Entity-Relationship Diagram

SUB

adsh, name, cik, sic, cityba, zipba, bas1, mas1, fp, countryba, stprba, prevrpt, detail, floatdate, floataxis, floatmems, countryinc, mas2, nciks, aciks, pubfloatusd, afs, wksi, fye, form, period, fy, changed, former, ein, stprinc, bas2, baph, accepted, countryma, cityma

SUB **Has** (1 ... M) NUM

SUB **Has** (1 ... M) PRE

SUB **Tagged by** (1 ... M) TAG

NUM

adsh, tag, bas1, durp, footnote, footlen, version, dimh, qtrs, dcml, coreg, datp, ddate, uom, iprx, dimn, value

NUM **Has** (M ... 1) DIM

DIM

segments, segt, dimh

TAG

Order, tag, version, tlabel, custom, crdr, abstract, iord, datatype, tag.version

TAG **Has** (M ... M) PRE

PRE

line, adsh, report, stmt, inpth, tag, version, prole, plabel, negating

ER Diagram Description

Entities and Attributes:

1. **SUB**: Contains 40 different attributes, such as adsh, sic, name, cityba, fp, and many others that appear to describe metadata for a submission or report, including identifiers, date fields, and classifications.

   Primary Key:

   adsh: This attribute appears to be a unique identifier for each submission or report. It acts as the primary key for the SUB entity.

   Foreign Keys:

   adsh is being referenced to other entities, such as NUM, PRE, and DIM, to establish relationships between a submission and its associated data. Thus, adsh serves as a foreign key in those related entities.

2. **NUM**: Contains 17 attributes like adsh, tag, bas1, dimh, uom, and value, which may represent numerical data, dimensions, units of measure, and values related to financial data.

   Primary Key:

   A combination of adsh, tag, version, and ddate could serve as a composite primary key for NUM, as each adsh can have multiple entries for different tags, versions, and dates. This composite key ensures uniqueness for each entry within the NUM table.

   Foreign Keys:

   adsh: Refers to the primary key in the SUB entity, establishing a relationship where each numerical entry in NUM is linked to a specific submission in SUB.

   tag and version: Refer to the primary key in the TAG entity, linking each numerical entry to a specific tag and version for better identification of data items.

   dimh: Foreign key linking to the DIM entity, connecting each numerical entry to a specific dimension, allowing multidimensional analysis in the context of financial reporting.

3. **TAG**: Contains 10 attributes such as tag, version, tlabel, and datatype, which may represent tag labels, types, and associated metadata, likely for taxonomy or tagging of report elements.

Primary Key:

A combination of tag and version serves as a composite primary key for TAG. This ensures that each tag is uniquely identified by its name (tag) and version.

Foreign Keys:

There are no explicit foreign keys in this entity, but it serves as a referenced entity for the NUM and PRE entities, linking data to specific tags.

4. **DIM**: Contains 3 fields segment, dimh, and segt, likely representing dimensional data or segment information within financial reporting.

   Primary Key:

   A combination of dimh and segment could serve as a composite primary key. This key uniquely identifies each dimension entry, providing the structure needed for segment reporting.

   Foreign Keys:

   dimh: Used as a foreign key in NUM, linking each numerical entry to a specific dimension.

   segment: May be referenced by other entities if segment information needs to be connected to other data, but based on the diagram, it is primarily linked with dimh.

5. **PRE**: Includes 10 attributes like line, adsh, tag, version, and other attributes that seem related to the presentation order or layout of data in reports.

   Primary Key:

   A composite key that includes adsh, report, line, and possibly stmt which serves as the primary key for PRE. This combination ensures that each presentation item (line or section in the report) is uniquely identified within each submission.

   Foreign Keys:

   adsh: Links to the SUB entity as a foreign key, associating each presentation layout with a specific submission.

   tag and version: Foreign keys linking to the TAG entity, associating each line or section with a specific tag and version.

report: Represent a report type or section identifier, and may relate to external information or standardized report formats.

Relationships:

- **SUB to NUM**: The adsh primary key in SUB is referenced as a foreign key in NUM, allowing each submission to link to multiple numerical data entries.
- **NUM to TAG**: The tag and version composite key in TAG is referenced in NUM, connecting numerical entries to specific tag definitions for better categorization.
- **NUM to DIM**: The dimh foreign key in NUM connects to DIM, establishing a link to segment or dimension-specific data.
- **SUB to PRE**: adsh in PRE refers back to SUB, ensuring each presentation entry (line/section in a report) is tied to a specific submission.
- **PRE to TAG**: The tag and version keys in PRE reference TAG, allowing the organization of presentation items by specific tags and versions.