



Ninth IFC Conference on “Are post-crisis statistical initiatives completed?”

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New electronic data delivery system of Central Bank of the Republic of Turkey¹

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¹ This paper was prepared for the meeting. The views expressed are those of the authors and do not necessarily reflect the views of the BIS, the IFC or the central banks and other institutions represented at the meeting.

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Abstract

Statistical authorities are now more concerned about better dissemination, communication and correct use of official statistics. Dissemination of statistical products through tailored services of electronic data delivery systems allows computer-to-computer exchange in an easily accessible, understandable, interactive and reusable manner. Central Bank of the Republic of Turkey (CBRT) started electronic data dissemination system in 1995. The so-called Electronic Data Delivery System (EVDS) is a dynamic and interactive system that presents statistical time series data produced by the Bank and/or data produced by other institutions and compiled by the Bank. Widely used EVDS provides a rich range of economic and financial data to support economic education and foster economic research. Its technical infrastructure and visual design was revised in October 2017. The system is upgraded to better fulfill user requirements and catch up information technologies. Significant progress has been made to re-construct and renew the dissemination process. The new EVDS offers time series, info graphs and dashboards for users in a personalized manner. Users can build up their own database, graphs, maps and dashboards. The purpose of this paper is to present the Bank's renewal process of the data delivery system and show how EVDS used for communicating statistics. To that extent, Section 1, describes the importance of data dissemination services in communicating statistics and enhancing financial inclusion and literacy, Section 2 underlines historical background and the decisions and motivations behind the renewal process of the EVDS. Section 3, continues with a description of the new EVDS and main features. Section 4, includes next strategic steps over the long term and the conclusions.

Keywords: Central bank statistics, data delivery system, communicating statistics

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Introduction

Official statistics are for the benefit of the whole economy, it serves data mainly for government policy making but also for other economic entities to create a base for decision making. In today's world, data is a part of management; central banks use data that they already have collected with the purpose of carrying out their own business and transactions. Central bank statistics used in the field of monetary policy decisions as well as in financial stability, payment systems and international reporting. Moreover, professionals, academicians and the public use statistics for various purposes. While the concept of dissemination of data is acknowledged as important in the fields of economic and statistical analysis, most central banks are still trying to catch up with this development. It is essential to make statistics more accessible to public, because statistics play a key role in educating public about the economy and enhance their awareness of data.

Electronic Data Delivery System (EVDS) of the Central Bank of the Republic of Turkey (hereinafter referred as the Bank) is not a new system; it dates back to 90's and served up to now. However, the need for renewal of EVDS in line with new technologies and user needs has arisen and the new EVDS has been designed to meet these needs. In this paper, we will focus on the updated electronic data dissemination system and its features.

Importance of Data Dissemination Services in Communicating Statistics

Central bank statistics around the world face significant challenges as new trends in statistics and communicating statistics have emerged. Statistics give guidance from the past, help you to understand the present, and make inferences about the future. Moreover, statistical data are essential input into monetary and financial policy decisions.

The Bank is aware of the dynamic structure of the statistical world and its repercussions on evolving needs of the both policy makers and public. It assigns the utmost importance to raising public awareness in matters of using EVDS. Therefore, EVDS will play a central role in supporting our key central bank functions.

The mission of the Bank in the field of statistics is to produce high quality statistics in line with international standards and in timely manner. Coherence, comparability, transparency and accessibility are the other key elements of our statistics mission. EVDS is the Bank's official platform to meet these statistics with the public. By doing this, EVDS plays a key role in informing public about main economic and financial statistics.

The United Nations Economic Commission for Europe (UNECE) mentioned in the Making Data Meaningful (2005), that with the growth of social media, multimedia tools and new communication channels, it has become apparent that the central banks are faced with the imperative need to upgrade their communication skills and tools. It is also related with how to find most suitable tool for communication to different users. The Bank change the culture of communicating statistics by disseminating the data in a more user-friendly system. New EVDS improved the

practices, which was established in the first version to make the data accessible and assist both professionals and public decision-making.

The central banks around the world allocate significant resources to promote economic education and financial literacy. As the Bank, we aim to reach out to different audiences with the financial literacy and economics education programs. EVDS serves exactly to this purpose. In this line, the Bank publishes many informative documents, videos, organizes training programs for different target groups. Cude (2010) stated that increasing financial literacy serves as an important channel to improve the capability of the people in managing their money. In this respect, EVDS assists public in using statistics in their daily life and financial decisions.

Historical Background and Renewal Process of the EVDS

Historical Background

The duty of the Bank, to collect statistical information relating to the financial system and publish the statistical information is established in the "The Law on the Central Bank of the Republic of Turkey". In line with this; basic principles and standards dealing with the production and dissemination of official statistics and to produce reliable, timely, transparent and impartial data required at national and international level are determined by the Statistics Law of Turkey No 5429. Within the scope of this legal framework, the Bank collects, compile and disseminate monetary, financial, real sector, foreign exchange and balance of payments statistics. For this purpose, the functional division of the Bank, responsible for compiling and dissemination of statistics is the Statistics Department.

Until the early 1990s, the statistics, reports and bulletin produced by our Bank were distributed in paper format. Ongoing data sharing with printed bulletins and reports was carried out from paper to electronic media with the technological advances. The electronic data distribution project started in 1992. Implementation and development studies were completed in 1993, and the first version of EVDS, which was a character-based operation, has been opened to the users. There were 500 time series. In 1994, with the setting up of the Bank's internet access, the system was revised to serve as a telnet application and the new system was opened on 4 January 1995. Over time, the number of registered users for access to the system has exceeded 2.500.

Due to the difficulties in using the character-based application, the increasing requirements over time, and the developments in technology, the system has been redeveloped with web-based features and graph feature has been added in June 1998. The number of time series reached 1800 in this period.

Need for Update of the EVDS

The first version of the EVDS was heavily used, but to keeping up to date with technical innovations, a revised version was needed. The enrichment of data within the Bank increased the demand for information from the public. Increasing requests made it necessary to renew the EVDS to improve the efficiency and quality of our statistical service. To meet new challenges in dissemination of data, the Bank took

this initiative. In 2016, project work for the renewal of EVDS began. Beginning from April 2017, an intensive study has been conducted by the Statistics Department (SD), the Information Technologies Department and the outsourcing company. After this intensive work, the new EVDS has been opened to public on 20th of October 2017.

The Bank has been working actively in the field of statistical dissemination and communication with the introduction of the new EVDS. Having carried out a major public service in monitoring the Turkish economy, EVDS meets the needs of many users. Policy makers use EVDS for decision making, academicians use for research, domestic and foreign professionals use for analyzing Turkish economy and lastly students use EVDS for their assignments. In addition to the existing services provided by EVDS, it was aimed to create more user-friendly system, taking into account the needs of the above-mentioned users.

The New EVDS

EVDS is a dynamic and interactive system that presents statistical time series data produced by the Bank and/or data produced by other institutions. These data are published on dynamic web pages. They can also be reported in the xls format or through the web service client (json, csv, xml), viewed in the graphics format.

The EVDS is available in Turkish and English. The system provides a rich range of economic data and information to support economic education and foster economic research.

Figure 1. EVDS Website



Main Features

Timely and comprehensive data

The Bank collects and compiles a wide range of statistics for its ongoing work and external users. There are approximately 26.000 time series from internal and external sources. The data is freely available to all. Recently updated data groups are listed on the main page. Now, there are twenty-two data groups: (Table 1)

List of Data Groups

Table 1

Exchange Rates	Market Statistics
Balance of Payments and International Investment Position	Deposits and Participation Funds Subject to Required Reserves
Foreign Trade Indices	External Debt
Money and Banking Statistics	Securities Statistics
Financial Accounts	Central Bank Balance Sheet Data
Surveys	Payment Systems
Price Indices	Production Statistics
Employment Statistics	Public Finance
Privatization Implementations	BIS Comparative Country Statistics
Gold Statistics	Interest Rates
Housing and Construction Statistics	Financial Statistics

Create report, graph, and map

For the all series, users can easily create reports and graphs. Users can draw charts in six graphic types. Graphics can be printed and saved in different formats. The map display is available for eligible data sets (geographical distribution, house price index, etc.)

Dashboards

Dashboards disseminated by the Bank contains a graph and short explanatory notes about the graph and the data. Users can also create their own dashboards, save and share them.

Figure 2. Dashboard, Monetary Developments



The graph presents the annual growth rates of M1 and M3 money supply. M1 is composed of currency in circulation and demand deposits. Broad money supply M3 is derived by adding time deposits, funds received from repo transactions, money market funds and debt securities issued with a maturity up to 2 years to the M1. The graph shows that M3 growth rate exceeds the M1 growth rate recently.

The series used in the graph are taken from Money Supply and Counterpart Items table under the Money and Banking Statistics available at EVDS.

Prepared by: CBRT Statistic Department, Monetary and Financial Statistics Data Division (Contact: parasal.veriler@tcmb.gov.tr)

Subscriptions

By subscribing to the selected series or data, the system shares information by sending an e-mail to the user at the previously scheduled date and time when the data groups or series are updated.

Using formulas

There are eight different formula options in time series. Formula box contains: level, percentage change, difference, year to year percentage change, year to year differences, percentage change compared to end-of-previous year, difference compared to end-of-previous year, moving average and moving sum. With the latest update of the EVDS, registered users can create customized formulas by performing four operations between the time series. This feature allows users to add, subtract, multiply and divide the selected time series.

REST web service usage

The data in EVDS are updated most frequently in daily frequency. Therefore, data collection once a day is very important in terms of overall system performance with Web service method. It may also be useful to encode the data for the same data group together with the data needed by a single call.

Search tool

The search box on the EVDS home page can provide users to search anything about EVDS such as categories, data groups, series and metadata. This search box also directs the user to the search results screen by searching through the metadata and dashboards.

Help desk

General public is one of the priorities of EVDS. If users find data access challenging, the main objective of the EVDS will be damaged. In this context, the SD built a call center for dealing directly with phone calls from the public. It helped us to have a better understanding of the users' difficulties. In addition, the public can communicate directly and receive assistance via e-mail.

Mobile Application

EVDS Mobile App is a mobile application that allows you to access and display the statistics disseminated by the Bank. The app offers dashboards and predefined graphs on topics such as external debt, weekly securities statistics and hedonic house price index. Users can access the latest available statistics and display them in tables, charts and maps and export data in various formats (such as .csv or .png). In brief, users can use all the features of the website over the application. Users can tweet, mail, or post their favorite graph or dashboards. Registered users can manage and share their subscriptions and dashboards.

Figure 3. Mobile Application homepage



Figure 4. Dashboard



Increasing Public Awareness about the EVDS

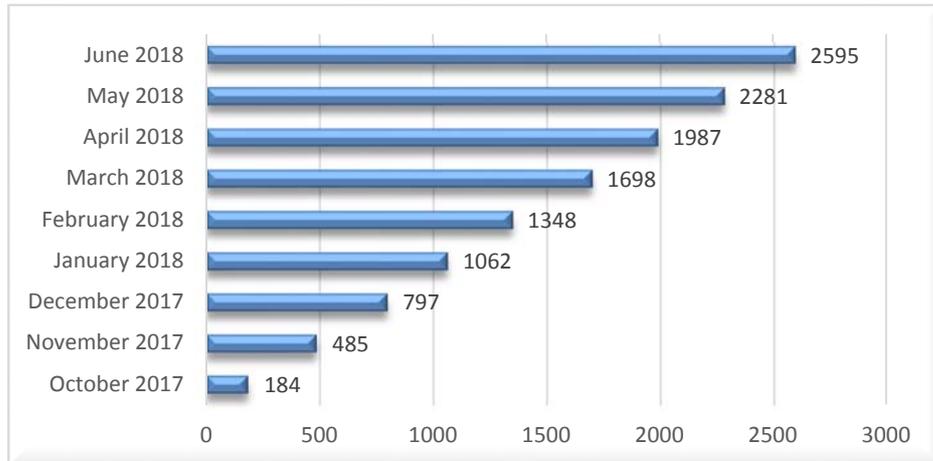
The Bank, assigns the utmost importance to raising public awareness in matters of using EVDS. First, general public should be grouped by their interest and level of financial literacy. In this way, targeted communication policies can be implied to different groups. In this line, the Bank publishes brochures, videos, organizes training programs for different target groups.

Firstly, there are many informative user documents in both written format and video format. Second, the Bank organizes practical training activities both for bank staff and outside users. The CBRT hosts university students at the CBRT Headquarters to inform them on the core functions of the CBRT. EVDS is one of the important topics in these events. Trainings have been organized for students, journalists and economists up to now. Moreover, a video has been released in the CBRT Blog- which is one of the Bank's official communication tools- to make it accessible to a larger audience

Use of EVDS: Immediate Results

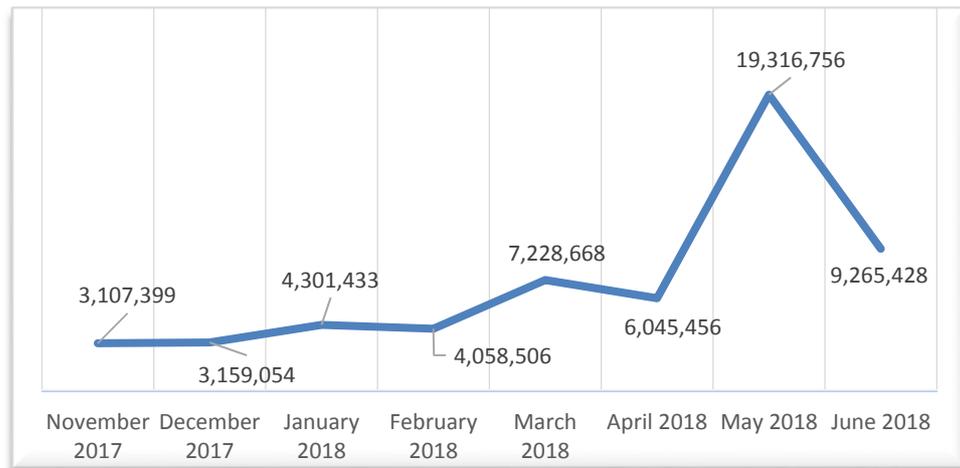
It is important to measure and monitor the system. By analyzing the indicators, behavior of the users and effectiveness of the communication strategy can be inferred. All the internal quantitative indicators show that EVDS is heavily used. For instance: total number of registered users is 2,595 as end of June 2018 and growing.

Graph 1. Number of registered users

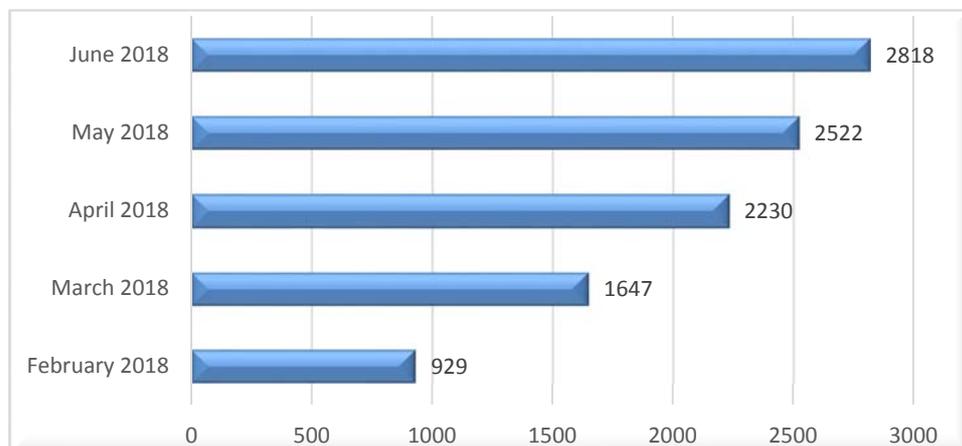


Other indicators, e.g. the number of "clicks" in EVDS is increasing at a fast pace - e.g., in June the number of total clicks is 9,265,428. The number of mobile application downloads is 2,818.

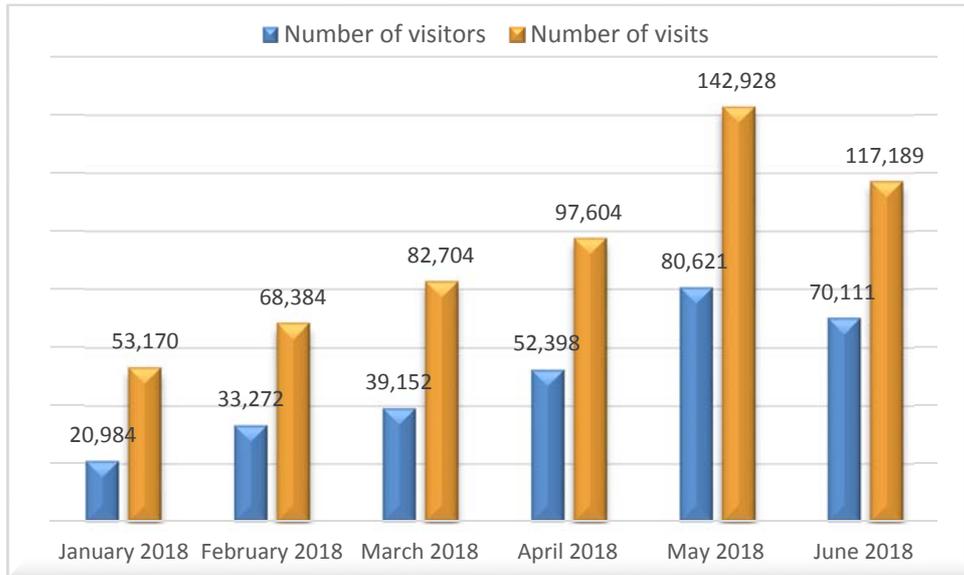
Graph 2. Number of total clicks



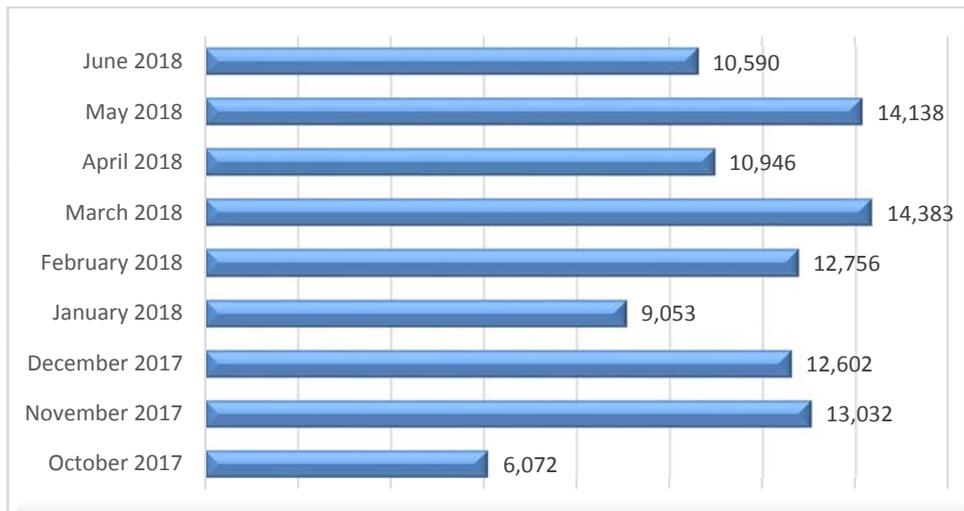
Graph 3. Number of mobile application users



Graph 4. Number of visitors and visits



Graph 5. Number of dashboard view



Next Strategic Steps

The EVDS is a dynamic database. The Bank, works in collaboration with the domestic and foreign institutions to increase economic data available in the EVDS. As a first step, the SD negotiated with the Bank for International Settlements (BIS) to extend EVDS data set by adding BIS series in which Turkey takes part.

To increase the analytical power of the system new functions such as mathematical operations between the series will be added.

To increase the functionality of the dashboards it is planned to re-design them as micro blog pages so that they not only to present formal data but also tell a story about the data.

Last but not least, a statistical portal is planned to be established. The platform will play an essential role in discussing statistics.

Conclusion

Central bank statistics around the world face significant challenges as new trends in statistics and communicating statistics have emerged. With the growth of social media, multimedia tools and new communication channels, the central banks are need to upgrade their communication skills and tools. With the new EVDS, the Bank change the culture of communicating statistics by disseminating the data in a more user-friendly system. The positive feedback from the public and the users statistics indicate EVDS has up to a good start in this direction.

References

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BANK FOR INTERNATIONAL SETTLEMENTS

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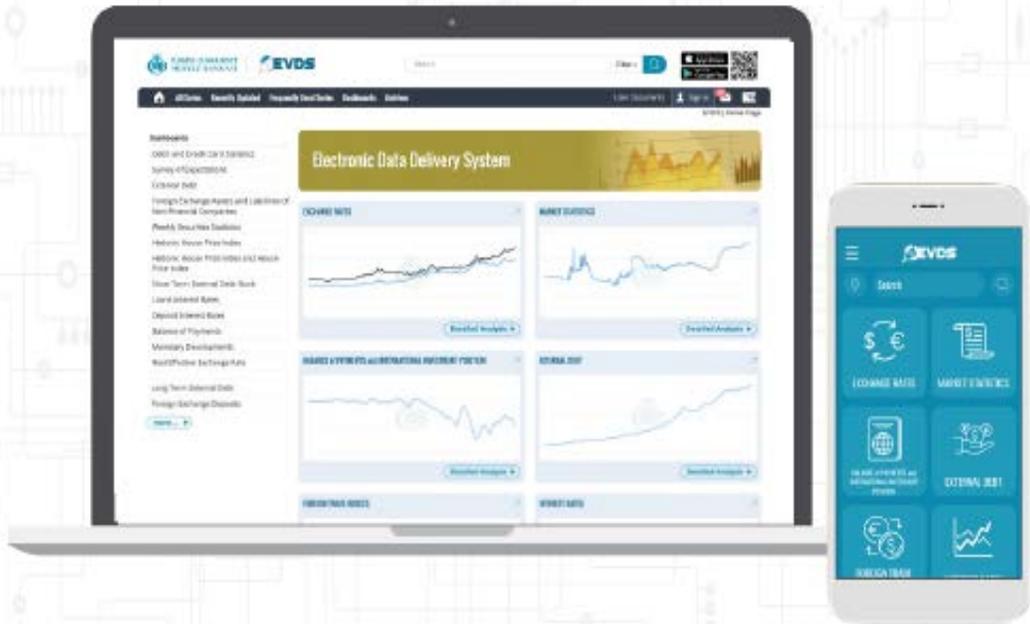
Seyma SERDENGECTI

30-31 AUGUST, 2018 | BASEL

Outline:

- ▶ What is EVDS?
- ▶ Features
- ▶ Dashboards
- ▶ Mobile Application
- ▶ Increasing Public Awareness
- ▶ Use of EVDS: Immediate Results
- ▶ Next Strategic Steps

What is EVDS?



- Data Delivery System of Central Bank of Turkey
- Dynamic and interactive
- Covers data produced by Bank and by other institutions.
- Since 1995
- Renewed in 2017
- Opened to public on 20th of October 2017
- in Turkish and English



<https://evds2.tcmb.gov.tr/>

Features



22 Subject Titles , 315 Datagroups,
26 000 Time Series



8 formula options for every time
series



Customized formulas



Get quick information on key
economic indicators via dashboards



Search within data groups

Create dynamic tables and graphs



Dynamic map display for data groups
containing locations



Personal dashboards that can be saved,
linked and shared



Subscription

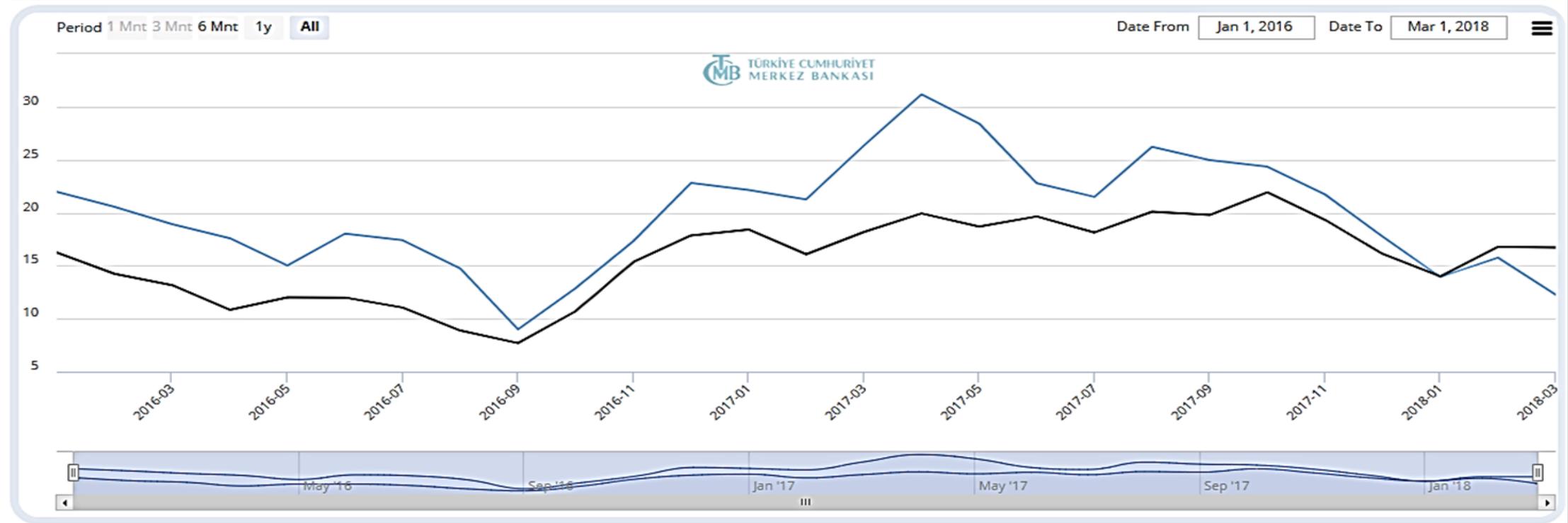
Help desk

REST web service usage



Dashboards

Monetary Aggregates Annual Percentage Growth

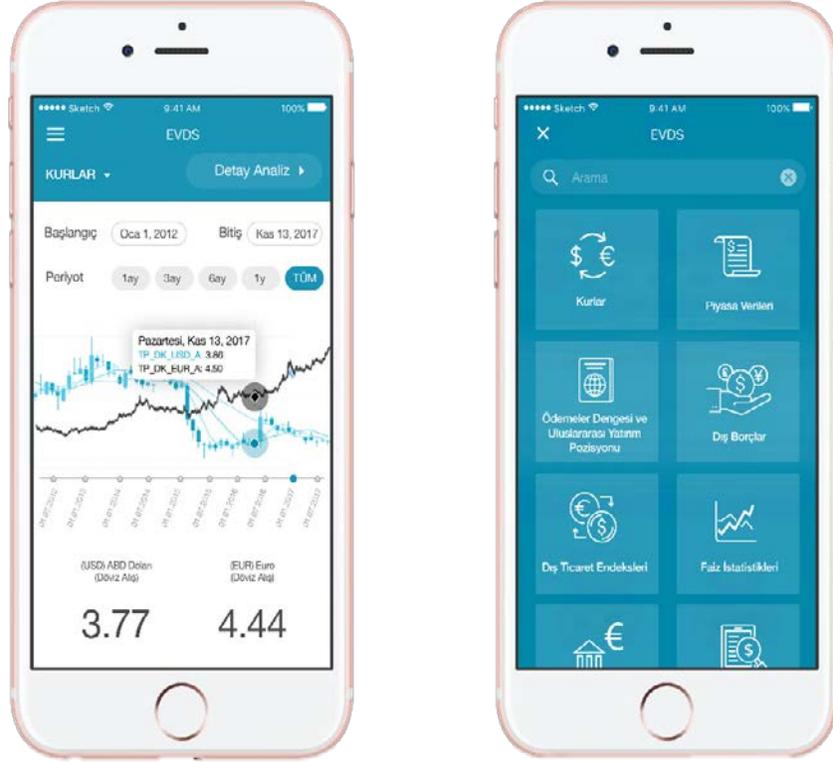


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Mobile Application



➤ Access the latest available statistics and display them in tables, charts and maps and export data in various formats (such as .csv or .png)

➤ Access, download and/or share your dashboards and predefined graphs

➤ Users can tweet, mail, or post their favorite graph or dashboards

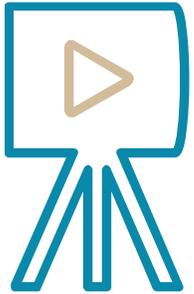


Increasing Public Awareness



The Bank publishes brochures, videos, organizes training programs for different target groups.

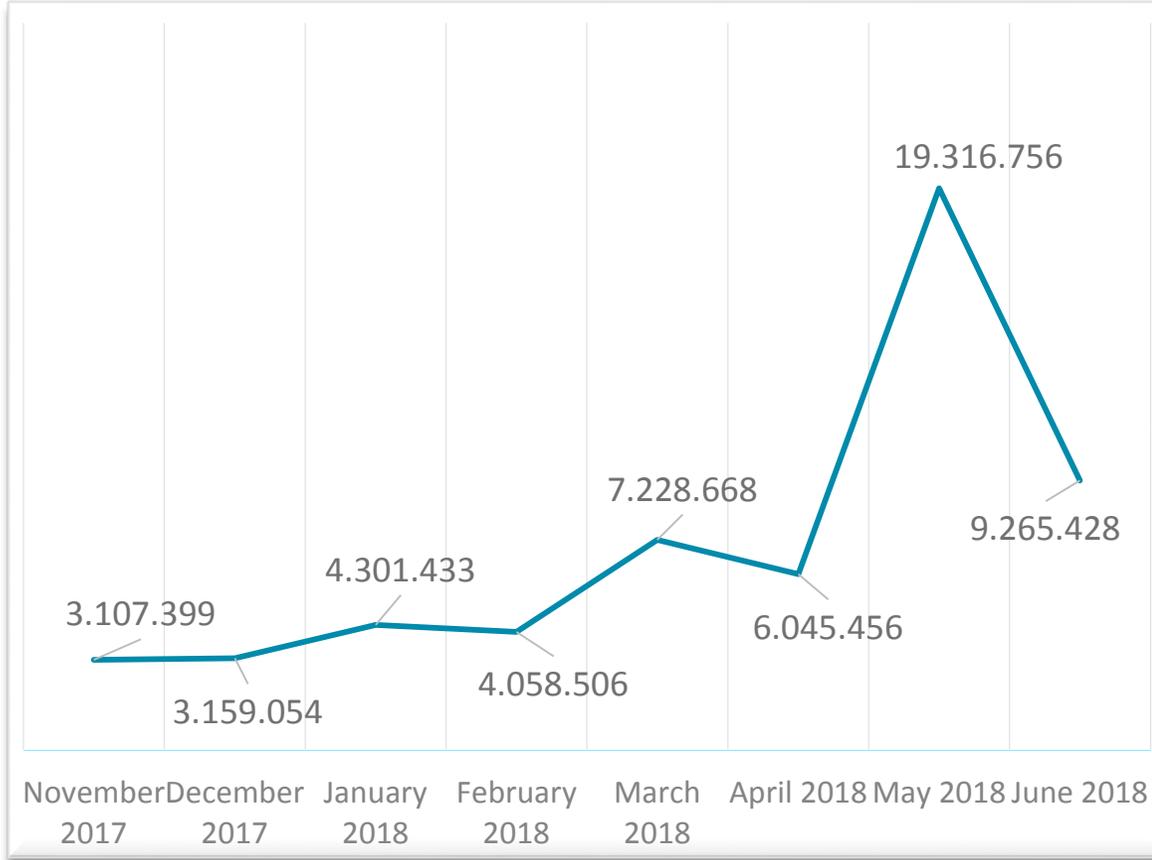
The Bank organizes practical training activities both for bank staff and outside users.



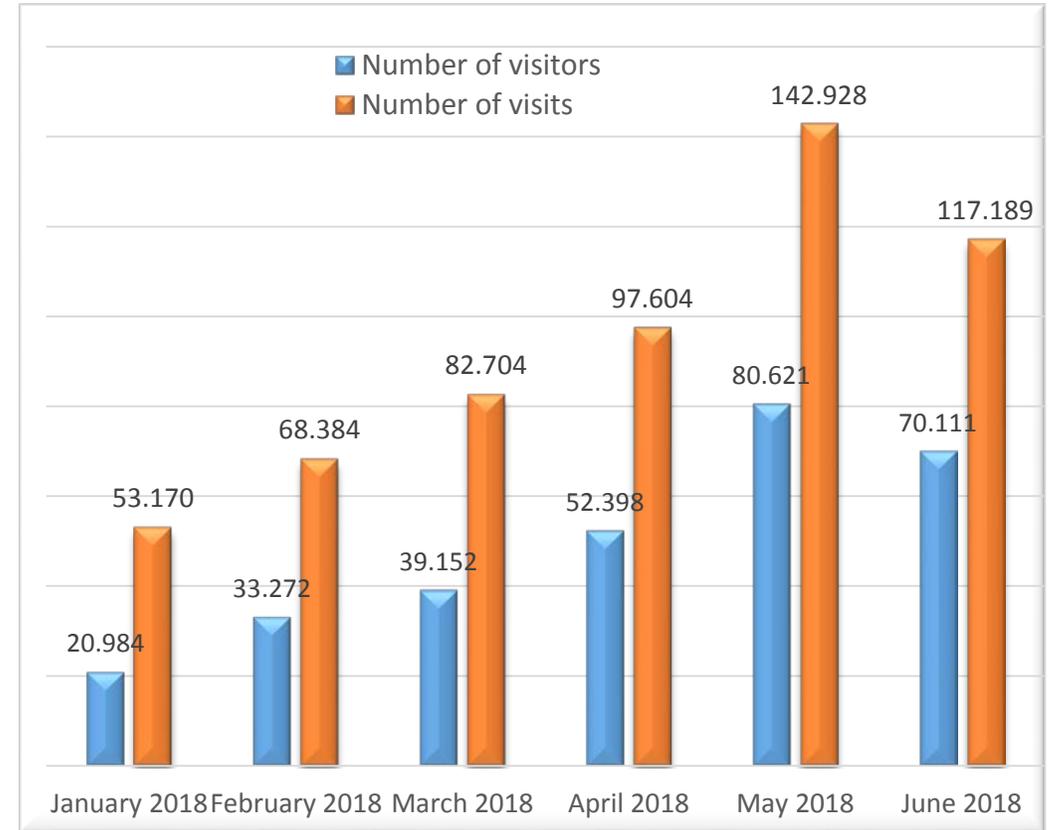
A video has been released by the CBRT to make it accessible to a larger audience.

Use of EVDS: Immediate Results

Number of total clicks



Number of visitors and visits



Next Strategic Steps



Increase the number of economic and financial data available in the EVDS



Add new functions (mathematical operations between the time series)



Build a statistical portal



Focus more on increasing financial literacy



Increasing public awareness



Thank you!

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