Bahçeşehir Üniversitesi
Ekonomik ve Toplumsal Araştırmalar Merkezi
Betam

Economic Growth and Forecasts: February 2017

BAHÇEŞEHİR ÜNİVERSİTESİ

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Revival in the Last Quarter

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Executive Summary

Turkish Statistical Institute has completely changed the system of national accounts due to the revision implemented for the alignment with SNA-2008 and ESA-2010 (see Betam AN 16/203). Since there are differences in definitions, levels, and ratios between old and new series, our old forecasting model largely lost its function. In this research brief, we share our revised forecasting model and its first forecast results.

In our first forecast for the fourth quarter all leading indicators point out a recovery in the economy after the recession in the third quarter of 2016. Using fully released October, November and partially released January series, we forecast quarter-on-quarter growth rate to be 2.1 percent, year-on-year growth rate to be 5.7 percent and overall annual growth rate to be 3.0 percent in the last quarter of 2016.

GDP growth forecasts	2016Q4
Quarter-on-quarter GDP	2.1
Year-on-year GDP	5.,7
Annual GDP	3.0

Tablo 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. "Annual" growth rate refers to overall real GDP growth rate forecast of the current year compared to the previous year.

Recovery in Consumption

In the last quarter of 2016 we saw an increase in almost all of seasonally and calendar-day adjusted private consumption leading indicators while they either declined or slightly increased in the previous quarter. Especially consumption goods import (7 percent) and nondurable consumption goods production (4.5 percent) are remarkable with high growth rates. Relatively smaller increases are recorded in other components. Consumer credits and individual credit cards have the lowest rise with 1.7 percent. Public consumption, which consists of goods and services expenditures, compensation of employees and social security contributions, increased by 2.5 percent in a similar way as with private consumption indicators (Table 2)

Compared to the same quarter of the previous year, we observe that leading indicators increased significantly except durable consumption goods import (-5.2 percent). Special consumption tax has the largest increase with 13.2 percent. With a 0.9 percent increase, consumer credits and individual credit cards is left behind the increases recorded in other indicators. Public consumption expenditures (8.7 percent) is one of the indicators which have the largest increase (Table 3).

In the light of the data, we expect the growth rate in both public and private consumption to be about 5 percent.

	2016Q3	2016Q4
Imports-cons. goods	-2.6	7.0
Mortgage loans	0.8	2.4
Consumer loans + CC	-1.0	1.7
IPI-nondurable goods	-4.1	4.5
IPI-durable goods	-6.3	3.6
Special cons. tax	0.4	3.9
Public cons.	1.2	2.5

Tablo 2: Private consumption compared to the previous quarter. IPI: Industrial production index; SCT: Special consumption tax; CC: Credit Cards.

	2016Q3	2016Q4
Imports-cons. goods	-5.9	5.6
Mortgage loans	1.7	5.7
Consumer loans + CC	-2.4	0.9
IPI-nondurable goods	-3.4	3.7
IPI-durable goods	-7.3	-5.2
Special cons. tax	-0.5	13.2
Public cons.	5.5	8.7

Tablo 3: Private consumption compared to the same quarter of the previous year.

Large increase in public investments

While the seasonally and calendar day adjusted investment leading indicators mostly point out an increase in the last quarter of 2016, only the import of the investment goods is predicted to decline by 5.3 percent. Remind that the direction of all indicators were downwards in the third quarter of 2016. The highest increase with 2.4 percent in the last quarter is recorded in installment credits and commercial credit cards. Since the increase in current inventory stock of retail trade sector index means a decline in the stock and the decrease in this index means an increase in the stock, we expect a recovery in the last quarter. We expect a strong jump (26.7 percent) in the public investment (Table 4).

Compared to the same quarter of the previous year, some of the leading indicators are moving up (current merchandise inventory level in the retail industry, public investment expenditures, investment goods imports) while the rest of them are moving down. Decreases in production volume in the last three months (2.8 percent) and intermediate goods production (1.4 percent) are remarkable. Again public investments are remarkable among increasing leading indicators (Table 5).

Investment leading indicators point out a recovery in private investments and a jump in public investments in the last quarter of 2016. Note that quarterly increases in investments are quite high due to the recession in the third quarter.

	2016Q3	2016Q4
IPI-inter. goods	-2.7	1.6
CUR-invest. goods	-0.9	0.3
Imports-invest. goods	-3.6	-5.3
Commercial loans + CC	-1.0	2.4
Prod.-last 3 months	-1.1	3.6
RT vol. of stock	1.1	-1.0
Public invest.	-16.2	26.7

Tablo 4: Private investments compared to the previous quarter. IPI: Industrial Production Indexi; CUR: Capacity Utilization Rate. CUR is reported as percentage points changes unlike other indices.

	2016Q3	2016Q4
IPI-inter. goods	-3.9	-1.4
CUR-invest. goods	0.6	-0.3
Imports-invest. goods	-0.3	0.3
Commercial loans + CC	-3.2	-0.2
Prod.-last 3 months	-2.9	-2.8
RT vol. of stock	-1.1	-0.1
Public invest.	-5.3	3.9

Tablo 5: Private investments compared to the same quarter of the previous year.

Foreign Trade

Seasonally– and calendar-day adjusted real export and real import indices decreased in the third quarter of 2016. However, we expect that gold-excluded import index and gold-included exports will increase by 1.5 percent and 4.3 percent in the last quarter, respectively. Overall import index is expected to increase by 2.9 percent whereas gold-excluded import is expected to decrease by 0.8 percent (Table 6).

When we look at exports indicators compared to the same quarter of the previous year, we expect that the increase in the gold-excluded exports will be weak (0.8 percent) in the fourth quarter of 2016. However, we predict that gold-included exports will increase by 5.6 percent. Similarly, gold-excluded import is expected to increase by 2.5 percent whereas gold-excluded import is expected to decrease slightly (0.3 percent) 7).

Based on these developments, the contribution of net exports to growth is expected to be positive.

	2016Q3	2016Q4
Exports	-3.6	4.3
Imports	-4.4	2.9
Exports excluding gold	-1.8	1.5
Imports excluding gold	-0.7	-0.8

Tablo 6: Private investments compared to the previous quarter. IPI: Industrial Production Index

	2016Q3	2016Q4
Exports	-0.1	5.6
Imports	0.8	2.5
Exports excluding gold	-9.1	0.8
Imports excluding gold	1.2	-0.3

Tablo 7: Private investments compared to the same quarter of the previous year.

General Evaluation

Most of other variables used in GDP forecasting point out an revival in the economy whereas very few of them point out a slow down in the economy. Compared to the previous period, we observe that especially manufacturing production index (4.6 percent), price expectation in the retail sector

Most of other variables used in GDP forecasting point out an recovery in the economy whereas very few of them point out a slow down in the economy. Compared to the previous period, we observe significant increases in especially manufacturing production index (4.6 percent), expected retail sector price over next 3 months (7 percent) and total automobile production (14 percent) (Table 8). Compared to the same quarter of the previous year, we find similar results (Table 9).

In the light of fully released leading indicators, quarter-on-quarter growth rate is expected to be 2.1 percent and year-on-year growth rate is expected to be 5.7 percent in the first quarter of 2016. we predict that overall annual growth are for the year 2016 will be about 3 percent.

	2016Q3	2016Q4
IPI-manufacturing	-3.6	4.6
RT price exp.	-5.5	7.0
CUR	-0.4	0.1
Ser. demand turnover	0.2	-0.4
Expected invest.-12m	-4.8	-2.4
Total veh. prod.	1.6	14.0

Tablo 8: Some of leading indicators compared to the previous quarter. **Per.sek.fiy.bek**: Expected price for the retail sector (next 3 months), **Hiz.sek.talep**: Demand for services (last 3 months)

	2016Q3	2016Q4
IPI-manufacturing	-4.6	1.6
RT price exp.	-8.2	2.6
CUR	0.3	0.7
Ser. demand turnover	-6.9	-6.2
Expected invest.-12m	-2.1	-5.8
Total veh. prod.	-4.2	13.9

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

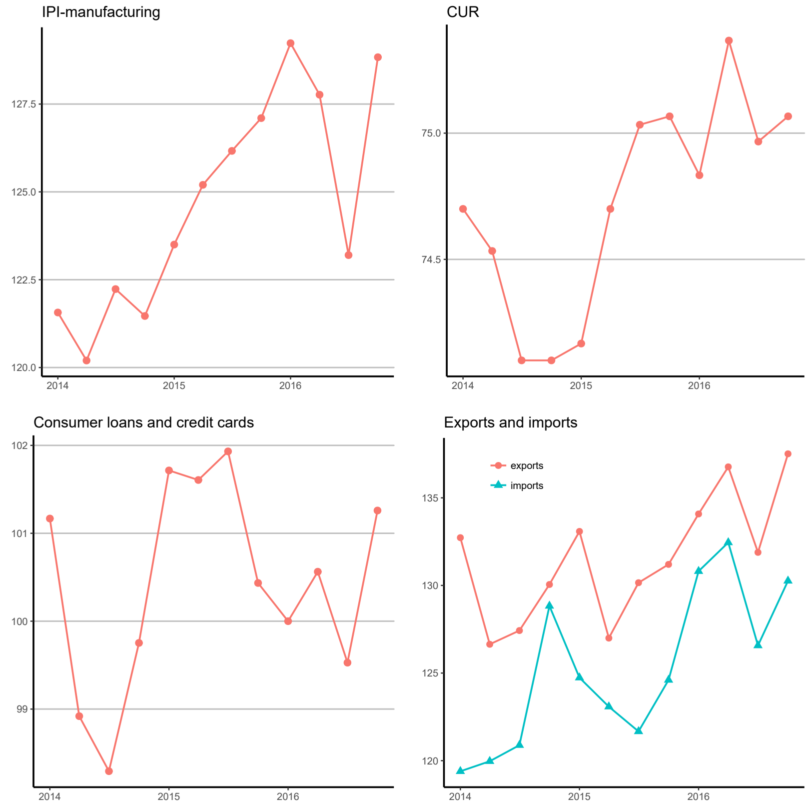
BOX: EXPLANATIONS

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

- Central Bank of the Republic of Turkey (TCMB): Capacity utilization rate of manufacturing industry (CUR), Real sector confidence index.
- Turkstat (TUIK):Industrial production index (IPI) and its sub-components; export, import and import sub-components with respect to 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 leading indicators.

Explanation on leading indicators: Betam share three forecasts for each quarter. For some indicators of the quarter, of which growth rate is forecasted, last two months' observations and for others last month's observation are missing when we run forecasting model. While estimating growth rates of leading indicators, for missing months we use forecasts based on previous observations of each series. Since there are no missing montly 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 forcasting the components of GDP (consumption, investment, export and import) we use 26 leading indicators. We prefer to represent variables,which are remarkable within the current period and successful in the forecast, instead of representing all of them in the research brief and tables.



Şekil 1: Seasonally and calendar day adjusted quarterly leading indicators. Consumer credits and inidividual credit cards in the first quarter of 2016 are indexed at 100.