

a.s.r. – analyst presentation

shadow accounting: aligning valuation of assets and liabilities

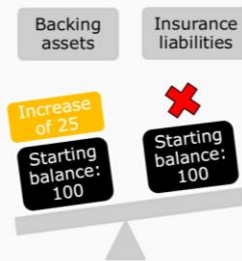
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Shadow accounting: aligning valuation of assets and liabilities

- Shadow accounting is an accounting-methodology which was already applied at a.s.r. before the introduction of IFRS. When IFRS was introduced, it was allowed to continue existing accounting practices under IFRS 4.
- Shadow accounting aligns the valuation of liabilities (originally at tariff rates) with matching assets (fair value).
- The principle of shadow accounting is to ensure that insurance liabilities are adequate and to ensure that capital gains or losses on assets backing the insurance liabilities are not incorrectly allocated to the shareholders. Through shadow accounting the value changes in assets backing insurance liabilities (fair value) are reflected in the insurance liabilities (tariff rates + shadow accounting).

Relationship between assets and liabilities **without** shadow accounting



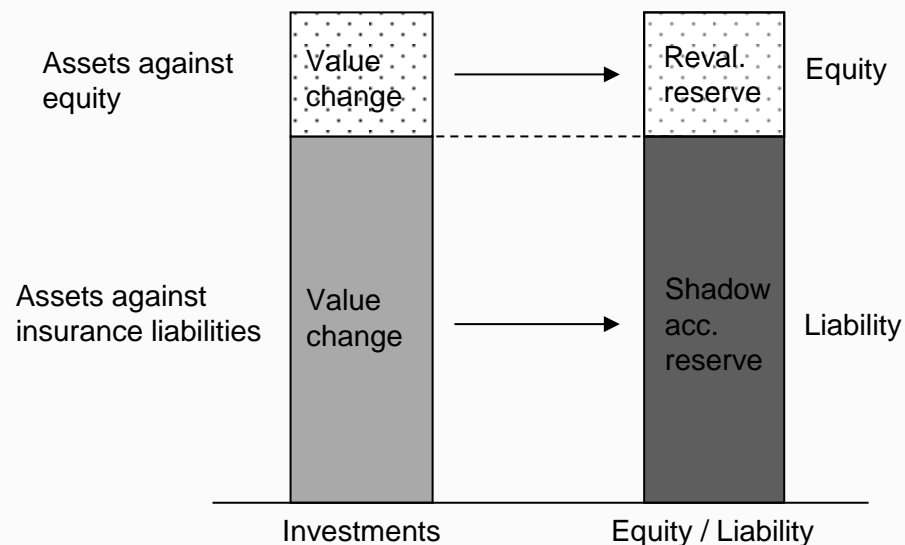
Relationship between assets and liabilities **with** shadow accounting



- Shadow accounting is applicable for fixed income investments and derivatives held to match the long-term cash flows of the insurance liabilities in the Life segment and part of the Disability business (which is similar to Life due to the long duration of liabilities).
- The adequacy of the IFRS-provisions including shadow accounting is tested by the IFRS-LAT. As part of the IFRS-provisions, shadow accounting is reviewed by the external auditor.

Step 1: shadow accounting on unrealized gains and losses

Value changes on investments

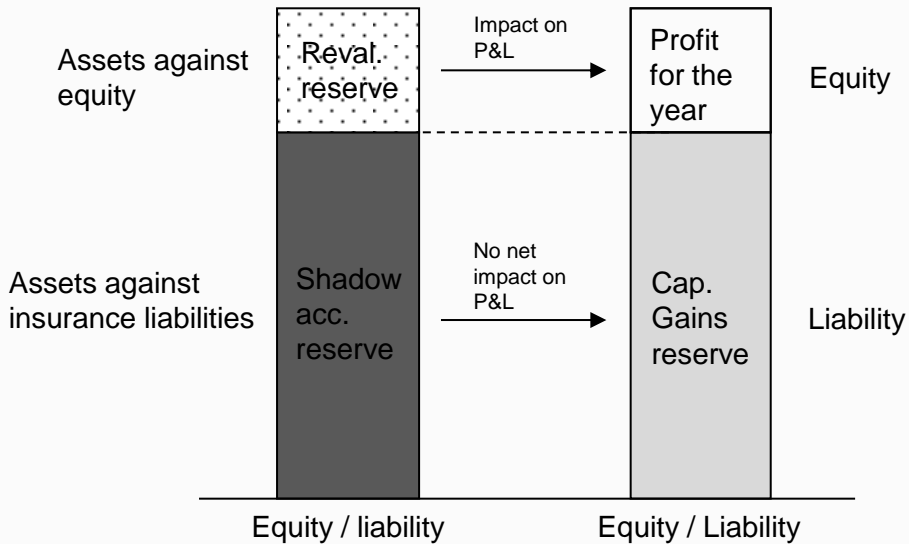


- Shadow accounting resolves the mismatch between accounting methods of assets and liabilities:
 - Value changes in the assets matching the insurance liabilities would normally be recognized in a revaluation reserve as part of equity (bonds) or be recognized directly in the P&L (interest rate derivatives).
 - By applying shadow accounting these unrealized gains and losses are allocated to the insurance liabilities (shadow accounting reserve¹): the value change of the assets backing the insurance liabilities is therewith reflected in the insurance liabilities.
 - By allocating the change in value to the shadow accounting reserve an undue movement in equity or P&L, stemming from the fair value changes of assets backing the insurance liabilities, is prevented.
- Shadow accounting mimics full fair value accounting, where the change in value of the assets (due to interest rate movement) would be matched by a similar change in value of the liabilities.

1) The value change in derivatives is first recognized in the P&L and transferred to the shadow accounting reserve through an equal and opposite P&L booking on the same P&L line-item. For presentation purposes this intermediate accounting step is not shown.

Step 2: shadow accounting on realized capital gains and losses

Realized capital gains / losses



- When a matching asset is sold, the value change that was first recognized in the shadow accounting reserve (unrealized) will be transferred to the capital gains reserve (realized). Both reserves are part of the insurance liabilities.
- As part of the insurance liabilities, the realized gains and losses are amortized over the remaining lifetime of the previously owned investment and gradually released in P&L through the line-item “Insurance claims and benefits”.
- The amortization of realized gains and losses enables the matching of earnings on matched assets with the interest accretion on insurance liabilities in the P&L.
- This method appropriately reflects the long-term nature of the insurance liabilities and matched investments.

Example: how does the compensation of capital gains work?

Example		t=0	t=1	t=2	t=3
Bond with 4% coupon, matching liability with nominal		100			
Annual return (coupon) projection			4	4	4
Interest rate drops instantly to 3%:					
Revaluation	1	108			
Instant sale & reinvestment:					
Sale at Marketvalue		108			
Capital gain	2	8			
Addition to the capital gains reserve		-8			
Net impact P&L		0			
Reinvestment, same nominal & maturity	3	108			
Impact on P&L:					
A) Coupon			4	4	4
B) Amortization marketvalue to nominal	4		-0.8	-0.8	-0.8
C) Amortization from capital gains reserve			0.8	0.8	0.8
Total investment return (A + B + C)			4	4	4

reflected in
insurance claims
& benefits

Example: bond that matches an insurance liability, both 100 nominal, 4% interest, 10 years duration. The annual return from the bond is 4.

- 1 Interest rate drops to 3%, the market value of the bond moves up to 108. The revaluation of 8 is allocated to the shadow accounting reserve and asset and liability are still matched.
- 2 The bond is sold (at 108), resulting in a capital gain of 8, which is directly allocated from the shadow accounting reserve to the capital gains reserve.
- 3 We assume the purchase of a bond with the same nominal, duration and coupon as the original bond. With market rates at 3% this bond would be priced at 108.

4 The P&L after the application of shadow accounting consists of:

- A) The coupon of 4% (on a nominal amount of 100), which is exactly the same as the previously owned bond.
- B) The amortization on the newly acquired bond: the difference with the nominal value has to be amortized over the remaining lifetime with a negative impact on P&L (-0.8 in year 1).
- C) The amortization from the capital gains reserve: the capital gain from the sale was added to the insurance liabilities and has to be amortized over the remaining lifetime of the previously owned bond. This is a gradual release of the reserve, resulting in a positive result (0.8).

Conclusion: due to shadow accounting the annual total return after the transaction remains 4.

Example: what if the reinvestment coupon is not 4%?

Example		t=0	t=1	t=2	t=3
Bond with 4% coupon, matching liability with nominal		100			
Annual return (coupon) projection			4	4	4
Interest rate drops instantly to 3%:					
Revaluation	1	108			
Instant sale & reinvestment:					
Sale at Marketvalue		108			
Capital gain		8			
Addition to the capital gains reserve	2	-8			
Net impact P&L		0			
Reinvestment at par, same maturity	3a	108			
Impact on P&L:					
A) Coupon			3.2	3.2	3.2
B) Amortization marketvalue to nominal	4a		0.0	0.0	0.0
C) Amortization from capital gains reserve			0.8	0.8	0.8
Total investment return (A + B + C)			4.0	4.0	4.0

reflected in insurance claims & benefits

Example: bond that matches an insurance liability, both 100 nominal, 4% interest, 10 years duration. The annual return from the bond is 4.

- 1 Interest rate drops to 3%, the market value of the bond moves up to 108. The revaluation of 8 is allocated to the shadow accounting reserve and asset and liability are still matched.
- 2 The bond is sold (at 108), resulting in a capital gain of 8, which is directly allocated from the shadow accounting reserve to the capital gains reserve.
- 3a We assume the purchase of a bond at 108 at par with the same duration as the original bond and a coupon of 3%.

4a The P&L after the application of shadow accounting consists of:

- A) The coupon of 3% (on a nominal amount of 108).
- B) There is no amortization on the newly acquired bond as it was purchased at par.
- C) The amortization from the capital gains reserve: the capital gain from the sale was added to the insurance liabilities and has to be amortized over the remaining lifetime of the previously owned bond. This is a gradual release of the reserve, resulting in a positive result (0.8).

Conclusion: due to shadow accounting the annual total return after the transaction remains 4.

- Under IFRS 4 various approaches to account for insurance liabilities are allowed. However, the adequacy of the insurance liabilities including the shadow accounting reserves, is always tested in the IFRS-LAT.
- As shadow accounting has been part of a.s.r.'s accounting method and policies prior to the inception of IFRS, it is deeply embedded in its financial policies and performance.
- Shadow accounting is applicable for assets (bonds, interest rate derivatives) held to match the long-term cashflows of the insurance liabilities in the Life segment and part of the Disability business (which is similar to Life due to the long duration of liabilities).
- The principle of shadow accounting is to ensure that insurance liabilities are adequate and to ensure that capital gains or losses are not incorrectly allocated to the shareholders. Through shadow accounting the value changes in assets backing insurance liabilities (fair value) are properly reflected in the insurance liabilities (tariff rates + shadow accounting).
- The shadow accounting methodology also enables a.s.r. to amortize the realized gains and losses over the original lifetime of the asset sold. As such, the earnings on matched assets are aligned with the required interest on liabilities in the P&L rendering a stable earnings pattern.

Appendix

Appendix: Life P&L – impact of shadow accounting on gains and losses

€m	2015	H1 2016
Net insurance premiums	1.616	1.338
Investment income	1.145	574
Realized gains and losses ¹	643	234
Fair value gains and losses ²	896	-12
Result on investments on behalf of policyholders	559	-122
Other income ³	31	18
Total income	3.274	692
Net insurance claims and benefits	-3.726	-1.487
Operating expenses	-205	-101
Interest expenses	-166	-81
Impairments	16	-
Other expenses	-100	-30
Total expenses	-455	-212
Profit before tax	709	331

Shadow accounting impacts the P&L on the following line-items:

- 1 Capital gains and losses on bonds backing the insurance liabilities are included in the line-item “Realized gains and losses” and are offset through the net insurance claims and benefits.
- 2 The line-item “Fair value gains and losses” contains
 - a) the fair value changes (unrealized gains and losses) and
 - b) the capital gains (realized gains and losses) on investments held at Fair value through P&L (mostly derivatives and real estate).

For the interest rate derivatives, the unrealized gains and losses are transferred to the shadow accounting reserve through an equal and opposite P&L booking on the same line-item and are thereby neutralized in the “Fair value gains and losses” .

The realized gains on derivatives which are included in the remainder of the “Fair value gains and losses” are offset through net insurance claims and benefits.

- 3 The realized gains and losses on interest rate derivatives and bonds are offset via the line-item net insurance claims and benefits. The increase as a result of realized gains is then amortized during the remaining lifetime of the previously owned investment, resulting in a positive impact on P&L through the line item net insurance claims and benefits.

Note: the line-items presented in the P&L include many other movements besides those triggered by shadow accounting.

Appendix: shadow accounting reserves at H1 2016 and FY 2015

Shadow accounting reserves (€ million)	<u>FY 2015</u>	<u>H1 2016</u>	
Unrealized	2,723	6,071	} Insurance liabilities
Realized	3,274	3,315	
Amortization through P&L	166	118	Net insurance claims and benefits

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