide services such as risk modeling, risk management consulting, loss mitigation, and claims management, which do not lend themselves readily to commission-based compensation. In such cases, the broker and client negotiate a fee for services

TABLE 5
Top 50 U.S. Property–Liability Insurers in Contingent Commissions Paid (by Amount) 2004

	Group/Company Name	Net Premiums Written	Assets	Contingent Commissions	Premium-Based Commissions	Contingent Comm/ Prem	Direct Comm/ Prem	Commercial Lines %
1	Allstate Insurance Group	25,983,893,596	48,567,217,649	558,186,692	2,717,724,674	2.1%	10.5%	7.2%
2	St Paul Travelers Group	19,603,030,369	78,845,134,013	468,532,845	2,469,341,779	2.4%	12.6%	70.5%
3	Nationwide Corp	14,263,138,393	36,329,540,795	278,380,540	1,783,088,295	2.0%	12.5%	30.8%
4	Chubb & Son	10,274,832,155	32,664,470,095	174,776,060	1,424,211,609	1.7%	13.9%	80.0%
5	Hartford Fire & Casualty Group	9,627,338,687	40,537,357,223	163,102,396	829,315,764	1.7%	8.6%	63.7%
6	American Intrnl Group	33,119,623,277	95,338,413,053	145,358,844	2,891,046,892	0.4%	8.7%	54.3%
7	Liberty Mutual Group	13,207,938,851	42,255,245,471	136,384,657	374,584,876	1.0%	2.8%	56.8%
8	Assurant Group	1,201,712,883	2,480,269,937	131,950,779	149,366,243	11.0%	12.4%	75.1%
9	Zurich Insurance Group	18,651,579,118	50,899,210,031	110,830,623	459,518,602	0.6%	2.5%	49.5%
10	Safeco Insurance Group	5,675,839,081	11,388,459,124	106,485,244	788,700,387	1.9%	13.9%	37.6%
11	Cincinnati Financial	2,999,381,723	10,215,254,224	102,286,922	472,436,360	3.4%	15.8%	75.8%
12	Commerce Group	1,712,539,439	3,415,344,090	92,060,010	192,229,138	5.4%	11.2%	7.4%
13	CNA Insurance Group	7,504,168,156	41,738,056,495	89,440,746	900,127,923	1.2%	12.0%	99.4%
14	Berkshire Hathaway	16,188,166,793	110,980,801,398	79,745,320	1,197,918,721	0.5%	7.4%	41.8%
15	Auto Owners Group	4,271,372,328	10,596,736,084	77,693,558	649,277,662	1.8%	15.2%	52.4%
16	White Mountains Group	3,321,196,483	11,427,401,171	77,666,713	541,544,878	2.3%	16.3%	64.6%
17	WR Berkley Corp	4,089,490,189	11,415,828,150	70,346,135	648,789,430	1.7%	15.9%	99.9%
18	Allmerica Financial Corp	2,236,672,393	5,335,912,126	67,751,266	298,540,147	3.0%	13.3%	35.3%
19	Allianz Insurance Group	4,389,389,460	18,906,942,291	63,537,762	498,717,082	1.4%	11.4%	80.6%
20	Fairfax Financial	3,209,389,955	13,365,776,259	57,016,318	540,987,101	1.8%	16.9%	94.0%
21	Swiss Re Group	2,272,558,074	12,769,514,269	46,116,360	151,538,928	2.0%	6.7%	92.8%
22	ACE	4,543,443,853	18,180,254,123	45,539,010	299,827,804	1.0%	6.6%	98.0%
23	Credit Suisse Group	1,433,603,992	3,350,959,923	44,724,570	199,022,538	3.1%	13.9%	63.7%
24	Westfield Group	1,405,532,159	3,801,090,835	42,015,485	220,419,765	3.0%	15.7%	59.7%
25	Munich American Holding	1,849,985,442	16,033,833,884	41,983,654	169,311,302	2.3%	9.2%	96.6%
26	Progressive Group	13,381,321,356	17,296,498,126	39,045,719	926,977,997	0.3%	6.9%	13.7%

(continued)

TABLE 5
(Continued)

	Group/Company Name	Net Premiums Written	Assets	Contingent Commissions	Premium-Based Commissions	Contingent Comm/ Prem	Direct Comm/ Prem	Commercial Lines %
27	Selective Insurance	1,384,079,412	3,465,883,436	38,631,430	181,740,954	2.8%	13.1%	84.3%
28	EMC Insurance Company	1,181,925,786	2,931,987,127	34,178,743	175,648,792	2.9%	14.9%	83.7%
29	Ohio Casualty Group	1,453,950,083	5,005,433,800	33,858,925	210,767,911	2.3%	14.5%	68.8%
30	GE Global Group	4,905,273,805	27,063,271,628	32,368,169	667,267,945	0.7%	13.6%	97.0%
31	Metropolitan Group	2,963,303,760	6,084,013,653	29,572,938	234,353,607	1.0%	7.9%	2.6%
32	Shelter Insurance Companies	1,012,228,989	2,098,914,814	28,384,722	112,198,649	2.8%	11.1%	17.1%
33	American Family Insurance Group	5,955,846,020	10,001,605,242	27,499,373	599,398,317	0.5%	10.1%	15.9%
34	Mercury General Group	2,632,029,983	4,088,120,172	26,599,219	427,242,892	1.0%	16.2%	6.8%
35	Agri General Insurance Co	336,232,138	315,385,586	26,593,439	14,547,576	7.9%	4.3%	100.0%
36	Markel Group	1,510,089,940	4,123,000,852	26,128,396	250,965,649	1.7%	16.6%	96.8%
37	California St Auto Group	2,118,946,858	4,825,536,352	25,266,049	222,919,368	1.2%	10.5%	1.0%
38	American Modern Insurance Group	671,984,529	1,285,410,608	25,237,971	154,729,216	3.8%	23.0%	41.7%
39	Unitrin Group	1,955,948,109	3,736,736,607	24,929,919	293,341,220	1.3%	15.0%	23.2%
40	State Auto Mutual Group	1,343,407,409	3,820,092,662	24,346,180	207,669,370	1.8%	15.5%	41.0%
41	West Bend Mutual Group	642,177,302	1,271,483,157	21,905,316	79,436,980	3.4%	12.4%	71.8%
42	National Grange Mutual Group	757,425,415	1,525,328,305	21,823,753	125,897,673	2.9%	16.6%	54.0%
43	Country Insurance & Financial	1,770,241,550	3,575,700,115	21,157,015	184,661,633	1.2%	10.4%	23.5%
44	Everest Reinsurance Holdings	2,961,517,676	9,587,760,423	19,577,208	537,233,708	0.7%	18.1%	93.9%
45	Harleysville Group	1,178,669,550	3,732,687,813	19,547,233	181,959,992	1.7%	15.4%	81.7%
46	XL America	869,554,356	7,035,038,757	19,279,628	−275,480,890	2.2%	−31.7%	99.0%
47	United Fire & Casualty Group	461,987,742	1,302,632,020	18,856,734	71,907,561	4.1%	15.6%	90.6%
48	Acuity Mutual Group	654,824,437	1,292,523,080	18,687,510	85,362,119	2.9%	13.0%	78.7%
49	Grange Mutual Casualty	1,008,688,117	1,549,010,140	17,877,679	162,186,564	1.8%	16.1%	25.6%
50	Texas Mutual Insurance Co	706,762,719	2,605,486,341	17,853,544	57,464,788	2.5%	8.1%	100.0%
	Averages	5,337,084,678	17,209,171,271	78,222,386	535,159,750	2.3%	11.5%	60.0%

Source: National Association of Insurance Commissioners Annual Statement CD-ROM for 2004. Commercial % based on net premiums written.

provided. If the transaction does contain a significant insurance component, the fees are sometimes partially offset by commissions. The use of fees as a significant source of revenues tends to be most common among large brokers.[17]

Contingent Commissions

As mentioned, contingent commissions are based on some indicator(s) of an intermediary's performance. Typically, contingent commissions are based on the profitability of the intermediary's business placed with the insurer, the persistency rate, and/or on the volume of business.[18] Volume-based contingent commissions, particularly in the megabroker market segment, are often called placement services agreements (PSAs) or MSAs.[19] Contingent commission arrangements vary widely. However, the great majority of the arrangements covering the smaller intermediaries is based on the profitability of the business written or profitability and volume.

No systematic data are available on the prevalence of profit-based and volume-based contingent commissions. However, it is clear from Table 5 that the payment of contingent commissions varies widely across the insurance industry, even for firms writing commercial PC insurance. Based on interviews conducted by the authors with insurance industry executives and intermediaries, the most reasonable conclusions seem to be that most contingent-commission agreements are profit-based rather than volume-based and that volume-based commissions tend to be used in specific market segments and tended, until recently, to be more common among large brokers than among smaller intermediaries.

Insurers may have different compensation arrangements with different intermediaries, and there may be different contingent commissions for different lines of business. Usually, these arrangements span a number of lines of insurance and may be offered separately at each branch of a brokerage firm, depending upon the broker's organizational structure. Occasionally, a national broker will have a unified agreement with an insurer that spans multiple branches.

Contingent commission structures are usually progressive in the sense that the marginal rate of the commission increases with the level of activity. For example, a minimum volume of business and profitability is required to be eligible for the incentive commissions; and the percentage commission rate increases as higher profit or volume triggers are attained.[20]

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[17] Some intermediaries also receive noncash compensation from insurers. Often this takes the form of travel and vacation awards in recognition of superior performance. This issue is not pursued further because there is little systematic information on the prevalence or importance of this form of compensation.

[18] No systematic data or information is available publicly on the contingent commission arrangements between insurers and intermediaries. Statements about the prevalence of various types of contingent commissions are based on interviews conducted by the authors with insurance executives and brokers in 2005.

[19] Since the Marsh scandal became public, most of the mega-brokers have renounced contingent commissions.

[20] This statement is based on interviews with insurance executives and brokers conducted by the authors in 2005.

The contingent commission arrangements between an insurer and the intermediary often reflect converging incentives. For example, an insurer wishing to promote a certain class of business might design a commission structure that rewards such business and offer this structure to intermediaries that have particular expertise in that class. From the intermediary's perspective, these arrangements enhance access to the insurers that have the risk appetite to compete for its clients' business.

Similarly, for some small business accounts and even in personal lines, where the loss experience is not credible or risk-surveys are not cost effective, insurers often rely on the superior knowledge of intermediaries. In such cases, profit-based contingent commissions provide an incentive for the intermediary to provide a quality control screen on the business placed with the insurer. However, for the largest risks, the loss data tend to be credible; and all insurers giving quotes on an account tend to have access to the same information, often provided in an offering document that is sent to insurers from whom quotations are being solicited. In this market, profit-based contingent commissions are less important, and contingent commissions tend to be volume-based. Most of the largest brokers have abandoned volume-based commissions in the wake of the Spitzer and other investigations.

The economic rationale for volume-based commissions is that they enable insurers to achieve economies of scale and a desirable spread of risk in their underwriting portfolios. There tends to be fixed costs of dealing with any given intermediary, and having a larger volume enables the insurer to reduce its unit costs of administering any given intermediary relationship. In addition, to some degree, the insurer can obtain more diversification of risk if it obtains larger volume from its intermediaries, although diversification also can be achieved by receiving smaller volumes of business from a larger number of intermediaries. Volume-based commissions also can be used as a competitive device to provide incentives for intermediaries to place business with a particular insurer. To the extent that volume-based commissions are not disclosed to buyers, however, it is possible that undisclosed "steering" may take place. This issue is addressed shortly.

To the extent that volume-based commissions represent compensation for services performed by intermediaries, there is likely to be some degree of "elasticity" or trade-off between PSAs and MSAs and premium-based commissions and fees. Hence, the reduction in the use of volume-based commissions may lead to an increase, although probably not dollar for dollar, in other types of compensation.

AN ECONOMIC ANALYSIS OF INTERMEDIARY COMPENSATION

Do Commissions Affect Premiums?

In this section, we consider whether commissions increase the price paid by policyholders or whether they are absorbed by the insurer. We first examine the economic theories which speak to this issue and then estimate what happens in practice.

Microeconomic tax incidence theory has potential implications for predicting whether commissions are passed along to buyers (Fullerton and Metcalf, 2002; Entin, 2004). Consider a firm selling a product on which a tax is imposed on the quantity sold (e.g., fifty cents per gallon of gasoline). The theoretical literature generally shows that the proportion of the tax passed on in prices depends on the elasticity of demand;

the less elastic the demand, the greater the proportion of the tax passed through to prices. However, for several reasons, this theory is unlikely to apply to contingent commissions. For example, while the tax is a deadweight cost, volume-based contingent commissions often are accompanied by changes in costs because they are partly designed to compensate the intermediary for services provided which reduce the insurer's net costs. Commissions also can promote revenue growth.

Commissions based on profitability are somewhat analogous to profit taxes. Tax theory suggests that profit taxes should not affect prices since they do not affect marginal costs or revenues. However, it is doubtful that this theoretical prediction applies to contingent commissions. Revenues and costs may well be impacted by profit-based commissions, which can favorably influence risk selection and pricing.

A more appropriate theoretical construct to analyze whether commissions are passed through to buyers is insurance financial pricing theory (e.g., Myers and Cohn, 1987). Financial theory posits that premiums in competitive insurance markets will be sufficient to cover the expected losses and expenses from issuing insurance policies as well as a profit loading sufficient to cover the cost of risk bearing. Under financial pricing theory, the pass-through rate for all types of commissions would be 100 percent. This prediction hinges on the hypothesis that insurance markets are competitive, but most economic analyses have concluded that PC insurance markets are competitively structured.

Next we investigate the relationship between premiums and commissions. Insurance premiums are set to cover expected losses and a markup for expenses, profits and, possibly (this is the question here) commissions. Assume that the premium, P, is set to cover expected losses, L, expenses, X, and that some portion a of premium-based commissions, C, will be passed through to the premium as well as some portion b of contingent commissions, F. This implies the following formula for the premium:

$$P = L + X + aC + bF. \tag{1}$$

To test the effect of commissions on premiums, a regression analysis is conducted to estimate Equation (1). Net premiums written are used to represent P, and the monetary values of underwriting expenses and commissions are also used in the estimation. Expected losses are not observed, and two approaches are employed to estimate this variable. First, we set L equal to net premiums written multiplied by 1 minus the underwriting expense ratio, defined as underwriting expenses incurred divided by net premiums written. Because using the period t value of net premiums written as the dependent variable and in estimating L is somewhat tautological, the lagged value of premiums times 1 minus the expense ratio is tested as an alternative proxy for the expected loss. Second, L is set equal to actual losses incurred in one model, and the lagged value of actual losses incurred is tested as an alternative.

The regressions are shown in Table 6. The data are from the NAIC annual statement database for the sample period 1993–2004. These are pooled cross-section, time series regressions based on insurance groups and unaffiliated single insurers and are estimated using ordinary least squares. The regressions relate to all lines of business. The regressions using premium-based estimates of expected losses are shown in the

TABLE 6
Regressions of Effects of Expenses on Premiums

	Coefficient β_i	z-test: $\beta_i \neq 0$	z-test: $\beta_i = 1.0$		Coefficient β_i	z-test: $\beta_i \neq 0$	z-test: $\beta_i = 1.0$
			Dependent Variable = Net Premiums Written				
Intercept	−30049	−0.30		Intercept	−1681760	−0.85	
Expected loss	1.000	3338.64	0.20	Expected loss(−1)	0.995	149.15	−0.79
Contingent commissions	1.005	165.49	0.87	Contingent commissions	0.918	7.55	−0.68
Direct commissions	0.994	677.23	−3.99	Direct commissions	1.272	43.38	9.29
Other underwriting expenses	1.003	777.40	2.66	Other underwriting expenses	1.158	42.78	5.85
R^2	0.999			R^2	0.996		
	Coefficient β_i	z-test: $\beta_i \neq 0$	z-test: $\beta_i = 1.0$		Coefficient β_i	z-test: $\beta_i \neq 0$	z-test: $\beta_i = 1.0$
			Dependent Variable = Net Premiums Written				
Intercept	−5902874	−2.01		Intercept	−5624572	−1.71	
Losses incurred	0.860	84.70	−13.78	Losses incurred(−1)	0.830	67.24	−13.75
Contingent commissions	3.206	17.17	11.82	Contingent commissions	3.544	16.57	11.89
Direct commissions	1.529	34.74	12.01	Direct commissions	1.624	32.19	12.37
Other underwriting expenses	1.093	23.59	2.00	Other underwriting expenses	1.383	26.02	7.21
R^2	0.992			R^2	0.989		

Note: Expected loss = net premiums written*(1-expense ratio), where expense ratio = underwriting expenses incurred divided by net premiums written. Regressions are based on 1993–2004 annual data from the National Association of Insurance Commissioners. The number of observations is 5,654.

upper section of the table, and those based on losses incurred are shown in the lower section.

The regression using current premiums to estimate expected losses is interesting because the coefficients of all variables are very close to 1.0, implying full pass-through of all types of underwriting expenses. When the lagged value of premiums is used to estimate the expected loss, the coefficients of expected losses and contingent commissions are not significantly different from 1.0, but the coefficients of direct commissions and other underwriting expenses are statistically greater than 1.0. However, the overall implication is that all expenses are passed though in premiums.

In the regressions where incurred losses are used as the measure of the expected loss, the coefficients of the loss variables are significantly less than 1. This result is expected because losses are random and thus create an errors-in-variables problem that biases the coefficient toward zero. The coefficients of the underwriting expense variables are significantly greater than 1 in these regressions, and the coefficients of contingent commissions are greater than 3. Hence, all regressions in the table provide evidence contrary to any presumption that commissions are not fully passed along to insurance buyers.

Even though this analysis provides evidence that commissions are passed on in the premiums, this does not necessarily mean that policyholders are harmed by contingent commissions. To the extent that contingent commissions motivate intermediaries to place risks with insurers who are interested in bearing such risks or have particular capabilities in providing services for these risks, and to the extent they provide incentives for enhanced underwriting, the efficiency of insurance markets is improved.

Principal–Agent Theory

The fact that insurance intermediaries perform functions on behalf of both policyholders and insurers complicates the question of whether the intermediary is an agent of the policyholder or of the insurer. Putting aside this larger question for the moment, consider an intermediary who is engaged by a client to act on the latter's behalf and hence acts as the agent of the policyholder.

The issues involved in the insurance placement can be analyzed using *principal–agent theory*. The principal is someone who hires another party (the agent) to act on his or her behalf. In principal–agent relationships, an important question is whether the agent really acts in the best interests of the principal. Because the principal generally has neither the time nor the skills to perfectly monitor the agent's actions, the agent has some freedom to act on his/her own behalf. This promotion of the agent's self-interest is known as the *principal–agent problem* and is a type of *moral hazard*. The usual antidote is to design incentive-compatible compensation structures that align the interests of the principal and agent.

Insurance Intermediary Compensation in the Principal–Agent Framework

This section considers the incentive compatibility of compensation systems for insurance intermediaries. Theory predicts that compensation should be sufficient to cover the intermediary's costs and to reflect the value created for clients. This section investigates whether commissions provide a good measure of the cost of the

intermediary and the value created for the policyholder. With respect to premium-based commissions, the issue is complex. Clients probably gain more peace of mind and more financial stability for transferring their largest and most expensive risks. In this sense the scaling of commissions to premiums is roughly consistent with value added. The premium-based commissions are positively related to:

- The financial strength of the insurer.[21] This encourages brokers to seek out sound insurers, which is clearly in the client's interest.
- The extent of the insurance coverage. More coverage may or may not be in the client's interest depending on its exposure and its alternative risk management strategies.
- The premiums charged for given coverage. This acts against the client's interests, at least in the short run.

Thus, at face value, the impact of premium-based commissions on intermediary incentives is mixed; much depends on the particular case. However, there are other features of the commercial insurance market which align the interests of intermediaries with those of their clients:

- When intermediaries disclose their compensation arrangements to their clients, clients can take the compensation into account when deciding whether to engage the intermediary. It is generally recognized in economics that markets work best when complete information is available to all market participants. As shown below, intermediaries play an important role in mitigating information asymmetries and reducing adverse selection in insurance markets. They can play this role more effectively if compensation is transparent to buyers. Hence, disclosure of intermediary compensation arrangements ultimately will lead to more efficient insurance markets.[22]
- Although the insurance intermediary market is generally competitive, competition is based more on quality than price. In such an environment, intermediaries compete with each other to design programs that add value. To retain clients, intermediaries face a burden of proof that they have delivered value to their clients.
- Brokers in particular sometimes negotiate fees with their clients in lieu of commissions. Fees are used most often for high-end commercial clients where the risk management program includes significant elements of alternative risk transfer. In such cases, the fee arrangements, rather than commissions, will control broker incentives.

Contingent Commissions in the Principal–Agent Framework

Principal–agent theory also can be used to analyze contingent commissions. The principal–agent model predicts a complex compensation structure with elements

[21] Insurers with higher credit ratings typically charge higher premiums because they pose less credit risk to buyers (Cummins and Danzon, 1997).

[22] However, policy makers should use caution in imposing additional regulations relating to disclosure. For example, requiring intermediaries to make detailed allocations of contingent commissions to specific buyers would be of questionable value and might raise the price of insurance by unnecessarily adding to administrative costs.

designed to support the functions the intermediary provides for the insurer. One such element could be contingent commissions. This issue has been explored by Wilder (2002) in what, to our knowledge, is the only empirical study of the effects of contingent commissions on intermediary behavior. Using data on a privately held regional agency, Wilder found that the placement and renewal of business is indeed influenced by contingent commissions, among other factors.

Because Wilder's results were based on a small regional agency, they cannot necessarily be generalized across the full spectrum of intermediaries. Nevertheless, assuming that there is a marginal shift in placing business based on contingent commissions, does it harm or benefit the policyholders? Wilder's results could imply that intermediaries are not concerned with the best placement for the client; only with the contingent commission. Arguing against this interpretation is the fact that contingent commissions account for only about 5 percent of revenue, whereas the majority of revenue is generated from premium-based commissions. Intermediaries who make inferior placements in pursuit of higher contingent commissions are balancing a small gain against the possibility of a much larger loss, i.e., the loss of the premium-based commission if the client becomes dissatisfied and switches to a competitor. Of course, intermediaries might advise clients to select between otherwise equally attractive insurers based on contingent commissions, but that would not necessarily harm the policyholder.

The importance to the intermediary of the ongoing relationship with clients underscores the incentives the intermediary possesses not to exploit contingent commissions to the detriment of the buyer. There is a market for intermediaries—brokers or agents who retire often sell their businesses and there is an active M&A market. The value of the intermediary is the present value of its future net cash flows. Because premium-based commissions are the primary source of cash flows, intermediaries have a strong incentive not to take actions that threaten such commissions. In addition, the intermediary's persistency rate also is an important determinant of the present value of future cash flows, and taking actions that are detrimental to buyers has the potential to reduce persistency. Hence, the economics of insurance intermediaries argues against the prevalence of scenarios where contingent commissions are misused.

Contingent Commissions and Insurer Barriers to Entry

The role of contingent commissions in aligning incentives between intermediaries and insurers may enhance competition in insurance markets by facilitating the entry of new insurers, making the market more contestable and preventing insurers from earning supra-competitive profits. The recent history of the PC insurance industry suggests that entry into the industry is relatively unrestricted. New companies were formed and significant amounts of new capital flowed into the industry following such pivotal loss events as Hurricane Andrew in 1992 and the World Trade Center terrorist attacks in 2001 (Doherty, Lamm-Tennant, and Starks, 2003). Contingent commissions can help new insurers enter the industry by overcoming the reluctance of intermediaries to deal with new insurers where no established working relationship exists. Absent contingent commissions, new entrants might find it difficult to obtain high quality placements from intermediaries,

who might naturally prefer dealing with established insurers. By linking the intermediary's compensation to the underwriting quality of the business provided the insurer, the new entrant can ensure a flow of business that meets its underwriting standards and hence can compete more effectively with established rivals.

Insurance Agents and Brokers as Information Intermediaries

This section uses a modified version of the model of Rothschild and Stiglitz (1976) to show that contingent commissions can be beneficial to policyholders. To set the stage, note that almost all contingent commission structures are designed by insurers and tend to be based significantly on profitability. Why would insurers adopt this strategy? The key lies in the fact that the intermediary has valuable information about its clients, and the insurer is interested in extracting this information in order to price policies accurately.

To underwrite insurance and set premiums, insurers require information about each risk underwritten, and here the intermediary plays a very important role. To obtain information about risk, the insurer can carry out a risk survey, but even the most comprehensive risk survey does not fully reveal the level of risk. Moreover, certain aspects of a risk (e.g., behavioral traits of the policyholder) simply cannot be directly observed. This means that insurers are never fully informed when they quote for insurance. In many cases, particularly for small and medium-sized commercial buyers, intermediaries have more information about buyer risk characteristics than insurers. Moreover, the intermediary often has a relationship with a policyholder over a number of years and has much more information about the risk than a new insurer who might bid on that risk.[23] The information gathered by the intermediary helps to improve the efficiency of insurance markets by reducing adverse selection, as is now demonstrated.

Rothschild and Stiglitz (1976) show that insurance markets can fail if the insurer is not able to identify the risk type of insurance applicants. They posit a simple model where there are two risk types—high risks and low risks. Both risks face the same nonstochastic loss amount, F, there is a binary probability that the loss will occur, and high risks have higher loss probabilities than low risks, i.e., $\theta_H > \theta_L$, where θ_H and θ_L are the loss probabilities of the high and low risks. The insurer knows that there are high and low risks among its applicants, and it knows the loss probabilities, but it cannot distinguish the high risks from the low risks. If the insurer tries to price at the average loss probability $\bar{\theta}$, high risks will buy more coverage than low risks and the market will fail. This is a classic adverse selection problem. However, under specified conditions, insurers can induce a "self-selection" equilibrium by offering full coverage to the high risks at a price that is actuarially fair for the high risks and offering reduced coverage to the low risks at a price that is actuarially fair for this group. If the insurer offers the correct set of policies, the high risks will not buy the policies intended for the low risks, and market equilibrium will occur. However, the low risks are penalized because they can only obtain partial coverage.

[23] The informational role played by independent intermediaries is analyzed further in Regan and Tennyson (1996).

The Rothschild-Stiglitz model can be adapted to show how contingent commissions can improve policyholder welfare. The model is modified to assume that the insurer not only cannot distinguish high risks from low risks but also does not know the loss probabilities θ_H and θ_L. This is an important modification because, not knowing the loss probabilities, the insurer will not be able to formulate policy offers that lead to a self selection equilibrium. The insurer is assumed to know the overall average loss probability $\bar{\theta}$, but as in Rothschild-Stiglitz, the market will fail if the insurer tries to offer insurance at the average price. In the modified version of the model, insurance intermediaries are assumed to be present in the market. Intermediaries are assumed to have perfect knowledge of the loss probabilities θ_H and θ_L for their clients, obtained at some cost for each client. Although the insurer could expend resources to identify the risk types, the intermediary is assumed to be able to do this more efficiently because it is closer to the market and more familiar with local conditions.[24]

The market equilibrium is diagrammed in Figure 5. For purposes of comparison, the Rothschild-Stiglitz separating equilibrium is also shown. The solid lines in the figure labeled "High Price" and "Low Price" are fair premium lines for the high and low risks. The equations for these lines are $P_i = \theta_i C$, where C = amount of coverage and $i = H$ and L for high and low risks. If the insurer could distinguish high and low risks and knew the loss probabilities, it would offer actuarially fair policies to both groups and both would purchase full coverage (F). This perfect-information equilibrium is represented by the points labeled H^{opt} and L^{opt} in the figure. The self-selection equilibrium is represented by the points H^{opt} for the high risks and L for the low risks, i.e., high risks still have optimal coverage but the low risks have reduced coverage.

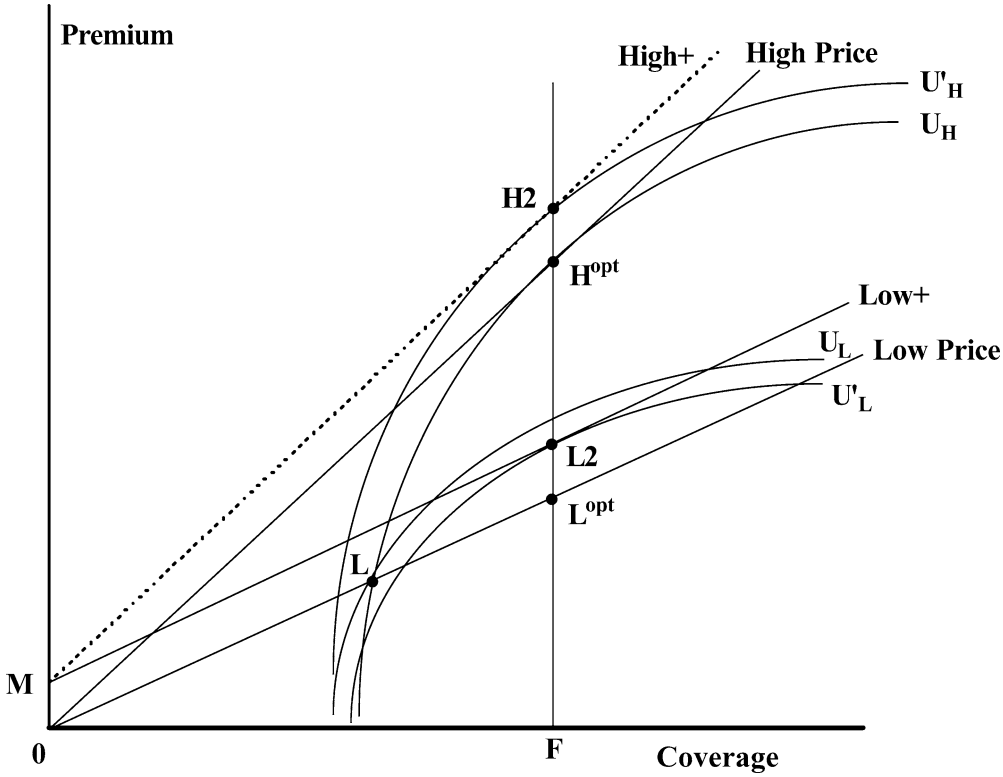
In the modified model, the insurer can create a viable insurance market by obtaining information on the risk types and loss probabilities from the intermediary. Assume that policies are issued at time 0 and losses are realized and claims paid at time 1. The insurer can provide an incentive for the intermediary to reveal the loss probabilities by paying a contingent commission at time 1, after loss realizations occur. Payment after the fact induces intermediaries to provide accurate information. If inaccurate information is provided, policies will be priced incorrectly, the insurer will lose money at time 1, and the market will fail. On the other hand, if accurate information is provided, the insurer will cover its loss costs, realize a profit, and pay the contingent commission to the agent.

To obtain information on the loss probabilities, the intermediary makes a constant expenditure of M for each risk. The expenditure is required for both high and low risks because there are positive costs of gathering information for both types.[25] Perfect competition is assumed to prevail among both insurers and intermediaries. Thus, in equilibrium both insurers and intermediaries break even. This implies that the

[24] The model also helps explain why independent intermediaries tend to "own their renewals," i.e., the insurer is usually contractually barred from approaching clients directly. This is to protect the intermediary's information investment in discovering the risk types and loss probabilities (see also Regan and Tennyson, 1996).

[25] The expenditure could differ between high and low risks but the conclusions of the analysis would be unchanged.

FIGURE 5
Market Equilibrium with Contingent Commissions



Symbol Key: High Price = high risks' fair premium line, Low Price = low risks' fair premium line, High+ = high risks' price line with contingent commissions, Low+ = low risks' price line with contingent commissions, H^{opt} = high risks' full information equilibrium, $H2$ = high risks' equilibrium with contingent commissions, L^{opt} = low risks' full information equilibrium. L = low risks' Rothschild-Stiglitz self-selection equilibrium, $L2$ = low risks' equilibrium with contingent commissions, U_H = high risks' indifference curve in full information equilibrium, U_H' = high risks' indifference curve in contingent commission equilibrium, U_L = low risks' indifference curve in Rothschild-Stiglitz self-selection equilibrium, U_L' = low risks' indifference curve in the contingent commission equilibrium

premium will be $P_i = \theta_i C + M$, where M = the contingent commission. Because of the break-even condition, the insurer receives the expected loss part of the premium, $\theta_i C$, which is used to pay claims, and the intermediary receives the loading, M, as compensation for providing the information on loss probabilities. That is, a "profit" of M is realized at time 1 of which 100 percent is paid to the intermediary.

The price lines for the high and low risks are labeled "High+" and "Low+" in Figure 5. The price lines have positive intercepts, reflecting the contingent commission M, and are parallel to the fair price lines. The addition of the contingent commission means that the price of insurance is not actuarially fair. However, with a constant loading, it can be demonstrated that full coverage is still optimal. Equilibrium occurs at the points $H2$ and $L2$ in the figure, representing the tangency of the high and low risk indifference curves, U_H' and U_L', with the premium lines, High+ and Low+,

respectively. Although both groups receive full coverage, the equilibrium is inferior to the perfect information equilibrium because both high and low risks are on less favorable indifference curves. However, because the market would fail without the use of contingent commissions, both groups are clearly better off than if contingent commissions were not present. Thus, contingent commissions play an important role by mitigating the adverse selection problem.

Notice that this is not a self-selection equilibrium because the insurer has obtained full information on the risk types from the intermediary. Thus, there is no threat of market failure from the high risks buying policies intended for the low risks. It is interesting to compare the contingent commission equilibrium with the Rothschild-Stiglitz separating equilibrium. High risks clearly are worse off than under the separating equilibrium, which is the same as the perfect information equilibrium for this group. However, as long as the contingent commission is not too high, the low risks are better off. Thus, neither equilibrium is Pareto superior. However, the two equilibria are not alternatives in our model because the insurer does not know the loss probabilities here.

Notice that premium-based commissions would not accomplish the same objective as profit-based commissions in the modified Rothschild-Stiglitz model. Recall that this is a one-period model. Premium-based commissions would provide no incentive for the agent to reveal the information about policyholder risk types because the agent receives the commission when the policy is issued (time 0) rather than after losses are realized (time 1). Hence, the agent receives the same commission whether the information provided to the insurer is accurate or not. Of course, in a multiperiod setting, the agent would face the loss of his/her relationship with the insurer if inaccurate information were provided. However, because the insurer would be required to sustain underwriting losses to identify the dishonest agents, contingent commissions are still likely to be optimal in terms of long-term profitability.

Contingent Commissions and the Settlement of Claims

An important function of intermediaries is to assist their clients in the settlement of claims. If the intermediary is paid a profit-based contingent commission then, all else held constant, a larger claim settlement will reduce the intermediary's commissions. Thus, in theory, profit-based commissions may create a disincentive for the intermediary to represent the best interests of its clients in claims settlement. However, it is unlikely that profit-based commissions generally cause intermediaries to act against their clients' interests, for the following reasons:

- Clients are acutely aware of the cooperation they receive from their intermediaries in the negotiation of claims with the insurer. Intermediaries failing to act properly are unlikely to retain clients and hence jeopardize their premium-based commissions. Moreover, any individual claim is unlikely to have much impact on the profitability of the intermediary's book of business. For the intermediary to significantly increase its contingent commission, it would have to undertake a sustained campaign of dampening claims. Such a campaign is unlikely to escape attention, damaging the intermediary's reputation. Moreover, attempts to intervene in a high proportion of claims would be resisted by both clients and insurers.

- Insurers that develop a reputation for fair treatment of claims will enhance the demand for their products and thus increase long-term profitability. The intermediary that places business with such insurers, and represents its clients' interests with integrity, will share in the enhanced profitability. Thus, the short-term incentive to suppress claims may well be trumped by a longer-term incentive to collaborate with both its clients and insurers to see that policies are competitively priced and claims are fairly resolved.
- Intermediaries who are perceived as dealing unfairly with clients with respect to claims or other aspects of the relationship expose themselves to liability lawsuits for errors and omissions.

PLACEMENT OF POLICIES BY INTERMEDIARIES

Insurance Is a Multidimensional Product

Insurance is a complex, multidimensional product. Prior to seeking insurers to underwrite the risk, the intermediary works with the client to identify coverage needs and design a risk management program. The intermediary then surveys the market to match the buyer with insurers who have the skill, capacity, risk appetite, and financial strength to underwrite the risk, and then help their client select from competing offers. Price is important but is only one of several criteria that buyers consider in deciding upon the insurer(s) that provide their coverage. Also important are the breadth of coverage offered by competing insurers, the risk management services provided, the insurer's reputation for claims settlement and financial strength, and other factors.

The relative importance of the various functions carried out by the intermediary varies by market segment. For the smallest risks, which do not have risk management departments, the role of the intermediary in recommending the appropriate insurance policies is critically important. For larger risks with in-house risk management departments, the basics of coverage design usually are carried out by the buyer. The role of the intermediary is shifted toward complex or sophisticated areas of risk management where the buyer may not have expertise. The intermediary's knowledge of the insurance market, including the ability to find appropriate insurers to provide price quotations, remains critically important for both small and large risks. For very large risks, coverage is likely to be syndicated over many insurers, requiring considerable skill on the part of the intermediary.

Intermediaries and their clients usually resubmit their business to the market periodically. This can reflect dissatisfaction with the incumbent insurer or simply the desire to periodically check the market to determine whether rival insurers can offer better prices, coverages, or service. Intermediaries usually work with their clients to determine the circumstances and schedule by which existing business will be resubmitted to the market.

The frequency with which accounts are put out for price quotations varies by the size of the account, the importance of services versus price, and the line of business. Commercial insurance lines can be broadly classified as *service intensive* and *commoditized*.[26] In service-intensive lines, such as workers' compensation for relatively large

[26] We use the word "commoditized" in a relative sense. Clearly, insurance policies are not identical and transferable as are pure commodities. By saying some policies are relatively

risks, the services provided by the insurer are critically important, involving loss control and mitigation, benefits administration, and even rehabilitative services. The workers' compensation insurance program also is often integrated with the firm's personnel management system. Because the costs of switching insurers in such cases are relatively high, service-intensive accounts are put out to market infrequently, e.g., every 3–5 years. Less service-intensive lines, such as commercial property coverages, have become "commoditized," such that buyers care primarily about price, contingent on insurers' meeting a minimum threshold with regard to financial rating, and reputation for claims settlement. Commoditized coverages typically are shopped annually, and switching of insurers occurs frequently. Larger accounts tend to be shopped more frequently than smaller accounts.

The process of searching for insurers and seeking price quotations also varies according to the nature of the risk, the depth and breadth of the market, and the relationships between the intermediary and the insurers. For example, to place the liability risks of a biotech company, the intermediary may seek out quotations from insurers that focus on this type of risk, as well as from other insurers with which the intermediary has a successful relationship and therefore can be relied on for competitive price quotations. Depending on the size of the risk and the breadth of the market, the intermediary may obtain three or four quotes, as many as a dozen, or even more.

The process of seeking quotations and selecting a winner has some similarities to an auction. However, the insurance placement process is significantly different from most auctions. The product the intermediary is placing is inherently multidimensional; and the process cannot be compared to simple auctions such as those for oil or telecom bandwidth. Insurance is a complex product, for which price is only one of the attributes that are important to the buyer.

The intermediary generally makes an attempt to "standardize" the terms offered by competing insurers. Indeed the intermediary might seek specific policy wording. However, the offers made by competing insurers are often "counteroffers," which deviate in significant dimensions from the terms originally specified. Thus, one insurer might be willing to offer coverage with lower policy limits; another may offer the requested limits but with different policy wording; another may exclude certain properties from coverage; etc. This variation in the coverage offered is compounded by heterogeneity in the financial condition and reputation for claims settlement of the responding insurers. And, of course, the quotations will vary by price. The best offer is likely to represent a combination of price, coverage, credit quality, and insurer services and reputation.

The efficiency and fairness of this process cannot be verified by a simple rule such as "did the lowest price win?" Rather, it rests on the integrity of the process itself. Was there an appropriate selection of insurers? Was information properly transmitted? Were bids fully communicated to the client? Were the intermediary's actions and compensation structures transparent? Were all other relevant factors considered? Of course, occasions may arise where the integrity of the process is compromised. However, it is important not to confuse outcomes with process. While malfeasance

more commoditized, we mean that there is a lower service component and that the properties of insurance coverages can be parameterized more easily for comparison.

can occur in insurance markets, as it can elsewhere in the economy, it is also both possible and normal for uncompetitive bids to arise from the natural frictions and imperfections of the bidding process.

INSURER PRICE QUOTATION AND THE "WINNER'S CURSE"

To make confident price quotations, insurers need information about the risk characteristics of policyholders. This they can obtain from a risk analysis. The risk analysis can be expensive, requiring expertise in engineering, actuarial science, law, and finance. Risk analyses are almost always conducted on large commercial accounts. For smaller accounts, however, the insurer relies more heavily on the knowledge of the agent or broker. For the largest accounts, the risk analysis becomes part of the information reviewed by all insurers quoting on the account. Hence, informational asymmetries tend to be lower for the largest accounts and increase as the size of account declines.

Even for large accounts, the insurer is never perfectly informed about any given risk. Moreover, the amount of information and ability to interpret information can vary across insurers. Incumbent insurers are likely to have more information about the buyer's risk characteristics than competing insurers because information is gained in the process of servicing an account over a period of time. When policies are out for quotation, insurers with superior information and experience with this type of risk will be able to quote price with more confidence. Those whose information is less complete or who lack the skills or experience with risks of a similar type will be less confident about the premium quotation. The lower the level of understanding about the risk, the less confident the underwriter will be in quoting a premium. This will manifest itself in insurers either declining to quote or quoting a conservatively high price.

Conservative bidding in PC insurance echoes a well-known phenomenon in auctions known as the "winner's curse." If people are bidding to buy something, and the value of the item is uncertain, then the winning bid is likely to be above the true value. Indeed, the winning bidder is usually the person who overvalues the item by the biggest margin. This means that the winner will often rue his success (thus the winner's curse) and cautions against bidding on things not well understood. The lesson is either not to bid, or to submit a conservative bid, when you are not sure of the value.

Insurers might be reluctant to submit competitive price quotations for other reasons. Insurers increasingly pay attention to the spread of risk in their portfolios. The more sophisticated build computer models of their book of business to examine how vulnerable it is to certain types of loss. In this way, insurance underwriters can spread their portfolios so there is no unacceptable accumulation of risk in a particular line of business or in a particular geographic location.[27] The alert intermediary will keep track of which insurers have capacity for different types of risks.

The winner's curse implies that the decision by insurers to decline to quote or to submit conservatively high price quotations is quite rational. Indeed, the wider the

[27] A theoretical model where prices depend upon the existing portfolios is developed by Froot and Stein (1998).

intermediary casts the net in soliciting offers, the more likely it is to encounter conservative quotations. Intermediaries can deal with this issue in several ways. The first is to concentrate on a small number of insurers that are likely to make serious price offers. These can include specialized insurers and those with whom the intermediary has a relationship of trust, which gives the insurers confidence that their quotations will be "in the running." Contingent commissions support this trust relationship since they encourage intermediaries to focus on insurers with matching specialties, good claims reputations, and strong financial standing. With such relationships, insurers are more likely to make competitive offers. Contingent commissions also give insurers confidence that they can rely upon the underwriting information provided by the intermediary. Thus, contingent commissions help break the winner's curse and generate more competitive price offers.

CONCLUSION

This article analyzes the economic functions of insurance intermediaries, focusing on the commercial PC insurance market. The emphasis is on independent intermediaries, i.e., brokers and independent agents. The article investigates the functions performed by brokers and agents, the competitiveness of the marketplace, compensation arrangements, and the process by which policies are placed with insurers.

In commercial insurance markets, the intermediary plays the role of "market maker," helping buyers to identify their coverage needs and matching buyers with appropriate insurers. The process through which buyers are matched with insurers is complex and multidimensional. The role of the intermediary is to scan the market, match buyers with insurers who have the skill, capacity, risk appetite, and financial strength to underwrite the risk, and then help its client select from competing offers. Price is important but is only one of several criteria that buyers consider in deciding upon the insurer or insurers that provide their coverage. Also important are the breadth of coverage, the quality of services, the insurer's reputation for claims settlement and financial strength, and other factors.

The insurance brokerage industry is highly concentrated at the top of the marketplace. However, the absolute number of brokers and independent agents is very large. For small and mid-sized risks, there is considerable competition among small and medium-sized intermediaries who can and do effectively compete with the global brokers for such accounts. Even for large risks, specialty or regional mid-sized brokers can sometimes compete with the megabrokers. However, there are some risks (such as large, complex international exposures) which have become the exclusive domain of the megabrokers.

Insurance intermediary compensation comprises premium-based commissions, expressed as a percentage of the premium paid, and contingent commissions based on the profitability of the business placed with the insurer, the volume of business, and/or persistency. Larger intermediaries also sometimes receive fees for services such as risk management, which may be offset against premium-based commissions. Premium-based commissions account typically for 10–11 percent of premiums, compared with an average of 1–2 percent of premiums for contingent commissions. Premium-based commissions constitute the vast majority of intermediary revenues, with contingent commissions accounting for about 5 percent.

This article provides empirical evidence that both premium-based and contingent commissions are passed on to policyholders in the premium. However, whether this harms or benefits policyholders is a matter of debate. Despite recent allegations that contingent commissions are a "kickback" that compromises the intermediary's obligations to its clients, such commissions can be beneficial to clients.

Insurers need accurate information to underwrite and price policies, and the underwriting information available to insurers is inevitably somewhat incomplete. Such informational imperfections can lead to adverse selection problems in insurance markets. The costs of adverse selection are borne by policyholders, who either end up paying premiums that are too high given their risk or being squeezed out of the insurance market altogether. Insurance intermediaries help alleviate the adverse selection problem because they are usually better informed about the risks of their clients than insurers. Insurers can use this information if a relationship of trust exists with the intermediary. The model of Rothschild and Stiglitz (1976) is used to show how profit-based contingent commissions can align the interests of the intermediary and the insurer to alleviate adverse selection. With the information transmitted by intermediaries, insurers can compete more vigorously for business and can price more competitively and fairly. Contingent commissions also facilitate the entry of new insurers into the PC insurance market by aligning incentives between intermediaries and new insurers. Thus, intermediaries have an important role to play in enhancing the efficiency of the insurance market.

The article also analyzes the placement process for commercial insurance. Intermediaries increase market competition by providing the buyer access to a wider range of possible insurers and helping the buyer to select insurers on the basis of price, coverage, service, and financial strength. Contingent commissions, particularly those based on profit, may further stimulate competitive bidding. By aligning its interest with that of the intermediary, the insurer will have more confidence in the selection of risks and in the information provided by the intermediary. This helps to break the "winner's curse" and encourages insurers to bid more aggressively.

The discussion in this article suggests several possible areas for future research. Because there is a little systematic information available on the prevalence of various types of contingent commissions, it would be useful to do research to identify the commissions used in various market segments. The design of contingent commissions could be analyzed further both theoretically and empirically. Additional empirical research on the effects of contingent commissions on intermediary behavior would also be valuable. Analysis of intermediary GAAP ROE and stock price performance could be used to obtain information on levels of competitiveness in the intermediary market. Finally, further extensions of the Rothschild-Stiglitz and other microeconomic models could shed additional light on the relationship between intermediary compensation and market efficiency.

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