Towards a System of Population and Social Statistics

Scope and Purpose: building on past and current practices in social matrices, statistics and indicators

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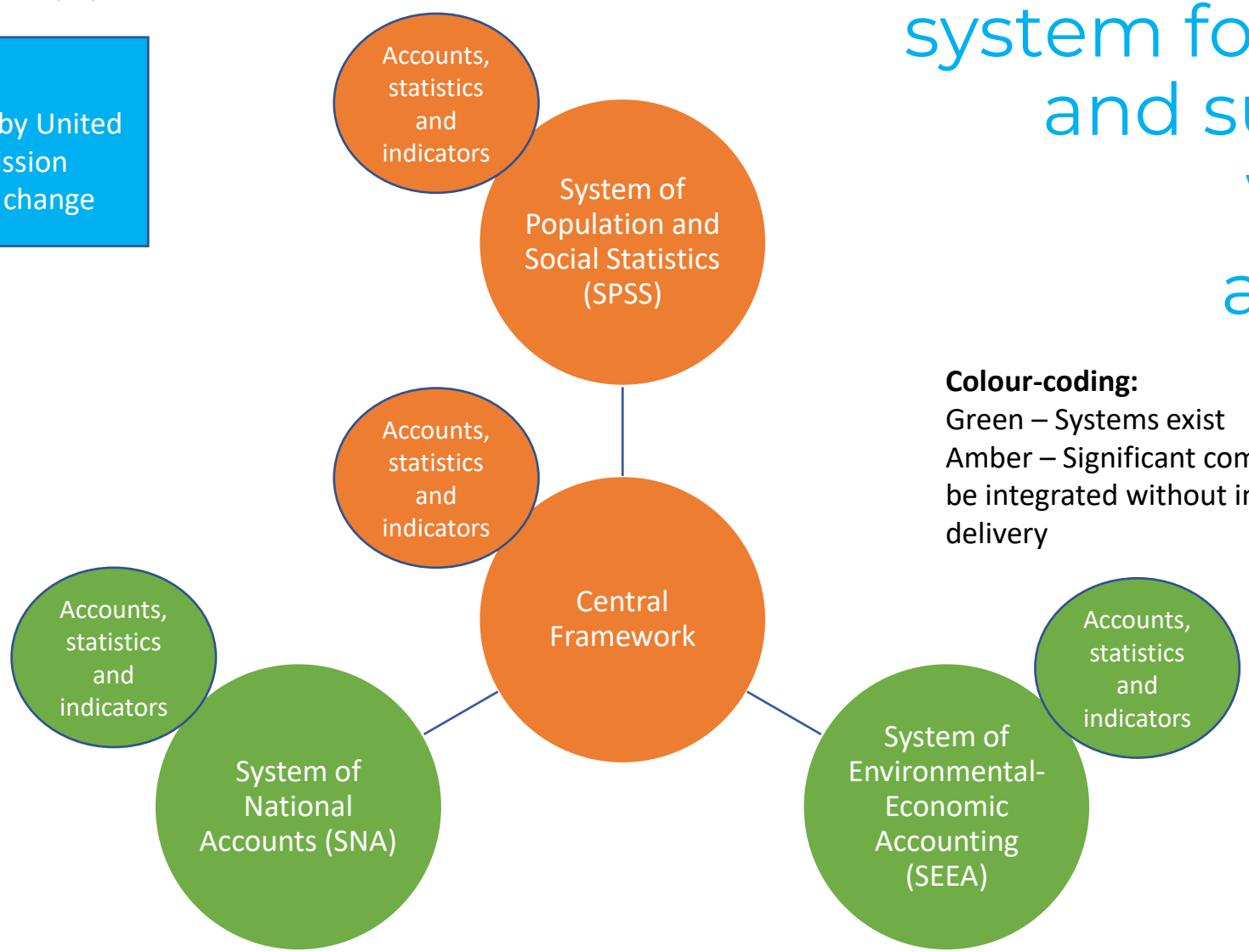
Integrated statistical system for inclusive and sustainable wellbeing: a snapshot

Notes:
1. exploration mandated by United Nations Statistical Commission
2. terminology subject to change



Colour-coding:
Green – Systems exist
Amber – Significant components already exist and can be integrated without interrupting current statistical delivery

Efforts towards a systematic development of social matrices, statistics and indicators

- Towards a System of Social and Demographic Statistics (SSDS), draft in 1970 and published in1975, with supporting guidelines on SSDS related social indicators (main author Sir Richard Stone, also the author of the System of National Accounts, 1968)
- Framework for the Integration of Social and Demographic Statistics in Developing Countries (1974) as companion document

  - an attempt to establish in the social and demographic statistics domain, a system complementing the system of national accounts for economic statistics
  - desirability of establishing a closer relationship between social-demographic and economic statistics, particularly the system of national accounts

Efforts towards a systematic development of social matrices, statistics, and indicators

- System of Social and Demographic Statistics:
  - structured around subsystems/themes for social concerns/conditions
  - consistent concepts, definitions, classifications, and matrices for subsystems
  - socio-demographic matrices for sub-systems linking stocks (state) and flows (change of state) of individuals and groups of individuals
  - link to economic information (e.g., the cost of the provision of services, the distribution of income, consumption and accumulation) organized as an extension of the System of National Accounts
  - time budget information advocated
  - regional and geographical information advocated
  - record linkages of individuals advocated for source data connecting the characteristics of subsystems advocated
  - longitudinal/time series advocated

System of Social and Demographic Statistics

Efforts towards a systematic development of social accounting, statistics and indicators

System of Social and Demographic Statistics (SSDS) – 11 Sub-systems/themes and simplified Framework for developing countries

	Developing countries
1. Size and structure of the population (births, deaths and migration)	X
2. Family formation, families and households	
3. Social class stratification and mobility	
4. Distribution of income, consumption, and accumulation	X
5. Housing and the environment	X
6. Allocation of time and leisure	
7. Social security and welfare services	
8. Learning activities and educational services	X
9. Employment, unemployment, and the inactive	X
10. Health, health services and nutrition	X
11. Public order and safety	

Efforts towards a systematic development of social accounting, statistics and indicators: example population stock and flow

Table 3.2. The male population of England and Wales: the 1960 vintage

(Thousands)

State at new year θ / State at new year θ + 1		Outside world	England and Wales: 1961 Age 0	1962 Age 1	1963 Age 2	1964 Age 3	1965 Age 4	1966 Age 5	1967 Age 6	Total
Outside world		8.9	1.5	0.5	0.3	0.2	0.2	0.2	0.2	
England and Wales	1960. Age 0	395.3								395.3
	1961. Age 1	0.0	393.8							393.8
	1962. Age 2	1.7		393.3						395.0
	1963. Age 3	0.3			394.7					395.0
	1964. Age 4	-0.8				394.8				394.0
	1965. Age 5	-0.8					393.8			393.0
	1966. Age 6	-0.8						392.8		392.0
Total			395.3	393.8	395.0	395.0	394.0	393.0	392.0	

Efforts towards a systematic development of social accounting, statistics and indicators: : example population stock and flow by educational detail

Table 3.3. The male population of England and Wales classified by age and school attendance, 1965

(Thousands)

State at new year 1965 / State at new year 1966			Outside world	England and Wales													Total
				Age 0	Age 1	Age 2		Age 3		Age 4		Ages 5-15		Ages 16-19		Ages 20+	
				Not at school	Not at school	Not at school	At school	Not at school	At school	Not at school	At school	Not at school	At school	Not at school	At school	Not at school	
Outside world			8.3	1.5	0.5	0.3		0.3		0.2		0.2	1.6	1.4		268.0	282.3
England and Wales	Age 0	Not at school	434.9														434.9
	Age 1	Not at school		440.7													440.7
	Age 2	Not at school	0.5		426.2												426.7
		At school			1.3												1.3
	Age 3	Not at school	0.3			406.7											407.0
		At school				11.5	1.5										13.0
	Age 4	Not at school	-0.7					292.5									291.8
		At school						101.4	12.8								114.2
	Ages 5-15	Not at school	1.4							8.5		11.9	121.9				143.7
		At school	-5.3							272.8	112.5	8.9	3325.6				3714.5
	Ages 16-19	Not at school	-2.1									139.5	116.2	1005.5	104.6		1363.7
		At school											106.1		90.8		196.9
	Ages 20+	Not at school	21.9											331.9	2.1	15413.2	15769.1
Total			459.2	442.2	428.0	418.5	1.5	394.2	12.8	281.5	112.5	160.5	3671.4	1338.8	197.5	15681.2	23599.8

Further disaggregation of population stock and flows measuring population change -> Inclusive and Sustainable Development

Population age structure is changing rapidly around the world

$p(x,t)$

Many economic activities vary by age and gender, and these age and gender differences are changing, too.

consumption, labor earnings, savings, unpaid care work, use of health care and education services, etc.

$s(x,t)$

These changes have important implications for:

- Economic growth;
- Sustainability of systems of financial support from the family, the state, and financial markets.
- Inequality by age, gender, socioeconomic group, and generation.

$$S(t) = \sum s(x,t)*p(x,t)$$

Deriving National Transfer Accounts (NTA) from SNA for consistency between socio-demographic statistics and national accounts

$$C + S = Y^l + Y^k + Y^p + \tau$$

Consumption + Savings = Primary Income + Transfers

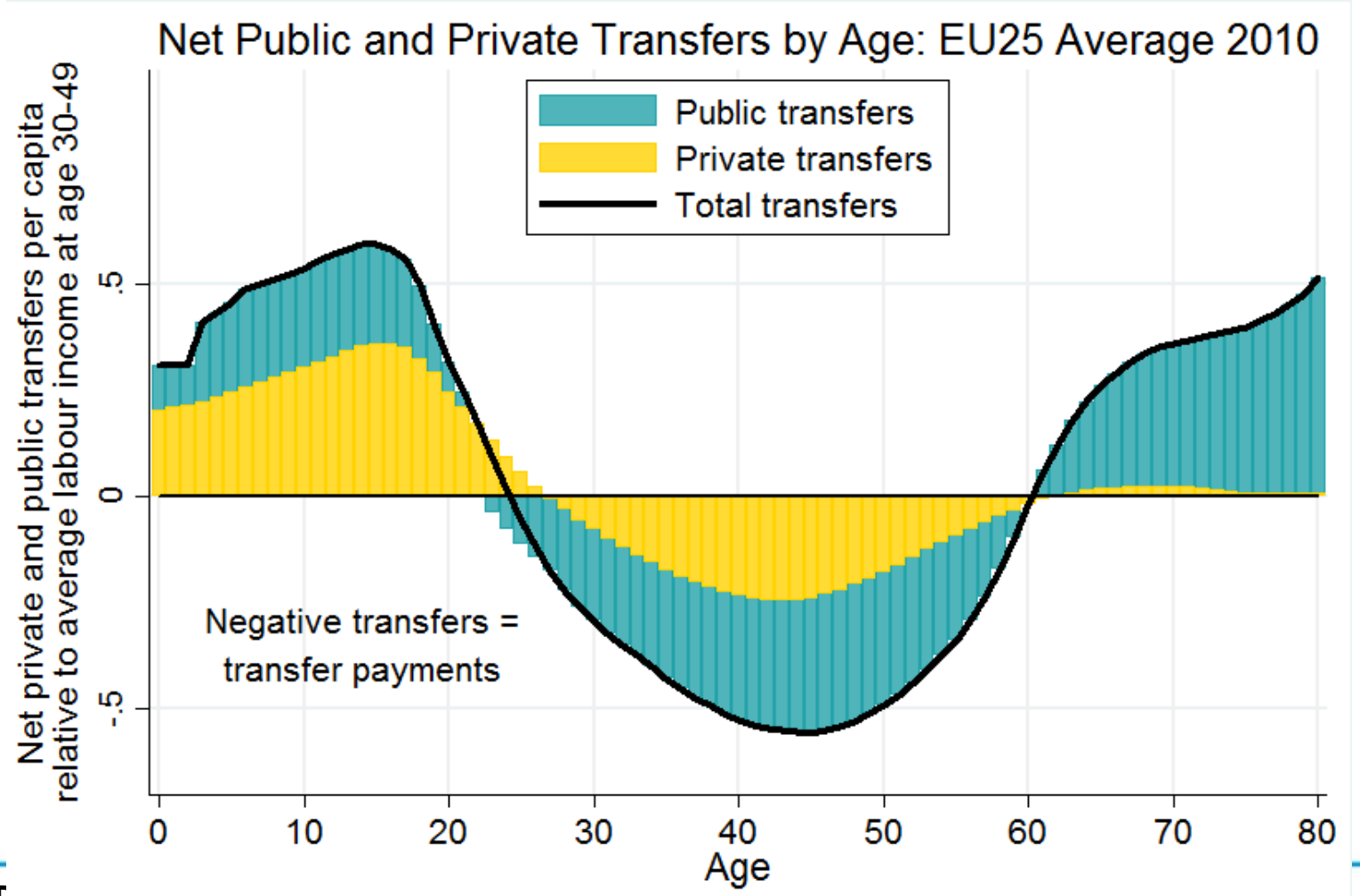
$$C(x) + S(x) = Y^l(x) + Y^k(x) + Y^p(x) + \tau(x)$$

Disaggregate by age

$$C(x) - Y^l(x) = [Y^k(x) + Y^p(x) - S] + \tau^g(x) + \tau^f(x)$$

Life cycle deficit = Asset-based reallocations + Public Transfers + Private Transfers

Net public transfers (benefits less taxes) and private transfers in Europe.



System of Population and Social Statistics

Why a System of Population and Social Statistics?

- **Frame of reference** SPSS for the socio-demographic domain complementing the SNA and SEEA
- **Identification of scope and purpose** SPSS (on social concerns/living conditions and social services) versus SNA (on economic activity) and SEEA (on environment) and their interrelationships
- **Systematization of methodology** - concept, definitions, classifications, statistics, indicators, and matrices across subsystems/themes and special population grouping – what is harmonized and what is alternative treatment by subsystem/theme
- **Systematization of integrated data collection solutions** – surveys/censuses, administrative registers and data, and new data sources and techniques (record linking, data exchange, timeseries, etc.)
- Shared **institutional governance and coordination** among custodian specialized agencies respecting mandates and responsibilities

System of Population and Social Statistics

Why include tables, matrices and accounts in SPSS?

Statistical quality:

- Apply existing identities of stocks and flows and other balances
- Avoid contradictory results between data sources addressed (establishment and household surveys, registers, population statistics (e.g., open stock + gross flows (birth, death, emigration, immigration) = closing stock)
- Allow for identifying overlaps and gaps and comprehensive use of data
- Describe population dynamics and connections between thematic subsystems such as population, education, labour, social security and social services
- Link with economic activity and environment

Policy use:

- Use for socio-demographic modeling and forecasting in socio-demographic transitions and supp;y and demand of social services

System of Population and Social Statistics – its main components, a proposal

Social conditions/ concerns	System	Data sources	Special population groups	Geospatial disaggregation	Special topics
• Population • Family and household composition • Employment and economic activity • Health • Education • Housing and environment • Distribution • Time allocation and leisure • Social security and social services • Public order and safety	• Concepts • Definitions • Classifications • Matrices and accounts • Statistics and indicators	• Censuses • Surveys • Administrative registers and sources • Meta data • Big data	• Children/Youth • Women • Elderly • Gender • Volunteers • Migrants • Refugees • Socio-economic status • Ethnic and racial groups • Disability status	• National • Urban and rural • Regional • City and town • Enumeration area	• Inequality • Family structure • Migration and immigration • Education • Health • Housing • Employment and inactive • Unpaid domestic and care work • Food and nutriition • Environment • Crime • Policial behavior

System of Population and Social Statistics

Potential Next steps in 2023: Link with SNA and Updates of Labor and Health Subsystems, and integrated data collection system for socio-demographic statistics

Exploring broader welfare and Beyond GDP issues

National accounts, 1970s

- Broader measures, distribution of income, consumption, and wealth, GDP/NDP, consumer durables, unpaid household service work, household production, informal sector, emissions, human capital, time use and leisure

Labor and work, 1970s

- Employment, unemployment, working conditions, employment services

National accounts, 2025 update

- Broader measures, distribution of income, consumption, and wealth, labor, education and human capital, health care, and household service work

Labor and work, today

- Labor supply/demand, working conditions, competitiveness/ productivity, poverty and inequality, working relationships, unpaid work, special groups (youth, women, volunteers), decent work, social justice

System of Population and Social Statistics

Potential Next steps in 2023: Link with SNA and Updates of Labor and Health Subsystems, and integrated data collection system for socio-demographic statistics

Exploring broader welfare and Beyond GDP issues

Health, 1970s

- State of health, health services, health facilities, revenues and expenditures of health care

Data collection system, 1970s

- Population and housing census, household surveys, administrative sources

Health, today

- Mortality and life expectancy, universal health coverage (UHC) (composites), disease burden, environmental health, maternal and child health, health determinants (composites), health systems (accounts), health inequalities, etc.

Data collection system, today

- Population and housing census/register-based collection, civil registers, administrative sources, micro data linking and exchange, household surveys, including HIES, LSMS, LFS, DHS, MCIS, MPIS