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# Bank account FIFO valuation

Solution Documentation



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# 1 Modification assumptions

## 1.1 Elements of the solution

- There are two new batch programs to build a work file for and process calculation of realized exchange rate differences (FX differences) in a monetary account.
- There is a work file used for calculation that holds temporary information about transactions in an account.

## 1.2 Solution description

First batch program is used to build a work file for calculations. This file holds all relevant information about transactions that are used in calculation of FX differences. After the work file is refreshed the calculation itself can take place. The next batch program analyses data in the work file and calculates exchange rate differences.

The main assumption of calculation is that if the total currency balance before a transaction is positive then only outflows of money can produce FX differences. On the contrary if the balance before transaction is negative then only inflows of money can produce differences.

The other assumption is that if the initial balance is positive and there is money outflow and the value of the outflow is bigger than the initial balance FX differences will only be calculated up to initial balance amount causing the outflow transaction to not be fully processed in terms of FX differences until new money inflows occur.

Regardless of whether a transaction is an outflow or an inflow only earlier transactions can be used to calculate FX differences. If a transaction is not fully settled it will be used to settle future transaction when they occur.

## 1.3 Solution limitations

The solution requires all transactions to be properly posted before calculation is processed. This means that all relevant exchange rates should be properly used in transactions. No new transactions can be added after a calculation was run as this will impact FIFO sequence.

All transactions in an account must be in the very same currency. Using the same general ledger account for different currencies makes it impossible to calculate proper FX differences.

## 2 Solution overview

### 2.1 Task workflow

The first part of the process is the work file refresh. At this stage a special file is built with information on all money flows in the specified account. Although this program can be run for all accounts at the same time it is recommended to create account specific versions to assure data quality.

After the work file is refreshed the FX differences calculate program is run to process data in workfile. If the program is run in proof mode it will only produce a report with detailed FX differences calculated for transactions that caused these differences to occur. In final mode all these differences are copied into journal entries. The user can decide whether the resulting journal entry should be a single 3-line transaction or a set of transactions specific for every document for which FX differences were calculated.

The program that calculates FX differences can trigger work file refresh program if its version is specified in processing options.

### 2.2 Work file build report

The batch program used to refresh/build work file has following processing options.

1. Bank account to refresh – this option specifies data selection in report; only specified account will be processed.
2. Full data rebuild – if option 1 is specified then putting 1 in this option will cause all entries in the work file that relate to this account be deleted before data rebuild is run. This option can help in case some transactions were added in a an already processed period.
3. Start date for calculations – all transactions that were posted to an account before or on this date will show in report as one initial transaction. If this option is not set the rebuild program will not process new transactions.
4. Include voided documents – be default voided documents are not included in work file build. Putting 1 in this option can allow processing such transactions.
5. Exclude journals with hold codes in Reference 2 – if 1 is specified in this option all journal entries transactions with a flag of H in the Reference2 field will not be processed. The flag has to be put as first character in the Reference2 field.

### 2.3 FX Calculate report

The batch program used to calculate FX differences has following processing options.

1. Bank account number to process – this option specifies the account number for which calculation is supposed to be run. It works as data selection.
2. Calculation cut-off date – this option allows to specify the end date of calculations meaning that only transactions before or on this date are processed. If no date is specified no selection is performed.
3. Default G/L Date for journals created – if report is run in detail mode the journals will be posted with G/L date equal to original transaction date or the date specified in this option. If report is run in summarized mode the G/L date of the resulting journal entry will equal to system run date or a date specified in this option.
4. Proof / Final – if report is run in proof mode it will only produce a report with calculated FX differences for transactions. If 1 is specified for this option a journal entry (entries) for calculated amounts will be created.
5. Summarize JE's – if nothing is specified for this option all calculated amounts will posted in detail per original transaction. If 1 is specified in this option only one journal entry will be created for a total of FX gains and losses calculated.

6. Work file refresh version to execute – if a version name is specified in this option it will cause the work file refresh program to run prior to actual calculations.
7. Realized gains account – specifies the account to be used to post FX gains calculated.
8. Realized losses account – specifies the account to be used to post FX losses calculated.
9. Batch JE processor version to execute – specifies the version of R09110Z to be run after calculations are run in final mode. The default version to be executed is ZJDE0002.