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THE USE OF CAPITAL MARKET INSTRUMENTS IN INVESTMENT OF EUROPEAN INSURANCE COMPANIES

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Summary

The financial and the insurance markets are increasingly penetrating each other, accounting for the fact that insurers are more and more often seen as major institutional investors of capital markets. The capital market offers a range of new opportunities, although it is not devoid of faults, mercilessly exposed by consecutive stock market collapses. Do insurance companies use the capital market instruments? And if so, to what extent? The conducted analysis has pointed at growing involvement of insurers in capital assets. This involvement varies significantly in particular European countries, although research shows that on average it maintains a relatively high level.

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Introduction

Insurance companies are becoming active investors in capital markets and often belong to the category of the most important institutional investors (Wierzbicka, 1998, p. 97). There is a number of reasons for this, but the fundamental one is the fact that the capital market is developing and offers a wide range of investment opportunities (Butt, 2007, p. 42). However, further development of investment in capital market is blocked by some rules which insurance companies should adhere to. Investment must be riskless, solvent and profitable (The Act of 22nd May 2003 on Insurance Activity, Journal of Law 2003, No 124, position 1151, with subsequent amendments, Article 223 zz, paragraph 1, point 1; Bernat, 2004, p. 21; Wolski and Załęczna, 2011, p. 74). While solvency as well as profitability are usually achieved in capital markets, investment safety connected with the category of "riskless investment" might be questionable. The risk level is not identical for all capital market instruments. Risk changes not only depending on the investment type, but also varies in time (Ferson, Kandel, Stambaugh, 1987, p. 201; Cooper and Priestley, 2009, p. 2602). The problem of risk is significant enough to be devoted part of a special directive of the European Commission. Risk management in insurance companies is to be regulated in the future by a collection of rules known as Solvency II (Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II), Official Journal of the European Union, L 335/1). These regulations may affect further mutual penetration of the insurance and capital markets while maintaining appropriate level of caution.

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The expansion of insurance companies in capital market is an interesting phenomenon, deserving deeper analysis. Therefore the author formulated the aim of this article as to recognize investment directions of European insurance companies, and proposes a hypothesis that the share of capital market investment is growing, the growth being mostly powered by property insurance companies and other insurance companies (excluding life insurance).

Investments of insurance companies

The issue of investments made by insurers has been widely presented in specialist literature. We should probably start with emphasis on the conflict between the interests of owners and insured people. This conflict greatly influences investment processes or choice of financial instruments. On one hand, the owner demands profitability and believes the most important thing is maximization of profit. On the other hand, though, insured people mostly require security. From their perspective, what really matters most is payment of fair compensation after experiencing a loss. They are not only interested in the payment alone, but also in its certainty. To marry these interests, state supervision seems necessary. Insurance companies are obliged to make appropriate reserves and to invest in a balanced way. Only sufficient capital raised in insurance companies will allow them to pay out potential compensations. The balance of reserves and profits can be achieved through sufficiently high margins and well thought out investments (Borch, 1974, p. 397). A similar approach can be found in Polish legal regulations. Among insurance activities, that is operations enabling companies to achieve their goals, such as protection of insured people and maximization of profit, there is also investment of insurance company resources (The Act on Insurance Activity, Article 3, paragraph 4, point 6). Specialist literature points at capital market as the place where resources could be invested. This direction seems natural and attractive as it offers bigger liquidity than the insurance market (Dorr, 2007, p. 50). The transfer of resources, but also the risk, to capital market can be obtained through various channels. One of them is securitization (De Mey, 2007, p. 36). Securitization in capital market offers two dimensions of benefits. The first, financial dimension, is reflected in the change of capital structure. This can be done with the use of appropriate tools. Insurance companies have the possibility to diversify and strengthen the capital structure, the strengthening is understood as growth of capital resources and greater security of the insured people. The second dimension is closely related to the characteristics of the insurers. Through securitization we can transfer risk, limiting it in this way. Simultaneously, "capital burden" decreases, and security of the insured people increases while the fixed level of reserves is maintained (De Mey, 2007, p. 35).
Another way of investing in capital market is direct transfer of capital. Insurance companies invest their reserve capital vested upon them by the insured people. The insured people are not charged with any additional fees for that. Their reward is transfer of risk and burdening the insurers with it (Quirin and Waters, 1975, p. 427; Jajuga, 2000, p. 35). It is believed, though that direct investment in capital market is usually made by insurers focused on property insurance and other categories. Insurers offering life assurance prefer to choose more stable and long-term investment (Hart, 1965, p. 358).

European insurance system

The European Union offers enterprises a unique opportunity of development across the borders. According to the principle of free capital flow, it seems that the insurance market should develop towards unification of both supply and demand, becoming uniform all over

Europe. For these reasons, the European Union has been holding a consistent policy of deregulation for years. The policy can be seen in the introduction of a 'single passport', which allows insurance companies with a license to operate in one country to offer their services in all EU countries (Fenn et al., 2008, p. 87). These regulations are to lead to the creation of a uniform European insurance market. The consequence of the origin of this market is the appointment of a European supervisory organ. At the end of 2010 the European Insurance and Occupational Pensions Authority (EIOPA) was created (Regulation (EU) No 1094/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Insurance and Occupational Pensions Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/79/EC, Official Journal of the European Union, L 331/48, 15.12.2010). The origin of this office is somehow the aftermath of the financial crisis of 2007 and 2008. The European Commission decided to limit the risk and potential negative effects of future crises by strengthening the insurance supervision on the European level. This does not mean, however, that all competencies of national supervisory institutions have been taken over by it. At the domestic level, there should still be insurance supervision, however, all data and information passed on to EIOPA must be integrated and processed at the European level. The authors of the reform believe that this will improve the security of the system and strengthen its structures.
According to the official internet service of EIOPA (obtained from: https://eiopa.europa.eu/, situation on 01-06-2011) the main tasks of the office are:

1) better protecting consumers, rebuilding trust in the financial system,
2) ensuring a high, effective and consistent level of regulation and supervision taking account of the varying interests of all Member States and the different nature of financial institutions,
3) greater harmonization and coherent application of rules for financial institutions and markets across the European Union,
4) strengthening oversight of cross-border groups,
5) promoting coordinated European Union supervisory response.

To perform the tasks assigned to EIOPA, according to law-makers, the office is to support stability of the financial system, transparency of financial markets and products. As far as the insured people are concerned, the office should take care of the protection of the insured people, members of pension funds and beneficiaries. Thanks to its competencies, EIOPA should be able to identify international threats.
The analysis of data provided by OECD clearly indicates that improving the operations of the market is needed. In tables 1 and 2 below we can observe huge disproportions in the development of insurance market in current and future EU states. Analyzing the data from 2009, we noticed a low level of insurance premium in new EU countries. Gross premium per one inhabitant of Hungary amounted 405.62 USD. At the same time, the premium in Luxemburg equaled 46688.45 USD. These are extreme values, clearly demonstrating great advantage of developed economies over developing ones.

Table 1: Average expenses on insurance per one inhabitant, value of gross premium in USD, life insurance and real estate insurance companies

	2002	2003	2004	2005	2006	2007	2008	2009
Hungary	190.07	246.13	292.49	341.21	384.58	502.16	508.62	405.62
Poland	143.64	165.16	195.02	247.44	313.44	410.1	640.18	427.28
Czech Republic	270.15	366.66	426.45	475.49	525.01	631.27	780.36	713.82
Iceland	930.77	1242.48	1326.17	No data	1540.92	1848.91	1434.64	860.13
Finland	1071.64	1189.55	1361.18	1471.01	1450.96	1532.1	1670.03	1739.01
Portugal	752.91	998.6	1209.1	1564.81	1509.4	1724.06	2061.3	1802.41
Spain	1097.46	1123.22	1330.34	1407.29	1514.03	1662.96	1901.41	1818.12
Sweden	No data	2638.87	3146.11	3289.16	3197.82	3182.39	3168.15	2513.64
Italy	1460.06	1920.96	2236.52	2429.88	2396.19	2410.56	2350.65	2741.74
Norway	2252	2771.05	3286.31	3705.5	3471.7	4197.38	5059.11	4396.47
France	2065.36	2634.71	3246.08	3585.84	4585.65	4764.88	4266.33	4408.13
Switzerland	5127.42	5434.39	5711.64	5586.39	5260.75	5558.75	6985.73	6375.62
Ireland	No data	6106.37	8126.95	9284.47	10699.64	14344.89	11737.69	10344.7
Luxemburg	12904.4	16602.75	22129.71	27854.86	31899.62	32195.81	32750.93	46688.45
Austria	1456.41	1807.77	2061.41	2107.5	2162.35	2371.55	2825.99	No data
Belgium	2000.95	2735.65	3356	4011.14	3451.1	4003.37	No data	No data
Denmark	2513.81	2747.2	3173.63	3839.84	4279.44	5182.81	5897.53	No data
Greece	247.68	331.21	406.59	432.78	530.44	626.88	678.17	No data
Netherlands	2540.08	3166.9	3712.44	3695.82	3501.81	3943.51	4284.73	No data
Germany	1675.45	2090.25	2389.82	2467.64	2453.05	2706.72	2912.19	No data
Slovakia	150.29	No data	277.75	No data	335.3	430.61	551.42	No data
Turkey	34.83	47.15	65.26	73.1	76.91	119.13	No data	No data
Great Britain	3955.05	4661.39	5254.93	5577.52	5913.22	8808.21	6398.23	No data

Source: Insurance Activity Indicators, Obtained from: OECD Insurance Statistics Database, doi: 10.1787/20755066-2010-table 3, situation on 20th December 2010

A similar trend can be observed when we analyze the share of gross insurance premiums in GDP of a country. However, this time the lowest share was observed in Iceland, which is quite interesting, as it had been considered a rich country while even before the crisis which led it to the verge of bankruptcy, the premium share in GDP had one of the lowest values in Europe. In case of such aggregated data the leader remains the same. Luxemburg remains the country with the highest collected insurance premiums. The share of gross premiums in GDP equaled as much as 44.06%.

Table 2: Percentage share of gross insurance premiums in GDP of the country, life and real estate insurance

	2002	2003	2004	2005	2006	2007	2008	2009
Iceland	3.05	3.32	2.98	No data	2.82	2.88	2.73	2.26
Hungary	2.89	2.95	2.89	3.12	3.43	3.65	3.31	3.15
Slovakia	3.3	No data	3.56	No data	3.28	3.1	3.15	3.26
Poland	2.77	2.91	2.95	3.12	3.5	3.68	4.62	3.79
Finland	4.11	3.77	3.76	3.95	3.65	3.3	3.28	3.9
Czech Republic	3.66	4.1	4.02	3.92	3.76	3.75	3.77	3.94
Norway	5.33	5.62	5.84	5.68	4.81	5.09	5.35	5.56
Spain	6.61	5.34	5.45	5.42	5.42	5.19	5.44	5.72
Sweden	No data	7.77	8.11	8.31	7.39	6.42	5.99	5.76
Austria	5.67	5.75	5.76	5.69	5.54	5.32	5.68	5.96
Italy	6.88	7.33	7.46	7.98	7.54	6.71	6.07	7.75
Netherlands	9.37	9.55	9.9	9.58	8.54	8.32	8.07	8.18
Portugal	6.13	6.67	7.09	8.92	8.2	8.19	8.69	8.23
Belgium	8.21	9.16	9.71	11.26	9.17	9.28	8.3	8.25
Switzerland	13.52	12.35	11.74	11.07	10.15	9.84	10.63	10.04
France	8.47	8.81	9.54	10.27	12.41	11.35	9.31	10.42
Ireland	No data	15.49	17.94	19.14	20.68	23.86	19.52	20.32
Luxemburg	25.41	25.85	29.93	34.67	34.52	30.88	27.49	44.06
Denmark	7.77	6.96	7.04	8.04	8.43	9.12	9.5	No data
Greece	2.02	2.08	2.16	2.14	2.2	2.25	2.18	No data
Germany	6.85	7.07	7.19	7.3	6.94	6.71	6.58	No data
Turkey	1.31	1.38	1.54	1.45	1.39	1.28	No data	No data
Great Britain	14.93	15.31	14.6	14.93	14.93	19.16	14.54	No data

Source: Insurance Activity Indicators, Obtained from: OECD Insurance Statistics Database, doi: 10.1787/20755066-2010-table4, situation on 20th December 2010

The above presented data allows us to see how varied the European insurance market is. We could assume that this variety will be reflected in investments of particular insurance companies in capital market.

Investments of insurance companies in capital market

The development of both the capital market and the insurance market is undoubtedly conducive to mutual penetration of these markets. This direction seems very natural, especially as insurance companies belong to financial institutions.

To analyze the scope of investment in capital market, data from EIOPA was used. Capital market is not separately presented in the data, therefore the author decided to isolate this data according to the following types of investment:

1) investments in affiliated enterprises and participating interests together with sub-categories,
2) shares and other variable-yield securities and units in unit trusts,
3) debt securities and other fixed income securities,

4) participation in investment pools.

Investment was given in million euro. All positions were summed up and then their share in total investment of particular type of company was calculated. The analysis was performed for property insurance companies and others, and for life insurance companies. Insurance companies offering mixed types of insurance were not taken into account. The survey period covered years 2005-2009. On the basis of calculated shares of investment in capital market in total assets, we calculated the median for particular countries, years, as well as for all years and all countries.

Table 3: Share of investment in capital market in total assets

	2005		2006		2007		2008		2009		Median	
	Life	Others	Life	Others	Life	Others	Life	Others	Life	Others	Life	Others
Austria	71.72%	59.08%	72.38%	64.95%	72.50%	66.12%	69.80%	64.04%	67.23%	64.52%	71.72%	64.52%
Belgium	78.09%	75.94%	81.42%	75.95%	81.17%	76.67%	76.03%	78.31%	75.87%	74.10%	78.09%	75.95%
Bulgaria	48.16%	36.17%	39.66%	34.76%	37.69%	32.74%	44.80%	27.39%	53.38%	24.06%	44.80%	32.74%
Cyprus	29.17%	20.16%	28.18%	21.09%	35.41%	19.78%	31.00%	11.62%	29.86%	11.76%	29.86%	19.78%
Czech Republic	69.52%	58.71%	65.47%	57.18%	60.70%	54.75%	58.16%	55.38%	55.38%	48.91%	60.70%	55.38%
Germany	78.53%	86.16%	58.62%	64.68%	58.47%	64.55%	58.25%	63.48%	58.71%	64.16%	58.62%	64.55%
Denmark	85.68%	82.13%	86.50%	83.87%	86.31%	89.22%	81.04%	78.83%	79.55%	76.87%	85.68%	82.13%
Estonia	54.85%	76.21%	n/a	n/a	38.03%	68.25%	32.91%	56.68%	60.05%	51.46%	46.44%	62.47%
Spain	73.70%	58.22%	73.17%	57.17%	72.74%	54.83%	73.83%	57.29%	75.24%	56.18%	73.70%	57.17%
Finland	75.55%	77.29%	70.88%	77.97%	68.67%	75.68%	69.53%	75.81%	65.33%	77.01%	69.53%	77.01%
France	79.62%	71.06%	77.80%	74.28%	n/a	n/a	80.98%	71.34%	79.14%	74.62%	79.38%	72.81%
Greece	n/a	n/a	n/a	n/a	53.50%	31.85%	53.54%	27.46%	54.90%	22.47%	53.54%	27.46%
Hungary	61.59%	84.76%	53.35%	82.31%	47.67%	81.20%	49.68%	79.39%	43.51%	78.64%	49.68%	81.20%
Iceland	53.06%	73.80%	57.51%	78.89%	40.28%	78.56%	24.66%	65.58%	52.46%	64.99%	52.46%	73.80%
Ireland	13.88%	54.87%	11.28%	52.60%	8.79%	49.86%	8.93%	48.50%	8.09%	63.26%	8.93%	52.60%
Italy	57.24%	69.91%	58.49%	71.92%	57.94%	70.71%	58.89%	69.69%	63,62%	70.21%	58.49%	70.21%
Lichtenstein	4.17%	32.83%	2.88%	39.12%	2.03%	26.17%	2.30%	21.19%	3.10%	18.84%	2.88%	26.17%
Lithuania	64.75%	57.28%	n/a	n/a	46.49%	55.66%	56.25%	56.01%	47.42%	62.71%	51.83%	56.64%
Luxemburg	15.40%	59.54%	13.72%	59.15%	12.89%	58.44%	15.72%	38.05%	14.33%	67.99%	14.33%	59.15%
Latvia	47.86%	29.44%	42.42%	29.51%	25.13%	24.64%	30.19%	35.59%	26.52%	43.48%	30.19%	29.51%
Malta	65.35%	43.94%	56.26%	50.45%	55.72%	60.74%	53.37%	43.05%	55.54%	51.04%	55.72%	50.45%
Netherlands	39.84%	70.13%	43.06%	55.94%	45.56%	54.32%	44.45%	49.12%	43.66%	53.79%	43.66%	54.32%
Norway	76.42%	78.64%	78.28%	78.95%	81.96%	76.97%	85.63%	76.65%	87.00%	78.23%	81.96%	78.23%
Poland	55.96%	74.55%	45.74%	73.97%	42.72%	77.95%	40.96%	76.49%	42.48%	77.49%	42.72%	76.49%
Portugal	54.35%	60.59%	51.01%	66.32%	53.29%	63.60%	76.00%	55.84%	72.74%	59.48%	54.35%	60.59%
Romania	n/a	n/a	35.94%	9.16%	46.29%	15.86%	43.45%	11.66%	42.73%	15.59%	43.09%	13.63%
Sweden	73.32%	77.37%	71.20%	79.67%	71.20%	79.67%	71.93%	76.78%	68.78%	80.76%	71.20%	79.67%
Slovenia	76.62%	62.41%	73.61%	66.29%	65.38%	64.23%	65.11%	55.95%	57.37%	56.03%	65.38%	62.41%
Slovakia	54.23%	4.27%	n/a	n/a	42.34%	12.46%	5.73%	0.00%	5.08%	0.00%	24.03%	2.13%
Great Britain	41.25%	n/a	47.09%	60.63%	44.49%	64.60%	36.25%	61.71%	34.15%	69.72%	41.25%	63.16%
Median	59.42%	62.41%	56.88%	64.82%	47.67%	63.60%	53.46%	56.34%	55.14%	62.99%	53.00%	61.50%

Source: Own elaboration

The conducted research allowed us to verify positively the research hypothesis. All signs show that life insurance companies invest in capital market less than real estate and other insurance companies. The survey also indicated that this investment in the European market is on a relatively high level. The 2009 median for real estate and other insurance companies equaled 62.99%, which means that capital market investments reached nearly two thirds of the value of all assets of the companies. Interestingly, this investment has maintained quite stable level. Some deviations can be observed in 2007 and 2008, the time of the financial crisis. This comes as no surprise, as even if investment was not limited in nominal values, its value probably fell due to large price reductions in stock exchange markets.

Conclusions

The financial and the insurance markets coexist and penetrate each other. Insurance companies have become major institutional investors, but on the other hand, due to the nature of the products they offer, they are becoming an element of the financial market. This penetration of influences, products and capital can be seen every day. In the consolidation process, bank institutions enter strategic alliances with insurance institutions or even merge into one entity. They seek capital for development of their activity in capital market, invest aiming at profit maximization, risk diversification and finally marrying the interests of shareholders – owners of insurance companies and people insured by them. Investment in capital market seem a natural direction. The united Europe and common market seem to encourage this mutual penetration of influences. A detailed analysis of the issue allowed us to show the importance of capital market for insurance companies. We also positively verified the research hypothesis proposed in the introduction, confirming that real estate and other insurance companies invest more assets in capital markets. Life insurance companies also invest in capital market, but on a lower scale. Probably the boards of these companies more often choose investment characterized by stable risk, such as investment in real estate or bank deposits. An important conclusion we can make is that deep involvement of insurers in capital market confirms strong penetration of financial markets.

References

Bernat, T. (2004). Rynek ubezpieczeń a lokaty na rynku kapitałowym – sprzężenie zwrotne. In: W. Tarczyński (editor), *Rynek kapitałowy w przededniu integracji Polski z Unią Europejską* (p. 19-28). Szczecin: PTE.

Borch, K. (1974). Capital Markets and the Supervision of Insurance Companies. *Journal of Risk & Insurance*, *41* (3), 397-405.

Butt, M. (2007). Insurance, Finance, Solvency II and Financial Market Interaction. *Geneva Papers on Risk & Insurance - Issues & Practice, (32)* 1, 42-45.

Cooper, I. and Priestley, R. (2009). Time-Varying Risk Premiums and the Output Gap. *Review of Financial Studies*, *22* (7), 2801-2833.

De Mey, J. (2007). Insurance and the Capital Markets, *Geneva Papers on Risk & Insurance - Issues & Practice*, *32* (1), 35-41.

Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the Taking-Up and Pursuit of the Business of Insurance and Reinsurance (Solvency II), Official Journal of the European Union, L 335/1.

Dorr, D. C. (2007). Longevity Trading: Bridging the Gap Between the Insurance Markets and the Capital Markets. *Journal of Structured Finance, 13* (2), 50-53.

Fenn, P., Vencappa, D., Diacon, S., Klumpes, P., O'Brien, C. (2008). Market Structure and the Efficiency of European Insurance Companies: A Stochastic Frontier Analysis. *Journal of Banking & Finance*, *32* (1), Dynamics of Insurance Markets: Structure, Conduct, and Performance in the 21st Century, January, 86-100. DOI: 10.1016/j.jbankfin.2007.09.005.

Ferson, W., Kandel, S., Stambaugh, R. (1987). Tests of Asset Pricing with Time-Varying Expected Risk Premiums and Market Betas. *Journal of Finance*, 42 (2), 201-220.

Hart, O. H. (1965). Life Insurance Companies and the Equity Capital Markets. *Journal of Finance*, *20* (2), 358-367.

Insurance Activity Indicators, OECD Insurance Statistics (database), doi: 10.1787/20755066-2010-table3, situation on 2oth December 2010.

Insurance Activity Indicators, OECD Insurance Statistics (database), doi: 10.1787/20755066-2010-table4, situation on 20th December 2010.

Jajuga, K. (2000). Rynek finansowy i rynek ubezpieczeń – niektóre współczesne tendencje. In: K. Jajuga, W. Ronka – Chmielowiec (editors), *Inwestycje finansowe i ubezpieczeniowe – tendencje światowe a polski rynek* (p. 28-38). Wrocław: Wydawnictwo Akademii Ekonomicznej im. O. Langego.

Quirin, G., Waters, W. (1975). Market Efficiency and the Cost of Capital: The Strange Case of Fire and Casualty Insurance Companies. *Journal of Finance*, *30* (2), 427-445.

Regulation (EU) No 1094/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Insurance and Occupational Pensions Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/79/EC, Official Journal of the European Union, L 331/48, 15.12.2010.

Ustawa z dnia 22 maja 2003 r. o działalności ubezpieczeniowej, Dz.U. 2003 nr 124 poz. 1151, z późniejszymi zmianami. [The Act of 22nd May 2003 on Insurance Activity, Journal of Law No 124, position 1151, with subsequent amendments]

Wierzbicka, E. (1998). Rola sektora ubezpieczeń w systemie finansowym Polski. In: A. Wernik (editor), *Polityka Finansowa, Budżet, Stopa Procentowa, Ubezpieczenia* (p. 96-131). Warszawa: Instytut Finansów.

Wolski, R., Załęczna, M. (2011). The Real Estate Investment of Insurance Companies in Poland. *Journal of Property Investment & Finance*, *29* (1), 74-82.