4 Example and Application

4.1 A negative basis example

To demonstrate the methodology, we consider a negative basis position in our fund XAIA Credit Basis II on Lumen Technologies Inc. On 21 May 2021 we bought 4 mm USD bond and matched CDS protection (so-called bullet basis package). The EUR PnL of this position until 17 March 2022 is strongly positive by $313,710$ EUR, but mainly because the USD has appreciated with respect to the EUR, with the EUR-USD exchange rate falling from 1.22 to 1.1. Indeed, the number $P_{(t,T]}^{(A)}(\chi)$ equals $328,220$ EUR. The carry $P_{(t,T]}^{(A)}(\text{carry})$ equals $47,568$ EUR and the PnL due to market risk changes $P_{(t,T]}^{(A)}(x)$ amounts to $79,746$ EUR, so that their sum $P_{(t,T]}^{(A)}(\text{carry}) + P_{(t,T]}^{(A)}(x)$ equals around $127,310$ EUR. This PnL is essentially due to consumption and tightening of the negative bond-CDS basis, see Mai (2019) for background. Since interest rates have risen significantly in the considered time period, the PnL $P_{(t,T]}^{(A)}(r)$ due to interest rate changes is negative and amounts to $-141,820$ EUR. Finally, the transaction costs due to the purchase on 21 May 2021 equals $6,268$ EUR in this example. In our fund XAIA Credit Basis II we hedge away interest rate risk and FX risk, in order to isolate the PnL $P_{(t,T]}^{(A)}(\text{carry}) + P_{(t,T]}^{(A)}(x)$ (minus transaction costs). In the considered time period, our FX hedge has lost money and our interest rate hedge has gained money. The number $P_{(t,T]}^{(A)}(\text{carry}) + P_{(t,T]}^{(A)}(x)$ (minus transaction costs) is around $121,042$ EUR, which is more than 3% gain in nominal terms within less than one year. This is essentially the PnL from this trade that enters the fund's net asset value. In contrast, the (negative) PnL $P_{(t,T]}^{(A)}(\text{carry}) + P_{(t,T]}^{(A)}(x) + P_{(t,T]}^{(A)}(r)$ (minus transaction costs) is essentially what's depicted in the folder "Result curr. global" in our front office system SOPHIS. Figure 1 summarizes these numbers.

4.2 An application to our fund XAIA Credit Debt Capital

We present an application of the presented methodology to our fund XAIA Credit Debt Capital. In this fund, we seek to profit from relative valuation discrepancies between different assets referring to the same company. Concretely, the single investment positions can be categorized in one of the following buckets:

- **Capital Structure:** Long (or short) credit and short (or long) equity. A typical example is buying a bond (long credit) and buying an equity put option (short credit). Such positions are usually delta-neutral and gamma-long.

- **Senior Sub:** Long senior credit and short subordinated credit. A typical example is buying a senior bond and buying subordinated CDS protection against it. Such positions are usually theta-negative and delta-short (meaning they profit from credit widening).