Content Oriented Guidelines for Units of Measure In SDMX

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SDMX SWG – Units of Measure task group:
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Context and rationale

Context

- The work initiated in the SDMX Statistical Working Group (SWG)
- It was preceded by several discussions in SDMX experts' meetings and global DSD exercises (Labour statistics, SDGs, etc.) over the last decade

Rationale

- Alignment with established scientific best practice
  - reliance on dimensional analysis
- What is special about socio-economic statistics?
- What is special about a data-warehousing context?

Socio-economic statistics

- Economic value as a new dimension (straightforward)
  - although with complexities (time variance) -> or variations that are worth modelling on multiple dimensions

- Measuring numerosity of sets

  e.g. population, unemployed with UoM *persons*

  - SI proposes two ways: ‘amount of substance’ with *mole* as a base unit, or a special ‘number of entities’ concept, outside the dimensional system with *1* as the base unit
  - ‘number of entities’ is special in many ways (discreteness of scales, contextuality, difficult to pin down dimensions, hierarchic organisation and non-determinacy),
    however, at closer inspection, many of those disappear
  - A utilitarian approach – switching on dimensional analysis
    use UoMs to propose ‘computation and comparability scope’

Data-warehousing

- SDMX and data-warehousing adds value by
  revealing the structure and inter-connectedness of data
  (as opposed to just a bunch of data)

- Two implications:
  - Ratios of commensurable quantities have two equivalent representations
    favour/consider the 'change of unit of measure' representation of the data
    e.g. Debt to GDP ratio = 0.84 [? USD^0] vs. Debt = 84 [% of GDP]

  - Units of measures might have a structure themselves, represented as a combination of multiple dimensions and attributes
    e.g. Currency: EUR, Price base: constant, Base year: 2010, Unit multiplier: Thousands

Going forward

Jan – Sep 2025	Public review and incorporating comments
Oct 2025	Presentation at SDMX GC Seeking approval from Secretariat for publication
2026	Extend the guidelines in true SDMX 3.0 fashion with: - SDMX artefact templates, - code-lists and concepts