

Insurance Sector Analysis in Turkey: An Empirical Study

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Abstract

The purpose of this study is to comprehend the statistical relation between the amount of turnover produced by an employee in insurance companies in Turkey, used as a dependent variable. Whereas, the independent variables are three. The first independent variable is the ratio of number of staff holding a Bachelor (BA) over the number of all employees of each insurance company. The second independent variable is the ratio of the number of sales department crew over number of all employees of each insurance company. The third independent variable is the ratio of number of male salespeople over the number of all sales department of each insurance company. Results indicate that the ratio of the number of male sales department crew over the number of all employees of each insurance company has a negative effect on the average turnover produced by one employee. Moreover, the ratio of number of male salespeople over the number of all sales department of each insurance company is found to have positive effect on the dependent variable. Lastly, the ratio of the number of staff holding a BA degree over the number of all employees of each insurance company has no significant effect on the dependent variable. This study also provides a summary of the basic terms of the concept of insurance and risk. Considering that the profitability is a very crucial issue for the insurance sector as for all other sectors, the profitability ratios of the insurance companies for the last 10 years are provided and analyzed within the study.

Keywords: Employment, Insurance, Profitability, Risk, Turnover

Introduction

THE CONCEPTS OF INSURANCE AND RISK

Since insurance can be understood as transfer of risk (Muller, 1981), it is the main concept to be covered within the insurance literature. There are different ways of explaining the concept of risk, but the conceptualization of the risk within insurance perspective is very crucial for this study. Mowbray and Blanchard (1961) define risk as "uncertainty" (p.3).

Two famous figures of the sector Nömer and Yunak (2000) state that the term risk is used in three different ways in insurance terminology:

1. "Risk is used with a meaning of danger in the sense of the reason of probable loss"
2. "Risk sometimes means the probability of occurrence of the certain danger. For instance, in this sense, we can state that with the advance alarm system the risk of fire in a factory can be brought down".
3. Risk can refer the object or the person in case of a danger" (p.7).

Risks in general, as the above mentioned scholars explained, have been classified into two main categories: The first category is actual (Pure) risks and speculative risks in the sense of their occurrence. In actual risks, there cannot be any expectation of income for the party that is subject to the risk. Fire and traffic insurances fall on the actual risks. On the other hand, in speculative risks, considering that there is an expectation of profit, the expectation of loss is there, as well. Gambling and stock market investments fall on the speculative risks. The second category to classification of risk is the fundamental risks and particular risks (Nömer and Yunak, 2000). Fundamental risks are the ones that are far away from being individual such as: Catastrophic disasters, war, and inflation. Particular risks are the ones that have individual characteristic such as traffic accident, theft, and so on.

After clarifying the term risk, various definitions of the term insurance are provided by difference scholars in the following paragraphs.

According to Magee (1947) book that the insurance is defined as follows:

"Insurance is a contract in which the one party in consideration of a price paid in him adequate to the risk, becomes security to the other that he shall not suffer from damage, or prejudice by the happening of the perils specified to certain things which may be exposed to them" (p.43).

Moreover, Magee states that insurance as a business institution has a different meaning. Magee also states that as business institution insurance has been defined as a plan by which large numbers of people associate themselves and transfer, to the shoulders of all, risk that attached to individuals (p.43).

According to Williet (1901) insurance is defined as follows:

"We should define insurance, then as the social device for making accumulations to meet the uncertain losses of capital which is carried out through the transfer of the risks of many individuals to one person or to a group of persons. Wherever there is accumulation for uncertain losses or wherever there is transfer of risk, there is one element of insurance; only where these are joined with the combination of risks in a group is the insurance complete" (p.p. 6-7).

Whereas, the Longman dictionary definition of insurance is: "The arrangement with a company in which you pay them money, especially regularly, and they pay the costs if something bad happens, for example if you become ill or your car is damaged".

On the other hand Türkiye Sigorta ve Reasürans Şirketleri Birliği defines insurance as "The transfer of risk, for the group of people who are subject to face the same kind of risk by collecting some amount of money which can only be used for the coverage of the probable risk that might occur" (Türkiye Sigorta ve Reasürans Şirketleri Birliği, 2011).

Two famous figures of the sector Nömer and Yunak (2000) define insurance as: "Economic arrangement of the people that are subject to face that risk by paying some amount of money in order to cover the losses of the people only for that risk" (p.10).

Whereas, Davis, Hood and Stein (1997) provide three different definitions about insurance. The first definition is as follows:

"Insurance is a risk transfer mechanism, whereby the individual or the business enterprise can shift some of the uncertainty of life on the shoulders of others. In return for a known premium, usually a very small amount compared with potential loss, the cost of that can be transferred to the insurer" (p.1).

Second definition is as follows:

"Insurance can be defined from two points of view. First insurance is the protection against financial loss provided by an insurer. Second insurance is a device by means of which the risk of two or more persons of firms are combined through actual or promised contributions to a fund of which claimants are paid. From the viewpoint of the insured insurance is a transfer device. From the viewpoint of the insurer, Insurance is a retention and combination device" (p.1).

Third definition is as follows:

"It is suggested that a contract of insurance is any contract (Merwe, 1970) whereby one party assumes the risk of an uncertain event, which is not within his control, happening at a future time in which the other party has an interest, and under which the party is bound to pay money or provide its equivalent if the uncertain event occurs" (p.1).

The organization of insurance is mainly made up of the 'Insurance company', Insurance Policy' and the 'Insured'.

These terms are defined by Türkiye Sigorta ve Reasürans Şirketleri Birliği (TSRSB)

(In English: Turkish Union Insurance and Reinsurance Companies of Turkey) as follows:

"Insurance company is the party that is authorized to issue insurance policy by the appropriate authorities according to related law and legislation" (Insurance, 2011, para.3).

"Insured is the party that might face the risk. Insured as a party of the insurance contract (Insurance policy) is authorized the claim the compensation of the loss in case of an occurrence of it" (Insurance, 2011, para. 3).

Insurance policy is "the written and legal proof of the contract between the insurance company and the insured" (Insurance policy, 2011, para.1).

Park (1809) on the other hand states that "Policy is the name given to the instrument by which the contract of indemnity is affected between the insurer and the insured; and it is not like most contracts signed by both parties but only by the insurer..." (Park, 1809, p.1).

Policy mostly contains the definition of both, insurer and the insurance company, explanation about the subject of insurance, coverage, limits, deductions, duration of the policy, premium to be paid, the issuance date of the policy and other responsibilities and duties of the parts of the insurance policy.

THE HISTORY OF INSURANCE

When we briefly look at the history of insurance we see that the concept itself is very old that it has a history of more than 4000 years. Trennery (1926) states that, "Insurance, develops in connection with Transportation hazards" (Trennery, 1926, p.5).

"So far as extant records furnish evidence, loans of type known during the middle ages by the terms 'bottomry' and 'responlontia' served as the earliest means of in general commercial use to effect of the burden risk" (Trennery, 1926, p.5).

Magee (1947) brings evidence from Babylon and states that:

"Evidence from Babylon by no means conclusive, warrants a presumption that a contract similar to bottomry was known to the merchants of that country and may have originated with their commercial expansion as early as 4000-3000 BC" (Magee, 1947, p.4).

What TSRSB provides basically coheres with what put forward by Magee (1947). According to TSRSB web page:

"The first insurance like activity throughout the history took place in Babylon four thousand years ago. As the trade center of the period equity owners that awarded a loan to the caravan traders, deleted their debt in case of robbery or ransom payment however they charge a little bit more than when they collected their money as the allowance of the risk that they carried. This became a law during Hammurabi. This is the first example of risk sharing in overland transportation" (Date of insurance, 2011, para. 1).

Hindus historically can be considered as the second nation that seemed to be into insurance, as well. According to Walford (1871) "By the Hindus B.C. or earlier intimates that the insurance feature of the evidence from India that the bottomry was practiced contract was understood" (Walford, Layton and Charles, 1871, p. 334).

What TSRSB provides about the insurance or insurance like activities is below:

"During BC 600 Hindus started signing credit agreements which seemed to be insurance like as well. These agreements set examples for the medieval time transport insurance"

(Date of insurance, 2011, para, 2).

According to Trennery (1926) it is well established that the contract is well understood in ancient Greece as early as the fourth century before the Christian era and was used in connection with maritime loans. Later insurance like activities were observed in regions where sea transport was developed.

Duer (1845) gives the same kind of information in his book as well.

"The same form of loan agreement was adopted by the Romans in their commercial practice and following them by the Maritime nations of Europe during the middle ages". The bottomry contract was widely known and extensively used by the ancient Romans in the ordinary course of business, and the contract is its essential the same contracts as that developed by the Greeks" (Duer, 1845, pp. 20-22).

Roby (1902) states the following about the same issue "Trajeticia pecunia, the term applied in Roman law to lent on bottomry referred to money lent in mercantile adventure beyond the sea with repayment conditional upon the safe arrival of the security at its destination" (Roby, 1902, p. 75).

Below can be found the TSRSB explanation of the issue:

"Among Greeks, Romans and Carthaginians there were traders who awarded loan on the amount of cargo that the ship had for not fletching the harbor and when the ship fletched the harbor they received their money back and the charged substantial amount of interest. The amount of interest charged was not favored by the church and was prohibited afterwards. Most probably this prohibition caused the merge of idea of receiving premium on the basis of a probable danger, namely the idea of insurance of modern times" (Date of insurance, 2011, para. 3).

The first premium based insurance was observed in Geneva, Venice and Florence AC during 1250s (Date insurance, 2011, para. 4).

"But still insurance of modern times came to the scene in the 14 century. With the changes in the Economic environment trade developed incredibly stating from the 14.century. Italy as the leading figure in Sea Trade felt the need of the insurance and the sea insurance as a concept emerged there" (Date of insurance, 2011, para.4).

The first agreement which is considered to be the first insurance contract dated October 23rd 1347 and secured the cargo of the ship 'Santa Clara' that left Geneva and fronted Majorca. The first insurance company was established in Geneva in 1424.

The first legislation about insurance was enacted was Barcelona Mandate in 1435. Duer (1845) states that: "The first definite ordinances concerning insurance as a specialized contract come from Spain. Moreover, he says that with the ordinances of Barcelona in the 15th century marine insurance became an established institution After Italy's startup it is observed that sea insurance developed in England especially in the 18th century" (Duer, 1845, p. 20).

According to Swiss Re (2013) world today spends hundreds of billions of USD in risk protection. Economic development, innovation, industrialization would not have prosper to this stage without the private insurance. Only in 2012 there were 4613 billion of USD spent on insurance, worldwide. Private insurance sector increased by acting cautiously to all challenges and changes. Even in the latest economic crisis the insurance sector was less affected than other businesses. Therefore, today life cannot be imagined without risk protection(Swiss Re, 2013, para. 1-2).

Regarding the private insurance, Turkey is moving towards world's trends. According to Firat (2016) Turkey is placed the 63th in the world in respect to insurance density. "The developed countries are on top rows and the per person premium in these countries are 40-50 times than in Turkey. In terms of total premium to GDP rate, Turkey stays at near last rows" (p.56).

Types of Insurance

There are different conceptualizations (Bourgin, 1949; Taylor and Murrey, 1982; Stubbart, 2005) and classifications of insurance products in and out of Turkey, insurance will be classified into two main categories in our study:

1. Elementary Insurance (In Turkish: Elementer Sigorta)
2. Life Insurance (In Turkish: Hayat Sigortasi)

There are subdivisions under each category and this differentiation is especially very crucial in Turkey. Because insurance companies in Turkey get separate licenses in order to issue policies for Elementary Insurance and Life Insurance.

After providing the names of the types of insurances we will give definitions of the most important ones.

Elementary Insurance

The main types of Elementary insurance are given below:

Auto Insurance (Kasko-Traffic); Home insurance; Health insurance; Accident, sickness and unemployment insurance; Causality insurance; Earthquake insurance; Flood insurance; Marine insurance; Aviation insurance; Transportation insurance; Liability insurance; Credit insurance; Farm insurance; Third party liability insurance; Employer's liability

insurance; Product liability insurance; Professional indemnity insurance; Personal accident insurance; Financial loss insurance; Loss of profit insurance and so on.

Life Insurance

Life insurance category includes:

- Personal Accident Insurance
- Health Insurance
- Life Insurance companies in Turkey can issue the policies below

Retirement Funds

Some of the insurance types such as Personal accident, Health insurance and Health voyage insurance have been stated both under elementary and life insurance but the Treasury authorizes companies of both kind to issue the mentioned types of insurance policies.

Heubnert (1947) states that "Life insurance in its simplest form undertakes to protect the insured's family, creditors or others against pecuniary loss which may be outgrowth of the death of the insured" (pp. 6-10).

All kinds of insurance rely on the same reasoning which is sharing the risk. Life insurance and retirement funds are considered to be another insurance type and the companies get certification through another process in order to issue Life insurance and Retirement fund policies.

Table 1

Number of Insurance Companies in Turkey Within Last 10 Years

Year	ELEMENTARY INSURANCE COMPANIES	LIFE INSURANCE COMPANIES	TOTAL
2005	53	26	79
2006	47	25	72
2007	54	25	79
2008	55	25	80
2009	59	26	85
2010	57	28	85
2011	59	27	86
2012	58	26	84
2013	60	29	89
2014	63	29	92
2015	62	28	90
2016	62	27	89

Source: Türkiye Sigorta ve Reasürans Şirketleri Birliği (2011).

Since Insurance sector is very dynamic it is not easy to measure the written premiums of life insurance companies because they keep changing owners, they merge with each other and law about the retirement funds was declared relatively new it is not easy to get meaningful figures. The top 10 elementary companies have not lost their position to be in the first ten in last seven years. Anadolu and Axa exchanged places so did Yapı Kredi and Ergo but they kept their position in the top 10.

Profitability Analysis of Turkish Insurance Companies Between 2006 and 2015

Profitability analysis for the insurance sector is an area that is very crucial for the sustainability of the insurance companies (Duett and Hershberger, 1992). In this section profitability analysis of insurance companies is conducted. In order to obtain the ratios, the cumulative financial statements of the insurance companies that are on the web page of TSRSB are used.

The data below were obtained from the cumulative Balance Sheets of Insurance companies which were taken from the web site of TSRSB (Table 4 and Table 5). In Table 6, net profits of the insurance companies are presented. In Table 7, the premiums of insurance companies are given.

Table 2

Assets of Insurers in Years 2006-2015

		Current Assets	Long Term Assets	Total Assets
2015	Elementary	30,217,522,420	3,510,526,623	33,728,049,043
	Life	29,911,860,147	31,934,449,755	61,846,309,901
	Total	60,129,382,566	35,444,976,378	95,574,358,944
2014	Elementary	25,734,633,630	2,489,243,320	28,223,876,949
	Life	25,795,869,499	25,008,408,043	50,804,277,541
	Total	51,530,503,129	27,497,651,362	79,028,154,491
2013	Elementary	21,833,338,371	2,481,285,431	24,314,623,801
	Life	25,067,123,262	13,055,305,103	38,122,428,365
	Total	46,900,461,633	15,536,590,534	62,437,052,167
2012	Elementary	16,691,464,378	2,262,849,104	18,954,313,482
	Life	21,826,383,224	10,067,673,555	31,894,056,779
	Total	38,517,847,602	12,330,522,660	50,848,370,262
2011	Elementary	14,363,658,534	1,943,964,837	16,307,623,370
	Life	16,949,560,377	7,639,031,216	24,588,591,593
	Total	31,313,218,911	9,582,996,053	40,896,214,964
2010	Elementary	12,377,771,737	1,905,365,172	14,283,136,909
	Life	14,644,430,847	6,200,559,284	20,844,990,131
	Total	27,022,202,584	8,105,924,456	35,128,127,040
2009	Elementary	12,683,217,225	2,260,382,384	14,943,599,609
	Life	12,098,308,367	4,212,727,066	16,311,035,433
	Total	24,781,525,592	6,473,109,449	31,254,635,042
2008	Elementary	10,456,140,977	2,576,411,006	13,032,551,983
	Life	10,040,619,764	3,021,121,561	13,061,741,326
	Total	20,496,760,742	5,597,532,567	26,094,293,309
2007	Elementary	7,984,068,327	3,375,397,394	11,359,465,721
	Life	8,151,140,613	2,249,897,483	10,401,038,096
	Total	16,135,208,940	5,625,294,877	21,760,503,817
2006	Elementary	6,217,402,411	2,838,076,401	9,055,478,812
	Life	6,897,926,015	1,322,904,921	8,220,830,936
	Total	13,115,328,427	4,160,981,322	17,276,309,749

Source: Türkiye Sigorta ve Reasürans Şirketleri Birliği (2011).

When we look at the Table 2 we see that the total assets in general are increasing for the sector from year to year. Elementary insurance companies' total long-term assets figures dropped down till 2010 but starting from 2011 there is a gain increasing pattern in the long-term assets of the elementary insurance companies. Life Insurance companies on the other hand are increasing their both long term and short-term assets every other year.

Table 3 .Liabilities, Owners' Equity of Insurers in Years 2006-2015

		Liabilities (S.T)	Liabilities(L.T.)	Owners' Equity	Liabilities+QE
2015	Elementary	25,349,262,302	845,667,632	7,533,119,111	33,728,049,045
	Life	22,726,985,144	34,255,944,540	4,863,380,218	61,846,309,902
	Total	25,349,262,302	35,101,612,172	12,396,499,328	95,574,358,947
2014	Elementary	19,405,803,710	706,522,861	8,111,550,381	28,223,876,953
	Life	19,100,218,841	27,374,940,148	4,329,118,552	50,804,277,541
	Total	38,506,022,552	28,081,463,010	12,440,668,933	79,028,154,494
2013	Elementary	16,718,964,897	665,383,960	6,930,274,944	24,314,623,801
	Life	18,801,478,387	15,557,269,157	3,763,680,823	38,122,428,367
	Total	35,520,443,284	16,222,653,117	10,693,955,767	62,437,052,168
2012	Elementary	13,277,604,335	612,711,959	5,063,997,187	18,954,313,481
	Life	15,742,037,674	12,636,436,562	3,515,582,546	31,894,056,781
	Total	29,019,642,009	13,249,148,520	8,579,579,733	50,848,370,262
2011	Elementary	10,606,450,142	547,190,719	5,153,982,512	16,307,623,373
	Life	11,445,229,193	10,067,628,495	3,075,733,905	24,588,591,593
	Total	22,051,679,335	10,614,819,214	8,229,716,417	40,896,214,966
2010	Elementary	8,942,825,463	311,949,895	5,028,361,551	14,283,136,908
	Life	9,957,967,168	8,720,314,300	2,166,708,664	20,844,990,131
	Total	18,900,792,631	9,032,264,194	7,195,070,215	35,128,127,040
2009	Elementary	7,571,493,896	209,828,872	7,162,276,840	14,943,599,609
	Life	7,942,297,277	6,709,937,313	1,658,800,843	16,311,035,433
	Total	15,513,791,173	6,919,766,185	8,821,077,683	31,254,635,042
2008	Elementary	7,194,517,956	223,754,710	5,614,279,317	13,032,551,983
	Life	5,877,443,130	5,776,885,351	1,407,412,845	13,061,741,326
	Total	13,071,961,087	6,000,640,061	7,021,692,162	26,094,293,309
2007	Elementary	5,464,492,022	199,761,500	5,695,212,199	11,359,465,721
	Life	4,750,819,841	4,497,337,821	1,152,880,434	10,401,038,096
	Total	10,215,311,863	4,697,099,321	6,848,092,633	21,760,503,817
2006	Elementary	4,441,801,045	507,826,919	4,105,850,849	9,055,478,813
	Life	3,936,940,796	3,346,661,601	937,228,539	8,220,830,936
	Total	8,378,741,841	3,854,488,519	5,043,079,389	17,276,309,749

Source: Türkiye Sigorta ve Reasürans Şirketleri Birliği (2011).

The Table 3 provides similar data with respect to Life Insurance companies again. Life Insurance companies' liabilities of each kind are increasing from year to year, but the figures of the Elementary Insurance companies are not that linear. Since short term liabilities are increasing linearly for the Elementary Insurance companies especially the Owner's Equity figure decreased by approximately 25% in 2010. But afterwards there is an increasing trend in the figures of Owner's Equity for the Elementary Insurance companies.

Table 4. The net profit of insurance companies in years 2006-2010

		Net Profit (TL)
2015	Elementary	-576,959,559
	Life	826,555,204
	Total	249,595,645
2014	Elementary	729,528,617
	Life	658,874,807
	Total	1,388,403,424
2013	Elementary	768,053,434
	Life	462,135,572
	Total	1,230,189,006
2012	Elementary	-657,768,672
	Life	437,078,501
	Total	-220,690,171
2011	Elementary	-15,429,080
	Life	344,549,410
	Total	329,120,330
2010	Elementary	-185.534.008
	Life	300.278.771
	Total	114.744.762
2009	Elementary	181,810,570
	Life	273,694,337
	Total	273,694,337
2008	Elementary	595,954,128
	Life	245,268,875
	Total	841,223,003
2007	Elementary	423,741,638
	Life	205,796,266
	Total	629,537,903
2006	Elementary	152,766,945
	Life	77,731,886
	Total	230,498,831

Source: Türkiye Sigorta ve Reasurans Şirketleri Birliği (2011).

Table 4 shows that in the first three years the Elementary insurance companies had more profit than the Life Insurance companies but in 2009 the amount of profit that the life insurance companies had exceeded the Elementary Insurance companies and at last in 2010 the Elementary Insurance companies declared loss. After 2010 elementary insurance companies declared loss except 2013 and 2014 while life insurance companies declare profit every year.

Table 5

The Premiums of insurers in years 2006-2010

		Premiums (TL)
2015	Elementary	27,264,486,899
	Life	3,761,410,730
	Total	31,025,897,629
2014	Elementary	22,709,549,092
	Life	3,280,003,588
	Total	25,989,552,680
2013	Elementary	20,834,288,077
	Life	3,395,327,657
	Total	24,229,615,734
2012	Elementary	17,115,934,207
	Life	2,710,826,393
	Total	19,826,760,600
2011	Elementary	14,479,407,092
	Life	2,685,674,090
	Total	17,165,081,182
2010	Elementary	11,948,144,242
	Life	2,181,250,027
	Total	14,129,394,269
2009	Elementary	10,614,317,698
	Life	1,821,653,559
	Total	12,435,971,258
2008	Elementary	10,203,673,200
	Life	1,576,208,875
	Total	11,779,882,075
2007	Elementary	9,597,468,685
	Life	1,412,198,649
	Total	11,009,667,334
2006	Elementary	8,068,170,649

Life	1.385.926.144
Total	9.454.096.793

Source: Türkiye Sigorta ve Reasürans Şirketleri Birliği (2011).

Table 5 shows that there is a very linear pattern with respect to the turnovers of both Elementary and Life Insurance Companies. Every other year the turnover is increasing with approximately similar ratios.

Profitability Ratios

Based on the financial statements provided in the previous section, three profitability ratios of the insurance companies between 2006 and 2015 are calculated. These profitability ratios are return on Sales (ROS), Return on Assets (ROA) and Return on Equity (ROE). The results are provided in Table 6.

Table 6

Profitability ratios of insurance companies in years 2006-2010

		ROA	ROE	ROS
2015	Elementary	-1,71%	-7,66%	-2,12%
	Life	1,34%	17,00%	21,97%
2014	Elementary	2,58%	8,99%	3,21%
	Life	1,30%	15,22%	20,09%
2013	Elementary	2,67%	11,08%	3,69%
	Life	1,21%	12,28%	13,61%
2012	Elementary	-3,42%	-12,99%	-3,84%
	Life	1,37%	12,43%	16,12%
2011	Elementary	-0,09%	-0,30%	-0,11%
	Life	1,40%	11,20%	12,83%
2010	Elementary	-1,30%	-3,69%	-1,55%
	Life	1,44%	13,86%	13,77%
2009	Elementary	1,22%	2,54%	1,71%
	Life	1,68%	16,50%	15,02%
2008	Elementary	4,57%	10,61%	5,84%
	Life	1,88%	17,43%	15,56%
2007	Elementary	3,73%	7,44%	4,42%
	Life	1,98%	17,85%	14,57%
2006	Elementary	1,69%	3,72%	1,89%
	Life	0,95%	8,29%	5,61%

Source: Türkiye Sigorta ve Reasürans Şirketleri Birliği (2011).

Table 6 shows that the profitability ratios of Life Insurance companies are higher than elementary Insurance Companies in general. In 2010, profitability ratios of the Elementary Insurance companies are all negative due to the declaration of cumulative loss of the sector. In 2009, the profitability ratios are all positive. Life Insurance companies, on the other hand, have positive ratios in 2010. Even if the ratios are positive for Life Insurance companies in 2010, all three ratios are less than 2009's figures. In 2009, we figure a noticeable decrease in the profitability ratios of the Elementary Insurance companies compared to 2008 ratios. The ROA of 2008 for elementary insurance companies was 4,57% in 2008 and 1,22%

in 2009. ROE of Elementary insurance companies decreased from 10,61% to 2,54% and ROS decreased from 5,84% to 1,71%. There are very obvious decreases. The figures of the Life Insurance companies from 2008 to 2009 have changed very slightly that the ratios of the changes are less than 10%.

In 2008, a positive change is observed when compared with 2007 figures for Elementary Insurance Companies. ROA increased from 3, 73% to 4, 57%; ROE increased from 7, 44 % to 10,61% and ROS increased from 4, 42% to 5,84% for Elementary Insurance Companies. The ratios for Life Insurance companies on the other hand decreased very slightly that, it is possible to say that there is no difference from 2007 to 2008 for Life Insurance Companies with respect to their profitability ratios. In 2007, the ROA and ROE figures of both Elementary and Life Insurance companies increased more than 100% when compared with 2006 figures. But the ROS figures increased even more. Life Insurance Companies' 2007 ROS figure is approximately three times more than 2006 ROS figure. Elementary Insurance Companies' ROS figure again increased from 1, 89 % to 42%.

Starting from 2011 Elementary Insurance Companies ROAs ROEs and ROSs have negative values except 2013 and 2014 while Life Insurance companies had always positive figures with respect to ROAs ROEs and ROSs.

METHODOLOGY

Linear regression has been utilized in order to determine the effect of the independent variables of the study (the ratio of number of BA degree holding staff over number of all employees of each insurance company, the ratio of the number of sales department crew over number of all employees of each insurance company, the ratio of number of male salespeople over member of all sales department of each insurance company) on the dependent variable (the amount of turnover produced by an employee in insurance companies in Turkey). Statistical Package for the Social Sciences (SPSS) has been used for the analysis. The data were available at the web-page TSRSB. The hypotheses of the study are as follows:

Hypothesis 1: The ratio of number of BA degree holding staff over number of all employees of each insurance company affects the amount of turnover produced by an employee in insurance companies.

Hypothesis 2: The ratio of the number of sales department crew over number of all employees of each insurance company affects the amount of turnover produced by an employee in insurance companies.

Hypothesis 3: The ratio of number of male salespeople over member of all sales department of each insurance company effects the amount of turnover produced by an employee in insurance companies.

The dependent variable turnover is considered as the average amount of premium that one employer can produce. It is calculated by dividing the total amount of turnover by the number of people working within the insurance company. The other figures meaning the independent variables are all percentages. The turnover figures that the study has are mostly six or seven digit numbers that the significance figures of the variables are not in the acceptable interval. That is why the dependent variable has been converted the logarithmic function that the analysis would give more reliable results. Below table 5 presents the coefficients and the significance rates of the variables.

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	13,377	1.088		12,295	0.000
Univ Total	0,012	0.017	0.114	0,725	0.474
Males Total	-0.079	0.022	-0.663	-3.522	0.001
Males sales sales	0,016	0,008	0,393	2,115	0,043

As it can easily be seen above the significance rate of the ratio of number of BA degree holding staff over number of all employees of each insurance company is above the acceptable rate that it will be converted to a logarithmic function in order to eliminate the significance problem.

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	11,518	1.088		12,295	0.000
Ln (univ) Total	0,632	1,001	0.100	0,631	0.532
Males Total	-0.078	0.022	-0.658	-3.492	0.001
Males sales sales	0,016	0,008	0,392	2,096	0,044

Even if the ratio of number of BA degree holding staff over number of all employees of each insurance company is converted to a logarithmic function, the significant rate is still not acceptable. Eliminating it from the equation seems to be the best solution.

Table 5c Coefficients

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	14,126	0.339		41,664	0.000
Males Total	-0.075	0.021	-0.629	-3.476	0.001
Males sales sales	0,015	0,007	0,367	2,026	0,051

Eliminating the ratio of number of BA degree holding staff over number of all employees of each insurance company overcomes the above problem that the significance ratios are at the acceptable level at the 90 percent confidence level.

Table 6 ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	10,270	2	5,135	6,048	0.006b
Residual	27,168	32	0.849		
Total	37.438	34			

Table 7 Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
0.524	0.274	0.229	0.92141	1.471

ANOVA table, table 6, presents that our model does not have any significance problems. Moreover, the summary of the model is also given in Table 7.

Therefore, findings of the linear regression indicate the following:

- 1- The ratio of number of BA degree holding staff over number of all employees of each insurance company has no significant effect on the turnover.
- 2- The ratio of the number of sales department crew over number of all employees of each insurance company negatively affect the amount of turnover produced by an employee in insurance companies

3- The ratio of number of male salespeople over member of all sales department of each insurance company positively effects the amount of turnover produced by an employee in insurance companies.

The regression function is $\ln(\text{Turnover}) = 14,126 - 0.075 (\text{male sales total}) + 0,015 (\text{male sales sales})$

The equation above means 1 standart unit increase in the ratio of the number of sales department crew over number of all employees of each insurance company causes 0.075 standart unit decrease in \ln of the Turnover , and 1 standart unit increase in the ratio of number of male salespeople over member of all sales department causes 0,015 standart unit increase in \ln of the Turnover.

CONCLUSION

Discussion

This study provides a summary of the basic terms of the concept of insurance and risk from different resources and scholars. Afterwards, historical background of the sector has been provided with the improvement of the sector in Turkey. The names of the existing companies, the numbers of the past companies have been provided as well.

The study also provides the profitability ratios of both elementary and life insurance companies from 2006 to 2015. The life insurance companies in general have positive figures with respect to their profitability ratios. Elementary Insurance companies, on the other hand, do not have a stable profit or loss but in the last five years except 2013 and 2014 elementary insurance companies declared losses.

In the regression analysis, the equation among the mentioned variables above has been determined and it is concluded that employing university graduates does not have an effect on the turnover statistically. Having a high rate male staff on the sales department on the other hand seems to have a positive effect on the turnover, while having a high rate male staff in total has a negative effect on turnover.

Managerial Implications

As mentioned in the discussion part, employing males in the sales department in insurance sector seems to have a positive effect on the turnover, but the ratio of the males over number of all employees of each insurance company negatively affect the turnover that it seems that the female ratio in the other departments should be higher than male ratio.

Limitations

The limitations of the study would be the low R squared score.

Future Research Recommendations

Future Researches might focus on female employment directly.

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