STAFF PAPER

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Project	**Macro Hedge Accounting**		
Paper topic	Portfolio as unit of account (step 4)		
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Introduction

1. The purpose of this paper is to discuss accounting alternatives for a closed portfolio of prepayable loans that are managed on a portfolio level for repricing risks on the basis of the expected prepayment behaviour.
2. The first section of the paper is focussed on the loan portfolio only (gross position). The second part is then considering a refinancing transaction and the related consequences (net position).

Closed portfolio – gross position

3. The discussion of accounting alternatives in this paper is illustrated with a portfolio of prepayable loans with a total notional amount of 100 at the beginning and a (maximum) term of 6 years. The contractual interest rate of the loans is 5% (fixed). For simplification the example does not include a margin for prepayment risk or other risk components.

Management under an assumption of no prepayments

4. In the first scenario management assumes that, although contractually prepayable, no repayments of *any* loan before its maturity are expected. Therefore the contractual and expected cash flows on the loan portfolio are identical. Hence risk

management enters into interest rate swaps with a notional of 100 and a term of 6 years to manage the interest rate risk on the fixed rate position.

Hedge Accounting in accordance with IAS 39

5. Today's accounting approach for this hedging relationship is based on the "portfolio fair value hedge for interest rate risk" according to IAS 39 *Financial Instruments: Recognition and Measurement*.[1] As such the entity can designate the loans on the basis of the expected cash flows (here 100 at 5% for 6 years) as hedged items.[2]
6. After the first period, contrary to management's expectation, loans with a notional amount of 10 are prepaid. As a consequence, the hedge adjustment that relates to the prepaid loans has to be released through profit or loss as that part of the originally designated hedged item is derecognised. The hedging relationship continues with the remaining portfolio and adjusted hedging instruments reflecting the change in the risk position.
7. Assuming that the benchmark interest rate decreases to 4.5% at the end of period 1 the loan portfolio (without prepayments) would have a value of 102.195. The hedge adjustment therefore would be 2.195. In a perfect hedge this hedge adjustment would be offset by the equal and opposite valuation of the hedging instruments (here: interest rate swaps).
8. As 10% of the portfolio was prepaid the respective portion of the hedge adjustment has to be released through profit or loss as well (here: 0.220). Hence the deviation between expected and actual prepayments becomes visible through this "one-time" impact on profit or loss.
9. The change in the hedge accounting relationship caused by the unexpected prepayment causes the hedge adjustment that relates to the remaining loans to be amortised over time.[3]

[1] The portfolio fair value hedge for interest rate risk was introduced to IAS 39 as an exception to facilitate interest rate risk management on a portfolio level. This specific part of IAS 39 was scoped out of the project to develop a new *general* hedge accounting model for IFRS 9.

[2] This is a simplification to simulate the impact of deviations between expected and actual prepayments on the described accounting alternatives. If an entity had a track record of prepayments each period that would require adjusting the expected cash flow pattern to anticipate prepayments in a more realistic way.

[3] IAS 39.92 states that the amortisation of the hedge adjustment may begin as soon as an adjustment exists but no later than when the hedged item ceases to be adjusted for changes attributable to the hedged risk.

10. Furthermore the unexpected prepayments result in new hedge accounting relationships being established. For those new hedging relationships it has to be considered that at the time of their designation the carrying amounts of the remaining loans includes the remaining hedge adjustment from the first period. This has a knock-on effect on the calculation of the hedge adjustment for the *newly* designated hedging relationships over time. In order to avoid that the amortisation of the hedge adjustment from the previous hedging relationship that was discontinued in the first period results in double-counting, a "counter-amortisation" is required. The described impacts also affect the effectiveness requirements in IAS 39 (80-125% test[4]).[5]

Portfolio valuation

11. The procedures described above could be simplified by allowing the designation of the portfolio as the unit of account and therefore the ongoing valuation of the portfolio for the purposes of hedging accounting.
12. As such the portfolio value after the first period would be 91.975 (an increase of 1.975) offset by the valuation of the hedging instruments of 2.195. The resulting mismatch of 0.220 technically represents the (automatic) release of the hedge adjustment that relates to the prepaid loans.
13. Under the assumption that each period loans with a notional amount of 10 are prepaid, which was not expected by risk management, the following valuation over time occurs.

[4] This test is part of the assessment of hedge effectiveness in IAS 39.AG105 that requires a hedge to be highly effective in achieving offsetting changes in fair values or cash flows attributable to the hedged risk. For that the actual results (retrospective test) have to be within a range of 80-125%.

[5] See appendix 1 for a more detailed explanation of the described designation process and the determination of the hedge adjustment.

Period	**0**	**1**	**2**	**3**	**4**	**5**	**6**
Interest Rate	5.0%	4.5%	4.0%	3.5%	3.0%	2.5%	2.0%
Loan Portfolio	100.0	92.0	82.9	72.9	62.3	51.2	50.0
Change		(8.0)	(9.1)	(10.0)	(10.6)	(11.1)	(1.2)
Prepayment		*10.0*	*10.0*	*10.0*	*10.0*	*10.0*	*0.0*
Valuation		*2.0*	*0.9*	*0.0*	*(0.6)*	*(1.1)*	*(1.2)*
Change Swap (hedge)	0.0	(2.2)	(1.3)	(0.5)	0.3	0.8	1.2
Change Swap (trading)		0.0	(0.1)	(0.1)	0.1	0.6	1.2
Ineffectiveness (valuation on portfolio net of change in swap (hedge))		(0.2)	(0.4)	(0.5)	(0.3)	(0.3)	0.0

14. The change of the loan portfolio value reflects the constant decrease because of prepayments as well as the change in market interest rates. Adjusting the change in value for the prepayments of the periods leads to the pure valuation impact that reflects the impact of changing market interest rates on the remaining portfolio. For the swaps it is assumed that the portion that is identified as not being covered by the risk position is transferred to the trading book (leading to trading income).[6] However, as the hedging instruments get adjusted only after a prepayment occurred mismatches between the valuation of the loans and hedging instruments become observable. In this example those mismatches represent the 'automatic' release of the hedge adjustment related to the prepaid loans.

15. Any ineffectiveness resulting from non-matching terms of hedged items and hedging instruments or delayed adjustments of the hedging instruments to changes in the hedged portfolio would also lead to ineffectiveness. The advantage of this

[6] Alternatively swaps could be closed or used for other hedging relationships.

approach is that each prepayment of loans and each adjustment to the hedging instruments is considered when it occurs. Therefore it is possible to reflect through accounting a rather dynamic risk management that reacts to changes on an ongoing basis without requiring a formal re-documentation and therefore the discontinuation of the hedging relationship for accounting purposes.

16. This approach does not lead to any ineffectiveness in profit or loss when the hedging instruments match with the terms of the hedged items, the prepayments *occur exactly as predicted* and no over- or under-hedge situations are accepted by risk management. In addition, no ongoing discontinuations and re-designations of the hedging relationship to reflect changes are required. Changes become visible through the ongoing valuation of the portfolio. This keeps the income statement free from amortisation effects and also simplifies the tracking of the hedging relationship. Both aspects better reflect the actual risk management activities.

Management that assumes prepayments

17. For this scenario the same loan portfolio as above is used for illustrative purposes. This time however risk management assumes constant prepayments. Hence only a volume of 40[7] is considered to be not repaid before maturity and therefore is hedged for its repricing risk with interest rate swaps. As a consequence the swap position remains in place as long as the portfolio volume does not or is not expected to drop below the amount of 40 (bottom layer approach).

Hedge accounting in accordance with IAS 39

18. The hedge accounting requirements for portfolio fair value hedges do not allow the designation of bottom layers. Hence the hedging instruments are usually designated to hedge a *proportion* of the entire portfolio. In the example above the hedging instruments could be designated at the beginning to hedge 40% of the loan portfolio.

19. Without any prepayment the valuation of the loan portfolio after the first period would lead to a valuation adjustment of 2.195 (as discussed above). Taking into

[7] With expected prepayments of 10 at the end of each period the expected volume that will remain to maturity is 50 in this example. Setting the layer of 40 creates additional "headroom" to reflect uncertainty.

account a hedged proportion of 40% leads to a hedge adjustment (on the hedged proportion) of 0.878 (40% of 2.195). In this example this would exactly match the valuation of the hedging instruments at fair value.

20. The actual occurrence of prepayments however requires the release of the related hedge adjustment through profit or loss as noted above. As 10% of the portfolio was prepaid (10 out of 100) also 10% of the hedge adjustment has to be released (as if 10% of the hedged proportion were repaid).For this example this relates to an amount of 0.088 that has to be reflected in profit or loss. As a consequence prepayments still trigger impacts on profit or loss even though prepayment expectations have been considered in setting the 40% and loans in excess of 40 remain outstanding, but only to the extent of the designated hedged proportion.

21. Although the actual swap position is not changed (because the entity actually hedges the bottom layer of 40 that is still outstanding), the hedging relationship has to be re-designated for the second period. The hedging instruments of 40 are now hedging a portfolio of 90 which leads to an adjusted hedged proportion of 44.4%. In other words for accounting purposes it is deemed that each of the remaining loans was hedged for 40% in the first period and will be for 44.4% in the second period - so the hedge accounting relationship is treated as a new one despite the economic hedge being unchanged.

22. From an operational perspective, the easiest solution to deal with these adjustments is to discontinue hedge accounting after the first period completely and to designate a new hedging relationship on the basis of the adjusted portfolio.[8] As a consequence the entire hedge adjustment relating to the remaining loans gets amortised for the remaining term of the loans on a straight-line basis.[9] In addition, as above, it has to be considered that the valuation of the hedged items and hedging instruments starts with a value different from their carrying amount (hedged items) or zero (interest rate swaps as hedging instruments) leading to further amortisations to address the resulting pull to par effect.[10] However,

[8] This is also the required approach under IAS 39 given that each change to the designated (documented) hedging relationship triggers its discontinuation and re-designation.

[9] Exception allowed for portfolio fair value hedges of interest rate risk in accordance with IAS 39.92.

[10] See paragraph **Error! Reference source not found.** of this paper for a more detailed explanation of the pull to par effect (counter-amortisation).

although the described approach reduces some of the tracking issues in respect of the hedge adjustment it leads to biased results over time as described below.

23. The more accurate approach would be to treat the increase of the hedged proportion as a proportionate new designation of each of the loans. Technically this is like splitting the loans into two tranches. One tranche represents 40% of the loans and is hedged from the beginning. The second tranche relates to 4.4% and is hedged from period 2 onwards, which creates another "late hedge" situation[11]. As a consequence the related pull to par-effects have to be taken into account on the basis of the effective interest method.

24. The described method must be repeated with each adjustment to the hedged proportion. For the example used in this paper each future prepayment triggers an increase of the hedged proportion (as the hedged amount of 40 represents an increasing proportion of the portfolio). Assuming prepayments of 10 for each period therefore means that a loan that remains till its contractual maturity finally gets divided into six tranches. Appendix 2 to this paper contains the calculation of the hedge adjustment following the described method for illustrative purposes.[12]

25. The following table summarises the resulting net interest income for both approaches (without any amortisations resulting from the application of hedge accounting):

[11] See also the explanation in agenda paper 7B of the July 2010 IASB meeting on "late hedges". This refers to the same topic from the perspective of an interest rate swap with and without upfront payments.

[12] Also the application to open portfolios adds further complexity as described in paper B of this series.

Period	**1**	**2**	**3**	**4**	**5**	**6**
Current Interest Rate	4.5%	4.0%	3.5%	3.0%	2.5%	2.0%
Interest Revenue	5.00	4.50	4.00	3.50	3.00	2.50
Interest Expense	(5.00)	(4.05)	(3.20)	(2.45)	(1.80)	(1.25)
Interest "Income" Swaps[13]	0.0	(0.20)	(0.40)	(0.60)	(0.80)	(1.00)
Net Interest Income	0.0	0.25	0.40	0.45	0.40	0.25

26. Interest revenue of the loan portfolio is fixed at 5%. The reducing interest revenue reflects the declining portfolio over time because of prepayments. The interest expenses are based on the current interest rate relevant for the respective period (floating interest rate liability). Therefore the entity benefits from declining interest rates. The interest income on swaps reflects the difference between the fixed 5% and the current floating rate for a notional amount of 40. Economically it generates a fixed funding position for a notional of 40 and a remaining floating rate funding position.

27. The following table summarises the development of the hedge adjustment without considering any simplifications for the calculation.[14] The resulting valuation of the hedged risk per period is compared to the valuation of the swaps:

[13] In this paper references to interest income/expense are not all in a strict sense of interest income/expense as defined in IFRSs in connection with the effective interest method ("strict sense") but in a wider sense (for illustration purposes). For example, the payments on an interest rate swap as such are not interest expense in a strict sense for accounting purposes. However, hedge accounting can result in a hedge adjustment of interest expense in the strict sense if the latter is the hedged item.

[14] This refers to the more accurate approach as described in paragraph 23 of this paper.

Period	**1**	**2**	**3**	**4**	**5**	**6**	**Total**
Starting Balance	0.000	0.790	1.227	1.320	1.102	0.631	
Change	0.790	0.437	0.093	(0.218)	(0.471)	(0.631)	0.000
thereof Valuation	*0.878*	*0.574*	*0.229*	*(0.150)*	*(0.555)*	*(0.976)*	*0.000*
thereof Pull to par	*0.000*	*0.016*	*0.053*	*0.116*	*0.211*	*0.344*	*0.740*
thereof Releases	*(0.088)*	*(0.153)*	*(0.189)*	*(0.184)*	*(0.126)*	*0.000*	*(0.740)*
Ending Balance	0.790	1.227	1.320	1.102	0.631	0.000	
Swap Fair Value Change	(0.878)	(0.574)	(0.229)	0.150	0.555	0.976	0.000
Net Valuation Impact	(0.088)	(0.137)	(0.136)	(0.068)	0.084	0.344	0.000

28. The table above shows the development of the hedge adjustment over the periods with the change representing the profit or loss impact. This can be split into three components. The valuation component represents the ongoing measurement of the hedged portfolio of 40 (notional amount) over all periods. The pull-to-par effect represents the amortisation (on the basis of effective interest rates) of the difference between the carrying amount and the valuation of the hedged risk for any tranche that was designated at a later stage.[15] This is to reflect the increase in the hedged proportion as a result of prepayments as described above. Finally, the de-designations represent the release to profit or loss of the hedge adjustments that relate to prepaid loans. Hence each prepayment within the portfolio becomes visible to the extent the loan was hedged. For example, the release of a hedge

[15] See paragraph **Error! Reference source not found.** of this paper for a more detailed description of the pull to par effect.

adjustment for a loan that is prepaid at the end of period 3 represents 40% of its value change for the periods 1 to 3, 4.4% of the value change for the periods 2 and 3 and 5.6% for the third period (considering the offsetting related pull-to-par effects).

29. When comparing the development of the hedge adjustment with the valuation of the swaps it shows that the valuation impact is offset entirely. The net valuation impact results from the pull-to-par effect and the release of hedge adjustments following prepayments.

30. In contrast, the simplified tracking of the hedge adjustments on the basis of complete re-designations[16] provides the following results:

Period	**1**	**2**	**3**	**4**	**5**	**6**	**Total**
Starting Balance	0.000	0.790	1.072	0.904	0.388	(0.301)	
Valuation	0.878	0.574	0.229	(0.150)	(0.555)	(0.976)	0.000
Sub-Total	0.878	1.364	1.301	0.754	(0.167)	(1.277)	
Amortisation	0.000	(0.158)	(0.268)	(0.301)	(0.194)	0.301	(0.620)
Sub-Total	0.878	1.206	1.033	0.452	(0.361)	(0.976)	
De-designations	(0.088)	(0.134)	(0.129)	(0.065)	0.060	0.976[17]	0.620
Ending Balance	0.790	1.072	0.904	0.388	(0.301)	0.000	
Swap Fair Value Change	(0.878)	(0.574)	(0.229)	0.150	0.555	0.976	0.000
Net Valuation	(0.088)	(0.292)	(0.397)	(0.366)	(0.134)	1.277	0.000

[16] This is the approach described in more detail in paragraph 22 of this paper.

[17] The significant amounts for amortisation and de-designations in the final period result from the following interaction: Decreasing interest rates lead to valuation gains at the beginning. Those are reversed over time through amortisation. At the same they are also reversed through the ongoing portfolio valuation (pull to par). However, the pull to par effect is influenced by valuation gains resulting from constantly decreasing interest rates over time. Therefore the compensation of the pull to par effect kicks in quite late in this scenario. This leads to the relatively high balances at the end of the term.

Impact							

31. As above the valuation represents the ongoing measurement of the designated portion of the portfolio (notional amount of 40) for changes in the benchmark interest rate risk. It offsets with the valuation of the swaps. The amortisation represents the pro rata release of the previous ending balance. For example, the amortisation in period 2 of (0.158) is calculated on the basis of the ending balance of the previous period of 0.790 divided by 5 (the remaining periods).

32. The simplified straight line amortisation leads to more biased results in comparison to the accurate method. This is because the amortisation that is carried out over time to address the pull to par effect is different from the actual pull-to par effect. This also affects the calculation of the released hedge adjustment. This bias becomes stronger over time when the hedge relationship is adjusted more frequently (more change in hedged proportions), when the amortisation period is determined on a overall portfolio average (like duration) rather than the actual remaining instruments and the actual movements in interest rates.

33. In addition, it has to be considered that the amortisation described above is often presented within interest revenue as it technically represents an interest rate adjustment.

34. In summary, the descriptions above show that applying portfolio fair value hedge accounting requires *extensive tracking* of the hedge adjustment. Especially when applying the simplified method for the amortisation of the hedge adjustment the interpretation of the resulting impact on profit or loss is difficult because it is influenced by many factors. Prepayments become visible in profit or loss when they occur (or are expected) but only to the extent the underlying loan was hedged in the past (dependent on the hedged proportion).

Bottom layer approach as alternative

35. Given the complexity of fair value hedge accounting for a portfolio hedge of interest rate risk[18] and the fact that the risk management objective actually was to hedge a bottom layer of loans that are not expected to be prepaid, the introduction

[18] As introduced with IAS 39.81A and related application guidance.

of the bottom layer concept for accounting purposes is often suggested as a possible solution.

36. This concept means that prepayments have no effect (ie no release of hedge adjustments for prepaid loans in combination with adjusting the hedged proportion) **as long as the hedged volume (here a notional amount of 40) is maintained.**

37. For the example above, this would lead to a balanced net valuation as the measurement of 40 of the loans (valuation component) and of the swaps match. Hence the tracking of the hedge adjustment would be much easier. Changes would only occur when the hedged volume (the bottom layer) is increased (new additional designation) or decreased (proportionate discontinuation of the hedging relationship).

38. Bottom layer approaches would reflect some risk management approaches entities apply. For the example above with a portfolio of loans sharing identical terms it does not matter from an economic perspective which loan actually is prepaid. For these risk management approaches the only risk is that the actual (or expected) prepayments exceed the originally expected level so that discontinuation is required (which would occur in the example given if less than 40 remains outstanding). In contrast, the application of hedge accounting to the entire portfolio impacts the hedge adjustment even in situations when the layer was not touched at all, ie all prepayments were expected and considered.

39. The bottom layer approach was also discussed in connection with the introduction of the portfolio fair value hedge in IAS 39. It was rejected as it would decrease the level of ineffectiveness that is otherwise recognised in profit or loss because of adjustments to the expected cash flows of the entire portfolio.[19] This is based on the view that each change in expected prepayments (increase or decrease) should result in ineffectiveness (even if in the example given, prepayments do not result in loans of less than 40 remaining outstanding). This is derived from the fact that the fair value of a loan would also react accordingly through the valuation of the

[19] IAS 39.BC196-BC198.

embedded interest rate option. This valuation impact is not addressed by using a plain vanilla interest rate swap.[20]

40. In summary, the advantages of a bottom layer approach are that the ongoing adjustment of the hedging relationship for prepayments becomes obsolete. Therefore it reflects the risk management objective to hedge repricing risk only under the consideration of prepayments (ie based on the estimate of the actual maturity). Prepayments would only impact the financial statements when they influence the hedged repricing risk, ie there are more prepayments than originally expected.

41. When assuming a perfectly homogeneous portfolio as in the example above expected prepayments do not impact the *hedged* risk. Economically, the prepayment of a loan is irrelevant as long as the defined layer still exists.

42. Although perfectly homogeneous closed portfolios are rather rare in practice this situation applies for example to "pipeline trades".[21] For those an entity offers financial instruments at identical terms over a period of time. Therefore all instruments actually placed will share the same terms and therefore will be homogeneous in nature. The uncertainty results from the actual placed volume, which depends on the customer demand. Hence an entity could hedge for repricing risk a particular minimum amount that is likely to be placed.

43. For example, an entity offers a new product for a given period of time and assumes a placed volume between 80 and 120 (expected placement). At the end of the offer period the subscribed volume is placed with the customers.[22] Therefore all instruments share the same terms and starting point. To consider the uncertainty regarding the actual placed volume only a notional amount of 80 is considered highly likely and therefore managed for repricing risk. The designated volume of 80 could be seen as bottom layer of the expected volume of 100 (mid

[20] For a more detailed discussion of layer and portfolio approaches in the context of macro hedging see also agenda paper 6A of the April 2011 IASB meeting.

[21] "Pipeline trades" are a colloquial term for financial products that are advertised with particular terms and conditions but not yet entered into (a type of forecast transaction). For a more detailed explanation of these transactions refer to agenda paper 9A of the September 2011 IASB meeting.

[22] This approach can be found with some mainly deposit products that are offered for a certain period of time with a common start date or that always start at the beginning of each month for example whereby the purchase price considered the interest for the difference to the actual purchase date.

of the range). From an interest rate risk management perspective the actual customer name is not relevant as long as the hedged volume can be placed.

44. As a consequence, the application of a bottom layer approach for homogeneous portfolios for accounting purposes would require the acceptance of the designation of portfolios as the unit of account. This is because bottom layer strategies as described only work on the basis of a portfolio with a sufficient size. This designation would be limited to situations where it reflects actual risk management considerations.[23]

45. For a *non-homogeneous* portfolio an additional problem occurs regarding the valuation of the layer as the population actually represented by the layer has to be selected—ie the entity needs to know which items are being valued. This topic will be discussed in more detail in connection with open portfolios in agenda paper B of this series.

Portfolio Valuation

46. Another alternative is to measure interest rate risk for the entire portfolio ignoring the layer approach. The *expected* cash flow pattern taking into account prepayments on a portfolio basis would be developed and become subject to a present value calculation.

47. As a consequence the unhedged repricing risk as well as each deviation of the actual prepayments from the originally expected ones would become visible through valuation, independent of the actually hedged proportion.

48. This means that risks that risk management decided not to hedge or to address in a different way than using hedging instruments affect profit or loss and are therefore considered ineffectiveness.

49. In other words: The “philosophy” behind this risk definition and therefore the determination of ineffectiveness would be that risk management *should* address the *entire* repricing and prepayment risk through appropriate derivatives. Any deviation from that approach including under- and over-hedge scenarios is considered an ineffective hedge approach.

[23] In addition, this is based on the premise of accepting “margin risk” as the hedged interest rate risk. This is the basis for a different view of the interaction between prepayment risk and fair value measurement. For more details on this discussion in the context of IAS 39 refer to IAS 39.BC187.

50. In contrast, a bottom layer approach identifies only over-hedge situations as ineffectiveness. Under-hedges (ie not hedging the entire risk) are not considered to cause ineffectiveness. This could be seen as being in line with the general accounting principles: Stand-alone derivatives (over-hedges) should be reflected in profit or loss on the basis of ongoing fair value measurement. Unhedged financial instruments that are otherwise accounted for at amortised cost (under-hedges) are not remeasured for the *unhedged* risk.

51. As a consequence one view of the risk definition underlying the complete portfolio valuation could be that this is a contradiction of the general classification of financial instruments at amortised cost as the valuation of an instrument otherwise eligible for amortised cost measurement is changed for unhedged risks.

52. The alternative view would be that under-hedge situations also lead to ineffectiveness as the risk management strategy does not cover the entire risk position. Depending on the definition of the risk position that should be addressed for accounting purposes to avoid non-recognition of ineffectiveness. This approach could also lead to a full fair value measurement approach this would then ultimately ignore risk management decisions in respect of the hedged risk and replace it with an accounting benchmark for the risk that should be managed through hedging instruments to avoid accounting mismatches.

Net Positions

53. To move to a more realistic scenario it has to be considered that the managed risk position consists of financial assets *and liabilities* and only the *net* risk is addressed by risk management.

54. To reflect this, the example above is expanded. It is assumed that the loan portfolio is financed with a fixed rate liability with a term of 6 years, an interest rate of 5% and a notional amount of 60. Assuming that the risk management is not expecting any prepayments from the loans and the liabilities a net fixed rate asset position of 40 has to be addressed through interest rate swaps.

Hedge accounting in accordance with IAS 39

55. Applying hedge accounting to the adjusted example requires the hedging instruments of 40 to be designated as hedging the portfolio of 100 with a hedged proportion of 40% at the beginning. This is because IAS 39 requires the designation of gross risk positions rather than net risks.[24] Therefore the same accounting consequences as discussed above for bottom layers apply.

56. Going forward two scenarios have to be distinguished:

    (a) Loans with a notional amount of 10 are prepaid in the first period (as above) while the liabilities remain at 60. Hence the net risk position moves to 30. As a consequence risk management:

        (i) reduces the hedging instruments to 30 accordingly or

        (ii) keeps hedging instruments at 40 generating an over-hedge situation in comparison to the net risk position

    (b) Liabilities reduce in accordance with the loans to 50 and therefore the net risk position stays unchanged at 40 and also hedging instruments of 40 are retained.

57. In respect of the loan prepayment all scenarios lead to a release of the related hedge adjustment as described above, ie the impact of the prepayment risk is shown to the extent of the hedged proportion of 40%.

58. In respect of the future hedge accounting designation the reduction of the hedging instruments to 30 would lead to an adjustment of the hedged proportion. The remaining loans of 90 are now hedged for 33% (30/90). As a consequence a portion of the related hedge adjustment (the step-down from 40% to 33%) has to be amortised as a discontinued hedging relationship.

59. When the hedging instruments stay at 40 (like in the other two scenarios) the hedged proportion would be increased to 44% for the remaining portfolio as described above. Hence the fact that the non-adjustment of the derivative position in the second scenario leads to an over-hedge in respect of the actual risk position

[24] The alternative approach would be to pick 40 out of the entire gross portfolio and designate those as hedged items for 100%. This approach can be found when stable positions within the hedged position like non-prepayable loans with good creditworthiness can be identified. This generates a rather stable hedge relationship as the uncertainty of the entire net risk position is excluded.

would not be reflected differently in the financial statements. In contrast the prepayments of 10 trigger an accounting consequence even when offset by corresponding prepayments of the liabilities (as with the third scenario).

60. In summary, the hedge accounting approach on the basis of gross designations does not address over-hedges in respect of the net risk as long as the hedging instruments are covered by gross risks and not adjusted (as described in paragraph 56(a)(ii) above). In contrast, each prepayment triggers the release of hedge adjustments even in situations where the overall net risk position stays unchanged. Furthermore the hedged proportion has to be adjusted even in situations where constantly 100% of the net risks are hedged, which leads to additional complexity.

Introduction of a bottom layer

61. To simplify the accounting mechanics required for hedge accounting (as described above) the introduction of bottom layer approaches is often suggested as well. As a consequence a layer of 40 of the loan portfolio would be designated as the hedged risk. To the extent that the hedging instruments remain at 40 and the layer is covered by a loan population no adjustments to the hedging relationship would be required. This would even apply in situations in which the hedging instruments are not adjusted even though the net risk position has changed.

62. As a consequence prepayments would *not* trigger the proportionate release of the hedge adjustment, over-hedge scenarios in relation to the net risk would not be visible and the hedged proportion would stay at 100% in respect of the hedged layer. In this example prepayments would only lead to a release of hedge adjustments when loans with a notional amount of more than 60 are prepaid. However, this is less the result of applying a conservative approach regarding the assessment of prepayment risk but rather the “benefit” of designating hedging instruments addressing net risks in relation to a gross position.

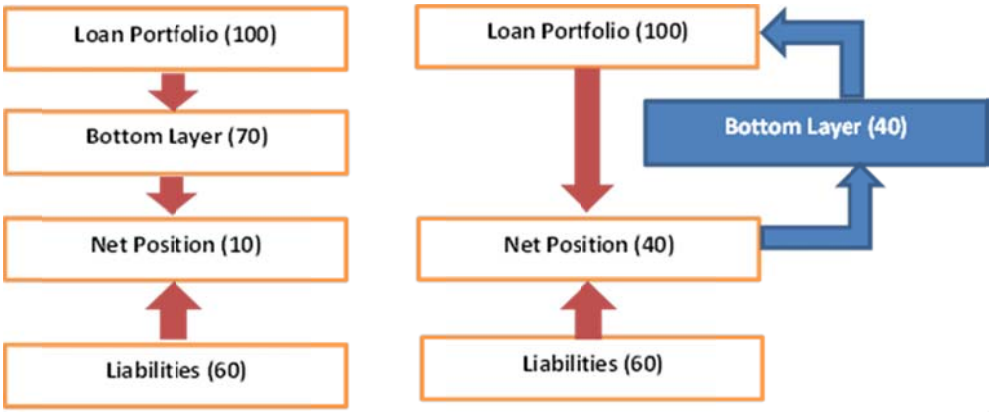
63. In contrast the layer could be determined in line with the actual net risk position. Then each change to the net risk position (eg because of prepayments) would lead to an increase or decrease of the layer. An increase would have to be treated like an additional designation for hedging purposes. A decrease would be like a proportionate discontinuation of the hedge. However, this discontinuation would not necessarily lead to the immediate release of the hedge adjustment but rather its

amortisation. This is the consequence of the gross designation approach. Therefore the volume underlying the original layer would still be covered by the loan portfolio.

64. For example, when the loan prepayments actually reduce the net risk position from 40 to 30 the layer (and the hedging instruments) would be adjusted accordingly to 30. This is like the proportionate discontinuation of the hedge by 10. As the original layer is still covered by loans (here a notional amount of 90) the adjustment would not lead to the release of the respective hedge adjustment but to its amortisation.

65. Given that the net risk position and therefore the designated layer might move in both directions over time similar problems as described with today's hedge accounting under IAS 39 regarding the tracking of the hedge adjustments occur. Each decrease of the layer triggers amortisations, each increase new designations (resulting in "late hedges").

66. To summarise it has to be distinguished between bottom layers that are driven by risk management considerations to address uncertainty and those driven by accounting considerations to address a net risk position. The difference is illustrated with the graph below:



67. The left side of the graph shows a bottom layer derived from risk management considerations. To address prepayment risks only a portion for the entire loan portfolio is considered a risk position and managed accordingly. This leads to an economic net risk position of 10 to be addressed by risk management activities.

68. In contrast the bottom layer defined on the right side of the graph is driven by accounting considerations. It would create a stable hedge relationship as long as the loan prepayments do not affect the minimum level of 40. When the expected

volume of 70 is a realistic scenario the entity could ignore prepayment risk by considering the loans at their contractual volume of 100 and would still end up with a stable hedging relationship. Taking the net risk position of 10 from the left side as a basis for the accounting layer would create a hedging relationship that tolerates that 90% of the loan portfolio is prepaid without triggering any accounting consequences.

69. The second bottom layer definition does not reflect risk management considerations. In order to reflect risk management hedge accounting needs to be extended to *net* positions. This aspect is discussed in the following section.

Designation of net positions

70. This approach leads to the complete valuation of the entire *net* risk position for the *hedged* interest rate risk. Therefore the same net risk position also underlying the risk management activities becomes subject to hedge accounting.

71. Picking up the examples from above, the entire loan portfolio as well as the liabilities would become subject to ongoing valuations. Hence the hedge adjustments for each risk position reflect the entire risk as addressed by risk management. This is a deviation from the proportionate gross designation of risks for accounting purposes.

72. Using this approach for the scenarios discussed above would provide the following financial statement information:

73. <u>Example 1:</u>

Loan prepayments of 10 at the end of each period, the liabilities remain stable at 60. As a consequence the net position decreases to 30 by end of first period, 20 by the end of the second one and so on. The derivative instruments are adjusted whenever prepayments occur (no anticipation of prepayments so there is in essence a lag effect).

Period	**1**	**2**	**3**	**4**	**5**	**6**
Notional Amounts at the end of each period (after prepayments)						
Loan Notional	90	80	70	60	50	50
Liability Notional	(60)	(60)	(60)	(60)	(60)	(60)
Net Risk Position	30	20	10	0	(10)	(10)
Swap Notional	(40)	(30)	(20)	(10)	0	0
Hedged Risk Position	(10)	(10)	(10)	(10)	(10)	(10)
Valuation of the period (after release of hedge adjustments)						
Loan Valuation	1.975	0.928	0.038	(0.646)	(1.077)	(1.220)
Liability Valuation	(1.317)	(0.861)	(0.344)	0.225	0.833	1.463
Valuation (unhedged)	0.658	0.067	(0.306)	(0.421)	(0.244)	0.243
Swap Valuation	(0.878)	(0.430)	(0.115)	0.038	0.000	0.000
Valuation (hedged)	(0.220)	(0.363)	(0.421)	(0.383)	(0.244)	0.243

74. The net valuation impact in profit or loss reflects the fact that the derivative position is only adjusted once the prepayments actually occur. This delayed adjustment leads to over-hedge situations in comparison to an appropriate assessment of the prepayment behaviour. As a consequence each deviation of the actual prepayments in comparison to the expected ones (here no prepayments have been expected) becomes visible in profit or loss in its entirety when it occurs.

75. Example 2:

The same scenario as with example 1 but the derivatives are *not* adjusted to reflect the changes to the net risk position. As such an over-hedged situation in comparison to the hedged net risk is created.

Period	**1**	**2**	**3**	**4**	**5**	**6**
Notional Amounts at the end of each period (after prepayments)						
Loan Notional	90	80	70	60	50	50
Liability Notional	(60)	(60)	(60)	(60)	(60)	(60)
Net Risk Position	30	20	10	0	(10)	(10)
Swap Notional	(40)	(40)	(40)	(40)	(40)	(40)
Hedged Risk Position	(10)	(20)	(30)	(40)	(50)	(50)
Valuation of the period (after release of hedge adjustments)						
Loan Valuation	1.975	0.928	0.038	(0.646)	(1.077)	(1.220)
Liability Valuation	(1.317)	(0.861)	(0.344)	0.225	0.833	1.463
Valuation (unhedged)	0.658	0.067	(0.306)	(0.421)	(0.244)	0.243
Swap Valuation	(0.878)	(0.574)	(0.229)	0.150	0.555	0.976
Valuation (hedged)	(0.220)	(0.507)	(0.535)	(0.271)	0.311	1.219

76. The net valuation impact now shows the non-adjustment of the derivative position. Therefore it is in line with the general idea that derivatives that are not covered by offsetting risk should be subject to fair value measurement through profit or loss.

77. Example 3:

The loans as well as the liabilities are subject to prepayments of 10 each period. Therefore the net risk position stays stable over time and accordingly no adjustment to the hedging instruments is necessary.

Period	**1**	**2**	**3**	**4**	**5**	**6**
Notional Amounts at the end of each period (after prepayments)						
Loan Notional	90	80	70	60	50	50
Liability Notional	(50)	(40)	(30)	(20)	(10)	(10)
Net Risk Position	40	40	40	40	40	40
Swap Notional	(40)	(40)	(40)	(40)	(40)	(40)
Hedged Risk Position	0	0	0	0	0	0
Valuation of the period (after release of hedge adjustments)						
Loan Valuation	1.975	0.928	0.038	(0.646)	(1.077)	(1.220)
Liability Valuation	(1.097)	(0.354)	0.191	0.495	0.521	0.244
Valuation (unhedged)	0.878	0.574	0.229	(0.150)	(0.555)	(0.976)
Swap Valuation	(0.878)	(0.574)	(0.229)	0.150	0.555	0.976
Valuation (hedged)	0.000	0.000	0.000	0.000	0.000	0.000

78. Consequently the net valuation impact is balanced as risk management's estimate of a stable net position of 40 for the entire term was also the actual outcome.

Conclusion

79. With the net position valuation approach described last, over-hedges in relation to the hedged *net* risk position become visible in their entirety. This is clearly more transparent than a gross designation. This is also different from layer approaches as discussed before.

80. As a consequence financial statement information regarding prepayment risk is provided as every prepayment triggers an impact on profit or loss. This effect is not limited to the hedged proportion.

81. The net designation as described leads to a stable hedged proportion over time of 100% when risk management addresses the entire risk position identified. This is the usual situation. Hence no tracking of the hedge adjustment for changes in the hedged proportions (as required for hedge accounting today) is necessary. In addition, each early derecognition of financial instruments automatically leads to

the release of the related hedge adjustment through the ongoing portfolio valuation. This is achieved by consequently using the same risk definitions as risk management rather than creating a separate accounting view.

82. Therefore this approach provides an easier and more transparent solution and addresses operational concerns raised with today's portfolio fair value hedge.

Appendix 1: Portfolio fair value hedge for interest rate risk

A1. The following flow chart illustrates the mechanics of the portfolio fair value hedge in accordance with IAS 39 on the basis of the example used in this paper (gross designation).

A2. The loan portfolio of 100 is designated as being hedged resulting in a hedge adjustment reflecting fair value changes attributable to the hedged risk.

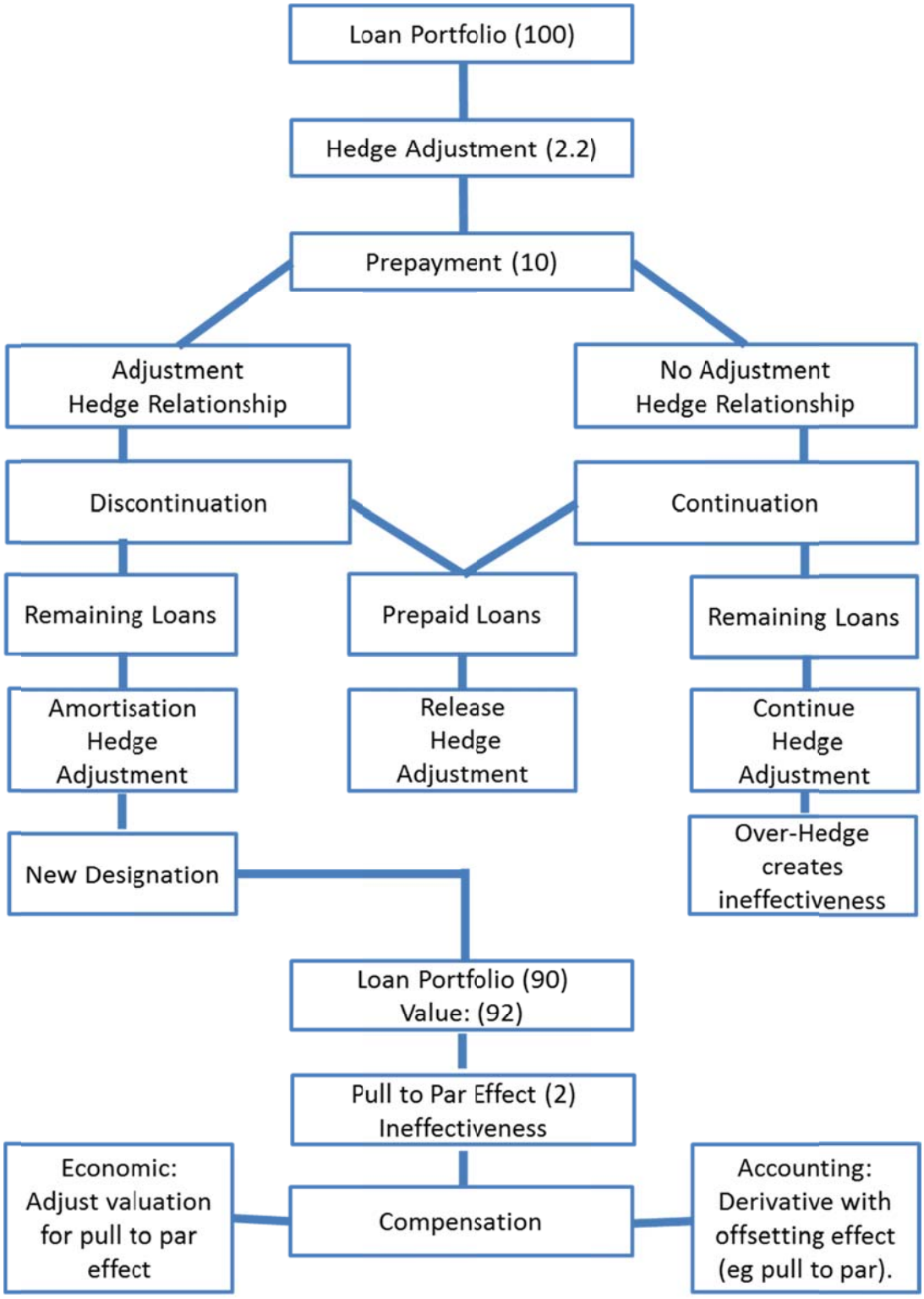
A3. Regarding the treatment of prepayments the IAS 39-model allows to treat them as ineffectiveness as they occur during a hedge period. Hence the prepayments would create an over-hedge situation for the remaining period until the next adjustment of the hedging relationship (for accounting purposes).

A4. Alternatively, the hedge accounting relationship is adjusted immediately to reflect the prepayment. This leads to the discontinuation of the previous hedging relationship.

A5. For both situations the hedge adjustment related to the derecognised loans has to be released through profit or loss. With the continuation of the hedging relationship this occurs automatically through the portfolio valuation.

A6. Regarding the remaining loans the discontinuation requires the amortisation of the hedge adjustment from the date of discontinuation to the expected maturity of the underlying loans.

A7. Finally, a new hedging relationship is designated that reflects the remaining loans and the adjusted derivative position. For the loans it has to be considered that their value (attributable to the hedged risk) that is used for the calculation of the hedge adjustment differs from the notional amount of the loans, which results in a “pull to par effect” for the value over time (until maturity).


Loan Portfolio (100)
Hedge Adjustment (2.2)
Prepayment (10)
Adjustment Hedge Relationship
No Adjustment Hedge Relationship
Discontinuation
Continuation
Remaining Loans
Prepaid Loans
Remaining Loans
Amortisation Hedge Adjustment
Release Hedge Adjustment
Continue Hedge Adjustment
Over-Hedge creates ineffectiveness
New Designation
Loan Portfolio (90) Value: (92)
Pull to Par Effect (2) Ineffectiveness
Economic: Adjust valuation for pull to par effect
Compensation
Accounting: Derivative with offsetting effect (eg pull to par).

Tracking of the carrying amount of the loan portfolio

A8. Assuming that no further prepayments occur for the following period the carrying value develops as follows (declining market interest rates of 0.5 percentage points per period):

Balance at Period End	0	1	2	3	4	5	6
Amortised Cost	100.000	90.000	90.000	90.000	90.000	90.000	90.000
Hedge Adjustment 1	0.000	1.975	1.614	1.237	0.843	0.431	0.000
Hedge Adjustment 2	0.000	0.000	1.291	1.807	1.469	0.220	-1.975
Counter Amortisation	0.000	0.000	0.361	0.738	1.133	1.545	1.975
Carrying Value	100.000	91.975	93.267	93.782	93.444	92.195	90.000

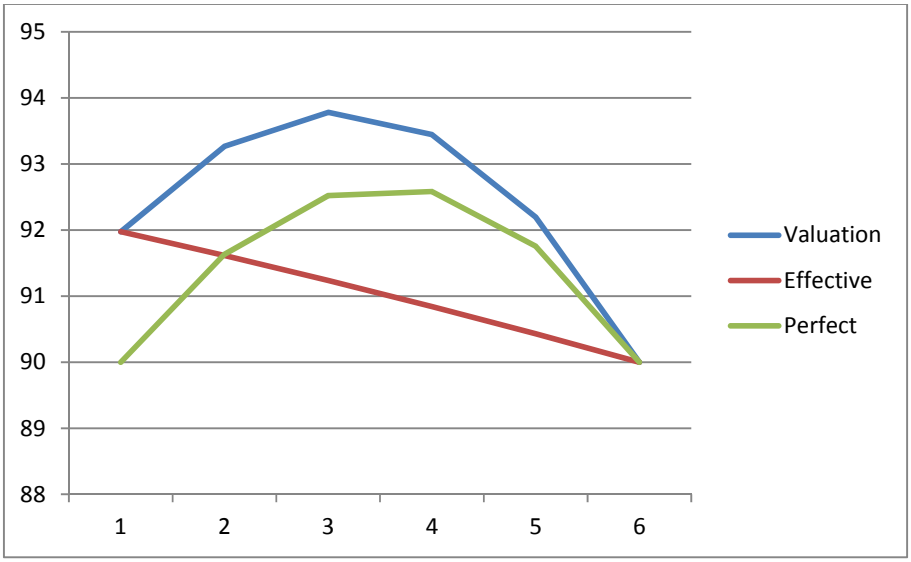
A9. The “amortised cost” represent the carrying amount as if no hedge accounting would have been applied. It reflects the prepayment at the end of period 1. Other than that it remains stable as there are no transaction costs or premium/discounts assumed in this example.

A10. The first hedge adjustment represents the valuation of the portfolio in the first period. The value of 1.975 at the end of period 1 already considers the release of the hedge adjustment related to the prepaid loans (0.220). Because of the discontinuation of the hedging relationship the balance has to be amortised to maturity on the basis of the effective interest method. This ensures that the hedge adjustment is zero at maturity and that the carrying amount equals the repayment amount at that time.

A11. The second hedge adjustment relates to the newly designated hedging relationship. It represents the ongoing valuation of the loan portfolio from a starting value of 91.975 (fair value attributable to the hedged risk) to the respective value at maturity (ie the notional amount). This leads to a negative balance at maturity and a “discount” on the carrying value at maturity. This “discount” would lead to a one-time gain when the loans are repaid.

A12. To avoid the described one-time gain a “counter-amortisation” for the described effect is established. It is based on the effective interest rate at the end of period two (ie the date of the new designation). Technically this counter-amortisation represents the pull-to-par-effect. If the market rates at the end of period 1 would not change further, the counter-amortisation would exactly offset the valuation of the second hedge adjustment. Therefore the difference between both actually represents the valuation effect that is driven by changes to market interest rates.

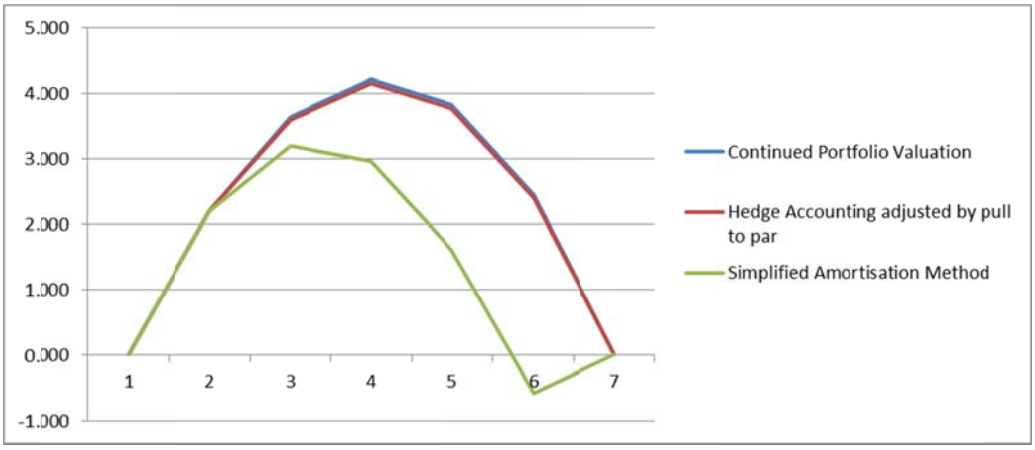
A13. The described topic is illustrated with the following graph. The blue line (valuation) represents the valuation of the loan portfolio of 90 on the basis of the (declining) market rates. The red line (effective) provides the same calculation but under assumption of unchanged market rates (effective interest rate calculation). The green line (perfect) represents the calculation on the basis of a loan with contractual interest rates matching the market rate (fair value equals par at the beginning). The red line (effective) always represents the difference between the other two calculations.



A14. To avoid the described tracking of the hedge adjustment it is allowed to apply a simple amortisation of the hedge adjustment on a straight-line basis.[25] Applying this to the described hedging relationship at the end of each period would however result in biased results in comparison to the described accurate approach. The deviations become more significant the longer the hedging relationship is considered.

A15. The described effect is illustrated with the following graph. It compares an approach that amortises the hedge adjustment on a straight line basis at the end of each period with an ongoing portfolio valuation and a hedge accounting approach that would consider the described pull to par effect. It can be seen that the simplified approach leads to significantly different results.

[25] IAS 39.92 limited to fair value hedges of the interest rate exposure of a portfolio of financial instruments.


5.000
4.000
3.000
2.000
1.000
0.000
-1.000
1
2
3
4
5
6
7
Continued Portfolio Valuation
Hedge Accounting adjusted by pull to par
Simplified Amortisation Method

Appendix 2: Determination of the hedge adjustment (accurate method)

A16. The following table provides the calculation of the hedge adjustment for the closed portfolio used as an example in this paper. It is assumed that at the end of each period loans with a notional amount of 10 are prepaid. As at the same time the hedging instruments remain unchanged (notional amount of 40) the hedged proportion is adjusted constantly. The hedged proportion develops as follows:

Period	1	2	3	4	5	6
Loans	100	90	80	70	60	50
Swaps	40	40	40	40	40	40
Proportion	40.0%	44.4%	50.0%	57.1%	66.7%	80.0%

A17. The notional amount shows for each tranche the balance underlying the calculations. Its development reflects the impact of prepayments. For the total column (yellow) it stays at 40—bottom layer.

A18. The “valuation” is based on the proportion of the cash flow pattern underlying each tranche discounted at the current interest rate.

A19. The column “Effective” is based on the same cash flow pattern as the valuation. For discounting the effective interest rate of each tranche is used. The effective interest rate is identical to the current market rate at the date of the designation of each tranche. This calculation allows the consideration of the pull to par effect as an adjustment to the valuation. Otherwise the fact that the (hedge) value for each subsequent tranche (starting with B) is different from the carrying amount of the loans would lead to a (negative) deviation of the carrying amount from the repayment amount. In other words: This calculation ensures that the hedge adjustment is zero at maturity.

A20. The de-designations represent the release to profit or loss of the hedge adjustment (for each tranche) to reflect prepayments. It is calculated as the difference between the columns “Valuation” and “Effective” in relation to the derecognised proportion. At the same time a new tranche is created (new designation) to keep the hedged position at a notional of 40. The new designation corresponds with the de-designations except for the starting point for the pull to par effect calculation.

A21. Allowing the designation of a layer of 40 would just require the calculation of the valuation as shown in the yellow column.

Period 0	Total			Tranche A																
	Notional	Valuation	Effective	Notional	Valuation	Effective														
Starting Balance	40.000	40.000	40.000	40.000	40.000	40.000														
Period 1	**Total**			**Tranche A**			**Tranche B**													
	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective											
Carry Over	40.000	40.000	40.000	40.000	40.000	40.000														
Valuation	0.000	0.878	0.000	0.000	0.878	0.000														
Sub-Total	40.000	40.878	40.000	40.000	40.878	40.000														
Dedesignation	-4.000	-4.088	-4.000	-4.000	-4.088	-4.000														
New Designation	4.000	4.088	4.088				4.000	4.088	4.088											
Ending Balance	40.000	40.878	40.088	36.000	36.790	36.000	4.000	4.088	4.088											
Income Statement:																				
Valuation		0.878			0.878															
Pull to Par		0.000				0.000														
Dedesignation		-0.088			-4.088	4.000														
TOTAL		**0.790**																		
Period 2	**Total**			**Tranche A**			**Tranche B**			**Tranche C**										
	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective								
Carry Over	40.000	40.878	40.088	36.000	36.790	36.000	4.000	4.088	4.088											
Valuation	0.000	0.574	-0.016	0.000	0.517	0.000	0.000	0.057	-0.016											
Sub-Total	40.000	41.452	40.072	36.000	37.307	36.000	4.000	4.145	4.072											
Dedesignation	-4.444	-4.606	-4.452	-4.000	-4.145	-4.000	-0.444	-0.461	-0.452											
New Designation	4.444	4.606	4.606							4.444	4.606	4.606								
Ending Balance	40.000	41.452	40.225	32.000	33.162	32.000	3.556	3.685	3.619	4.444	4.606	4.606								
Income Statement:																				
Valuation		0.574			0.517			0.057												
Pull to Par		0.016							0.016											
Dedesignation		-0.153			-4.145	4.000		-0.461	0.452											
TOTAL		**0.437**																		
Period 3	**Total**			**Tranche A**			**Tranche B**			**Tranche C**			**Tranche D**							
	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective					
Carry Over	40.000	41.452	40.225	32.000	33.162	32.000	3.556	3.685	3.619	4.444	4.606	4.606								
Valuation	0.000	0.229	-0.053	0.000	0.183	0.000	0.000	0.020	-0.015	0.000	0.025	-0.038								
Sub-Total	40.000	41.681	40.172	32.000	33.345	32.000	3.556	3.705	3.604	4.444	4.631	4.568								
De-Designation	-5.000	-5.210	-5.022	-4.000	-4.168	-4.000	-0.444	-0.463	-0.451	-0.556	-0.579	-0.571								
New Designation	5.000	5.210	5.210										5.000	5.210	5.210					
Ending Balance	40.000	41.681	40.361	28.000	29.177	28.000	3.111	3.242	3.154	3.889	4.052	3.997	5.000	5.210	5.210					
Income Statement:																				
Valuation		0.229			0.183			0.020			0.025									
Pull to Par		0.053							0.015			0.038								
Dedesignation		-0.189			-4.168	4.000		-0.463	0.451		-0.579	0.571								
TOTAL		**0.093**																		

	Total			Tranche A			Tranche B			Tranche C			Tranche D			Tranche E					
Period 4																					
	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective			
Carry Over	40.000	41.681	40.361	28.000	29.177	28.000	3.111	3.242	3.154	3.889	4.052	3.997	5.000	5.210	5.210						
Valuation	0.000	-0.150	-0.116	0.000	-0.105	0.000	0.000	-0.012	-0.014	0.000	-0.015	-0.035	0.000	-0.019	-0.068						
Sub-Total	40.000	41.531	40.245	28.000	29.072	28.000	3.111	3.230	3.140	3.889	4.038	3.962	5.000	5.191	5.142						
De-Designation	-5.714	-5.933	-5.749	-4.000	-4.153	-4.000	-0.444	-0.461	-0.449	-0.556	-0.577	-0.566	-0.714	-0.742	-0.735						
New Designation	5.714	5.933	5.933													5.714	5.933	5.933			
Ending Balance	40.000	41.531	40.429	24.000	24.918	24.000	2.667	2.769	2.692	3.333	3.461	3.396	4.286	4.450	4.408	5.714	5.933	5.933			
Income Statement:																					
Valuation		-0.150			-0.105			-0.012			-0.015			-0.019							
Pull to Par		0.116							0.014			0.035			0.068						
Dedesignation		-0.184			-4.153	4.000		-0.461	0.449		-0.577	0.566		-0.742	0.735						
TOTAL		**-0.218**																			
Period 5	**Total**			**Tranche A**			**Tranche B**			**Tranche C**			**Tranche D**			**Tranche E**			**Tranche F**		
	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective
Carry Over	40.000	41.531	40.429	24.000	24.918	24.000	2.667	2.769	2.692	3.333	3.461	3.396	4.286	4.450	4.408	5.714	5.933	5.933			
Valuation	0.000	-0.555	-0.211	0.000	-0.333	0.000	0.000	-0.037	-0.012	0.000	-0.046	-0.031	0.000	-0.059	-0.060	0.000	-0.079	-0.108			
Sub-Total	40.000	40.976	40.218	24.000	24.585	24.000	2.667	2.732	2.679	3.333	3.415	3.365	4.286	4.390	4.348	5.714	5.854	5.825			
De-Designation	-6.667	-6.829	-6.703	-4.000	-4.098	-4.000	-0.444	-0.455	-0.447	-0.556	-0.569	-0.561	-0.714	-0.732	-0.725	-0.952	-0.976	-0.971			
New Designation	6.667	6.829	6.829																6.667	6.829	6.829
Ending Balance	40.000	40.976	40.344	20.000	20.488	20.000	2.222	2.276	2.233	2.778	2.846	2.804	3.571	3.659	3.623	4.762	4.878	4.854	6.667	6.829	6.829
Income Statement:																					
Valuation		-0.555			-0.333			-0.037			-0.046			-0.059			-0.079				
Pull to Par		0.211							0.012			0.031			0.060			0.108			
Dedesignation		-0.126			-4.098	4.000		-0.455	0.447		-0.569	0.561		-0.732	0.725		-0.976	0.971			
TOTAL		**-0.471**																			
Period 6	**Total**			**Tranche A**			**Tranche B**			**Tranche C**			**Tranche D**			**Tranche E**			**Tranche F**		
	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective	Notional	Valuation	Effective
Carry Over	40.000	40.976	40.344	20.000	20.488	20.000	2.222	2.276	2.233	2.778	2.846	2.804	3.571	3.659	3.623	4.762	4.878	4.854	6.667	6.829	6.829
Valuation	0.000	-0.976	-0.344	0.000	-0.488	0.000	0.000	-0.054	-0.011	0.000	-0.068	-0.027	0.000	-0.087	-0.052	0.000	-0.116	-0.092	0.000	-0.163	-0.163
Sub-Total	40.000	40.000	40.000	20.000	20.000	20.000	2.222	2.222	2.222	2.778	2.778	2.778	3.571	3.571	3.571	4.762	4.762	4.762	6.667	6.667	6.667
De-Designation	0.000	0.000	0.000																		
New Designation	0.000	0.000	0.000																		
Ending Balance	0.000	0.000	0.000																		
Income Statement:																					
Valuation		-0.976			-0.488			-0.054			-0.068			-0.087			-0.116			-0.163	
Pull to Par		0.344							0.011			0.027			0.052			0.092			0.163
Dedesignation		0.000			0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000
TOTAL		**-0.631**																			