Sub-Product Mapping Standard Operating Procedures (SOPs) for ETFs and ADRs

Model: BDWP-009 | Category: Procedures

Table of Contents

1. Introduction

This document delineates the Standard Operating Procedures (SOPs) for

sub-product mapping specific to Exchange-Traded Funds (ETFs) and American Depositary Receipts (ADRs). It aims to establish a consistent, accurate, and auditable process for reconciling sub-products such as ADR versus local line classifications, share class distinctions, and ETF constituent components. This SOP supports the operational integrity of the Master Data Management (MDM) system by ensuring data quality through standardized validation checks, cross-data source reconciliation, clear override policies, and comprehensive documentation.

2. Scope and Applicability

This SOP applies to all MDM operations involving ETF and ADR sub-product classification and reconciliation. It encompasses the following:

- Reconciliation of ADR classifications against local line identifiers across multiple vendor schemas including Bloomberg and Moody's.
- Validation of ETF constituents and share classes aligned with vendor taxonomy standards.
- Application of manual overrides in exceptional cases with documented approval.
- Cross-source data checks against FactSet and internal lineage records.

It is applicable to all MDM team members, data stewards, and reconciliation analysts involved in ETF and ADR data management.

3. Reference Documents

This SOP references several key documents and schemas used in the data reconciliation process:

- **Vendor Taxonomy Updates:** Bloomberg Schema (2025-08-19) with suffix patterns such as `.LN, .GR, .HK`
- **Moody's Sector Change Notices:** Codes such as *MDY-SEC-2401* to *MDY-SEC-2420*
- **FactSet Concordance Rules:** Mapping protocols for CUSIP, ISIN, and SEDOL identifiers
- **Steward Override Procedures:** Approval matrices and threshold limits
- **Lineage Documentation Templates:** Standardized formats for

recording source and transformation lineage

Additional supporting materials include error code definitions and affected module documentation.

4. Roles and Responsibilities

Role	Responsibilities
Data Steward	Maintain data quality, perform initial validations, and document lineage
Reconciliation Analyst	Execute reconciliation steps, review cross-source discrepancies, and perform validation checks
MDM Team Lead	Oversee operations, approve overrides, and escalate unresolved issues
Stewardship Committee	Review override requests, approve changes, and update governance policies
IT Support	Maintain data schemas, assist with system integrations, and develop validation tools

5. Sub-Product Mapping Overview

The purpose of sub-product mapping is to establish a clear relationship between different classification schemes (e.g., local line vs ADR), share classes, and ETF constituents. Accurate mappings enable consistent reporting, compliance, and downstream analytics. The key activities include:

- Identification of sub-product attributes from multiple data sources
- Validation of identifiers—CUSIP, ISIN, SEDOL—against vendor and internal schemas
- Reconciling differences through automated rules and manual review
- Recording lineage and approval for each mapping change

Figure 1 below illustrates typical sub-product relationships:

6. Data Sources and Taxonomies

6.1. Vendor Data Schemas

Data is primarily sourced from vendor schemas such as Bloomberg and Moody's. Key patterns include:

Source	Schema Format	Suffix Patterns	Description
Bloomberg	XML, CSV	.LN, .GR, .HK	Locations for local market identifiers, exchange codes, and currency-specific tags
Moody's	XML, proprietary	MDY-SEC-24xx	Sector classification codes for issuer and security levels

6.2. FactSet Concordance Rules

FactSet provides standardized rules to map CUSIP, ISIN, and SEDOL identifiers across different vendors and internal records. Example rule:

```
IF vendor_code = 'Bloomberg' AND identifier_type = 'CUSIP' THE
```

These rules are embedded within validation tools and are periodically reviewed.

6.3. Other Data Sources

- Internal lineage records document data transformations
- Steward override documentation logs manual change approvals

7. Mapping Process and Procedures

7.1. Prerequisites

- Access to the latest vendor taxonomy files and schemas
  - Updated FactSet concordance rules and internal lineage templates
  - Proper permissions for manual overrides and approvals

7.2. Step-by-Step Procedure

1. **Data Acquisition:** Extract latest data feeds from Bloomberg, Moody's, FactSet, and internal sources.
2. **Initial Validation:** Run automated validation scripts to check identifier formats, code suffixes, and completeness.
3. **Cross-Source Reconciliation:** Use reconciliation algorithms to compare mappings between sources. Highlight discrepancies.
4. **Manual Review:** Investigate flagged items, verify with supplemental data, and decide on override actions if necessary.
5. **Override Application:** Apply manual overrides following approval procedures documented in the stewardship matrices.
6. **Documentation:** Record all changes, reasoning, and lineage details in standardized templates.
7. **Final Validation and Sign-Off:** Perform holistic review before finalizing mappings for production use.

7.3. Verification and Key Checkpoints

  - Verification of identifier formats against vendor schemas
  - Cross-reference checks with FactSet mapping rules
  - Manual override approvals documented per stewardship policy
  - Audit trail establishment for each mapping change

8. Validation and Reconciliation Steps

8.1. Automated Validation Checks

Validation Step	Description	Tools/Procedure
Identifier Format Check	Ensure CUSIP, ISIN, and SEDOL formats conform to standards	Validation scripts, regex patterns

Suffix Pattern Validation	Verify suffix patterns (e.g., .LN, .HK) match expected vendor schemas	Schema validation tools
Sector Classification Match	Compare Moody's sector codes to internal sector classifications	Comparison algorithms

8.2. Cross-Source Reconciliation

- Compare mappings from Bloomberg, Moody's, FactSet, and internal lineage records
- Identify conflicts or discrepancies exceeding tolerance thresholds
- Flag discrepancies for manual review

8.3. Discrepancy Resolution Workflow

1. Initial assessment by reconciliation analyst
2. Consultation of supporting documentation or source data
3. Determine if override is warranted
4. Proceed with override if approved; else escalate

9. Manual Override Conditions and Procedures

9.1. Conditions for Override

- Discrepancies unresolvable via automated processes
- New or exceptional cases not yet captured in schema updates
- Errors flagged with error codes such as MDM-ID-3102, MDM-LIN-2207, or MDM-COM-1905 that cannot be rectified automatically

9.2. Override Approval Process

1. Review override request with detailed justification
2. Submit request to stewards according to approval matrices (see section 12)
3. Obtain documented approval (digital signatures preferred)
4. Apply override in the master record with notes explaining rationale

9.3. Limitations and Controls

- Overrides must be supported by documented evidence
- Frequency of overrides monitored periodically
- Thresholds for manual intervention established by governance committees

10. Documentation and Lineage

10.1. Lineage Documentation Templates

All mapping changes must be recorded using standardized lineage templates, which include:

Field	Description
Date & Time	Timestamp of change
Source System	Original data source (e.g., Bloomberg .LN)
Mapping Type	e.g., ADR vs Local, Share Class, ETF Constituent
Identifiers Involved	Source and internal CUSIP/ISIN/SEDOL
Change Description	Detailed explanation of the change
Approved By	Authorizing steward/manager
Approval Date	Date of approval
Supporting Documentation	Links or references to approval memos, schema snapshots

10.2. Lineage Recording Procedure

Every mapping update must be accompanied by documentation stored in DMS (Document Management System) aligned with governance policies. The process involves:

- Completing lineage templates post-validation

- Uploading supporting files
- Ensuring traceability in internal audit trails

11. Error Handling and Resolution

11.1. Common Error Codes

Error Code	Symptoms	Root Cause	Resolution	Prevention Tips
MDM-ID-3102	Conflicting identifiers; multiple records claim same ID	Duplicate data entry, inconsistent schema updates	Perform duplicate check, reconcile or merge records	Implement unique constraints, automate duplicate detection
MDM-LIN-2207	Lineage gap detected	Missing transformation documentation or schema mismatch	Trace back to origin, fill missing lineage details, validate transformations	Ensure comprehensive lineage updates with each change
MDM-COM-1905	Comment required for ambiguous data	Insufficient data context	Add comments from data steward, re-validate	Mandatory comments for flagged items