

4. Supply and Demand Developments

National accounts data for the last quarter of 2011 remained broadly consistent with the outlook presented in the January Inflation Report. Domestic demand remained almost flat, while net external demand was the main driver of both the quarterly and annual growth, indicating that the economy was balanced further at a robust pace. Quarterly growth rate, which is indicative of the underlying trend of the economic activity, varied significantly in the recent period depending on the method of seasonal adjustment. However, in cumulative terms, the economic activity has clearly lost momentum following the first quarter of 2011.

Signals for slowdown were evident in the first quarter of 2012. Despite having recovered slightly in February after the sharp decline in January, seasonally adjusted industrial production in the January-February period remained below the average of the previous quarter, largely due to temporary factors such as unfavorable weather conditions and external uncertainties. As a matter of fact, the upward course of indicators on orders, production and consumption in February and March signals for a rally in production by the second quarter.

Following the second half of 2011, the period of which was dominated by external uncertainties, both the global economic activity and the risk appetite improved remarkably. As of the second half of 2011, exports settled into an accelerated track of growth, thereby pointing to the balancing of the economy, and also contributing significantly to favorable perceptions regarding economic fundamentals. As a matter of fact, the ongoing balancing in the first quarter, in addition to markedly improved 12-month cumulative current account deficit eased the key constraint posing downside risks to growth. Overall, foreign trade and external financing suggest a favorable outlook regarding growth in the forthcoming period.

Indicators on medium to long-term expectations like employment and investment plans display an optimistic outlook regarding private demand. This optimistic outlook is also bolstered by the recently introduced package entailing government incentives for investments. Widening of the sectoral scope of incentives, lowering of labor costs and extension of the financing opportunities are the three main pillars of the new incentive system, which is

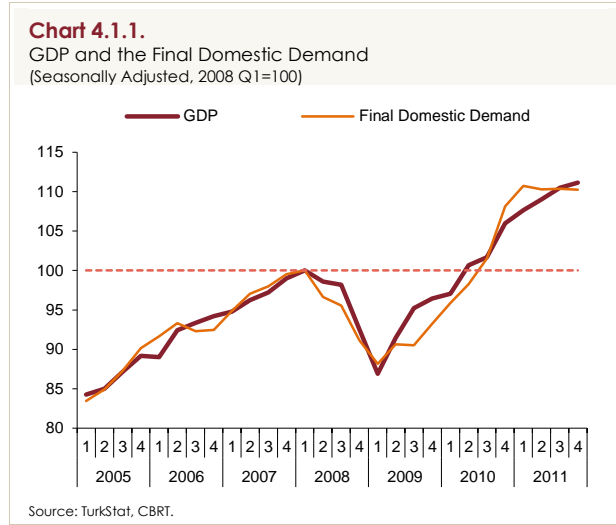
estimated to further enhance the investment propensity in the short to medium term, while improving competitiveness and reducing structural current account deficit to plausibly and sustainably low levels through reducing of the dependency on imported intermediate goods in the long term.

The current outlook suggests that the economy will continue to grow in 2012, albeit at a decelerating pace, and aggregate demand conditions will further support disinflation given the projected mild growth path. In the longer term, the new incentive system is expected to support potential growth and contribute to price stability.

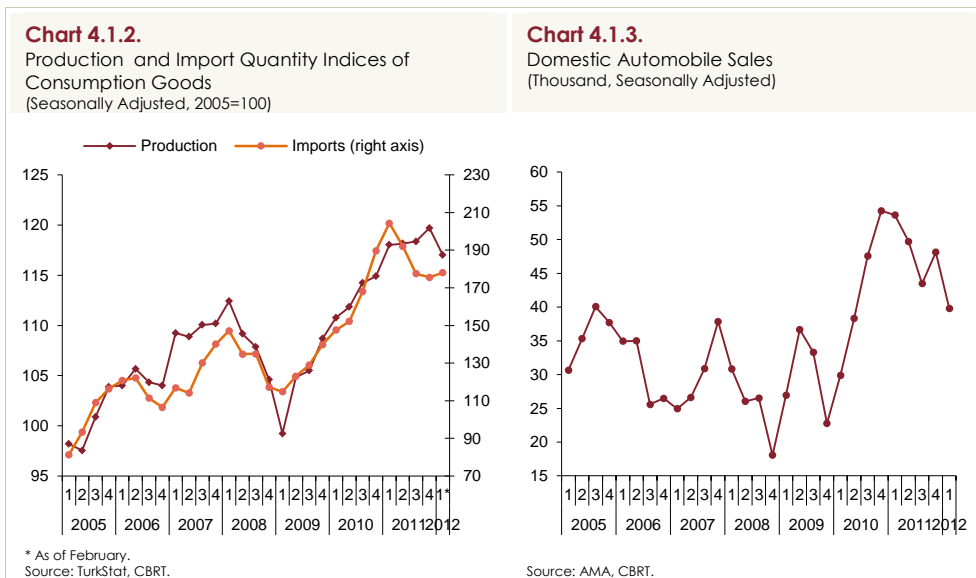
4.1. Gross Domestic Product Developments and Domestic Demand

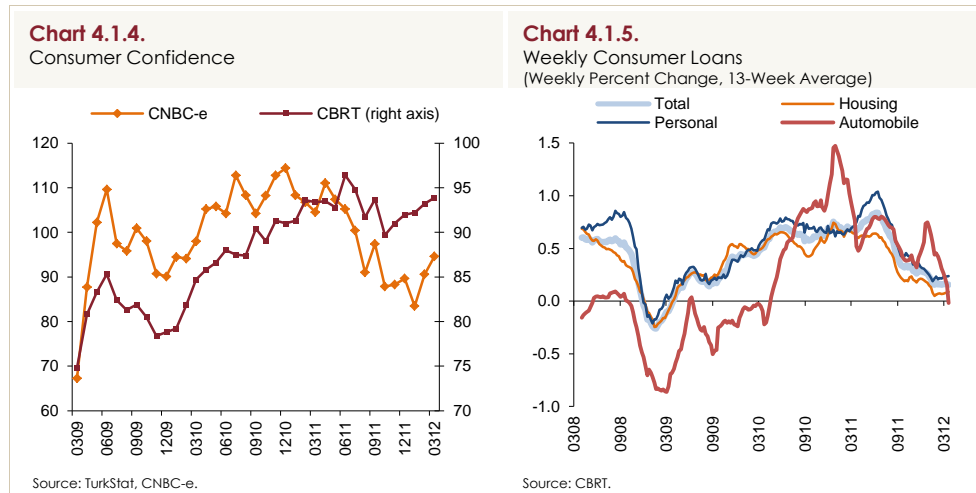
National accounts data released by TurkStat indicate that GDP posted a year-on-year increase by 5.2 percent in the last quarter of 2011, thus registering an annual growth by 8.5 percent over 2011. Demand components were balanced further in the last quarter, with the net external demand providing the highest contribution to growth after an extended period. Private demand continued to bolster growth in the last quarter, albeit at a weaker pace. Public consumption and investment registered a year-on-year decline, thus signifying the major negative contribution by public spending to growth for the first time in a long period.

Seasonally adjusted data indicate that GDP recorded a quarterly increase by 0.6 percent in the fourth quarter. Despite the ambiguity of the results for the last quarter, the analysis on the underlying trend of the economic activity indicates that in cumulative terms, the economy has lost pace since the first quarter of 2011 (Box 4.1). The course of demand components remained in line with the outlook presented in the January Inflation Report. Quarterly growth was mainly fuelled by net external demand, while the domestic demand followed a flat course (Chart 4.1.1).

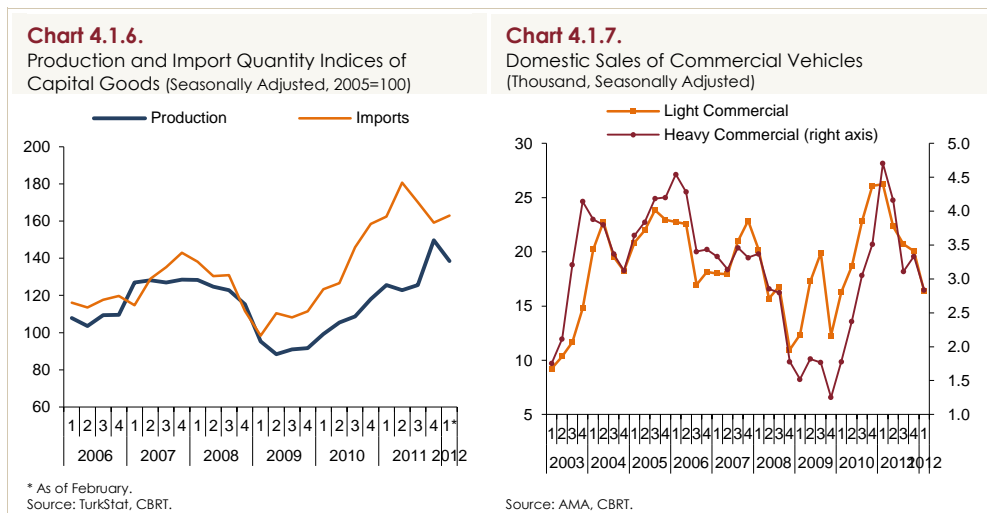


First-quarter data point to a weak course for final domestic demand. Production of consumption goods, indicative of the private consumption demand, declined in the January-February period. Meanwhile, imports of consumption goods increased during the same period (Chart 4.1.2). Following the decline in January, domestic sales of automobiles increased in February and March, yet lagging behind the last quarter of 2011 (Chart 4.1.3). Similarly, consumer confidence remained weak, displaying a mild recovery in February and March (Chart 4.1.4). Consumer loans continued to register a mild growth in the first quarter of the year (Chart 4.1.5).

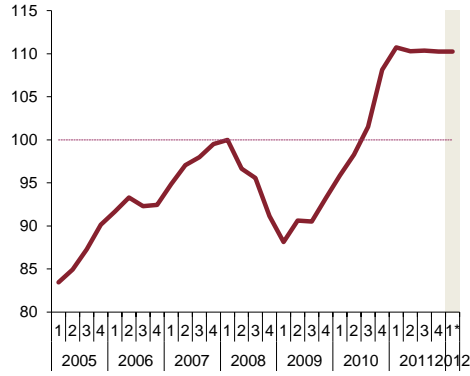
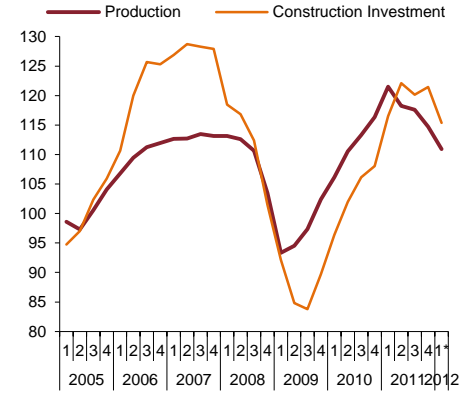




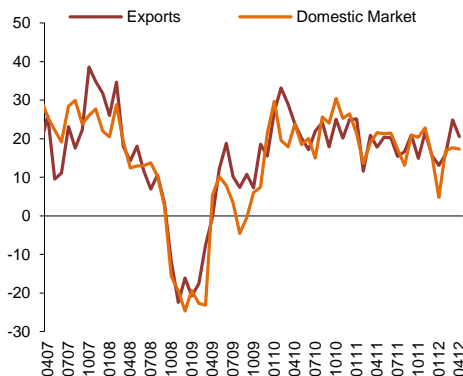
Leading indicators point to a weak course for investment demand besides consumption demand. Production of capital goods posted a quarter-on-quarter decline in the January-February period, while imports of capital goods increased during the same period (Chart 4.1.6). Following the decline in January, domestic sales of light and heavy commercial vehicles accelerated in February and March, albeit slowly throughout the quarter (Chart 4.1.7).



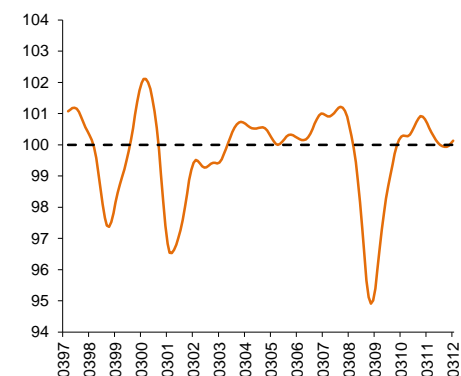
In sum, the first-quarter indicators show that domestic demand remained almost flat (Chart 4.1.8). The slowdown in the economy is also supported by production indicators. Industrial production recently followed a volatile and weak course, which has dominated the economy since October 2011. The ongoing downward course of economic activity in the construction-affiliated sectors is also a major indicator to signify the phase of the continuing deceleration in the economy (Chart 4.1.9).

Chart 4.1.8.Final Domestic Demand
(Seasonally Adjusted, 2008Q1=100)* Estimate.
Source: TurkStat, CBRT.**Chart 4.1.9.**Production of Mineral Materials and Private Sector
Construction Investment
(Seasonally Adjusted, 2005=100)* As of February for production and estimate for construction investment.
Source: TurkStat, CBRT.

Despite registering a quarterly decline in the first quarter in tandem with the unfavorable outlook in January, industrial production headed upwards in February and March. Consumer confidence indices as well as the job opportunities index and investment propensity, leading indicators which entail expectations on the future course of the economy, signal for a moderate recovery in the February-March period. Meanwhile, 3-month ahead expectations for orders improved, and the composite leading indicators implied a rallying economic activity by the second quarter of the year (Charts 4.1.10 and 4.1.11).

Chart 4.1.10.3-Month Ahead Expectations for Orders
(Up-Down, Seasonally Adjusted, Percent)

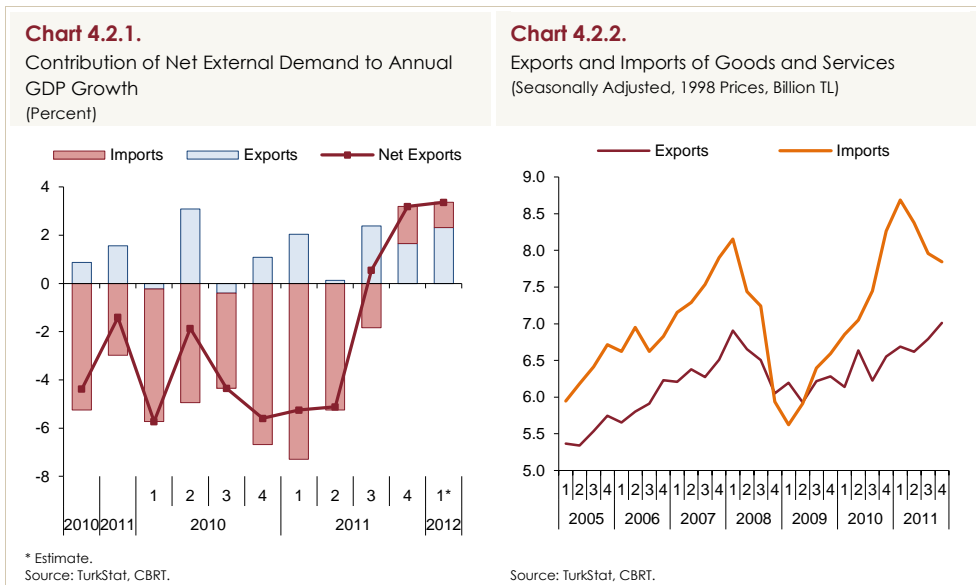
Source: CBRT.

Chart 4.1.11.Leading Indicators Index*
(Seasonally Adjusted)* Methodology is based on Atabek-Demirhan, A. and E. Erdoğan-Coşar, 2012, İktisadi Faaliyet Analizi: Öncü Göstergeler ve Ekonomi Saati Yaklaşımı (in Turkish), CBRT Economic Notes No.12/02.
Source: CBRT.

4.2. External Demand

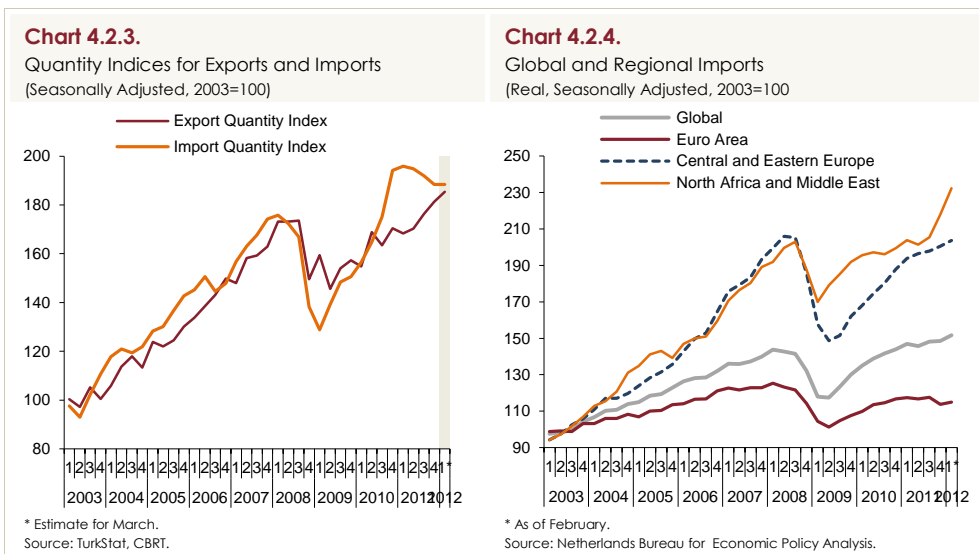
National accounts data for the last quarter of 2011 suggest a marked balancing of the demand components. Exports of goods and services posted a year-on-year increase by 6.7 percent, while imports contracted for the first time after eight quarters, registering a year-on-year decline by 5.1 percent in the last quarter. Thus, net external demand provided the largest contribution to growth after an extended period (Chart 4.2.1).

Despite aggravating global problems, exports of goods and services displayed a remarkable quarterly growth in seasonally adjusted terms, and accelerated substantially in the second half of 2011. Imports of goods and services posted a quarterly fall, thus posting a decline for three consecutive quarters (Chart 4.2.2). Quarterly growth was mainly fuelled by net external demand, while domestic demand followed a flat course, thereby pointing to the stronger balancing of the demand components.

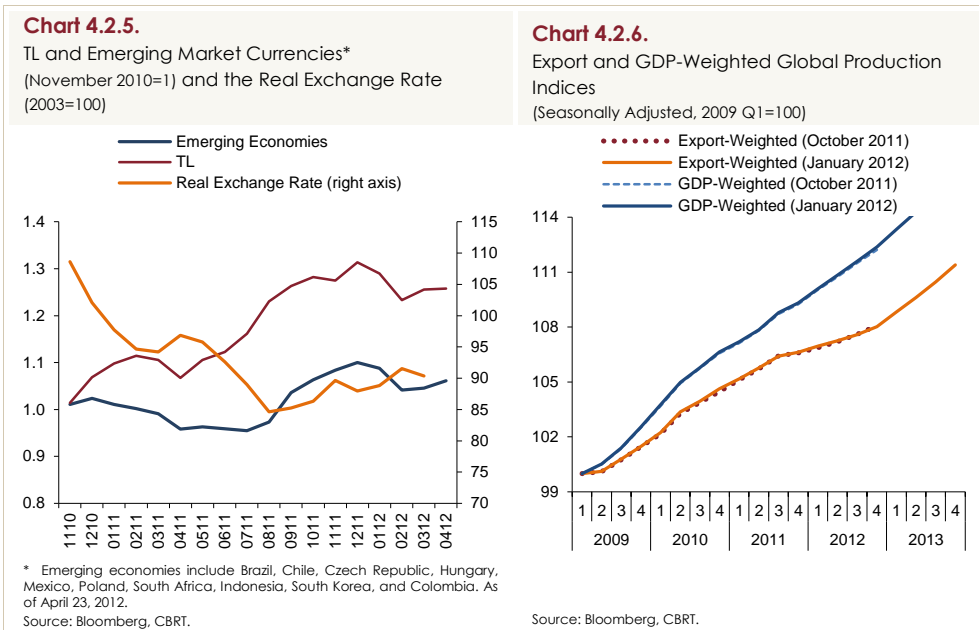


As an indicator for the balancing of the economy, exports settled into an accelerated track of growth by the second half of 2011, and enhanced further in the first quarter. Export quantity index posted a quarter-on-quarter growth in the January-February period of 2012. Thus, having followed a volatile course in the post-crisis period, exports of goods gained stability by registering an interrupted growth for four consecutive quarters (Chart 4.2.3).

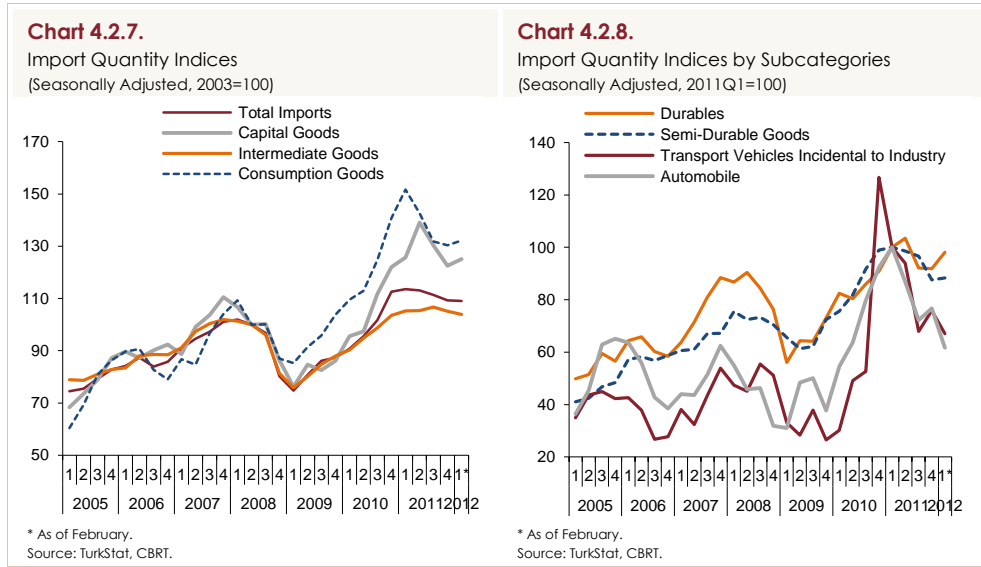
The EU-27 countries, our major trading partner holding nearly the 50 percent share of our exports, contracted by a year-on-year 0.3 percent in the last quarter of 2011, with growth projections exhibiting an acute outlook for 2012. Accordingly, exports to EU-27 countries will be curbed, while total exports will be stimulated by brisk demand in alternative destinations, North Africa and the Middle East in particular (Chart 4.2.4 and Box 4.2). In other words, heightened search for alternative markets amid the slowdown in domestic demand will have a positive effect on the export outlook, in tandem with the alleviating political unrest in North Africa.



Other indicators on exports suggest that, since November 2011, the Turkish lira has depreciated more heavily against the USD than the currencies of other emerging economies. Similarly, the real exchange rate based on emerging economies remains low (Chart 4.2.5). Accordingly, the exchange rate continues to fuel exports. Meanwhile, the medium-term growth pace of both the GDP and the export-weighted global production index remained unchanged in the inter-reporting period (Chart 4.2.6). Overall, the gradual recovery in exports is envisioned to continue in the period ahead.

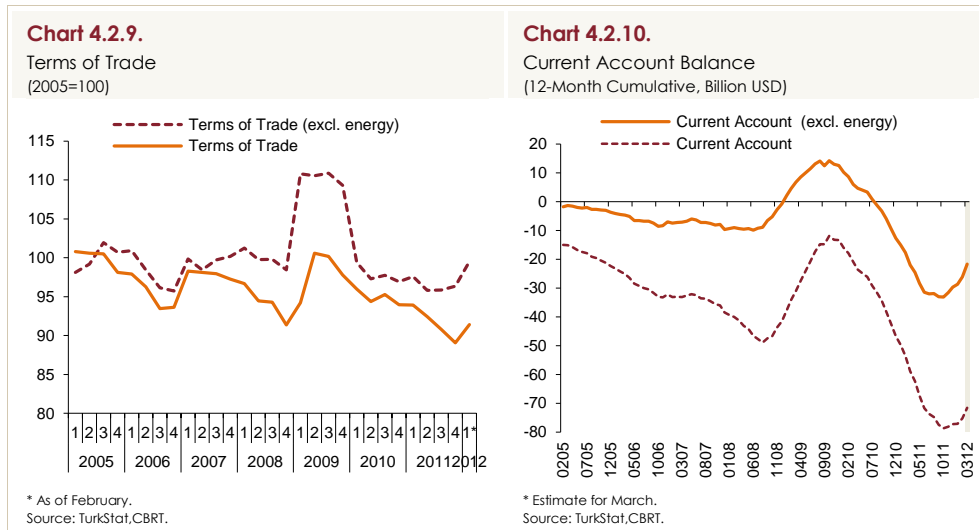


The import quantity index, which has followed a downward course as of the second quarter of 2011, continued to decline further in the January-February period of 2012 amid the slowdown in domestic demand and the depreciation of the Turkish lira. Across subcategories, imports of intermediate goods decreased, while imports of investment goods excluding consumption goods and transport edged up (Chart 4.2.7). A more detailed analysis of imports signifies diversification across subcategories. In other words, following the first quarter of 2011, durables and semi-durable consumption goods displayed a slight decline compared to passenger cars and industry-related transport vehicles, thereby pointing to the subcategory of imports, in which the effects of policy measures aiming for a slowdown in domestic demand and balancing in demand components are felt most profoundly. The current import outlook for subcategories which are in the direct domain of the monetary policy, i.e. those with high sensitivity to exchange rate and financing conditions, indicates that the economy moves as envisaged (Chart 4.2.8).



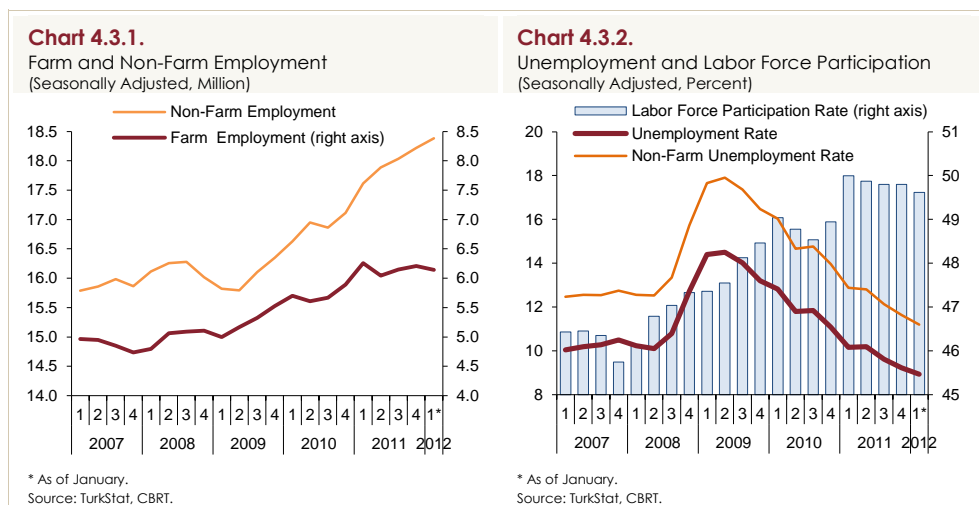
In sum, net external demand is estimated to further support growth in the first quarter of the year (Chart 4.2.1). The current outlook for export and import quantity indices points to an ongoing balancing in the first quarter (Chart 4.2.3).

The balancing of exports and imports in terms of quantity has reflected only modestly on the current account balance due to relative price developments. Amid soaring energy prices, terms of trade have deteriorated as of the second quarter of 2009, continuing throughout the last quarter of 2011 (Chart 4.2.9). Meanwhile, the recently downward course of import prices excluding energy contained the adverse effects of energy prices on terms of trade (Box 4.3). Amid the discontinued deterioration in terms of trade by the first quarter of 2012 and the ongoing balancing of goods, 12-month cumulative current account deficit is estimated to post a notable correction by end-March (Chart 4.2.10). However, in order to bring current account deficit to desired levels in the long term, goods should be further balanced without an additional deterioration in terms of trade, and also through managing of the domestic demand.



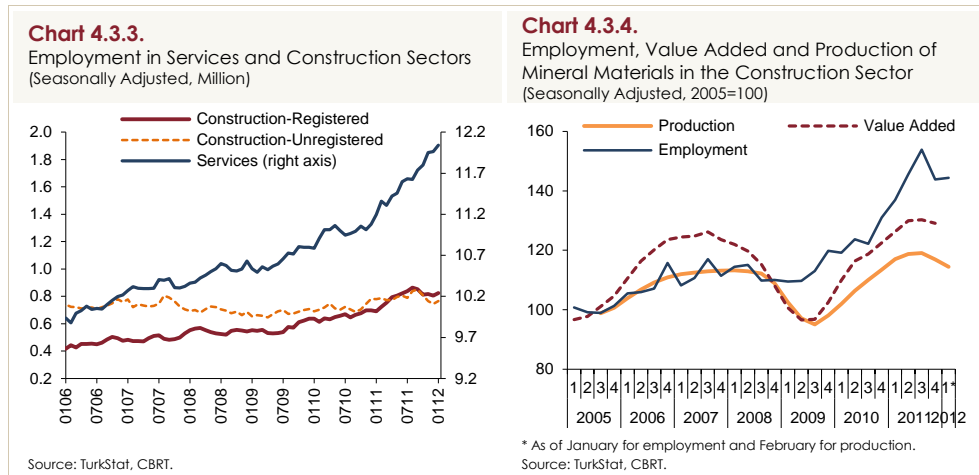
4.3. Labor Market

Employment developments in the last quarter of 2011 were consistent with the outlook presented in the January Inflation Report. Having been fuelled by the services sector, non-farm employment maintained its uptrend. In this period, unemployment rates continued to decline due to soaring employment as well as the weak course of labor force participation. Employment increased quarter-on-quarter across all sectors in January 2012, while labor force participation decreased and the unemployment rates continued to decline (Charts 4.3.1 and 4.3.2). Growth of non-farm labor force participation has remained weak, both recently as well as throughout the post-crisis period in general, standing out as a major factor to contribute to the decline in unemployment rates (Box 4.4).

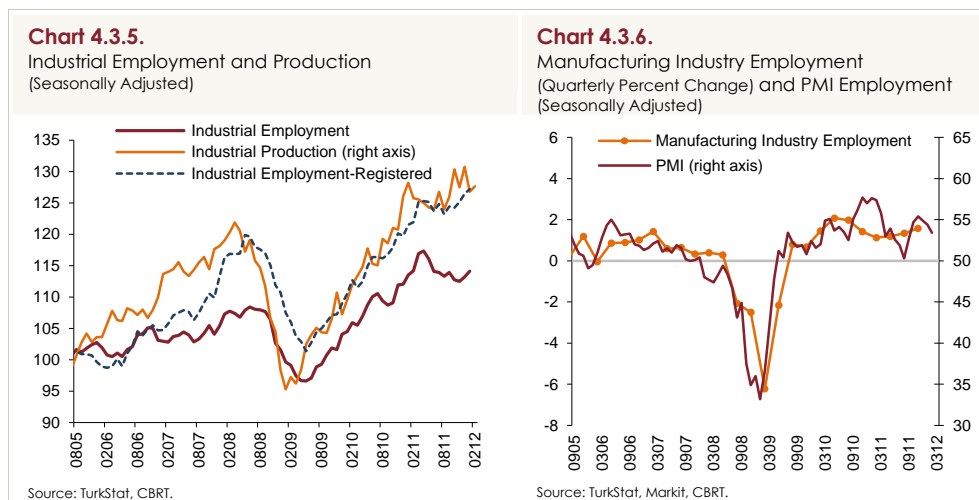


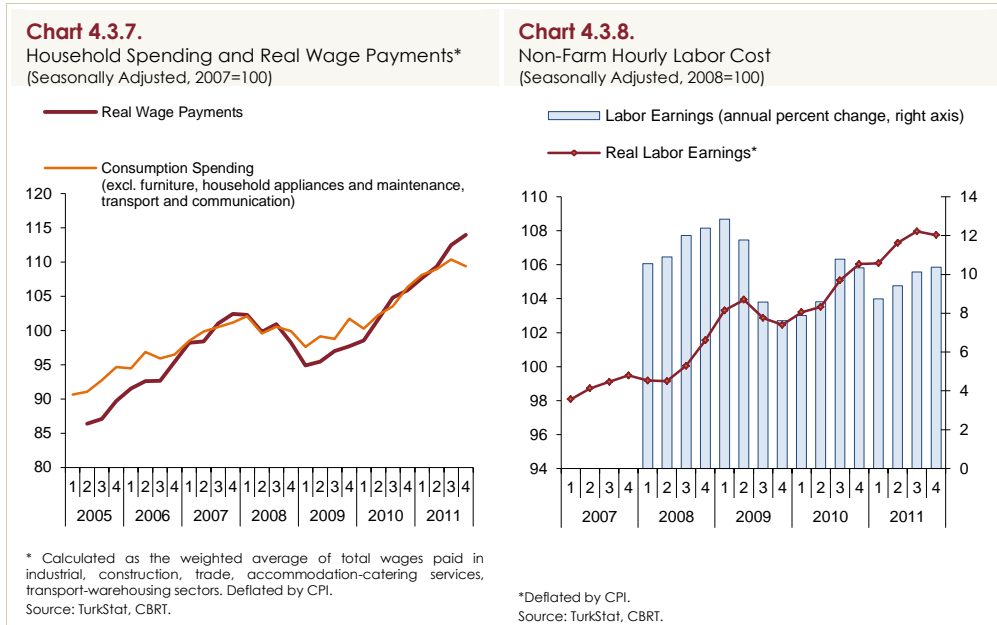
Non-farm employment increased notably in 2011. Having increased strongly in the first quarter of 2011, employment has increased weakly towards the year-end amid losses in the industrial and construction sector employment. In general, growth of non-farm employment gained momentum in the last quarter, displaying divergent patterns across sectors. More specifically, the industrial employment, which has started to decline in the third quarter, continued to decrease in the last quarter, albeit at a slower pace. Construction sector, which remained robust in the first three quarters of the year, experienced employment losses in the last quarter. Employment in the services sector continued to head upwards in the last quarter. Accordingly, services sector contributed positively to seasonally adjusted non-farm employment in the last quarter of 2011, while construction and industrial employment had a negative contribution (Charts 4.3.3 and 4.3.5). Industry and construction sector employment rallied in December 2011 and January 2012, respectively. Moreover, services sector employment continued to rise steadily in January 2012.

The growth rate of value added in the construction sector slowed down in the first quarter, and followed a flat course as of the second quarter of 2011 (Chart 4.3.4). In the meantime, construction sector employment continued to surge until the last quarter of the year, while assuming a downward course by the last quarter in tandem with the weakening value added. Unregistered employment fell more notably than registered employment, especially in December (Chart 4.3.3). The decline in registered employment was short-lived and employment rallied in January, thus implying that the slowdown in economic activity was perceived to be temporary or limited, hence signaling a favorable outlook regarding employment conditions. Meanwhile, the production of non-metallic mineral products, which are inputs for the construction sector, also having informative value regarding the construction operations, decreased in the first quarter of 2012, resulting in weaker prospects for construction employment (Chart 4.3.4).

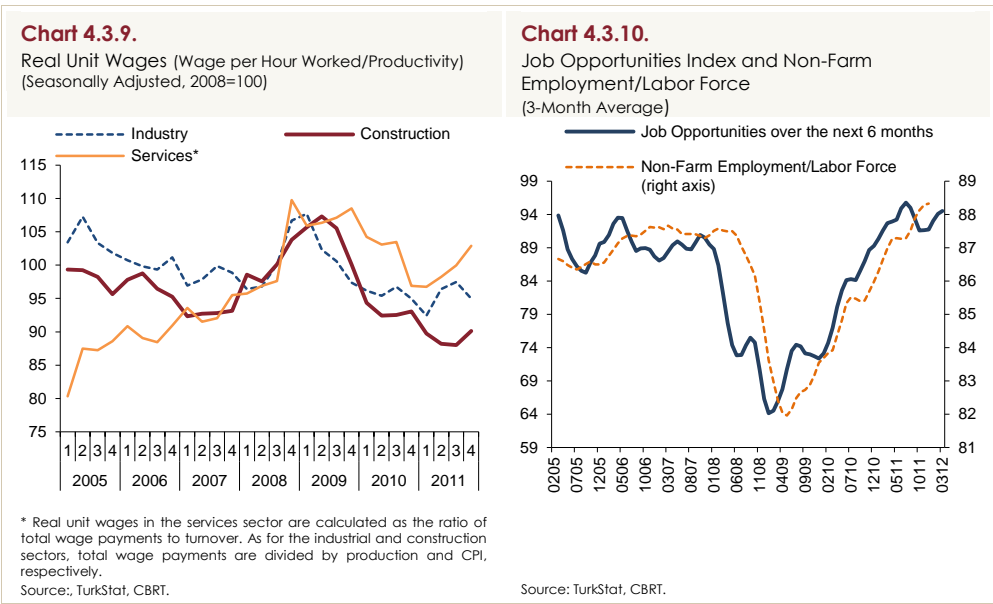


Having followed a weak course in the first half of the year, industrial production recovered by the third quarter, yet remaining volatile (Chart 4.3.5). Registered industrial employment moved in tandem with the production developments, while total employment including unregistered employment posted a lagged increase in December. Uncertainties regarding economic activity put a cap on employment in this period. In January, both registered and total employment continued to surge. The employment indicator PMI has increased since the third quarter of 2011, moving consistently with the developments in production and registered employment. PMI points to a rise in employment in the first quarter of 2012, notwithstanding the slight decline (Chart 4.3.6). Accordingly, employment is estimated to increase in the first quarter of 2012, while uncertainties regarding economic activity in the U.S. and the Euro Area may curb the improvement of production and the employment conditions.

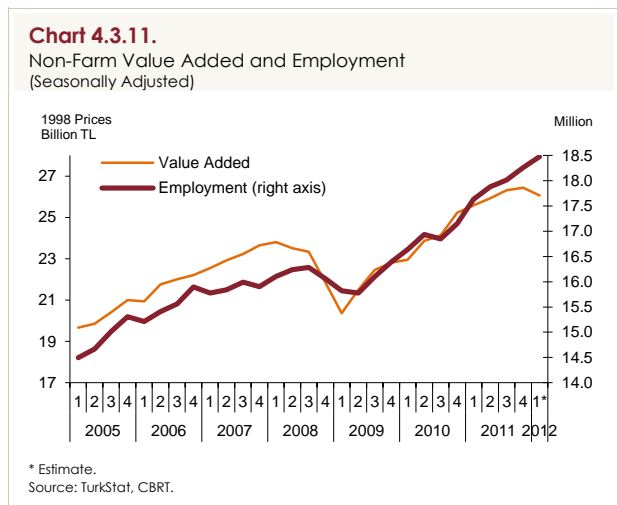




In the first quarter of 2012, real wage payments continued to bolster the demand for goods, which are particularly sensitive to current income (Chart 4.3.7). In the last quarter of 2011, non-farm hourly real earnings index released under the Labor Cost Indices edged down on a quarterly basis (Chart 4.3.8). Real unit wages, which also entail productivity increases, soared across sectors other than industry in this period (Chart 4.3.9). As stated in the January Inflation Report, real unit wages increased amid the weak course of industrial production, and declined back in the last quarter due to rising production. Meanwhile, real unit wages in services and construction sectors registered increases. During this period, which was marked by flat course of hourly real wages, the rise in real unit wages was driven by the decline in average productivity. In both sectors, employment posted a higher increase than the rise in production/turnover. Against this background, industrial sector prices were not exposed to labor cost pressures in the first quarter of 2012, while the upward trend in the services sector over 2011 may remarkably weigh on the services inflation in the period ahead.



In sum, employment surged in the services sector in the last quarter of 2011, while decreasing in the construction and industrial sectors, thus restricting the growth of non-farm employment. During December 2011 and January 2012, employment rallied in the industrial and construction sectors. Leading indicators in the first quarter point to a favorable course for industrial employment. Job opportunities index under the CBRT's Consumer Tendency Survey, which reflects the employment prospects for households, also points to a rise in employment opportunities, thereby reinforcing the favorable expectations regarding employment conditions (Chart 4.3.10). The slowdown in construction operations in the first quarter of 2012 will continue to reflect on the construction employment, while non-farm employment will continue to trend upwards amid rising employment in construction and services sectors (Chart 4.3.11).



Box
4.1

The Underlying Trend of Economic Activity Using Seasonally Adjusted Data

Monitoring the underlying trend of economic activity is essential for decision-makers under the inflation targeting framework. Assessing the current stance of the economy over the business cycle constitutes the basis of the decision-making process, thereby affecting the forecasts. To this aim, seasonally adjusted data as well as their monthly and quarterly percent changes are frequently used. However, seasonal adjustment may significantly differ with respect to methodology and the sample size, thus leading to substantial backward revisions and uncertainty. This uncertainty causes controversies over the assessment of the underlying trend of economic variables, thereby complicating the real-time policy analysis. This issue has been highly debated in the post-crisis period, also for advanced economies like the U.S. and the Euro Area, therefore signifying the need for a cautious approach in interpreting seasonally adjusted data with serious breaks.¹

Table 1. Quarterly GDP Growth by Alternative Model Specifications and Sample Size

	MODEL SPECIFICATION								
	TURKSTAT	AUTOMATIC*							
	1998	1999	1999	2000	2001	2002	2003	2004	2005
2010Q4	4.2	4.5	4.2	3.7	3.8	4.1	3.8	4.5	3.6
2011Q1	1.6	2.1	1.9	2.0	2.2	2.0	2.2	1.7	2.3
2011Q2	1.3	0.3	0.3	0.2	0.5	0.3	0.5	0.6	0.7
2011Q3	1.3	0.7	1.0	1.2	1.1	0.9	1.1	0.5	0.6
2011Q4	0.6	1.2	1.0	0.6	0.8	0.8	0.7	1.3	0.5
Last 3-quarter average	1.1	0.8	0.7	0.7	0.8	0.7	0.8	0.8	0.6

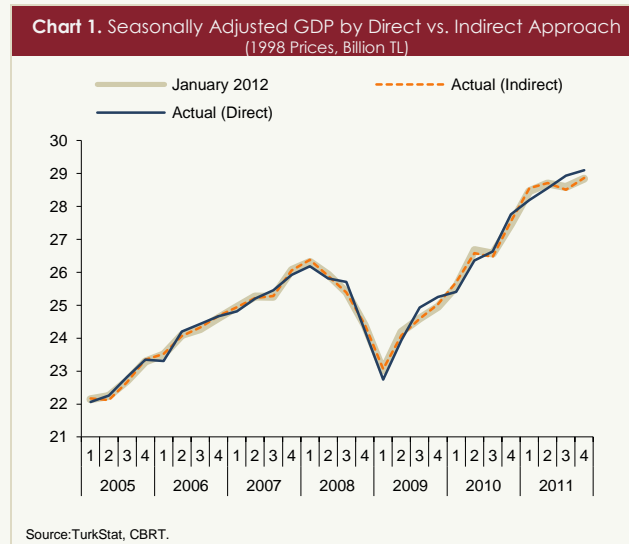
* Seasonally adjusted by Tramo-Seats using the Demetra software. Unlike the model specification determined by the TurkStat, automatic model results were obtained by leaving specifications like logarithmic transformation, average correction, outlier specification and ARIMA model selection to be automatically determined by the Demetra procedures.

Source: TurkStat, CBRT.

Central banks are growingly more concerned about the course of the underlying trend in economic activity as economic growth converges to its potential. In fact, changes in output gap, given its recent underlying trend, highly influence the decision for policy to be eased or tightened. For example, according to national accounts data released by the TurkStat, GDP posted a quarter-on-quarter growth by 0.6 percent in the last quarter of 2011. Corresponding to 2.4 percent in annualized terms, this rate signals a marked slowdown in economic activity. Moreover, the gradual decline in quarterly growth rates since the last quarter of 2010 indicate that the economy settled on a mild growth path on account of the adopted measures since November 2010 for slowing down the domestic demand (Table 1).

¹ For further details, see ECB (2009).

On the other hand, the results of seasonal adjustment, also as briefly mentioned above, depend on the sample size in addition to model as well as the outlier specification. Table 1 shows the seasonally adjusted quarterly growth rates produced by recursively shifting the starting point one year forward. The immediate end result is the different policy implications suggested by the model of TurkStat and the automatic model when using the whole sample from 1998. Accordingly, while the official data in the first column signal a gradual economic slowdown, the alternative specification in the second column implies a gradual acceleration in the second half of 2011 (Table 1).



Another important point to note on seasonal adjustment is that direct and indirect approaches may tell different stories about the underlying trend of economic activity. While the above comparison is based on GDP data obtained through direct seasonal adjustment, the indirect approach aggregates data on the individually seasonally adjusted components of the GDP. In the last quarter of 2011, the seasonally adjusted GDP obtained through indirect approach (dotted orange line) is compatible with the outlook presented in the January Inflation Report (grey line). On the contrary, as in the above comparison, direct and indirect approaches imply a different outlook regarding the course of economic activity throughout 2011. In particular, in the third quarter of 2011, the two approaches even differ in terms of the direction of the course, thus signifying the need for a cautious stance in interpreting seasonally adjusted data.

In sum, assessing the underlying trend of economic activity by using seasonally adjusted data requires a cautious approach. Correspondingly, putting aside the last period, a cumulative assessment of the past three quarters suggests that economic activity has lost momentum since the onset of 2011. Having decelerated markedly in the first quarter of 2012, economic activity will resume its mild growth path by the second quarter as implied by the leading indicators.

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Box
4.2

Real Export Developments by Regions

Turkey has recently diversified export destinations, consequently leading to lower share of exports to EU and North America, while a higher share of exports to the Middle East, North Africa and other Asia. However, the recently growing economic and political unrest in export destinations signified the need for gathering regional export data in order to monitor external demand. On the other hand, assessing regional exports by using only nominal data may not suffice to evaluate external demand thoroughly. Hence, this Box analyzes Turkey's exports to major destinations, by using real exports data.²

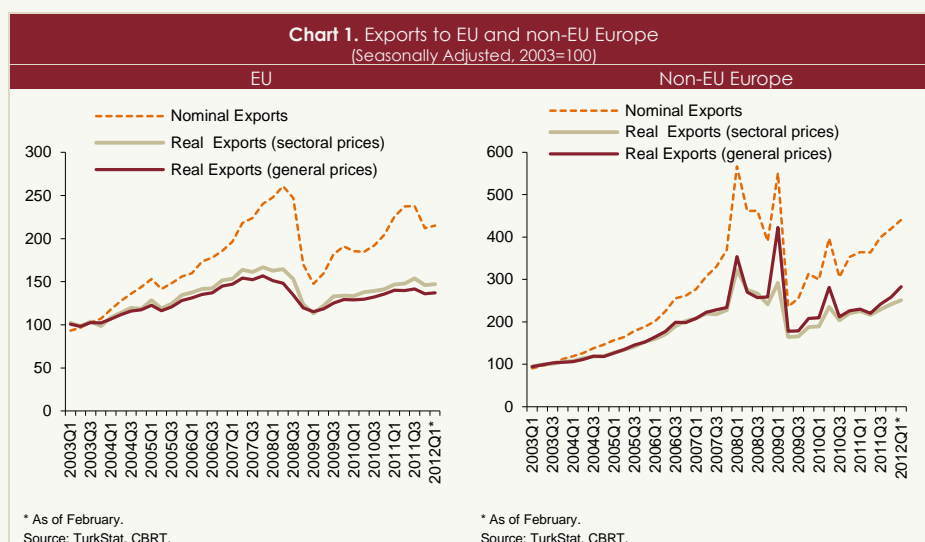
In order to derive real exports data by regions, a straightforward method is to deflate the nominal regional exports data by export unit value index. This method may prove reliable for regions with similar sectoral composition of exports. However, the sectoral composition of Turkey's exports varies over time and across regions. Furthermore, export prices differ across sectors as well.³ Thus, real exports data by regions are computed using sectoral export prices. In addition, real exports data calculated by using the general export price index as well as the nominal export data are also included in the analysis for assessing regional exports.

Analysis of exports to EU, Turkey's main export destination, reveals that real exports computed by using general export prices with base year 2003 fell behind real exports derived by using sectoral export prices (Chart 1). This gap is owed to price increases in exports to EU (manufactured goods-mainly motor vehicles, clothing and textiles) to lag behind general export price increases. Unlike nominal exports data, real exports data suggest that real exports to EU were not heavily affected by the economic crisis experienced towards 2011. Last quarter data on real exports to EU imply a flat course for exports to the region.

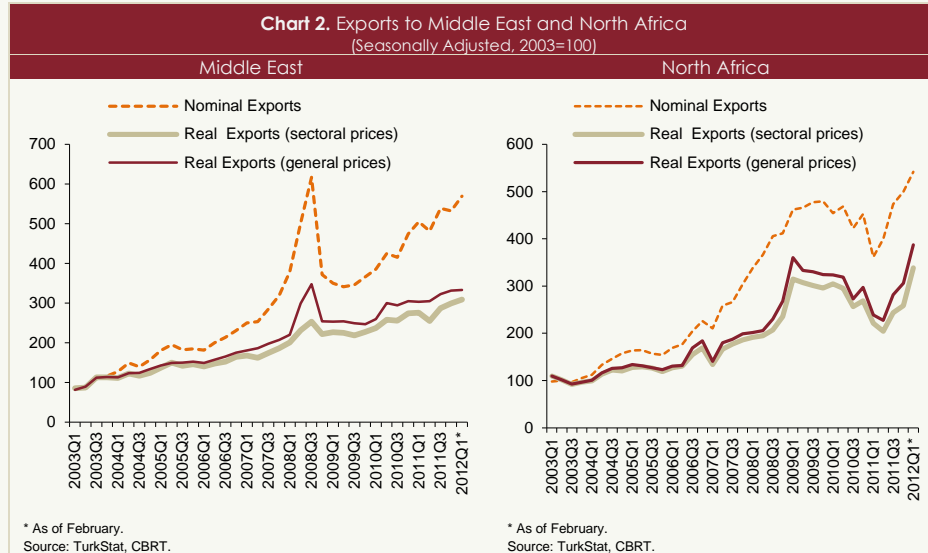
² For further details on the analysis and the methodology, see Aldan and Çulha (2012).

³ For further details on sectoral export price developments and their effect on general export prices, see Aldan and Üngör (2011).

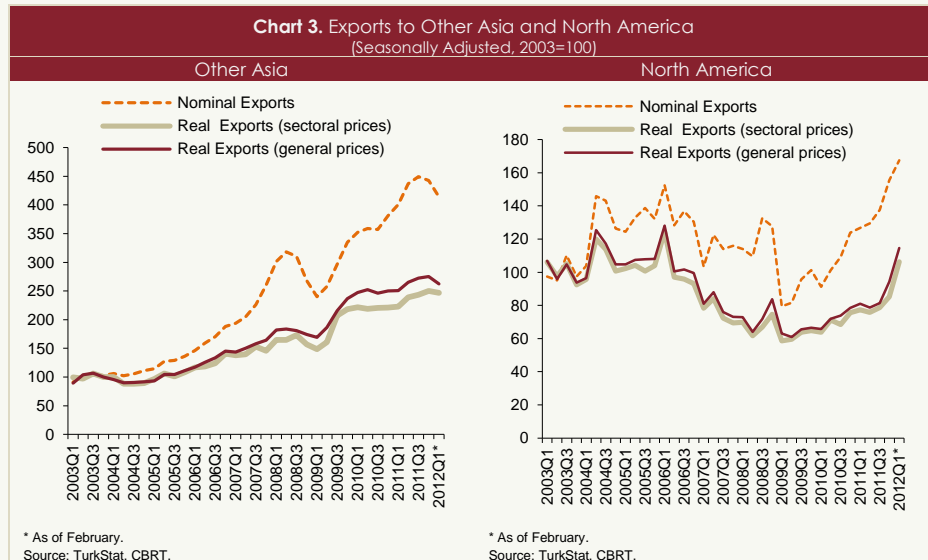
Real exports to non-EU European countries exhibit high volatility when sectoral export prices are discarded. On the other hand, volatility lessens significantly when sectoral export prices are included in the measurement of real exports (Chart 1). Given the significant share of gold exports to non-EU European countries, the divergence of the gold prices from the general export prices constitutes the fundamental source of this volatility. Accordingly, amid soaring gold exports as well as high gold prices in February, real exports measured by general export prices signaled for a recovery in exports, while real exports measured by sectoral export prices implied a relatively mild recovery.



Due to iron and steel prices, price effect was notable on exports to the Middle East, especially during 2008 (Chart 2). In other words, nominal exports as well as real exports using general export prices soared, while real exports measured by sectoral prices displayed a moderate growth. The recent data indicate that the effect of the political unrest in Syria was largely contained. Accordingly, nominal exports posted a recovery and real exports displayed a mild growth. In fact, real exports measured by sectoral prices reached an all-time-high by exceeding the peak in 2008. Having declined until 2011 amid political tensions, real exports to North Africa have recently exhibited a strong rebound (Chart 2).



Analysis of exports to other Asian countries suggest that after the sharp fall in 2008, nominal exports surged, while real exports posted a mild growth (Chart 3). However, exports to other Asia edged down in the first quarter of 2012. Exports to North America, both in nominal and real terms, have recently signaled a rapid surge (Chart 3).



In sum, seasonally adjusted data for early-2012 indicate that the adverse effects of the weak course of real exports to EU and other Asian countries are largely counterbalanced by the strong course of exports to other regions, and particularly North Africa and North America.

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- Aldan, A. and M. Üngör, 2011, 2003-2010 Dönemi Dış Ticaret Fiyat Artışlarının Sektörel Kaynakları (in Turkish), CBRT Economic Notes No. 11/18.

Box
4.3

The Recent Course of Import Prices

Driven by supply-side problems amid geopolitical tensions, soaring energy prices in the first quarter of 2012 have greatly occupied the public agenda, given the associated upside risks to inflation and the current account balance. However, the course of non-energy import prices is relatively more crucial than energy prices in assessing the current account outlook. Hence, this Box analyzes the recent course of import prices, both for energy and non-energy goods.

In addition to energy⁴, which has the leading share in Turkey's imports, basic metals⁵, chemical products, machinery and equipment, motor vehicles as well as clothing and textiles⁶ have major shares in imports (Table 1). As of 2011, energy imports accounted for 22.5 percent of total imports, while the share of non-energy imports reached 50.7 percent. Thus, besides energy imports, the prices of non-energy imports are also influential on import prices.

Table 1. Sectoral Distribution of Imports
(Percent)

	Energy	Basic Metals	Chemical Products	Machinery and Equipment	Motor Vehicles	Clothing and Textiles
2002	17.9	11.3	16.8	12.6	5.7	6.2
2003	16.7	13.5	16.2	11.7	9.2	5.7
2004	14.8	14.8	15.5	10.6	12.1	5.1
2005	18.2	14.6	15.0	10.5	10.6	4.7
2006	20.7	15.2	14.0	10.3	9.5	4.5
2007	19.9	17.2	13.9	10.1	8.9	4.7
2008	23.9	17.9	13.4	8.4	7.7	4.1
2009	21.2	12.7	15.2	8.9	7.6	5.0
2010	20.7	14.2	14.6	8.4	8.5	5.2
2011	22.5	15.2	13.8	8.8	8.3	4.6

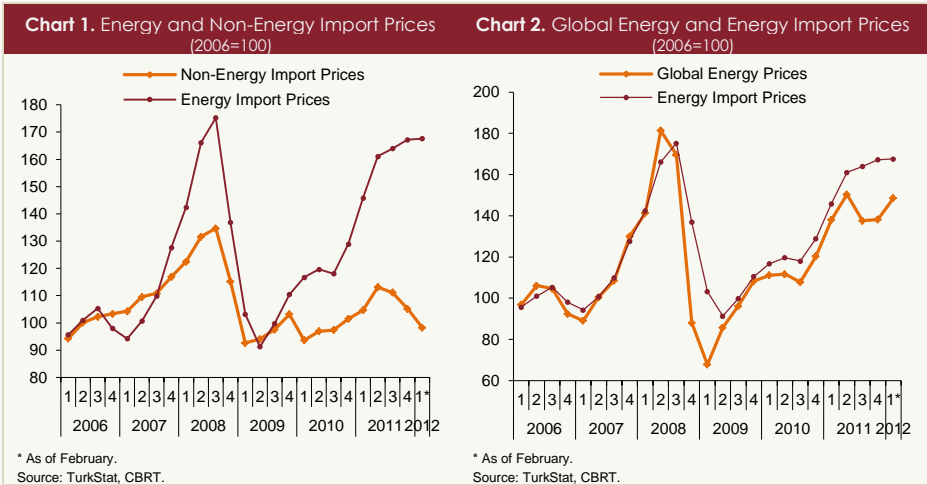
Source: TurkStat.

Since the second half of 2011, energy import prices have diverged notably from the non-energy import prices. In other words, energy prices displayed a gradual and continuous surge in tandem with the rising global energy prices, while non-energy import prices plunged during the same period. Non-energy import prices declined further in the first quarter of 2012 (Charts 1 and 2).

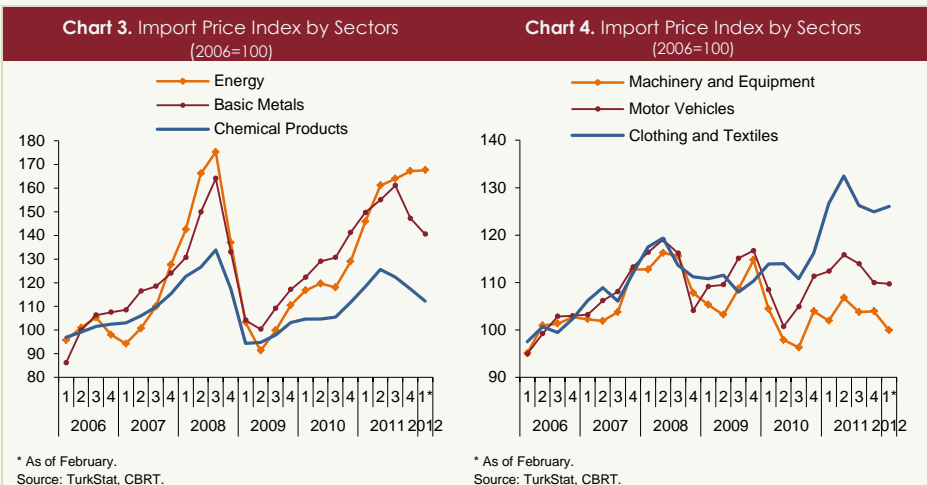
⁴ Including crude oil, natural gas, coal and electricity.

⁵ Including spare and scrap.

⁶ Including leather products.



The ongoing downward course of non-energy import prices is mainly driven by the prices of basic metals as well chemical products, which have major shares in imports by 15.2 percent and 13.8 percent, respectively. Meanwhile, import prices of machinery and equipment in addition to motor vehicles have also displayed a downward course.



In sum, the higher-than-expected increases in oil prices caused energy prices to rise above forecasts in the inter-reporting period. Meanwhile, the favorable course of non-energy import prices partly compensated for the adverse effects of the rising energy prices on inflation. As for the current account balance, the recent downward course of the non-energy import prices counterbalanced the rise in energy import prices. Therefore, not only the energy prices, but also the prices of non-energy imports, which comprise a significant share of imports, should be closely monitored while assessing the developments in the current account balance.

Box
4.4

GDP, Labor Force, Employment and Unemployment

Economic growth accompanied by employment growth is essential for social welfare. This Box analyzes the capacity of economic activity to generate employment and to reduce unemployment between 2005 and 2011. By using quarterly data on the changes in GDP, labor force, employment and unemployment during the 2005Q2-2011Q4 period, the analysis is conducted for two subsamples, 2005Q2-2008Q2 and 2009Q4-2011Q4, by also including unemployment forecasts for 2012. Table 1 presents the average annual growth rates of GDP, labor force, employment and unemployment for the above subsamples. While GDP posted high growth rates in both periods, the associated increase in employment and the fall in unemployment differed between the two periods.

Table 1. GDP, Labor Force, Employment and Unemployment*
(Average Annual Growth by Quarters)

Period	GDP		Labor Force		Employment		Unemployment	
	Total	Non-Farm	Total	Non-Farm	Total	Non-Farm	Total	Non-Farm
2005Q2-2008Q2	6.7	7.3	1.7	4.1	1.9	4.8	-0.2	-0.5
2009Q4-2011Q4	8.7	9.1	3.9	2.8	6.1	5.6	-1.8	-2.1

* Change in unemployment is the year-on-year change in the unemployment rate.
Source: TurkStat, CBRT.

The averages of the annual growth in total and non-farm GDP by quarters were quite similar, while non-farm employment posted a higher growth rate than total employment during the 2005Q2-2008Q2 period (Table1). Meanwhile, unemployment rates declined slightly. The negligible improvement in unemployment rates despite high economic growth is noteworthy in this period. GDP posted a higher growth rate in the 2009Q4-2011Q4 period, with total employment and non-farm employment increasing by 6.1 percent and 5.6 percent, respectively. In the meantime, unemployment fell sharply during this period.

Table 2 presents the ratio of the average annual growth rates of employment and unemployment to GDP by quarters for the two subsamples. Accordingly, one may conjecture about the extent of the increase in employment and decrease in unemployment brought about by the GDP growth.

Table 2. Sensitivity of Employment and Unemployment to GDP Growth

	Change in Employment/ Change in GDP Average		Change in Unemployment/ Change in GDP Average	
	Total	Non-Farm	Total	Non-Farm
Subsamples				
2005Q2-2008Q2	0.280	0.631	-0.017	-0.070
2009Q4-2011Q4	0.747	0.635	-0.218	-0.241

Source: TurkStat, CBRT.

During 2005Q2-2008Q2 period, 1 percentage point increase in GDP brought about 0.3 percent increase in employment. Meanwhile, 1 percentage point increase in non-farm GDP growth led to a remarkable 0.6 percent increase in non-farm employment (Table 2). Similarly, in the 2009Q4-2011Q4 period, GDP growth resulted in an even higher growth in employment, with 1 percentage point increase in GDP growth bringing about 0.75 percent growth in employment. On the other hand, the growth in non-farm employment in response to GDP growth remained unchanged since the previous period. In both periods, growth of total employment differed from the growth of non-farm employment owing to the behavior of the agricultural sector. During the 2005Q2-2008Q2 period, the increase in employment was less effective on reducing the unemployment rate due to the simultaneous increase in the labor force participation. On the other hand, in the second period, the increase in employment exceeded the increase in the labor force participation, thereby reducing unemployment rates considerably. Hence, higher employment may be brought about by economic growth, while lower unemployment may only be attained contingent upon the course of the labor force participation.

Against this background, Table 3 presents under various scenarios and assumptions regarding the percentage change in the labor force, the direction of the course of unemployment corresponding to a 4 percentage point increase in GDP. In other words, columns show the possible annual percent change in the labor force, while rows show the sensitivity of employment growth to GDP growth. The direction of the course of unemployment is found by comparing the percentage changes in employment and labor force, while employment growth is measured by multiplying the sensitivity with the percent change in GDP.

Table 3. Unemployment Forecasts for 2012 with 4 percent GDP Growth

	Expected Annual Growth of the Labor Force				
	1.5	2.0	2.5	3.0	4.0
Sensitivity					
0.4	fall	rise	rise	rise	rise
0.6	fall	fall	rise	rise	rise
0.8	fall	fall	fall	fall	rise

Source: CBRT.

The course of unemployment over 2012 are shown in the shaded region for various sensitivity and labor force growth figures, which are considered to be relatively plausible. The sensitivity of labor force to GDP growth has recently been elevated (Table 2). In addition, the unemployment figures in January 2012 as well as the employment growth also confirm the improvement in the capacity of GDP to generate employment, and signal for further improvement throughout 2012. Thus, the sensitivity is anticipated to remain within 0.6-0.8 over 2012. The growth rate of labor force has increased recently, mainly as a result of the added worker effect exclusive to crisis periods (Table 1). Thus, envisioning that the growth rate of labor force is likely to decline below the recent averages, labor force is estimated to post a growth rate between 1.5-3.0 in 2012.⁷

Accordingly, one may conclude that unemployment is likely to decline given a 4 percent increase in GDP, as depicted by the shaded region in Table 3. Similarly, Tables 4 and 5 also confirm the expectation for a fall in unemployment under various assumptions regarding GDP growth in 2012.

Table 4. Unemployment Forecasts for 2012 with 3.5 percent GDP Growth

	Expected Growth of the Labor Force				
	1.5	2.0	2.5	3.0	4.0
Sensitivity					
0.4	rise	rise	rise	rise	rise
0.6	fall	fall	rise	rise	rise
0.8	fall	fall	fall	rise	rise

Source: CBRT.

⁷ For further details on the compatibility of the female labor force behavior in Turkey with respect to additional labor force exclusive to crisis periods, see Başkaya and Şengül (2012).

Table 5. Unemployment Forecasts for 2012 with 4.5 percent GDP Growth

	Expected Growth of the Labor Force				
	1.5	2.0	2.5	3.0	4.0
Sensitivity					
0.4	fall	rise	rise	rise	rise
0.6	fall	fall	rise	rise	rise
0.8	fall	fall	fall	fall	rise

Source: CBRT.

In sum, this Box presents unemployment forecasts for 2012 under various assumptions regarding GDP and labor force growth as well as the sensitivity of employment to GDP growth. Accordingly, unemployment rates are expected to decline by year-end under the condition that the course of labor force and the sensitivity of employment to GDP growth record the expected figures.

REFERENCES

Başkaya, Y. S. and G. Şengül, 2012, Türkiye'de Emek Piyasasının Çevrimsel Hareketinin Cinsiyet Bazında Analizi (in Turkish), CBRT Economic Notes No. 12/09.

