TURKISH SBR

Training Course on "Statistical Business Registers"
under SESRIC Statistical Capacity Building Programme
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Online

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A BRIEF HISTORY

- Last General Census of Businesses in 2002
- Statistics Law (2005) to comply with the EU and national needs
- Decide to use Revenue Administration (tax) records as the main source
- A legal agreement on data transfer in 2016
- Transformation into statistical units
- Changes and improvements on the methods and processes in time
- Enriching the data sources in time

SCOPE

Geographical Scope: Whole Turkey

Activity Scope: **Except**

- *public adm.and defense; compulsory soc. sec. (**Section O**)*
- *Activities of Households (**Section T**)*
- *International Organizations (**Section U**)*
- *Renting privately (Nace Rev.2 code **6820**)*

Status of Being Active:

- *All units active in the reference period*
- *The units in through the process of liquadation*

SCOPE

Economic Scope: All enterprises contributing to the Gross Domestic Product, their local units, legal units that make up enterprises and enterprise groups

P.S. For Turkish case, tax payers paying

- ✓ *annual income tax for commercial income*
- ✓ *corporate tax*
- ✓ *value added tax*

Scope for units: All enterprises contributing to the Gross Domestic Product, their local units, legal units that make up enterprises and enterprise groups

- ✓ *Legal unit*
- ✓ *Enterprise*
- ✓ *Local unit*
- ✓ *Enterprise Group*

CLASSIFICATIONS

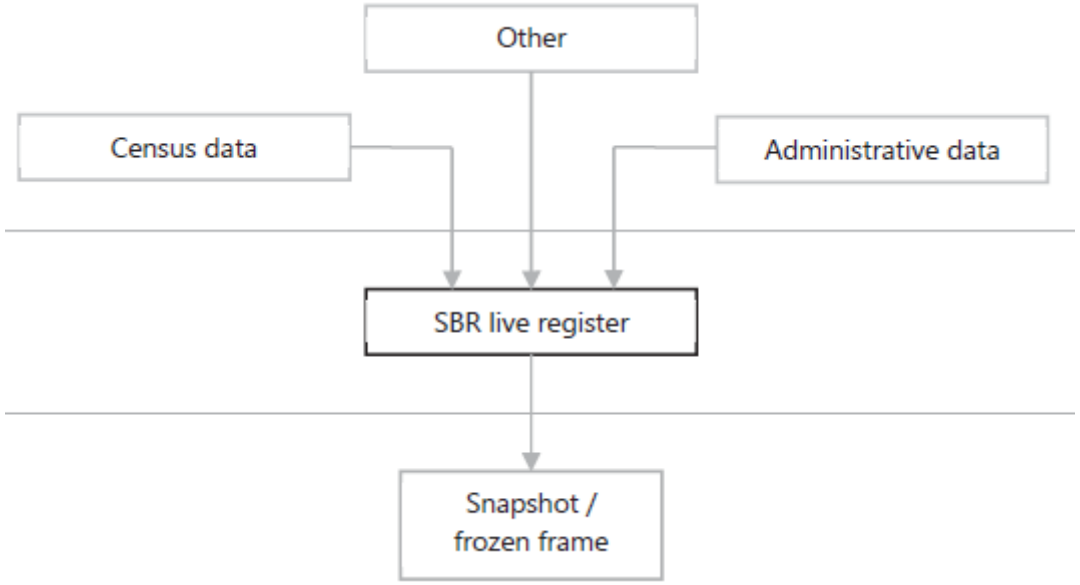
- Activity Classification
  - ✓ *NACE Rev.1.1 for years 2005-2008*
  - ✓ *NACE Rev.2 from 2009 onwards*

- Regional Classification
  - ✓ *NUTS I 12 Region*
  - ✓ *NUTS II 26 Region*
  - ✓ *NUTS III 81 Province*

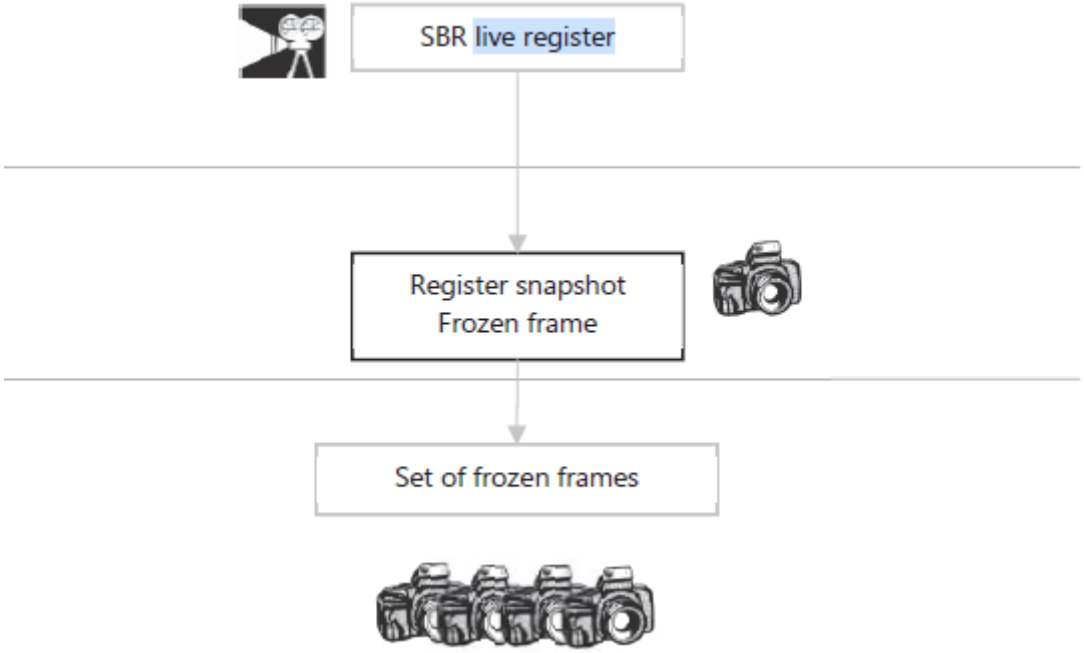
LIVE REGISTERS

- An important role of the SBR is to maintain and to keep track of changes in statistical units and their characteristics that occur in the economy. Maintenance is a continuous process in which constant modifications of the set of statistical units occur over time. The extent of the modifications depends on the update strategy of the SBR. In this respect the SBR is considered to be a live register in which the composition and characteristics of units constantly change over time.
- The live register is a vehicle for bringing together data from the various sources that provide the basis for derivation of statistical units. It is the starting point for communications with the owners of the sources and for discussions about units. Legal units are usually the building blocks for creating statistical units. In some countries the SBR is the only environment in which legal units of all forms are brought together. Statistical units are created in the live register.

LIVE REGISTERS



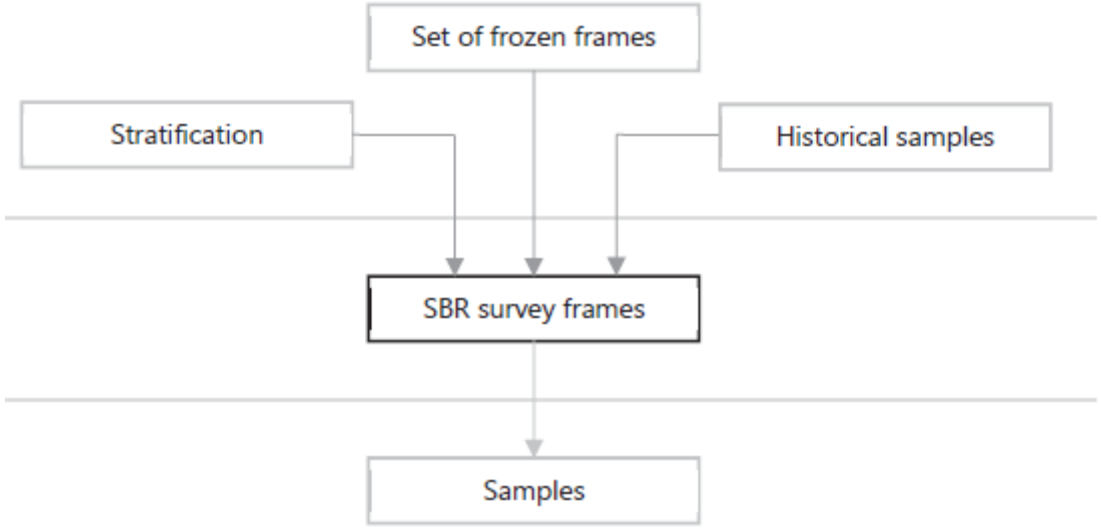
LIVE REGISTERS



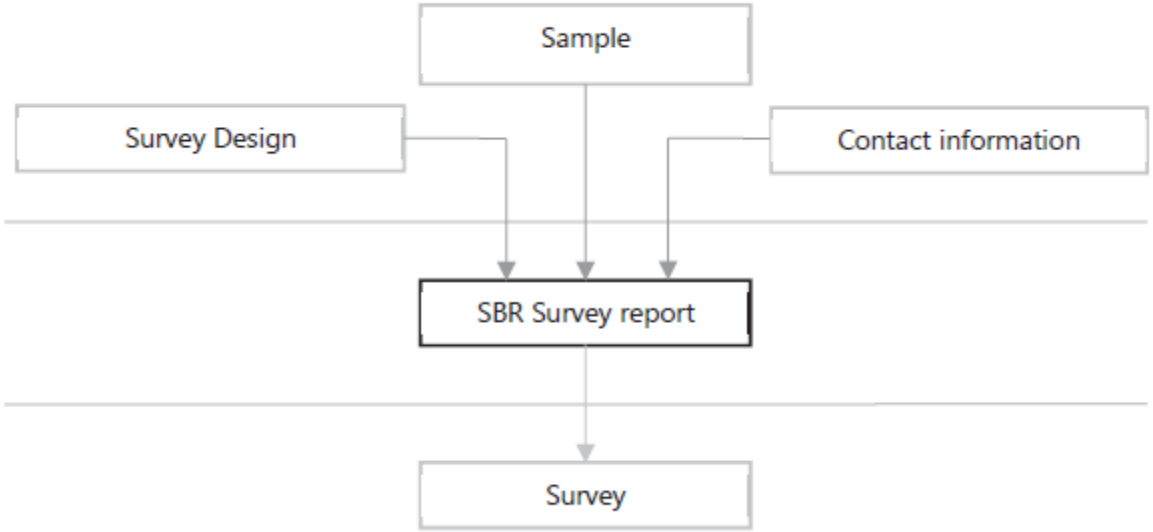
REGISTERS SNAPSHOT

- A copy of all the statistical units in the live register as of a given point in time, including all administrative units or links from statistical units to administrative units. The snapshot is an intermediary step between the live register and the frozen frame. It is used to check for errors that have crept in during processing since the previous snapshot, also as the basis for a historical record. It may contain many inactive enterprises.

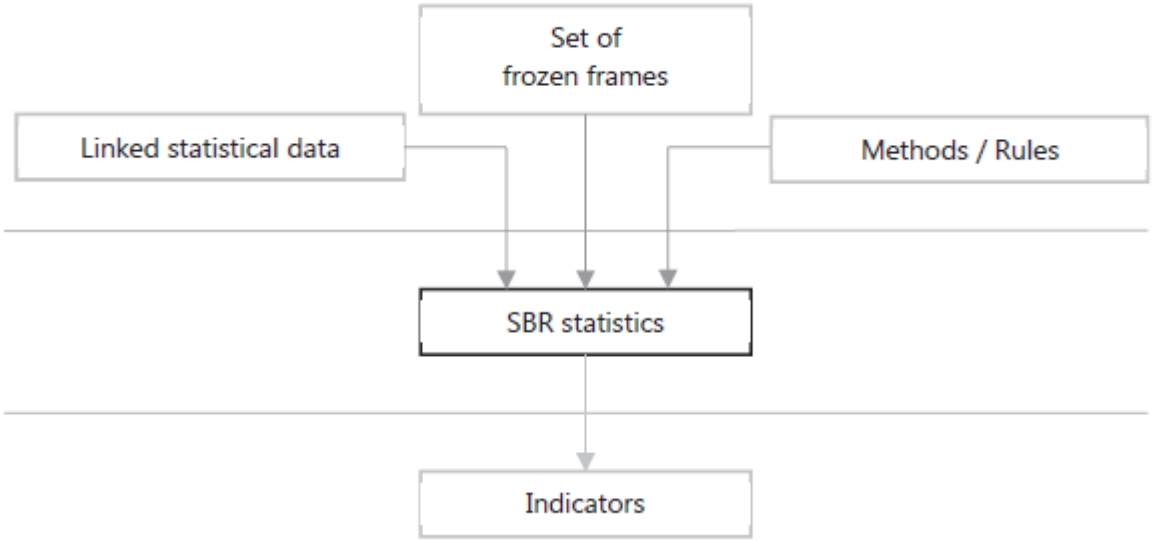
SURVEY FRAMES



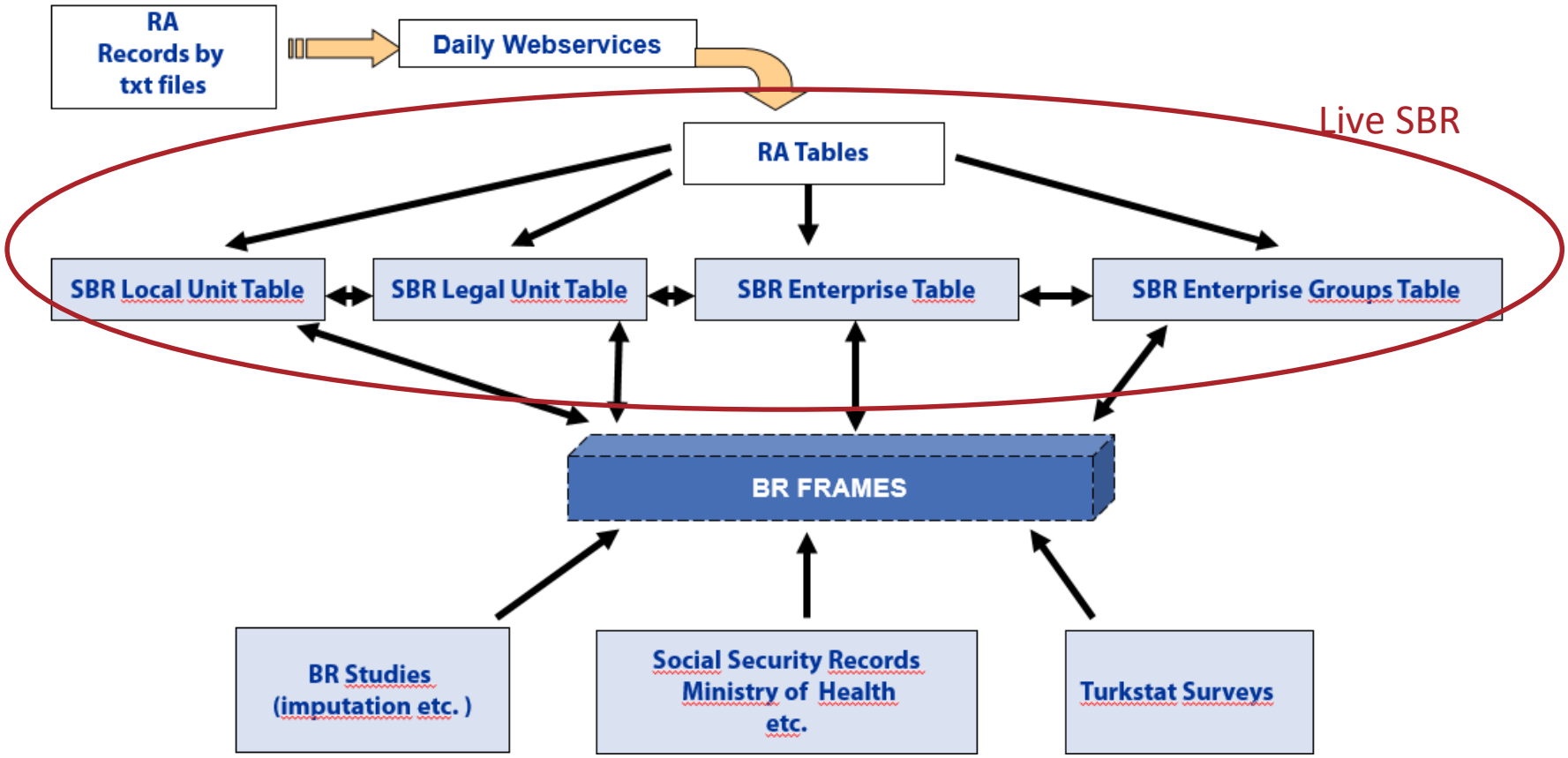
SURVEY SUPPORT



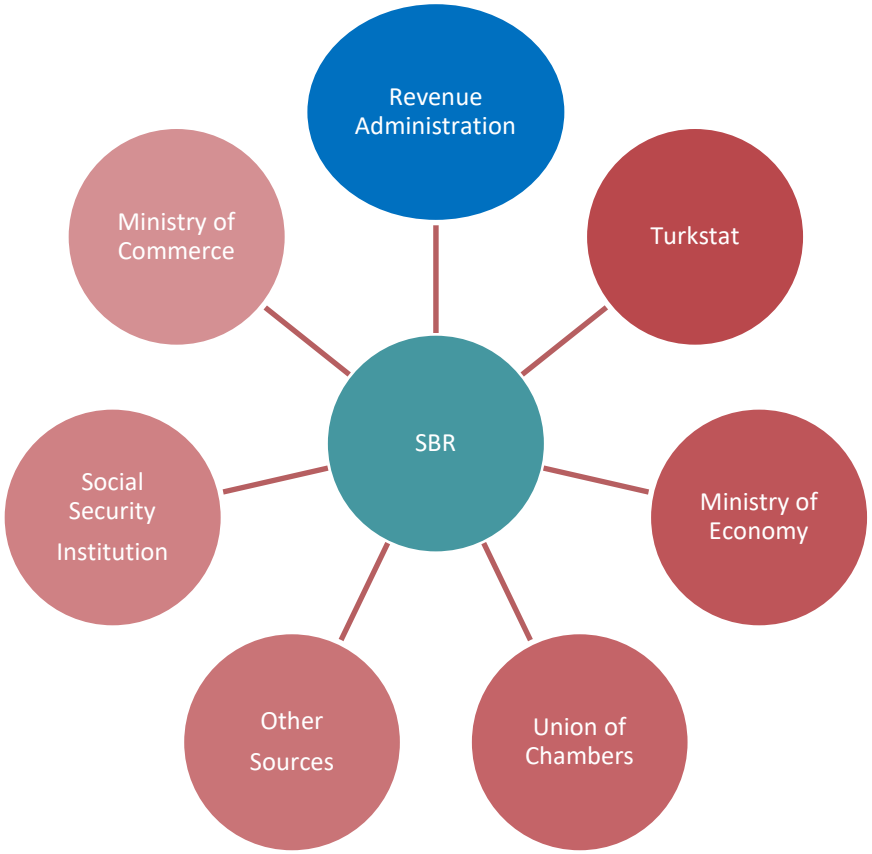
REGISTER BASED STATISTICS



TURKISH SBR


RA
Records by
txt files
Daily Webservices
Live SBR
RA Tables
SBR Local Unit Table
SBR Legal Unit Table
SBR Enterprise Table
SBR Enterprise Groups Table
BR FRAMES
BR Studies
(imputation etc.)
Social Security Records
Ministry of Health
etc.
Turkstat Surveys

ADMINISTRATIVE SOURCES IN SBR



ADMINISTRATIVE SOURCES IN SBR

- The benefits from using tax records as a source
  - Extensive in terms of coverage
    - All legal entites (legal persons, sole proprietors, government bodies and bodies of local and regional self-government units etc.)
  - Central database
  - Common identifier at the level of local unit/enterprises
  - Available for a daily webservice flow
  - Revenue Administration’s awareness as a data provider

ADMINISTRATIVE SOURCES IN SBR

- Social Security Records
  - Employment
  - Indicator for active units
  - Address, NACE activity
  - Unmatching units (different unit definitions)

ADMINISTRATIVE SOURCES IN SBR

- Other sources for specific sectors
  - Surveys (Prodcom etc.)
  - Ministry of Health (for NACE activity and institutional sectors)
  - Ministry of Education (for NACE activity and institutional sectors)
  - Ministry of Transportation (for NACE activity and institutional sectors)
  - etc.

- Linking data from more than one source
  - Common key problem
  - Unstandardized addresses
  - Different information

ADMINISTRATIVE SOURCES IN SBR

Source	Frequency	Variable
Revenue Administration	Daily	Openings/Closures Changes of name, address
Revenue Administration (tax declarations)	Monthly Quarterly Annually	Activity status Net turnover Employment
Social Security Instituion	Monthly	Employment
Statistical surveys	Monthly Annually	Main activity on enterprises & local units
Other administrative records	Annually	Main activity Institional Sector Code

ADMINISTRATIVE SOURCES IN SBR

- Main Activity Survey
  - Conducted monthly to the economically significant units,
  - Around 1200 units
  - Demands from the user departments
  - Micro control by SBR team
  - Impact analysis by user departments
  - Update processes

TURKISH SBR

- Statistical units recorded in SBR are as follows,
  - About 4.6 million enterprises,
  - About 5.7 million local units,
  - About 6000 enterprise groups,
  - No KAU has been generated yet
    - Studies are going on
    - Not a seperate SU but secondary activity of the enterprises
    - Roadmap is decided
    - Basic data source is PRODCOM survey
    - Production value is used as size variable
    - Prodcom code of products will be transformed into NACE codes
    - KAUs will not be seperate statistical unit but secondary activities of the enterprises
    - Operational rules proposed in the SBR manual is adopted
    - Only certain enterprises will have KAU

TURKISH SBR

- Every statistical unit is kept with its own statistical unit ID in the SBR database
  - Local unit ID, Enterprise ID, Enterprise Group ID

TURKISH SBR

- Main data source for legal units is the Revenue Administration.

- A unit fulfilling its liabilities to Revenue Administration becomes a legal unit.
  - Data created by tax offices comes to Turkstat.
  - Companies (in any form) are recorded by their tax numbers.
  - Every tax number correspond to one legal unit
  - Every legal unit corresponds to one enterprise but an enterprise can correspond to more than one legal unit
    - Branches of banks, association and public institutions have different tax number
    - They are combined into one enterprise, which is a complex enterprise

TURKISH SBR

- The basis for generating enterprises is the legal units.
- However, legal unit is not comparable between the countries because of their different national legislations, meaning that legal unit is not suitable for a statistical production.
- Every legal unit corresponds to one enterprise but an enterprise can correspond to more than one legal unit
    - Branches of banks, association and public institutions have different tax number
    - They are combined into one enterprise, which is a complex enterprise
- The purpose of combining the legal units in an enterprise unit is to converge to a common definition with EU norms and standards.

TURKISH SBR

- The basis for generating enterprise groups is enterprises.

- Data has been compiled by field survey until reference year 2021. From now on, administrative data will be used.

- Type of enterprise groups are;
  - *Resident enterprise groups*
  - *Domestically controlled multinational enterprise groups*
  - *Foreign controlled multinational enterprise groups*

- The purpose is again to converge to a common definition with EU norms and standards.

TURKISH SBR

- Enterprise groups are based on control concept. The perimeter of the group is defined by the criterion of controlled legal units, not by the criterion of owned legal units.
  - Control over a legal unit is defined as the ability to determine general corporate policy, for example by choosing appropriate directors, if necessary.
- Control is operationalised by share more than 50%.
- Shares less than 10% are not taken into account.
- Natural persons are not included.
- Joint ventures are not included. No dominant partner controlling.
- The purpose is to converge to a common definition with EU norms and standards.

TURKISH SBR

For all residents and dometically controlled multinationals;

- Group Head is accepted as the domestic unit on the top of the control chain.
- The questionnaire is sent to this Group Head.
- This unit fills out the questionnaire and gives the info about group

For all foreign controlled multinationals;

- Group Head is accepted as the domestic unit controlled by a parent entity activating abroad
- The same structure is aimed to be continued now in the use of administrative data.

TURKISH SBR

Some drawbacks:

- Enterprise groups are needed to be profiled for a correct organizational picture.
- Profiling is not applied in Turkstat. No team for that.
- Turkstat can not participate in EuroGroups Registers studies and therefore not harmonize its enterprise groups data at global level.

TURKISH SBR

- The basis for generating local units is the legal units' brances.
- Revenue Administration records have tax number and branch number.
- Every local unit corresponds to one tax number and branch number.
- The purpose of combining the legal units in an enterprise unit is to converge to a common definition with EU norms and standards.

TURKISH SBR

- Institutional sectors according to the guidelines National Accounts
  - Non-financial corporate sector (S.11)
  - Financial corporate sector (S.12)
  - General government sector (S.13)
  - Household sector (S.14)
  - Non-profit institutions serving households (S.15)

- Legal units are coded according to this classification.
  - Users are filtering the unnecessary units for correct coverage

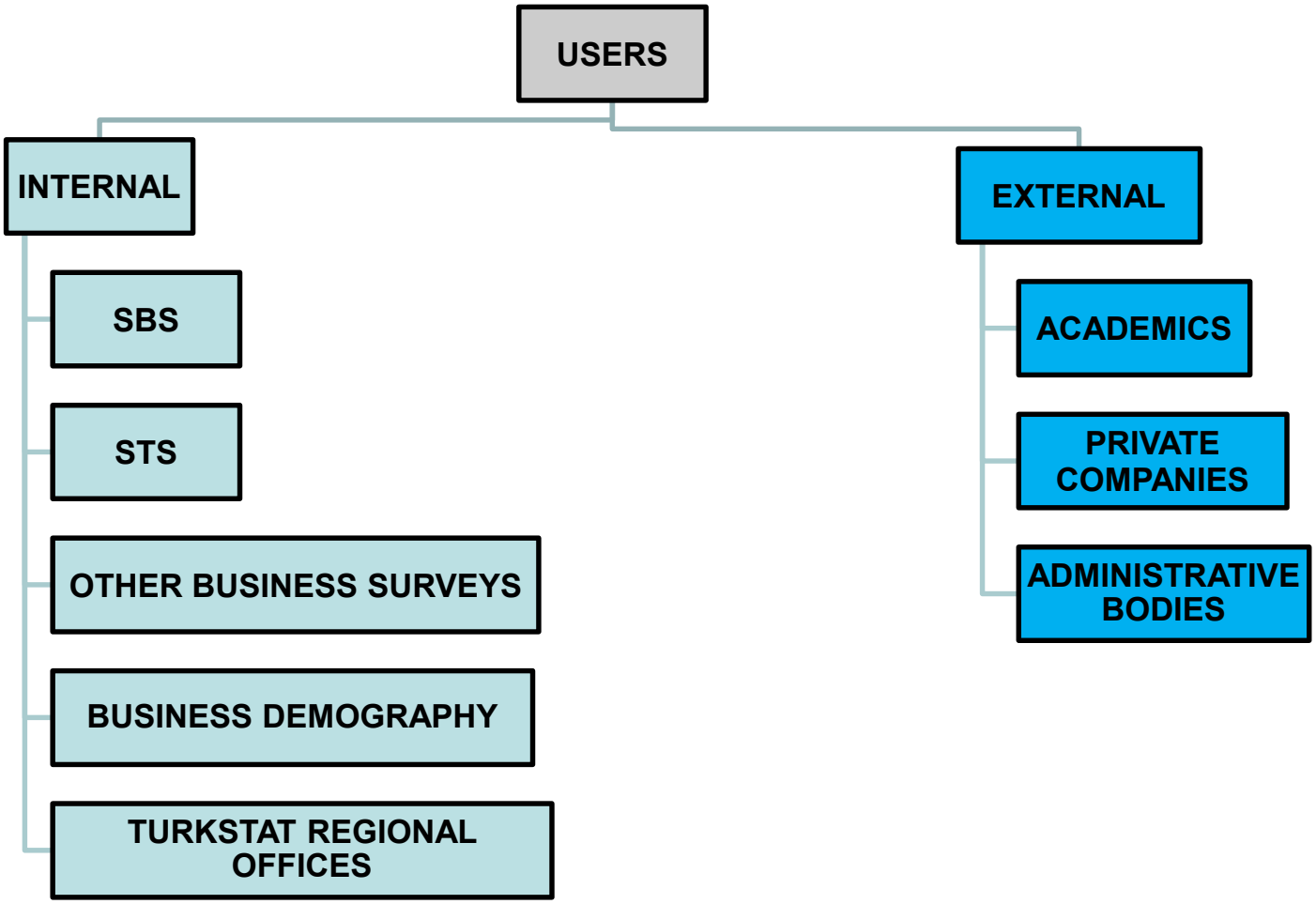
ROLE of SBR

- SBR is at the center of the production system of Turkstat
- The backbone of business statistics
- Providing historical tables to the users for their analysis

ROLE of SBR

	Role	Purpose
1	SBR live register	Provide the gateway between data from various input sources and statistical units
2	SBR register snapshot and frozen frame	Provide populations of statistical (and possibly administrative) units at fixed points in time
3	SBR survey frame	Provide a set of statistical units for a survey, valid for a specified reference period, with all characteristics required.
4	SBR survey support	Monitor survey response and measure and control response burden
5	SBR statistics	Produce statistics based directly on the SBR
6	SBR information source	Provide lists of enterprises and their locations and possibly other characteristics
7	SBR international data exchange	Facilitate coherence in international statistics
8	SBR in modernisation of statistical production and services	Promote integration of SBR within the production processes for economic statistics

USERS OF BR


USERS
INTERNAL
SBS
STS
OTHER BUSINESS SURVEYS
BUSINESS DEMOGRAPHY
TURKSTAT REGIONAL OFFICES
EXTERNAL
ACADEMICS
PRIVATE COMPANIES
ADMINISTRATIVE BODIES

USERS OF BR

- SBR tables are in ORACLE databases
- Users are authorized for access
- SBR is structured according to the user needs
  - SU ID’s are produced
  - Variables are calculated
  - Users are informed about improvements and updates in SBR
  - Metadata is provided to the users

USERS OF BR

- Table is updated daily by webservices based upon Revenue Administration data.
- Partition of every year includes the previous year's rows (cumulative table).
- Table is at the level of legal unit (tax number is the primary key in one year)

USERS OF BR

YEAR	TAX_NUMBER	NACE2	SOURCE_NACE2	INSTITUTIONAL_SECTOR_CODE	EXPLANATION	SBS_COVERAGE
2021	[redacted]	234401	10	S.11	seramik membran, seramik filtre, aritma sistemleri filtresi vb. imala ...	1
2022	[redacted]	234401	10	S.11	seramik membran, seramik filtre, aritma sistemleri filtresi vb. imala ...	1
2023	[redacted]	234401	10	S.11	seramik membran, seramik filtre, aritma sistemleri filtresi vb. imala ...	1

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2023	[redacted]	234401	10	S.11	seramik membran, seramik filtre, aritma sistemleri filtresi vb. imala ...	1

- SBS_COVERAGE takes 1 or 0, meaning that the unit is under the covered population or not.

- SBS_COVERAGE is built on a function which uses
  - Institutional sector code
  - NACE2 code

USERS OF BR

YEAR	TAX_NUMBER	NACE2	SOURCE_NACE2	INSTITUTIONAL_SECTOR_CODE	EXPLANATION	SBS_COVERAGE
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2022	[redacted]	234401	10	S.11	seramik membran, seramik filtre, aritma sistemleri filtresi vb. imala ...	1
2023	[redacted]	234401	10	S.11	seramik membran, seramik filtre, aritma sistemleri filtresi vb. imala ...	1

- SBS COVERAGE is used by the SBS and STS department for filtering the units. Therefore, consistency within the business statistics is realized.
- Users can make any historical analysis from year 2009 on until 2023.
- Users can see the source of main activity code NACE2 (administrative data or survey)

USERS OF BR

PRESS RELEASE

TURKISH STATISTICAL INSTITUTE

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NUMBER: 45584

INFO REQUEST

info@tuik.gov.tr | ALO 124

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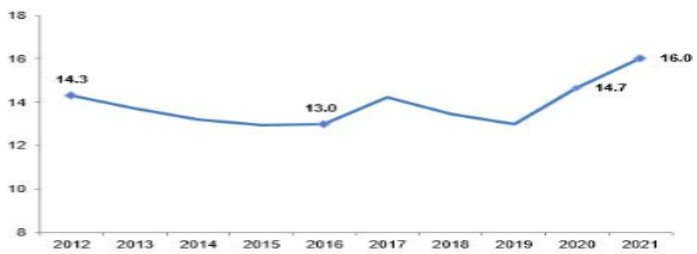
Entrepreneurship and Business Demography, 2021

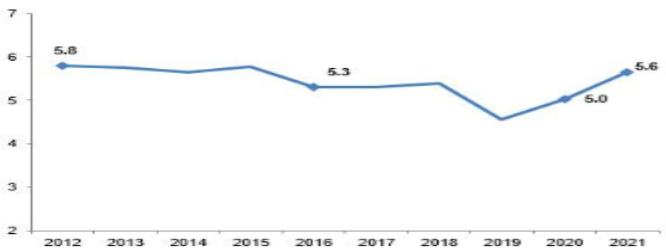
The birth rate of enterprises for the year 2021 was 16.0%

The birth rate of enterprises in 2020 was 14.7% however it rises up to 16.0% in 2021. The employment share of enterprises born in 2020 was 5.0% however it rises up to 5.6%.

Birth rates of enterprises (%), 2012-2021



Employment share of enterprises birth (%), 2012-2021



MAINTENANCE

The key objective of maintenance

- Updating the coverage and content of SBR
- Taking into account the continuity and stability rules, according to a well defined calendar and as information sources allow
- Providing surveys with sampling frames accurate and up to date

MAINTENANCE

Maintenance Strategy

- SBR has to be updated correspondingly (with real world)
- Constant updating of the SBR in terms of coverage and content
  - ✓ *New statistical units*
  - ✓ *Changes in the values of the characteristics*
  - ✓ *The dates of changes should be known and recorded*
- The sources of information - administrative sources and surveys
- The maintenance groups (data is divided)

MAINTENANCE

Maintenance Strategy

- The time dimension - timing of the updates, the need for continuity and

stability rules, and use of the historical register

- SBR Survey
- Profiling
- Live Register
- Dealing with conflicting information - which source and value to use
  - ✓ *Updating priorities algorhytms*

MAINTENANCE

Maintenance Strategy

- Frozen frames – never direct updating
- Historical register
  - ✓ *Births, deaths and continuity of units*
    - ❖ *Change of Ownership*
    - ❖ *Restructuring within an enterprise*
    - ❖ *Concentration (merger&takeover)*
    - ❖ *De-concentration (split-off, break-up)*
  - ✓ *Size development - units growing*
  - ✓ *Analysing changes in the characteristics of units*
  - ✓ *Reconstructing the state of the SBR as of a past date or reference period*

MAINTENANCE

Maintenance Procedures

- Taking account of different user needs
- Treatment of errors - A difference between SBR and the real world
  - ✓ *Determine whether errors have occurred*
  - ✓ *Decide whether they should be corrected; and if so*
  - ✓ *Decide how and when to correct them*

MAINTENANCE

Maintenance Procedures

- Types of frame errors
  - ✓ *Errors in existence - Falsely active units or vice versa*
  - ✓ *Errors in identification characteristics - names, addresses etc.*
  - ✓ *Errors in stratification characteristics legal form, economic activity, size class*

- Stability rules (resistance rules): No-update-population

DISSEMINATION

Before BR was not playing a role for producing statistics directly

- Number of Enterprises by region, economic activity, size classes
- Business Demography indicators
- Individual/micro data to the outside the NSI
  - ✓ *Free of charge or for a fee*
  - ✓ *In print or electronically*
  - ✓ *Some charasteristics of the units*
  - ✓ *Online access/upon request*

DISSEMINATION

Condition of Dissemination

- No discrimination regarding the type of user
- Quality tests before publising
- Annually, quarterly or monthly

CONFIDENTIALITY

Confidentiality Approach

- General approach is that no data should be published that would allow a user to determine the value of a characteristic for a specific unit

- Ensuring confidentiality is to publish only data values that refer to more than a specified number of units, typically three or more units. In a table where a certain data cell refers to less than this number of units, the cell value is suppressed and replaced by a symbol indicating that the value is available but confidential.

- A stronger approach is to apply dominance rules. A cell in a table is confidential, if a specific number of the largest units, e.g. the three largest units, in this cell contribute more than a specified proportion, e.g. 90%.

CONFIDENTIALITY

Secondary Subpressing

- Suppression of confidential cells must be accompanied by further cell suppression to prevent the values in the suppressed cells being calculated from the values in other cells.

- For example, a two dimensional table including row and column totals and the one cell value has been suppressed because it is confidential. This value can readily be computed from the other cell values in the same row (or column) and the row (or column) total. Thus the values of other cells that are not themselves confidential have to be suppressed

- Complementary suppression have to be applied not only within a single table but also between the tables to be published so that confidential information cannot be disclosed by combining different tables

CONFIDENTIALITY TREATMENT IN TURKISH SBR

- SBR Data is published by NACE 4-digit-level, NUTS Level and size classes
- Number of Enterprises is not confidential in principle
- Employment is confidential if coming from # of enterprises less than 3
- Micro data sharing is not possible with an exception
  - ✓ *Institutions under Off.Stat.Prog. can see micro variables already available to the public (activity, name and location)*
- Number of enterprise by size class whose cell is less than 3 is confidential
- Secondary confidentiality rule is applied

Thank you for your attention!