PZU GROUP

EUROPEAN EMBEDDED VALUE AT 31 DECEMBER 2012

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1 INTRODUCTION

1.1 DEFINITION OF EMBEDDED VALUE

Embedded value is a valuation approach which focuses on the value to shareholders of expected future distributable earnings arising from an insurance company's in-force business, allowing for the risks to shareholders arising from uncertainty in the timing and amount of expected future distributable earnings. Embedded value reporting also focuses on the analysis of movement in shareholder value during a specific reporting period (referred to in this report as the "analysis of embedded value earnings"), including the contribution arising from the sale of new business policies during a given reporting period.

1.2 EEV PRINCIPLES

The embedded value of the PZU Group has been calculated in accordance with the European Embedded Value (EEV) Principles published in May 2004 and October 2005 by the European Insurance CFO Forum, which represents the chief financial officers of major European insurers. Certain aspects of the Group's EEV calculation have been reviewed by Towers Watson in its capacity as consulting actuaries to the Group. Towers Watson's opinion sets out the scope of the review and the resulting opinion. Towers Watson's report is included in section 9.

The EEV of the Group is calculated using a market-consistent framework which is a particular approach to embedded value where assets, liabilities and future cash flows are valued consistently with each other, and in line with market prices of financial instruments with similar characteristics. This approach seeks to ensure that the risk inherent within the projected cash flows is calibrated to the market price for risk where this is reliably observable.

1.3 COVERED BUSINESS

For the purposes of EEV reporting, a distinction is drawn between "covered business" to which the EEV methodology is applied, and "non-covered business" which has been reported on an unadjusted IFRS net asset value basis. EEV in respect of the covered business is referred to as "Covered Business EEV".

The Group defines its covered business as contracts written by, Powszechny Zakład Ubezpieczeń na Życie S.A. ("PZU Life" or "Life"). The covered business includes group whole of life, group yearly renewable term, individual continuation of group coverage ("continued business"), traditional life, unit linked and bancassurance deposit business. The definition of covered business leads to a difference between the segments used for EEV reporting and those used for IFRS reporting, in relation to business classified as investment contracts for IFRS purposes. Investment contracts are excluded from the IFRS Life segment. However, these contracts are included in the Covered Business EEV.

The Group's non-covered business includes pensions business in Powszechne Towarzystwo Emerytalne PZU S.A. (PZU PTE), general insurance in Powszechny Zakład Ubezpieczeń S.A. (PZU SA), asset management and other service activities as well as relatively small life insurance subsidiaries in Ukraine and Lithuania.

The inclusion of PZU PTE in non-covered business is a change compared to previous embedded value publications. Although this business is regarded by the local regulator as long term business and so should, according Guidance 2.1 of the EEV Principles, be included within covered business it was decided to reclassify PZU PTE as non-covered business for the reasons described in section 1.4. The year-end 2011 EEV has been restated as a result – see section 1.4 for further details.

1.4 CHANGE IN THE SCOPE OF COVERED BUSINESS

In the recent years 2009-2011 the legal environment of Pillar II Pension Funds in Poland was subject to various changes, which resulted in reduction of management fees (2010), decrease the level of contributions transferred to PTE's (2011) and ban on acquisition activities (2012). The high risk of

further regulatory changes and uncertainty about withdrawals of the accumulated amounts on retirement have led to PZU's decision to exclude Pillar II Pension Products from the definition of covered business. Consequently, it was concluded that PZU PTE will be included within non-covered business and hence will be reported on an unadjusted IFRS net asset value basis without recognition of the value in force business (VIF), including present value of future profits (PVFP). As a result the value of in-force business and the shareholders' adjusted net worth were reduced for the components related to PZU PTE.
The table below show impact of removal of PZU PTE components on Group EEV as at 31 December 2011 and 2010.

TABLE 1.1

GROUP EEV

PLN MILLION

	Historical data		Change		Comparative data	
	2011	**2010**	**2011**	**2010**	**2011**	**2010**
Covered business	18,803	19,329	-2,071	-2,733	16,732	16,596
Non-covered business	6,642	6,059	264	266	6,906	6,325
Group EEV	**25,445**	**25,388**	**-1,807**	**-2,466**	**23,638**	**22,922**

The tables below shows the components of the Covered Business EEV 2011, split by type of business. The Covered Business EEV includes a consolidation adjustment in respect of the Pension business.

TABLE 1.2

COVERED BUSINESS EEV 2011

PLN MILLION

	Historical data			Change	Comparative data
	Life	**Pensions**	**Total**		
Required capital	4,288	248	4,536	-248	4,288
Free surplus	1,402	-7	1,395	7	1,402
PVFP	12,463	2,470	14,933	-2,470	12,463
TVOG	-27	-272	-299	272	-27
FCRC	-415	-97	-511	96	-415
CNHR	-979	-271	-1,251	272	-979
Total	**16,732**	**2,071**	**18,803**	**-2,071**	**16,732**

TABLE 1.3

COVERED BUSINESS EEV 2010

PLN MILLION

	Historical data			Change	Comparative data
	Life	**Pensions**	**Total**		
Required capital	4,245	152	4,397	-152	4,245
Free surplus	1,998	129	2,127	-129	1,998
PVFP	12,116	2,866	14,982	-2,866	12,116
TVOG	-14	-76	-90	76	-14
FCRC	-423	-44	-467	44	-423
CNHR	-1,325	-295	-1,620	295	-1,325
Total	**16,596**	**2,733**	**19,329**	**-2,733**	**16,596**

At the same time the net asset value were reconciled in comparable conditions. The table below shows the reconciliation between the Group IFRS shareholders' equity and the Covered Business EEV shareholders' adjusted net worth.

TABLE 1.4

NET WORTH RECONCILIATION

PLN MILLION

	Historical data		Change		Comparative data	
	2011	**2010**	**2011**	**2010**	**2011**	**2010**
IFRS shareholders' equity	12,870	12,800	0	0	12,870	12,800
Shareholders' equity of non-covered business	-6,642	-6,059	-264	-266	-6,906	-6,325
IFRS Equity for Covered Business	**6,227**	**6,741**	**-263**	**-266**	**5,964**	**6,475**
IFRS Intangibles	-89	-77	0	0	-89	-77
Difference in valuation of assets	75	155	79	39	154	194
Difference in technical provisions between IFRS and Covered Business EEV	-326	-341	0	0	-326	-341
Other	44	46	-57	-54	-13	-8
SNW for Covered Business	**5,931**	**6,524**	**-241**	**-281**	**5,690**	**6,243**

2 METHODOLOGY AND COMPONENTS OF COVERED BUSINESS EEV

The Covered Business EEV consists of the aggregate of the shareholders' adjusted net worth and the value of in-force business relating to covered business.

2.1 SHAREHOLDERS' ADJUSTED NET WORTH

The shareholders' adjusted net worth (SNW) is defined as the market value of assets allocated to the covered business not required to back the in-force regulatory liabilities at the valuation date. The shareholders' adjusted net worth is calculated by the Group on the basis of the local regulatory surplus, with appropriate adjustments applied. These adjustments are primarily to eliminate intangibles and mark all assets and liabilities to market value.

A reconciliation of the shareholders' adjusted net worth and the IFRS shareholders' equity is provided in section 4.5.

The shareholders' net worth is comprised of required capital and free surplus. The required capital is the market value of assets attributed to the covered business over and above that required to back liabilities for covered business, whose distribution to shareholders is restricted. By law, this capital cannot be smaller than Solvency I regulatory required capital. For embedded value calculations of PZU Life at year-end 2012 and 2011, the level of required capital was set to 250% of the regulatory Solvency I capital.

The free surplus is the market value of any capital and surplus allocated to, but not required to support, the in-force covered business at the valuation date.

2.2 VALUE OF IN-FORCE COVERED BUSINESS

The in-force covered business portfolio consists of policies underwritten by the Group prior to the valuation date excluding future new business (see section 2.3.4).

Distributable profits generally arise when they are released following actuarial valuations. These valuations are carried out in accordance with local regulatory requirements designed to ensure and demonstrate solvency. Future distributable profits will depend on actual experience in a number of areas such as investment return, lapses, mortality, administration expenses, taxation, as well as management and policyholder actions. Releases to shareholders in future years arising from the in-force covered business and associated required capital can be projected using assumptions of future experience.

The value of in-force covered business (VIF) is the value arising from the run-off of the existing in-force portfolio, and consists of:

- The present value of future profits (PVFP);
- The time value of financial options and guarantees (TVOG);
- The frictional costs of required capital (FCRC); and
- The cost of non-hedgeable risks (CNHR).

The methodology used to calculate each of these components is set out below.

2.2.1 PRESENT VALUE OF FUTURE PROFITS

The PVFP is the present value of the future profits distributable to shareholders arising from the in-force covered business.

In theory, a market-consistent valuation requires each individual cash flow to be valued separately in line with its specific risk profile, so as to maintain consistency with the market prices of cash flows with similar risk profiles traded in the open markets. However, there are a number of techniques in economic theory that can be applied to reduce the complexity in such an approach, including certainty-equivalent valuation techniques. Certainty-equivalent approaches look to address the practical difficulties in valuing each individual cash flow with a different discount rate by adjusting the individual cash flows for risk, by removing the effects of asset risk premia and thus projecting risk-adjusted returns at the risk-free reference rate, which then allows the resulting stream of risk-adjusted profits to be discounted at the same risk-free reference rate. The certainty-equivalent technique is an approach commonly used in the pricing of financial instruments.

Future profits are projected using best estimate non-economic assumptions and market-consistent economic assumptions. The PVFP is calculated using the certainty-equivalent approach, under which the same reference rate is used for both the projected investment return and the discount rate, ensuring that asset values are consistent with the observed market prices of these assets. The PVFP includes the unrealised capital gains and losses on the assets allocated to back the in-force regulatory liabilities at the valuation date.

2.2.2 TIME VALUE OF FINANCIAL OPTIONS AND GUARANTEES

The PVFP calculation is based on a single, deterministic economic scenario. A single scenario does not necessarily capture the full impact of the presence of financial options and guarantees in insurance contracts, which can give rise to asymmetric shareholder profits, since the negative impact of adverse scenarios can outweigh the positive impact of beneficial scenarios. Although the intrinsic value of such financial options and guarantees is already allowed for directly in the PVFP via the profits projected in the base deterministic scenario, more sophisticated techniques are required to capture the so-called "time value" arising from the asymmetric impacts of future investment returns on shareholders' profits.

Stochastic modelling techniques are used to assess the impact of many alternative future outcomes. The difference between the intrinsic value and the average value over all scenarios is referred to as the time value of financial options and guarantees (TVOG).

Stochastic modelling of financial options and guarantees typically involves projecting the future cash flows of the business under numerous market-consistent economic scenarios. The Group used one thousand market-consistent economic scenarios. Under a market-consistent approach, the economic scenarios generated are based on market prices of observable financial instruments such as bond yields and swaptions.

For the Group the asymmetric impact where the negative impact of adverse scenarios outweighs the positive impact of beneficial scenarios can occur for traditional life with-profit business with guaranteed minimum investment returns.

2.2.3 FRICTIONAL COSTS OF REQUIRED CAPITAL

The FCRC are the additional costs to the shareholders of holding the assets backing required capital within an insurance company. The additional costs allowed for as FCRC are the taxation costs and any additional investment expenses on the assets backing the required capital. FCRC are payable on the assets backing required capital up until the point that they are released to shareholders. These cash flows are then discounted at the reference rate.

2.2.4 COST OF NON-HEDGEABLE RISKS

The EEV Principles require sufficient allowance to be made for the aggregate risks in the covered business. Sufficient allowance for certain risks may not have been made within the PVFP, TVOG and FCRC. These include an allowance for uncertainty in the best estimate of the cash flows related to non-hedgeable risks, including mortality, lapse and expense. Additionally, an allowance for the cost of non-hedgeable financial risk which arises from calibrating to the Polish Treasury bond curve is also taken into account, recognising that this market is not deep and liquid at longer durations.

The Group has allowed for the CNHR by applying a cost of non-hedgeable risk capital approach to the valuation of the covered business. The cost of non-hedgeable risk capital each year is defined as a fixed per annum charge that is applied to the covered business non-hedgeable risk capital (NHR capital). The fixed per annum charge is disclosed in section 3.1.3

The covered business NHR capital at the valuation date has been calculated using a value-at-risk approach consistent with a 99.5% confidence level over a one-year time horizon. The non-hedgeable risks that have been considered by the Group for this purpose include mortality, lapse, expense and extrapolation of the yield curve.

The NHR capital calculation allows for the reduction in NHR capital as a result of diversification between different non-hedgeable risks. No diversification between hedgeable and non-hedgeable risk has been allowed for.

The NHR capital is projected over the lifetime of the in-force business based on appropriate risk drivers. The CNHR is calculated as the present value, discounted at the reference rate, of the projected cost of non-hedgeable risk capital for each year of the projection.

2.3 ADDITIONAL MATTERS RELATING TO THE COVERED BUSINESS EEV METHODOLOGY

2.3.1 LIFE PRODUCT DETAILS

This section briefly describes some key aspects of certain products written by the Group due to their unique nature.

The key product written by PZU Life is the Group P product which has certain unique characteristics compared to standard group life business. In particular, it provides insurance cover for employees and their family members and all insureds within a particular employer/group are charged identical premium rates. An insured, upon exiting the employer/group, generally has the option to continue the insurance on an individual basis (continuation option).

Continued business is whole life insurance for persons, and their co-insureds, who were previously members of Group P schemes, or its previous form known as Type D, and who exercised their continuation option upon exit from their group scheme. The valuation methodology for continued business follows the same approach as that for individual business.

The unit-linked business includes products sold on an individual and group basis.

The Group also writes short-term investment business which primarily comprises endowments of duration one-year.

2.3.2 TREATMENT OF GROUP LIFE BUSINESS

The expected future cash flows are projected for the aggregated portfolio for eight years from the valuation date. The projection term reflects management expectations about the duration and reasonable predictability of this business. The assumed lapse rates reflect the net impact of members exiting existing schemes and new members joining these schemes. A proportion of portfolio members are expected to continue their insurance coverage after they leave the schemes. The "continuation rates" reflect the behaviour of individuals who exit existing schemes and exercise their continuation option, and the projected profits from group business include the expected post-continuation cash flows in respect of these individuals on a basis consistent with the projections for individual continued business. At the end of eight years all remaining group business is assumed to lapse while the expected post-continuation cash flows continue to be projected for the full embedded value projection term.

The projection assumes the run-off of the current technical provisions for the group whole life business in line with the expectations for the future development of these contracts. The group whole life business constitutes only small part of the group portfolio. There are no projected residual assets at the end of the projection period, i.e. no shareholder profits from the further development of these reserves at the end of the projection period are assumed. In the valuation, the future conversions from the group whole life business into the group yearly renewable term business (and respective release of technical provisions) has not been allowed for.

2.3.3 TRADITIONAL PARTICIPATING BUSINESS

Participating business provides policyholders who hold investment based life insurance products with a "bonus" increment to policyholder benefits. This process is also known as profit-sharing. In the general policy conditions for traditional life with-profit business, PZU Life has guaranteed minimum profit-sharing of 85% of the difference between the earned and technical rates.

Future regular bonuses on participating business are projected in a manner consistent with current bonus rates and expected future returns projected in the model on assets deemed to back the policies.

The traditional life with-profit business includes interest rate guarantees arising from the stated technical rate and guaranteed surrender values. Profit-sharing rules combined with the interest rate guarantees result in asymmetric returns for shareholders when comparing favourable and adverse scenarios.

There are no projected residual assets at the end of the projection period.

2.3.4 NEW BUSINESS

The new business value (NBV) is the value of the expected future profit arising from the new business written during the reporting period.

For group business, new business is defined as new schemes only.

For products sold to individuals, new business is defined as new policies sold during the reporting period. This includes new riders sold to individuals who were previously part of a group scheme and as a result of exercising their continuation option upon exit from the scheme they are now in-force individual continued business.

In-force business includes individuals who exercise their continuation option upon exit from a group scheme and new individuals joining existing group schemes. Similarly, new riders sold to members of existing group schemes are not considered as new business but treated as an element of natural transformations within the group portfolio.

The new business value consists of the VIF of new business at the end of the period, calculated using end-period assumptions, plus the regulatory profit/loss result of the business during the period, which includes the impact of all acquisition-related costs. For further details of the relevant assumptions see section 3.

3 ASSUMPTIONS

This section describes certain key assumptions used by the Group in preparing the embedded value results and includes a summary of the key assumptions used.

The projection assumptions used to value new business are consistent with those used to value in-force business.

3.1 ECONOMIC ASSUMPTIONS

The economic scenarios have been calibrated to the market conditions at the valuation dates.

3.1.1 REFERENCE RATES

The reference rate is based on unadjusted Polish Treasury bond yields. The Group uses these rates for consistency with its risk management strategy and it also believes that Polish Treasury bonds are more liquid than swaps in Poland. The Polish Treasury bond yield curve as published by Reuters is available for a maximum of 25 years, with market data available for many interim periods. The Group extrapolates this yield curve beyond 25 years by assuming constant 1-year forward rates for longer durations.

The table below sets out the reference rates used in the Covered Business EEV at each valuation date.

TABLE 3.1

SUMMARY OF REFERENCE RATES

SPOT YIELDS (%)

Term	31 December 2012	31 December 2011	31 December 2010
1	3.08	4.49	4.22
2	3.05	4.78	4.72
3	3.11	5.02	5.00
4	3.18	5.16	5.28
5	3.20	5.40	5.50
6	3.24	5.61	5.65
7	3.33	5.76	5.81
8	3.45	5.87	5.96
9	3.58	5.95	6.10
10	3.71	6.01	6.21
20	3.84	6.15	6.15
30	3.74	6.23	6.09

3.1.2 CALIBRATION OF ECONOMIC SCENARIOS USED IN TVOG

In running its stochastic models, the Group generates 1,000 economic scenarios which enable models to capture the impact of possible changes to both the slope and level of the yield curve and the prices of bonds and derivatives thereof in future periods. The models simultaneously project all relevant asset classes, namely cash and government bonds.

Stochastic models are calibrated to implied swaption volatility levels at the valuation date.

The interest rate scenarios have been generated so that they replicate the implied volatility of Polish Złoty at-the-money swaptions with a swap tenor of 10 years. The implied volatility rates of such swaptions for duration of 10 years were 28.9% and 22.2% for EEV 2012 and EEV 2011, respectively.

Assets backing liabilities include only instruments depending on the interest rate and mariginally the inflation rate. Therefore, scenarios are calibrated to the current yield curve and to the interest rate volatility (swaption volatility is taken as a proxy for the Treasury bonds volatility).

3.1.3 COST OF NON-HEDGEABLE RISKS

Covered business NHR capital reflects the amount of capital, determined by considering value-at-risk including TVOG, needed in case an extreme event occurs for a certain risk category. For each individual risk type extreme events are identified, based on historical data, trend analysis and professional judgment, which are expected to occur once in two hundred years. In other words, the NHR capital is calibrated to a 99.5% one year value-at-risk event. Note that while the reported PVFP less TVOG is based on expected cash flows, the amount of NHR capital reflects that needed to withstand the same risks under extreme events.

The NHR capital calculation allows for the reduction in NHR capital as a result of diversification between different non-hedgeable risks, but no diversification between hedgeable and non-hedgeable risk has been allowed for.

The after-tax fixed per annum charge applied to the projected amount of NHR capital as it runs off each year is 4.5%.

3.1.4 INFLATION

The inflation rate is set with regard to current data for consumer price and salary inflation and the Group's assessment of long term rates and is reviewed regularly. The assumed consumer price inflation rate has been set at 2.6% per annum for 2012 and 2011 year-ends. The assumed expense inflation rate has been set at 125% of the inflation rate.

3.2 ECONOMIC ASSUMPTIONS USED FOR OPERATING EARNINGS AND IMPLIED DISCOUNT RATES

For the calculation of expected returns in excess of the reference rate, investment returns which reflect management's expectations of the business are applied for the projection of investment income.

For fixed interest investments, the expected return is based on the one-year reference rate at the start of the reporting period. The nominal rate of return on equities of 7.8 % and 10.2% was assumed for 2012 and 2011 year-ends, respectively.

The implied discount rate (IDR) is the risk discount rate which, when used within a Traditional Embedded Value approach using investment risk premiums in the projections (net of traditional cost of required capital, with no explicit allowance for the TVOG or CNHR) gives the same value as that arising from the Covered Business EEV approach (net of the TVOG, FCRC and CNHR).

For the 2012 year-end IDR and Traditional Embedded Value sensitivity calculations, the expected return assumptions for fixed interest investments were consistent with those used in the EEV.

3.3 NON-ECONOMIC ASSUMPTIONS

3.3.1 DEMOGRAPHIC ASSUMPTIONS (INCLUDING LAPSES AND MORTALITY)

Assumptions are made in respect of future levels of mortality, morbidity, lapses, continuation option take-up and withdrawals. The assumptions reflect management's best estimates of the likely future experience, and are based on the Group's recent experience and relevant population data, where available.

In particular, the assumptions for future mortality rates for individual life are based on standard Polish mortality tables published by the Polish Central Statistical Office (GUS). The claim assumptions for group life business are based on recent experience for all group business and reflect the expected future development of the business in line with management's business plan.

For the group business, a level lapse rate reflecting the net effect of movements within the group portfolio is assumed, in line with recent experience of the Group. For continued business, age-dependent lapse rates are assumed, based on recent analyses of the Group. The assumed lapse rates for other lines of business are policy-year dependent or age dependent , in line with recent experience of the Group.

The continuation option take-up rates of the group yearly renewable term business have been assumed in line with recent experience of the Group.

3.3.2 EXPENSE ASSUMPTIONS

In EEV 2012, the expense assumptions have been set on a basis of expenses expected to incur in 2013, including effects of all restructuring programs carried out in the past such as reduction of expenditures on remunerations due to changes in employment in 2012. All management expenses attributed to covered businesses have been included in the Covered Business EEV calculations and split between expenses relating to the acquisition of new business, maintenance of in-force business and one-off expenses. Future expense assumptions include an allowance for maintenance, asset management and claim settlement expenses. Certain expenses have been identified separately and charged as incurred rather than being included in the in-force projection. These include certain regulatory expenses and some project expenses of an exceptional nature and amount to less than 35 million PLN.

No future productivity gains have been taken into account. Maintenance expenses expressed as per-policy amounts have been inflated in the projections by the relevant expense inflation assumptions.

Expenses arising in PZU SA not charged back to the covered business have not been allowed for in the Covered Business EEV but are deemed immaterial by PZU Group.

3.3.3 INDEXATION OF PREMIUM AND SUM INSURED

For the group business, the indexation level is determined separately for sums insured and premiums. The difference between the two indexation rates reflects an expected margin erosion in the following years. The level of the assumed indexation rates is based on management's expectations about pricing, renewals and claims development, which affect future profitability.

For continued business, future premiums are expected to increase at fixed rates per annum based on recent portfolio experience and best estimates of the likely future experience.

For traditional participating business the indexation rates are assumed to be in line with profit-sharing rules.

For unit-linked business sold in a form of group pension plans, future premiums are assumed to increase in line with expected long-term Polish wage inflation. The projection of remaining unit-linked products assumes premium increases at a level in-line with current experience.

3.4 TAX ASSUMPTIONS

The corporate tax rate assumptions used in the projection of the distributable earnings at each valuation date has been set to the Polish corporate tax rate of 19%.

4 EMBEDDED VALUE RESULTS

4.1 GROUP EEV

The Group EEV incorporates the value of Covered Business EEV, as calculated under the assumptions set out above, and the value of the remainder of the Group, the non-covered business, valued on the basis described below (the Group EEV). The table below shows the summary statement of the Group EEV as at 31 December 2012, 2011 and 2010 after changes of the scope of covered business described in section 1.4.

TABLE 4.1

GROUP EEV

PLN MILLION

	2012	2011	2010
Covered business	18,510	16,732	16,596
Non-covered business	7,897	6,906	6,325
Group EEV	**26,407**	**23,638**	**22,922**

4.2 COVERED BUSINESS EEV

The table below shows the components of the Covered Business EEV.

TABLE 4.2

COVERED BUSINESS EEV

PLN MILLION

	2012	2011	2010
Required capital	4,356	4,288	4,245
Free surplus	2,374	1,402	1,998
PVFP	13,343	12,463	12,116
TVOG	-58	-27	-14
FCRC	-301	-415	-423
CNHR	-1,205	-979	-1,325
Total	**18,510**	**16,732**	**16,596**

The analysis of embedded value earnings of the Covered Business EEV is provided in section 4.6.

A split of the Covered Business EEV per line of business is shown below.

TABLE 4.3

COVERED BUSINESS EEV PER LINE OF BUSINESS

PLN MILLION

	2012	**2011**	**2010**
Group and continued business[(1)]	13,942	13,256	12,562
Participating, unit-linked and deposits[(1)]	2,194	2,074	2,037
Free surplus	2,374	1,402	1,998
Total	**18,510**	**16,732**	**16,596**

(1) Includes required capital for line of business

4.3 NON-COVERED BUSINESS

The Group's non-covered business includes its pensions business, general insurance, asset management and other service activities as well as life insurance subsidiaries in Ukraine and Lithuania. Consolidation adjustments between covered and non-covered business are included in the non-covered business.

The non-covered business has been reported on an unadjusted IFRS net asset value basis.

No adjustment has been for minorities on grounds of materiality.

4.4 GROUP EEV ANALYSIS OF EARNINGS

The Group EEV earnings are driven by EEV earnings on the covered business (see section 4.6) and the IFRS earnings on non-covered business.

The table below gives an overview of the Group EEV analysis of earnings for the year ending 31 December 2012. Opening values are presented after the change of the scope of the covered business described in section 1.4.

TABLE 4.4

GROUP EEV ANALYSIS OF EARNINGS YEAR ENDING 31 DECEMBER2012

PLN MILLION

	Covered Business	Non-Covered Business	Group EEV
Opening Group EEV	**16,732**	**6,906**	**23,638**
Operating Earnings	2,099	1,773	3,872
Non-Operating Earnings	820	28	848
Total Earnings	**2,919**	**1,801**	**4,720**
Other movements in IFRS net equity	0	-14	-14
Capital and dividend flows	-1,141	-796	-1,937
Closing Group EEV	**18,510**	**7,897**	**26,407**

4.5 RECONCILIATION FROM IFRS SHAREHOLDERS' EQUITY TO COVERED BUSINESS EEV SHAREHOLDERS' ADJUSTED NET WORTH

The table below shows the reconciliation between the Group IFRS shareholders' equity and the Covered Business EEV shareholders' adjusted net worth.

TABLE 4.5

NET WORTH RECONCILIATION

PLN MILLION

	2012	2011	2010
IFRS shareholders’ equity	14,269	12,870	12,800
Shareholders’ equity of non-covered business	-7,897	-6,906	-6,325
IFRS Equity for covered business	**6,372**	**5,964**	**6,475**
IFRS Intangibles	-95	-89	-77
Difference in valuation of assets	418	154	194
Difference in technical provisions between IFRS and Covered Business EEV	0	-326	-341
Other	35	-13	-8
SNW for covered business	**6,730**	**5,690**	**6,243**

The differences between Covered Business EEV shareholders' adjusted net worth and the IFRS shareholders' equity include:

- *Shareholders' equity of non-covered business*. The Covered Business EEV shareholders' adjusted net worth only relates to the covered business. Therefore, any shareholders' equity relating to other lines of business, including any consolidation adjustment, is deducted;
- *Intangibles*. Intangibles in relation to the covered business are not included in the Covered Business EEV shareholders' adjusted net worth;
- *Differences in valuation of assets*. The Group has adjusted the book value of the assets deemed not to back the in-force regulatory liabilities by the after-tax impact of unrealised gains and losses;
- *Difference in technical provisions between IFRS and Covered Business EEV*. The after-tax Covered Business EEV shareholders' adjusted net worth is based on regulatory reserves which up to 2011 were discounted at different valuation rates compared to those used for IFRS reporting

4.6 COVERED BUSINESS EEV ANALYSIS OF EARNINGS

The tables below set out the analysis of embedded value earnings of the Covered Business EEV. Opening values are presented after the change of the scope of the covered business described in section 1.4.

TABLE 4.6

COVERED BUSINESS EEV ANALYSIS OF EARNINGS YEAR ENDING 31 DECEMBER

PLN MILLION

	Free surplus	Required capital	VIF	EEV
Opening EEV	**1,402**	**4,288**	**11,042**	**16,732**
Value added by new business	-339	228	288	177
Expected existing business contribution (reference rate)	500	-305	638	833
Expected existing business contribution (in excess reference rate)	84	0	0	84
Transfers from VIF to free surplus	1,242	0	-1,242	0
Operating variances	-78	145	388	455
Operating assumption changes	0	0	613	613
Other operating earnings	0	0	-63	-63
EV operating earnings	**1,409**	**68**	**622**	**2,099**
Economic variances	704	0	116	820
Other non-operating variance	0	0	0	0
Total Embedded Value earnings	**2,113**	**68**	**738**	**2,919**
Closing adjustments	-1,141	0	0	-1,141
Closing EEV	**2,374**	**4,356**	**11,780**	**18,510**

The line items of the analysis of embedded value earnings are explained below. The new business value is separately discussed in section 5.

4.6.1 EXPECTED EXISTING BUSINESS CONTRIBUTION

The expected existing business contribution (reference rate) represents the unwinding of the reference rate on the opening Covered Business EEV and release of the required capital to free surplus. However, the reference rate is not an estimate of the actual expected investment returns based on the Group's expectations. Accordingly, on a separate line, the expected investment return over and above the reference rate is included on the basis set out in section 3.2.

4.6.2 OPERATING VARIANCES

Operating variances represent the impact on the Covered Business EEV as a result of the difference between assumed and actual operating experience in the reporting period, including expense, demographic and persistency experience. The main drivers of the operating variances in 2012 of PLN 455 million are:

- Technical interest rate change for continued business of circa PLN -58 million. This change is a result of a SNW decrease of circa PLN -355 million and a VIF increase of circa PLN 297 million.
- Positive effect of conversions from the group whole life business into the group yearly renewable term business (i.e. release of technical provisions) of circa PLN 178 million.
- Upsell of riders for the group business, higher than expected sum insured and premium increases, better persistency of the continued riders (lower lapses) combined with the positive effect of lower loss ratio, in total circa PLN 335 million.
- Negative effect on modelled expenses - circa PLN -19 million - due to one-off project and restructuring expenses.
- Other of circa PLN 19 million.

4.6.3 OPERATING ASSUMPTION CHANGES

The operating assumption changes of PLN 613 million relate mainly to changes in the expectations in respect of the future maintenance expenses, and the loss ratios and persistence assumptions for the group and continued business. A breakdown of these changes is as follows:

- The change in mortality, morbidity and persistency assumptions - circa PLN 407 million – reflects positive underwriting performance in 2012.
- A reduction of unit maintenance expenses – in total PLN 205 million – resulting from a higher number of policies (group and continued business) and a lower expense basis after the restructuring programs.

4.6.4 ECONOMIC VARIANCES

This item includes the impact of both 2012 investment variance from the EEV 2011 year-end expectation (of circa PLN 704 million), as well as the effect of changes in future investment returns (of circa PLN 116 million).

4.6.5 CLOSING ADJUSTMENTS

Closing adjustments represent capital transfers within the PZU Group and, in particular, contain net effect of PLN 1,141 million of dividend paid by PZU Life and dividend received by PZU Life from PZU PTE.

5 NEW BUSINESS VALUE RESULTS

The table below sets out an overview of the after-tax new business value. This is one of the key indicators that the Group uses to measure the profitability of its new life insurance business.

TABLE 5.1

NEW BUSINESS VALUE SUMMARY

PLN MILLION

	2012	**2011**
New business value	177	138
Annual premium	288	244
Single premium	2,542	2,965
Present Value of New Business Premiums	4,260	4,217
Average annual premium multiplier(1)	6.0	5.1
New Business Margin (PVNBP basis)	4.2%	3.3%
APE(2)	542	541
New Business Margin (APE basis)	32.6%	25.5%
IRR	19.0%	20.9%

(1) Calculated by the following formula: (PVNBP- single premium)/annual premium

(2) APE = annual premium + 10% of single premium (including bancassurance)

The majority of the 2012 and 2011 new business value arises from the group business and riders for the continued business. The increase (compared to 2011) in traditional and unit linked new business value should also be noted. The overall new business margin is significantly affected by the bancassurance unit linked and deposit products which have low profitability but very high volumes relative to the rest of the new business. If bancassurance products were excluded, then the total Covered Business EEV new business margin on a PVNBP basis would be 9.4% and 3.8% in 2012 and 2011, respectively.

6 SENSITIVITY ANALYSIS

Embedded value calculations rely upon best estimate assumptions such as interest rates, investment returns, mortality rates, lapse rates and expense assumptions.

Sensitivity testing of the embedded value outcomes for alternative assumptions is provided in the table below. The table shows the sensitivity to certain key assumptions of the embedded value and the new business value at 31 December 2012.

Please note that sensitivities are not cumulative.

TABLE 6.1

COVERED BUSINESS SENSITIVITIES AT 31 DECEMBER 2012

PLN MILLION

	EEV		New business value	
	Value	**Change**	**Value**	**Change**
Base Value	18 510		177	
Sensitivity to economic assumptions				
Market interest rates -1%	18 831	321	191	15
Market interest rates +1%	18 145	-365	163	-14
Equity market values -10%	18 342	-168	176	0
Swaption implied volatility +25%	18 484	-26	177	0
Equity implied volatility +25%	18 510	0	177	0
Swap yield curve as reference rate	18 246	-263	176	-1
Required capital – 100% EU minimum	18 690	180	181	4
Sensitivity to non-economic assumptions				
Maintenance expenses -10%	18 809	299	186	9
Acquisition expenses -10%	N/A	N/A	186	9
Lapse rates -10%	18 536	26	192	15
Assurance mortality/morbidity -5%	19 573	1 063	196	20
Annuitant mortality -5%	18 505	-5	177	0

A brief explanation of each of the sensitivities is given below.

Market interest rates -1% / +1%: When the market interest rate sensitivities are performed consequential changes in yield and values are allowed for on all assets and liabilities, with the exception of indexation assumptions on group and continued business. The sensitivity to changes in market interest rates is relatively small since investment margins are offset by adjustments to the reference rates.

Equity market values -10%: This sensitivity reflects the impact of an immediate reduction in the market value of equities. All other economic assumptions, including reference rates, remain unchanged. The impact is relatively small, due to the fact that the change in equity values for PZU Life has immediate impact on the value of the shareholder's net assets (24% of the these are backed by equities). No equities are held in respect of the Life group, continued and traditional participating business.

Swaption implied volatility +25% / Equity implied volatility +25%: The 25% is a multiplicative increase in volatilities.

Swap yield curve as reference rate: The Group uses Polish Treasury bond rates as the reference rate, for consistency with its risk management strategy and because it believes that Polish Treasury bonds are more liquid than swaps in Poland. However, since swap rates could be considered as a potential alternative choice for the reference rate, this sensitivity has been provided to indicate the impact thereof. PZU Group assumes that the Polish swap market is liquid for durations up to 20 years. For further durations this curve is extrapolated using flat forward rates.

Required capital – 100% EU minimum: In this sensitivity the FCRC was calculated assuming statutory minimum capital requirements, being 100% of the EU minimum for life business

Lapse rates -10%: To illustrate the impact of an adverse scenario in the assumed level of lapses, lapse rates were decreased by 10% of the base assumption. The relatively small impact of the lapse sensitivity is due to a low level of lapse rates in the core business and from off-setting effects within the life portfolio.

Assurance mortality/morbidity -5%: To illustrate the impact of lower mortality/morbidity, it was assumed that rates decrease by 5% of the base assumptions for all business except annuity business. This sensitivity shows that the insurance portfolio of the Group is dominated by the risk business and any changes in the assumed mortality rates may heavily influence the valuation.

Annuitant mortality -5%: to illustrate the impact of lower mortality in annuity business, it has been assumed that rates decrease by 5% of the base assumptions for annuity business only.

7 IDR AND TRADITIONAL EMBEDDED VALUE

For communication purposes, an IDR has been calculated for the Group.

As described previously, the IDR is the risk discount rate which, when used within a Traditional Embedded Value approach using investment risk premiums in the projections (net of traditional cost of required capital, with no explicit allowance for the TVOG or CNHR) gives the same value as that arising from the Covered Business EEV approach (net of the TVOG, FCRC and CNHR).

The calculated IDR as at 31 December 2012 and at 31 December 2011 for both the in-force covered business and the new business is shown in the table below.

TABLE 7.1

COVERED BUSINESS IDR AT 31 DECEMBER 2012 AND AT 31 DECEMBER 2011
%

	EEV		New business value	
	2012	**2011**	**2012**	**2011**
Covered Business	4.8%	7.1%	5.6%	7.8%

The following table sets out the sensitivity to the IDR of the 31 December 2012 Covered Business EEV and the new business value.

TABLE 7.2

COVERED BUSINESS IDR SENSITIVITIES AT 31 DECEMBER 2012 PLN MILLION

	EEV		New business value	
	Value	**Change**	**Value**	**Change**
At IDR	**18,510**		**177**	
At IDR + 1%	17,309	-1,201	157	-20
At IDR – 1%	19,912	1,402	199	22

8 STATEMENT OF MANAGEMENT BOARDS

When compliance with the EEV Principles is stated, those principles require the management boards of PZU Life and PZU SA to prepare supplementary information in accordance with the methodology contained in the EEV Principles and to disclose and explain any non-compliance with the guidance included in the EEV Principles. In preparing this supplementary information, the directors have done so in accordance with these EEV Principles and have also complied with the guidance included therein, with the exception of EEV Guidance 2.1 which requires that PZU PTE's long-term business be included within covered business but as described in sections 1.3 and 1.4, it has been classified as non-covered business.

Specifically, the management boards of PZU Life and PZU SA have:

- Determined assumptions on a realistic basis, having regard to past, current and expected future experience and to relevant external data, and then applied them consistently;
- Made estimates that are reasonable and consistent; and
- Provided additional disclosures when compliance with the specific requirements of the EEV Principles is insufficient to enable users to understand the impact of particular transactions, other events and conditions and the Group's financial position and financial performance.

9 TOWERS WATSON OPINION

Towers Watson has reviewed the methodology and assumptions used to determine the 2012 embedded value results of PZU Group and also reviewed the results of the calculations. The review covered the embedded value as at 31 December 2012, the value of 2012 new business, the analysis of movement in embedded value over 2012 and the sensitivities on the embedded value and new business value, determined by PZU Group according to the European Embedded Value ("EEV") Principles as published by the CFO Forum on 5 May 2004 and 31 October 2005.

Towers Watson has concluded that, with the exception of the point noted below, the methodology and assumptions used by PZU Group comply with the requirements of the EEV Principles and Guidance, and in particular that:

- The methodology makes allowance for the aggregate risks in the covered business through the methodology set out in sections 2 and 3 of this disclosure document. This includes a market-consistent allowance for the time value of financial options and guarantees, allowance for non-hedgeable risk using a cost of capital methodology and a deduction for the frictional cost of required capital;
- The operating assumptions have been set with appropriate regard to past, current and expected future experience;

- With the exception of inflation, which is set according to PZU Group's long-term macro-economic view, the economic assumptions used are internally consistent and consistent with observable market data; and where market data is not available the economic assumptions have been set in an appropriate manner; and
- For the participating business, the assumed future bonus rates, asset allocation, allocation of profit sharing between shareholders and policyholders, and other management actions, are consistent with other assumptions used in the projections, and with local market practice.

The exception referred to above is that PZU PTE's long term business has been classified as non-covered business but according to EEV Guidance 2.1 it should be included within covered business.

We note the following issues, which are described in more detail in this disclosure document:

- Due to the complex nature of the group business written, various simplifications have been employed by PZU Group in the modelling of group business and in the determination of key assumptions. Hence, the embedded value calculations for the group business require more assumptions and simplifications than is normally the case for individual life insurance business; and
- The value of the group business is based on management's expectations about pricing, renewal rates, claims development and indexation, which affect future premium renewals and profitability. The value is therefore dependent on management's ability to manage the business in line with these expectations.

Towers Watson has also performed limited high-level checks on the results of the calculations and has confirmed that any issues discovered do not have a material impact on the disclosed embedded value, new business value, analysis of movement and sensitivities. We relied on IFRS numbers, but reviewed the Group EEV for reasonableness. Towers Watson has not, however, performed detailed checks on the models and processes involved.

In arriving at these conclusions, Towers Watson has relied on data and information provided by PZU Group and its subsidiaries. This opinion is made solely to PZU Group in accordance with the terms of Towers Watson's engagement letter. To the fullest extent permitted by applicable law, Towers Watson does not accept or assume any responsibility, duty of care or liability to anyone other than PZU Group for or in connection with its review work, the opinions it has formed, or for any statement set forth in this opinion.