EUROPEAN CENTRAL BANK

# NATIONAL IMPLEMENTATION OF REGULATION ECB/2001/13

FEBRUARY 2006

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# REQUIREMENT FOR FLOWS ADJUSTMENTS

# QUESTIONS AND ANSWERS

EUROPEAN CENTRAL BANK

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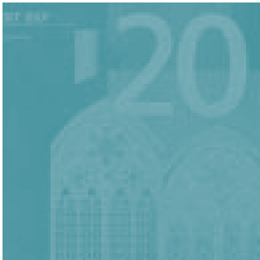

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**Address**
Kaiserstrasse 29
60311 Frankfurt am Main, Germany

**Postal address**
Postfach 16 03 19
60066 Frankfurt am Main, Germany

**Telephone**
+49 69 13440

**Website**
http://www.ecb.int

**Fax**
+49 69 1344 6000

**Telex**
411 144 ecb d

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1. Work has been proceeding in the EU on the implementation of the ECB Regulation concerning statistics on the consolidated balance sheet of the MFI sector (ECB/2001/13).[1] Probably the most complex aspect of this work has been the implementation of the revaluation adjustments, which is completely new to the BSI Regulation. In this respect, further conceptual issues were bound to arise. In particular, NCBs addressed questions to the ECB on the precise methods for calculating the adjustments given their national circumstances.

2. In general, it had been expected that the issues raised by NCBs could in each case be resolved between the ECB and the NCB concerned on a bilateral level. However, in order to facilitate consistency in the national implementation of this requirement across the euro area, it was decided that all NCBs should be kept informed about the issues raised, and that a consensus on the most relevant issues would be reached at the Working Group Monetary, Financial Institutions and Markets Statistics (WGMFM). This strategy has helped to foster a common approach within the ESCB, as all NCBs can be expected to face the same or similar problems. Furthermore, the WGMFM wished to have the opportunity to discuss some of the issues and, if need be, to question or elaborate upon the conclusions reached. To this end, this note on the "National implementation of the revaluation adjustment: questions and answers" summarises the questions and answers raised to date.

3. The intention behind this is that the conceptual advice arising from the resolution of the issues raised will either be incorporated into a future update of the Guidance Notes (e.g. the revision scheduled for 2006/2007) or into other ECB documents, as appropriate. In this document, consideration is given to resolving the following issues:


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1 ECB/2001/13 takes effect with the monthly data transmitted for reference month January 2003, replacing ECB/1998/16.

# I WRITE-OFFS/WRITE-DOWNS IN RELATION TO ACCOUNTING RULES

### ISSUE:

In consultations with reporting agents, one NCB found that the requirement in respect of the frequency of write-offs/write-downs could be ambiguous and apparently in opposition to national accounting practice. The reason is that for accounting purposes, loan write-downs/write-offs are recorded quarterly or semi-annually, depending either on a management decision, or relying on the credit institution's internal policy. If the ECB Regulation requires loan write-offs/write-downs on a monthly basis, it was argued that accounting practices could not be changed by this Regulation and hence, credit institutions could only be in a position to report loan write-offs/write-downs as soon as they are recorded on the balance sheet or in the profit and loss account. Hence, there was an apparent conflict between the ECB Regulation and business accounting practices.

### QUESTION:

Reporting agents have indicated that they will report monthly adjustments. Nevertheless, the loan write-offs/write-downs would only be reported when they occur, which implies that zeros would be reported for every period in which no loan write-offs/write-downs are recorded. The question is whether this interpretation of the Regulation is correct.

### ANSWER:

It should be understood that the reporting obligation in respect of loan write-offs/write-downs, as with all other ECB requirements in the area of MBS, is not designed to establish an obligation in respect of national business accounting rules and practices. The requirement in respect of the loan write-off/write-down adjustment takes the accounting practice as given and, most importantly, the adjustments to be reported only depend on the accounting rules as long as they have an impact on the statistical balance sheet.

The Regulation establishes that *'the adjustment in respect of the write-offs/write-downs is reported in order to remove from the flows statistics the impact of changes in the value of loans recorded on the balance sheet that are caused by the application of write-off/write-down of loans'*.[2] In other words, the adjustment series to be reported should only differ from zero if a write-off/write-down affecting statistical data has taken place during the reference period. Otherwise the adjustment would be reported as zero, in precisely the same way as stock series are reported as zero where there is no position in respect of a particular item or vis-à-vis a certain sector.

As a consequence, as stated in the question, write-offs/write-downs should be reported when they occur, which implies that zeros would be reported for every period in which no loan write-offs/write-downs are recorded. The correctness of this interpretation is confirmed.

For further clarification, a worked-out example is presented below. Complementary information can be found in the Guidance Notes to Regulation ECB/2001/13.

## EXAMPLE OF THE REPORTING OF WRITE-OFFS/WRITE-DOWNS

Based on the technical appendix to the Guidance Notes.

### I. ACCOUNTING RULES

The aim of the adjustment in respect of the write-offs/write-downs is to remove from the flows the impact of reductions in the balance sheet value of loans caused by the application of loan loss provisions or the write-off/write-down of loans.[3] The method used to calculate the adjustment depends on the existing valuation system applied to the item 'Loans', specifically whether the loans are recorded gross or net of provisions in the statistical balance sheet.

2 Regulation ECB/2001/13, Annex 1, Part V, para. 6.

3 Write-offs recognised at the time the loan is sold should also be reported. This would be the case for write-offs attached to securitisation/loan sales. See also Guideline ECB/2000/13, Annex V, Appendix 3. Furthermore, an adjustment should also be applied in the case of loans that had been written off/provisioned and which are subsequently written back/provision removed.

### LOANS RECORDED GROSS OF PROVISIONS

Where loans are recorded gross of all loan loss (specific and general) provisions, an adjustment should be reported only at the time a write-off or write-down takes place and not when a provision is recorded, because this provision has no impact on the item 'Loans' and is included instead within 'Capital and reserves' (or 'Remaining assets'/'Remaining liabilities', according to national practice).

As a result, MFIs have to report a monthly adjustment each time a loan is written off. The adjustment should comprise both the write-offs directly applied (with their counterpart in 'Capital and reserves', i.e. either in the 'Profit and loss' account or in the reserves, or in any special account included in 'Remaining liabilities') and write-offs in respect of those loans that were previously provisioned.

### LOANS RECORDED NET OF PROVISIONS

Where loans are recorded net of specific provisions, both specific provisions and direct write-offs can affect the item 'Loans' and, as a consequence, will need to be adjusted. This adjustment would comprise the value of specific provisions and any direct write-offs (where no provision had been previously applied) made during the reference period. A specific provision may cover only a part of the total value of the loan, so that there is a residual part of the loan not provisioned. Should the entire loan be written off, or a larger part than was provisioned, then an adjustment should be applied in respect of that part of a loan that is written off but which was not covered by a specific provision at the time of the write-off. As a rule, if a loan is fully provisioned, then a subsequent write-off will not give rise to the need for an adjustment when/if the loan is subsequently written off.

## II. EXAMPLE

For the sake of simplicity, assume there are five loans in the MFI portfolio. Three loans already existed at the end of December, two of them partially provisioned. Two new transactions occur in February (new loan granted +100) and March (new loan granted +100). New specific provisions are made in January (-60), write-offs in February (-200), and a specific provision is reversed in March (+30).

**Table**

| | 31 Dec. | 31 Jan. | 28 Feb. | 31 Mar. |
|---|---|---|---|---|
| **Loans** (at end-period) | | | | |
| Loan A | 100 | 100 | 100 | 100 |
| Loan B | 100 | 100 | - | - |
| Loan C | 100 | 100 | - | - |
| Loan D | - | - | 100 | 100 |
| Loan E | - | - | - | 100 |
| **Provisions** (at end-period) | | | | |
| Loan A | - | 30 | 30 | - |
| Loan B | 20 | 50 | - | - |
| Loan C | 40 | 40 | - | - |
| Loan D | - | - | - | - |
| Loan E | - | - | - | - |
| **Write-offs** (during the period) | | | | |
| Loan A | - | - | - | - |
| Loan B | - | - | 100 | - |
| Loan C | - | - | 100 | - |
| Loan D | - | - | - | - |
| Loan E | - | - | - | - |

## GROSS REPORTING OF LOANS (LOANS REPORTED GROSS OF SPECIFIC PROVISIONS)

This table indicates stocks, flows and adjustments, loan by loan and the total amounts.

**Table**

| | Dec. | Jan. | | | Feb. | | | Mar. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Stock | Flow | Adjustment | Stock | Flow | Adjustment | Stock | Flow | Adjustment | Stock |
| Loan A | 100 | 0 | 0 | 100 | 0 | 0 | 100 | 0 | 0 | 100 |
| Loan B | 100 | 0 | 0 | 100 | 0 | -100 | 0 | 0 | 0 | 0 |
| Loan C | 100 | 0 | 0 | 100 | 0 | -100 | 0 | 0 | 0 | 0 |
| Loan D | 0 | 0 | 0 | 0 | +100 | 0 | 100 | 0 | 0 | 100 |
| Loan E | 0 | 0 | 0 | 0 | 0 | 0 | 0 | +100 | 0 | 100 |
| **Total** | **300** | **0** | **0** | **300** | **+100** | **-200** | **200** | **+100** | **0** | **300** |

If loans are reported gross of provisions/write-downs, an adjustment should only be reported if a write-off takes place. The adjustment is equal to the value of the amount written off (February -200) and is reported in the same month as the write-off. It is irrelevant whether or not the loan was previously provisioned.

### NET REPORTING OF LOANS (LOANS REPORTED NET OF SPECIFIC PROVISIONS)

The following table indicates stocks, flows and adjustments, loan by loan and the total amounts.

**Table**

| | Dec. | Jan. | | | Feb. | | | Mar. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Stock | Flow | Adjustment | Stock | Flow | Adjustment | Stock | Flow | Adjustment | Stock |
| Loan A | 100 | 0 | -30 | 70 | 0 | 0 | 70 | 0 | +30 | 100 |
| Loan B | 80 | 0 | -30 | 50 | 0 | -50 | 0 | 0 | 0 | 0 |
| Loan C | 60 | 0 | 0 | 60 | 0 | -60 | 0 | 0 | 0 | 0 |
| Loan D | 0 | 0 | 0 | 0 | +100 | 0 | 100 | 0 | 0 | 100 |
| Loan E | 0 | 0 | 0 | 0 | 0 | 0 | 0 | +100 | 0 | 100 |
| **Total** | **240** | **0** | **-60** | **180** | **+100** | **-110** | **170** | **+100** | **+30** | **300** |

For loans reported net of provisions, an adjustment should be reported every time a provision is created (January -30), increased (January -30) or reversed (March +30). Reversing provisions gives rise to an adjustment with a positive sign in the adjustment. In addition, when a write-off is applied an adjustment should be reported, but in this case only for the part not previously provisioned (February -100).

# 2 SIMPLIFIED APPLICATION OF THE BALANCE SHEET METHOD

**ISSUE:**

The balance sheet approach tries to measure the impact on the end-month balance sheet stocks of the change in the valuation of those stocks. According to this approach, the transaction flow of the period is defined as the sum of transactions involving those assets recorded on balance sheet at the end of the previous reporting period or at the end of the current reporting period. At the same time, the valuation for the flow is the same as for the present end-period stock for purchases or the previous end-stock period for sales.

While this is clear from a conceptual point of view, in practice it could be less straightforward. If the information required from reporting MFIs is in the form of adjustments, this would imply tracking each security to ensure that the revaluations refer only to those securities held both at the end of the previous period and at the end of the present period.

**QUESTION:**

In this context, the question therefore arises as to whether it is possible to simplify the calculations to be made by the reporting agents. This takes the form of three specific questions:

1) Regarding the trading portfolio. If it is recorded at market value, would it be enough to apply the change in prices to the minimum of two balances (previous end-month stocks, present end-month stocks) referring to securities of exactly the same class in order to obtain the revaluation adjustment?

2) Regarding the investment/fixed portfolio. If it is recorded at the minimum of purchase/ market value, would the above method be applicable in this case? If not, what alternatives could be used? If the average cost method is applied, would securities need to be individually tracked?

3) If a security is sold and repurchased, is it considered to be an entirely new purchase?

**ANSWER:**

1) Regarding the first question, it is confirmed that it would be correct to take the minimum of the previous/present stock referring to the same type of securities and apply to it the changes in price (and the average exchange rate of the period, in the case of non-euro-denominated securities), as far as the balance sheet method is applied and the securities are recorded at market value or by using any other valuation method that guarantees that all securities of the same class are valued at the same price (e.g. average cost). In this method, intra-period revaluations are not considered, and as a result it is not necessary to track individual securities. The result obtained as a flow by applying this method is the difference in stocks multiplied by the relevant price (i.e. the price at the beginning of the period for net sales, and the price at the end of the period for net purchases (multiplied by the average exchange rate in the case of non-euro-denominated securities). This represents a small deviation from the pure definition of the balance sheet method, because at a time of high turnover, the particular securities that have remained on the balance sheet may be lower than the lower of both stocks and, in extreme cases, might even be zero. Nevertheless, this deviation is considered to be minor and, were it to exist, would probably result in an approximation to the transaction method, which is also accepted in Regulation ECB/2001/13. As a consequence, the application of the minimum of the stocks of a certain type of a security in the previous/ present period is fully accepted as long as the following requirements are complied with:

   - all securities considered are of the same type;
   - securities are recorded at market value (or any other procedure that guarantees the same recording value for all securities of the same type) on the balance sheet;
   - the balance sheet method is applied.

The use of end-month stocks in all cases, instead of the minimum of the previous/present period represents a step forward in the direction of the transaction approach. Even though this option would mean deviations from both the balance sheet approach and the transaction approach, it would also be acceptable, subject to the requirements above.

2) Regarding the investment/fixed portfolio, the procedure above would not be applicable. The reason is that the rule of minimum of purchase/market value may imply that similar securities are recorded at different prices and, therefore, should be individually tracked. Two possible alternative methods to collect the data are a) to collect transactions directly on these portfolios, or b) to record the loss of value in respect of purchase value separately in the form of a provision, so that differences in this particular account between two months result in the price revaluation. A special case is where the average value is applied, which implies that all securities are valued at the same price and individual tracking is not necessary.

3) If a security is sold and subsequently the exact same security is repurchased it is considered to be an entirely new purchase. No revaluation adjustment would need to be reported under the balance sheet method, even if the security appears on balance sheet at the end of the period. A revaluation could be reported according to the simplified method, and would have to be reported in the transaction method.

# 3 USE OF INDICES TO CALCULATE THE PRICE REVALUATION

**ISSUE:**
Given that flexibility is provided in the frequency of the reporting of adjustments from MFIs, it is possible that the adjustment or the data to calculate the adjustment is only received at the NCB on a quarterly basis. As a consequence, it is necessary to implement a procedure to estimate intra-quarter revaluation adjustments.

**QUESTION:**
One possibility could be to use indices, according to the following proposal:

Adjustments can be estimated between quarterly reporting using the monthly reporting of securities classified in the trading portfolio, changes in the value of appropriate market indices, and the difference related to the last quarter between the change in those indices and the actual change in the value of the portfolio as measured above. The following formula would be applied regarding securities denominated in euro:

$$AJT_M^j = k_T^j * (1 - \frac{I_{M-1}^{MAR}}{I_M^{MAR}}) * \sum_{i=1}^{i=n} P_M^{(i,j)} * Q_M^{(i,j)}$$

with:

$$k_T^j = \frac{\dfrac{\sum_{i=1}^{i=n} P_T^{(i,j)} * Q_T^{(i,j)}}{\sum_{i=1}^{i=n} P_{T-1}^{(i,j)} * Q_T^{(i,j)}}}{\dfrac{I_T^{MAR}}{I_{T-1}^{MAR}}}$$

$I_T^{MAR}$ = Value of the indices of reference at the end-of-quarter T

$P_{T-k}^{(i,j)}$ = Price of security i regarding each month of the quarter (with k = 0, 1, 2, 3) for each month of the quarter and the last month of the previous quarter recorded in the trading portfolio of the reporting agent belonging to statistical category j.

$Q_{T-k}^{(i,j)}$ = Quantity of security i recorded in the trading portfolio of the reporting agent belonging to statistical category j regarding each month of the quarter (with k = 0, 1, 2, 3 for each month of the quarter and the last month of the previous quarter).

**ANSWER:**
The application of the index is considered as acceptable, subject to the following conditions:

– Only securities with exactly the same or very similar features should be grouped to estimate the adjustment;

– The index should have a very close correlation to the prices of the securities involved, and K should be stable;

– The balance sheet method should be applied to obtain the revaluation adjustment. The size of the errors will increase if the transaction method is used.

# 4 SECURITIES DENOMINATED IN NON-EURO CURRENCY

**ISSUE:**
The exchange rate adjustment is calculated by the ECB, whereas MFIs are required to report the (price) revaluation adjustment, especially regarding securities denominated in non-euro currency. As a consequence, both adjustments could overlap in respect of these securities.

**QUESTION:**
How should the revaluation adjustment be calculated in respect of the debt securities denominated in foreign currencies? In particular, how should the adjustment be calculated if the balance sheet approach is applied?

**ANSWER:**
The revaluation adjustment regarding securities denominated in foreign currencies is calculated in precisely the same way as in respect of euro-denominated securities, except that the price effect has to be calculated in the foreign currency, and then expressed in euro using the average exchange rate of the period.

The application of the balance sheet method to the securities denominated in foreign currency would be as expressed above, where

Pf(0) = Price in foreign currency at start of period

Pf(1) = Price in foreign currency at end of period

X (0), X(1), X(A) = Exchange rate euro/foreign currency at the end of the previous(0)/present (1) and monthly average(A) of daily exchange rates

Q = Number of securities recorded in the balance sheet at both the start and end of the period.

As a consequence, the price in euro at the start of the period is expressed as Pe(0) = Pf(0)X(0), and at the end of the period as Pe = Pf(1)X(1).

The ideal procedure would be as follows:

a) Starting from the balance sheet expressed in euro, the value of the securities in euro Pf(0)X(0), Pf(1)X(1) would be divided by the exchange rate at the start and end of the period respectively. The result is the price in foreign currency Pf(0) and Pf(1).

b) Calculate the adjustment in foreign currency as the difference in price expressed in foreign currency multiplied by the number of securities, i.e. (Pf(1) - Pf(0))Q

c) Convert the resulting adjustment into euro using the average exchange rate of the month (Pf(1) - Pf(0))Q X(A)

The three steps in one, Adjustment = (Pe(1)/X(1) - Pe(0)/X(0))Q X(A). This formula is fully consistent with the method for calculating the exchange rate change used by the ECB.

The optimal exchange rate to translate into euro the adjustment previously calculated for the foreign currency is the average exchange rate of the period X(A). This is because it is fully consistent with the exchange rate adjustment calculated by the ECB, which is based on the assumption that all transactions take place at the average rate of the period. Nevertheless, it is recognised that this adjustment is only an estimation of the real value of the transactions, and that the combined impact of price revaluations and exchange rates is reduced if compared with the separate impact of both factors. As a consequence, the distortions and overlaps would be limited if other exchange rates were applied to translate the price revaluation into euro. Therefore the possibility of using different methods is explicitly recognised, as long as they produce similar results. In particular, other exchange rates than the month average may be used when calculating the price revaluation adjustment in respect of securities denominated in foreign currency, e.g. the current or previous end-month exchange rates.

It should be noted that in respect of the item 'Shares and other equity', an exception could apply (see Question vi).

**FOLLOW-UP:**

A technical note can be found in Annex II of the Handbook. This analyses the interaction of the exchange rate adjustment and the revaluation adjustment, as well as the application of the revaluation adjustment according to some accounting rules. The use of exchange rates that differ from the period average is also examined.

# 5 INDEXED SECURITIES AND PRICE REVALUATIONS

**ISSUE:**
Index-linked securities refer to securities with a yield that depends on a prefixed index.

**QUESTION:**
How shall index payments that are paid periodically (or at maturity) be treated in the flows statistics? Should such payments be regarded as price revaluations or as transactions?

**ANSWER:**
No decision has been taken in the field of MBS on whether index payments should be considered as revaluations or as interest. The issue has neither been discussed in the WGMFM nor is explicitly treated in the MBS legal texts (the Regulation or the Guideline). The only guidance is provided by the ESA 95, paragraph 5.138e, which states that *'in case of securities where the value of the principal is linked to a price index, the price of a commodity or an exchange rate index, the issue price of the security is recorded as the principal and the index payment paid periodically and/or at maturity is treated as interest that is accrued over the life of the security'*. In any case, even if the payment were considered as a revaluation, the understanding is that it would only affect the periodical/final payment, but not the value of the security as recorded on balance sheet. If this is correct, the interest would only appear at the moment it is paid and would be considered as a paid interest. Both the transaction approach and the balance sheet approach can be applied for the calculation of the revaluation adjustment, and both are in line with Regulation ECB/2001/13. As a consequence, even if it were not considered as an interest but as a change in price, it would be correct not to report it as a revaluation adjustment. Nevertheless, this conclusion is subject to the assumption that the interest does not affect the value of the security until the interest is paid. In case the value of the security as recorded on balance sheet changes due to indexation, the increase in price should be reported as a revaluation because the increase is caused by accrued interest, and changes in accrued interest are included within the revaluation adjustments where the accrued interests are reported together with the principal and not as a remaining asset (see also the Guidance Notes). In this respect, MBS rules deviate from the ESA 95.

# 6 EXCHANGE RATE ADJUSTMENT IN THE CASE OF SHARES AND OTHER EQUITY

**ISSUE:**

The exchange rate adjustment is not currently calculated in respect of the item 'Shares and other equity'. The application of a separate exchange rate adjustment in respect of this item may be considered unnecessary because the price of the share already reflects the impact of all changes in the share's value, including changes owing to exchange rate fluctuations. Hence, it may be considered sufficient simply to apply a price revaluation adjustment. This makes shares different from debt securities, where the price effect can be distinguished from the exchange rate effect.

As a consequence, doubts exist as to the meaningfulness of the separate calculation of an adjustment in respect of this item. In fact, no criteria have been defined in MBS to distinguish between shares denominated in euro and those denominated in non-euro (the currency of the share could be considered as the same as the currency in which the share is listed or the currency of the country where the company is located). Reflecting these doubts, MFIs are currently not required to supply a currency breakdown of 'Shares and other equity', either in the form of the euro/non-euro split in the monthly balance sheet (Table 1), or as a detailed currency breakdown for the USD, CHF, JPY as provided in Table 4 (formerly Table 5 in Regulation ECB/1998/16).

**QUESTION:**

In this context the following question arises. Should the exchange rate effects be excluded when calculating the revaluation adjustment in respect of the item 'Shares and other equity', as for any other item of the balance sheet? Or, on the contrary, could an exception be applied to this item – i.e. should the price revaluation contain all changes in value, also including the exchange rate adjustment, in respect of shares and other equity?

**ANSWER:**

Regulation ECB/2001/13 defines price revaluations as *'fluctuations in the valuation of securities that arise because of a change in the price at which securities are recorded or traded'*. Furthermore, the draft Guidance Notes define exchange rate changes as *'changes in the value of assets and liabilities denominated in a foreign currency due to a change in the exchange rate between the euro and foreign currencies'*. The adjustments should cover 'Reclassifications and other adjustments', exchange rate adjustments and 'Revaluation and loan write-offs/write-downs', separating the exchange rate effects from the price revaluations.

The possibility of applying a separate exchange rate adjustment to 'Shares and other equity' is not explicitly excluded. Furthermore, it might be possible to consider basing such an adjustment on the currency in which the shares are quoted/the currency of the country where the company is located.

Given that no common criteria have been defined for the definition of shares denominated in foreign currency and that no currency breakdown data are compiled for this balance sheet item, it is confirmed that the price revaluation adjustment of the item 'Shares and other equity' can be reported including all changes in value, not separating the part of the changes in value caused by changes in the exchange rate. More accurate flows statistics will be compiled if an exception is applied to this item and the price adjustment for shares and other equity includes the exchange rate adjustments.

## 7 WRITE-OFFS APPLIED RETROSPECTIVELY



**ISSUE:**

Write-off/write-down adjustments in respect of loans are reported whenever write-offs/write-downs affect the loans reported on balance sheet. A problem arises if write-offs/write-downs are applied retroactively. For example, assume that a credit institution decides in April 2002 to write off loans with effect from December 2001. Two procedures could be envisaged to report data. First, the institution could revise back in April 2002 the stock data of the item 'Loans' with reference to December 2001, January 2002, February 2002 and March 2002, as well as the revaluation adjustment reported with reference to December 2001. The December 2001 adjustment would be revised to include the write-off/write-down not initially reported. This would mean that the adjustment is not reported with reference to April 2002. Second, the institution could alternatively choose not to revise any previous data, and report the adjustment with reference to April 2002, as this is the month when the impact of the write-off is reflected on the stock.

**QUESTION:**

Is the preferred approach a) to revise stock data and send the revaluation adjustment in respect of the period when it is actually taking effect, or b) not to revise back data and to report the adjustment in relation to the period when the write-off/write-down is recognised?

**ANSWER:**

Regulation ECB/2001/13 defines the adjustments in respect of write-offs/write-downs as being reported in order to remove from the flows statistics the impact of changes in the value of loans recorded on the balance sheet. Without prejudice to the inclusion within the adjustment of *'the write-offs/write-downs recognised at the time the loan is sold or transferred'*, the reporting of flows adjustments must follow the same criteria as applied for stocks. Therefore, an adjustment should only be reported in the month in which the impact is reflected on balance sheet in terms of stocks. Applying this criteria, both possibilities described above would be correct.

As there are no strong reasons to judge one procedure as being superior to the other, both solutions are accepted. Although the first solution seems to reflect economic developments more accurately, this may not be the case as write-offs are influenced by institutional arrangements (e.g. write-offs may be recognised only once a year, at the time of the annual accounts). The second solution may be particularly useful if a revision of back data is not feasible or in case it is not conceptually advisable.

# 8 WRITE-OFFS RECOGNISED AT THE TIME THE LOAN IS SOLD OR TRANSFERRED TO A THIRD PARTY

**ISSUE:**

Regulation ECB/2001/13 (Annex I, Part I, V, para. 6) establishes that write-offs 'recognised at the time the loan is sold or transferred to a third party are also included' within the revaluation adjustment 'where identifiable'. Those write-offs linked to sales/transfers to third parties occur precisely when bad or doubtful loans are sold/transferred to third parties in order to eliminate them from the balance sheet and to increase the average quality of the loan portfolio. In that case, the write-off is not recognised until the very moment the loan is sold/transferred. However, at the time of sale it is recognised that the value of the sale/transfer is lower than the accounting value of the loan as previously recorded on balance sheet. As a result, the value of the transaction should be calculated not only considering the previous accounting value, but also discounting the recognised loss, in order to obtain the 'price' effectively applied to the sale/transfer. In other words, the transaction value should be the 'market' value of the sale. However, this information is not always available.

**QUESTION:**

Precisely which operations are meant? Is it only the write-off before a sale/transfer that should be covered, or the entire transaction as such? If the former, would it then be correct to say that these write-offs/write-downs would be external to the balance sheet approach if both write-off and sale/transfer take place within the same month, so that there is therefore no month-end balance sheet recognition of the write-off/write-down?

**ANSWER:**

The operation is described above. An example is included below to clarify further the issue. The purpose of reporting the write-offs recognised at the time the loan is transferred is to calculate the effective (or market) value of the transaction. As a consequence, only the write-off linked to a sale/transfer should be reported as an adjustment and not the whole sale/transfer. Write-offs recognised at the time the loan is transferred should be taken into account so that the flow can be correctly calculated, even though they do not have any impact on balance sheet stock data. Due to the difficulties that could arise when compiling these data, the Regulation mentions that they should be included within the revaluation adjustment only 'where available'. Although some similarities exist with the case of intra-period revaluations of securities that do not have an impact on stock data, the case for not compiling these write-offs is weaker because differences in the valuation of stocks do not occur in respect of loans. In summary, data on write-offs attached to loan transfers/sales are not required by the Regulation if not available, but it is nevertheless recommended to compile these data, i.e. to make them available.

### EXAMPLE OF WRITE-OFFS RECOGNISED AT THE TIME THE LOAN IS TRANSFERRED

Based on the technical appendix to the Guidance Notes and on Annex V, Appendix 3 of Guideline ECB/2000/13.

### I. ACCOUNTING RULES

The aim of the adjustment in respect of loan write-offs/write-downs is to remove from the flows the impact of reductions in the balance sheet value of loans caused by the application of specific loan loss provisions or the write-off/write-down of loans. As a consequence, in addition to the write-offs/write-downs affecting end-month stock data, write-offs recognised at the time the loan is sold should also be reported 'where identifiable'. This would apply to write-offs linked to securitisation/loan sales. The same rules as for other cases would be applied in the case of loans that had been written off/provisioned and which have been subsequently written back/provision removed. The method used to calculate the adjustment depends on the existing valuation system applied to the item 'Loans', specifically whether the loans are recorded gross or net of specific provisions on the statistical balance sheet.

### LOANS RECORDED GROSS OF PROVISIONS

Where loans are recorded gross of all loan loss (specific and general) provisions, an adjustment should be reported for the whole amount written off at the moment the loan is sold.

### LOANS RECORDED NET OF PROVISIONS

Where loans are recorded net of specific provisions, an adjustment should be reported for the amount written off at the moment of the sale, minus any previous provisions already reflected on the balance sheet at the previous end-month (i.e. the adjustment would comprise the direct write-off discounting the value of specific provisions). A specific provision may cover only a part of the total value of the loan, so that a residual part of the loan is not provisioned. Should the entire loan be written off, or a larger part than was provisioned, then an adjustment should be applied in respect of that part of the loan that has been written off but which was not covered by a specific provision at the time of the write-off. As a rule, if a loan is fully provisioned and recorded net of provisions, then a subsequent write-off will not give rise to the need for an adjustment when/if the loan is subsequently written off.

## II. EXAMPLE

For the sake of simplicity, assume there are two loans in the MFI portfolio. Both existed at the end of December, nominal amount 100, with one partially provisioned (20). Transactions occur in February, both loans are considered to be bad, and are thus sold to third parties at a discount. The price of the sale is 70 and 50 respectively.

**Table**

| | 31 Dec. | 31 Jan. | 28 Feb. | 31 Mar. |
|---|---|---|---|---|
| **Loans** (at end-period) | | | | |
| Loan F | 100 | 100 | - | - |
| Loan G | 100 | 100 | - | - |
| **Provisions** (at end-period) | | | | |
| Loan F | - | - | - | - |
| Loan G | 20 | 20 | - | - |
| **Write-offs** (during the period) | | | | |
| Loan F | - | - | 30 | - |
| Loan G | - | - | 50 | - |

### GROSS REPORTING OF LOANS (LOANS REPORTED GROSS OF SPECIFIC PROVISIONS)

This table indicates stocks, flows and adjustments, loan by loan and the total amounts.

Table

| | Dec. | Jan. | | | Feb. | | | Mar. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Stock | Flow | Adjustment | Stock | Flow | Adjustment | Stock | Flow | Adjustment | Stock |
| Loan F | 100 | 0 | 0 | 100 | -70 | -30 | 0 | 0 | 0 | 0 |
| Loan G | 100 | 0 | 0 | 100 | -50 | -50 | 0 | 0 | 0 | 0 |
| **Total** | **200** | **0** | **0** | **200** | **-120** | **-80** | **0** | **0** | **0** | **0** |

If loans are reported gross of provisions/write-downs, the whole amount written off at the moment of the sale should be reported as an adjustment. It is irrelevant whether or not the loan was previously provisioned.

### NET REPORTING OF LOANS (LOANS REPORTED NET OF SPECIFIC PROVISIONS)

The following table indicates stocks, flows and adjustments, loan by loan and the total amounts.

Table

| | Dec. | Jan. | | | Feb. | | | Mar. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Stock | Flow | Adjustment | Stock | Flow | Adjustment | Stock | Flow | Adjustment | Stock |
| Loan F | 100 | 0 | 0 | 100 | -70 | -30 | 0 | 0 | 0 | 0 |
| Loan G | 80 | 0 | 0 | 80 | -50 | -30 | 0 | 0 | 0 | 0 |
| **Total** | **180** | **0** | **0** | **180** | **-120** | **-60** | **0** | **0** | **0** | **0** |

If loans are reported net of provisions/write-downs, only the part of the write-off not previously written down or provisioned should be reported.

# 9 REVALUATION ADJUSTMENT IN RESPECT OF FIXED ASSETS

**ISSUE:**
Table 1a of the Regulation includes a box for the item 'Fixed assets and other assets', indicating that a revaluation adjustment has to be reported for that item.

**QUESTION:**
What are institutions expected to record here? In particular, should depreciation and any other revaluations of fixed assets be recorded?

**ANSWER:**
This item should include price revaluations that affect fixed assets. The same criteria as for financial assets (the balance sheet method or transaction method) are applied. Hence, depreciation should be included along with any other revaluations.

The revaluation adjustment in respect of fixed assets and other assets has been included in Table 1A for the sake of completeness, because revaluations in respect of this item may take place, and because at least one country requires this cell to be included in the reporting scheme. Nevertheless, this balance sheet item should not contain any financial assets and is therefore not a priority for monetary analysis. As a consequence, it is not part of the minimum requirements that must be reported by all MFIs, and it can be either required to be reported by the NCB or estimated at the NCB (e.g. by using information from the profit and loss account or from elsewhere).

## 10 REVERSION OF WRITE-OFFS

**ISSUE:**

In defining the loan write-off/write-down adjustment, Regulation ECB/2001/13 (Annex I, Part I, V, para. 6) does not explicitly mention how to treat the repayment (and reversion) of loans that have previously been written off. The reversion of write-offs takes place when a previously written-off loan is once more considered to be recoverable (or is recovered). The loans previously written off may be restored partially or totally on balance sheet (this is conceptually possible, but is very rare in practice), or totally or partially recovered by the MFI without being reflected again on balance sheet under the item 'Loans' (usual procedure)). No mention is made in the Regulation or the Guidance Notes concerning the reversion of write-offs or the reimbursement of previously written-off loans.

In some Member States, loans are recorded net of specific provisions. In respect of these provisions, the Regulation establishes that the revaluation adjustment 'should also reflect the changes in provisions of loans', implicitly referring to both new provisions and the reversion of existing provisions. In addition, the reversion of existing specific provisions is explicitly considered as part of the adjustment in the Guidance Notes, where para. 67 states that *'the adjustment would comprise the application of new provisions and direct write-offs minus provisions that are subsequently reversed'*.

**QUESTION:**

Should the recovery of loans previously written off be recorded as revaluation adjustments in respect of loans? In other words, should the reimbursement of a previously written-off loan be reported as a positive write-off adjustment?

**ANSWER:**

The purpose of reporting write-offs as adjustments is to permit the correct calculation of the financing flows (transactions) in respect of those financial instruments classified under the statistical item 'Loans'. For that purpose, all non-transaction developments should be removed from the flows statistics and, for this purpose, reported as an adjustment.

Clearly, should the recovery of the loan take the form of a loan reversion, then this would be associated with the restoration of the loan to the balance sheet. In this case, a clear case could be made for applying an adjustment so that the restored loan is not recorded as a new loan in the transaction flows.

However, two contrasting opinions have been expressed on the treatment of write-off reimbursements where the original loan is repaid in part or in full but without the loan being restored to the balance sheet:

a) According to the first view, the reimbursement of previously written-off loans should be recorded as a positive revaluation adjustment. As the original loan is not restored to the balance sheet, the application of these revaluation adjustments gives rise to negative transaction flows.

   Any negative transaction flows must be recorded in order to measure loan repayments correctly.

   The fact that the amount repaid does not reappear under the balance sheet under the item 'Loans' is not considered to be relevant.

   Indeed, revaluation adjustments are made in other cases without necessarily referring to any amount reflected on balance sheet (e.g. write-offs applied when loans are sold).

   This treatment would be the same as in the case of the reversion of a specific provision where the balance sheet item 'Loans' is reported in net terms.

   Therefore, considering the arguments above, the inclusion of these reversions as revaluation adjustments is necessary in order to calculate the transaction flow correctly.

b) Alternatively, once a write-off has been applied, any subsequent amount received by the MFI should not impact on the item 'Loans'.

   When the loan is written off it disappears as a financial instrument held by the MFI. This means that any amount received by the MFI in respect of the original loan cannot be directly related back to that loan.

   In this case, the reimbursement is not considered as a negative transaction flow in the item 'Loans' but only as an entry in cash, with its counterpart in the profit and loss account (instead of in 'Loans'). Usually a particular account within the profit and loss account is dedicated to the receipt of non-regular or exceptional benefits.

   Unlike in the case of write-offs applied when the loan is sold, the repayment of a written-off loan would not be linked with the previously existing on-balance sheet loans.

   Similarly, this case also differs greatly from the reversal of specific provisions, where the original loan is always restored.

   In summary, a total or partial reimbursement of a loan previously written off should not affect the item 'Loans', so no adjustment is necessary.

   This approach follows banks' usual commercial accounting practice.

Considering the conceptual divergence above, the fact that considerable flexibility has been provided in other aspects of the calculation of the revaluation adjustment, and that probably the amounts involved do not have a very relevant impact on the euro area aggregated data, the application of both approaches is permitted when calculating the write-offs/write-downs on flows. Both alternative treatments are compared in the following example.

## EXAMPLE OF REPAYMENT OF WRITTEN-OFF LOANS IN COMPARISON WITH REVERSION OF PROVISIONS

Based on the technical appendix to the Guidance Notes

### I. ACCOUNTING RULES

In the example, the reversion of write-offs/the reimbursement of previously written-off loans is compared with the reversion of provisions that have an impact on balance sheet should necessarily be reflected in the adjustment*. At the same time, in respect of the provisions, it has to be considered whether loans are recorded on a gross basis or net of provisions.

#### LOANS RECORDED GROSS OF PROVISIONS

Where loans are recorded gross of all loan loss (specific and general) provisions, the creation and reversion of provisions has no impact on the adjustments.

#### LOANS RECORDED NET OF PROVISIONS

Where loans are recorded net of specific provisions, an adjustment should be reported when provisions are created or reversed.

### II. EXAMPLE

For the sake of simplicity, assume there are four loans (H, I, J and K) in the MFI portfolio. All of them existed at the end of December, with the nominal amount of 100. Loans H and I are fully provisioned (100%) in January; the provision of Loan H is reversed in February; and both Loans H and I are finally repaid in March. Loans J and K are written off in January; Loan J is considered to be recoverable in February and finally reimbursed in March; while Loan K is simply recovered in March without any further intermediate step.

**Table**

| | 31 Dec. | 31 Jan. | 28 Feb. | 31 Mar. |
|---|---|---|---|---|
| **Loans** (at end-period) | | | | |
| Loan H | 100 | 100 | 100 | - |
| Loan I | 100 | 100 | 100 | - |
| Loan J | 100 | - | 100 | - |
| Loan K | 100 | - | - | - |
| **Provisions** (at end-period) | | | | |
| Loan H | - | 100 | - | - |
| Loan I | - | 100 | 100 | - |
| Loan J | - | - | - | - |
| Loan K | - | - | - | - |
| **Write-offs** (during the period) | | | | |
| Loan H | - | - | - | - |
| Loan I | - | - | -100* | - |
| Loan J | - | 100 | - | - |
| Loan K | - | 100 | - | -100* |

* [reversed]

Gross reporting of loans (loans reported gross of specific provisions)

1) If an adjustment is reported for the reversion of all write-offs:

**Table**

| | Dec. | Jan. | | | Feb. | | | Mar. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Stock | Flow | Adjustment | Stock | Flow | Adjustment | Stock | Flow | Adjustment | Stock |
| Loan H | 100 | 0 | 0 | 100 | 0 | 0 | 100 | -100 | 0 | 0 |
| Loan I | 100 | 0 | 0 | 100 | 0 | 0 | 100 | -100 | 0 | 0 |
| Loan J | 100 | 0 | -100 | | 0 | +100 | 100 | -100 | 0 | 0 |
| Loan K | 100 | 0 | -100 | 0 | 0 | 0 | 0 | -100 | +100 | 0 |
| **Total** | **400** | **0** | **-200** | **200** | **0** | **+100** | **300** | **-400** | **+100** | **0** |

If loans are reported gross of provisions/write-downs, only the amounts written off and reversed are to be reported as an adjustment.

2) If an adjustment is not reported for the reimbursement of previously written-off loans:

**Table**

| | Dec. | Jan. | | | Feb. | | | Mar. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Stock | Flow | Adjust-ment | Stock | Flow | Adjust-ment | Stock | Flow | Adjust-ment | Stock |
| Loan H | 100 | 0 | 0 | 100 | 0 | 0 | 100 | -100 | 0 | 0 |
| Loan I | 100 | 0 | 0 | 100 | 0 | 0 | 100 | -100 | 0 | 0 |
| Loan J | 100 | 0 | -100 | 0 | 100 | 0 | 100 | -100 | 0 | 0 |
| Loan K | 100 | 0 | -100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **400** | **0** | **-200** | **200** | **100** | **0** | **300** | **-300** | **0** | **0** |

If loans are reported gross of provisions/write-downs, only the amounts written off are to be reported as an adjustment.

3) If an adjustment is reported for the reimbursement of previously written-off loans only in the case they are recorded back on balance sheet as loans:

**Table**

| | Dec. | Jan. | | | Feb. | | | Mar. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Stock | Flow | Adjust-ment | Stock | Flow | Adjust-ment | Stock | Flow | Adjust-ment | Stock |
| Loan H | 100 | 0 | 0 | 100 | 0 | 0 | 100 | -100 | 0 | 0 |
| Loan I | 100 | 0 | 0 | 100 | 0 | 0 | 100 | -100 | 0 | 0 |
| Loan J | 100 | 0 | -100 | 0 | 0 | 100 | 100 | -100 | 0 | 0 |
| Loan K | 100 | 0 | -100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **400** | **0** | **-200** | **200** | **0** | **100** | **300** | **-300** | **0** | **0** |

## NET REPORTING OF LOANS (LOANS REPORTED NET OF SPECIFIC PROVISIONS)

If loans are reported net of provisions/write-downs, both provisions and write-offs and their reversions have an effect.

1) If an adjustment is reported for the reversion of all write-offs:

Table

| | Dec. | Jan. | | | Feb. | | | Mar. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Stock | Flow | Adjust-ment | Stock | Flow | Adjust-ment | Stock | Flow | Adjust-ment | Stock |
| Loan H | 100 | 0 | -100 | 0 | 0 | +100 | 100 | -100 | 0 | 0 |
| Loan I | 100 | 0 | -100 | 0 | 0 | 0 | 0 | -100 | +100 | 0 |
| Loan J | 100 | 0 | -100 | 0 | 0 | +100 | 100 | -100 | 0 | 0 |
| Loan K | 100 | 0 | -100 | 0 | 0 | 0 | 0 | -100 | +100 | 0 |
| **Total** | **400** | **0** | **-400** | **0** | **0** | **+200** | **200** | **-400** | **+200** | **0** |

2) If an adjustment is not reported for the reimbursement of previously written-off loans:

Table

| | Dec. | Jan. | | | Feb. | | | Mar. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Stock | Flow | Adjust-ment | Stock | Flow | Adjust-ment | Stock | Flow | Adjust-ment | Stock |
| Loan H | 100 | 0 | -100 | 0 | 0 | +100 | 100 | -100 | 0 | 0 |
| Loan I | 100 | 0 | -100 | 0 | 0 | 0 | 0 | -100 | +100 | 0 |
| Loan J | 100 | 0 | -100 | 0 | +100 | 0 | 100 | -100 | 0 | 0 |
| Loan K | 100 | 0 | -100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **400** | **0** | **-400** | **0** | **+100** | **+100** | **200** | **-300** | **+100** | **0** |

3) An adjustment is only reported for the reimbursement of previously written-off loans if they are recorded back as loans on balance sheet:

**Table**

| | Dec. | Jan. | | | Feb. | | | Mar. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Stock | Flow | Adjust-ment | Stock | Flow | Adjust-ment | Stock | Flow | Adjust-ment | Stock |
| Loan H | 100 | 0 | -100 | 0 | 0 | +100 | 100 | -100 | 0 | 0 |
| Loan I | 100 | 0 | -100 | 0 | 0 | 0 | 0 | -100 | +100 | 0 |
| Loan J | 100 | 0 | -100 | 0 | 0 | +100 | 100 | -100 | 0 | 0 |
| Loan K | 100 | 0 | -100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **400** | **0** | **-400** | **0** | **0** | **+200** | **200** | **-300** | **+100** | **0** |

# 11 TREATMENT OF ACCRUED INTEREST WHEN PAID

**ISSUE:**

Regulation ECB/2001/13 establishes that accrued interest on loans and deposits is not classified with the principal under the items 'Loans' or 'Deposits', but is instead separately classified under 'Remaining assets'/'Remaining liabilities'. No rule is contained in Regulation ECB/2001/13 on the classification of accrued interest in respect of securities. This can imply the inclusion/exclusion of accrued interest on the stock data compiled on securities.

In order to obtain a harmonised treatment across the euro area and considering that a crucial problem is how to distinguish between accrued interest and price changes, and that conceptual problems may arise regarding the definition of interest rates on negotiable instruments, a flexible and simple rule is applied on the accrued interest, as described in the MBS Guideline. This rule states that:

a) if accrued interest is excluded from the stock value of the securities to which it relates in the statistical balance sheet, it is to be classified under 'Remaining assets' or 'Remaining liabilities' as appropriate and therefore not considered when calculating flows or stocks of securities;

b) if accrued interest is intrinsic to the accounting price as reported in the statistical balance sheet, the interest is excluded from the transaction value and, instead, indistinguishably included within 'Revaluation adjustments'.

This rule is followed in the description of the revaluation adjustment calculation, e.g. in the Guidance Notes. Where (a) is applied there are no special problems as the stock already excludes the accrued interest (this is similar to the case of loans/deposits). Where (b) is used the exclusion of the accrued interest from the transaction value represents an easy rule that is not affected by the creditor/debtor debate on how to calculate accrued interest.

However, one aspect of this second approach has not yet been explicitly discussed, namely how to treat accrued interest on securities when it is paid.

**QUESTION:**

If accrued interest on securities is recorded as part of the stock of securities (option (b) above), and therefore included in the revaluation adjustment as it accrues, should this interest payment be recorded as a transaction in securities or as a reversal of the revaluation adjustment when the interest payment is finally made?

**ANSWER:**

Consistent with the treatment of accrued interest on loans and deposits, it is recommended to exclude accrued interest from the instrument and to classify it as 'Remaining assets'/ 'Remaining liabilities'.

If the accrued interest cannot be excluded from the instrument to which it relates, the second best option is to exclude the accrued interest as much as possible from the flows. For this purpose, the following recommendations are made:

If the transaction approach is applied (i.e. the flow is defined as the sum of the transactions that occur during the reference period), it is recommended to consider accrued interest as part of the revaluation adjustment when accrued (an increase in the value), and then to reverse this adjustment when the interest is subsequently paid (a decrease in the value). This would replicate in terms of flows the classification under 'Remaining assets'/'Remaining liabilities'.

In the case of the balance sheet approach (i.e. the flow is the sum of the transactions during the current reference period that involve only assets recorded on balance sheet at the end of the previous reference period and at the end of the current period), the recommendation may not apply, because in any case the flows would be different from when they are classified as remaining assets/liabilities.

The existence of two alternative methods to calculate the revaluation adjustment, coupled with the fact that flexibility is allowed in the classification of accrued interest in terms of stocks, makes it reasonable to provide flexibility in this case as well.

The following recommendations would therefore apply:

1. Where possible, exclude accrued interest from securities, as far as this principle is applied to loans and deposits.

2. When recommendation 1 is not possible, consider accrued interest as part of the revaluation adjustment for all effects, i.e. when a positive adjustment is created, or when a negative adjustment is paid/received.

3. When recommendation 2 is not possible, at least consider accrued interest as part of the revaluation adjustment when it is created (i.e. an increase in the adjustment). Considering the possible difficulties in following recommendations 1 and 2, and the flexibility provided in respect of the content of the revaluation adjustment, recommendation 3 is acceptable if considered appropriate by the NCB.

## I. EXAMPLE

In order to make a comparison between the two possible treatments of accrued interest in case they are recorded as part of the stock of securities, suppose that there are two securities (E and F) with identical features that pay 3% interest on a quarterly basis. The securities are treated in a different way in respect of accrued interest. Comparisons are made for the transaction approach and the balance sheet method under the most relevant cases contained in the Guidance Notes.

Table

| | 31 Dec. | 31 Jan. | 28 Feb. | 31 Mar. |
|---|---|---|---|---|
| **Market price** (gross of a.i.) | 100 | 99 | 101 | 103 |
| **Price net of a.i.** | 100 | 97 | 98.5 | 100 |
| **Accrued interest** | 0 | 2 | 2.5 | 3 |
| **Operations** | Buy E<br>Buy F | --------<br>-------- | --------<br>Sale F | Re-deemed |

The Guidance Notes terminology is used to distinguish between the balance sheet approach and the transaction approach. Under the balance sheet approach, flows are calculated by valuing sales at the previous end-month stock price and purchases at the current end-month stock price. Under the transaction method, realised revaluations are also considered in the revaluation adjustment, with revaluation related to transactions at market price. The additional adjustments according to the transaction method are also shown in the examples (marked with brackets in the tables).

### MARKET VALUE (AND ALSO THE MINIMUM OF MARKET/PURCHASE ON THIS EXAMPLE) "MARKET VALUE"

This table indicates outstanding amounts, flows and adjustments, security-by-security and total amounts, with remaining assets as a pro memoria.

If accrued interest receivable is separately recorded under remaining assets:

**Table**

| | Stock end-February | Transactions (at market price) as per the transaction method | | | Flows in the balance sheet method | Revaluation adjustment | Stock end-March |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | Net | | | |
| Security E | 97 | | -100 | -100 | -97 | (+3) | 0 |
| Security F | 97 | | -98.5 | -98.5 | -97 | (+1.5) | 0 |
| Total secs | 194 | | -198.5 | -198.5 | -194 | (+4.5) | 0 |
| Rem. assets | 4 | | | | | | 0 |

If accrued interest receivable is not separated from the underlying instrument but is included under revaluations and when paid, is considered as a transaction:

**Table**

| | Stock end-February | Transactions (at market price) as per the transaction method | | | Flows in the balance sheet method | Revaluation adjustment | Stock end-March |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | Net | | | |
| Security E | 99 | | -103 | -103 | -99 | (+4) | 0 |
| Security F | 99 | | -101 | -101 | -99 | (+2) | 0 |
| Total secs | 198 | | -204 | -204 | -198 | (+6) | 0 |
| Rem. assets | 0 | | | | | | 0 |

If accrued interest is not separated from the underlying instrument, but is included under revaluations and when paid, is considered as a revaluation:

Table

| | Stock end-February | Transactions (at market price) as per the transaction method | | | Flows in the balance sheet method | Revaluation adjustment | Stock end-March |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | Net | | | |
| Security E | 99 | | -100 | -100 | -100 | **+1** | 0 |
| Security F | 99 | | -98.5 | -98.5 | -97 | **-2** +(+1.5) | 0 |
| Total secs | 198 | | -198.5 | -198.5 | -197 | **-1** +(+1.5) | 0 |
| Rem. assets | 0 | | | | | | 0 |

**PURCHASE VALUE "MARKET VALUE"**

This table shows outstanding amounts, flows and adjustments, security-by-security and total amounts.

If accrued interest is separately recorded under remaining assets:

Table

| | Stock end-February | Transactions (at market price) as per the transaction method | | | Flows in the balance sheet method | Revaluation adjustment | Stock end-March |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | Net | | | |
| Security E | 100 | | -100 | -100 | -100 | | 0 |
| Security F | 100 | | -98.5 | -98.5 | -100 | (-1.5) | 0 |
| Total secs | 200 | | -198.5 | -198.5 | -200 | (-1.5) | 0 |
| Rem. assets | 4 | | | | | | 0 |

If accrued interest is not separated from the underlying instrument, but is included under revaluations and when paid, it is considered as a transaction:

**Table**

| | Stock end-February | Transactions (at market price) as per the transaction method | | | Flows in the balance sheet method | Revaluation adjustment | Stock end-March |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | Net | | | |
| Security E | 102 | | -103 | -103 | -102 | (+1) | 0 |
| Security F | 102 | | -101 | -101 | -102 | (-1) | 0 |
| Total secs | 204 | | -204 | -204 | -204 | (0) | 0 |
| Rem. assets | 4 | | | | | | 0 |

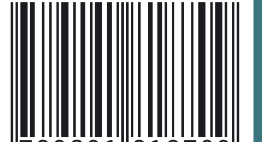
If accrued interest were not separated from the underlying instrument, but is included under revaluations and when paid, is considered as a revaluation

**Table**

| | Stock end-February | Transactions (at market price) as per the transaction method | | | Flows in the balance sheet method | Revaluation adjustment | Stock end-March |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | Net | | | |
| Security E | 102 | | -100 | -100 | -100 | **-2** | 0 |
| Security F | 102 | | -98.5 | -98.5 | -100 | **-2** +(-1.5) | 0 |
| Total secs | 204 | | -198.5 | -198.5 | -200 | **-4** +(-1.5) | 0 |
| Rem. assets | 0 | | | | | | 0 |

This example permits a comparison to be made between the optimum treatment of accrued interest case (i.e. the exclusion of accrued interest from stocks and its corresponding flows and the alternative approaches). It shows that in the case of the transaction approach, the treatment of interest paid as a revaluation produces a result closer to the optimal treatment (i.e. the exclusion of accrued interest from stocks). In the case of

the balance sheet approach, the results are not so clear. As shown in the example, an additional complication is the use of different valuation methods for stocks.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