

**The Impact of Limited Investment Choices
on Life Insurance Companies in Poland**

Krzysztof J. Stroiński
Department of Statistical and Actuarial Sciences
The University of Western Ontario
London, Ontario N6A 5B7
Canada

Telephone: 519-661-3613
Fax: 519-661-3813

Eugeniusz A. Stroiński
President and C.E.O.
General Life Insurance Company of Poland Ltd. (PZU Life)
Grzybowska 80/82
00-844 Warszawa
Poland

Telephone: 48-2-661-5201
Fax: 48-2-661-5280

Summary

A major source of possible financial difficulty facing insurance companies in Eastern Europe is the limited choice of safe investment vehicles for a company's assets. This paper gives an overview of the current investment opportunities for life insurance companies in Poland and analyses how, under the existing constraints, the assets of life insurance companies are actually being invested. The paper projects the assets growth of the life insurance industry and discusses prospects for the development of new financial instruments.

**L'impact de la limite des choix d'investissements
sur les compagnies d'assurance vie en Pologne**

Krzysztof J. Stroiński
Département de Sciences statistiques et actuarielles
The University of Western Ontario
London, Ontario N6A 5B7
Canada

Téléphone : 519-661-3613
Télécopie : 519-661-3813

Eugeniusz A. Stroiński
Président-Directeur général
Compagnie Générale d'Assurance Vie de Pologne (PZU Life)
Grzybowska 80/82
00-844 Varsovie
Pologne

Téléphone : 48-2-661-5201
Télécopie : 48-2-661-5280

Résumé

Une source majeure de difficultés financières potentielles à laquelle sont confrontées les compagnies d'assurance d'Europe de l'Est est le choix limité de véhicules d'investissement sûrs pour le placement des avoirs de la société. Le présent article donne un aperçu général des opportunités de placement actuelles pour les compagnies d'assurance vie en Pologne et analyse comment ces compagnies investissent leurs avoirs compte tenu des contraintes existantes. Les auteurs établissent des prévisions de croissance des actifs du secteur de l'assurance vie et examine les possibilités de développement de nouveaux instruments financiers.

1. Introduction

Investment is not the *raison d'être* of insurance companies. However, insurance companies, because of the nature of their financial operations, collect large assets which have to be invested for the benefit of policyholders. Companies require good investment return to compete effectively in the insurance market.

This paper describes the current investment opportunities in Poland, gives a brief overview of the Polish life insurance market (both providers and products), and analyses the impact of the limited investment choices, particularly lack of long-term investment market, on the operation of those companies.

2. The Investment Possibilities

We shall discuss here the few investment possibilities that are used by Polish life insurance companies. We should note that some forms of investment are not available or are not considered to be safe in Poland. The real estate market in Poland is underdeveloped, hindered by regulations and unclear property titles. The latter factor is due mainly to the loss of records during World War II and the later unlawful communist appropriation of land. As a consequence, real estate has generally not been considered to be a good investment for insurance companies, other than for setting up their own offices.

There is also notable absence of mortgages. The high cost of credit slows down the development of this form of investment. In the following subsections, we suggest the reasons for the lack of mortgages in Poland and then comment in turn on the following forms of investment available in

Poland:

- bank deposits,
- treasury bills,
- government bonds,
- corporate shares.

We shall make comparisons between these forms of investment and comment about their suitability to back life insurance products available in Poland.

2.1 Mortgages

In many countries, the demand for mortgages corresponds to the demand for home ownership and the interest rates of mortgages follow the interest rates in general. In Poland, there used to be an insufficient but steady supply of new subsidized apartments and a very small supply of rentals. Only few people could afford the huge cost of buying their own houses or combat the red tape and lack of supplies which until recently hindered building them. Compared with Canada, there is minimal mobility of people, once they have their own place to live.

The situation has changed in that the state subsidies were reduced and those waiting for their own subsidized apartments were hit with overwhelming costs of housing. Currently, the cost of building houses in Poland is not much lower than in Canada because of the inefficiency of local builders, the shortages of local materials and therefore the necessity of importing them at Western European prices with an additional cost of transportation. Combined with the above is the high interest rate which makes the interest payments on a loan to purchase a modest house many times higher than the average salary.

As a result, those few who can afford the purchases must have much higher income than the average. With the economy in flux, such incomes cannot be guaranteed for any length of time, which in turn discourages a longer term

borrowing. In consequence, most houses are purchased without a mortgage, possibly with the help of a short term loan.

2.2 The Bank Deposits

In Canada, insurance companies avoid investing their assets in bank deposits because they can earn more elsewhere with little risk. For the insurance companies in Poland, on the other hand, bank deposits are currently the most popular form of investment. We analyze in turn bank deposits in Polish currency and possible advantages of investing in foreign currency deposits.

2.2.1 Bank Deposits in Polish Zlotys

The interest rates for bank deposits fluctuate. Individual banks determine their interest rate themselves and are entitled to change it even with respect to contracts already signed. The changes in the interest rates of individual banks usually follow changes in the so called rate of the refinancing credit, determined by Polish National Bank. Term deposits for periods less than 1 year usually have the same or slightly lower interest rate as that of the refinancing credit. The interest rate for deposits for periods of one year or more is 1.1 - 1.3 of the rate of the refinancing credit.

During last year, the rate of the refinancing credit was lowered from 38% to 35% (on February 22, 1993) which resulted in a substantial lowering of interest rates by all banks. Generally, larger banks offer lower interest rates.

Interest rates of 14 largest Polish banks (on September 23, 1993) were as follows:

for 3 months deposits	29.44%
for 6 months deposits	32.91%
for 12 months deposits	36.77%.

2.2.2 Bank Deposits in US Dollars

An alternative to investing life insurance company's assets in bank deposits in Polish currency would be to invest in bank deposits in foreign currency. Then, their growth would be equivalent to the exchange rate gain compounded with the interest obtained on those deposits.

The rate of exchange of US dollar in relation to Polish zloty changed from 15,744 zł for US\$1 on January 1, 1993 to 19,735 zł on October 1, 1993. This is a 25.35% increase. On a yearly basis, if we extrapolate linearly, the increase could be 33.80%.

In addition, if one considers the 4.5% interest rate offered by the Polish banks for accounts in US dollars, the total yearly increase in value equals 39.82%. However, from the insurance industry point of view, this investment opportunity is open only for the portion of the premium collected in foreign currency, and it does not apply to premiums collected from persons living in Poland.

It should be noted here, that starting from October 14, 1991, Polish National Bank introduced the, so called, *creeping* devaluation of the zloty, the procedure which changes the value of Polish currency in relation to the US dollar by 11 zloty per day. In September and October 1993, after the last devaluation of the Polish zloty, the creeping devaluation was, at least temporarily abandoned.

Apart from that, over the period from 1991 to 1993, Polish National Bank carried out three jump devaluations:

- on May 15, 1991 17.0%
- on February 27, 1992 12.0%
- on August 27, 1993 7.5%.

The average rate of exchange for US\$1 in 1993 was:

- on January 1, 1993 15,744 zł
- on August 26, 1993 18,344 zł
- on August 27, 1993 19,728 zł
- on October 1, 1993 19,735 zł.

Assuming that the period of 6 months is relatively safe with respect to the changes of the exchange rate of the dollar (only the creeping devaluation applies), one could consider an investment system combining the exchange of dollars into zlotys after each devaluation, then keeping the deposit for 6 months in the Polish currency and finally exchanging the total sum into dollars again to await the next jump devaluation. Investing with that system could further increase the total interest by 10-15% annually. However, despite the perceived willingness of the consumers to have their insurance policies tied to major currency, notably the US dollar, the current legislation prohibits Polish insurance companies from investing in foreign currency.

Generally, investing in bank deposits in Polish currency is not a very profitable but easy and relatively safe, and thus a popular way of protecting insurance company's assets. With the absence of profitable and safe alternative choices and with almost no competition, bank deposits have been the prevailing investment choice.

2.3 The Treasury Bills

An alternative to bank deposits is provided by treasury bills and government bonds. Treasury bills are issued for the period of 4 weeks, 8 weeks, 13 weeks, 26 weeks and 52 weeks.

Treasury bills are sold with a discount at an auction and mature with the nominal value after the period for which they have been issued. The average interest on treasury bills, on September 23, 1993 was as follows:

13 week bills	-	33.37%
26 week bills	-	34.69%
52 week bills	-	36.00%

The interest on 13 week treasury bills is used to determine the quarterly interest on three year government bonds.

2.4 The Government Bonds

With the inflation in Poland well into double digits (officially 32% in 1993 - projected), the government had a difficult task devising effective instruments to borrow money. Two types of government bonds were issued. One type, the three year bonds, relates to the interest rates set by the sales of 13 week treasury bills. The other type, one year bonds, relates to the consumer price index.

2.4.1 The Three Year Bonds

The three year government bonds have quarterly coupons. The coupons C have varying value given by the product:

$$C = (1.1) \cdot F \cdot \frac{N}{360} \cdot J$$

where

F is the face value,

N is the number of days in a given quarter,

J is the arithmetic average of interest rates calculated on the basis of last four 13 week treasury bills sales.

The interest rates on the sale of 13 week treasury bills r_k are calculated as:

$$r_k = \frac{d_k}{1-d_k} \cdot \frac{360}{91}$$

where d_k 's are average discounts in each of the treasury bills sales.

2.4.2 The One Year Bonds

The government bonds on a one year loan seem to be a more interesting investment option, because of their direct relation to inflation.

The interest rate for those bonds is the sum of two elements: the first one equals the product of the indices of the price increases in twelve subsequent months, starting two months before the issue of the bond. The second one is a constant and equals 5%.

The average indicators of price increases (inflation) per month for the period October 1992 - September 1993, published by the Main Statistical Office, were:

October 92	3.0 %
November 92	2.3 %
December 92	2.2 %
January 93	4.1 %
February 93	3.4 %
March 93	2.1 %
April 93	2.3 %
May 93	1.8 %
June 93	1.4 %
July 93	1.1 %
August 93	2.3 %
September 93	2.0 % (estimated).

The total indicator of price increases for the period of one year was therefore equal to 31.84%, and the total interest for the bonds issued in December 1992 was equal to:

$$31.84\% + 5\% = 36.84\%.$$

This illustrates that the yield is only marginally higher than the interest on a 12 month bank deposit or a 52 week treasury bill. The other observation is that the inflation is still rampant and it is an important task of life insurance companies not to allow the real values of the offered policies to erode as happened in the late 1980's, when the annual rate of inflation and absolute lack of investment instruments wiped out almost all value from individual insurance and annuity contracts.

2.5 The Stock Market

The Polish stock exchange is still at the stage of inception. It was opened in Warsaw in 1991 in the old headquarters of the communist party which is symbolic for the evolution of the Polish economy. At the beginning of October 1993, some 20 Polish companies were listed on the stock exchange and the monthly turnover was approximately 450 million US\$. Being a new market, Polish stocks are subject to significant and sudden movements, although the participating companies may be described as reliable and financially strong and stable. The financial gains of companies are relatively small and are being reinvested into capital fund, so that the shareholders do not receive dividends higher than a few percent. In the recent few months the Warsaw stock market has experienced an unprecedented growth.

The average value of shares increased over the period of 9 months (from January 4 until October 4, 1993) by approximately 508%, those increases, however, were very uneven.

Over the first two months, the average increase in the share value was 6.2%

(below the rate of inflation - 7.64%) and 4 companies experienced a decline while 12 companies noted a modest increase.

Over the next six months, the shares of all companies went up dramatically. The average increase for that period of time was 526%. The highest increase was that of the glass works "Irena" - 1788% and the textile company "Wólczanka" - 1266%. The lowest increase had the steelworks "Mostostal" - 156%.

That sudden increase took many institutional investors by surprise. When insurance companies were about to purchase more stock, the stock market suddenly collapsed and almost all shares dropped in price.

Over the period of three weeks in September, the average value of listed shares decreased by 14.52%. The value of the shares of some companies decreased much more: "Irena" - 28.65%, BIG (a bank) - 27.78%, BRE (another bank) - 25.74%. Over the same period of time, the value of some shares continued to go up, e.g. "Elektrim" - 16.46%. By the end of September, there was a partial recovery. Over the period of nine months, the growth was astounding with the stock market index raising 396% after inflation. The average values of shares of all the listed companies over the period from January 4, 1993 to October 4, 1993 are given in the appendix. The Warsaw Stock Exchange Index, called *WIG*, is given as the bottom row of the table.

3. The Life Insurance Companies

On October 1, 1993, there were only six insurance companies in Poland that had a licence to sell life insurance. At the beginning of 1993, another life insurance company Westa-Life, along with its sister company Westa (property casualty), were declared insolvent. Westa (property casualty) was Poland's third largest insurance company, with the combined market share of 11.16% in 1991. The respective market shares of the existing companies, measured

in terms of total life insurance premium income for 1992, were as follows:

Company	% of premium in 1992
AGF Life	0.2
AMPLICO Life	0.1
AZUR	-
Benefit	-
Commercial Union Life	-
PZU Life	99.7

The new life insurance companies AGF Life, AZUR, AMPLICO Life, Benefit and Commercial Union Life are only beginning to establish their position in the Polish market. A new life insurance company, Warta Vita, may soon emerge, formed from a part of Warta, the second largest insurance company in Poland. At present, however, PZU Life (General Life Insurance Company of Poland) which until 1990 was part of the then monopolistic PZU, still has a position of near monopoly. Because of the dominance of PZU Life on the Polish life insurance market, this paper has been mostly based on the data from that company.

Life insurance in Poland is enjoying a rapid growth, much exceeding the inflation and population growth. The following table shows the premium collected by PZU Life over the period of the last three years:

Year	Premium in billion zl
1990*	582
1991	1969
1992	5291

* in 1990 PZU Life was a part of PZU

The market share of life insurance compared to other insurance types sold in Poland grew from 11% in 1990 to 28% in 1992. The total assets of PZU Life were on September 24, 1993 3,796 billion zl which is about US\$ 192 million.

4. The Life Insurance Products

Compared with the rapid growth of the life insurance sector in Poland described in the previous section, there has been a relative decline in the sales of individual life insurance products. At the same time, some growth in the individual life insurance has been achieved by new insurance companies: AGF Life, AMPLICO Life, and most recently by Commercial Union Life.

The main reason for the relative decline in the field of individual life insurance products is, in the authors' opinion, the limitation of investment possibilities of life insurance companies funds (on the importance of long term investment opportunities for long term insurance contracts cf. Frost & Hager (1986) p. 121 and Adams (1989) p. 283) and the slow introduction of individual insurance products which could protect customers against the rampant inflation.

A solution to the problem of depreciation of insurance coverage resulting from inflation is to offer life insurance on a group basis with contracts which

operate from year to year and therefore do not require large reserves, which would in turn require a long-term investment to secure a certain steady growth above the inflation level. Group contracts can easily increase sums insured in tune with, or faster than inflation.

The group contracts evolved in Poland from simple to very complex in terms of their benefit structure. In fact, the new type of group life insurance offered by PZU Life provides an entire system of additional coverages for the life of a spouse, parents and parents-in-law, and children. The insurance also pays for new-born children. Further, upon the death of the principal insured, the sum insured is increased by 40% for each dependent child under the age of maturity. This type of group insurance has an automatic disability add-on coverage providing a single benefit quadrupling the sum insured in the case of full disability.

The group insurance described above is the fastest growing type of insurance in Poland. It replaces the old-type group insurance with fewer benefit options and without an automatic additional accident insurance. The group insurance can be individually continued at a guaranteed, higher rate of premium.

The individual life category comprises the endowment, term and whole life insurance but includes also very popular *nuptial insurance* for children. This last type of individual insurance is the one most commonly sold by PZU Life. It is an endowment insurance for children, intended to provide a lump sum at the time of their maturity (the date can be set by the parent paying premium) which additionally provides a coverage in the form of an annuity when the parent or parents who pay the premium die before that time. This type of insurance is available in three variants, all of which are available for a single or for a regular premium.

The options that vary are the annuity coverage in the case of disability of a child and the fact that one or either of two parents dies entitles the child to an annuity.

The table below shows the growth of premium, in billions of zlotys, in life insurance in PZU Life from March 31 to December 31, 1992.

Type of insurance	31.03.1992 premium	%	31.12.1992 premium	%
Group (old type)	560	50.1	2,238	42.3
Group (new type)	119	10.6	1,375	26.0
Individually continued	305	27.2	1,261	23.8
Additional accident	86	7.7	337	6.4
Individual life	47	4.2	76	1.4
Annuities	2.2	0.2	4.2	0.1

The share of group insurance in total premium continued to grow in the first half of 1993.

5. The Capital Investment Allowed by the Insurance Law in Force

Polish insurance law, passed on July 28, 1990 (*Dziennik Ustaw* 59, par. 344), declares that insurers are allowed to invest their funds exclusively in Poland and, in fact, only in Polish currency. Otherwise, the law is quite liberal in the specification of investment options. The following forms of investment are allowed:

1. in form of securities, issued and guaranteed by the State, in promissory notes or treasury deposits and in loans given to the State or guaranteed by the State - without limitations;
2. in shares issued by companies - without limitations (though a regulation introducing limits is currently under consideration);

3. in mortgages - without limitations (though a regulation introducing limits is currently under consideration);
4. in real estate, with exception of agricultural lands - up to the limit of 25% of the insurance fund;
5. in the stock exchange shares; however, the insurer's share in a company must not be higher than 10% of the nominal value of that company - including shares not listed at the stock exchange - within 30% of the insurance fund;
6. in domestic shares not listed at the stock exchange and in shares in listed domestic corporations. Those not-listed companies are obliged to present to the insurer the future annual balance sheets, a calculation of revenues and expenses, prepared according to the requirements for shareholding companies - within the limit of 15% of insurance fund; however, including shares of listed companies, within the limit of 30% of the insurance fund;
7. in term bank deposits - without limitations;
8. in loans against its own life insurance policies - without limitations;
9. in other forms of investment as recommended by the Minister of Finance.

Generally, the legal provisions are quite liberal and do not unduly limit life insurance companies. One provision which is felt by some insurance companies as constraining is the requirement restricting the investment possibilities to Polish market and limiting deposits to only those made in Polish currency.

6. The Structure of Investments

The structure of financial investments by all insurance companies is illustrated in the table below. It shows that the major part of investment takes form of bank deposits, government bonds and treasury bills. The shares of companies registered at the stock exchange constitute a rather small portion. Some 1.5% of investment is in form of real estate: this is the real estate purchased for offices and spread all over the country.

Type of investment	in percent
Bank deposits	74.8
Treasury bills and government bonds	16.1
Listed shares	1.6
Non-listed shares	2.5
Real estate	1.5
Loans and mortgages	0.6
Other	2.9

From the above table, it is apparent that insurance companies in Poland were not the main beneficiary of the recent stock market growth.

The structure of investments made by PZU Life was similar. We can assume that it represents well the structure of investment of life insurance companies. One exception is that companies with foreign capital can keep the foreign portion of their share capital in foreign currency bank deposits.

The table below represents the structure of investment by PZU Life.

Type of investment	Jan. 1, 93 in billion zl	in percent	Sep. 24, 93 in billion zl	in percent
Bank deposits	929	53.2	1736	45.7
Treasury bills	172	9.8	844	22.2
Government bonds	605	34.7	1144	30.2
Listed shares	35	2.0	56	1.5
Investment fund	5	0.3	5	0.1
Other bonds	-	-	10	0.3
Total	1746	100	3795	100

7. The Impact of the Limited Investment Possibilities on Insurance Companies

For an individual policy, the size of the required assets - reserves at any point of time is a function of the sum insured, the specification of coverage, the assumed return on investment, and the structure of premium collection. For group insurance, the necessity of building up the assets is often greatly reduced because of the year by year matching of income and expenditures. The payment of insurance benefits for some members of the group can be financed from premium collected from other members of that group, and the reserves have to provide only for the guaranteed coverage in the absence of such an income. Therefore, the limitations of investment opportunities have much lesser impact on group life insurance than on individual life insurance.

One problem concerning high inflation/interest rates is the fact that it is much harder to foresee the changes of the interest rates and, in particular, the timing of such changes. The contractual life insurance guarantees can only be limited to prudent assumptions about the realized gains. On the other hand, the phenomenal rates of return that one could realize on the stock exchange (without any investment knowledge, just investing in Warsaw Stock Exchange Index) make any insurance saving policy look like grossly under-performing.

Any savings element in the individual policy must be tied to realistic product assumption about future investment policies. With the availability of government bonds that pay 5% above the inflation rate, it is seemingly very easy to guarantee high returns. The uncertainty lies in the question how long the government will continue to issue such bonds. The bonds have only one-year duration and there is no guarantee that similar bonds will be issued in following years, which disqualifies them as a basis for long term assumptions about investment policies for insurance companies.

Without the possibilities of making long term assumptions, life insurance companies have difficulties introducing competitive individual life insurance products.

Because of the conservative investment choices made by insurance companies, the increase in their assets is more related to increases in premium collection than to possible investment gains. Therefore, any predictions of the increase of assets will relate to the increase in premiums. At the end of 1992, the reserves of PZU Life were 2.7 trillion zł which was about US\$ 173 million. This corresponds to the premium income 1992 of about 5.3 trillion zł. The projected premium income by the end of 1993 is 8.7 trillion zł and the projection for 1994 is about 12 trillion zł if inflation does not increase.

8. Conclusions

The analysis of the Polish life insurance market offers some interesting

insights into the operations of long term individual insurance in a developing and unstable financial environment, affected by inflation and lack of safe long term investment opportunities. Some comparisons could be drawn between the current situation in Eastern Europe and the post World War II situation in Western Europe and the United States, as for example analyzed by Clayton and Osborn (1965) and Jones (1968). There are, however, differences, as for instance the fact that there is a greater uncertainty about the future developments of the financial sector, the economy at large and the legislation than there was in the post war era. Long term investment opportunities are not available and there are no strong companies eager to promote long term life insurance coverage.

Because investment in stock or real estate is still relatively uncertain in Poland, insurance companies preferred three forms of investment: bank deposits, government bonds and treasury bills, which bring yearly income of 35-40% remaining close to the level of inflation. The official level of inflation of 32% reported by the Main Office of Statistics is believed to be understated. Only a small fraction of investment has been made in corporate shares.

With the economy becoming stronger, one would hope that the financial market will also develop and that the investment opportunities will become more diversified. Foreign investment will probably contribute to that development (cf. Dobosiewicz, 1992). There will also continue to emerge a group of professionals with higher incomes who would be interested in having a better individual life insurance coverage. Within that scenario, life insurance companies will have a good chance to become one of the major institutional investors in Poland. This in turn could create a strong demand for long term investment opportunities.

9. Acknowledgement

We are grateful Professor John Mereu of the University of Western Ontario for his very helpful comments.

References:

Adams, A. (1989) *Investment*, Graham & Trotman, London

Clayton, G. & Osborn, W.T. (1965) *Insurance Company Investment*, George Allen & Unwin Ltd., London

Dobosiewicz, Z. (1992) *Foreign Investment in Eastern Europe*, Routledge

Dziennik Ustaw Rzeczypospolitej Polskiej 59, 1990

Frost, A.J. & Hager, D.P. (1986) *A General Introduction to Institutional Investment*, published for the Institute of Actuaries and the Faculty of Actuaries, Heinemann, London

Jones, L.D. (1968) *Investment Policies of Life Insurance Companies*, Harvard University, Boston;

Warsaw Stock Exchange Jan. 4, 1993 - Oct. 4, 1993

Name	Jan. 4	Feb. 1	Mar. 1	Apr. 1	May 4	Jun. 1	Jul. 1	Aug. 2	Sep. 2	Oct. 4	% increase
BIG	31	30.5	30	36.5	43.5	53.5	52	67.5	198	128	312.9%
BRE	191	195	193	210	295	510	484	535	1010	940	392.1%
Electrim	200	231	220	270	389	870	750	910	1185	1405	602.5%
Exbud	280	255	258	276	365	840	730	705	935	815	191.1%
Irena	48	47	49	60	88	175	311	440	925	685	1327.1%
Kable	33	35	38	46	52	106	111	165	326	255	672.7%
Krosno	24.5	27	29	30.5	42.5	74	78.5	164	242	190	675.5%
Mostostal	302	337	338	373	576	1440	700	800	865	855	183.1%
Okocim	105	100	113	165	292	390	412	444	625	650	519.0%
Polifarb						318	285	389	745	635	
Prochnik	36	38.5	39	53	85	248	250	311	473	525	1358.3%
Sokolow									312	295	
Swarzedz	37	42.5	39	41	50.5	110	118	202	253	206	456.8%
Tonsil	27	24	24	32	43	58.5	62.5	135	237	155	474.1%
Universal	12.5	9.6	9	9.1	10.5	11.3	9.9	26	69	54	332.0%
Vistula										1035	
WBK								340	690	540	
Wedel	189	190	230	254	390	795	900	870	1270	1200	534.9%
Wolczanka	35	39	41	54.5	82	221	225	302	560	496	1317.1%
Zywiec	125	125	138	165	230	470	555	620	865	900	620.0%
WIG	1037.1	1057.5	1100.9	1293.2	1895	3710.2	3677.6	4227.7	6893.8	6302.5	507.7%