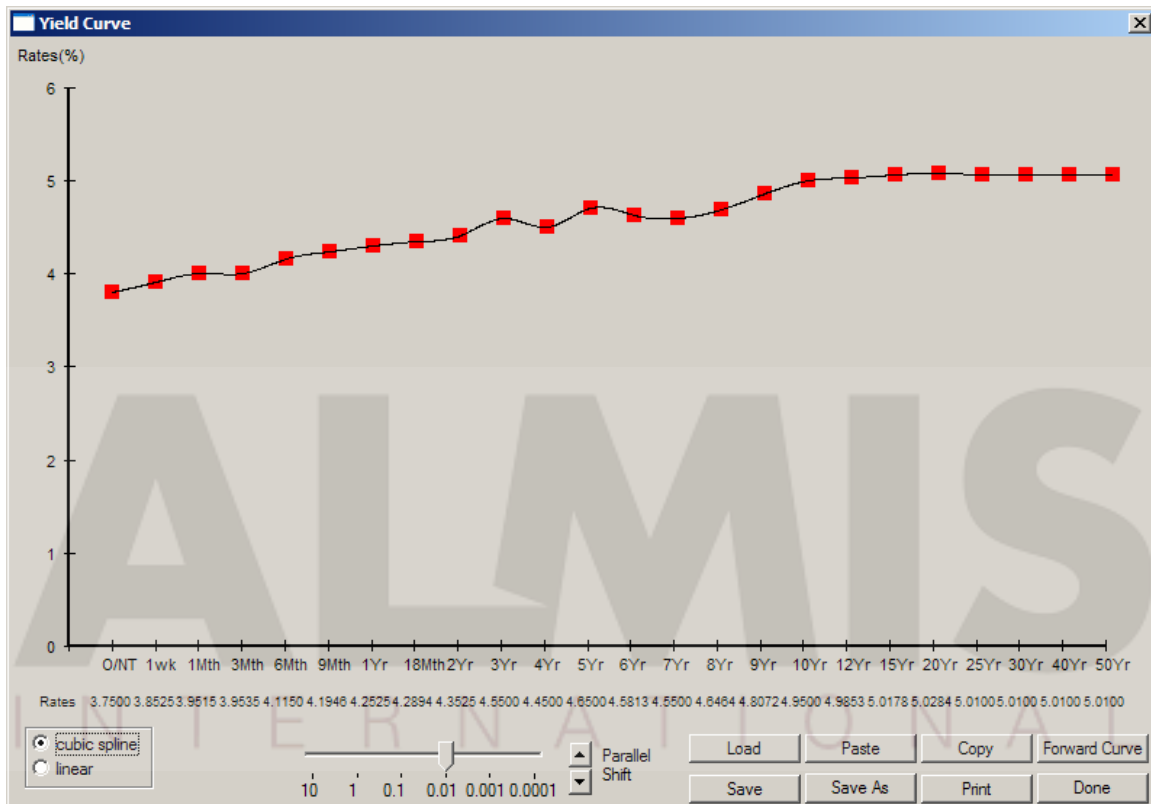


## ALMIS Hedge Effectiveness Testing

ALMIS has mark to market capabilities for a broad range of instruments, particularly those associated with retail and wholesale banking. Functionality to download and create yield curves



Example: Fixed Mortgage

ALMIS can calculate the fair value of individual fixed mortgages by calculating the difference in discounted cash flow (DCF) at the fixed rate and the DCF at the implied forward rate.

The system can use the mortgage term to calculate a repayment (amortisation) profile. This can significantly improve the reliability of the fair value calculation.

IAS CODE	Product/Transaction	Repricing Date	Accounting Balance	Existing DCF	New DCF	Change	Present Value
NONE	80044026393/2	01/08/2003	287,968	36,207	30,380	5,826	293,794
NONE	92044191856/1	01/09/2003	26,583	3,700	3,115	585	29,168
NONE	81091044504/1	01/04/2005	61,243	11,961	10,107	1,854	63,097
NONE	91314186058/2	01/06/2005	239,417	38,355	32,302	6,054	245,471
NONE	90234162000/1	01/07/2005	95,531	16,424	13,912	2,512	98,043
NONE	91204183428/1	01/12/2002	126,818	12,456	10,186	2,270	129,088
NONE	90234161806/1	01/08/2003	1,852,510	240,319	202,211	38,108	1,890,618
NONE	M0356241/1	29/07/2002	47,629	3,654	2,961	693	48,322
NONE	M0401077/1	02/08/2002	83,030	6,703	5,442	1,262	84,292
NONE	M0402022/1	06/08/2002	49,111	3,963	3,217	746	49,857
NONE	M0402907/1	12/08/2002	59,427	4,798	3,895	903	60,330
NONE	M0400898/1	13/08/2002	50,508	4,078	3,310	768	51,276
NONE	M0405180/1	24/08/2002	55,650	4,493	3,647	846	56,496
NONE	M0400823/1	26/08/2002	64,594	5,215	4,234	982	65,576
NONE	M0404793/1	27/08/2002	44,701	3,569	2,896	673	45,374
NONE	M0401190/1	27/08/2002	123,897	10,004	8,121	1,883	125,700
NONE	M0356280/1	31/08/2002	42,354	3,403	2,762	641	42,995

The system offers a drill down to access fair value calculations per transaction, highlighting the monthly amortisation. In this example the mortgage has a book value of £287,968 and an interest balance of £302,198.

The calculation will work off a mid market curve, with the ability to apply a credit spread separately for each mortgage product type.

Period Days	80044026393/2									
	Value	Existing Rate	Existing Cashflow	Spot Rate	Disc Rate	Existing DCF	Forward Rate	Forward Cashflow	Forward DCF	Change
0	302,198	5.3400	0	3.7500	1.000000	0	0	0	0	0
1	302,198	5.3400	44	3.784168	0.999898	44	3.784168	31	31	13
31	300,712	5.3400	1,320	3.958071	0.996709	1,315	3.953533	977	974	342
59	300,712	5.3400	1,232	3.955917	0.993748	1,224	3.953303	912	907	317
90	297,720	5.3400	1,350	3.955762	0.990480	1,337	4.159228	1,052	1,042	296
120	296,215	5.3400	1,300	4.008299	0.987162	1,283	4.267859	1,039	1,026	258
151	294,703	5.3400	1,337	4.062640	0.983660	1,315	4.378523	1,096	1,078	237
181	293,184	5.3400	1,287	4.115253	0.980200	1,261	4.285028	1,033	1,012	249
212	291,658	5.3400	1,323	4.139495	0.976717	1,292	4.320567	1,070	1,045	247
243	290,126	5.3400	1,316	4.162779	0.973213	1,281	4.367428	1,076	1,047	233
273	288,587	5.3400	1,267	4.185341	0.969799	1,228	4.412025	1,047	1,015	213
304	287,041	5.3400	1,302	4.208676	0.966247	1,258	4.459648	1,087	1,051	207
334	285,489	5.3400	1,253	4.231273	0.962788	1,206	4.504250	1,057	1,018	189
365	283,929	5.3400	1,288	4.254153	0.959194	1,235	4.361020	1,052	1,009	226
396	282,363	5.3400	1,281	4.262560	0.955723	1,224	4.378011	1,050	1,003	220
424	280,790	5.3400	1,150	4.270164	0.952587	1,096	4.392535	946	901	194
455	279,210	5.3400	1,266	4.278592	0.949114	1,202	4.410349	1,046	993	209
485	277,623	5.3400	1,218	4.286757	0.945753	1,152	4.426518	1,010	955	197
516	276,029	5.3400	1,252	4.295200	0.942280	1,180	4.443785	1,042	982	198
546	274,429	5.3400	1,204	4.303376	0.938918	1,131	4.459955	1,006	945	186
577	272,821	5.3400	1,237	4.311830	0.935444	1,157	4.477222	1,037	970	187
608	271,206	5.3400	1,230	4.320287	0.931970	1,146	4.494215	1,035	965	182
638	269,584	5.3400	1,183	4.328475	0.928609	1,099	4.510387	999	928	171
669	267,955	5.3400	1,215	4.336939	0.925135	1,124	4.527655	1,030	953	171
699	266,318	5.3400	1,169	4.345132	0.921774	1,077	4.543826	995	917	161
730	264,675	5.3400	1,200	4.353868	0.918296	1,102	4.764672	1,071	984	119
761	263,024	5.3400	1,193	4.370631	0.914672	1,091	4.798254	1,072	980	111
789	261,366	5.3400	1,071	4.385772	0.911390	976	4.826962	968	882	94
820	259,701	5.3400	1,178	4.402536	0.907746	1,069	4.862171	1,072	974	96
850	258,028	5.3400	1,132	4.418760	0.904210	1,024	4.894132	1,038	939	86
881	256,349	5.3400	1,163	4.435525	0.900546	1,047	4.928261	1,073	966	81
911	254,661	5.3400	1,118	4.451750	0.896992	1,003	4.960224	1,038	931	71
942	252,967	5.3400	1,147	4.468517	0.893310	1,025	4.994355	1,073	959	66
973	0	0.0000	0	4.485284	0.889618	0	5.027947	0	0	0

## Example: Swaps

Summary reports for a swap portfolio showing the fair value, priced off a market yield curve.

Reference	Product Description	Expiry Date	Nominal Value	Fair Value
SW 0109	Interest swaps	03/08/2002	1,000,000	22,979
SW 0043	Interest swaps	01/07/2003	8,000,000	-521,394
SW 0060	Interest swaps	01/08/2001	10,000,000	149,616
SW 0061	Interest swaps	01/02/2001	10,000,000	12,909
SW 0062	Interest swaps	03/07/2001	5,000,000	89,129
SW 0063	Interest swaps	01/06/2002	10,000,000	-340,938
SW 0064	Interest swaps	01/06/2002	5,000,000	-159,687
SW 0065	Interest swaps	01/06/2002	5,000,000	-139,153
SW 0066	Interest swaps	01/06/2002	5,000,000	-136,074
SW 0067	Interest swaps	01/10/2002	10,000,000	-266,519
SW 0068	Interest swaps	01/10/2002	10,000,000	-251,233
SW 0069	Interest swaps	01/10/2002	5,000,000	-114,993
SW 0070	Interest swaps	01/04/2003	10,000,000	-161,320
SW 0071	Interest swaps	01/04/2003	10,000,000	158,116
SW 0072	Interest swaps	27/02/2002	3,000,000	12,014
SW 0073	Interest swaps	14/06/2001	10,000,000	12,724
SW 0074	Interest swaps	01/03/2001	10,000,000	-11,174
SW 0075	Interest swaps	14/06/2001	5,000,000	8,146
SW 0076	Interest swaps	14/06/2001	10,000,000	20,307
SW 0077	Interest swaps	01/03/2001	5,000,000	-4,240
SW 0078	Interest swaps	30/03/2004	5,000,000	103,707
SW 0079	Interest swaps	01/07/2003	10,000,000	189,489

Buttons: Copy, Paste, Print, Excel, Summary (selected), Detail, Done

The system can provide detailed reports showing the fair value calculations for each swap.

Product Name	Cashflow Date	Receipt Princ.Val	Receipt Rate	Receipt Term	Receipt Cash Flow	Payment Princ.Val	Payment Rate	Payment Term	Payment Cash Flow	Net Cashflow	Spot Rate	Discount Rate	Fair Value
SW 0109	05/11/2001	1,000,000	7.2000	93	18,345	1,000,000	6.0000	93	15,288	3,057	4.2216	0.9895	3,025
	04/02/2002	1,000,000	7.2000	91	17,951	1,000,000	4.4384	91	11,096	6,855	4.2603	0.9792	6,742
	03/05/2002	1,000,000	7.2000	88	17,359	1,000,000	4.3958	88	10,596	6,761	4.2772	0.9693	6,553
	03/08/2002	1,000,000	7.2000	92	18,148	1,000,000	4.4452	92	11,204	6,944	4.2982	0.9589	6,659
										<b>23,647</b>			<b>22,979</b>
SW 0043	01/01/2001	8,000,000	5.9694	1	1,308	8,000,000	7.2100	1	1,580	-272	3.7826	0.9999	-272
	02/04/2001	8,000,000	3.9575	91	78,933	8,000,000	7.2100	91	143,805	-64,872	3.9550	0.9903	-64,243
	02/07/2001	8,000,000	4.2766	91	85,298	8,000,000	7.2100	91	143,805	-58,507	4.1168	0.9800	-57,337
	01/10/2001	8,000,000	4.3221	91	86,205	8,000,000	7.2100	91	143,805	-57,600	4.1973	0.9696	-55,849
	01/01/2002	8,000,000	4.4585	92	89,903	8,000,000	7.2100	92	145,385	-55,482	4.2533	0.9591	-53,213
	01/04/2002	8,000,000	4.3777	90	86,355	8,000,000	7.2100	90	142,225	-55,870	4.2709	0.9491	-53,026
	01/07/2002	8,000,000	4.4273	91	88,303	8,000,000	7.2100	91	143,805	-55,502	4.2902	0.9390	-52,116
	01/10/2002	8,000,000	4.4775	92	90,286	8,000,000	7.2100	92	145,385	-55,099	4.3156	0.9287	-51,170
	01/01/2003	8,000,000	4.5301	92	91,347	8,000,000	7.2100	92	145,385	-54,038	4.3546	0.9182	-49,618
	01/04/2003	8,000,000	4.7977	90	94,640	8,000,000	7.2100	90	142,225	-47,585	4.4128	0.9074	-43,179
01/07/2003	8,000,000	4.8958	91	97,648	8,000,000	7.2100	91	143,805	-46,157	4.4790	0.8963	-41,371	
										<b>-650,984</b>			<b>-521,394</b>
SW 0060	01/02/2001	10,000,000	7.0550	32	61,852	10,000,000	6.0075	32	52,668	9,184	3.9523	0.9966	9,153
	01/05/2001	10,000,000	7.0550	89	172,026	10,000,000	4.0258	89	98,163	73,863	3.9930	0.9871	72,910
	01/08/2001	10,000,000	7.0550	92	177,625	10,000,000	4.3107	92	108,653	68,972	4.1451	0.9766	67,553
										<b>152,219</b>			<b>149,616</b>

Buttons: Copy, Paste, Print, Excel, Summary, Detail (selected), Done

## Hedge Effectiveness Testing for IAS 39 Hedge Accounting

Each hedge relationship for IAS 39 hedge accounting has its own separate data set containing the hedge effectiveness calculation with supporting data.

Hedge	Portfolio	Currency
SSAP011	SCENARIO 2	Sterling
SSAP010	SCENARIO 1	
SSAP009	31/12/2000	
SSAP008		
SSAP007		
SSAP006		

Portfolio Type

Master Portfolio

User Portfolio

IAS 39

User Information

Done

Effectiveness tests include calculations and the necessary supporting documentation.

Underlying Instruments

Assets  
Fixed Rate Mortgages

Liabilities  
Fixed Rate Savings

Change

Hedge

Derivatives  
Swaps

Change

Test

Options Documentation Journal

Dire VAR Custom

# The system provides clear details of hedge effectiveness testing calculations

ALMIS Front Office

File Currency Data Update Reports Sensitivity Portfolio Help

Exit Printer Portfolio Currency Info Full Shift Market Product Mkt Value Multiple Gap? VAR Planner Help

Fixed Product Report (Fixed Rate Mortgages) -- yield1.yld[Example 2 (GBP)]

Fixed Product Report (Fixed Rate Savings) -- yield1.yld[Example 2 (GBP)]

IAS | Product/ | Repricing | Accounting | Existing | New | Change | Present

IAS CODE	Product/ Transaction	Repricing Date	Accounting Balance	Existing DCF	New DCF	Change	Present Value
NONE	Branch fxd 99 An	16/12/2003	29,373,796	4,772,915	4,599,287	173,628	29,547,426
NONE	Branch fixed 99 Mn	16/12/2003	12,720,017	2,038,941	2,024,810	14,131	12,734,148

Fixed Product Report (Fixed Rate Savings) -- yield2.yld[Example 2 (GBP)]

Fair Value Swaps Report - Summary

Reference	Product Description	Expiry Date	Nominal Value	Present Value 1	Present Value 2	Difference
SW 0068	Interest swaps	01/10/2002	10,000,000	-251,233	82,367	333,600
SW 0069	Interest swaps	01/10/2002	5,000,000	-114,993	51,611	166,604
SW 0070	Interest swaps	01/04/2003	10,000,000	-161,320	258,503	419,823
SW 0071	Interest swaps	01/04/2003	10,000,000	158,116	-281,630	-419,746
SW 0072	Interest swaps	27/02/2002	3,000,000	12,014	-31,428	-43,442
SW 0073	Interest swaps	14/06/2001	10,000,000	12,724	-36,536	-49,260
SW 0074	Interest swaps	01/03/2001	10,000,000	-11,174	-11,138	36
SW 0075	Interest swaps	14/06/2001	5,000,000	6,146	-16,496	-24,642
SW 0076	Interest swaps	14/06/2001	10,000,000	20,307	-29,003	-49,310
SW 0077	Interest swaps	01/03/2001	5,000,000	-4,240	-4,226	14
SW 0078	Interest swaps	30/03/2004	5,000,000	103,707	-167,400	-271,107
SW 0079	Interest swaps	01/07/2003	10,000,000	189,469	-273,793	-463,282
SW 0080	Interest swaps	02/03/2002	1,000,000	7,586	-6,719	-14,305
SW 0081	Interest swaps	12/06/2001	2,000,000	3,539	-6,322	-9,861
SW 0082	Interest swaps	02/05/2001	1,000,000	2,672	-2,129	-4,801
SW 0083	Interest swaps	14/05/2002	1,000,000	6,004	-5,412	-14,416
SW 0084	Interest swaps	27/04/2002	2,000,000	16,937	-17,613	-38,680

Fixed Product Report (Fixed Rate Mortgages) -- yield2.yld[Example 2 (GBP)]

IAS CODE	Product/ Transaction	Repricing Date	Accounting Balance	Existing DCF	New DCF	Change	Present Value
NONE	M0336055/2	18/03/2001	32,077	8,551	8,531	-20	31,098
NONE	M0336904/1	29/03/2001	158,928	1,394	1,554	160	158,768
NONE	M0338350/1	07/04/2001	25,068	337	380	43	25,025
NONE	M0338748/1	08/04/2001	51,685	688	776	88	51,597
NONE	M0339091/1	14/04/2001	128,602	1,704	1,922	218	128,384
NONE	M0337880/1	27/04/2001	122,440	1,678	1,690	12	122,226
NONE	M0335590/1	29/04/2001	102,576	1,396	1,540	144	102,401
NONE	M0409957/1	20/10/2003	52,000	6,513	7,939	1,426	50,574
NONE	M0413082/1	21/10/2003	103,500	13,324	16,252	2,928	100,572
NONE	M0345381/1	22/10/2003	233,918	29,395	35,835	6,440	227,478
NONE	M0351715/1	28/10/2003	364,139	47,052	57,397	10,345	353,794
NONE	M0406547/1	29/10/2003	73,500	9,208	11,224	2,016	71,484
NONE	M0413180/1	01/11/2003	258,966,875	33,630,188	40,970,124	7,439,932	251,546,944
NONE	M0413138/1	05/11/2003	159,000	19,814	24,185	4,371	154,629
NONE	M0414731/1	10/11/2003	113,500	13,960	17,032	3,072	110,428
NONE	M0406965/1	11/11/2003	253,704	31,202	38,069	6,867	246,837
NONE	M0410010/1	16/11/2003	60,000	8,317	10,180	1,863	58,137
NONE	M0412282/2	18/11/2003	30,101	4,172	5,106	935	29,166
NONE	M0411003/1	23/11/2003	54,499	7,550	9,242	1,692	52,807
NONE	M0413931/1	25/11/2003	60,003	8,311	10,173	1,862	58,141
NONE	M0408697/1	26/11/2003	90,005	12,466	15,259	2,793	87,212
NONE	M0412451/1	01/12/2003	62,303	8,846	10,853	2,007	60,296
NONE	M0415677/1	03/12/2003	52,367	7,424	9,109	1,684	50,683
NONE	M0414963/1	06/12/2003	77,466	10,990	13,464	2,494	74,972
NONE	M0415658/1	07/12/2003	75,145	10,658	13,076	2,418	72,727
NONE	M0411140/1	09/12/2003	81,232	11,523	14,137	2,614	78,618
NONE	M0341156/1	10/12/2001	52,550	3,273	3,846	574	51,976
NONE	M0409615/1	10/12/2001	281,990	13,354	15,698	2,344	279,646
NONE	M0413566/1	16/12/2001	284,711	13,489	15,857	2,367	282,344
NONE	M0416940/1	17/12/2001	215,257	10,199	11,989	1,790	213,467
NONE	M0415516/1	20/12/2001	128,121	6,072	7,138	1,066	127,055
NONE	M0418415/1	21/12/2001	219,191	10,389	12,213	1,823	217,368

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