4. Supply and Demand Developments

National accounts data for the first quarter of 2012 remained broadly consistent with the outlook presented in the April Inflation Report. Domestic demand increased modestly, while net external demand provided a higher-than-envisaged contribution to annual growth, indicating that the economy was balanced further at a robust pace. Despite the quarterly decline in national income, this contraction does not reflect the underlying trend of economic activity due to temporary factors like external uncertainties and adverse weather conditions.

In fact, indicators for the second quarter of 2012 confirmed our projections that the unfavorable course in the first quarter did not tend to be permanent and economy would revert back into a mild growth path in the subsequent period. The quarterly robust increase in industrial production in the April-May period pointed to a fast rebound in economic activity following the contraction in the first quarter. This recovery is believed to also include the compensation for the negative first quarter, therefore the underlying trend of economic activity is mild despite the robust rebound (Box 4.1).

In the inter-reporting period, problems in the European economies, especially in Greece and Spain, weighed on perceptions about uncertainty and economic activity, while the labor market and the economic activity in China and the US remained weak with respect to the global growth outlook. Signals for a slowdown in economic activity spilled over globally especially in May and June, constituting a downside risk on the external demand outlook for the second quarter of the year.

Despite these mentioned problems, exports have exhibited a stronger underlying trend since the second quarter of 2011 compared to the pre-crisis period. This indicates that cumulative effects of the balancing policies have been manifested and also the market diversification is on a successful path. In fact, the economy was balanced further in the second quarter at a stronger pace, which in turn bolstered macroeconomic fundamentals and perceptions regarding the Turkish economy. Notwithstanding the recent worsening in expectations for orders in the manufacturing industry and sales in the retail sector, indicators of medium to long-term expectations like employment and

investment plans and consumer confidence did not record a significant deterioration signaling for an improvement of growth in the forthcoming period.

Accordingly, it is projected that the mild course of growth will be maintained in the second quarter of 2012 and aggregate demand will continue to support disinflation. Meanwhile, the improvement in the current account balance is expected to continue, albeit at a slower pace.
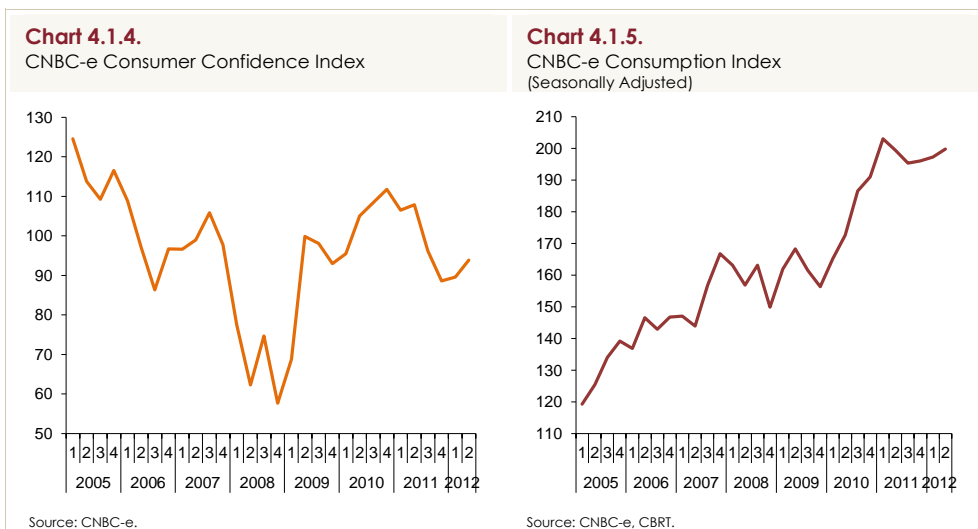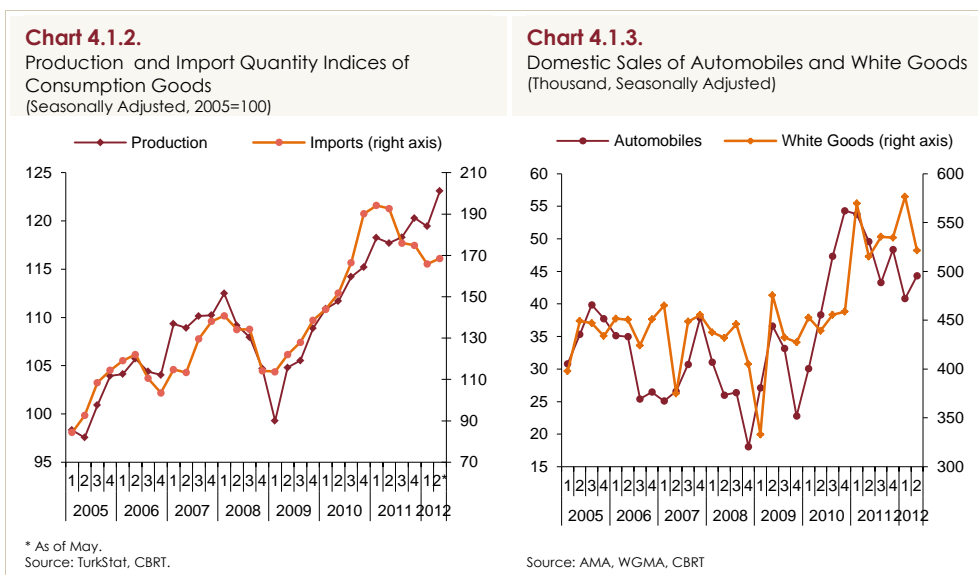
4.1. Gross Domestic Product Developments and Domestic Demand

National accounts data released by TurkStat indicate that GDP posted a year-on-year increase by 3.2 percent in the first quarter of 2012. Demand components were balanced further in the last quarter, with the net external demand providing a larger contribution to annual growth. The main drivers of domestic demand were public consumption and private investment.

Seasonally adjusted data indicate that the GDP recorded a quarterly decrease by 0.4 percent in the first quarter. Thus, having risen in the process of exit from the crisis, the GDP posted a decline on a quarterly basis for the first time since the first quarter of 2009. Demand components remained consistent with the outlook presented in the April Inflation Report. Quarterly growth was mainly fuelled by public expenditures and private investments, while the domestic demand recorded a slight increase (Chart 4.1.1).

Chart 4.1.1.
GDP and the Final Domestic Demand
(Seasonally Adjusted, 2008 Q1=100)
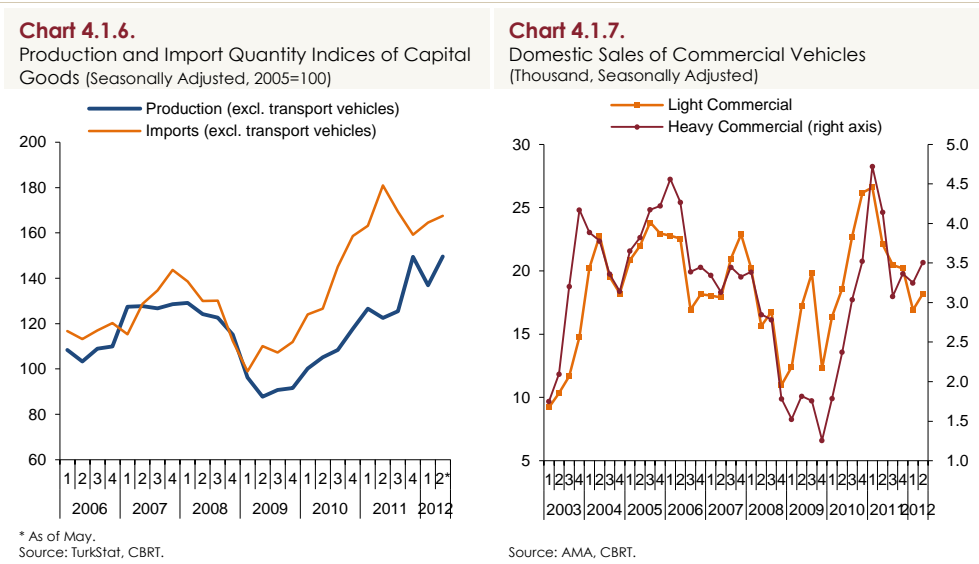

Source: TurkStat, CBRT.
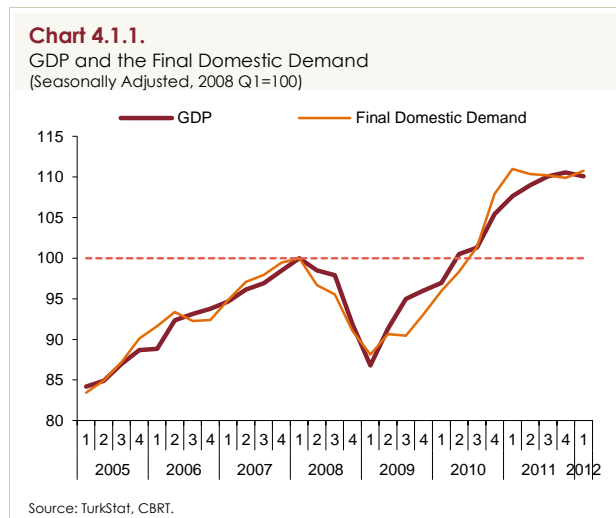
Second-quarter data point that the mild increase in final domestic demand will be sustained. Production of consumption goods, indicative of the private consumption demand, went up in the April-May period (Chart 4.1.2). Despite an increase in the second quarter, domestic sales of automobiles still fall short of the figures in the last quarter of 2011. Meanwhile, sales of white goods saw a decline (Chart 4.1.3). Although lagging behind 2011 levels, consumption and consumer confidence indices posted a quarterly rise in the second quarter (Charts 4.1.4 and 4.1.5).

Chart 4.1.2.
Production and Import Quantity Indices of Consumption Goods
(Seasonally Adjusted, 2005=100)

* As of May.
Source: TurkStat, CBRT.

Chart 4.1.3.
Domestic Sales of Automobiles and White Goods
(Thousand, Seasonally Adjusted)

Source: AMA, WGMA, CBRT

Chart 4.1.4.
CNBC-e Consumer Confidence Index

Source: CNBC-e.

Chart 4.1.5.
CNBC-e Consumption Index
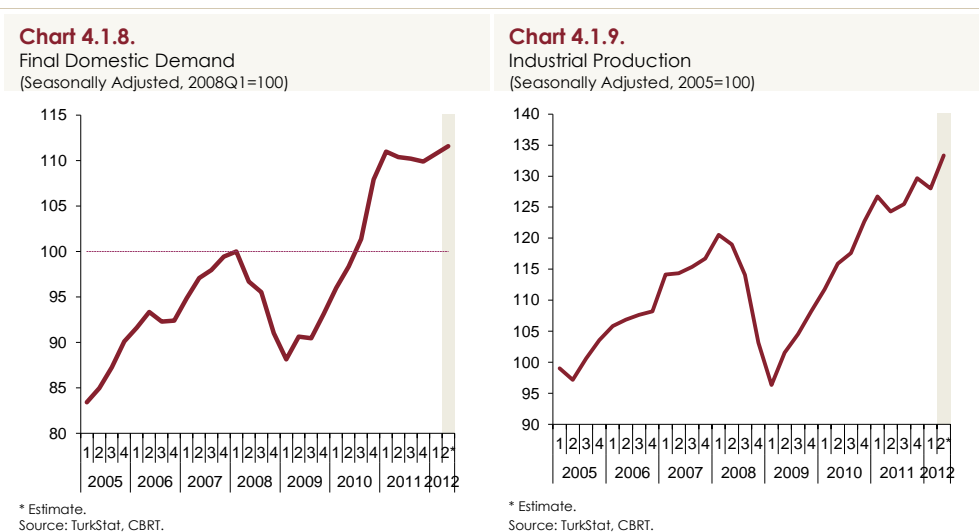(Seasonally Adjusted)

Source: CNBC-e, CBRT.

Recent indicators display an increase in investment demand as well as consumption demand in the second quarter. Both production and imports of
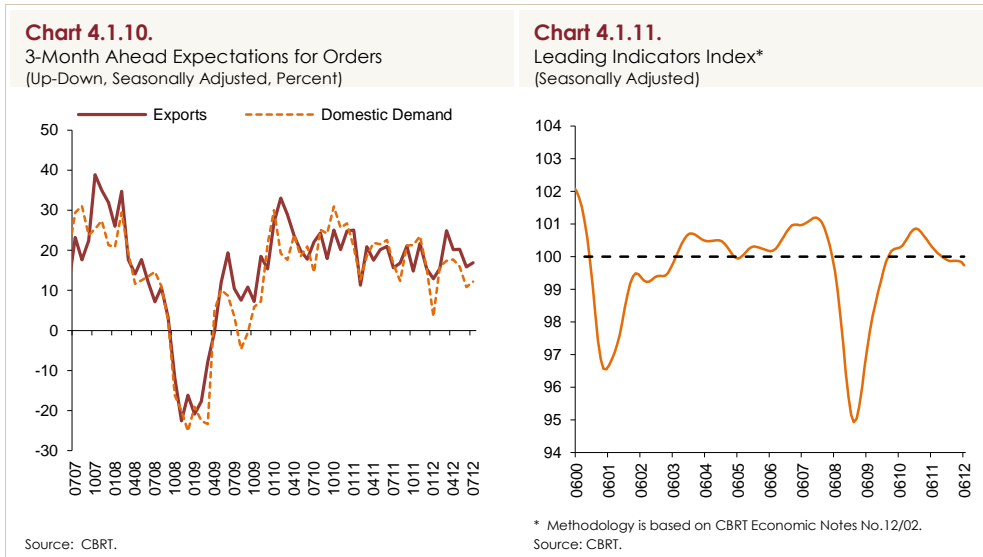
capital goods trended upwards in the April-May period (Chart 4.1.6). Similarly, domestic sales of light and heavy commercial vehicles accelerated in the second quarter (Chart 4.1.7).

Chart 4.1.6.
Production and Import Quantity Indices of Capital Goods (Seasonally Adjusted, 2005=100)

* As of May.
Source: TurkStat, CBRT.

Chart 4.1.7.
Domestic Sales of Commercial Vehicles (Thousand, Seasonally Adjusted)

Source: AMA, CBRT.

In sum, the second-quarter indicators show that domestic demand continues to increase modestly (Chart 4.1.8). The course of recovery in the economy is also supported by production indicators. In fact, following the slump in January amid adverse weather conditions and external uncertainties, industrial production has increased in four consecutive months by May. This stable upward course reflects the mild course of the economic activity and also entails the compensation for the first quarter (Chart 4.1.9).

Chart 4.1.8.
Final Domestic Demand (Seasonally Adjusted, 2008Q1=100)

* Estimate.
Source: TurkStat, CBRT.

Chart 4.1.9.
Industrial Production (Seasonally Adjusted, 2005=100)

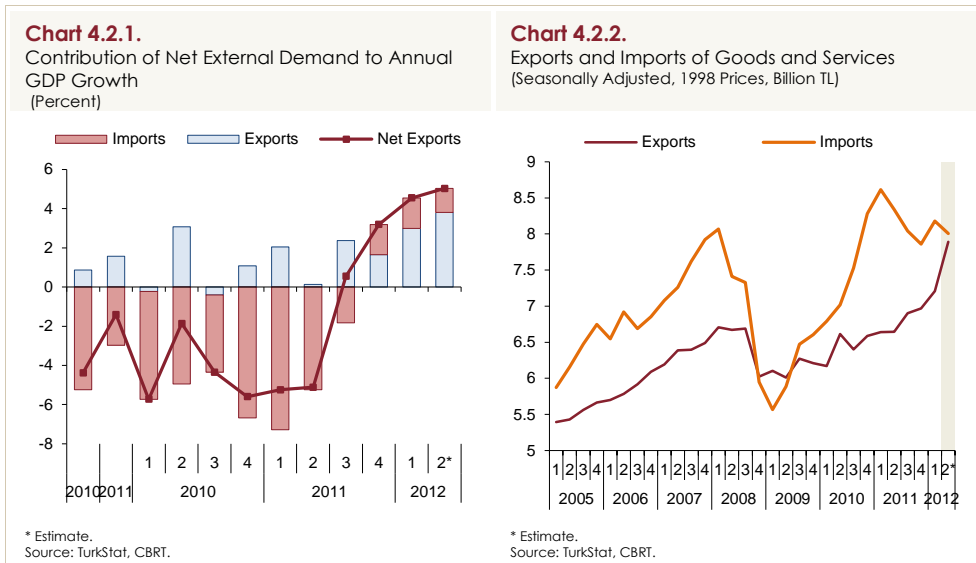

* Estimate.
Source: TurkStat, CBRT.

Indicators suggest a rise in the economic activity in the second quarter, while recently-elevated uncertainties regarding the global economy and the financial markets deteriorated expectations as suggested by the surveys. 3-month ahead expectations for orders on domestic and foreign market released by the BTS attenuated in the May-June period, but edged up in July (Chart 4.1.10). Meanwhile, expectations for orders for the next quarter improved and the composite leading indicators, which went up in the first quarter, decreased in the second quarter, implying elevated uncertainties regarding the growth outlook in the second quarter (Chart 4.1.11).

Chart 4.1.10.
3-Month Ahead Expectations for Orders
(Up-Down, Seasonally Adjusted, Percent)

Source: CBRT.

Chart 4.1.11.
Leading Indicators Index*
(Seasonally Adjusted)

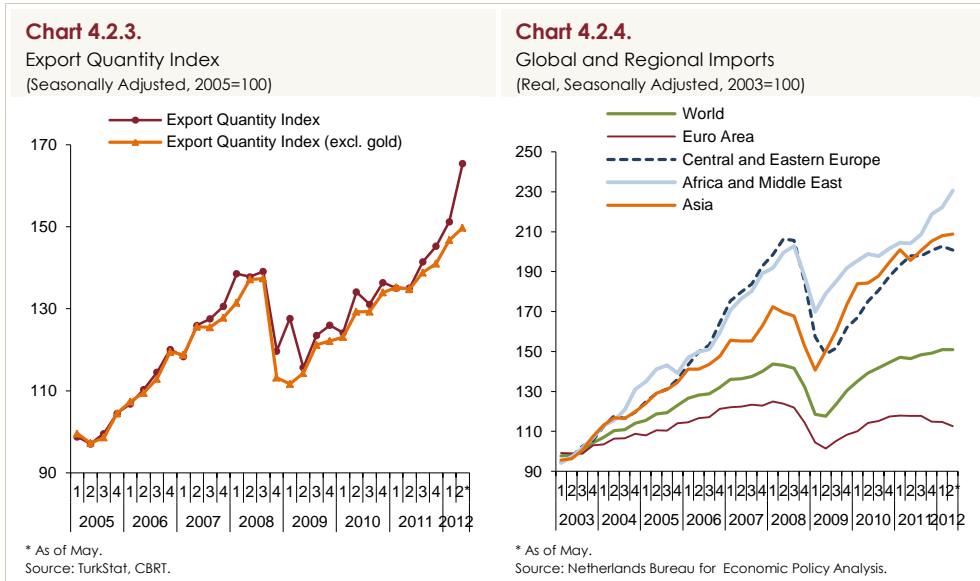* Methodology is based on CBRT Economic Notes No.12/02.
Source: CBRT.

4.2. External Demand

National accounts data for the first quarter of 2012 point to a stronger balancing in demand components. Exports of goods and services posted a year-on-year increase by 13.2 percent, while imports contracted by 5.0 percent in the first quarter. Thus, net external demand provided the largest contribution to growth due to the positive contribution of both exports and imports (Chart 4.2.1). Seasonally adjusted data on the exports of goods and services have gained a remarkable momentum for the last three quarters despite the lingering problems at a global scale. As for the imports, an increase was recorded in the first quarter of 2012 following a consecutive decline for three quarters (Chart 4.2.2).

Chart 4.2.1.
Contribution of Net External Demand to Annual GDP Growth
(Percent)

* Estimate.
Source: TurkStat, CBRT.

Chart 4.2.2.
Exports and Imports of Goods and Services
(Seasonally Adjusted, 1998 Prices, Billion TL)
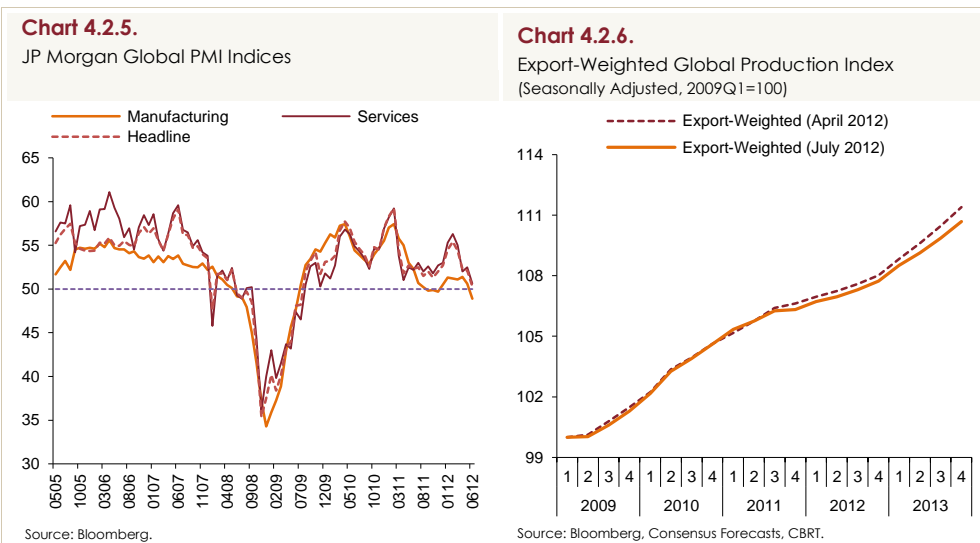

* Estimate.
Source: TurkStat, CBRT.

Despite aggravating global problems, the favorable course of exports is noteworthy. In fact, due to the accelerated exports of gold, the exports quantity index, which entails exports of goods, surged by 9.4 percent quarter-on-quarter in the April-May period converging to levels implied by the pre-crisis trend (Chart 4.2.3). Across 2011, gold exports, which realized as USD 1.5 billion, went beyond USD 4 billion in the first five months of 2012. This was believed to be temporary, necessitating the exclusion of gold exports to track the underlying trend of exports. The core index excluding gold exports posted a limited increase compared to exports overall. Accordingly, the underlying trend of exports exhibits a mild growth path.
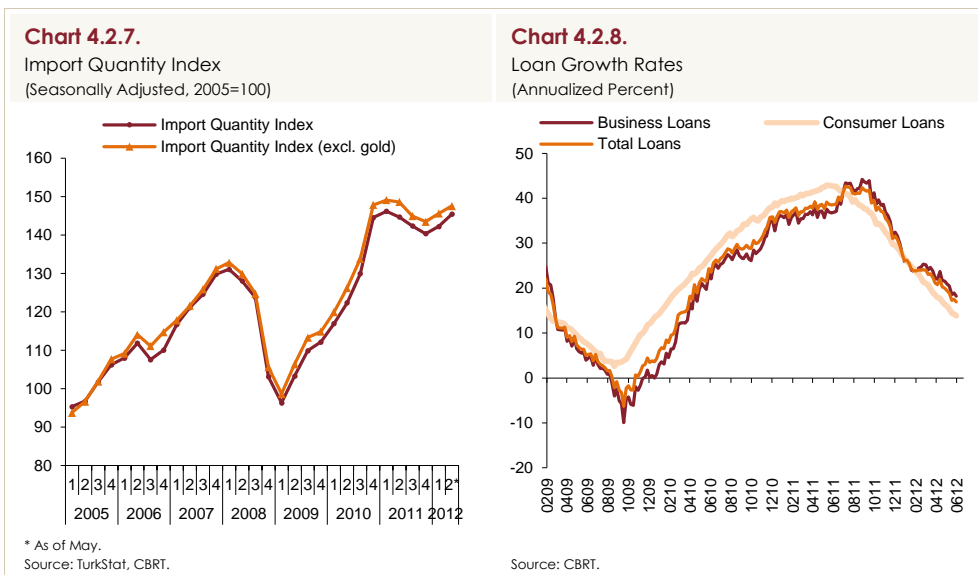
The course of global import demand continues to constitute a significant risk factor on exports. Across regions, the import demand of the Euro Area, one of our major trading partners, remains weak. The almost flat course of demand from Asia, which was on the increase in the previous quarter as well as the weakening import demand in the Central and Eastern Europe are worth noting. On the other hand, the improvement in Africa and the Middle East continues to support export demand (Chart 4.2.4, Box 4.2).

Chart 4.2.3.
Export Quantity Index
(Seasonally Adjusted, 2005=100)

Chart 4.2.4.
Global and Regional Imports
(Real, Seasonally Adjusted, 2003=100)

* As of May.
Source: TurkStat, CBRT.

* As of May.
Source: Netherlands Bureau for Economic Policy Analysis.

Other short and medium-term indicators of exports point to an adverse outlook in external markets. Global PMI for the manufacturing industry went below 50 in June, recording the lowest level for the last 3 years. On the other hand, services index has almost become neutral (Chart 4.2.5). Emerging economies, which are the drivers of the exit from the crisis, signaled for a slowdown, depicting a worse outlook for external demand. In fact, export-weighted global production index exhibits a weaker growth path compared to the previous reporting period (Chart 4.2.6).

Chart 4.2.5.
JP Morgan Global PMI Indices

Chart 4.2.6.
Export-Weighted Global Production Index
(Seasonally Adjusted, 2009Q1=100)

Source: Bloomberg.

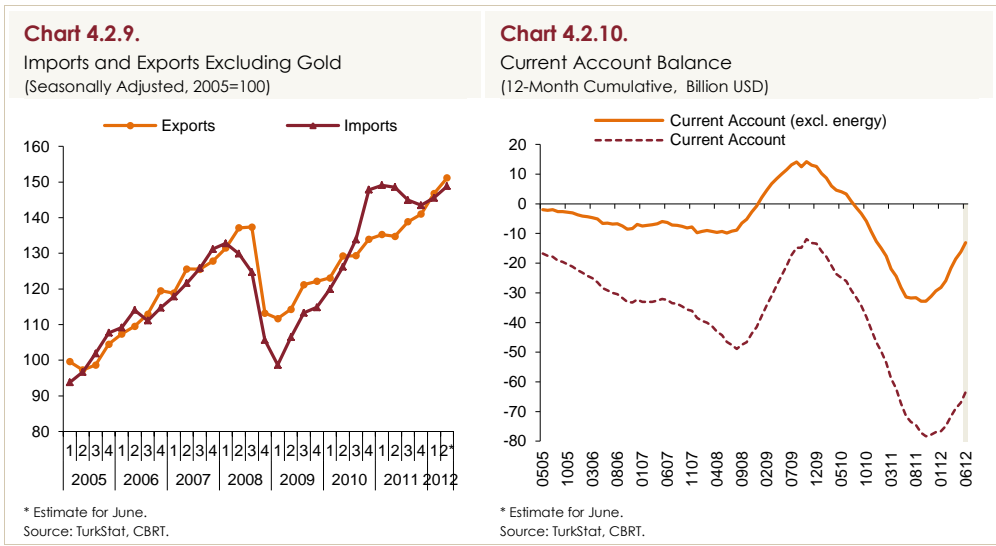Source: Bloomberg, Consensus Forecasts, CBRT.

Following the first quarter of 2012, import quantity index displayed a modest increase in the April-May period. Nevertheless, quantity of imports remained below the peak value in the first quarter of 2011. The recent surge in gold exports and coverage of a great part of exports by imports leads to a rise in gold imports. The index that excludes gold to better interpret the underlying trend of imports posted a milder increase in the April-May period compared to aggregate imports (Chart 4.2.7). In addition to the modest course of domestic demand, the deceleration in loans also continues to restrict imports (Chart 4.2.8).

Chart 4.2.7.
Import Quantity Index
(Seasonally Adjusted, 2005=100)

Chart 4.2.8.
Loan Growth Rates
(Annualized Percent)

* As of May.
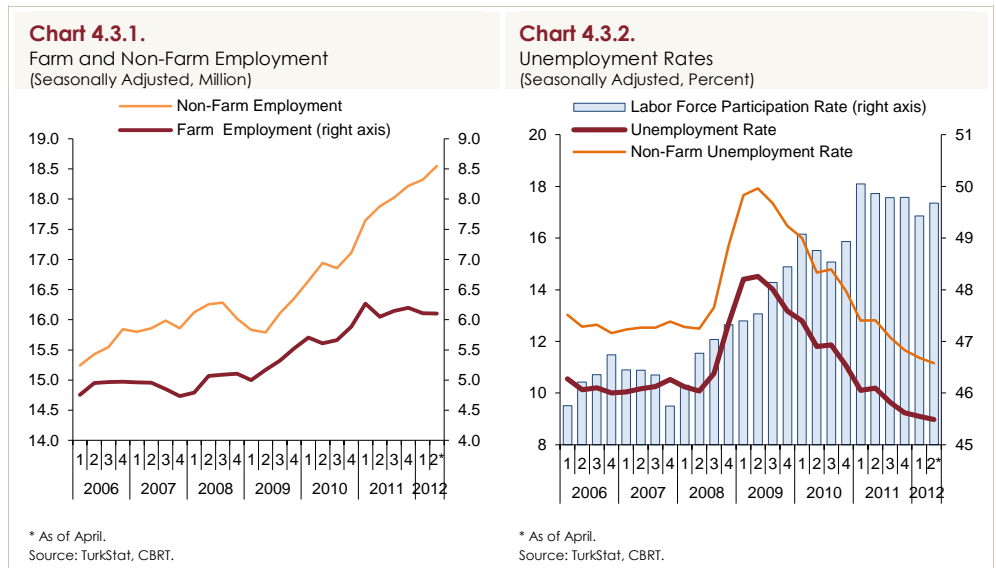Source: TurkStat, CBRT.

Source: CBRT.

In sum, recent indicators suggest that net external demand continued to fuel annual growth in the second quarter (Chart 4.2.1). Although quantity indices excluding gold point that the real balancing process lost pace in this period (Chart 4.2.9), forecasts on exports and imports value added of aggregate goods and services suggest that the balancing is going on (Chart 4.2.2). Accordingly, the correction in the 12-month cumulative current account deficit still continues (Chart 4.2.10). In order to bring current account deficit to desired levels in the long term, domestic savings need to be increased, and structural measures need to be taken accordingly.
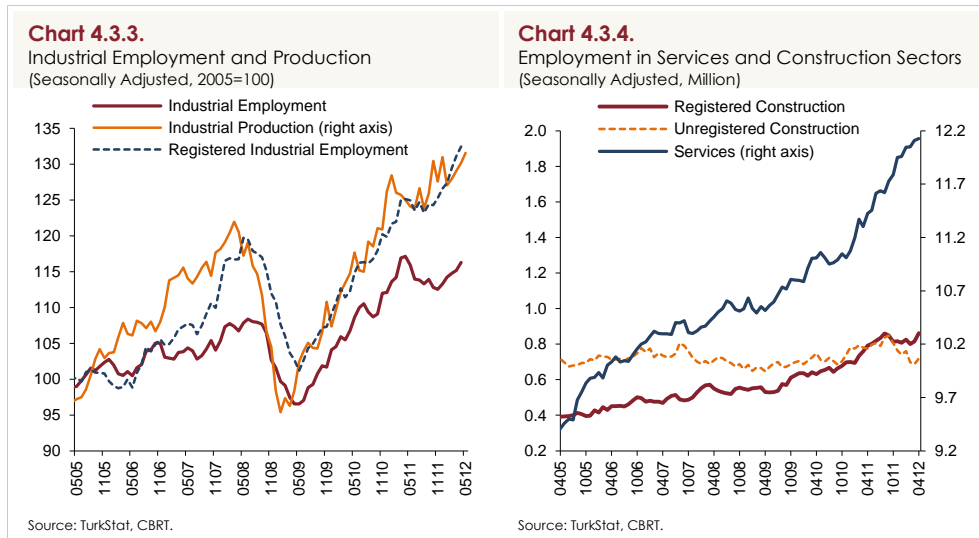
Chart 4.2.9.
Imports and Exports Excluding Gold
(Seasonally Adjusted, 2005=100)

* Estimate for June.
Source: TurkStat, CBRT.

Chart 4.2.10.
Current Account Balance
(12-Month Cumulative, Billion USD)

* Estimate for June.
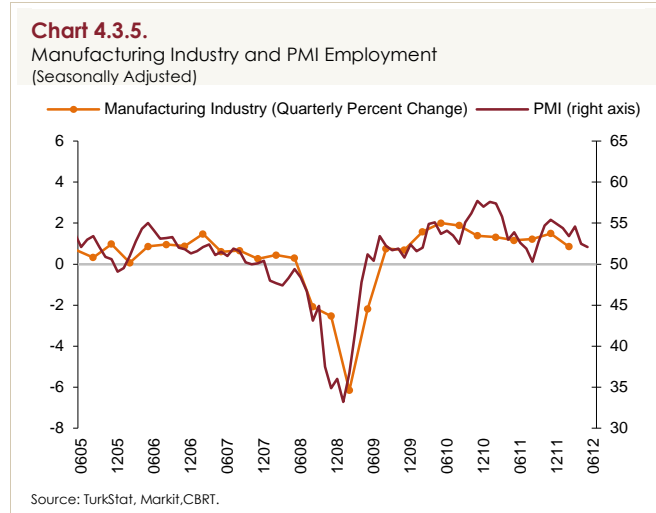Source: TurkStat, CBRT.

4.3. Labor Market

Due to the weak course of labor force participation, unemployment rate went slightly downwards in the first quarter of 2012. In April 2012, being fuelled by all sectors, non-farm employment trended upwards. In this period, farm employment and labor participation rates edged up, while seasonally adjusted total and non-farm unemployment rates posted quarterly decreases by 0.1 and 0,2 percentage points and stood at 9 and 11.2 percent, respectively (Charts 4.3.1 and 4.3.2).

Chart 4.3.1.
Farm and Non-Farm Employment
(Seasonally Adjusted, Million)

* As of April.
Source: TurkStat, CBRT.

Chart 4.3.2.
Unemployment Rates
(Seasonally Adjusted, Percent)

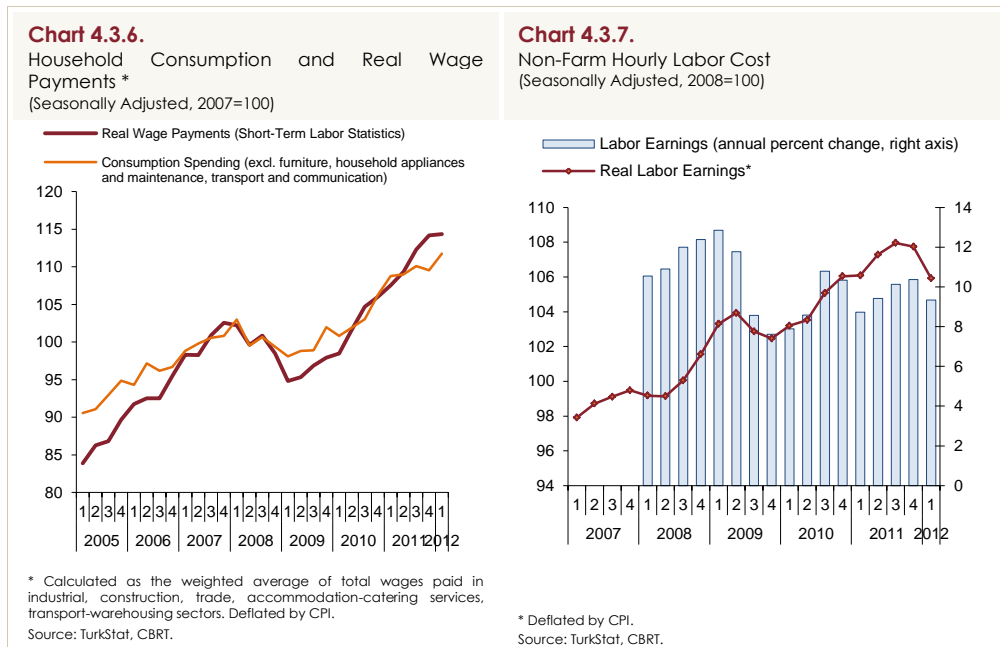* As of April.
Source: TurkStat, CBRT.

In the first quarter of 2012, industrial employment rose by 2 percent on a quarterly basis (Chart 4.3.3), whereas the construction sector experienced losses in employment. However employment in the construction sector, which has been weak since September 2011, edged up in March, and surged in April, boosting optimism in expectations for the forthcoming period. As for the services sector, employment lost pace in this quarter. Even lower rates of increase in employment were seen in April (Chart 4.3.4). Accordingly, in the first quarter of 2012, seasonally adjusted non-farm employment was positively contributed by all sectors except for construction.

Chart 4.3.3.
Industrial Employment and Production
(Seasonally Adjusted, 2005=100)

Source: TurkStat, CBRT.

Chart 4.3.4.
Employment in Services and Construction Sectors
(Seasonally Adjusted, Million)

Source: TurkStat, CBRT.

Notwithstanding the quarterly decline in industrial production in the first quarter of 2012, the level of index has maintained a mild increase for the last four months (Chart 4.3.3). Registered industrial employment continued to increase parallel to production developments, while unregistered employment decreased in April. Although declining slightly on a quarterly basis in the second quarter of 2012, PMI employment indicator does not suggest a negative outlook for the said period (Chart 4.3.5). In this respect, industrial employment is expected to edge up also in the second quarter; however, uncertainties regarding the global economic outlook may curb the improvement in production and employment conditions.

Chart 4.3.5.
Manufacturing Industry and PMI Employment
(Seasonally Adjusted)

Manufacturing Industry (Quarterly Percent Change) — PMI (right axis)
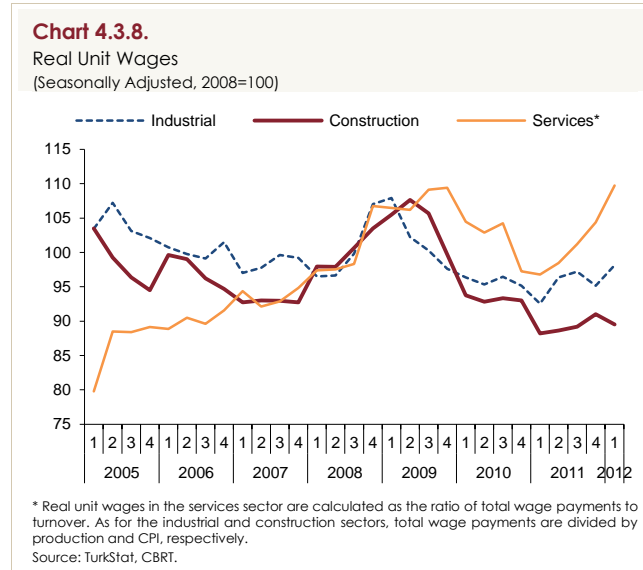
Source: TurkStat, Markit,CBRT.

As per the domestic demand outlook, the labor market saw quarterly deceleration in real wage payments in the first quarter of 2012, yet spending especially on those groups sensitive to current income are still in place (Chart 4.3.6). Considering wages as a cost factor, in the first quarter of 2012, non-farm hourly real earnings index, which is released under Labor Cost Indices, displays a quarter-on-quarter decline (Chart 4.3.7).

Chart 4.3.6.
Household Consumption and Real Wage Payments *
(Seasonally Adjusted, 2007=100)

Real Wage Payments (Short-Term Labor Statistics)
Consumption Spending (excl. furniture, household appliances and maintenance, transport and communication)

* Calculated as the weighted average of total wages paid in industrial, construction, trade, accommodation-catering services, transport-warehousing sectors. Deflated by CPI.
Source: TurkStat, CBRT.

Chart 4.3.7.
Non-Farm Hourly Labor Cost
(Seasonally Adjusted, 2008=100)

Labor Earnings (annual percent change, right axis)
Real Labor Earnings*

* Deflated by CPI.
Source: TurkStat, CBRT.

Real unit wages that also include productivity increases posted a rise in the first quarter of 2012, excluding the construction sector (Chart 4.3.8). The slowdown in economic growth rate in this period gave way to productivity
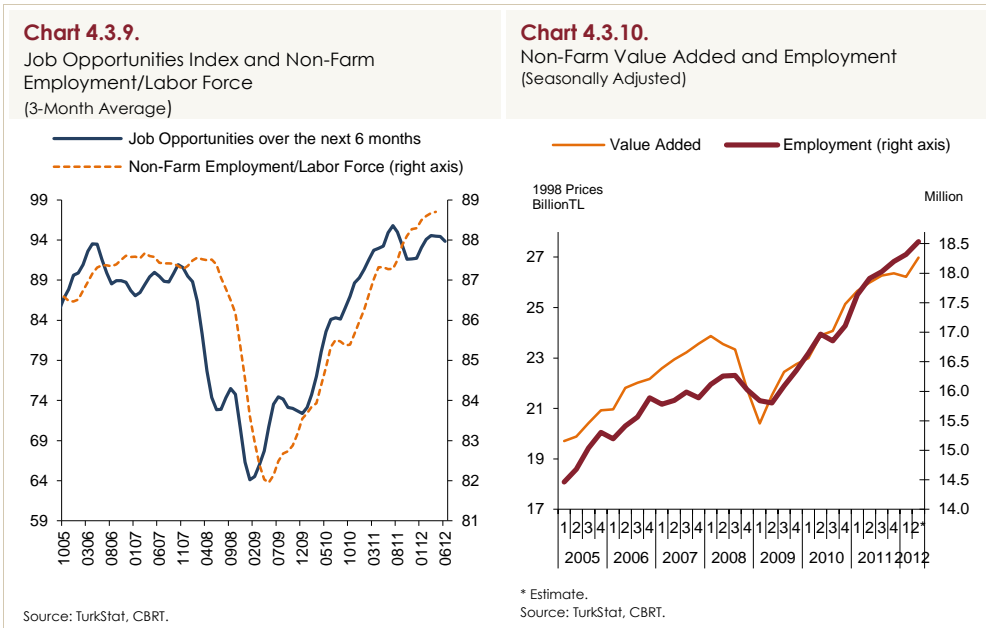
losses in non-farm sectors. Furthermore, in the first quarter, real wages per hour worked remained unchanged on a quarterly basis. Due to the mentioned reasons, real unit wages saw a noticeable increase both in the industrial sector and trade-services sector in this period. The rise in real unit wages in the services sector is considered to be a risk factor for the prices of services.

Chart 4.3.8.
Real Unit Wages
(Seasonally Adjusted, 2008=100)

* Real unit wages in the services sector are calculated as the ratio of total wage payments to turnover. As for the industrial and construction sectors, total wage payments are divided by production and CPI, respectively.
Source: TurkStat, CBRT.

Recent increases in minimum wages besides the arrangements on civil servants' salaries are thought to entail information on increases in salaries and wages in the private sector as well as the disposable income. Gross minimum wage for those older than 16 was estimated to be TL 886.5 and TL 940.5 for the first and second halves of 2012, respectively. Thus, calculated by the current data, minimum wage increases in the first and second halves of the year are 11.3 and 12.4 percent year-on-year, respectively corresponding to a rise of 4.7 percent in real terms throughout 2012. Moreover, rate of increases in civil servants' salaries was determined to be 4 percent for both halves of 2012. Accordingly, the said increase is estimated to be 8.2 percent across 2012. These developments suggest real increases in disposable incomes of households.

In sum, in the first quarter of 2012, the increase in non-farm employment was mostly triggered by the industrial sector. In the meantime, construction employment declined, whereas the employment in the services sector edged up. Non-farm employment was fuelled by all sectors, and primarily the construction sector in April 2012. Second-quarter leading indicators show that the modest rise in industrial employment will be maintained. Moreover, the job opportunities index under the CBRT's Consumer Tendency Survey, which reflects

the employment prospects for households, also confirms a flat course in employment opportunities (Chart 4.3.9). Amid limited employment increases in all sectors in the second quarter of 2012, non-farm employment is estimated to continue with a modest course (Chart 4.3.10). Nevertheless, these developments should be interpreted without neglecting that the labor supply dynamics and uncertainties pertaining to the global economic outlook as well as employment have also been influential on unemployment in recent years (Box 4. 3).

Chart 4.3.9.
Job Opportunities Index and Non-Farm Employment/Labor Force
(3-Month Average)

Source: TurkStat, CBRT.

Chart 4.3.10.
Non-Farm Value Added and Employment
(Seasonally Adjusted)

* Estimate.
Source: TurkStat, CBRT.

Box 4.1	The Underlying Trend of Economic Activity in the Second Quarter

Evaluation of the underlying trend of economic activity is based on quarterly changes of seasonally adjusted figures rather than annual changes incorporating base effects. As for the national accounts data, a decrease (increase) in the quarterly growth rate is interpreted as a slowdown (speeding up) of the economic activity. However, depending on the sample size and model specification as well as the methodology and choice of direct or indirect approach, the results of the seasonal adjustment may change. Besides, seasonally adjusted data are subject to revisions with the inclusion of the new data (Table 1).[1] Thus, a clear evaluation of the underlying trend of economic activity becomes a challenging issue. To give an example, a 3 percent quarterly growth with a reasonable uncertainty band implies a strong economic activity. On the other hand, a 1-1.5 percent quarterly growth close to potential is critical in terms of the monetary policy reaction as the change in the output gap may have a different sign depending on the uncertainty band.

Table 1. Quarterly Growth Rates by Alternative Initial Point Specifications (Percent)									
PERIOD	1998*	1998	1999	2000	2001	2002	2003	2004	2005
2010Q4	4.2	4.1	4.2	3.8	3.9	4.0	3.9	4.1	3.8
2011Q1	1.6	2.1	2.0	2.2	2.2	2.1	2.2	1.9	1.8
2011Q2	1.3	1.3	1.4	1.0	1.0	1.1	1.1	1.3	1.5
2011Q3	1.3	1.0	0.9	1.2	1.2	1.2	1.2	1.1	1.0
2011Q4	0.6	0.4	0.5	0.2	0.2	0.3	0.2	0.4	0.2
Average of 2011Q2, 2011Q3, 2011Q4	1.1	0.9	0.9	0.8	0.8	0.9	0.8	0.9	0.9
2012Q1	-	-0.4	-0.5	-0.3	-0.3	-0.3	-0.3	-0.6	-0.9
2012Q2**	-	2.0-2.4	-	-	-	-	-	-	-

* Calculated by real-time national accounts data announced for 2011Q4.
** Denotes growth rate range satisfying 2011Q2, 2011Q3 and 2011Q4 average. Thus, this answers the question of "in response to a temporary contraction in the first quarter of 2012, at what rate should the economy grow in the second quarter so that the economic activity compensates this loss and return back to its underlying trend?".
Source: TurkStat, CBRT.

Economic growth close to potential is described as "mild" in monetary policy practices with a price stability focus. As a result of the monetary policy implementations aiming to slow down the economy within a balanced growth path, economic activity has been decelerating gradually following the last quarter of 2010 (Table 1). Thus, the economy has clearly steered towards a mild growth path, while on quarterly basis, the growth rates have occasionally derailed from the underlying trend. Leaving aside the uncertainty associated with the quarterly growth rates as mentioned above, one can possibly

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[1] See Box 4.1, Inflation Report 2012-II.

conclude that the first quarter contraction in 2012 has been detached from the underlying trend. Temporary factors like adverse weather conditions, energy problems, internal/external uncertainties etc. play a major role on the excessive slowdown during such periods. When the effect of these factors fade away, a rapid return to the underlying trend may be observed. In other words, rapid recoveries subsequent to a temporary slowdown or contraction detached from the underlying trend actually compensates for the previous losses. Rapid recoveries after periods such as the Iraq War in early 2003, the slowdown episode in the second half of 2004, the natural gas crisis in the first quarter of 2006, global uncertainties led by Greece in the third quarter of 2010 illustrate this compensation effect (Chart 1).

Chart 1. Seasonally Adjusted GDP
(1998 Prices, Billion TL)

Source: TurkStat.
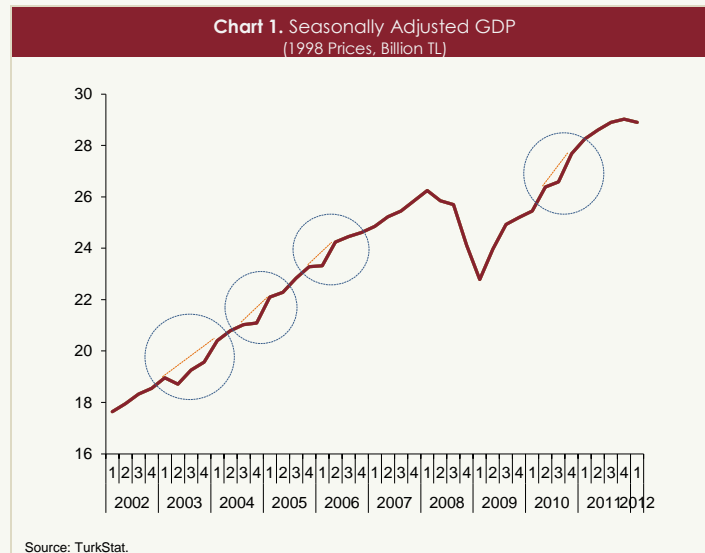
The second-quarter figures should be evaluated in this perspective. As of April-May period, the industrial production was 2.2 percent above the previous quarter, signaling a rapid recovery for the national income in the second quarter. Rather than interpreting this movement as an excessive speeding up or a less-than-envisaged slowdown of the economy, as frequently underlined in previous policy statements, one should better evaluate it as a correction towards the underlying trend after restraining factors like external uncertainties and adverse weather conditions taper off. The simplest way to express this quantitatively is to take the average of the quarterly growth rates of the consecutive periods, which then enables us to see that the average growth rate in these two quarters are close to previous periods' averages (Table 1).

In sum, it should be underlined that analyzing economic activity using seasonally adjusted data necessitates a cautious approach. Focusing solely on the last observation may result in ignoring the uncertainty inherent in seasonally adjusted data, while a typical rebound and in fact a correction following a temporary adverse shock may be interpreted as a strong underlying trend. Even though a rapid return is implied by the second quarter indicators, this should better be read as the return of the economy to its mild underlying trend.

| Box 4.2	Regional and Sectoral Export Diversification: The Case of Turkey

Concentration of exports to certain products or countries increases the vulnerability of export revenues to regional or sectoral shocks, which thus challenges the sustainability of export growth in the long term. In this respect, diversification of the product basket and the country groups lessens the vulnerability of the economy to external shocks, irrespective of the global economic outlook. Given this fact, this Box analyzes sectoral and regional evolution and diversification of Turkey's exports by share and concentration ratios for the 2003-2011 period .

As of the last quarter of 2008, the share of EU countries in Turkey's exports has fallen remarkably amid the aggravating global crisis. However, the region has remained historically crucial for Turkey's exports. The share of Middle East, the second crucial region in Turkey's exports, has increased as of 2003 owing to Turkey's strategy to search for new markets, reaching notably high levels in 2008 during the global crisis. Despite having a relatively smaller share, North Africa and Asia have also been emerging export markets during this period (Chart 1).

Chart 1. Regional Distribution of Turkey's Exports
(Percent Share in Total Exports)

Source: TurkStat.
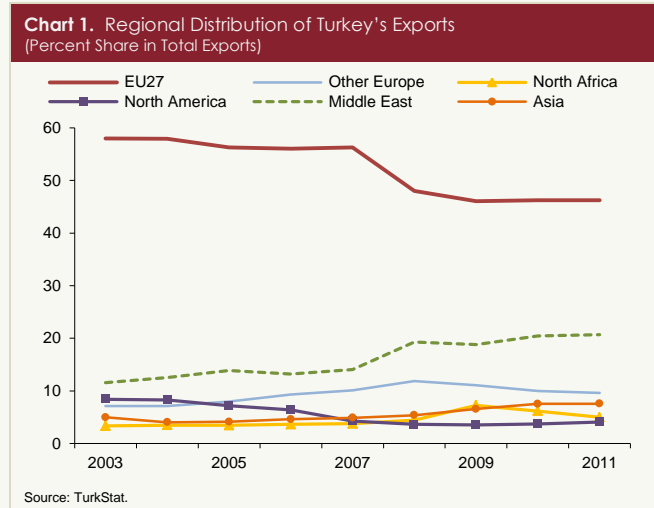
In order to understand whether the observed change in Turkey's export destinations is limited to certain products, the above analysis should be repeated for Turkey's main export items. Accordingly, the sectoral analysis reveals that the share of EU declined for all analyzed items, while the share of the Middle East, which has gained importance in total exports, increased across all items except for iron and steel (Chart 2).

Chart 2. Regional Distribution of Sectoral Exports
(Percent Share in Regional Exports)
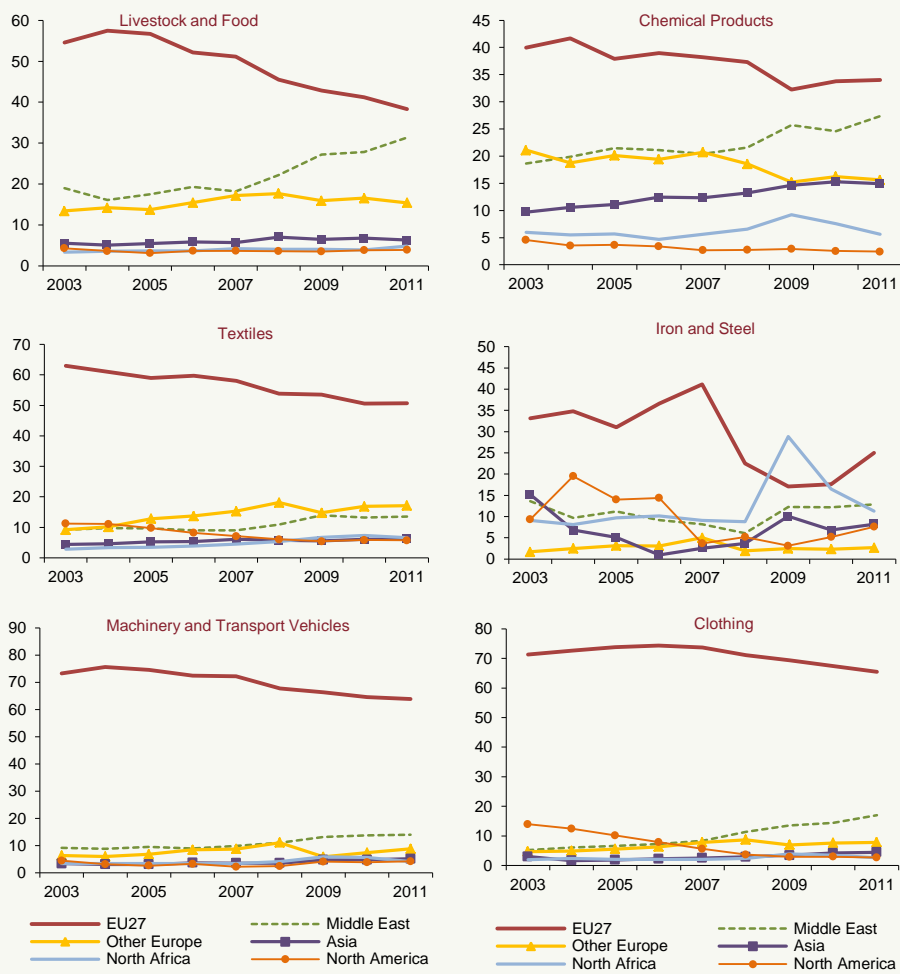
Source: TurkStat, CBRT.

The changes in the share of total and sectoral exports in traditional markets as displayed in Charts 1 and 2 hint important clues regarding Turkey's export potential when evaluated with the forward-looking growth projections of target destinations. In this regard, Table 1 depicts that Turkey has shifted towards relatively rapid-growing economies in total and sectoral exports.

Table 1. GDP in Regions with Changing Share in Exports
(Average Annual Percent Change)

	2011	2012*	2012-2015*
Countries with an Increasing Share in Exports	4.1	2.9	3.5
Middle East and North Africa	3.5	4.2	4
Countries with a Decreasing Share in Exports	1.3	2.3	2.9
EU	1.4	-0.3	0.9

*IMF-WEO estimates.

Gini-Hirschman (GH) concentration index, an indicator for export diversification, shows increased diversification of export items during 2010-2011 period compared to the 2003-2007 period of surging exports across all regions except other Europe.[2] The most significant increase in sectoral diversification has been in North America, while sectoral diversification has also occurred in our major export destinations such as the EU and the Middle East.(Chart 3a). On the other hand, the analysis of regional diversification by main export items (with the exception of livestock and food) shows a more balanced distribution of exports, during 2010-2011 compared to the 2003-2007 period. Meanwhile, the regional diversification of iron and steel as well as clothing, Turkey's major export items, has increased notably as well (Chart 3b).

Chart 3. Regional and Sectoral Concentration Ratios

a: Regional Concentration Ratios

b: Sectoral Concentration Ratios

Source: TurkStat, CBRT.

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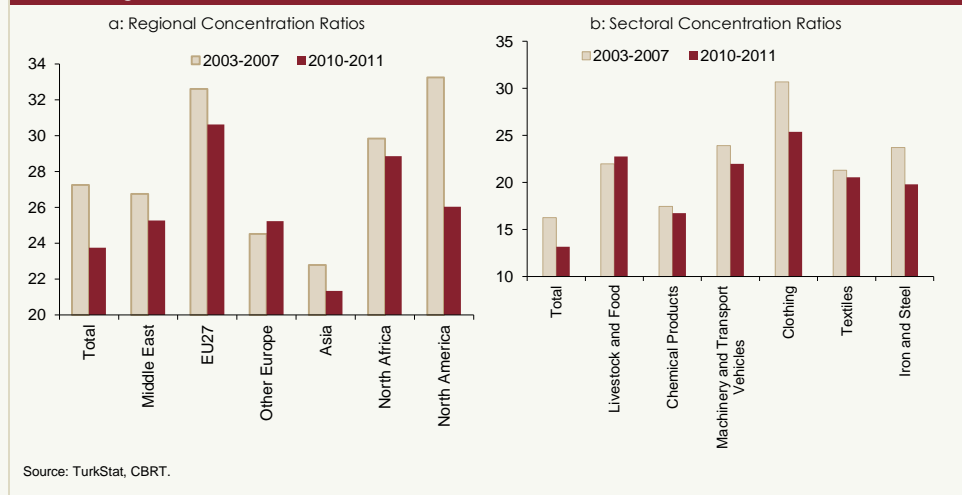
[2] Sectoral and regional Gini-Hirschman concentration ratios are measured by the following formulas, respectively:

$$GH_{ij}{}^{sectoral} = 100 * \left[\sum_{j=1}^{n}\left[\frac{X_{ij}}{X_i}\right]^2\right]^{\frac{1}{2}} \quad and \quad GH_{ij}{}^{regional} = 100 * \left[\sum_{j=1}^{n}\left[\frac{X_{ij}}{X_i}\right]^2\right]^{\frac{1}{2}}$$

In the first formula, $GH_{ij}^{sectoral}$ shows the concentration ratio of sector j in country i with n being the number of sectors analyzed and X_{ij}, shows country i's exports in sector j while X_i denotes country i's total exports. GH concentration ratio declines as the number of sectors, hence sectoral diversification increases. The maximum value the GH coefficient can get is 100, denoting the case of a single export item. In the second formula, $GH_{ij}^{regional}$ shows the concentration ratio of sector i in country j with n being the number of target countries analyzed and X_{ij} shows exports in sector i in target country j, while X_i denotes total exports in sector i. In this case, GH concentration ratio declines as the number of markets, hence market diversification increases. The maximum value the GH coefficient can get is 100, denoting the case of a single export market.

In sum, the share of EU and North America in Turkey's total and sectoral exports has fallen dramatically towards the global crisis, while the share of Middle East, North Africa and Asia has increased considerably. Meanwhile, the sectoral diversification of exports has improved in major export markets and country diversification has enhanced across sectors. Under current circumstances, the diversification of regional and sectoral composition of exports has lessened the vulnerability of the Turkish economy to external shocks through trade channel. Moreover, in the period ahead, Turkey's export potential is expected to be robust given the growth forecasts in target export destinations.
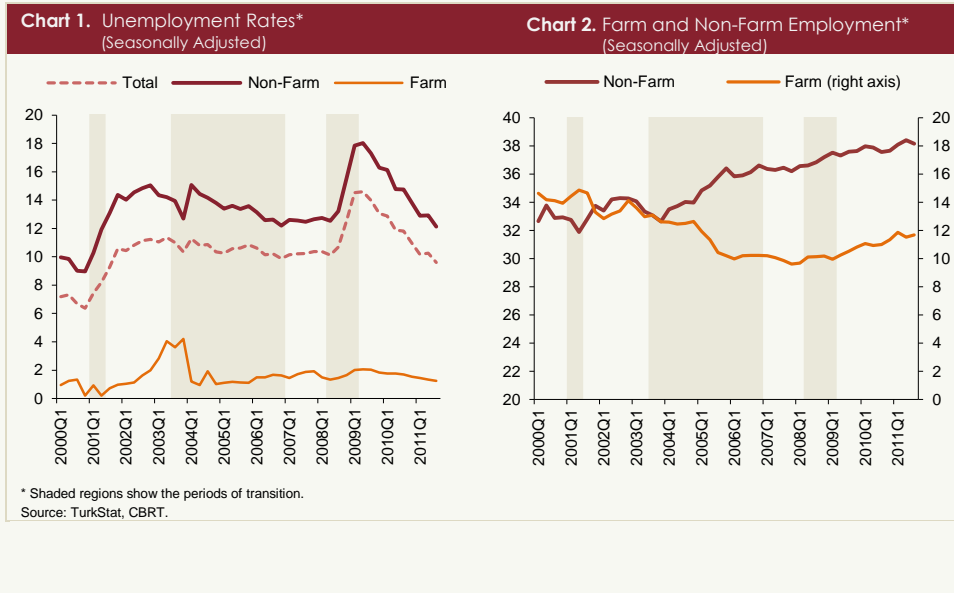
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<table>
<tr><td>Box
4.3</td><td>Analysis of Unemployment in the Aftermath of 2001 and 2008 Crises by Labor Force, Employment and Growth Dynamics</td></tr>
</table>

Unemployment rate is a fundamental indicator monitored by the policymakers in assessing the robustness of the economic activity. However, in countries like Turkey where labor force dynamics are significant for unemployment along with the employment, evaluating unemployment solely by overlooking its determinants will not suffice to assess the level of the economic activity under current circumstances. Hence, for a correct interpretation of the economic conjuncture and estimating the course of unemployment, understanding the unemployment dynamics is crucial.

During the last decade, unemployment rates in Turkey have surged amid 2001 and 2008 crises. However, these two crises differed in terms of the evolution of the unemployment rates. In fact, unemployment rates declined marginally in the aftermath of the 2001 crisis, while in the post-2008 crisis period, unemployment rates have fallen rapidly to even below the pre-crisis level (Chart 1). The aim of this Box is to analyze unemployment in the post-2001 period through labor force, employment and growth dynamics.[3] The analysis shows that in addition to employment, labor force dynamics have also considerable effects on the periodically diverging course of unemployment.

Chart 1. Unemployment Rates*
(Seasonally Adjusted)

Chart 2. Farm and Non-Farm Employment*
(Seasonally Adjusted)

* Shaded regions show the periods of transition.
Source: TurkStat, CBRT.

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[3] The analyses utilize TurkStat's Household Labor Force Survey and the National Accounts statistics. As of 2009, the results of the Household Labor Force Survey are published by population projections according to the Address Based Population Registration System. The results have been revised as of 2005 by the updated population projections. This study merges the pre-2005 and post-2005 data.

In view of the differences in non-farm employment and also taking into account of the two crises, the analysis is conducted in sub-periods (Table 1). The first sub-period 2001Q1-2001Q2 covers the first half of 2001 during which unemployment rates have surged on the back of the losses in non-farm employment. In this period, unemployment rates have increased by 1 percentage point in each quarter, while in non-farm and farm sectors, labor force and employment dropped and increased, respectively. This finding hints that labor force has moved from non-farm to farm sectors during the crisis period.[4] In the second half of 2001, this outlook was reversed and non-farm employment started to rebound. Employment continued to recover until 2002, and in the following period, employment increased only weakly while unemployment declined further amid rising non-farm labor force (Table 1, 2001Q2-2003Q2), Furthermore, farm unemployment temporarily rose to as high as 4 percent in 2003 (Chart 1).

Table 1. Determinants of the Monthly Change in Unemployment* (Percentage Point, Seasonally Adjusted)

(1)		Change in Unemployment (Quarterly Average) (2)=(3)+(4)	Labor Force Increase (Quarterly Average) (3)		Employment Loss (Quarterly Average) (4)	
		Total	Farm (3a)	Non-Farm (3b)	Farm (4a)	Non-Farm (4b)
2001Q1-2001Q2	Unemployment rate surges due to crisis	0.9	1.1	-0.7	-1.1	1.6
2001Q2-2003Q2	Unemployment rate increases further	0.4	-0.3	0.6	0.5	-0.4
2003Q2-2006Q4	Unemployment rate declines	-0.1	-0.3	0.7	0.3	-0.8
2006Q4-2008Q2	Unemployment rate is flat	0.0	0.0	0.3	-0.1	-0.2
2008Q2-2009Q2	Unemployment rate surges due to crisis	1.1	0.1	0.6	-0.1	0.5
2009Q2-2011Q4	Unemployment rate declines to its pre-crisis level	-0.5	0.4	0.5	-0.4	-1.0

* The table shows the sources of the changes in unemployment. The changes in the unemployment rate are decomposed as the effect of the increases in labor force and employment losses in farm and non-farm sectors, with both factors affecting the unemployment rate positively. For example, during 2001Q1-2001Q2, unemployment rate has increased by 0.9 percentage points in each quarter amid decreasing labor force and employment in the non-farm sectors and increasing labor force and employment in the farm sector. Hence, non-farm employment added 1.6 percentage points to unemployment. Meanwhile, the increase in non-farm labor force reduced the unemployment rate by 0.7 percent. Overall, non-farm sector raised the employment by about 1 percent.
Source: TurkStat, CBRT.

Despite the sharp increase in non-farm employment from the second half of 2003 till end-2006, unemployment rate declined only marginally by 0.1 percent due to the surge in non-farm labor force (Table 1, Chart 2).[5] In 2007, the growth of employment decelerated amid the economic slowdown, thus causing the unemployment rates to be flat (Table 1, 2006Q4-2008Q2).

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[4] Fallon and Lucas (2002) analyzes the movement of labor force across farm and non-farm sectors during crisis periods for similar emerging countries.
[5] Coupling of the increase in non-farm employment with the declining farm employment during this period may be interpreted as the result of the movement of the labor force from farm to non-farm sectors or may simply be the result of the change in the TurkStat's survey question in 2005 (Türkan and Yükseler 2008).

Unemployment rates have surged as of the second quarter of 2008 as the effects of the global financial crisis were felt. Unlike the 2001 crisis, the surging unemployment rates were not only due to employment losses, but also due to the increases in the labor force (Table 1, 2008Q2-2009Q2). Moreover, changes in the farm labor force and employment in 2008 lagged behind the changes in 2001 crisis. As of the second quarter of 2009, unemployment rates have declined amid increases in employment (Table 1, 2009Q2-2011Q4). The relatively faster decline in unemployment in this period compared to the post-crisis period of 2003Q2—2006Q4 was owed to robust increases in employment as well as the weaker growth of the labor force in the farm sector. The slightly growing non-farm labor force in this period may be interpreted as the limited movement of the labor force from the farm sector or that the ongoing increase in the non-farm labor force during the crisis may have restrained the post-crisis increase.

Table 2. The Growth Elasticity of Employment (Average Quarterly Increase in Employment/Average Quarterly Increase in Value Added, Seasonally Adjusted)

	Non-Farm	Industrial	Construction	Services	Trade, Restaurant and Hotel	Transport-Comm.	Financial Inst.-.Real Estate	Community Services
2001Q2-2008Q2	0.49	0.42	0.39	0.55	0.53	0.21	1.12	1.39
2003Q2-2006Q4	0.56	0.53	0.85	0.53	0.58	0.38	0.75	1.15
2009Q2-2011Q4	0.60	0.54	1.08	0.58	0.25	0.40	1.43	2.12

Source: TurkStat, CBRT.

In order to evaluate the effect of the growth elasticity of employment on the divergence of employment increases in the post-crises periods, Table 2 presents the growth elasticity by sectors. Elasticity is measured by dividing the average growth of employment to the average growth of the value added in the respective time period. The growth elasticity of employment is 0.49 during 2001Q2-2008Q2, 0.56 during the strong economic growth period of 2003Q2-2006Q4 and 0.60 in the post-2008 period. Hence, elasticity in the last period differs significantly from the 2001 crisis, while it differs only slightly from the period of robust growth of the value added.[6] By sectoral analysis, the growth elasticity of employment has been notably high in the construction, real estate leasing and business services as well as community services as of end-2011.

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[6] During 2001 and 2008 crises, the contraction and the recovery of the value added and employment have not been simultaneous. Hence, elasticity measures differ depending on which of the series are taken as benchmark for setting the beginning of the recovery. When the start of the recovery of the employment is taken as the benchmark, the elasticity is 0.53 and 0.68 during 2001Q2-2008Q2 and 2009Q2-2011Q4, respectively. On the other hand, when the start of the recovery of the employment is taken as the benchmark, elasticity declines to 0.45 and 0.52 for 2001Q2-2008Q2 and 2009Q2-2011Q4 periods, respectively. Table 2 presents the average elasticity.

In sum, the first appealing difference between the two crises is that the unemployment rates have fallen rapidly after the 2008 crisis, whereas unemployment rates were flat in the aftermath of the 2001 crisis. This difference was mainly owed to the divergences in employment as well as labor force increases. On the other hand, the changing relation between employment and growth during these periods has a limited effect on changing employment dynamics.

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