6. Public Finance

In 2017, fiscal policy supported growth through both public spending and temporary tax incentives. Meanwhile, the upswing in economic activity bolstered collection of tax revenues. Moreover, the contribution of administered prices to inflation decelerated compared to historical averages. In 2017, due mainly to the soaring primary expenditures and partly to the falling non-tax revenues, the budget deficit recorded a year-on-year widening. Accordingly, in 2017, the budget deficit to GDP ratio is expected to pick up by around 0.4 points in annual terms. Since the second half of 2017, primary expenditures have slowed down, while tax revenues have recovered notably on the back of the rebound in economic activity stimulated by expansionary measures and incentives. In fact, owing also to the upswing in economic activity, tax revenues grew faster than primary expenditures in 2017 compared to 2016.

The MTP covering the 2018-2020 period was announced to the public at the end of September. According to the new MTP, the ratio of budget deficit to GDP is estimated to stand at 2 percent in 2017. On the other hand, budget realizations announced for 2017 indicate that the budget deficit to GDP ratio will remain at 1.5 percent in 2017, which is 0.5 points below the MTP targets.

In 2017, the surge in the budget deficit amid rising public spending and temporary measures was financed mostly by domestic borrowing. Recording a notable increase compared to past years, the domestic debt rollover ratio climbed to 125.6 percent in 2017.

6.1 Budget Developments

In 2017, the central government budget posted a deficit of 47.4 billion TL, consistent with initial targets, while the primary balance recorded a surplus of 9.3 billion TL (Table 6.1.1). The increase in primary expenditures exceeded targets, and the fall in non-tax revenues restricted the rise in total budget revenues, resulting in a wider budget deficit compared to the same period of the previous year.

In this period, tax revenues increased by 16.8 percent year-on-year, while non-tax revenues dropped by 4.1 percent, which caused central government budget revenues to rise by 13.8 percent. Meanwhile, soaring by 16.3 percent in 2017, primary expenditures exceeded budget revenues considerably, leading to a dramatic year-on-year decline in the primary surplus.

Table 6.1.1: Central Government Budget Aggregates (Billion TL)

	2016	2017	Rate of Increase (%)	Actual/Target (%)	Targeted Annual Rate of Increase (%)
Central Government Budget Expenditures	584.1	677.7	16.0	105.1	10.5
Interest Expenditures	50.2	56.7	13.0	98.6	14.4
Primary Expenditures	533.8	621.0	16.3	105.7	10.1
Central Government Budget Revenues	554.1	630.3	13.8	105.4	8.0
I. Tax Revenues	459.0	536.0	16.8	104.9	11.3
II. Non-Tax Revenues	74.2	71.2	-4.1	97.2	-1.3
Budget Balance	-29.9	-47.4	-	101.1	-
Primary Balance	20.3	9.3	-54.1	87.7	-

Source: Ministry of Finance.

At the end of 2017, the budget deficit to GDP ratio is expected to inch up by around 0.4 points year-on-year to 1.5 percent (Chart 6.1.1). In the same period, the primary budget balance to GDP ratio may fall by 0.5 points to 0.3 percent.
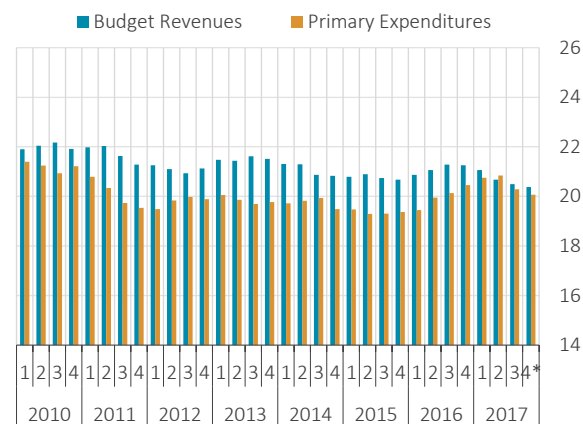
Chart 6.1.1: Central Government Budget Balance (Annualized, Percent of GDP)
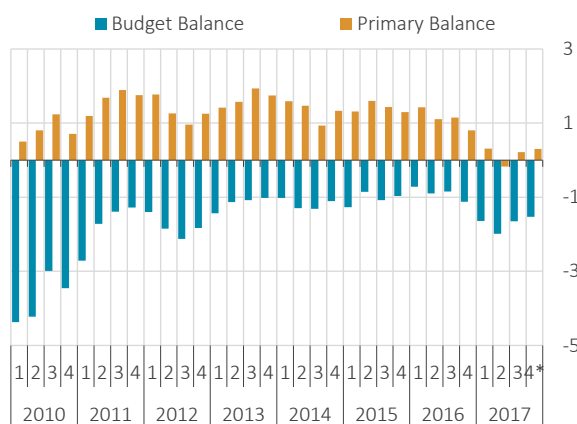
Source: Ministry of Finance.

* Forecast.

Chart 6.1.2: Central Government Budget Revenues and Primary Expenditures (Annualized, Percent of GDP)

Source: Ministry of Finance.

* Forecast.

The uptrend in the central government primary expenditures to GDP ratio in 2016 was replaced by a deceleration in the second half of 2017. Down by about 0.4 points year-on-year, this ratio is projected to stand at 20.1 percent in the last quarter of 2017. In the same period, the central government budget revenues to GDP ratio is estimated to be 20.4 percent with a year-on-year decline of 0.9 points because of slowing non-tax revenues as well as temporary tax reductions, sectoral tax incentives and VAT refunds on tax revenues implemented at end-2016 (Chart 6.1.2).

In 2017, growth-boosting measures and incentives increased primary expenditures, particularly current transfers. In addition, the year-on-year upsurge of 16.3 percent in primary expenditures was driven by capital expenditures coupled with the uptick in the purchases of goods and services stemming from defense expenditures (Table 6.1.2). On the other hand, the growth rate of personnel expenditures, the key item of primary expenditures, remained beneath previous years. Among investment expenditures, capital expenditures and capital transfers posted a year-on-year surge by 18.2 and 50.2 percent, respectively.

Table 6.1.2: Central Government Primary Expenditures (Billion TL)

	2016	2017	Rate of Increase (%)	Actual/Target (%)
Primary Expenditures	533.8	621.0	16.3	105.7
1. Personnel Expenditures	148.9	162.1	8.9	99.7
2. Government Premiums to SSI	24.7	27.3	10.4	100.5
3. Purchases of Goods and Services	54.1	63.5	17.3	121.8
4. Current Transfers	224.9	271.0	20.5	108.7
a) Duty Losses	5.8	7.4	26.4	102.6
b) Health, Pension and Social Benefits	106.8	132.5	24.0	113.6
c) Agricultural Support	11.5	12.7	10.7	99.1
d) Reserved Share Revenues	62.6	72.7	16.1	103.8
e) Transfers to Households	12.6	16.4	30.0	121.7
5. Capital Expenditures	59.7	70.5	18.2	106.5
6. Capital Transfers	8.9	13.3	50.2	122.6
7. Lending	12.8	13.3	4.2	102.9

Source: Ministry of Finance.

In 2017, central government budget revenues increased by 13.9 percent year-on-year (Table 6.1.3). In this period, tax revenues recorded a sizeable upturn of 16.8 percent, which is beyond initial target and MTP forecasts. This rise was fueled by the upswing in economic activity as well as exchange rate developments. Meanwhile, non-tax revenues fell by 4.1 percent owing to the year-on-year decline in privatization revenues.

Table 6.1.3: Central Government General Budget Revenues (Billion TL)

	2016	2017	Rate of Increase (%)	Actual/Target (%)
General Budget Revenues	533.2	607.2	13.9	103.9
I-Tax Revenues	459.0	536.0	16.8	104.9
Income Tax	96.6	112.4	16.4	103.2
Corporate Tax	43.0	52.9	23.1	114.6
Domestic VAT	54.0	55.6	2.9	97.4
SCT	120.4	138.3	14.9	101.4
VAT on Imports	76.8	99.6	29.7	119.0
II-Non-Tax Revenues	74.2	71.2	-4.1	97.2
Enterprise and Property Revenues	23.8	19.8	-16.8	115.4
Interests, Shares and Fines	34.9	35.4	1.5	94.4
Capital Revenues	12.8	11.7	-9.0	75.8

Source: Ministry of Finance.

Across sub-items, the upsurge in tax revenues was driven by higher VAT revenues on imports on the indirect taxes side and increased corporate tax revenues on the direct taxes side. In addition, SCT revenues among indirect taxes and the income tax revenues among direct taxes made significant contributions to budget revenues by 14.9 and 16.4 percent, respectively. The increase in tax refunds restricted the rise in VAT revenues collection. Meanwhile, VAT revenues on imports recorded a sizeable upturn largely due to the TL depreciation and the rise in imports.

Despite some recovery in the second quarter of 2017, real tax revenues recorded a relatively low increase of 3.2 percent at the end of the year due to the last-quarter inflation developments (Chart 6.1.3). Across sub-items, the collection of VAT revenues on imports displayed a quite strong performance in real terms in the last quarter of 2017 (Chart 6.1.4).

Chart 6.1.3: Real Tax Revenues (Annual % Change)
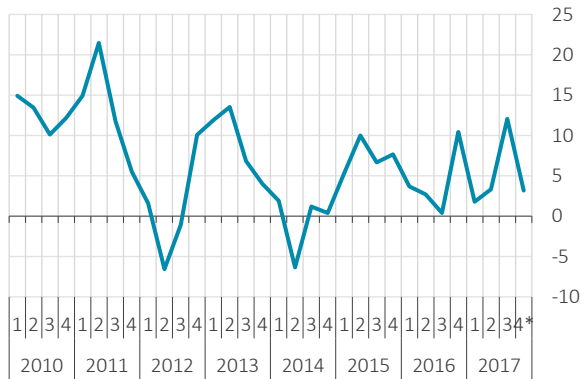
Source: Ministry of Finance.
* Forecast.

**Chart 6.1.4: Real VAT and SCT Revenues** (Annual % Change)
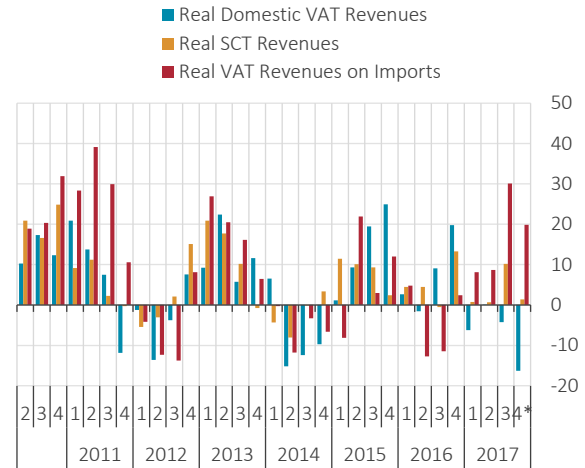
Source: Ministry of Finance.
* Forecast.

6.2 Developments in the Public Debt Stock

In the third quarter of 2017, the total public net debt stock to GDP ratio fell by 0.7 points and the EU-defined general government nominal debt stock to GDP ratio remained almost unchanged in year-on-year terms. The EU-defined general government nominal debt stock to GDP ratio is 28.2 percent as of the third quarter of 2017 (Chart 6.2.1).

Chart 6.2.1: Public Debt Stock Indicators
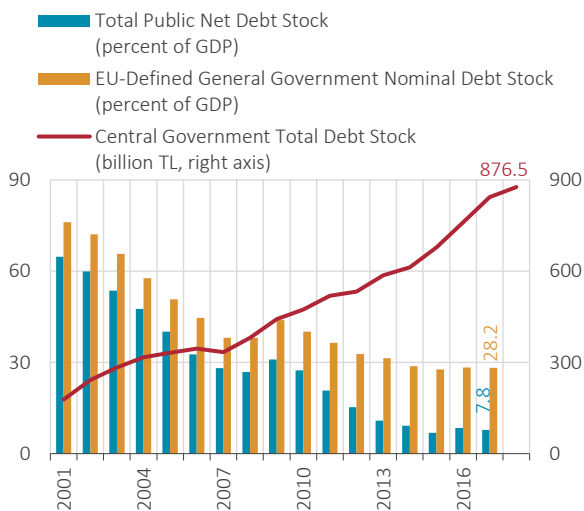
Source: Treasury.

**Chart 6.2.2: Composition of the Central Government Debt Stock** (%)
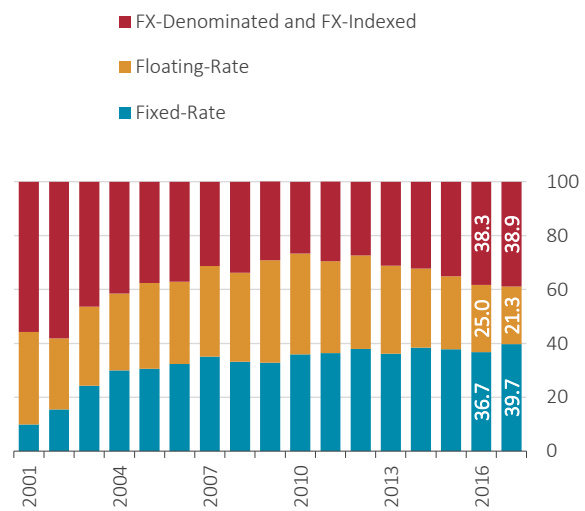
Source: Treasury.

In 2017, the share of fixed-rate, FX-denominated and FX-indexed securities in the total debt stock increased, while that of floating-rate securities inched down from 2016. Domestic borrowing was mostly financed by fixed-rate securities in this period.

The average term-to-maturity of the domestic debt stock stood at 50.5 months, lower than 2016 (Chart 6.2.3). In 2017, external borrowing by bond issues stood at 9.7 billion USD with an average maturity of 16.3 years (Chart 6.2.4).

Chart 6.2.3: Average Term-to-Maturity of Domestic Debt Stock and Average Maturity of Domestic Cash Borrowing (Month)
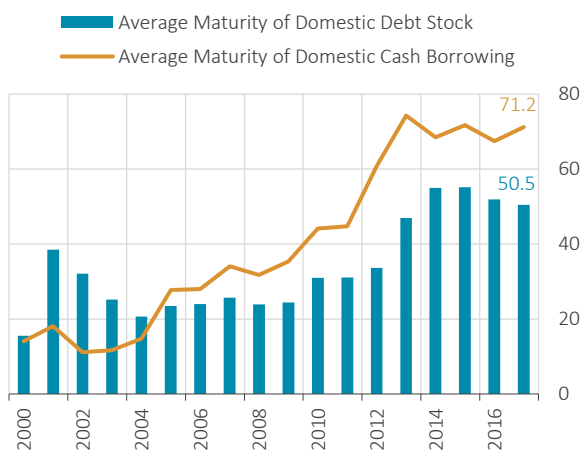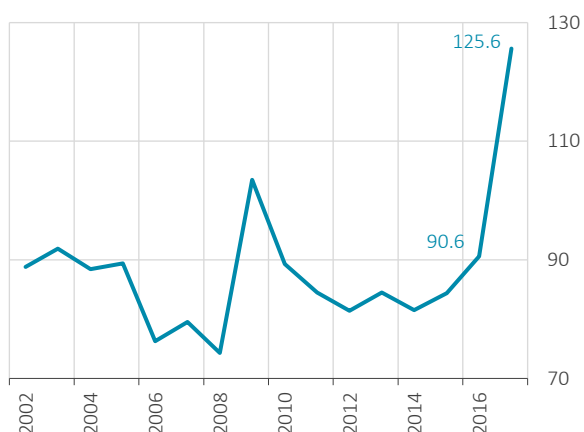

Source: Treasury.

**Chart 6.2.4: External Borrowing**
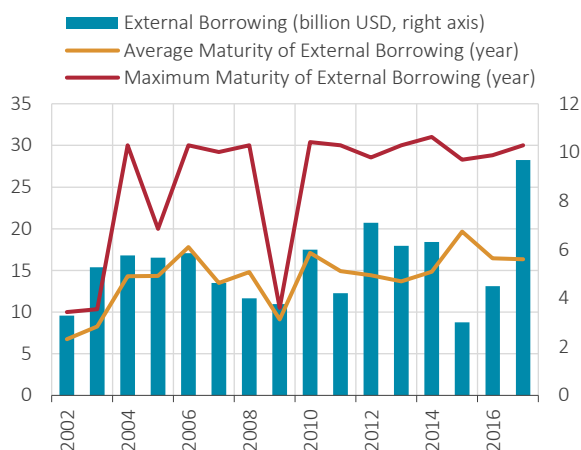
Source: Treasury.

With a year-on-year upsurge, the domestic debt rollover ratio climbed to 125.6 percent, while the external debt rollover ratio reached 93 percent (Chart 6.2.5). In December, the average domestic borrowing real interest rate[1] decreased slightly (Chart 6.2.6).

Chart 6.2.5: Total Domestic Debt Rollover Ratio (%)

Source: Treasury, CBRT.

Chart 6.2.6: Average Maturity and Interest Rates at Treasury Auctions
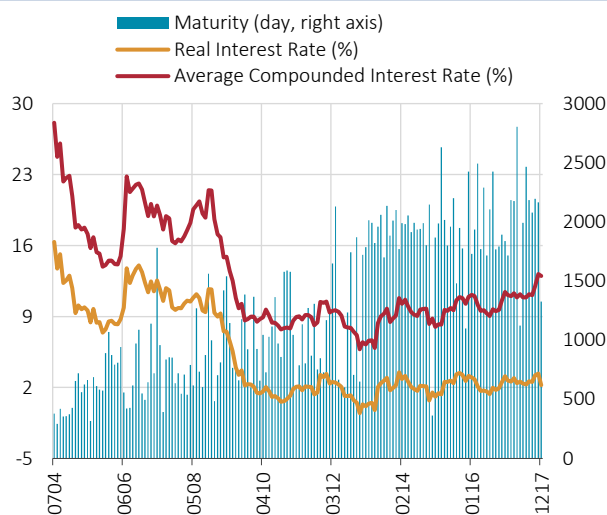
Source: Treasury, CBRT.

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[1] Real interest rate is calculated by subtracting the 12-month-ahead inflation expectations of the CBRT Survey of Expectations from nominal interest rates of the Treasury's auction.

Box 6.1
Distribution of Domestic Debt Instruments by Investor Type

It is crucial for policymakers to identify risks posed by investors stemming from the differences in their borrowing preferences and examine the impact of a possible shock on the domestic debt stock (Arslanalp and Tsuda, 2014). In case an instrument is owned solely by a single holder, a negative shock to this holder will lower the demand for the instrument and change the structure of the debt stock. On the other hand, if the majority of the debt stock is owned by a certain investor, a negative shock to this investor creates a risk in terms of the financing of the debt stock. Against this background, this box analyzes the instrument preferences of the domestic debt stock holders.

As of end-2017, the analysis of the domestic borrowing instruments by investors suggests that borrowing preferences vary across investors, which constitute the demand side of the domestic debt stock (Chart 1). The banking sector mostly prefers a variety of tools. Particularly, a large portion of CPI-indexed bonds are held by banks, possibly to compensate for the maturity mismatch between credits and deposits.

Chart 1: Composition of Investor-Based Domestic Borrowing Instruments*
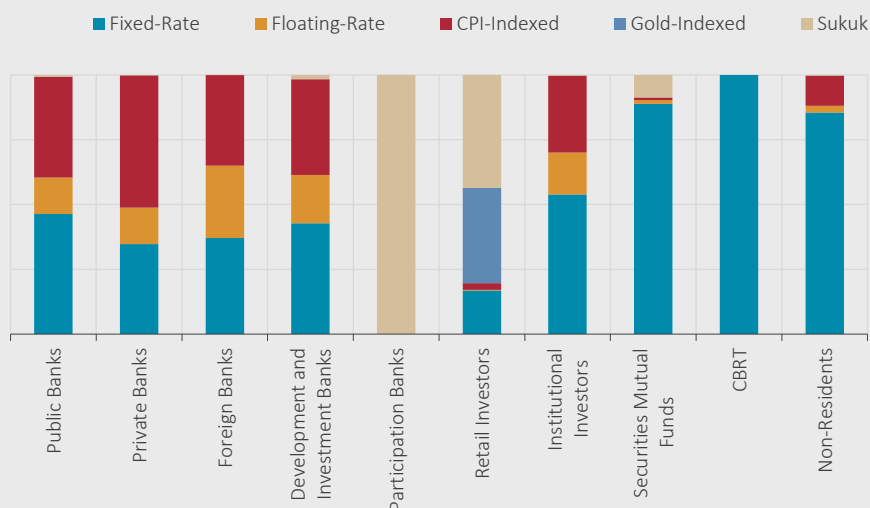
Source: CBRT.
* As of 29 December 2017.

Meanwhile, it is worth noting that participation banks solely invest in sukuk bonds of which they also happen to be the majority investor. Non-bank investors and non-residents mostly demand fixed-rate bonds.

Diversification of the investor base is considered to be a warranty for sustaining a robust demand for government domestic debt securities.[1] Low concentration ratios in terms of investors or instruments, or in other words, diversification of domestic debt stock across a wider range of investors and instruments will minimize both the investor-specific and the instrument-specific risks. Micro data on instruments by investors is crucial to measuring the resilience of the domestic debt stock against any sensitivity to be posed by changes in

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[1] Higher share of non-residents as well as institutional investors within the domestic debt stock increases the strength of the demand side of the public debt (Jeanneau and Pérez Verdia, 2005; Sidaoui et al., 2012).

investors' preferences. This analysis employs a commonly accepted metric for market concentration and firm competition, the Herfindahl-Hirschman Index (HHI), as the resilience criterion of the domestic debt stock. This index, which is a measure of market competitiveness, is calculated by adding the squares of the shares of all domestic debt stock holders for each instrument or the share of each instrument in every investors' holdings of domestic debt stock. For n denoting the number of investors or instruments in the market and s_i representing the market share, the HHI can be measured as follows:

$$HHI = \sum_{i=1}^{n} s_i^2$$

Accordingly, an HHI value close to zero indicates a variety of investors or instruments in the market, which suggests a balanced distribution. If the index takes values around 1, this implies a monopolistic market structure, which therefore signals high concentration and fragility.

The concentration of investors in instruments is obtained by adding the squares of the shares of the instruments for each holder within the total debt stock, which measures the variety of instruments. During the 2012-2017 period, HHI values across the banking sector excluding participation banks is quite low, which indicates that a variety of tools was preferred by the sector (Chart 2). On the other hand, the CBRT and participation banks opted for a single tool, yet their shares remained low within the total domestic debt stock, which therefore did not hamper the resilience of the domestic debt stock.

Chart 2: Instrument-Based Concentration of Investors (HHI)
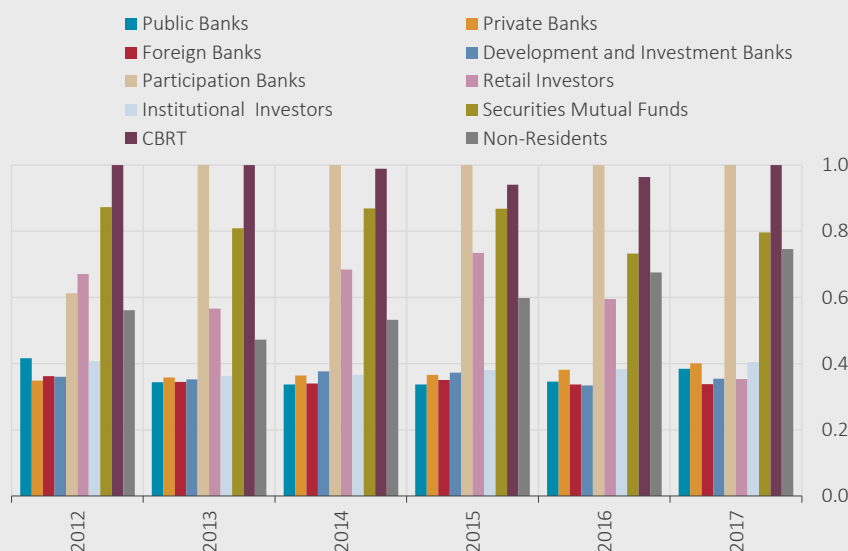
Source: CBRT.

Investor-based concentration of instruments appears as another measurement to be employed in analyzing the resilience of the domestic debt stock. The breakdown of the instruments over years signals a balanced composition of fixed-rate, floating-rate rate and CPI-indexed government bonds among investors over the analyzed period (Chart 3).

Chart 3: Investor-Based Concentration of Instruments (HHI)
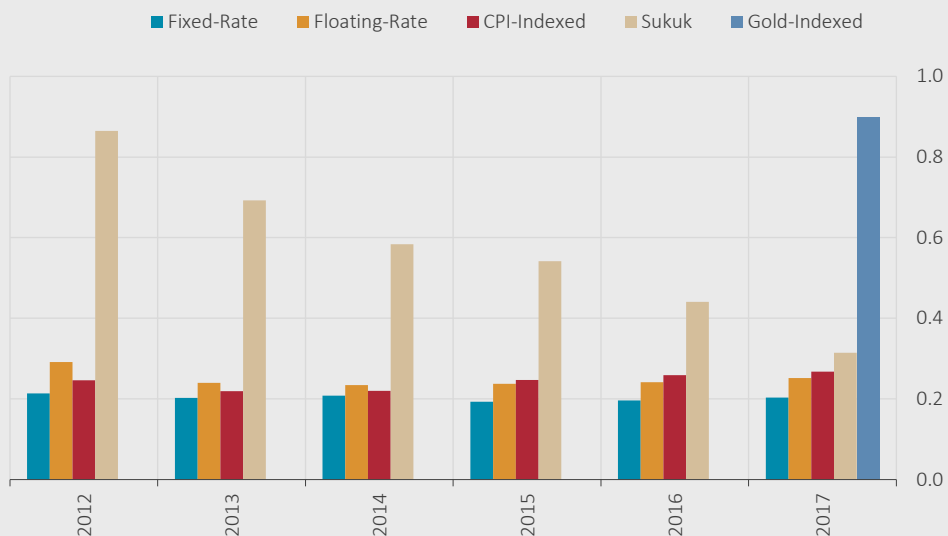
Source: CBRT.

In sum, the instrument preferences of the domestic debt stock holders were analyzed using the dataset developed by the CBRT Department of Statistics. This enables the measurement of the resilience of the domestic debt stock against possible shocks. Overall, the analysis suggests a balanced and diversified distribution of the domestic debt stock in terms of holders and instruments.

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