Fund Oversight Fact-Check

> ⓘ *... creating automatic fact-checking functionality to provide users with answers for common questions about their funds*
> - **presumed relationship** *"The fact checking for results of fund oversight processes (dependent variable) is more difficult with the greater complexity of fund characteristics and oversight validations (independent variables)."*
> - **anticipated change** *"If the fund characteristics and validations change, the fact checking of fund oversight changes as well."*
> - **example** *"The fund oversight fact-check will be easy when the fund is easy and its oversight validations are simple."*

Fact-Checking

phenomenon	observation	data	approach
verification of price rate and source	prices are within the tolerance, but we can fact check what the rate is and if it is from different source (like corporate actions)		
verification of price and trade time	- fact-checking prices during volatile day - fund accounting looks at prices and trading range at certain day, but the operations would look at the price at the specific time (what time the trade was done and at what price in that time)		
verification of investor and fund actions	- we can look into investors around an asset if other investors are buying the same security and at what price - we can look into funds if fund is investing into a particular asset in the market		
identification of contradictory signals	- internal or external - publishing prices that do not agree with external data source - publishing prices that agree with external data source, but other trades are saying different (or headline in news article says something is going up, while our data saying) - anything that introduces the arguably greatest threat of falsely thinking events are correct, i.e. any situation that people are aware of (not about situations that people do not even know are happening)		

Notes

- user experience
    - business users would appreciate reliable fact checking capabilities to know the price or units are right in their fund and each individual fund with its each individual components can be fact-checked
    - most of the times the NAV value is right when the market and fund data are correct
    - sometimes the formula for fund valuation can be wrong (income with accrued interest)
- this new way of fact-checking is both an alternative and addition to the current fact-checking of fund oversight processes
    - finding how to check for facts that are not done in the current fund oversight solution
    - defining how to look at pool of data and fact-check if fund oversight processes were right or checks have failed
- fact checking may be more required for complex funds
    - funds with a certain complexity value (a value assigned to every fund)
- fact checking relates closely to fund characteristics based on market conditions
    - volatility increases the risk and complexity of fact checking (too many exceptions makes it hard to fact check)
- **fact-checking based on data availability (during the day or prior to fund oversight processes)**

    - maybe we can pick up smaller movements

        - we will be able to check all things
        - not just those that are wrong as we are implementing this functionality
        - currently have the checks and building connections to data source
    - if something can be automated, everything can be checked
    - validating all fundamental NAV data (not just the selected ones)

Q&A Examples

1. prices
2. FX rates
3. units (number of holdings, not the security-level / not the units in the market)
4. transactions
5. impacts / corporate actions
6. accrued income

#	question	sample answer	data source for the answer	comments

1	*"Is the price of this security (in the fund valuation process) for this fund correct as the end of day?"*	1. "YES, because the price of this security is matching the Bloomberg price."
		2. "NO, because (the opposite of YES) or because it is being faired valued, or corporate action applied (stock split).?"
		3. "Unable to answer, because I could not find price in your selected list of sources."
			• independent data provider, dependent on the asset (by client preference, price source agreement)
			  • Bloomberg for all equity prices
			  • OTC prices on Bloomberg or ask brokers to find out (request for quote via platform or some other mean)
				• valuation point (if not EOD)
				• getting the price from right exchange
				• is the price type right (opening, closing, bid, ...)

2	*"Was this transaction booked at the correct price?"*	1. YES, because it matches the exchange price at the time the transaction if booked (give time and price) OR it is between high and low price (if we do not get the specific time the trade was booked) OR the price on the transaction file from the fund admin matches the price from broker's transaction file. 2. NO, because 3. Unable to answer, the prices cannot be found in the broker file or unknown time it was booked at, or no reference price available (illiquid security, not traded often, non-exchange traded / OTC) selected list of sources.	• + independent data provider • fund admin • broker transaction file	• the information is not available • illiquid securities info not available • consolidated trade from the admin system • do not validate canceled trades
3	*"Was the FX correct applied to the transaction?"*	1. YES, because (same as for the transaction case) 2. NO, 3. Unable to answer, unknown time of trade or settlement (time the conversion is made)	• asset managers are getting this from their market data provider, e.g. Bloomberg or Reuters • closing rate are agreed among banks	• simpler than price scenario, but there are price types on FX
4	*"Have we applied the correct FX to the valuation of security?"*	1. YES, because (equivalent to the first question) 2. NO, 3. Unable to answer, unable to find the rates at the particular valuation point (and during a specific time)	• fund admin for the valuation of security against the market data (for particular valuation point they should match)	• similar to #3 (valuation point, price type)
5	*"Have we applied the corporate action of this security in the fund?"*	1. YES, because the type of corporate action (stock split because I can see the units, and prices have halved, cost stays the sam OR dividend because the income has changed) will have a different impact on the securities (you can see the result) 2. No, 3. Unable to answer, because we do not know what was the client action on the voluntary type of CA on their security in the fund OR we do not have the current / updated details of CA OR we cannot get the details of CA (if we have the access to the details)	• fund admin (they should give us CAs that have been applied but we do not know if those were once that suppose to be applied) • independent data provider will be the other feed to check • back office of asset manager would be able to source CA details	• other transactions on the fund for the same asset AND not knowing if the CA was applied before those transaction or after (purchase or sale) • do not know what was the client action on the voluntary type of CA on their security in the fund
6	*"Are we using the correct units held on the security?*			
7	*"Are we using the correct units traded on the transactions / trades?"*			
8	*"Is the transaction from the prior accounting period?"*			
9	*"Are we applying transactions not relevant for this fund valuation?"* *(cancelled trade that should not be included)*			
10	*"Is the accrued income correct for this security, for this fund, for this day?"*			