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Securities Accounting – Chart of Accounts

This document is about the chart of accounts of a securities accounting. However, please consider the two following notes about this document before starting. The word securities in this document is used on a wider range: a security can be a current account, a time deposit, a forward, etc. as well as traditional assets such as bonds, stocks, options, futures and other investments. Only accounts which are directly required for the assets accounting will be described. Standard general ledger accounts will not be described since they are normally not used on a transaction on an asset and they are mainly regular debit / credit transfers.

It is important to associate the accounts of the securities accounting to an asset's property, which in this document will be called the asset's investment category, rather than associate them directly to the asset. Further we will discuss how to define the investment categories, but for now let's just say that they are like the asset's investment class. There are many reasons to associate the accounts to an investment category rather than directly to the asset:

- It is not necessary to associate a new account every time a new asset is defined, which on one hand saves a fastidious work and on the other hand eliminates an important source of potential mistakes.
- The door is not open for a maximal automation of the securities accounting.
- It is also uncomplicated to define an account structure which allows presenting the results in the balance sheet and the income and expenditures since they can be easily consolidated.

Let's now analyze how we can define the investment category while keeping in mind that they can be more detailed than the chart of accounts could require. An attribute of an investment category can certainly be the type of security. For example, it is important to book the bonds on separate accounts from the stocks. A simple securities accounting could differentiate between the following security types:

- Cash accounts
- Time deposits
- Bonds
- Stocks

For investments in other security types, the decision must be made as if they should be booked with a similar investment category or separately in a new investment category. For example, investments into fiduciary investments or call deposits can be booked in the time deposit category or in their own category. Similarly, bond funds can be booked with the bonds or separately. The following list shows related security types which could be grouped in the same investment category:

- Short term deposits

- Time deposits
- Fiduciaty investments
- Call deposits (48h)
- Money market funds

- Bonds and similar
  - Bonds
  - Floating rate notes (FRN)
  - Convertible bonds
  - Bond funds

- Stocks and similar
  - Stocks
  - Stock funds
  - Convertible bonds
  - Options (calls and puts)

Please note that convertible bonds can be classified with the bonds or stocks, according to what they are essentially considered. Other security types also have to be considered to have their own investment category such as:

- Futures on interest rates
- Futures on index
- Forwards
- Hedge funds
- Private Equities
- Structured products
- Mixed funds

The goal of this article is not to write an exhaustive list of all possible security types, but to give a method to classify the different investment categories used in the securities accounting. Other security types should be analyzed in a similar way. Not to forget that certain "specialties" should not be ignored, for example the own stocks of a company, its participations or investments in the pension fund.

The distinction of the type of security to determinate the investment category is generally not enough. A holding "Stocks" or "Bonds" without more details in the securities accounting does not give sufficient information and details. For this reason, we will now define a way to subdivide the investment categories into entities giving more details for complete and professional accounting.

The main criteria for the subdivision of nominal values (bonds, time investments, fiduciary investments, cash accounts, floating rate notes, etc.) is normally the currency of the asset since the fluctuations of the price of the security are essentially based on variations of the currency price of its currency and of its interest rates.

The geographical situation of the debtor is of secondary importance since the main risk factor of the debtor is given by its rating. A classical investment category would be "Bonds CHF", "Bonds USD", "Bonds GBP", "Time Deposits GBP", etc. The subdivision by currency can be done for the

main currencies, to which we can add a category "other currencies". Note that interest rate futures should also be categorized according to their currencies.

The subdivision of bonds in CHF into Swiss bonds in CHF and Foreign bonds in CHF for Swiss pension funds is now null and void according to the new OPP-2 norms from 2009.

The first criteria for the subdivision of real values (stocks, real estate, etc.) is the main geographical location of the firm (for stocks), economic environment of the firm being the principal exogenous factor for the fluctuations of the price. A question systematically remains while defining investment categories: should we differentiate the stock categories according to their currencies? According to us the answer is NO. Let's take the example of an American firm listed in USD in the USA and in CHF in Switzerland. A weakening of the dollar will automatically have repercussions on the title in CHF to avoid arbitrage possibilities. Therefore, the consideration of the currency of the title in the investment category does not give any supplementary information. This argumentation is also valid for the investment reporting: the performance comparison of an American asset will be made with a benchmark of American stocks, independently from if the asset is listed in USD or in another currency.

A typical investment category is: "Stocks CH", "Stocks GB", "Stocks US" or "Stocks Europe", "Stocks America", etc. The geographical subdivision can be made for the mains countries, to which we will add a category for "Other Countries". Note that futures on index and options (calls and puts) should also be categorized by geographical criteria.

Alternative investments (hedge funds, private equities) should also have their own separate investment category. These investments categories are normally not subdivided, at least not according to their currencies nor geographical affiliations.

The definition of the investment category for the forwards depends strongly on the investment strategy. If the forwards are used by categories, for example "bonds in USD", then the forwards should be defined in separate categories for every hedged region, for example "Forwards for Bonds in USD". However, if the forwards are globally used for currency overlays, then the investment category should be created for every hedged currency, for example "Forwards in USD".

The annex 1 contains an example of investment categories which could be suitable for a Swiss pension fund. We started with the principle that there were too little FRN and convertible bonds to justify the creation of their own separate investment category. The investment rules forbid derivate products: calls, puts, futures, forwards, structured products which also will not have their own separate investment category. The liquidities in foreign currency are also very limited; therefore, they also will not be separated by currency.

Now about the chart of account itself. What are the criteria which would influence the granularity of the chart of accounts, apart from the direct considerations of the presentation of the accounts?

1. Since the accounts are associated with the investment categories, the chart of account cannot be more detailed then the investment categories, but he also does not have to be more detailed. Several investment categories can also have the same accounts.
2. If the securities accounting must be transferred in the general ledger, the chart of account of the securities accounting should be at least as detailed as the one of the general ledgers. In fact, it will normally be more detailed than the chart of account of the general ledger.
3. The chart of account should also take account of the investment strategy, to be able to generate accounting reports and performance analysis which are congruent. An example of investment strategy is given in the annex of this document.

The two first points are clear and do not need to be explained. However, things are not so clear regarding point 3. First of all, this point only makes sense if the booking value adjustment are done base on the market value. If they are not, then there will not be any congruency between the accounting and the financial reports.

The required level of precision from the point 3 lead to a transparency of the reporting which is demanded with the FER 26 norm. We will now analyze in detail what this requirement is about. Let's suppose that our investment strategy gives a weighting and a benchmark for "Foreign Stocks", which is also the case in our investment strategy example. Our investment reports should give us the following information about our "Foreign Stocks" category: the market value, effective weighting, strategic weighting, effective performance and the benchmark's yield. If the chart of accounts has its own accounts for our category "Foreign Stocks", there will have a direct congruence between the accounting and the investment reporting. The market value of the "Foreign Stocks" will be shown in the balance sheet and the profits of the "Foreign Stocks" will be shown in the income and expenditures, only by calculating the incomes minus the expenditures for the "Foreign Stocks".

This explains why it is important to define an own investment category for the "Foreign Stocks". The results for the "Foreign Stocks" can be interpreted as the "Performance" of the "Foreign Stocks", as an amount in CHF and the performance of the investment report as a yield in %. Both information represent the same thing, only expressed differently. Therefore, the chart of account should be based on different asset classes which are defined as groups of the investment strategy; for example, "Foreign Stocks" being a group containing in between others "Stocks Germany", "Stocks France"… Every asset class has its own accounts of every type, for example a holding account, realized capital gain account, etc. … An example of these accounts is available in our annex. The chart of account can be more detailed in the balance sheet than in the incomes and expenditures. In our example, the "Foreign Stocks" are divided in the balance sheet as "Foreign Stocks Direct" and "Foreign Stocks Funds", but this distinction does not exist in the incomes and expenditures.

It is also important to know that the defined asset classes can be more defined than those of the investment strategy. In our example, we could

have defined separate asset classes for "European Stocks", "American Stocks"… This distinction could be appreciated if the strategy would suddenly have to be more detailed for geographical regions instead of only a group for "Foreign Stocks".

It is also always possible to consolidate different asset classes when showing the accounts.

The fourth annex is an example of a chart of accounts. This chart of accounts is complete but rather minimalist, to remain readable for this didactical document. A real chart of account would certainly contain more information.

ePOCA : optimal assistance to the user

The securities accounting software ePOCA offers optimal assistance to the user while defining one or several charts of accounts.

1. In ePOCA the user defines his exact own investment categories according to his needs and the accounts are associated with these categories.
2. Every portfolio in ePOCA has its own chart of accounts. Several tools are available to manage these charts of accounts on all levels.
3. A general ledger account can be associated to every account in ePOCA. It is therefore possible to define a chart of accounts which has more details than in the general ledger while having an electronic interface to the general ledger.
4. The portfolios can be arbitrary consolidated, either for accounting or the reporting.
5. An investment structure based on the investment categories can be defined for every aggregate which reflects the investment strategy. This allows us to have a perfect congruency between the accounting and the investment reporting.
6. The performance can be calculated for the global investment and for the investment categories either for the whole aggregate or individual portfolios, as well as for mixed aggregates for an optimal control of the results.

Annex 1: Example of investment categories

Liquidities

Current Accounts in CHF

Current Accounts in FC

Call Deposits in CHF

Call Deposits in FC

Time Deposits in CHF

Time Deposits in FC

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Fiduciairies in CHF

Fiduciairies in FC

Money Market Funds in CHF

Money Market Funds in FC

Liabilities in CHF

Bonds in CHF

Bonds Funds in CHF

Liabilities in Foreign Currency

Bonds Europe

Bonds in EUR

Bonds in GBP

Bonds in DKK

Bonds in NOK

Bonds in SEK

Bonds America

Bonds in USD

Bonds in CAD

Bonds Pacific Region

Bonds in JPY

Bonds in AUD

Bonds in NZD

Diverse Bonds in Foreign Currency

Diverse Bonds in Foreign Currency

Diverse Bonds Funds in Foreign Currency

Stocks Switzerland

Stocks Switzerland

Stock Funds Switzerland

Foreign Stocks

Stocks Europe

Stocks Germany

Stocks Italy

Stocks France

Stocks Denmark

Stocks Netherlands

Stocks Sweden

Stocks America

Stocks USA

Stocks Canada

Stocks Pacific Region

Stocks Japan

Stocks Australia

Stocks New-Zealand

Diverse Stocks in Foreign Currency

Diverse Foreign Stocks

Diverse Foreign Stocks Funds

Real Estate Switzerland

Real Estate Switzerland

Real Estate Funds Switzerland

Alternative Investments

Hedge Funds

Private Equities

Annex 2: Example of an Investment Strategy

Category	Strategy	Min	Max
Liquidities	5	0	10
Liabilities in CHF	35	25	45
Liabilities in FC	10	0	15
Stocks Switzerland	20	12	25
Foreign Stocks	15	10	18
Real Estate Switzerland	10	6	14
Alternative Investments	5	0	8
Total	**100**		

Annex 3: Types of Accounts

Assets

- Holding: book values
- Accrued Interests: transitory assets account for accrued interests.

Expenses

- Non Recoverable Taxes: for interests payments, dividends, etc. …
- Expenses Interests
- Realized Currency Loss
- Realized Capital Loss
- Unrealized Currency Loss
- Unrealized Capital Loss
- Transaction Fees

Income

- Interests, Dividends, etc. and Accrued Interests
- Realized Currency Gain
- Realized Capital Gain
- Unrealized Currency Gain
- Unrealized Capital Gain

Annex 4: Example of a Chart of Accounts

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ASSETS

Liquidities

1101	Current Accounts in CHF
11xx	Current Accounts in FC
1111	Call Deposits in CHF
11xx	Call Deposits in FC
1121	Time Deposits in CHF
11xx	Time Deposits in FC
1131	Fiduciaries in CHF
11xx	Fiduciaries in FC
1141	Money Market Funds in CHF
11xx	Money Market Funds in FC
1151	Accrued Interests on Liquidities in CHF
1152	Accrued Interests on Liquidities in FC

Liabilities in CHF

1201	Bonds in CHF
1202	Bonds Funds in CHF
1251	Accrued Interests on Bonds in CHF

Liabilities in Foreign Currency

1301	Bonds in FC
1302	Bonds Funds in FC
1351	Accrued Interests on Bonds in FC

Stocks Switzerland

1401	Stocks Switzerland
1402	Stocks Funds Switzerland

Foreign Stocks

1501	Foreign Stocks

1502	Foreign Stocks Funds

Real Estate Switzerland

1601	Real Estate Switzerland

Alternative Investments

1701	Hedge Funds
1702	Private Equities

Withholding Taxes

1901	Withholding Taxes Switzerland
1902	Foreign Withholding Taxes

LIABILITIES

2001	Proper Funds
2002	Capital Flows
2099	Results of Exercise

EXPENSES

3111	Realized Currency Loss on Liquidities
3211	Realized Currency Loss on Bonds in CHF
3311	Realized Currency Loss on Bonds in FC
3411	Realized Currency Loss on Stocks Switzerland
3511	Realized Currency Loss on Foreign Stocks
3611	Realized Currency Loss on Real Estate Switzerland
3711	Realized Currency Loss on Alternative Investments
3112	Realized Capital Loss on Liquidities
3212	Realized Capital Loss on Bonds in Switzerland
3312	Realized Capital Loss on Bonds in FC

3412	Realized Capital Loss on Stocks Switzerland
3512	Realized Capital Loss on Foreign Stocks
3612	Realized Capital Loss on Real Estate Switzerland
3712	Realized Capital Loss on Alternative Investments
3113	Unrealized Currency Loss on Liquidities
3213	Unrealized Currency Loss on Bonds in Switzerland
3313	Unrealized Currency Loss on Bonds in FC
3413	Unrealized Currency Loss on Stocks Switzerland
3513	Unrealized Currency Loss on Foreign Stocks
3613	Unrealized Currency Loss on Real Estate Switzerland
3713	Unrealized Currency Loss on Alternative Investments
3114	Unrealized Capital Loss on Liquidities
3214	Unrealized Capital Loss on Bonds in Switzerland
3314	Unrealized Capital Loss on Bonds in FC
3414	Unrealized Capital Loss on Stocks Switzerland
3514	Unrealized Capital Loss on Foreign Stocks
3614	Unrealized Capital Loss on Real Estate Switzerland
3714	Unrealized Capital Loss on Alternative Investments
3115	Expenses Interests on Liquidities
3116	Transaction Fees on Liquidities
3216	Transaction Fees on Bonds in Switzerland
3316	Transaction Fees on Bonds in FC
3416	Transaction Fees on Stocks Switzerland
3516	Transaction Fees on Foreign Stocks
3616	Transaction Fees on Real Estate Switzerland
3716	Transaction Fees on Alternative Investments

3117	Non Recoverable Taxes on Liquidities
3217	Non Recoverable Taxes on Bonds Switzerland
3317	Non Recoverable Taxes on Bonds in FC
3417	Non Recoverable Taxes on Stocks Switzerland
3517	Non Recoverable Taxes on Foreign Stocks
3617	Non Recoverable Taxes on Real Estate Switzerland
3717	Non Recoverable Taxes on Alternative Investments
3941	Other Fees
3942	Extraordinary Losses on withholding Taxes
3999	Results of Exercise

INCOME

4151	Realized Currency Gain on Liquidities
4251	Realized Currency Gain on Bonds in CHF
4351	R Realized Currency Gain on Bonds in FC
4451	Realized Currency Gain on Stocks Switzerland
4551	Realized Currency Gain on Foreign Stocks
4651	Realized Currency Gain on Real Estate Switzerland
4751	Realized Currency Gain on Alternative Investments
4152	Realized Capital Gain on Liquidities
4252	Realized Capital Gain on Bonds Switzerland
4352	Realized Capital Gain on Bonds in FC
4452	Realized Capital Gain on Stocks Switzerland
4552	Realized Capital Gain on Foreign Stocks
4652	Realized Capital Gain on Real Estate Switzerland
4752	Realized Capital Gain on Alternative Investments

4153	Unrealized Currency Gain on Liquidities
4253	Unrealized Currency Gain on Bonds Switzerland
4353	Unrealized Currency Gain on Bonds in FC
4453	Unrealized Currency Gain on Stocks Switzerland
4553	Unrealized Currency Gain on Foreign Stocks
4653	Unrealized Currency Gain on Real Estate Switzerland
4753	Unrealized Currency Gain on Alternative Investments
4154	Unrealized Capital Gain on Liquidities
4254	Unrealized Capital Gain on Bonds Switzerland
4354	Unrealized Capital Gain on Bonds in FC
4454	Unrealized Capital Gain on Stocks Switzerland
4554	Unrealized Capital Gain on Foreign Stocks
4654	Unrealized Capital Gain on Real Estate Switzerland
4754	Unrealized Capital Gain on Alternative Investments
4155	Interests and Accrued Interests on Liquidities
4255	Interests and Accrued Interests on Bonds Switzerland
4355	Interests and Accrued Interests on Bonds in FC
4455	Dividends Stocks Switzerland
4555	Dividends Foreign Stocks
4655	Income on Real Estate Switzerland
4755	Income on Alternative investments
4991	Securities Lending
4992	Extraordinary Gains on Withholding Taxes

Remarks about the Chart of Accounts

The numeration of the accounts is systematically done. The 1st number gives the class of the account e (1 = asset, 2 = liability, 3 = Expenditure, 4 = Income). The 2nd number gives the asset class (1 = liquidities, 2 = liabilities in CHF, 3 = liabilities in FC, 4 = stocks Switzerland, 5 = foreign

stocks, 6 = real estate Switzerland, 7 = alternative investments). The 3rd and 4th numbers will determine the type of account. This numeration of accounts is affects the securities accounting and can be different in the general ledger where a standard numeration is normally used (for example the Käfer chart of account of for SMB).

The granularity of the chart of accounts is more detailed in the balance sheet then in the profit and loss. It is wider than the investment categories but more detailed then the asset classes from the strategy definition. For example the foreign stocks are not divided by geographical regions.

In the income and expenditures the chart of accounts is relatively simple. For example, there are no separate accounts for the interests and the accrued interests or to separate overdrawn sales.

In this example, the results of the foreign stocks can be calculated as followed:

Balance credit "Realized Currency Gain on Foreign Stocks" (4551) +

Balance credit "Realized Capital Gain on Foreign Stocks" (4552) +

Balance credit "Unrealized Currency Gain on Foreign Stocks" (4553) +

Balance credit "Unrealized Capital Gain on Foreign Stocks" (4554) +

Balance credit "Dividends d'actions étrangères" (4555) -

Balance debit "Realized Currency Loss on Foreign Stocks" (3511) -

Balance debit "Realized Capital Loss on Foreign Stocks" (3512) -

Balance debit "Unrealized Currency Loss on Foreign Stocks" (3513) -

Balance debit "Unrealized Capital Loss on Foreign Stocks" (3514) -

Balance debit "Transaction Fees on Foreign Stocks" (3516) -

Balance debit "Unrecoverable Taxes on For. Stocks" (3517).

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