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Common Language

Hiroaki OGAWA, UNSD

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This presentation is...

- To initiate discussions on establishing a **common language for CF-SPSS** to describe elements in the system (principles, structure, concepts-definitions-classifications), borrowing SDMX's concept schemes.
- To showcase some gaps and inconsistencies among **internationally agreed concepts and definitions on population and population groups**
- To list up possible **cross-domain classifications related to demographic and social statistics**.

PART ONE:
Sytem's Elements

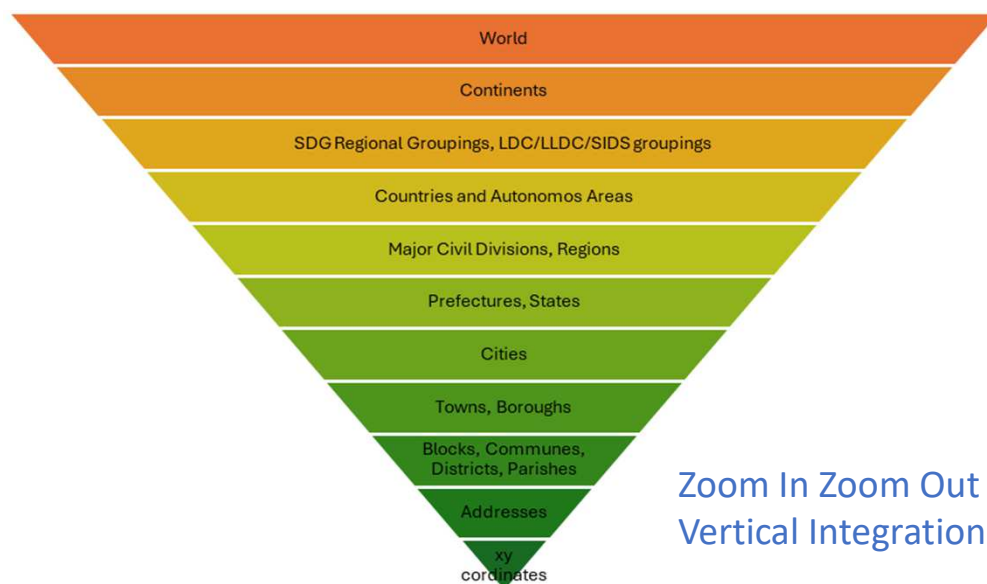


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Are we referring to the same things in these words?

- Building blocks: system's components or areas of work?
- Domains, dimensions, themes, outcomes
- Population groups, population segments
- Vertical integration: hierarchy in classification
- Zoom In Zoom Out: Data aggregation and disaggregation
- Horizon integration: harmonizing statistical standards among statistical domains
- **An established glossary is necessary**



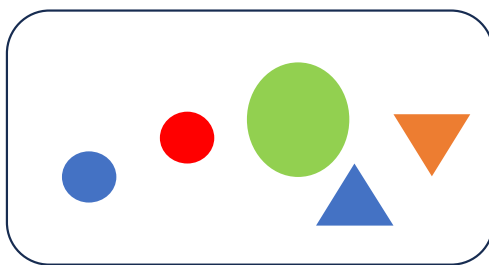
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System's Elements

Strategic Recommendations specify three key elements of CF-SPSS.

1. **A set of principles:** scope and boundary to identify relevant concepts
2. **Structure:** framework to organize concepts and relate with other two systems
3. **A common language:** describe the system's concepts in detail





Common Language

Concepts – Definitions – Classifications

- Concepts on population and population groups
- Concepts on outcomes
 - Cross-domain classifications
 - Domain-specific classifications
- Concepts to describe the system's principles
 - "properties", "universality", "comparability"
- Concepts to describe the system's structure
 - "scope", "boundaries", "system", "framework", "domains"

Concept: Children

Definition: Persons under 15 years old

Classification: under 1, under 5

Concept: Education

Definition: no formal definition?

Classification: ISCED

Concept: Comparability

Definition: Extent to which differences between statistics can be attributed to differences between the true values of the statistical characteristics.

Classification: n.a.

SDMX as a Common Language

A proposal to build the system's common language on the taxonomy of the Statistical Data and Metadata eXchange (SDMX).

SDMX is an ISO standard to describe statistical data and metadata.

- Sponsored by BIS, ECB, Eurostat, ILO, IMF, OECD, UNSD, WB
- Enables interoperable implementations in data exchange, reporting and dissemination within and between systems
- Since 2013, when the first data exchange was implemented covering National Accounts, Balance of Payment and FDI, SDMX has been applied to other statistical systems such as SEEA and SDG indicator framework.

SDMX as a Common Language

SDMX Concept Schemes contain concepts and their definition

- List of concepts for National Accounts
- Concept Scheme for Prices
- List of concepts for SEEA
- SDG Concept Scheme

- **Cross-domain concepts**

Name	Description
Accounting conventions	Practical procedures, standards and other aspects used when compiling data from diverse sources under a common methodological framework.
Accuracy	Closeness of computations or estimates to the unknown exact or true values that the statistics were intended to measure.
Accuracy - overall	Assessment of accuracy, linked to a certain data set or domain, which is summarising the various components into one single measure.
Action type	Behaviour to be undertaken by a system processing the information contained in a SDMX message.
Adjustment	Set of procedures employed to modify statistical data to enable it to conform to national or international standards or to address data quality differences when compiling specific data sets.
Age	Length of time that an entity has lived or existed.
Agency scheme	Maintained collection of maintenance agencies.
Annotable artefact	Construct capable of defining annotations
Annotation	Construct that contains user or organisation-specific metadata.
Artefact	Abstract concept denoting an element in the SDMX model having specific characteristics which are inherited by other elements.
Asymmetry for mirror flows statistics - coefficient	Difference or absolute difference of inbound and outbound flows between a pair of countries divided by the average of these two values.



SDMX: Cross-domain Concepts

Widely Used Cross-domain Concepts

- Statistical indicator
- Reference areas
- Sex
- Age
- Unit of measure
- Unit multiplier
- Time period
- Observation value

229 Cross-domain Concepts in total

- Accounting conventions
- Maintenance Agency / Compiling agency
- Coherence, Relevance, Accuracy
- Data collection method
- Comparability – geographical or over time
- Hierarchy
- Quality management
- **Statistical subject-manner domain**

- Statistical Population
- Civil status
- Economic activity
- Occupation



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SDMX Statistical Subject-matter Domains

Demographic and Social Statistics

- Population and migration
- Labour
- Education
- Health
- Income and consumption
- Social protection
- Human settlement and housing
- Justice and Crime
- Culture
- Political and other community activities
- Time Use

Multi-domain statistics and indicators

- Living conditions, poverty, and cross-cutting social issues
- Gender and special population groups
- Information society
- Globalisation
- Indicators related to the MDGs
- Sustainable Development
- Entrepreneurship

(Statistical) Outcome Domains

PART TWO:

Concepts on Population and Population Groups

Identifying and Analyzing Concepts on Population

1. Compile **internationally agreed concepts and definition of “population” and “population groups”** from international statistical guidelines as well as the UN conventions, declaration and political documents.
2. Where internationally agreed statistical definitions for certain population groups are lacking, reference is made to documents adopted by the Conference of European Statisticians or other United Nations entities to complement the analysis.
3. Identify **gaps and inconsistencies between statistical and policy definitions in social demographic statistics.**



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Broader Concepts on Population Groups

- Statistical population concepts
- Age-based population groups
- Sex-based population groups
- Location-based population groups
- Migrant population
- Other population groups

- Concepts on household
- Concepts on family
- Relationship-based population groups



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Concepts on Household and Family

Household type

- One-person household
- Multi-person household
 - Housekeeping concept
 - Household dwelling concept
- Nuclear household
- Extended household
- Composite household

Family nucleus type

- A married or cohabitating couple
 - without children
 - with one or more unmarried children
- A lone father with one or more unmarried children
- A lone mother with one or more unmarried children

The key differences between the household and the family are that:

- (a) a household may consist of only one person but a family must contain at least two members;
- (b) the members of a multi-person household need not be related to each other, while the members of a family must be related. (para. 5.138, PRrev4)





Relationship-based Population Groups

Population by status in household

Person in a household with at least one family nucleus

- Married spouse
- Partner in consensual union (cohabiting partner)
- Lone mother: **single mother population**
- Lone father: **single father population**
- Child living with
 - Both parents
 - Lone mother: **children with single mother**
 - Lone father: **children with single father**
- Not a member of a family nucleus, living with
 - Relatives
 - Non-relatives: **what role they have?**

Person in a household with no family nucleus

- living alone: **single population (living alone)**
- living with others
 - Sibling(s) only
 - Other relatives only
 - Non-relatives only
 - A combination of siblings, other relatives and non-relatives



Relationship-based Population Groups

Population by status in family

- Husband
 - With children
 - Without a child
- Wife
 - With children
 - Without a child
- Cohabiting partner (or either sex)
 - With children
 - Without a child
- Lone parent
 - Male: [single father population](#)
 - Female: [single mother population](#)
- Child with
 - Both parents
 - Lone parent: [children with single parent](#)
 - Lone father
 - Lone mother
- Not member of a family nucleus
 - Relative of husband or wife
 - Parent of husband or wife
 - Sibling of husband or wife
 - Other relative of husband or wife



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Identified Gaps and Inconsistencies

No official/statistical definitions:

- Ethnic, religious and linguistic minorities
- Indigenous peoples
- Nomadic population (nomads)

Concepts on family

- Family members living outside a household
- Non-family members living in a household: who are they?

Identified Gaps and Inconsistencies

Inconsistent definitions of children:

- under 15 in PR
- under 18 in the Convention of the Rights of the Child
- **Definition of child labour: 5-17 in SDG indicator 8.7.1**
- Definition of child marriage seems consistent.

Inconsistent definitions of working-age population

- 15+ by ICLS
- 15-64 (or 20-64) in calculation of dependency ratio

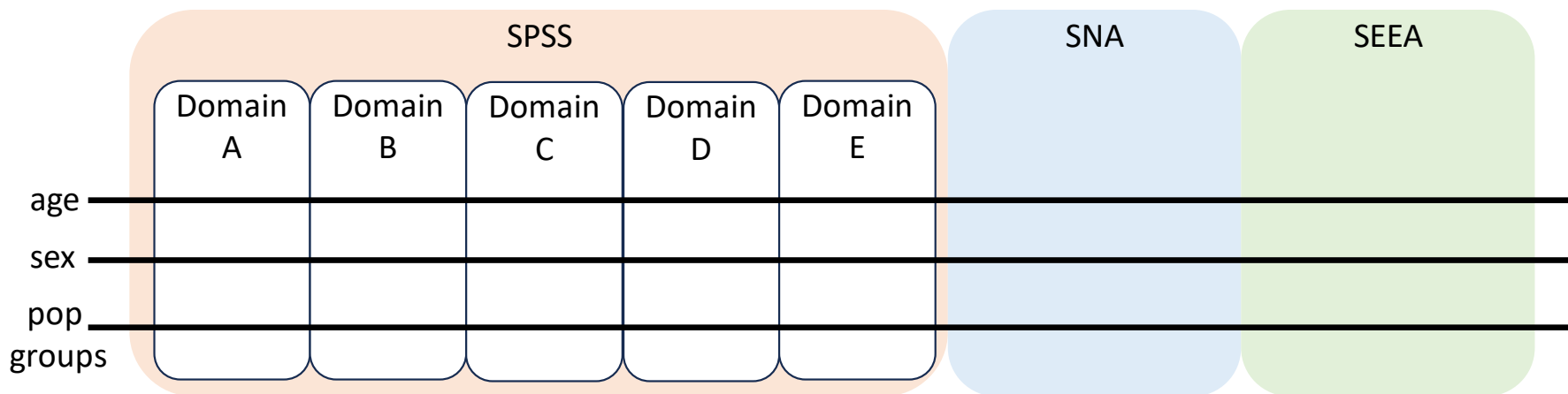
Inconsistent definitions of older persons:

- 60+ in PR and the Madrid International Plan of Action on Ageing
- 65+ in UN flagship reports: World Population Ageing Report 2023, World Social Report 2023
- 65+ in calculation of total dependency ratio and old-age dependency ratio

PART THREE:
Cross-Domain Classifications

Identifying Cross-Domain Classifications

1. **No globally agreed (statistical) outcome domains exist.** Thus, I am not going to talk about domain-specific classifications today.
2. Rather try to identify **cross-domain classifications** based on core census topics in the Principles and Recommendations for Population and Housing Censuses and SDMX cross-domain concepts.



Cross-domain: P&R Core Topics

- **Age:** single age
- **Age:** 0 years old (under 1 age group), 1-4 years old, five-year age groups
- **Sex at birth:** male, female
- **Marital Status:** single (never married), married, legally separated, married but separated, in consensual union, widowed and not remarried, divorced and not remarried
- **Migration Status:** native-born citizen, foreign-born citizen, native-born foreign citizen, foreign-born foreign citizen
- **Disability Status:** without disability, with disability (walking, seeing, hearing, cognition, self-care and communication)

Cross-domain: Other Age Classifications

Special Age Groups for Policy Relevance and Statistical Reporting

- 0-17 years old: children as defined in the Convention of the Rights of the Child.
- 5-17 years old: for calculating proportion and number of children in child labour as per SDG 8.7.1.
- 5-24 years old: population by school attendance in the United Nations Demographic Yearbook (DYB)
- 10+ years old: population by literacy in the DYB
- 15+ years old: population by educational attainment in the DYB

Age-limit Groups

- 75+ years old: age limit group recommended for migration statistics and labour force statistics
- 100+ years old: age limit group currently used in the DYB
- 110+ years old: age limit group currently used in Eurostat

Cross-domain: Other Age Classifications

Aggregation for Age-based Population Groups

- 0-4 years old: children under 5 years old
- 0-14 years old: children as defined in the Principles and Recommendations
- 10-19 years old: adolescents as defined by the World Health Organization and United Nations Children's Fund
- 15-24 years old: youth as defined in the Principles and Recommendations
- 15+ years old: de fact international definition of the working-age population by the International Conference of Labour Statisticians
- 60+ years old: older persons as defined in the Principles and Recommendations
- 65+ years old: older persons in recent United Nations reports



Cross-domain: Places – Geospatial Units

Administrative Geospatial Units

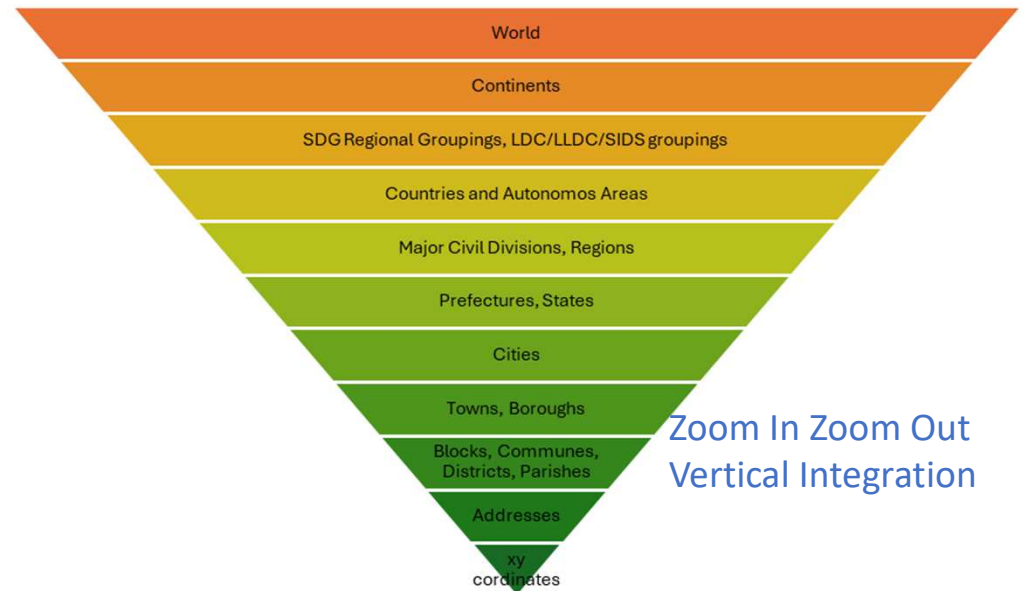
- Xy coordinates to World
- Countries and Areas: M49, ISOs
- Major Divisions: Second Administrative Level Boundaries (SALB)
- Cities: Universal Unique Identifier for Cities

Analytical Geospatial Units

- Urban/Rural: national definition
- Cities, towns, rural areas: DEGURBA
- Groups of Countries: SDG regions, LDC, LLDC, SIDS, HDI-based groups
- Regions (NUTS)
- Localities

Statistical Geospatial Units

- Enumeration Areas
- Population Grids



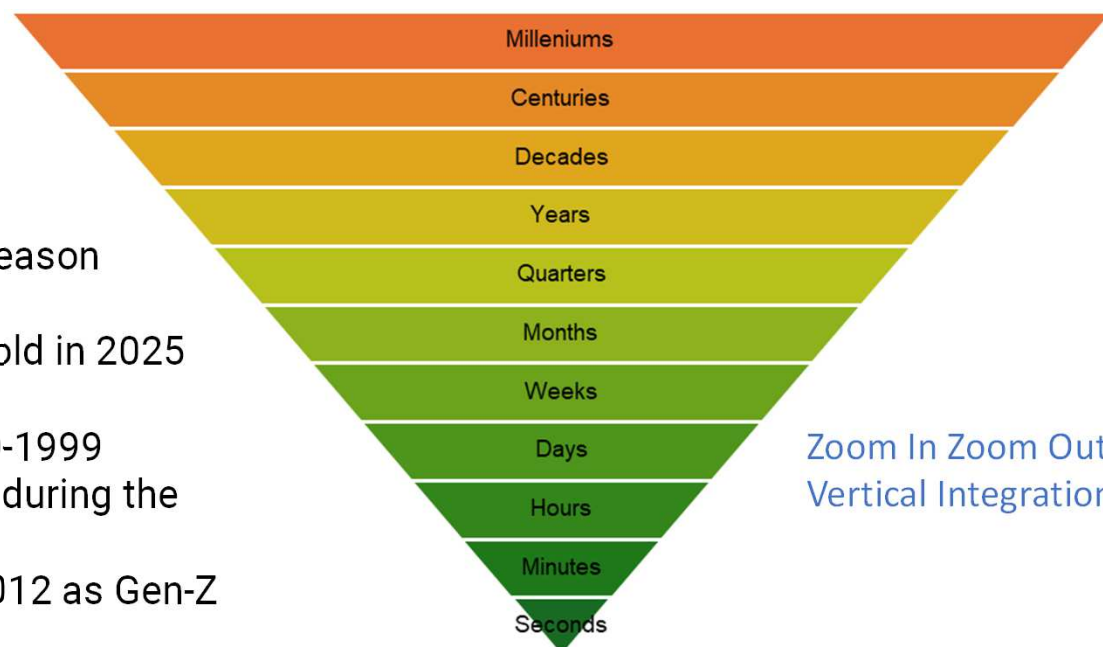
Cross-domain: Time – Time Scales

Standard Time Scales

- Seconds to Millenniums

Other Time Scales

- Seasons: spring, summer, fall, winter
- Seasons: high-season, low-season, off-season
- Calendar months: January to December
- Age cohorts: e.g., people aged 38 years old in 2025 (people born in 1987)
- Period cohorts: e.g., People born in 1990-1999
 - Special period cohorts: people born during the Great Recession
 - Generations: people born in 1995-2012 as Gen-Z





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Discussion Topics

- Proposal: common language built on SDMX taxonomy
- What constitutes the system's (statistical) outcome domains?
- Missing concepts and definitions
- What classification should be "cross-domain"? Who decides it, the successor mechanism?



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Thank you.



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Example of Domain-Specific Classification: Education

- Literacy
- School Attendance

- **Education Attainment:** International Standard Classification of Education (ISCED)
- **Education Programme (non-core):** ISCED
- **Field of Education and Training (non-core):** ISCED

- **Use of technologies:** ITU manual
- **ICT Skills (proposed):** Information and data literacy, Communication and collaboration, Digital content creation, Safety, and Problem-solving

- Skills in reading, mathematics and science: OECD PISA



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