

# FIFTH INTERNATIONAL WORKSHOP ON BUSINESS DATA COLLECTION METHODOLOGY

19-21 SEPTEMBER 2018 – STATISTICS PORTUGAL, LISBON

## Extending the Use of Administrative Data in the Production of Business Statistics in TurkStat

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### Abstract

Turkish Statistical Institute (TurkStat), as the coordinator and the prominent actor of Turkish statistical system, aims at ensuring the quality indicators such as timeliness, accuracy, accessibility, comparability, relevance and coherence when producing statistics to meet user needs in compliance with international methodological standards. TurkStat's quality assurance framework is based on the European Statistics Code of Practice. Within these principles and the corporate strategic plan, the entire statistical process, from the generation to the dissemination of data, is configured in a quality-oriented manner.

Another factor that should be taken into consideration in the production of statistics, just as well as the sustainability of the process cost-wise, is using the less burdensome mode for the respondents. These constraints taken into account, it could be said that whether or not the official statistics possesses desired attributes can be associated with data source used and data collection mode preferred, as well as the other methodological choices. Data sources in the statistical production process could be censuses and surveys conducted mainly for statistical purposes (primary data) as well as records already accumulated for different purposes within institutions (secondary data).

The vast economic, social and technological changes have necessitated that TurkStat improve quality and timeliness while reducing the response burden in data collection process. In order to meet this requirement, TurkStat has prioritized the use of administrative data for statistical production in its plans and programs and expedited the work thereon. TurkStat has set out to extend the use of administrative data in statistical production. The major motivators of TurkStat to redesign and modernize business statistics based on administrative data has been decreasing the response burden and improving data integration.

This document explains the details of TurkStat's motivation of integrating new data sources into Turkish Statistical System, its experience along the process and redesign of the "Business Statistics" as a result.

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## Introduction

Turkish Statistical Institute (TurkStat) aims at ensuring the quality indicators such as *timeliness*, *accuracy*, *accessibility*, *comparability*, *relevance* and *coherence* when producing statistics to meet user needs in compliance with international methodological standards. Data sources in the statistical production process could be censuses and surveys conducted mainly for statistical purposes (primary data) as well as records already accumulated for different purposes within institutions (secondary data).

It is of crucial importance that statistical production process to be sustainable cost-wise and allowing a decrease in response burden. For this reason TurkStat has set out to extend the use of administrative data in statistical production. The major motivators of TurkStat to redesign and modernize business statistics based on administrative data has been decreasing the response burden and improving data integration.

## Integrated Administrative Records

Within the legal mandate to collect data stipulated by the Statistics Law of Turkey No. 5429, TurkStat realizes data transfers from public institutions on needed domains. The number of institutions from which data is transferred is increasing every year, and new administrative records are included in the production of statistics. Administrative records are made use of in many statistical domains such as population, demography, education, foreign trade, and business statistics.

Under the cooperation and data exchange agreements between TurkStat and administrative authorities and for the purpose of increasing and expanding the use of administrative data in business statistics, records from Revenue Administration (RA) and Social Security Institution (SSI) have been shared with TurkStat. This has been a milestone for TurkStat's official statistics on business and economy, thanks to which, using administrative data directly or indirectly in the production of indicators in especially short term and annual business statistics and national accounts have been started.

## What is new?

With the integration of new administrative data sources into Turkish Statistical System, domains in TurkStat affected most by the process of extending the use of administrative data in business statistics have been business registers, short term and annual business statistics and national accounts.

## New Business Registers System after the Adaptation of RA and SSI Records

Business Registers	Before	After
Source	RA Registers	RA Daily Transactions
Means of Data Transfer	Electronic File Transfer – FTP	Web Service
Period of Data Transfer	Annual	Daily
Output	Annual Business Registers Framework	Daily Business Registers Framework

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## Short-Term Business Statistics

Within the scope of Short-Term Business Statistics (STS); production, employment, hours worked, gross wages and salaries, labor costs, retail sales, producer prices indices and building permit statistics have been calculated for the industrial, construction, services and trade sectors for monthly and quarterly periods. In the current case; only the building permit statistics have been generated from administrative data, and surveys have been conducted for all other statistics. The use of administrative data for short-term indicators started by the beginning of data collection process from RA and SSI, with an exception of producer prices indices. Thus, forecast errors resulting from the use of fixed base year and limited number of observations are eliminated.

While the base year of the previously published indices is 2010, the new series will be published with the base year 2015.

## Short Term Business Indicators in the New Case

New Series	Data Source	Period	Timeliness
Turnover Indices	Value Added Tax and Special Consumption Tax Returns	Monthly	T+47
Retail Trade Indices	Value Added Tax and Special Consumption Tax Returns	Monthly	T+49
Industrial Production Index	Value Added Tax and Special Consumption Tax Returns, Monthly Industrial Production Survey	Monthly	T+47
Labor Input Indices	SSI Monthly Premium and Service Return, Withholding Tax Return	Quarterly	T+60

## Annual Business Statistics

Annual Industry and Service Statistics (AISS) aim at producing information that contributes to define enterprises according to their structural characteristics. The statistics produced within the Structural Business Statistics constitute the main components of the product structure and the economic structure that feed the system of national accounts in particular. AISS are planned to be produced by TurkStat based on administrative records.

TurkStat started to work in 2016 to produce AISS, which has been calculated from data compiled by enterprise level by survey since 2003, based on the administrative records of RA and SSI. With these works, the application of AISS 2016 survey, which had been planned to be carried out with about 180,000 enterprises and imposes a high level of response burden on the enterprises, has been terminated.

## National Accounts

RA and SSI data at macro level have been started to be used in 2009 based GDP series that were published on 12 December 2016. With the production of Annual and Short Term Business Statistics data from Administrative Records, the STS indices and AISS data are used instead of macro level RA and SSI data in GDP estimates. Thus, in addition to increased coherence

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between annual, short-term, national accounts indicators, the response burden on enterprises will be reduced, resources will be saved and data quality will be increased.

## Conclusion and Remarks

The increasing use of administrative data in production of official statistics, led TurkStat to adopt new approaches regarding compilation, processing and dissemination processes of data. These new approaches, which require close cooperation between TurkStat and other data provider organizations will extend the quality of official statistics, improve analysis skills in the related institutions and contribute positively to the quality of registers, themselves.

Efficient use of existing data sources became more of an issue with the intention of decreasing operational cost of statistical researches and improving the quality of registers. There are two reasons why the use of registers is indispensable for statistical offices including TurkStat: Firstly, the use of registers is more cost efficient compared to censuses while establishing and updating the frames. Secondly, the difference between primary data compiled by surveys and secondary data provided from administrative authorities is not observed to be significant.

The strength and weaknesses of data derived from administrative data compared to survey data impels statistical offices to determine the effective use of these data sources. Administrative data directly or indirectly replaces survey results and they are currently used for establishing frames and data analysis. Henceforth, the use of administrative data penetrates most of the statistical domains in TurkStat and it is expected that their usage will expand further in the near future.

The era of digitalization with a new data environment and ecosystem, provokes a raise in data demands from TurkStat both in terms of volume and variety. TurkStat is in an effort to generate solid coordination mechanisms and use multiple data sources (surveys, administrative data) when producing official statistics. Integrated statistical production process is only possible through upgraded analytical skills and training human resources as data scientists. It is now an obligation for TurkStat to adopt procedure-oriented and process-motivated approaches, as currently, in statistical production, the data tables measured in “megabytes” are replaced with those measured in “gigabytes”. Being aware of all these, TurkStat handles its studies by continuously and carefully monitoring its international peers and investing both in human-resources and technological infrastructure.

In TurkStat’s current practice, the data which had been previously collected from enterprises by survey are now partly or completely compiled from administrative records of Turkish Revenue Administration and Social Security Institution. Consequently, the coherence between the data sets of annual and short-term business statistics and national accounts has been ensured along with maintaining a decrease in response burden on enterprises, saving of time and labor and increase in data quality, as well.

The existing administrative registers in other data provider institutions are established for the purposes other than statistical production. Therefore, some differences occur in data regarding coverage, classifications, reference dates etc. In the meantime, TurkStat continues its efforts to keep a sustainable cooperation with other data provider organizations in order to

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eliminate these issues by improving and upgrading administrative registers and to maintain continuity of data delivery.