What was in my Codelist last week?

The art of metadata time travel

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Time Travel in MEDAL

- MEDAL is a consolidated data integration layer:
  - Ingesting data
  - Archiving data
  - Normalizing data
  - Integrating data
- MEDAL is metadata driven (SDMX)
- MEDAL offers a consolidated view of the data, including how data were at any point in the past. Therefore, **data** are **never removed** and previous values are **never overwritten**
- **Metadata** need also to be available **at any given point in time**

MEDAL and metadata

- MEDAL is using a central FMR for all its metadata

- Going back in time, a user may need to:
  - Understand why validation failed
  - Reconstruct an old submission from an original file

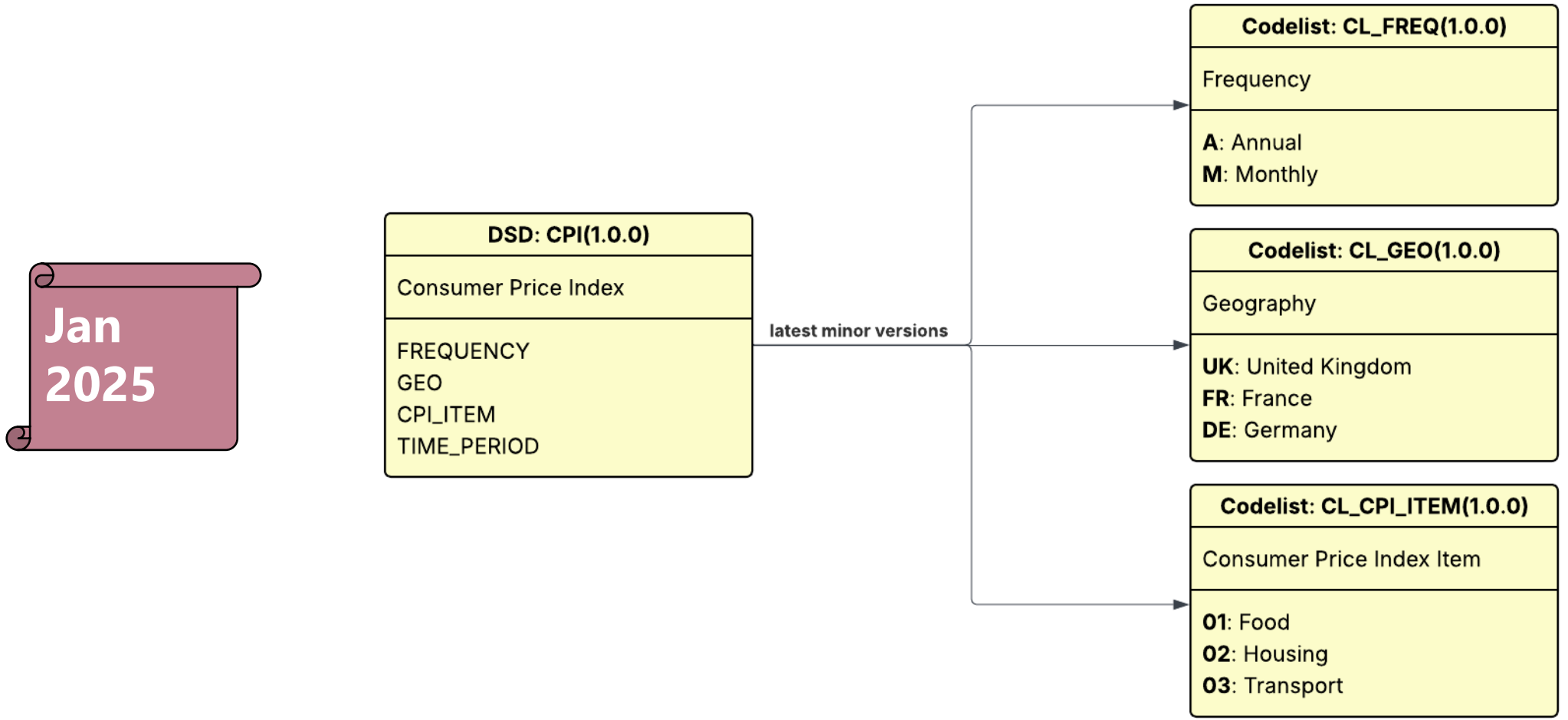
- For the above, user needs data and metadata at that given moment

- Data are provided by MEDAL, based on the time of persistence
- Metadata are provided by the FMR, for the same moment in time

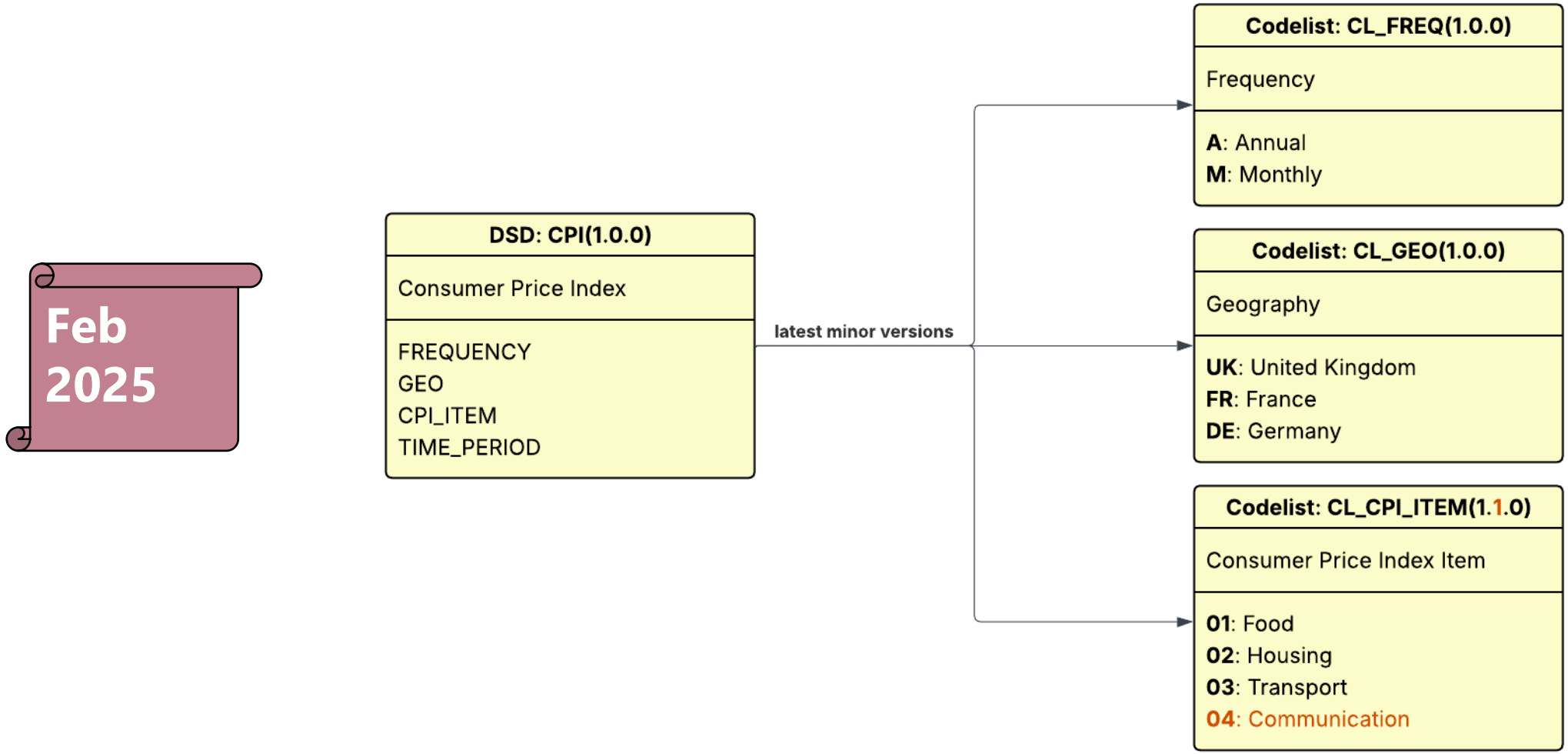
Metadata Time Travel & Semantic Versioning

Stability and Context

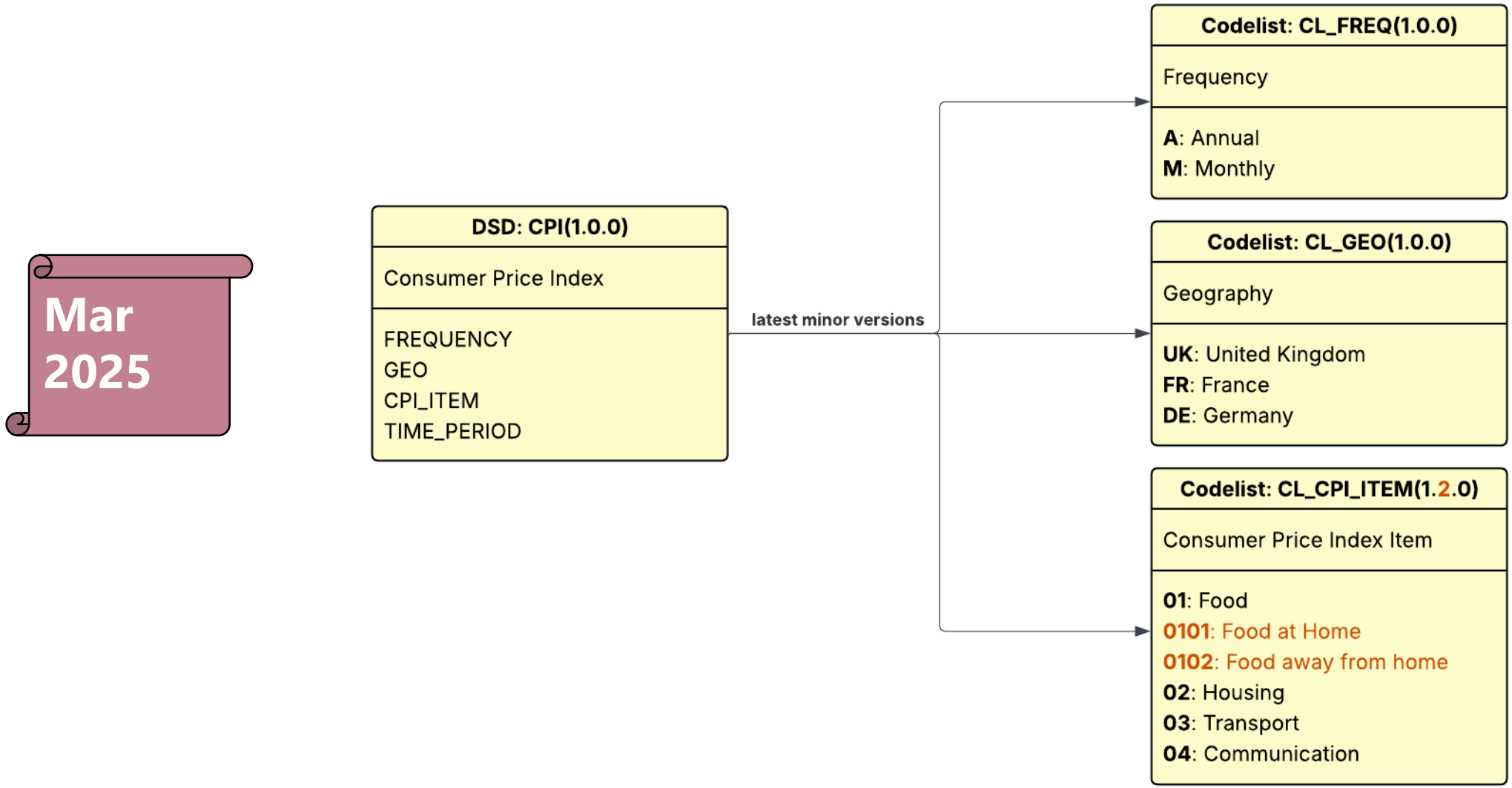
Semantic versioning allows metadata to evolve over time



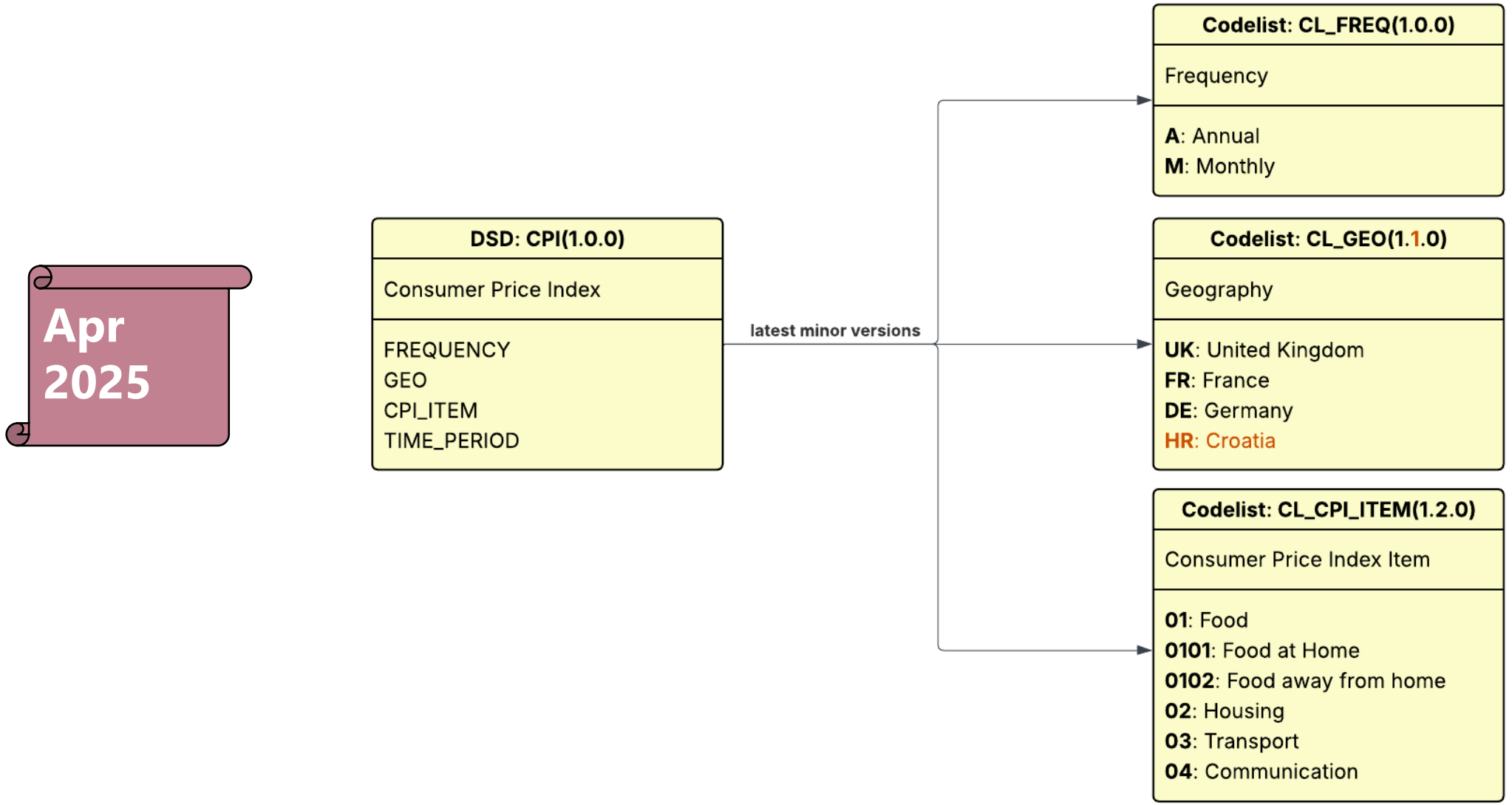
Think of the relationships between structures forming a graph



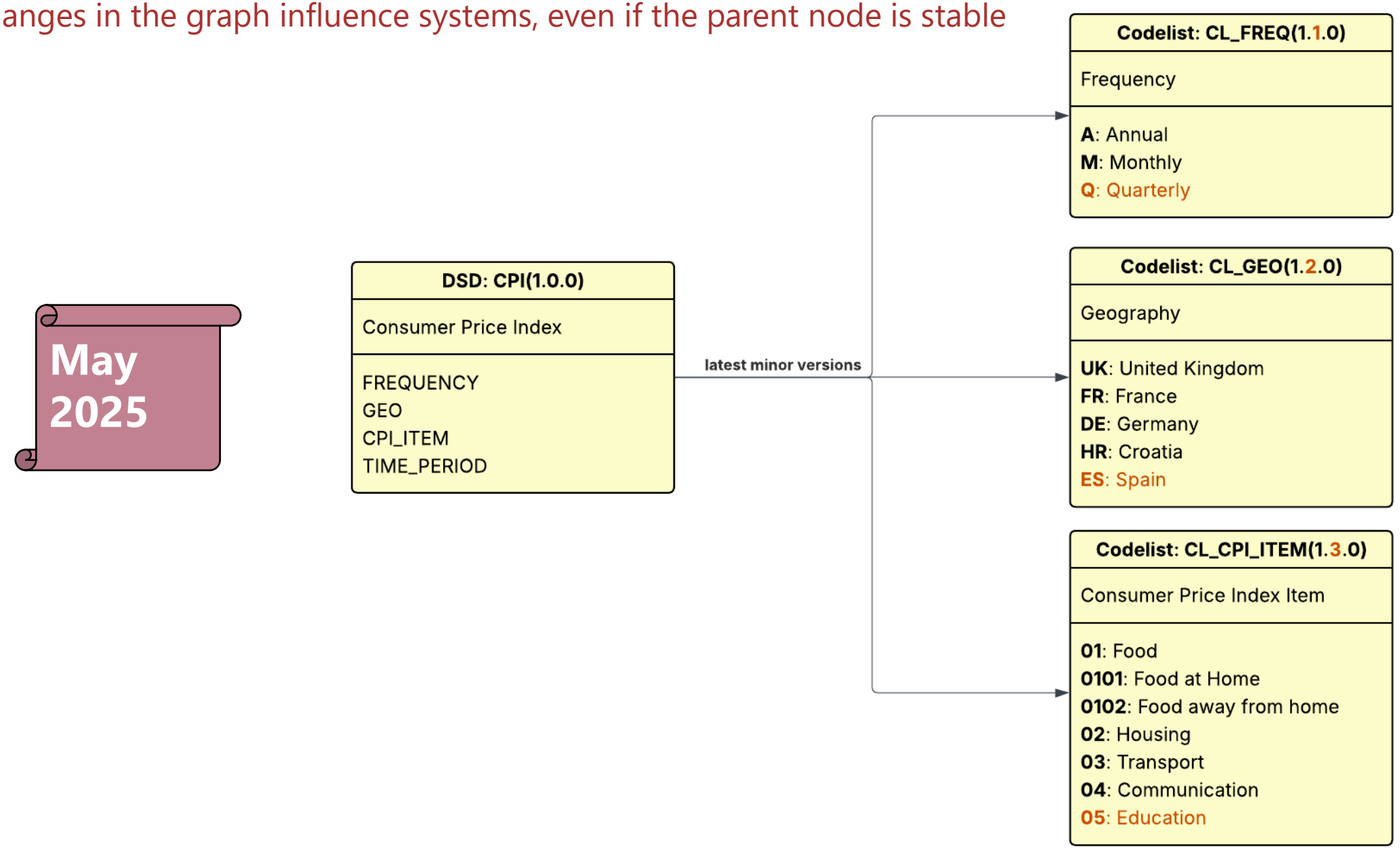
Each node in the graph can change independently



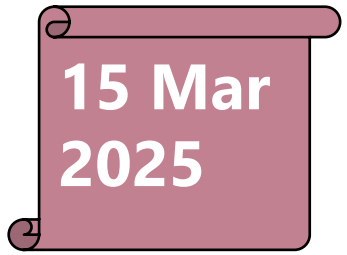
The parent node remains stable



Changes in the graph influence systems, even if the parent node is stable



What did the graph look like at a given point in time?



Metadata Time Travel enables a system to request a structure and its related structures at any given point in time

For semantic versioning, the exact graph of structures is reconstructed as it was

Each individual structure in the version that it was at the specific point in time

Semantic Versioning & Metadata Time Travel

Semantic Versioning
Immutability and referential integrity

Metadata Time Travel
Contextual retrieval across time