FORMULAE USED TO DERIVE THE INDEX, GROWTH RATES, AND CONTRIBUTIONS TO THE ANNUAL GROWTH RATE

Index. If \( F_t \) represents the flow in month \( t \) and \( L_t \) the level outstanding at the end of month \( t \), then the index \( I_t \) of adjusted stocks in month \( t \) is defined as:

\[
I_t = I_{t-1} \times \left( 1 + \frac{F_t}{L_{t-1}} \right)
\]  \[1\]

Growth rates. The annual percentage change \( a_t \) for month \( t \), i.e. the change in the 12 months ending in month \( t \), may be calculated using either of the following two formulae:

\[
a_t = \left[ \prod_{i=0}^{11} \left( 1 + \frac{F_{t-i}}{L_{t-i}} \right) - 1 \right] \times 100 \quad \text{which is based on flows, or} \quad \[2\]
\]

\[
a_t = \left( \frac{I_t}{I_{t-12}} - 1 \right) \times 100 \quad \text{which is based on the index of adjusted stocks.} \quad \[3\]

Similarly, the month-on-month percentage change \( a^M_t \) for month \( t \) may be calculated as:

\[
a^M_t = \left( \frac{F_t}{L_{t-1}} \right) \times 100 \quad \text{which is based on flows, or} \quad \[4\]
\]

\[
a^M_t = \left( \frac{I_t}{I_{t-1}} - 1 \right) \times 100 \quad \text{which is based on the index of adjusted stocks.} \quad \[5\]

Contributions to the annual growth rate of \( M3 \). If \( a_t \) (M3) represents the annual growth rate of M3 for the year ending in month \( t \), and \( F_{t-i} \) (M1), \( F_{t-i} \) (M2-M1), \( F_{t-i} \) (M3-M2) are the monthly flows for the aggregates M1, M2-M1 and M3-M2 respectively in month \( t-i \), then the contribution of, e.g., M1 to the annual growth rate of M3 is calculated as:

\[
\frac{\sum_{i=0}^{11} F_{t-i} \text{ (M1)}}{\sum_{i=0}^{11} [F_{t-i} \text{ (M1)} + F_{t-i} \text{ (M2-M1)} + F_{t-i} \text{ (M3-M2)}]} \times a_t \text{ (M3)}.
\]  \[6\]