Economic Growth in the Fourth Quarter

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Executive Summary

In light of the fully-released January and partly-released February leading indicators, we expect GDP to increase by 5.0 percent year-on-year in the first quarter of 2023. According to seasonal and calendar-adjusted data, we forecast quarter-on-quarter GDP growth to be 1.4 percent.

GDP growth forecasts	2023Q1
Quarter-on-quarter	1.4
Year-on-year	5.0

Table 1: Periodical and annual real GDP growth forecasts. Source: Betam. **NOTE:** "Quarter-on-quarter" growth rate refers to seasonally and calendar-day adjusted real GDP growth forecast; "Year-on-year" growth rate refers forecasted real GDP growth compared to the same quarter of the previous year.

Huge increase in public consumption

In the first quarter of 2023, despite a decrease of 3.1 percent in special consumption tax revenue compared to the previous quarter, we estimate a significant increase of 31.9 percent in public consumption(Table2).

Compared to the same quarter of the previous year, we observe a soar in imports of consumption goods (45.6 percent) and a sharp decrease in mortgage loans (20.6 percent). We calculate special consumption tax revenue and public consumption to rise by 36.1 and 52.8 percent, respectively(Table 3).

	2022Q4	2023Q1
Imports-cons. goods	1.9	10.3
Mortgage loans	-6.0	-5.3
Consumer loans + CC	4.3	5.1
IPI-nondurable goods	0.4	2.5
IPI-durable goods	6.6	0.3
Special cons. tax	12.4	-3.1
Public cons.	-6.8	31.9

Table 2: Consumption expenditures compared to the previous quarter. **IPI:** Industrial production index; **Cons.:** Consumption tax; **CC:** Credit Cards.

	2022Q4	2023Q1
Imports-cons. goods	29.6	45.6
Mortgage loans	-30.8	-20.6
Consumer loans + CC	-17.0	5.3
IPI-nondurable goods	2.4	1.1
IPI-durable goods	4.5	-4.4
Special cons. tax	45.7	36.1
Public cons.	7.1	52.8

Table 3: Consumption expenditures compared to the same quarter of the previous year.

Increase in imports of investment goods

According to seasonally and calendar-adjusted investment data, the 13.9 percent increase in imports of investment goods draws attention in the first quarter of 2023. The retail sector stock level declines by 0.4 percent and public investment expenditures decrease by 33.7 percent (Table 4).

Compared to the same quarter of the previous year, production expectations for the last three months decrease by approximately 1.8 percent and the intermediate goods production index decreases by 4.6 percent. While the imports of investment goods grow by 17.0 percent, public investment expenditures increase by more than 22.4 percent. (Table 5).

Limited decrease in exports excluding gold maintains

When we look at the seasonal and calendar-adjusted gold-excluded foreign trade figures in the first quarter of 2023, we expect an increase in exports (0.6 percent) and imports(5.9 percent) (Table 6).

Compared to the same quarter of the previous year, gold-excluded exports decrease by 0.2 percent, total exports decline by 6.8 percent. While gold-excluded imports increase by 5.5 percent, total imports increase by 19.0 percent (Table 7).

	2022Q4	2023Q1
IPI-inter. goods	-0.2	5.5
CUR-invest. goods	1.9	-0.0
Imports-invest. goods	-0.5	13.9
Commercial loans + CC	0.2	1.7
Prod.-last 3 months	-1.9	5.3
RT vol. of stock	-2.4	-0.4
Public invest.	44.1	-33.7

Table 4: Investment expenditures compared to the previous quarter. **CUR:** Capacity Utilization Rate. CUR is reported as percentage points changes unlike other indices; **RT vol. of stock:** Current volume of stock of retail trade sector; **Invest.:** Investment.

	2022Q4	2023Q1
IPI-inter. goods	-6.6	-4.6
CUR-invest. goods	2.7	2.8
Imports-invest. goods	14.1	17.0
Commercial loans + CC	-17.5	-2.7
Prod.-last 3 months	-16.9	-1.8
RT vol. of stock	5.3	-3.0
Public invest.	29.9	22.4

Table 5: Investment expenditures compared to the same quarter of the previous year.

	2022Q4	2023Q1
Exports	-0.4	-0.2
Imports	4.4	10.3
Exports excluding gold	-1.0	0.6
Imports excluding gold	-0.8	5.9

Table 6: Foreign trade compared to the previous quarter.

	2022Q4	2023Q1
Exports	-3.6	-6.8
Imports	8.0	19.0
Exports excluding gold	1.7	-0.2
Imports excluding gold	0.9	5.5

Table 7: Foreign trade compared to the same quarter of the previous year.

General Evaluation

Considering the other seasonal and calendar-adjusted leading indicators we use in GDP forecasting, we observe rises of 3.1 and 0.1 percent in the manufacturing sector production index and demand for the service sector, respectively (Table 8).

Compared to the previous year's period, the electricity usage decreases by 3.1 percent while the increase in price expectations in the retail sector increase 0.7 percent. The investment expectation (next 12 months) falls by 5.8 percent (Table 9).

In light of the fully-released January and partly-released February leading indicators, we expect GDP to increase by 5.0 percent year-on-year in the first quarter of 2023. According to seasonal and calendar-adjusted data, we forecast quarter-on-quarter GDP growth to be 1.4 percent.

	2022Q4	2023Q1
IPI-manufacturing	2.5	3.1
RT price exp.	0.6	-0.2
CUR	-1.0	-0.5
Ser. demand turnover	0.8	0.1
Expected invest.-12m	-1.5	-2.1
Electricity cons.	-2.1	0.2

Table 8: Some of leading indicators compared to the previous quarter. **RT price exp.:** Expected price for the retail sector (next 3 months); **Ser. demand turnover:** Demand for services (last 3 months), **Expected invest.-12m:** Investment expectations (next 12 months) ;**Expected invest.-12m::** Investment expectations (next 12 months)

	2022Q4	2023Q1
IPI-manufacturing	1.3	-1.0
RT price exp.	4.8	0.7
CUR	-1.8	-1.9
Ser. demand turnover	-3.8	-1.3
Expected invest.-12m	-3.9	-5.8
Electricity cons.	-5.6	-3.1

Table 9: Some of the leading indicators compared to the same quarter of the previous year.

BOX: EXPLANATIONS

**Explanation on seasonal and calendar day adjustment:**
While forecasting the quarter-on-quarter GDP growth rate, we adjust all series for seasonal and calendar day effects. If institutions release an adjusted series, we use this released adjusted series, and if not, BETAM performs seasonal and calendar day adjustments. The status of variables used in this brief can be summarized as follows:

- Central Bank of the Republic of Turkey (TCMB): Capacity utilization rate of the manufacturing industry (CUR), Real sector confidence index.

- Turkstat (TUIK): Industrial production index (IPI) and its sub-components; export, import, and import sub-components concerning goods categories (intermediate goods, investment goods, and consumption goods); sectoral confidence indices and its components (retail trade, services, and construction sectors)

- Betam: The rest of the leading indicators.

Explanation on leading indicators: Betam shares three forecasts for each quarter. For some indicators of the quarter, of which the growth rate is forecasted, the last two months' observations and for others' last month's observations are missing when we run the forecasting model. While estimating growth rates of leading indicators, we use forecasts based on previous observations of each series for missing months. Since there are no missing monthly observations in series while running the third forecast, there is no need for this forecast.

Explanation on forecasting model:
For the direct forecast of GDP, we use 16 leading indicators. While forecasting the components of GDP (consumption, investment, export, and import), we use 26 leading indicators. We prefer to represent remarkable variables within the current period and success in the forecast instead of representing all of them in the research brief and tables.
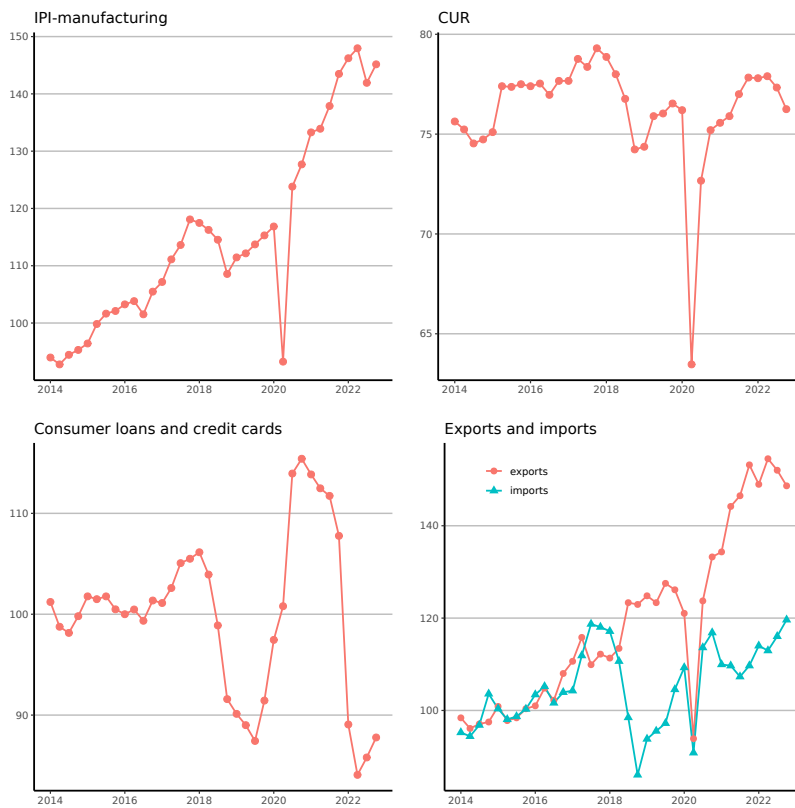
Figure 1: Seasonally and calendar day adjusted quarterly leading indicators. Consumer credits and individual credit cards in the first quarter of 2016 are indexed at 100.