

# openfunds

## White Paper

### Full Portfolio Holdings

This white paper addresses the following openfunds fields:

OFID	openfunds	ID	Value	Type	Risk
OFST010020	Legal Fund Name Including Umbrella				
OFST010410	Fund Currency				
OFST020000	ISIN				
OFST020010	Valor				
OFST020015	WKN				
OFST020040	SEDOL				
OFPH000010	Holding as at Date				
OFPH000020	Portfolio Currency				
OFPH000030	Holding Level				
OFPH000050	Portfolio Duration				
OFPH000100	Holding ISIN				
OFPH000110	Holding WKN				
OFPH000120	Holding VALOR				
OFPH000130	Holding Ticker				
OFPH000135	Holding MIC				
OFPH000140	Holding SEDOL				
OFPH000145	Holding CUSIP				
OFPH000150	Holding APIR Code				
OFPH000155	Holding Bloomberg Ticker				
OFPH000170	Holding FIGI				
OFPH000190	Holding Other Identifier				
OFPH000195	Holding Other Identifier Type				
OFPH000200	Holding Name				
OFPH000205	Holding Grouping Code				
OFPH000210	Holding Instrument Type				
OFPH000215	Holding CIC				
OFPH000250	Holding Market Value in Portfolio Currency				
OFPH000255	Holding Market Value in Holding Currency				
OFPH000260	Holding Clean Market Value in Portfolio Currency				
OFPH000270	Holding Market Exposure in Portfolio Currency				
OFPH000275	Holding Market Exposure in Holding Currency				
OFPH000280	Holding Market Exposure in Weight				
OFPH000290	Holding Contract Size				
OFPH000300	Holding Net Weight as Percentage				
OFPH000400	Holding Currency				
OFPH000410	Holding NACE Code				



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## Introduction

While most openfunds fields describe specific attributes of a fund, these 'Full Portfolio Holding' (FPH) fields investigate the fund and provide information on a more granular level, the fund's investments.

Apart from 'Fund Ratios and Exposures' there are only few relations into other openfunds field categories. Therefore, openfunds introduces a new set of fields, which can be recognized by the 'OFPH' prefix.

There is another difference to other openfunds field areas. While others, like portfolio managers (OFPM), dynamic data (OFDY) or regulatory data (OFEM, OFEP) usually intend for a clearly defined purpose and therefore ask for a quite fixed set of fields, the need for full portfolio holding data depends on the purpose.

## Different purposes for Full Portfolio Holdings

The following chart shows three exemplary use cases for full portfolio holdings. There might be more however, these three scenarios were those considered by the openfunds FPH working group.

### Look through

Assume a portfolio consisting of stocks, bonds, cash, and funds. There might be a need to look through the fund into its single investments as they might complement or overlap with the portfolio's direct investments. Private banks might want to provide that look through to their clients to provide an improved transparency.

ESG, 'Environmental, Social, and Governance' purposes might also require that information as an investor might want to know the ultimate investment for his own ESG analysis. (However, fund companies usually provide ESG data for their funds, which gives a good, but summarized ESG insight of their single funds.)

For the purpose of a look-through the minimum requirement is no more than an identifier. The recipient of a FPH file then can match the constituents' identifier with his own instrument database. Although the ISIN represents the broadest acceptance amongst fund industry participants, openfunds also provides additional identifying fields as there are countries where different identifiers are the norm.

### Calculation of Fund Ratios and Exposures

The white paper "[Fund Ratios and Exposures](https://openfunds.org/knowledge/whitepapers/fund-ratios-and-exposures/)" (<https://openfunds.org/knowledge/whitepapers/fund-ratios-and-exposures/>) lists the most used ratios for funds evaluation and comparisons. All these ratios can be found on the periodically distributed fact sheets which provide an update to the investors.

The calculation of these numbers is based on the fund constituents' numbers, which usually include values, weights and additional information like currencies, number of shares etc., which can be used for checks and foreign currency translations.

If derivatives are used by the fund, delta-adjusted values of the market exposure instead of the instrument's market value should be used for this purpose. Other derivatives like swaps should be split up into two lines (two legs).

If the purpose of the full portfolio holding delivery is to provide the underlying data for fund ratios and exposures calculation only, it might be worth to consider a data delivery of the calculated data as described in the above mentioned white paper "[Fund Ratios and Exposures](https://openfunds.org/knowledge/whitepapers/fund-ratios-and-exposures/)".

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## Risk analysis

There are a variety of different risk analysis that can be run on a fund portfolio. Normally the asset manager will buy some specialized software or even develop his own proprietary software to solve this task. Also, the size of necessary input data is closely linked to the kind of risk analysis but can be huge. Therefore, it seems impossible to provide a dataset that can be used for all kind of risk analysis on the recipient's side.

The suggested set of fields for risk analysis follow two rules:

- 1) The number of fields should be kept to a reasonable minimum.
- 2) It should use existing data fields from acknowledged data standards instead of creating new ones. Therefore, fields from the Tripartite Template version 6.0 that can be found on FinDatEx's webpage ([www.findatex.eu](http://www.findatex.eu)) was used whenever possible. For further explanation please see below in "Difference to other FPH datasets and limitations".

Therefore, the approach of openfunds was to suggest a practical set of data fields that was developed by fund experts in a working group in 2021/22. The intention of the dataset is a best-practice approach, and it is based on files that are used at the time the working group was discussing the fields.

## Link between purpose and necessary fields

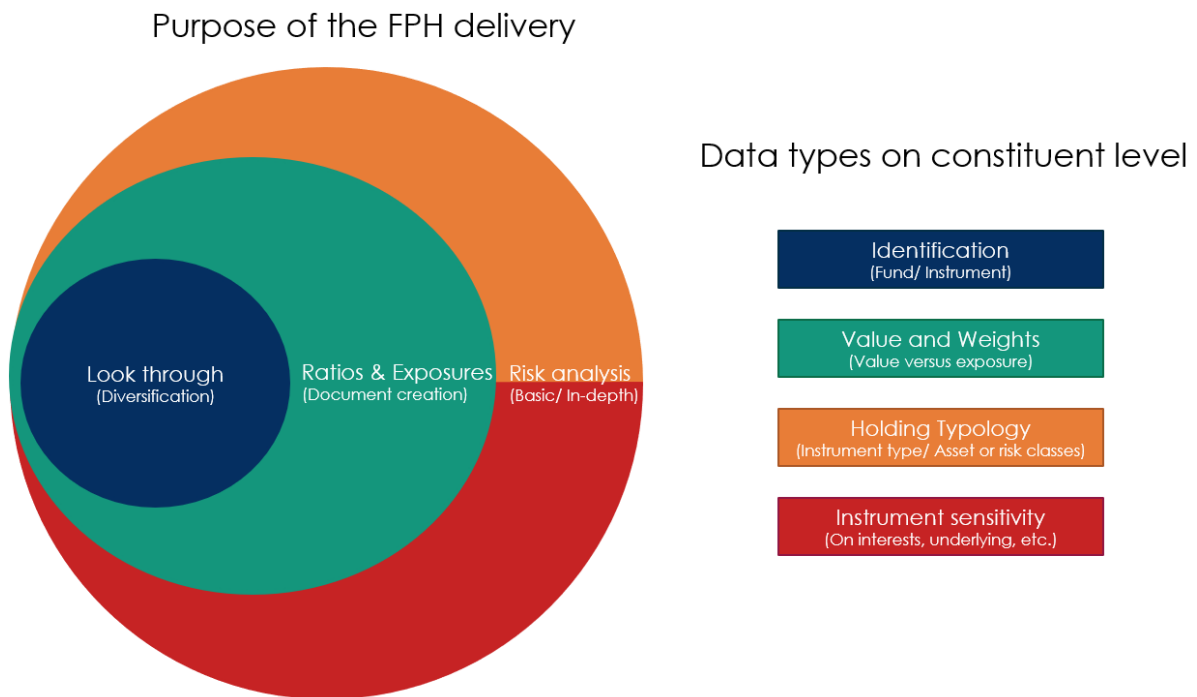


Figure 1: The purpose of FPH delivery and the associated data types  
*The size of the circles represents the number of fields necessary to fulfil the purpose.*

It is a good idea to get a mutual understanding of the FPH's delivery purpose between data sender and data recipient as not only the number of fields may increase, but also the complexity of the needed data fields will increase substantially.

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While the number of required fields and the complexity already are good reasons to decide whether a reduced number of fields might be sufficient for the required purpose, data confidentiality is another one. For the professional management of big portfolios data confidentiality can be crucial especially if the portfolio includes positions with a reduced market liquidity or with a high price sensitivity. Therefore, full portfolio data information usually is distributed not before the end of an embargo period or only after the recipient has agreed to a non-disclosure agreement (NDA) or both.

Common embargo periods depend on the holdings held within the portfolio. While for a traditional bond, equity, or mixed portfolio an embargo of 30 days seems reasonable, this period can be prolonged to 3 or even 6 months if the portfolio contains illiquid positions or big positions in narrow markets.

The colour coding of fields at the beginning of this paper helps to give an indication which fields are needed for any of the three listed purposes.

## Difference to other FPH datasets and limitations

With the EU solvency regulation which entered into force in 2016 a European working group created the tripartite template (TPT). In 2022 TPT version 6 was introduced. It includes 143 fields, which are used to perform calculations of risk exposures that are required by European insurance companies for their investments. The TPT standard contains direction on which fields must be provided for each instrument and contains 93 fields that are mandatory or conditional for at least one instrument type. Considering the depth of information asset managers usually ask for NDA's and insist on longer embargo periods for this information. The intent of the openfunds FPH dataset is to be more lightweight and flexible, to be used for other use cases outside of Solvency II reporting.

However, the TPT is common to European asset managers if their funds are bought by insurance companies, so the openfunds FPH solution uses existing TPT fields when it is appropriate and adopts naming and values to its own standards in order to offer direct mapping between the two wherever possible.

The main differences to the TPT are:

- Reduced set of fields
- Field name and value adoption to openfunds conventions
- Multipurpose approach
- Individual field descriptions

## Derivatives and Swaps

For a deep risk analysis, a good understanding of the derivatives' behaviour within the portfolio is crucial. While for look-through purposes the market value of the derivative (the amount of money one would receive when selling the derivative, also called the total amount invested in that derivative) might be sufficient, this might not be the case for the risk analysis where the market exposure, also called notional value, is more appropriate. Usually, the market exposure or notional value for options, futures and forwards is much higher than the derivative's market value. Put in other words, the derivative's market value equals the total amount invested into that derivative, while the market exposure or notional value of the same derivative represents the total amount associated with that investment.

Even more, a third value called "Holding Delta Adjusted Exposure" (OPFH000500) might be the one that is most appropriate for doing some risk analysis. This value considers that the 'Delta' or the price sensitivity of the derivative on changes of the underlying asset usually is less than 1. Hence, the market exposure/

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notional values of the holding (OFPH000270, OFPH000275, OFPH000280) shall be multiplied by the 'Delta'.

Like most 'Full Portfolio Data' file as well as the TPT each asset or instrument of a portfolio is listed in a separate line. However, there are instruments such as various types of 'Swaps' that are a combination of two underlying agreements. As those two agreements are usually based on different underlying assets the question is represent the Swap holding in one line of the Full Portfolio Holding file (one leg approach) or in two lines (two leg approach).

The advantage of the two leg approach is the reduced number of columns needed compared to the one leg approach. What makes it even worse is that in most portfolios the number of this type of derivatives is very small to none, but this approach would create blank columns for all holding positions in the file.

On the other hand, if one puts the two agreements within a Swap into two separate lines (two legs approach) an additional field is needed that links those two lines together. This is the only purpose of the OFPH000205 Holding Grouping Code, which should only be used for this type of derivatives.

Please note that, like the TPT, the openfunds FPH field definitions do not support the one leg approach as this would mean to enlarge the field set quite substantially with fields that needed to be included in the file but would be left empty in the vast majority of transmitted files.

## FPH template

An FPH template recommendation can be found [here](#), giving examples of both a "full" template, including all 81 fields for maximum detail, and a more lightweight "basic" template, using a more minimal set of 24 fields.

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## Document Information

<b>Title:</b>	Full Portfolio Holdings
<b>Language:</b>	English
<b>Confidentiality:</b>	Public
<b>Authors:</b>	Michael Partin, Charlie Duffin

## Revision History

<b>Version</b>	<b>Date</b>	<b>Status</b>	<b>Notice</b>
1.0	2022-09-16	Draft	First version.

## Implementation

If you have any questions about the new data type or difficulties with implementation, please contact us at [businessoffice@openfunds.org](mailto:businessoffice@openfunds.org).

## Joining openfunds

If your firm has a need to reliably send or receive fund data, you are more than welcome to use the openfunds fields and definitions free-of-charge. Interested parties can contact the openfunds association by sending an email to: [businessoffice@openfunds.org](mailto:businessoffice@openfunds.org)

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