



# CENTRAL BANK OF THE REPUBLIC OF TURKEY

**Durmuş YILMAZ**  
Governor

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# Presentation Outline

- I. International Developments
- II. Why is Price Stability Essential?
- III. Inflation Developments
- IV. Markets
- V. Economic Outlook

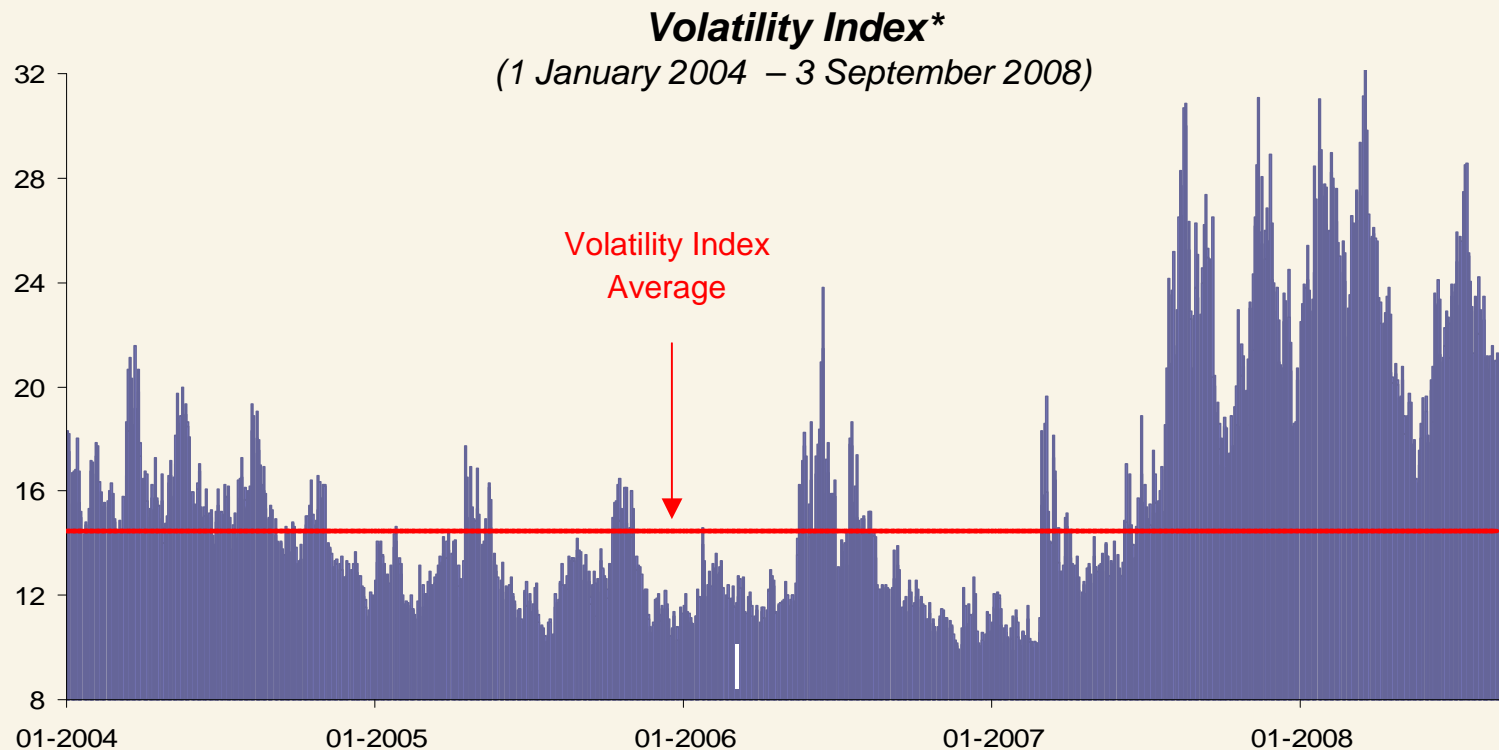


# I. International Developments



# International Developments

- ✓ The global financial turbulence that started in mid-2007, has yet to subside and the Volatility Index, which is an indicator of this uncertainty is still high.



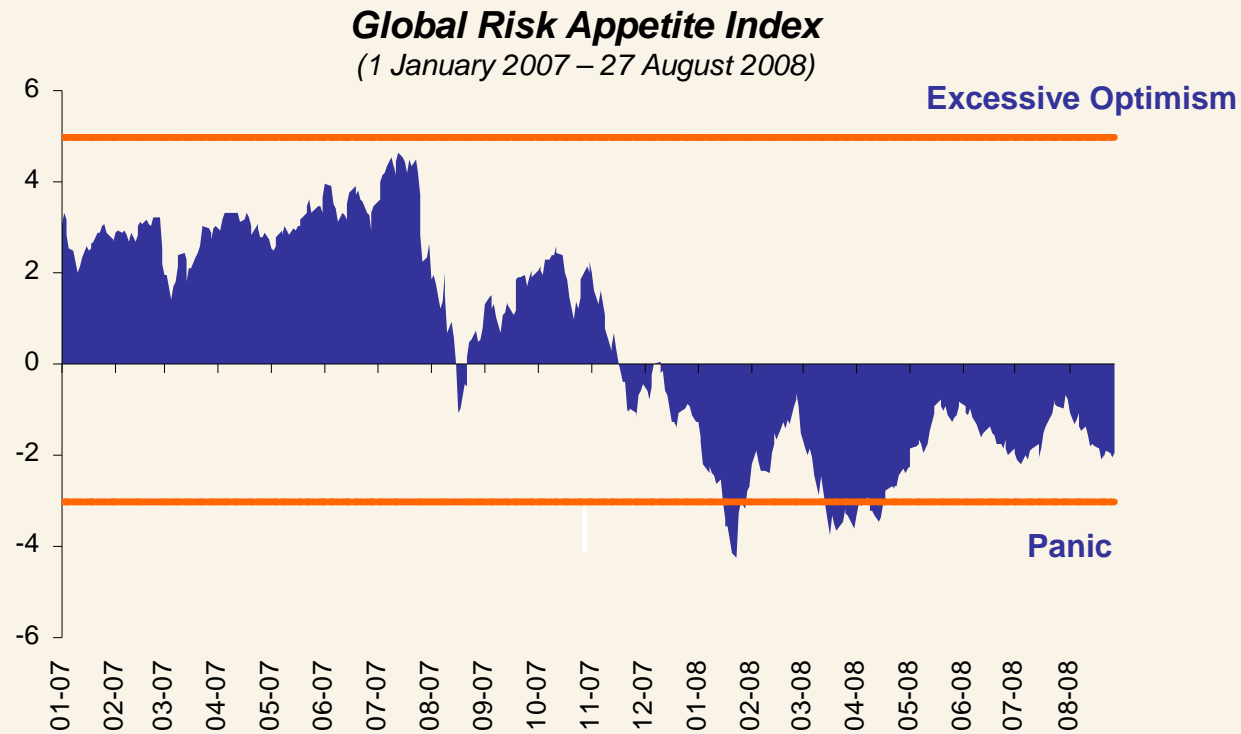
\* VIX measures the volatility of the options prices of the S&P 500 stock index by using the interpolation method.

Source: Bloomberg



# International Developments

- ✓ Apparent deterioration in risk perceptions in mid-October led to risk aversion among investors. In the first half of the year the Risk Appetite Index dropped sharply to “panic” level. Despite the partial recovery in the last month, risk perceptions have maintained an unfavorable course .



Source: Credit Suisse

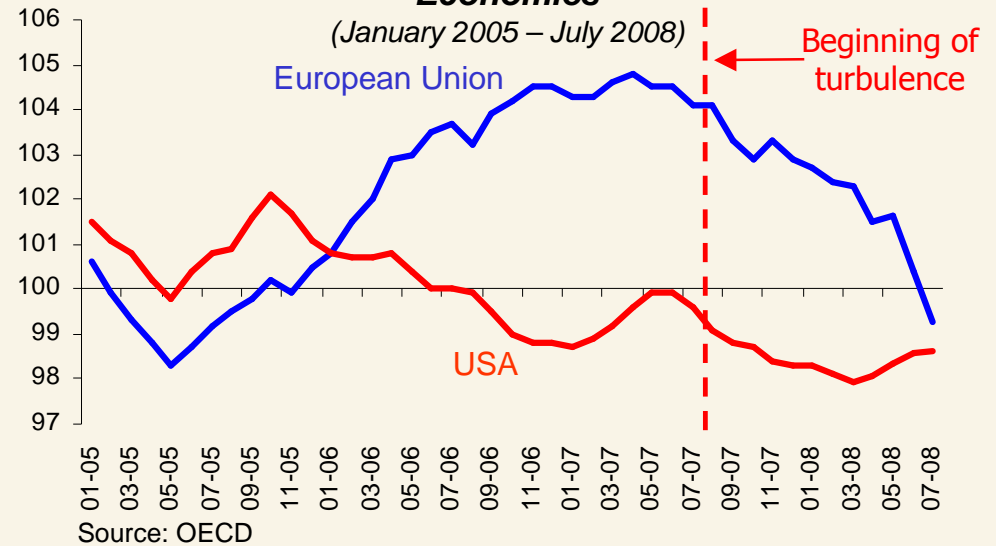


# Global Economic Growth

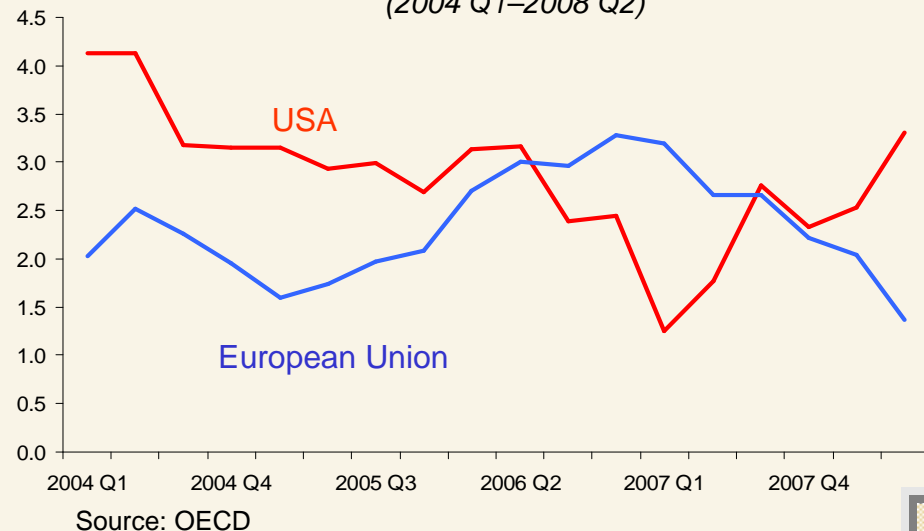
✓ The real sector confidence index in the USA, which had been decreasing since mid-2007, dropped to its lowest level since 2001. Also, the real sector confidence index in the EU has displayed sharp declines in recent months.

✓ The economic growth in the EU, which was over 2 percent since 2005, came out below expectations in the last quarter of 2008.

**Real Sector Confidence Index in the USA and the EU Economies**  
(January 2005 – July 2008)



**USA and EU-15 Growth Rates\***  
(2004 Q1–2008 Q2)





# Effects on Developing Countries

- ✓ According to risk indicators for the Turkish economy, in the second quarter of 2008 Turkey's risk premium increased more than that of other developing countries. Yet, a marked correction has been observed recently.

## Risk Indicators

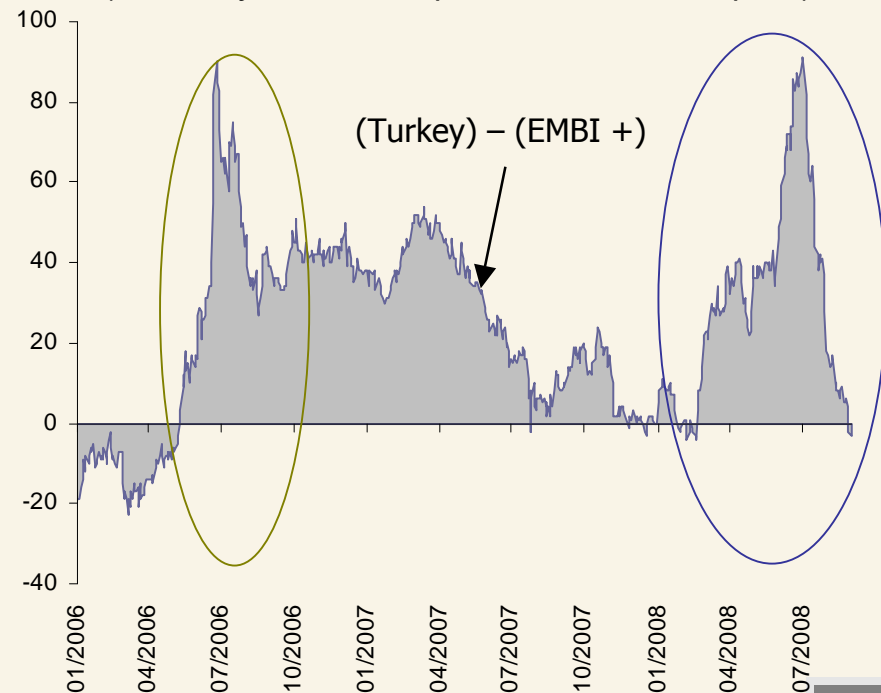
(1 January 2006 – 2 September 2008, basis point)



Source: JP Morgan

## Risk Indicators

(1 January 2006 – 2 September 2008, basis point)



Source: JP Morgan



## **II. Why is Price Stability Essential?**





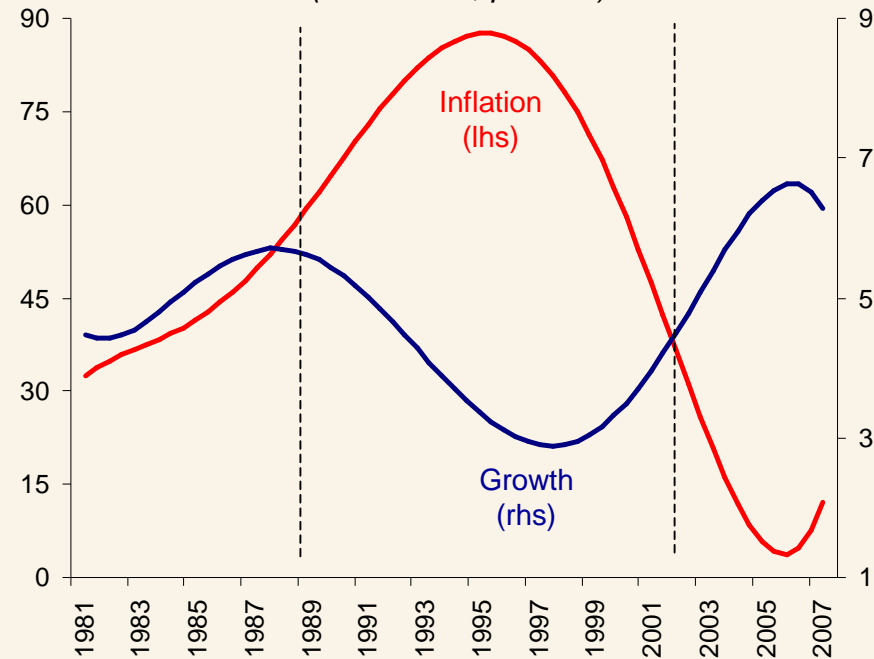
# Why is Price Stability Essential?

**Economic stability is sine qua non for development.**

- ✓ Economic stability cannot co-exist with high inflation, and sustainable growth cannot be achieved in the lack of economic stability.
- ✓ The history of the Turkish economy taught me that lesson :
  - In 1980's and the second half of 1990's rapid growth was observed with high inflation. However, these growth rates turned to be temporary.
  - Between 2002-2007, disinflation and high growth rates were attained concurrently.
- ✓ The recent interruption in the disinflation process and the slowdown in economic growth indicate that there is still much to do to achieve financial stability and sustainable growth.

	Average Inflation	Average Growth
<b>1981-1988</b>	42.1%	5.2%
<b>1989-2001</b>	72.8%	3.3%
<b>2002-2007</b>	13.6%	6.8%

**Inflation and Growth Trends in Turkey**  
(1981-2007, percent)



Source: TURKSTAT, CBT



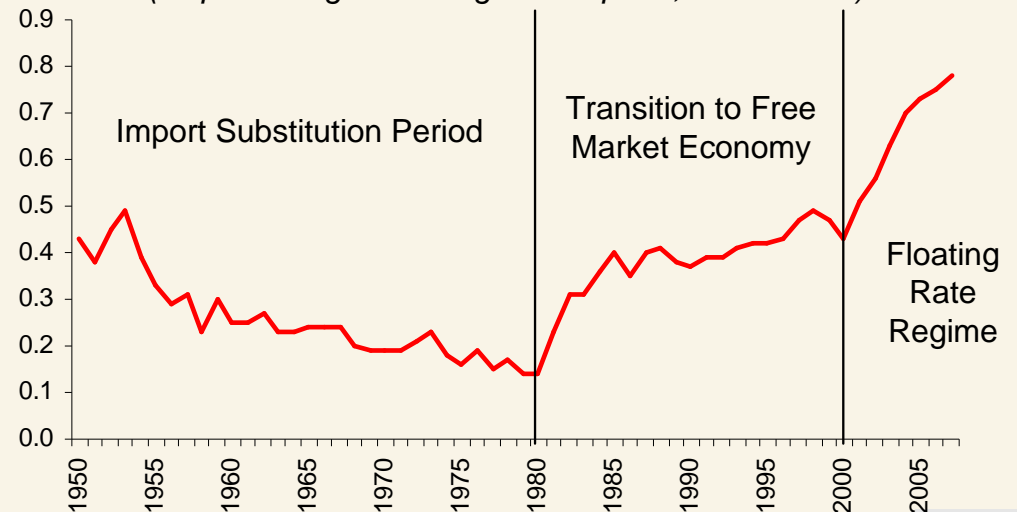
# Why is Price Stability Essential?

In the 2002-2007 period when relative price stability was maintained, important achievements were made in real economy:

- ✓ The rate of Investments accelerated,
- ✓ Industrial production increased,
- ✓ Capacity utilization rate surged,
- ✓ Non-agricultural employment increased,
- ✓ Total exports grew rapidly both in value and quantity (with constant prices),
- ✓ Turkey's share in global exports increased.

	1989-2001	2002-2007
Inflation (CPI)	72.8 %	13.6 % ↓
GDP Growth	3.3 %	6.8 % ↑
Increase in Capital Investments	1.7 %	15.0 % ↑
Increase in Industrial Production	3.6 %	6.8 % ↑
Capacity Utilization Rate	75.6 %	79.8 % ↑
Increase in Non-agricultural Employment	2.7 %	3.7 % ↑
Exports (USD)	8.8 %	22.1 % ↑
Exports (Quantity Index)	8.0 %	13.8 % ↑

**Turkey's Ranking in Overall Global Trade**  
(as percentage of total global exports, 1950-2007\*)



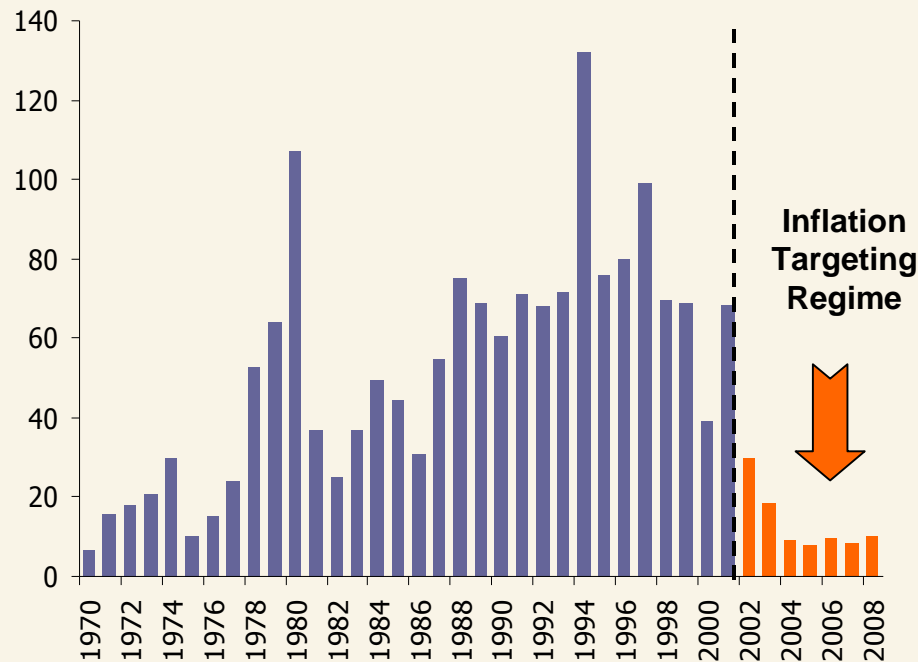
\* IFS data base is used for global trade figures in 2007  
Source: WTO, IFS, TURKSTAT, CBT



# Price Stability in Turkey

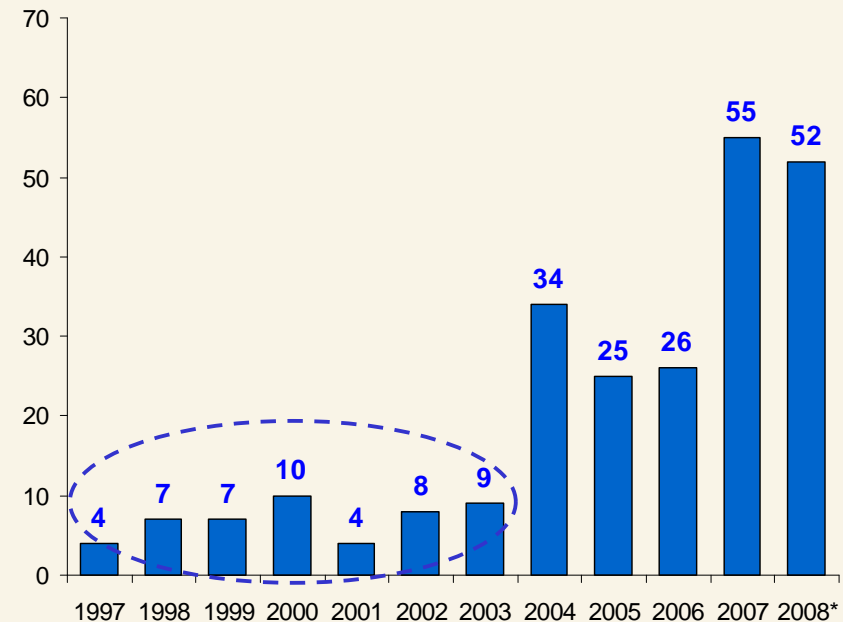
- ✓ Thanks to achievements in price stability, Turkey's ranking the world in inflation has also improved. In the 1997-2003 period, Turkey was among the 10 countries with highest inflation in the world. She declined to the 26<sup>th</sup> position in 2006. Despite exogenous shocks in 2007, Turkey moved down to the 52<sup>nd</sup> place as of June 2008.

**Inflation Developments in Turkey**  
(1970 – 2008, annual)



Source: TURKSTAT, CBT

**Turkey's Global Inflation Ranking**  
(1997 – 2008\*)



\* June 2008

Source: TURKSTAT, CBT



# Central Bank and Price Stability

The main contribution of the Central Bank to macroeconomic stability and sustainable economic growth is to achieve and maintain price stability.

- ✓ The primary objective of the Central Bank is to achieve and maintain price stability, as stipulated by the Central Bank Law.
- ✓ The main policy instrument is short-term policy rates.
- ✓ Interest rate decisions are made to ensure harmony between the medium-term inflation outlook and the inflation target.
- ✓ Developments regarding economic activities are also taken into consideration in the decision-making process. Both the sustainability of price stability and the effect of supply and demand conditions on inflation necessitates this.



## III. Inflation Developments

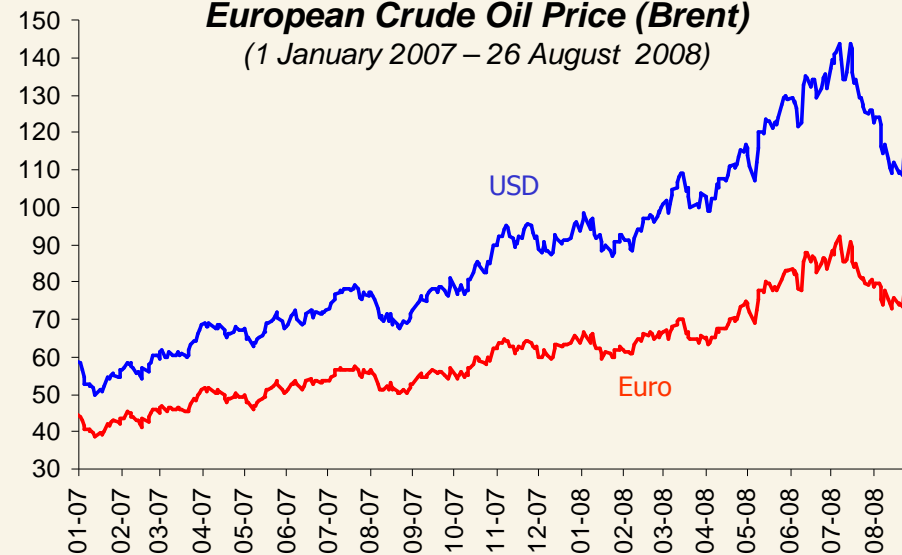


# World Commodity Prices

- ✓ Despite the expectation of economic slowdown in developed countries, the increase in commodity prices continued in the first half of 2008 due to the expectation that the developing countries would continue growing at high rates.
- ✓ Crude oil prices per barrel recorded the highest level of all times in July in both nominal and real terms.
- ✓ Consecutive peaks were observed in gold prices in the first quarter of 2008.
- ✓ However, following the signals of slowdown in EU and Chinese economies, crude oil prices declined from record levels.

## European Crude Oil Price (Brent)

(1 January 2007 – 26 August 2008)



Source: Bloomberg

## Spot Gold Prices\*

(1 January 2007 – 22 August 2008)



\* Price of one ounce of gold quoted on the London gold market  
Source: World Gold Council



# Global Inflation Developments

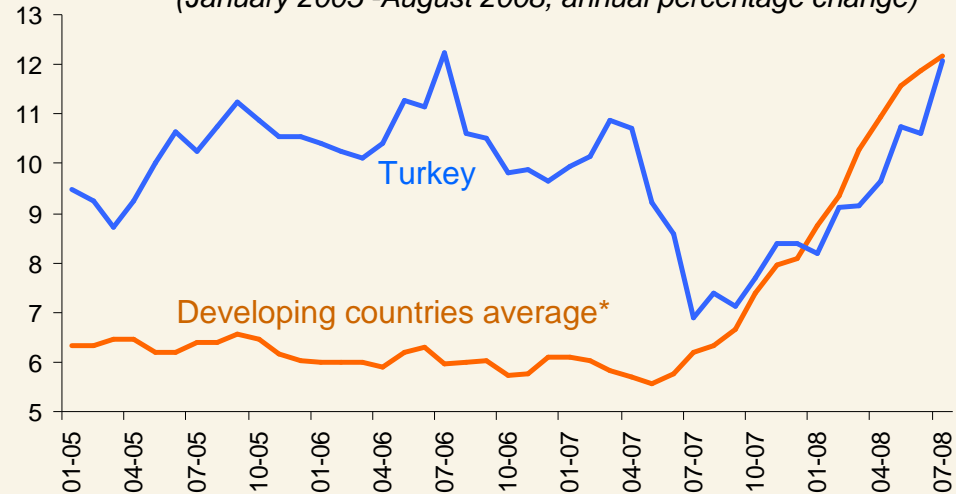
✓ Since 2007 marked increases in inflation rates have been observed all over the world.

✓ Developments in food, metal and energy prices rank the top in this development.

✓ Countries like Turkey that have large shares of food expenditures within total expenditures and are net commodity exporters are highly affected by the hikes in food and energy prices.

## Global Consumer Inflation Developments

(January 2005 - August 2008, annual percentage change)

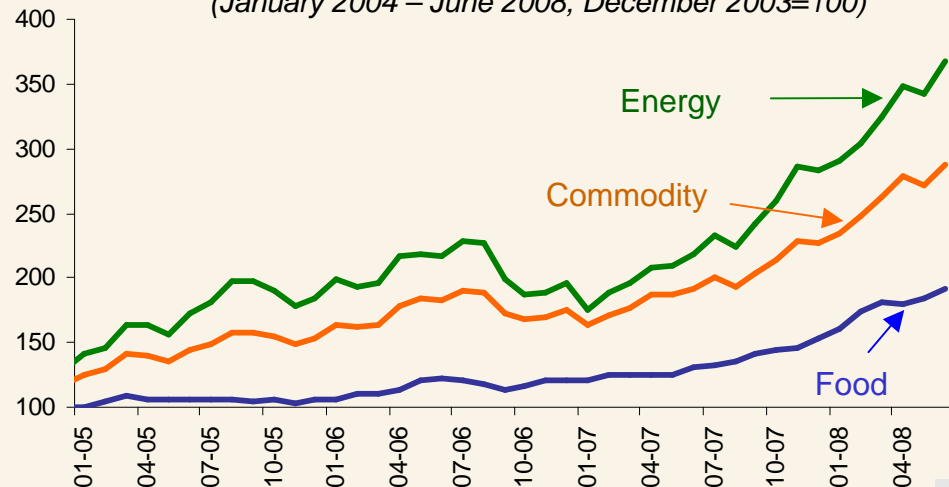


\* Simple average

Source: IMF, Central Banks, CBT

## International Price Indices of Selected Goods

(January 2004 – June 2008, December 2003=100)



Source: IMF, CBT



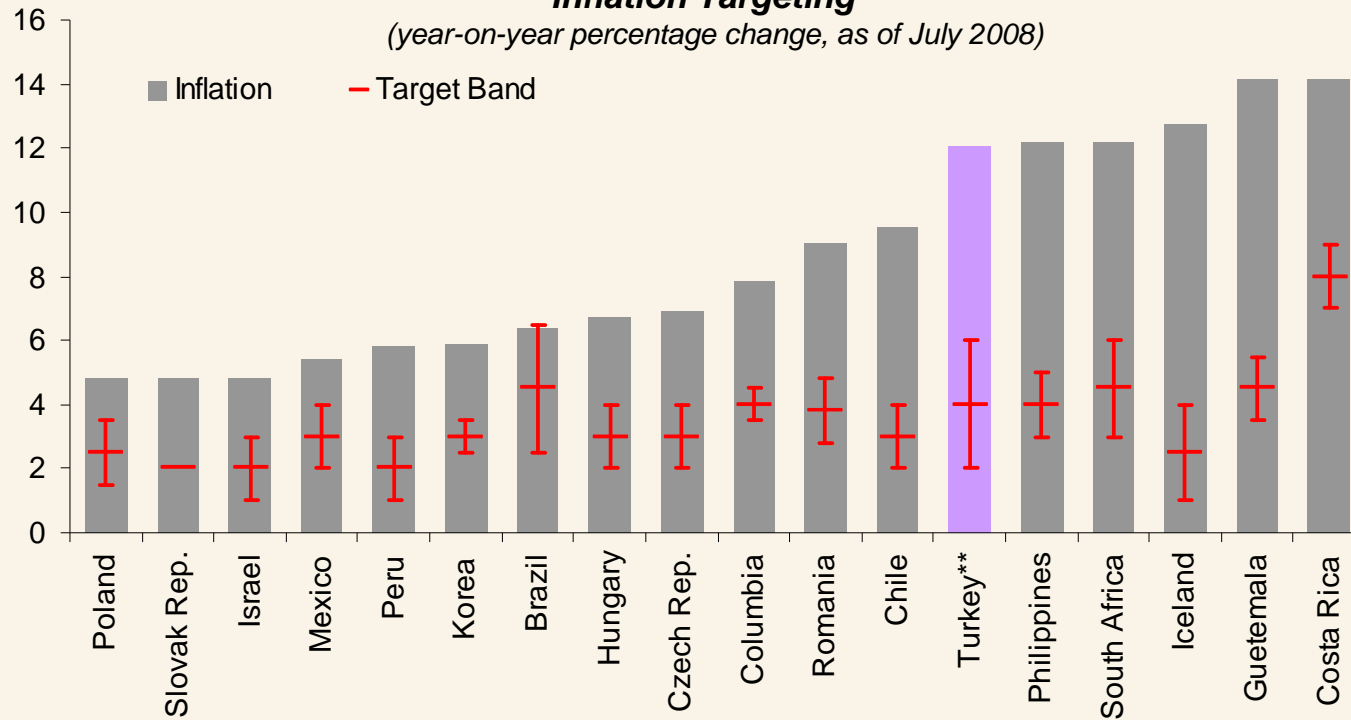


# Comparative Inflation Realizations

- ✓ High rates of increases in commodity prices, primarily energy and food, lead inflation rates to increase all over the world.
- ✓ As of July 2008, inflation rate remained outside the inflation target band in 18 developing countries implementing inflation targeting except Brazil.

**Inflation Target and Inflation Realizations in Countries Implementing Inflation Targeting \***

(year-on-year percentage change, as of July 2008)



\*Among developing countries

\*\*As of August

Source: Central Banks, IFS, TURKSTAT, CBT



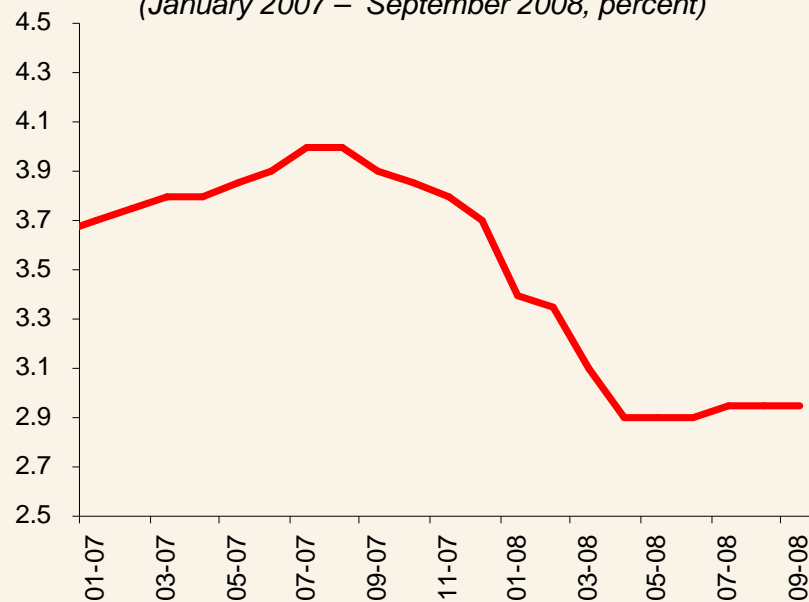


# Inflation and Policy Rates

- ✓ In this period of increasing inflation rates, central banks of the developed countries have attached more importance to financial stability and growth while those of the developing countries have focused on price stability.
- ✓ As a result of this, a tighter monetary policy stance is observed in developing countries.

**Policy Rates\*\* in Developed Countries \***

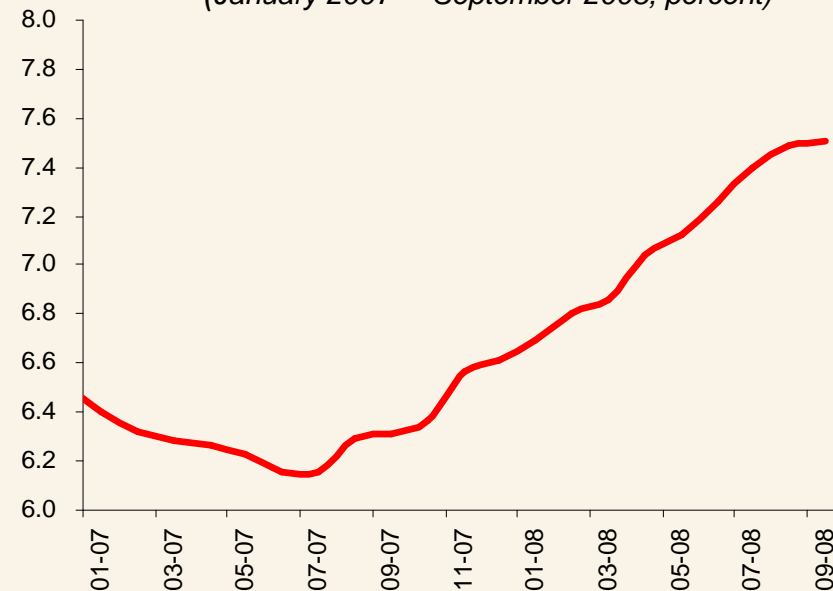
(January 2007 – September 2008, percent)



\* USA, Eurozone, UK, Japan, Canada  
\*\* Simple average  
Source: Central Banks

**Policy Rates in Developing Countries\***

(January 2007 – September 2008, percent)



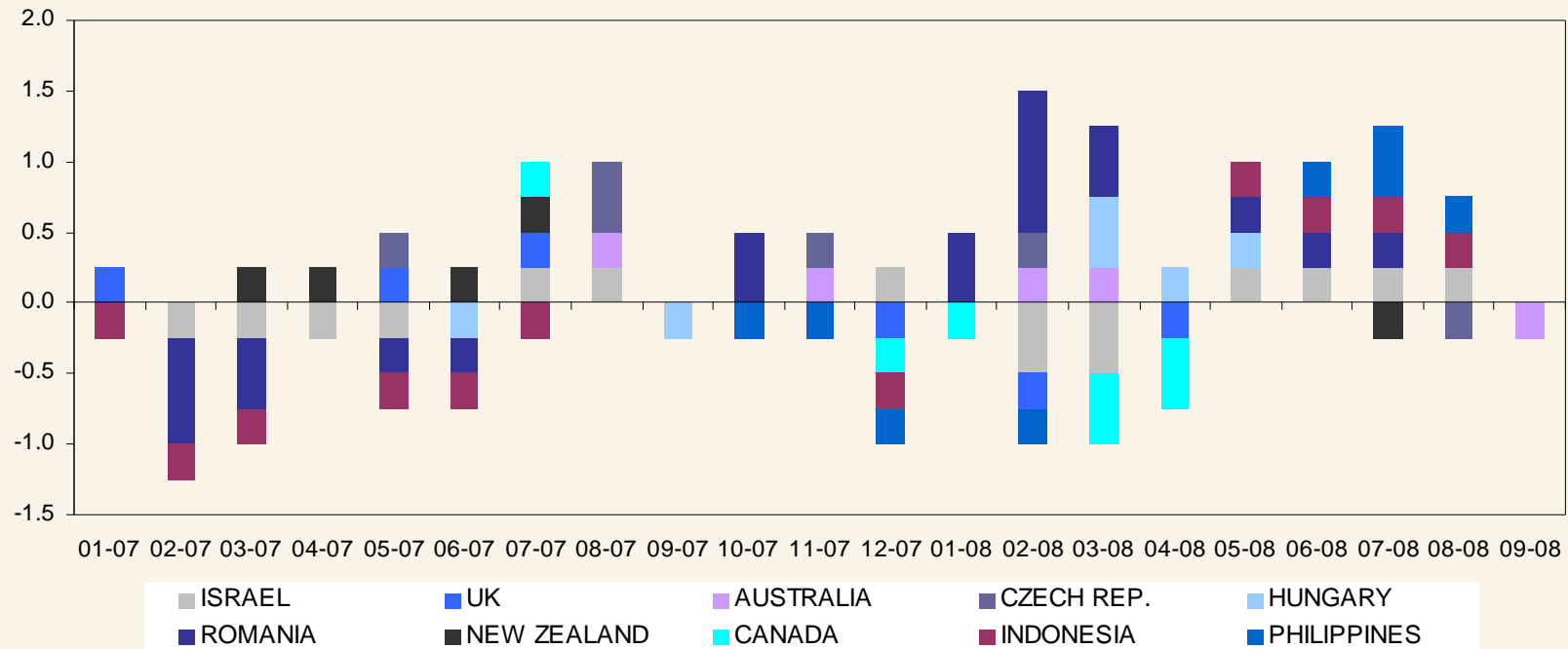
\* Brazil, Czech Republic, China, South Africa, S. Korea, Hungary, Malaysia, Mexico, Poland, Romania, Russia, Chile, Thailand, Taiwan, Ukraine, Israel, India  
\*\* Simple average  
Source: Central Banks



# Policy Rates

- ✓ In this period of high uncertainty, central banks have preferred moves compatible with the current economic conditions and future inflation outlook to a series of policy rate increases or policy rate cuts.

**Policy Rate Changes in Selected Countries**  
(January 2007 – September 2008, m-o-m, basis points)



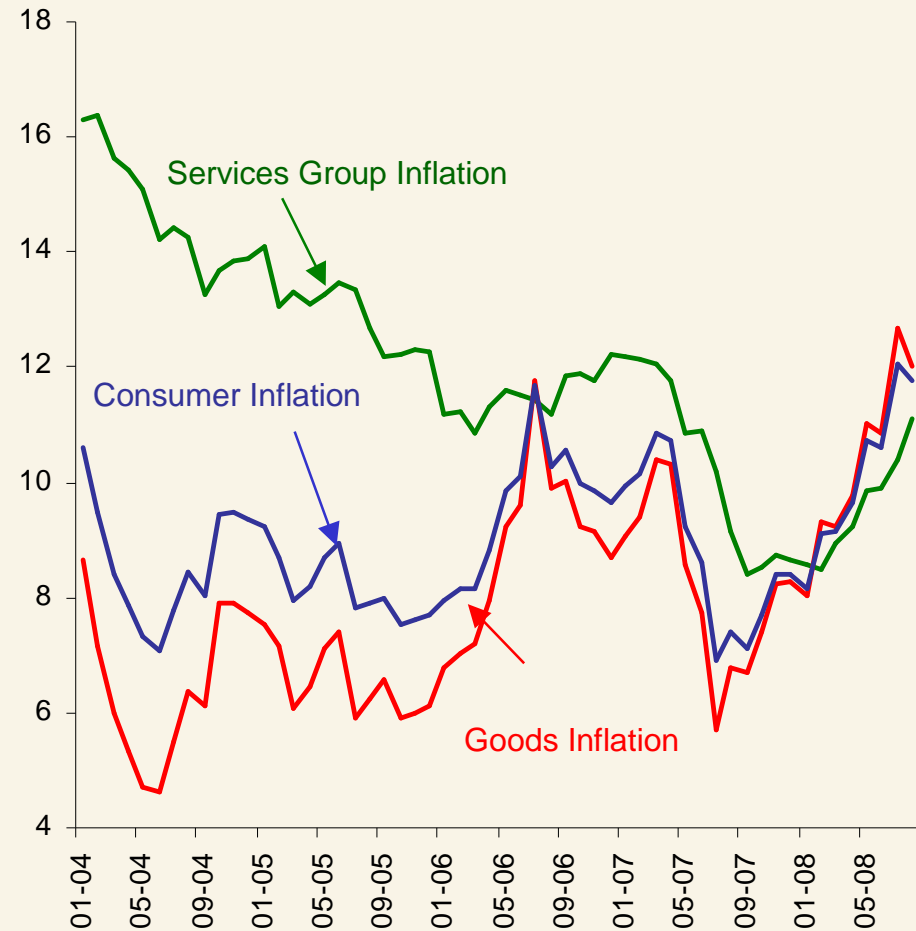
Source: Central Banks



# Inflation Developments in Turkey

- ✓ In the first three quarters of 2007, inflation gradually declined, as projected.
- ✓ In the last quarter of 2007, supply-side shocks such as drought and hikes in energy prices as well as adjustments in administered prices interrupted the slowdown in inflation.
- ✓ Services inflation remaining below goods inflation is a promising development of 2008 as it shows that the rigidity in inflation in this group that has lasted for years is diminishing. However, delayed effects of supply shocks also have adverse impacts on services prices.
- ✓ Goods inflation follows a rather volatile course due to exogenous and supply-side factors.

**Consumer, Services and Goods Inflation**  
(January 2004 – August 2008, annual percentage change)



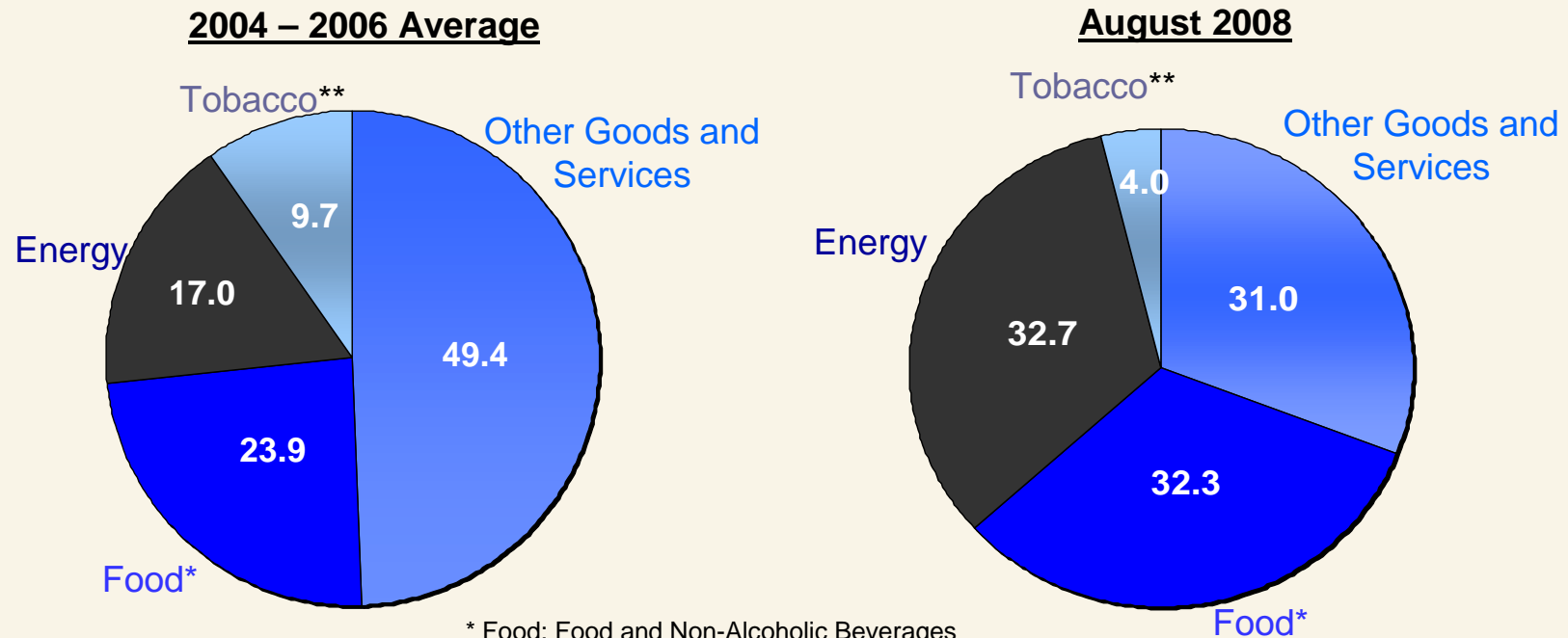
Source: TURKSTAT, CBT



# Inflation Developments in Turkey

- ✓ The items outside the domain of monetary policy such as food prices, energy prices and administered prices contributed to annual inflation by 51% in 2004-2006 period, whereas their contribution rose to 69% in August 2008.

## Components of Annual Inflation (percentage share)



\* Food: Food and Non-Alcoholic Beverages  
\*\* Tobacco: Tobacco Products and Alcoholic Beverages  
Source: TURKSTAT, CBT

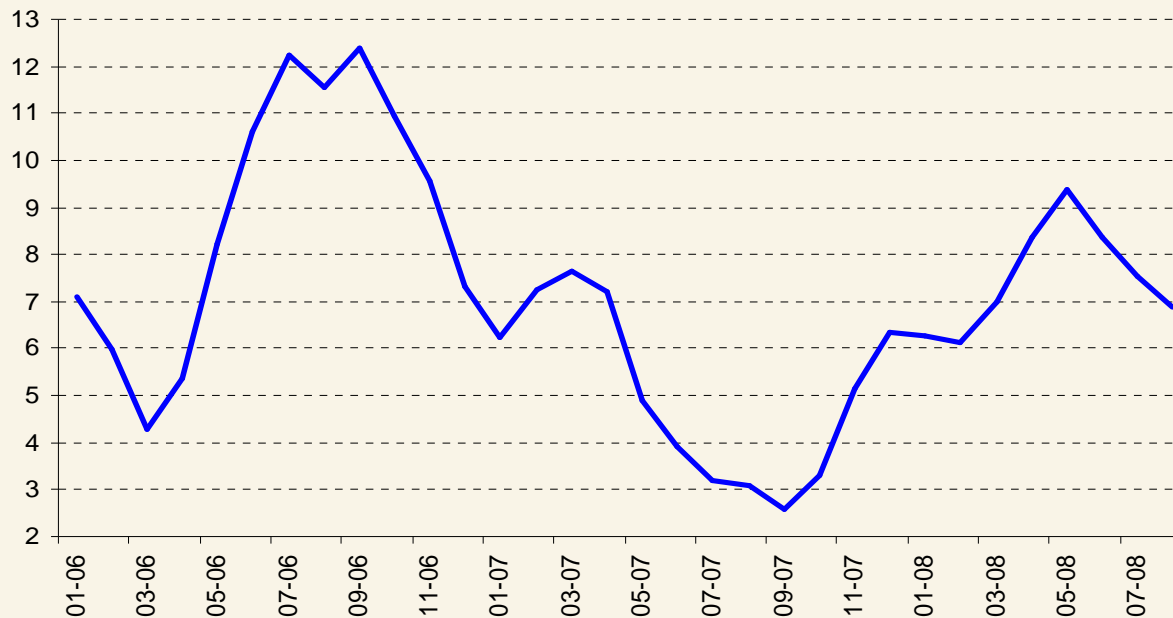


# Inflation – General Trend

- ✓ Seasonally adjusted rate of increase of the I index, which is one of the main core inflation indicators, points to a slowdown in the general trend of inflation.

## ***Inflation Trend***

*(January 2006 – August 2008, percentage change)*



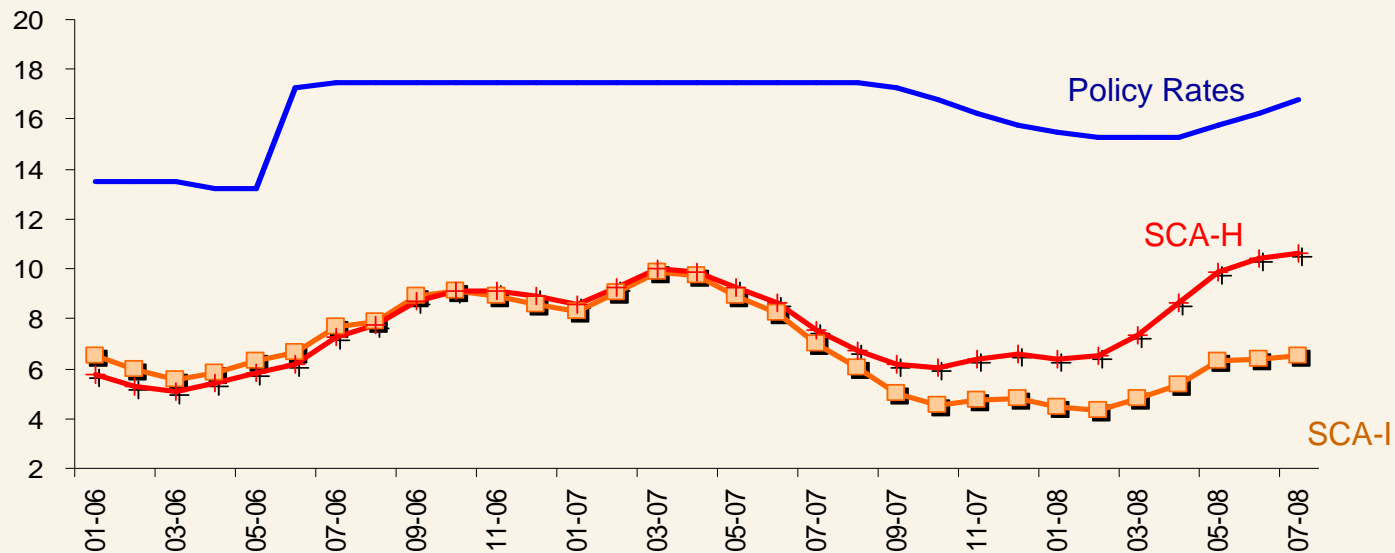
\* Annualized monthly change of the seasonally adjusted SCA-I index (3-month moving average)  
Source: TURKSTAT, CBT



# Monetary Policy Decisions

- ✓ Prolonged supply-side shocks delay the decline in inflation.
- ✓ However, oil prices remaining below the projections in the July inflation Report and the declining trend observed in other commodity prices will have a positive effect on inflation in the upcoming period. In this framework, it is projected that inflation will undergo a trend of gradual decline.
- ✓ The current level of policy interest rates following the monetary tightening since May 2008 continues to support the decline in inflation.

**Policy Rates (simple interest rate) and Core Inflation Indicators**  
(January 2006 – August 2008, percent)



Source: TURKSTAT, CBT



# Inflation Expectations

## Inflation expectations suggests that:

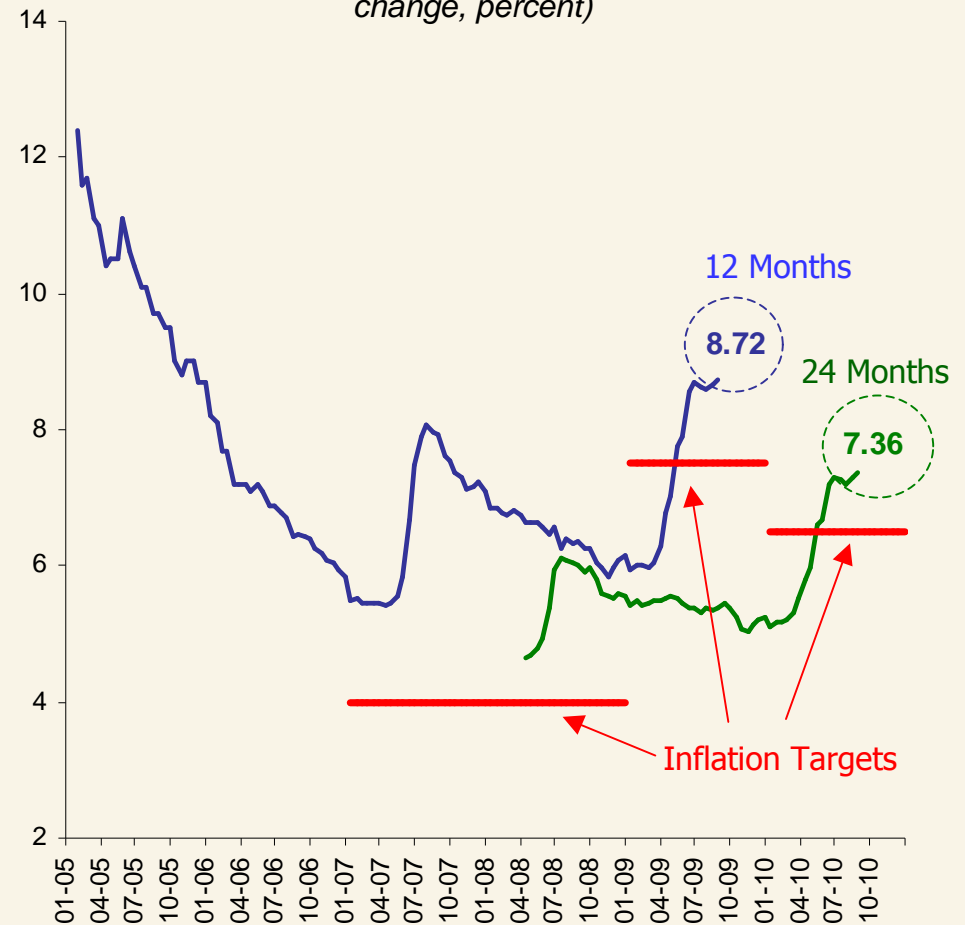
- ✓ The recent deterioration trend has increased risks regarding pricing behavior.
  - Year-end expectations: 11.04 %
  - 12-month expectations: 8.72 %
  - 24-month expectations: 7.36 %

✓ Accumulated impact of the hikes in food and energy prices not only puts delay on the disinflation process but also impedes the improvement in inflation expectations.

✓ Besides, the movements in exchange rates and the deterioration in risk perceptions had an adverse effect on inflation expectations, particularly in the second quarter of the year.

✓ Monetary tightening seem to have stopped the recent deterioration in expectations.

**Inflation Expectations**  
(January 2005 – August 2008, year-on-year change, percent)



Source: CBT, TURKSTAT

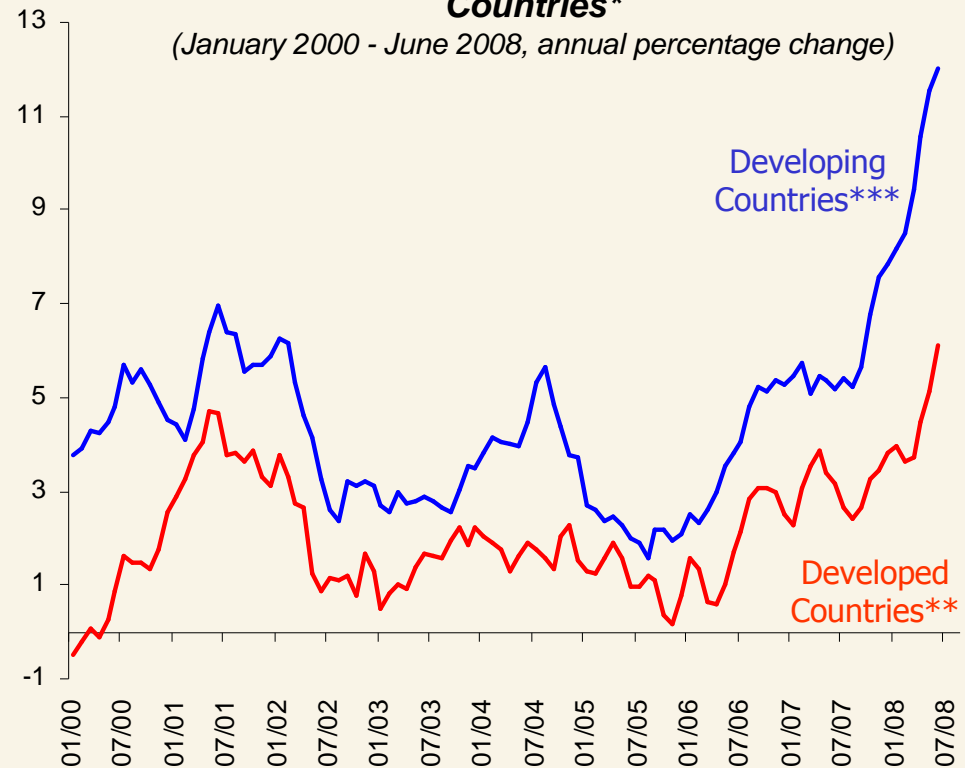


# Food Prices in the World

- ✓ International food prices have increased at high rates in the recent period. Food prices, which displayed a rising trend in 2007, had more severe effects on developing countries compared to developed countries.
- ✓ There are risks regarding the continuation of this trend in food prices in the period ahead.
- ✓ However, there has been a a correction in food prices especially in unprocessed food prices in the recent period.

## Food Prices Inflation in Developed and Developing Countries\*

(January 2000 - June 2008, annual percentage change)



\* Simple average

\*\* Developed Countries : USA, UK, Canada, Japan, EU

\*\*\* Developing Countries : Czech Republic, Hungary, Korea, Mexico, Poland, Slovak Republic, Iceland, South Africa, Thailand, Chile, Columbia

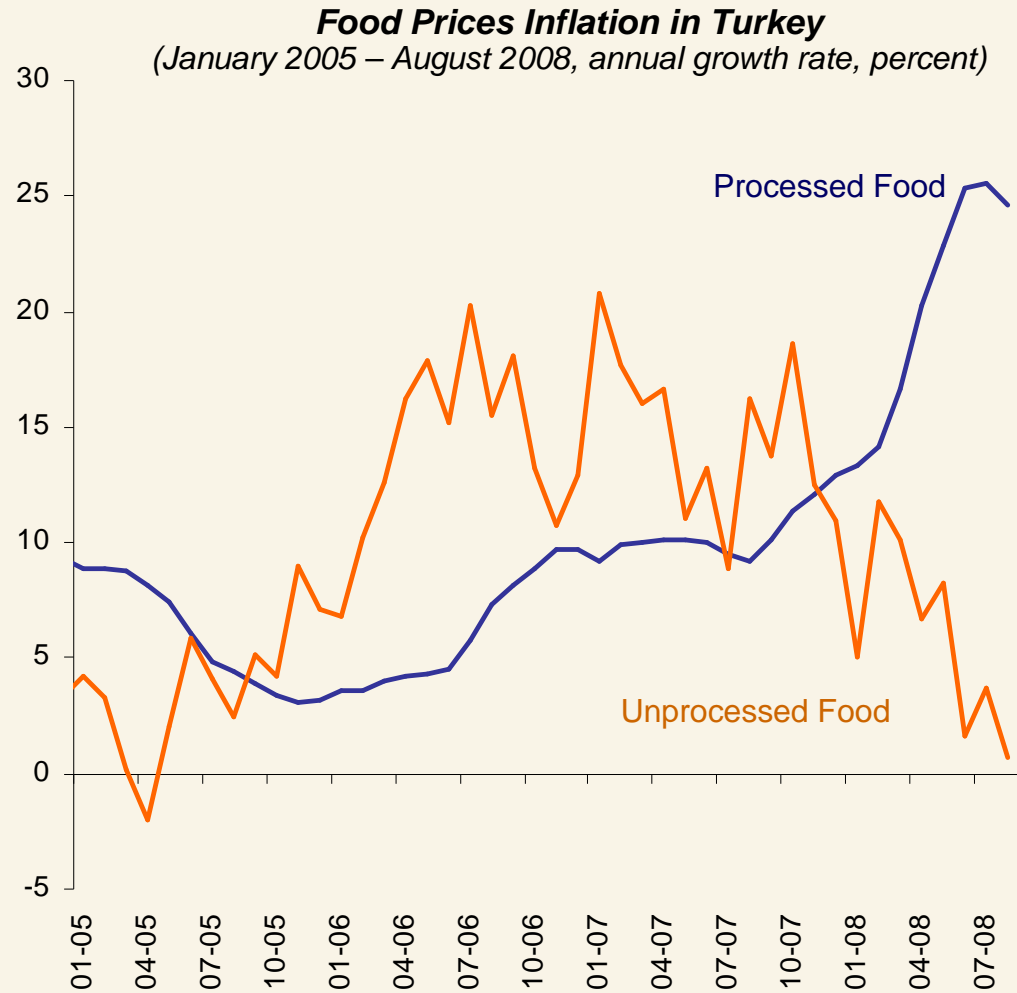
Source: OECD, CBT, Central Banks





# Food Prices in Turkey

✓ It is anticipated that processed food inflation will gradually fall thanks to recent declines in commodity and import prices, while unprocessed food inflation will maintain its current favorable course.



Source: TURKSTAT, CBT

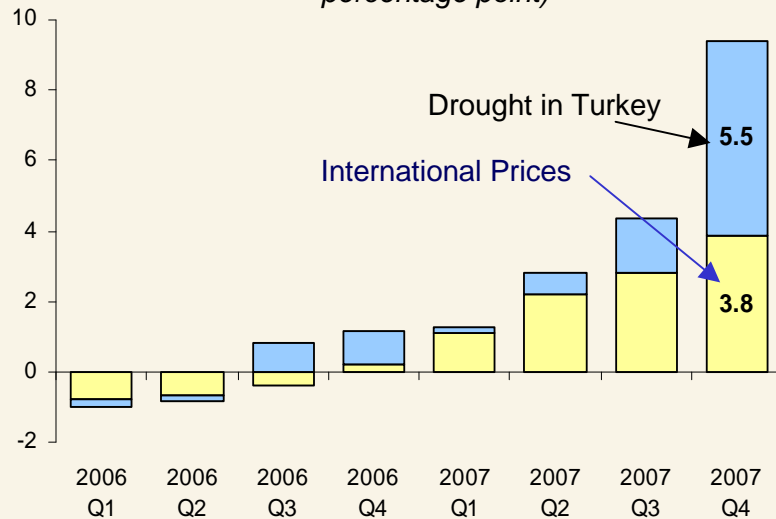


# Food Prices in Turkey

- ✓ Studies conducted in the Central Bank of Turkey reported that around two-third of the annual inflation in processed food prices at end-2007 stemmed from severe drought in Turkey and skyrocketing world food prices.
- ✓ These factors contributed to annual processed food inflation by 9.3 percentage points at end-2007, up from 1.1 percentage points at end-2006 (72 percent of annual inflation in food prices).
- ✓ It was also found that aggregate demand conditions, which relatively lie within the domain of monetary policy, had a negligible contribution to processed food inflation.

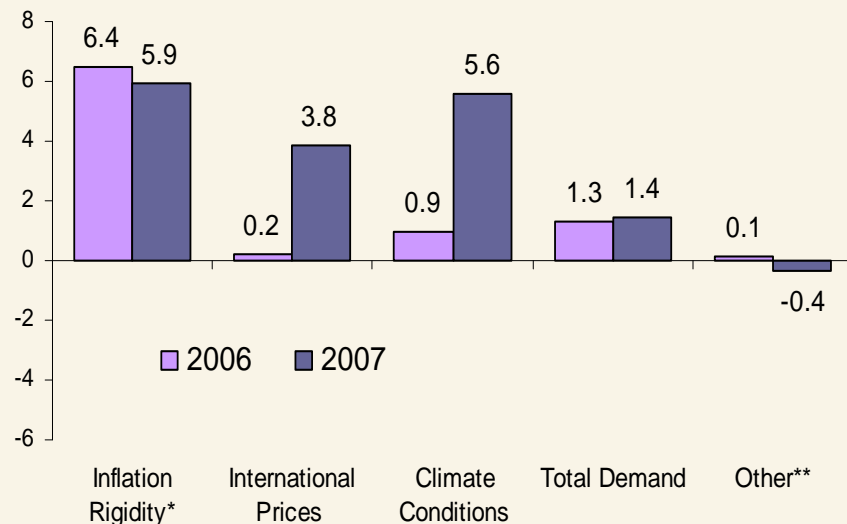
## Contribution to Processed Food Group Inflation

(Contribution to annual inflation, 2006 Q1 – 2007 Q4, percentage point)



## Determinants of Processed Food Group Inflation

(Contribution to annual inflation, 2006 and 2007, percentage point)



\* The variable defined as inflation rigidity refers to the total effect of adaptive expectations and all other factors outside the scope of the model used.

\*\*Other: Exchange rate, energy prices and other domestic costs.

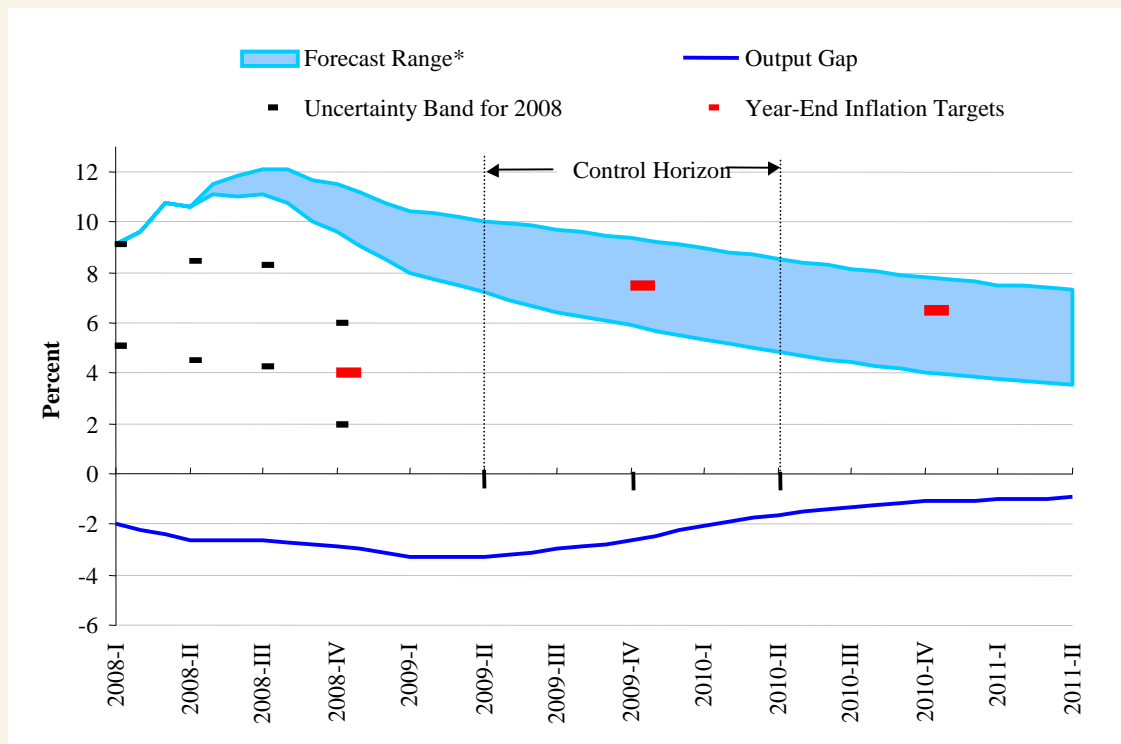
Source: CBT



# Inflation Outlook

- ✓ Inflation targets for 2009, 2010 and 2011 have been set at 7.5 %, 6.5 % and 5.5 % respectively.
- ✓ It was stated in the July Inflation Report that the above-given revised targets are attainable.

## *Inflation and Output Gap Forecasts*



Source CBT

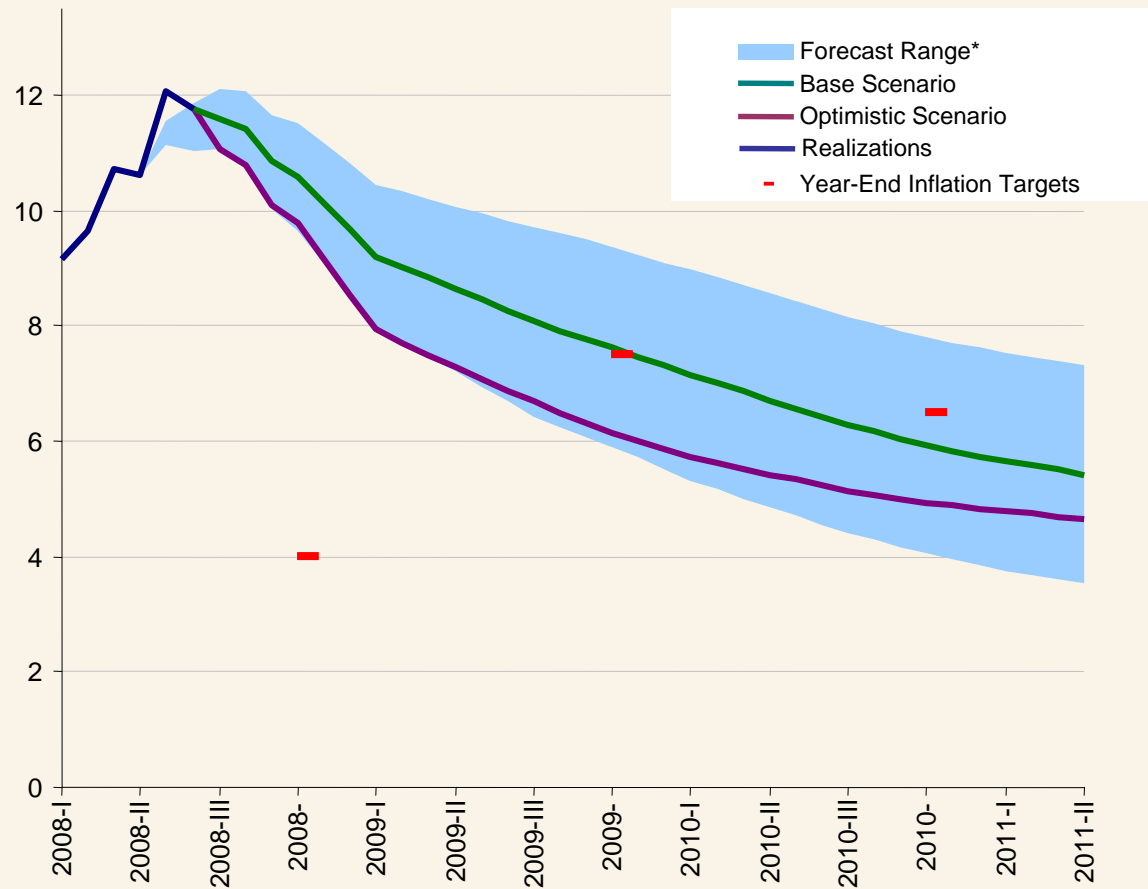


# Monetary Policy Stance

✓ Correction in commodity prices and the current inflation outlook suggest that inflation may follow a course close to the optimistic scenario presented in the Inflation Report of July 2008.

✓ According to this scenario, assuming that policy rates stay constant for a while and gradually ease thereafter, inflation will have fallen to single-digit figures by the end of this year, 6.1 percent at the end of 2009 around 4.9 percent at the end of 2010.

**Base Scenario and Optimistic Scenario for Inflation Outlook**  
(January 2008 – September 2008, percent)



Source: CBT



# Monetary Policy Stance

- ✓ Prevailing risks regarding the price setting behavior and ongoing global uncertainties require monetary policy to remain cautious and to be more data dependent.
- ✓ Future decisions on policy rates will depend on developments in global markets, external demand, fiscal policy implementation and other factors affecting the medium term inflation outlook.
- ✓ The Monetary Policy Committee, which decided to end its monetary tightening bias in its previous meeting, will consider all policy options including a measured rate-cut cycle starting from September, as a manifestation of its being data dependent.
- ✓ Maintaining a cautious monetary policy stance in the current environment of high global uncertainty requires interest rate decisions to be moderate and made in the light of new developments in each individual meeting, rather than following a series of policy rate hikes or policy rate cuts.
- ✓ Data dependency in monetary policy is a natural outcome of the inflation targeting regime. It should be emphasized that any new data or information related to the inflation outlook will lead the Central Bank to revise its stance.



## IV. Markets



# Determinants of Market Interest Rates

- ✓ Nominal market interest rates are determined by two variables:

$$\text{Nominal Interest Rate} = \text{Real Interest Rate} + \text{Inflation Compensation}$$

- ✓ Real interest rate is determined in the long run by real variables such as the marginal efficiency of capital and the propensity to save as well as by the credit risk premium.
- ✓ Inflation compensation, which is the sum of inflation expectations and the risk premium emanating from inflation uncertainty, will be lower in an environment where price stability has been achieved.
- ✓ *A fall in both inflation expectations and the risk premium leads to a decline in nominal interest rates.*

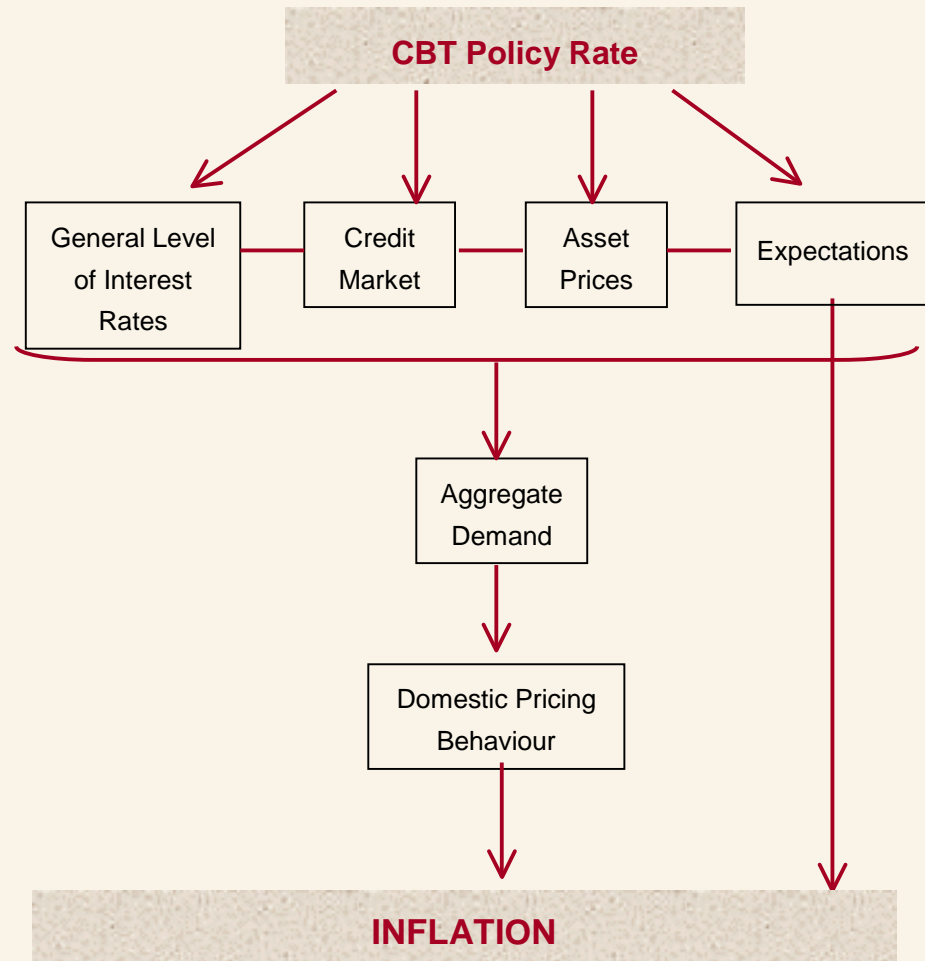


# Determinants of Policy Rates

**Policy rates are determined so as to facilitate the coherence of inflation outlook with medium-term targets.**

- ✓ The aim is to control total demand via the transmission mechanism with the aid of the signalling effect created by policy rates and to reach inflation targets by steering expectations.
- ✓ This effect occurs with a time lag and its power enables the achievement of results expected from policies in the envisaged time and manner.
- ✓ In general, the impact of this relationship depends on the structural characteristics of the economy, effectiveness of financial markets and the areas of uncertainty.

*A Simplified Transmission Mechanism*





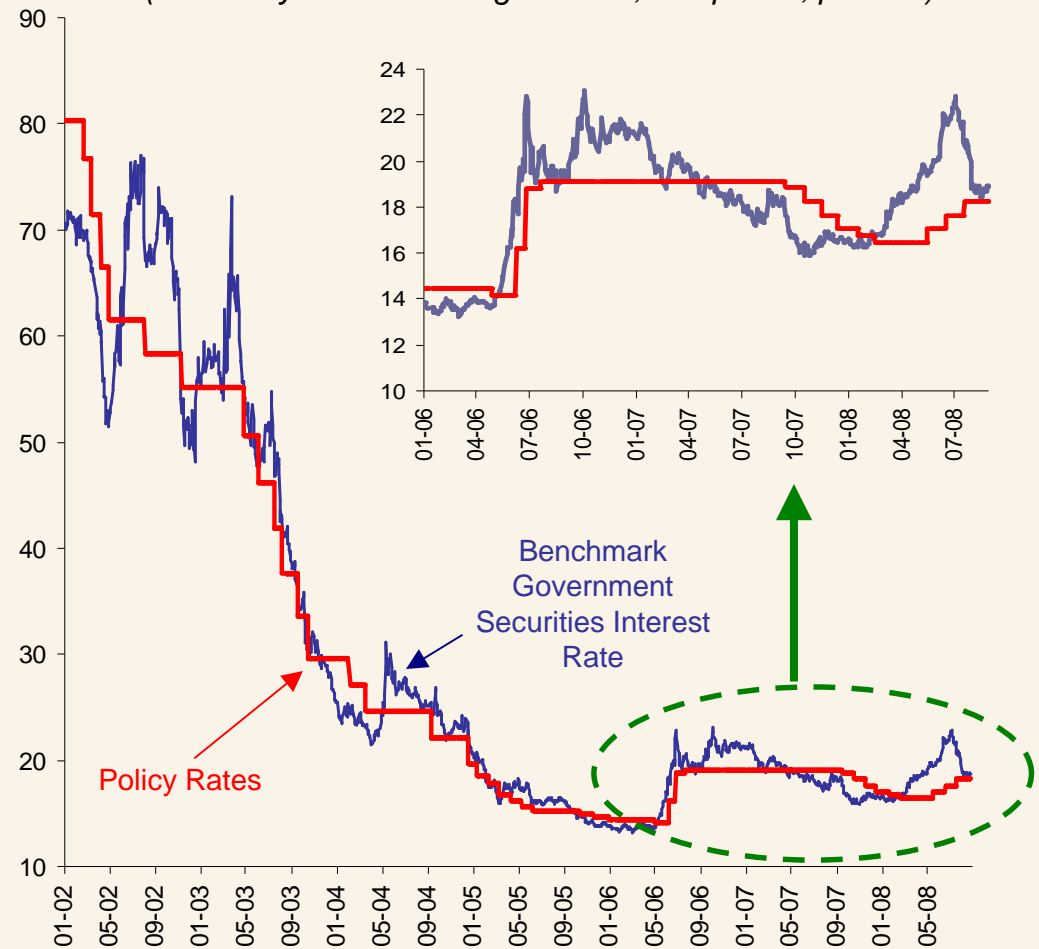


# Interest Rate Developments

- ✓ Coupled with the increasing risk premium, inflation expectations which deteriorated due to supply-side shocks in food and energy prices in the first half of 2008, led to a rise in the general level of interest rates.
- ✓ Market interest rates re-entered a downward trend starting from July, due to tightening in monetary policy, improved inflation outlook and reduced risk premium.
- ✓ In line with the progress in macroeconomic stability since 2002, nominal and real interest rates have declined significantly.

## CBT Short-Term Interest Rates and Benchmark Government Securities Interest Rate

(2 January 2002 – 29 August 2008, compound, percent)



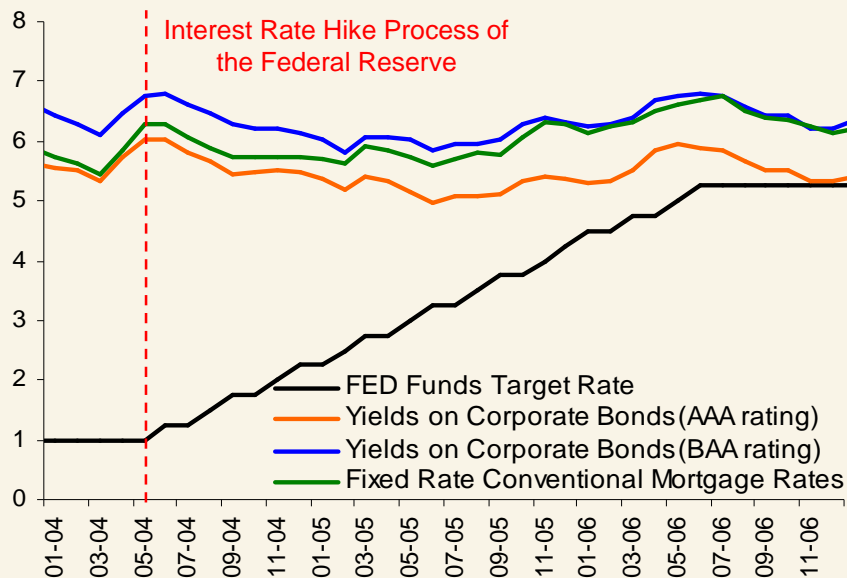
Source: Undersecretariat of Treasury, CBT



# Policy Rates-Market Interest Rates Relationship

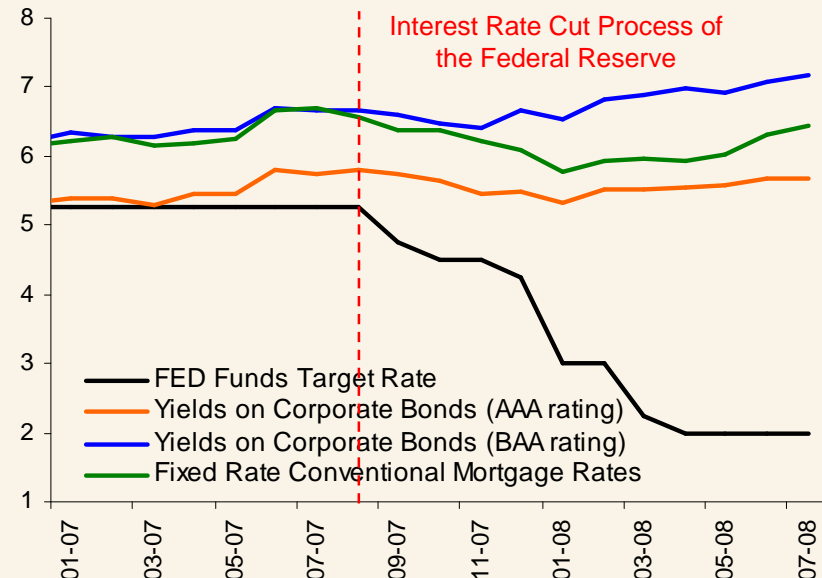
- ✓ As the main determinants of market interest rates differ from those of policy rates, they cannot be expected to move in tandem.
- ✓ For instance, despite the monetary loosening being implemented by the Federal Reserve since September 2007, the interest rates of housing and commercial loans maintained their upward trend, chiefly owing to the deterioration in risk perceptions.
- ✓ Whereas, during the period of 2004-2006, the increase of policy rates by the Federal Reserve did not have an impact on market interest rates.

**Interest Rates in the US Economy**  
(January 2004 – December 2006, percent)



Source: FED

**Interest Rates in the US Economy**  
(January 2007 – July 2008, percent)



Source: FED

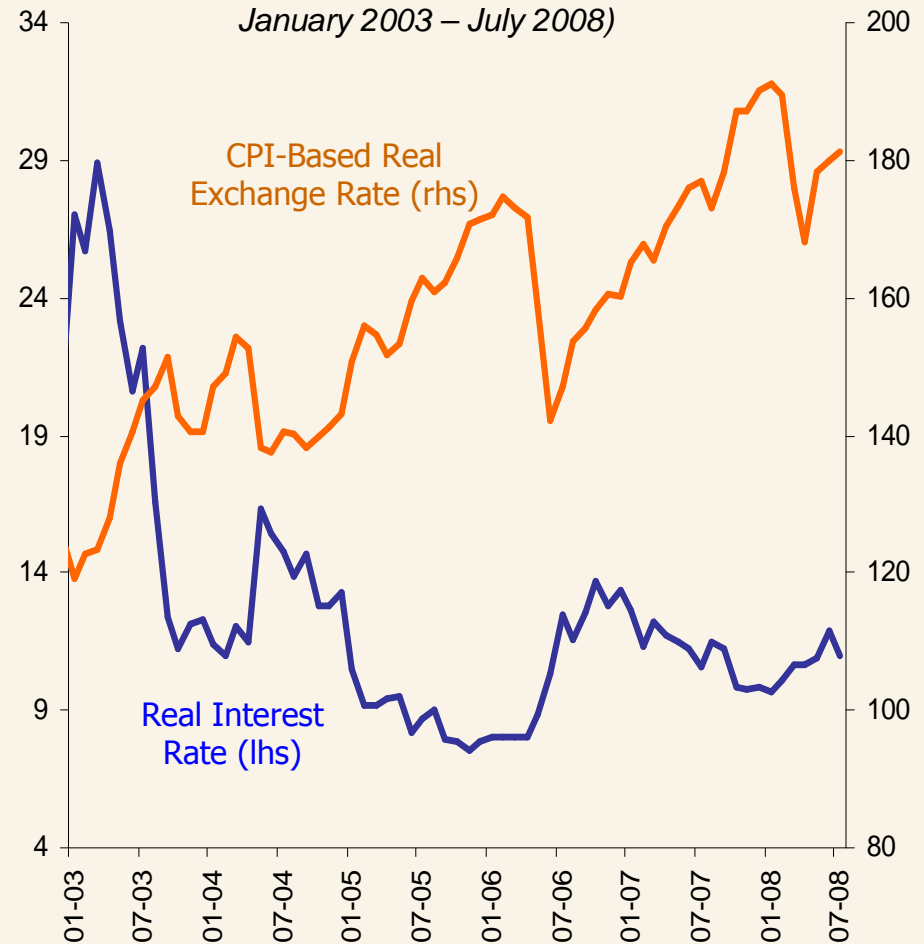


# Exchange Rate-Interest Rate Relationship

- ✓ The level of exchange rates is set under market conditions and reflects all economic and political policy implementations as well as expectations.
- ✓ Interest rates are not the only determinant of exchange rates. The post-2001 period shows that real interest rates and the value of the Turkish currency have moved in opposite directions.
- ✓ The course of the risk premium of the Turkish economy was the main determinant of this movement. With the declining risk premium in the post-2002 period, real interest rates dropped and the Turkish currency began to appreciate.

✓ The Central Bank has no such policy of “*high interest rate - low exchange rate*”. The value of the Turkish currency is not an objective, but a consequence. The Central Bank follows “*the interest rate policy needed for low inflation*”.

**Real Borrowing Interest Rate (percent)  
and Real Exchange Rate (CPI-based,  
January 2003 – July 2008)**



\* Calculated by the borrowing interest rates of the government domestic borrowing auctions and the 12-month inflation forecasts of the Expectations Survey.

Source: CBT, Undersecretariat of Treasury.



# V. Economic Outlook

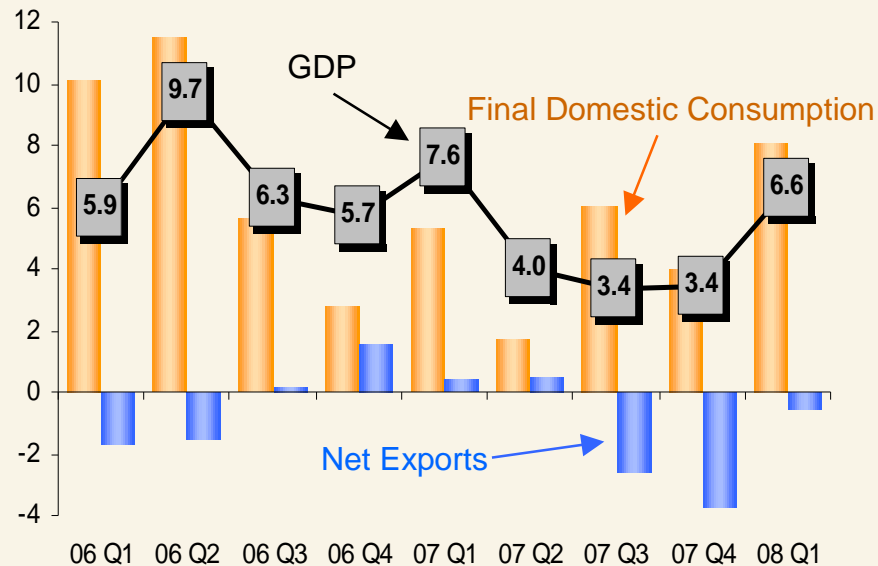


# Economic Growth

- ✓ In the first quarter of 2008, the gross domestic product increased by 6.6 percent compared to the same period of the previous year.
- ✓ On the production side, largest contribution to economic growth came from services and industry sectors while the contribution of agriculture and construction remained limited. On the expenditures side, it is seen that the growth was driven by the private sector demand. However, with the acceleration in exports, the negative contribution of the net foreign demand to growth remained more limited compared to the previous two quarters.

## Growth Components

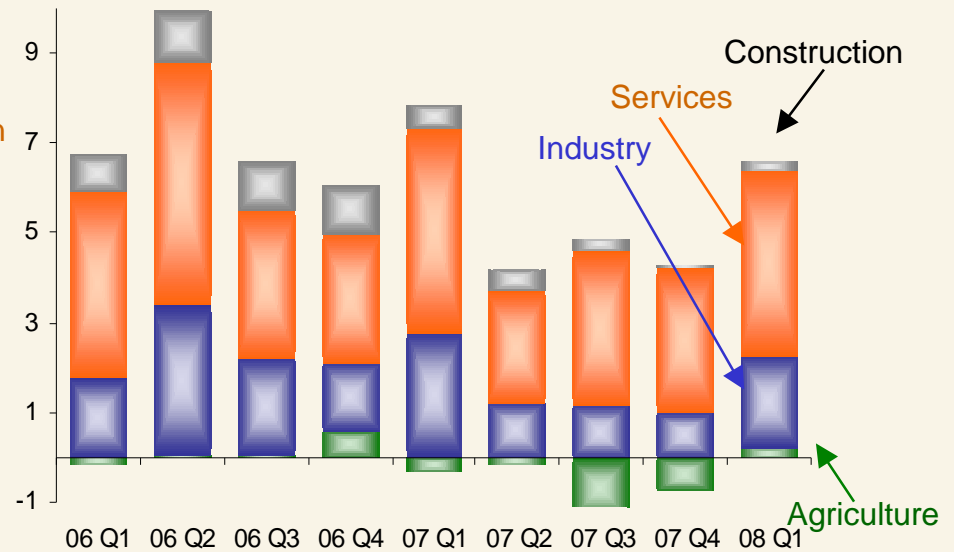
(2006 Q1 – 2008 Q1, year-on-year contribution, percent)



Source: TURKSTAT

## Growth Components

(2006 Q1 – 2008 Q1, year-on-year contribution, percent)



Source: TURKSTAT

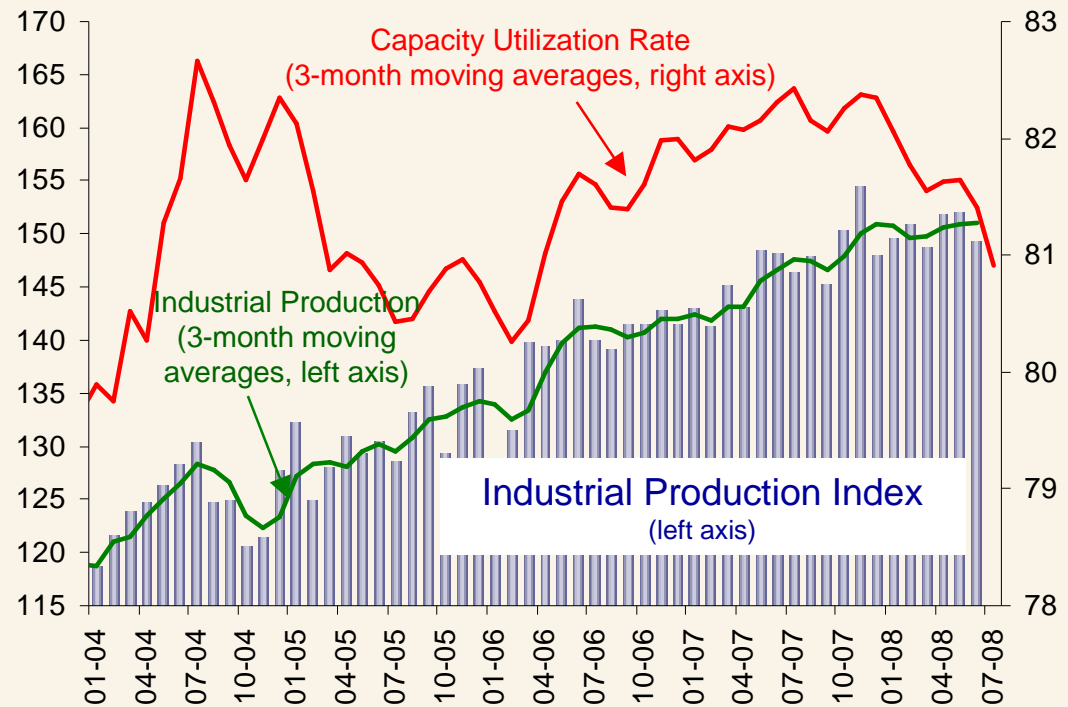


# Production

- ✓ Recent data indicate that economic activity has continued to slow down.
- ✓ It is expected that ongoing problems in international credit markets and the global economy will continue to restrain the aggregate demand, whereas the easing domestic uncertainties will support domestic demand.

- ✓ Seasonally adjusted data indicate that industrial production displayed a flat course in the first half of the year.
- ✓ Capacity utilization rate has displayed a slight decline recently.

**Industrial Production Index\* and Capacity Utilization Rate\***  
(January 2004 – July 2008, percent)



\* Seasonally adjusted  
Source: TURKSTAT, CBT

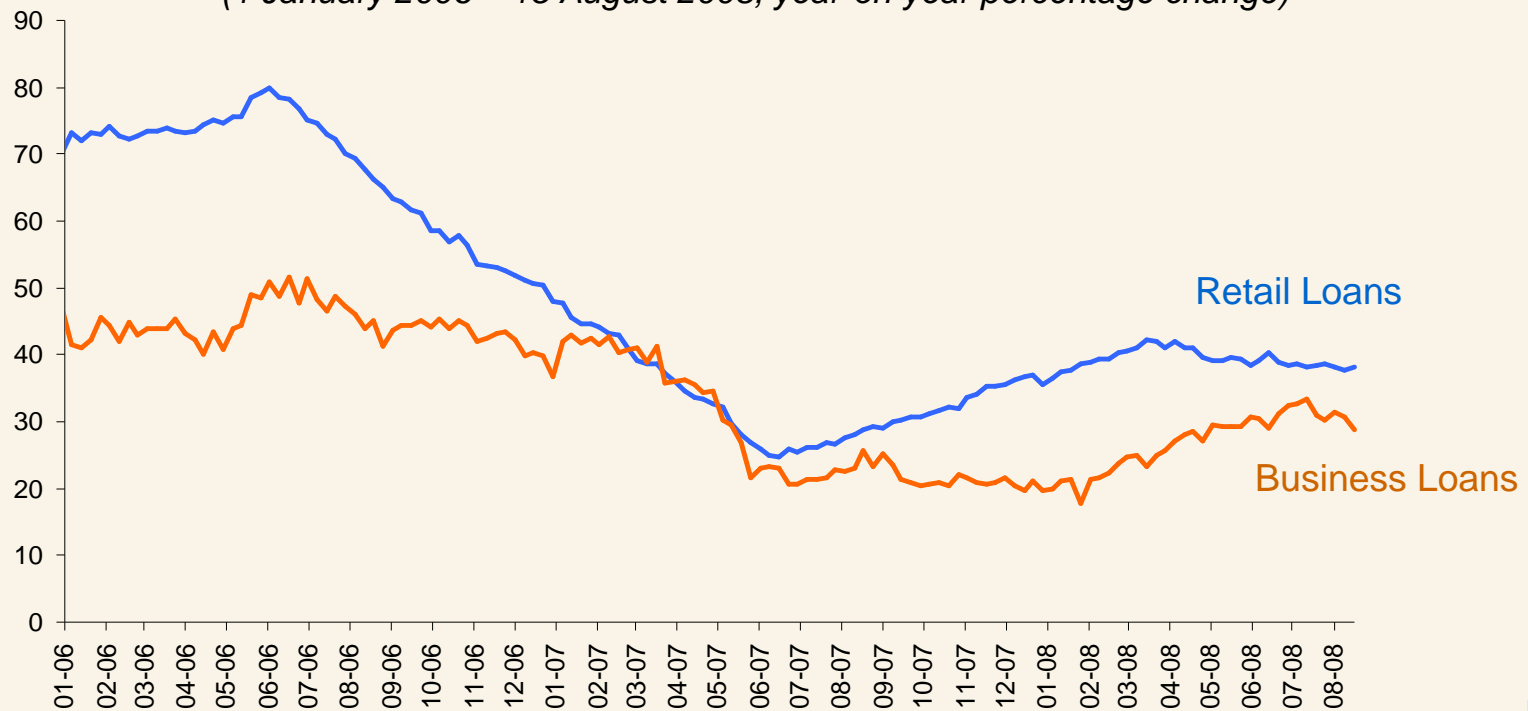


# Domestic Demand

- ✓ Leading indicators suggest that domestic demand in the second quarter has been weaker than the first quarter. Consumer confidence indices stayed at lower levels than the first quarter and the real consumer loan utilization have further slowed down.

## ***Business Loans and Retail Loans***

*(1 January 2006 – 15 August 2008, year-on-year percentage change)*



Source: CBT



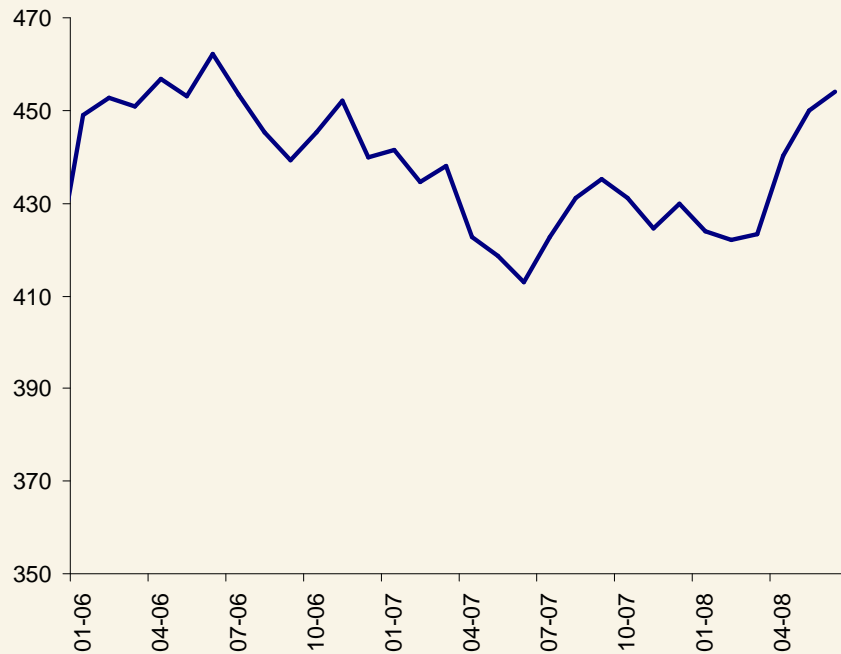


# Domestic Demand

- ✓ The seasonally adjusted consumption indices, domestic sales of automobiles and imports of consumer goods went down during January-June 2008. In contrast, domestic sales of white goods recovered in the second quarter, although the sectoral production remained flat.

## Domestic White Goods Sales

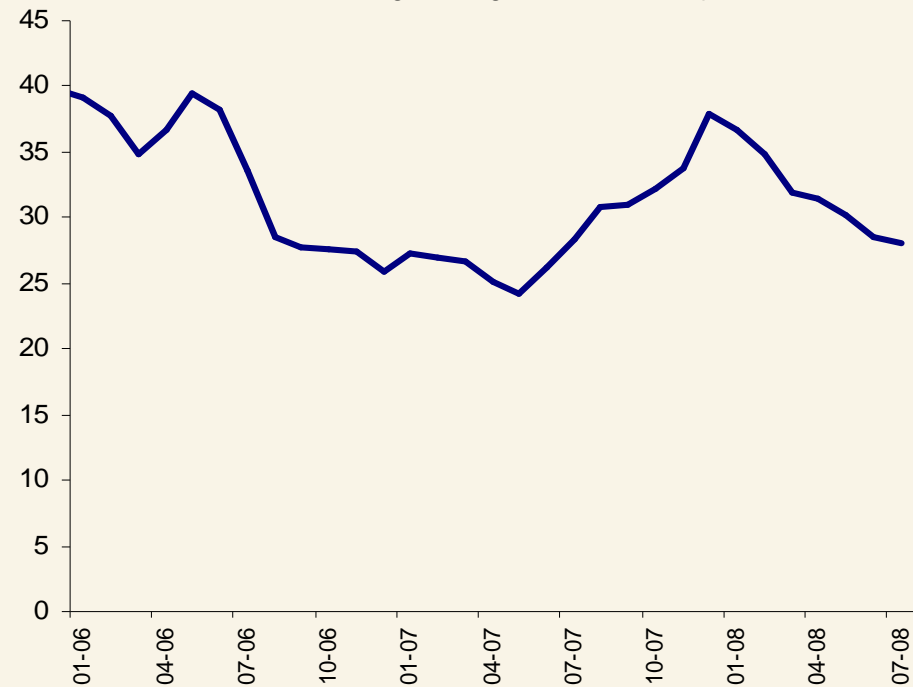
(January 2006 – June 2008, seasonally adjusted, 3-month moving average, in thousands)



\* June 2008  
Source: WGMA, CBT

## Domestic Auto Sales

(January 2006 – July 2008, seasonally adjusted, 3-month moving average, in thousands)



\* July 2008  
Source: OSD-AMA, CBT



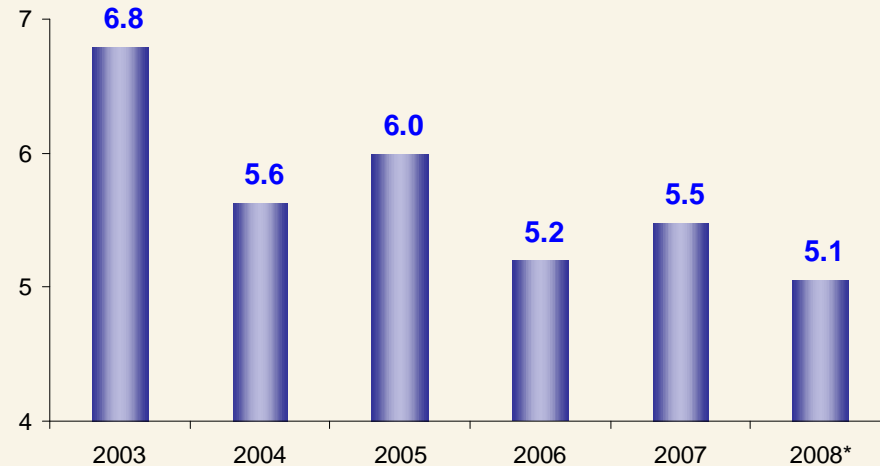


# Commercial Activities

- ✓ Parallel to the economic activities that gained pace between 2002 and 2007, the number of bad checks increased in line with the number of bank checks used.
- ✓ The ratio of the amount of bad checks to the total checks submitted to the clearing house, which was 6.8% in 2003, declined to 5.5% in 2007. This ratio stood at 5.1% in the first 7 months of 2008.

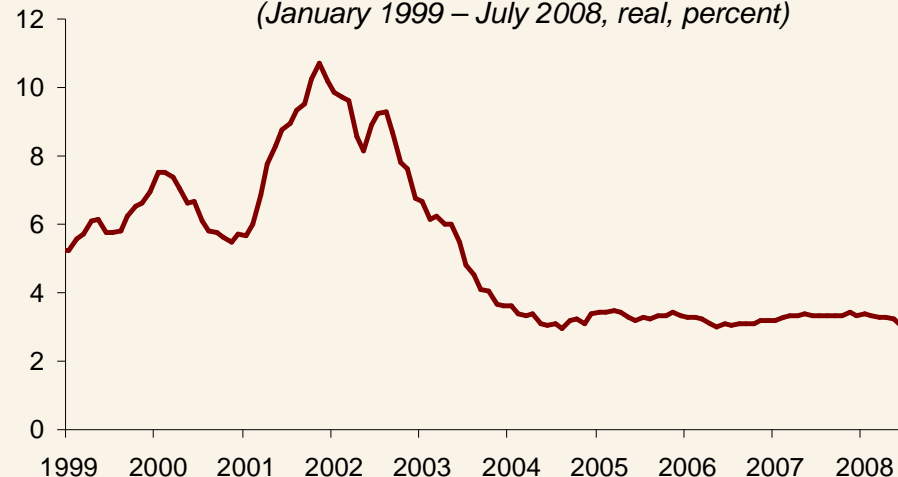
- ✓ Likewise, the ratio of protested bills to commercial loans (an indicator of commercial activities) declined to 3.0% in July 2008 after reaching 11% in 2002. This ratio has been flat since 2004.

**Ratio of Bad Checks to the Total Amount of Checks Submitted to the Clearing House (2003-2008\*, percent)**



\* January-July average  
Source: CBT, ICHC

**Ratio of the Amount of Protested Bills to (12-month rolling sum, real) Total Commercial Loans (January 1999 – July 2008, real, percent)**



Source: CBT



# Employment

- ✓ Although labor market indicators exhibit signs of a limited recovery in the first quarter of 2008, they also show that the slowdown especially in services sector continue.
- ✓ Unemployment and non-agricultural unemployment rates in May 2008 remained unchanged compared to May 2007 at 8.9% and 11.5%, respectively.
- ✓ In the same period, the number of employees in the agricultural sector displayed a decline of 8 thousand, whereas this figure for non-agricultural sectors increased by 442 thousand.

## Unemployment and Non-Agricultural Unemployment Rates

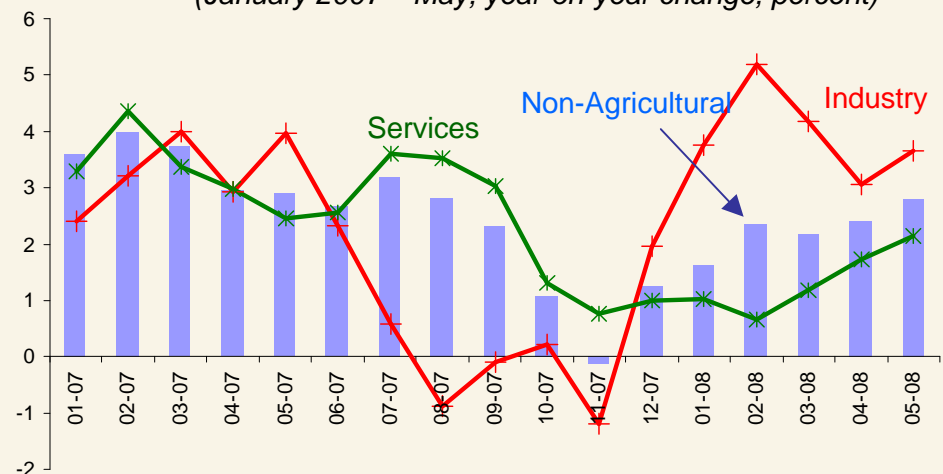
(2000 Q4 – 2008 Q2, 12-month moving average, percent)



\* As of May 2008  
Source: TURKSTAT, CBT

## Changes in Sectoral Employment

(January 2007 – May, year-on-year change, percent)



Source: TURKSTAT, CBT



# Foreign Trade

The openness of the Turkish economy has increased since 2001 and foreign trade has posted high growth rates.



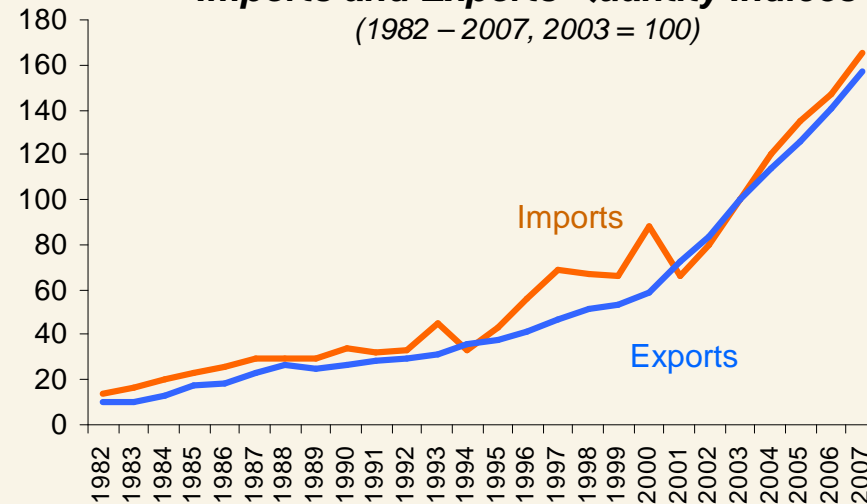
✓ According to quantity indices adjusted for exchange rate and price movements, real exports and real imports have grown in parallel to each other, contrary to the 1995-2000 period.

✓ As of July 2008 exports posted a 34.0% increase over the last 12 months, while that of imports stood at 32.3%.

✓ The expected slowdown in developed economies poses a downside risk for the export performance in the upcoming period.

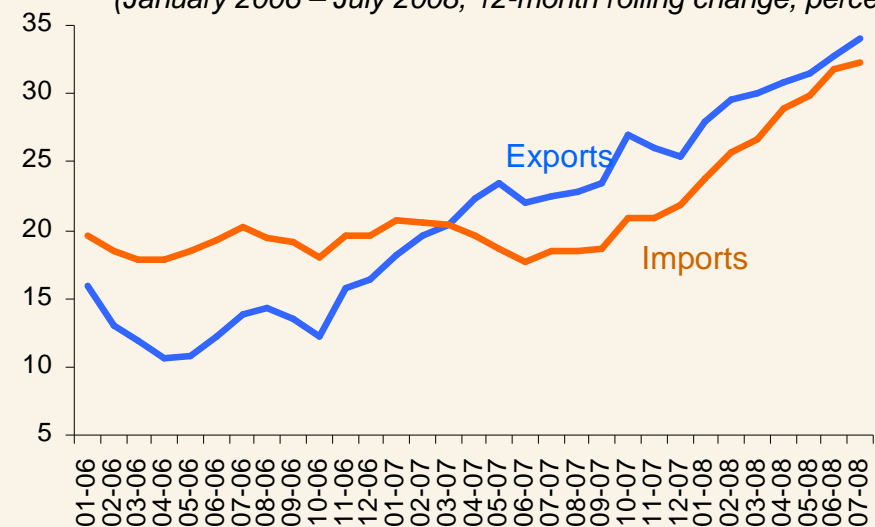
### Imports and Exports Quantity Indices

(1982 – 2007, 2003 = 100)



### Imports and Exports

(January 2006 – July 2008, 12-month rolling change, percent)



Source: TURKSTAT



# Public Finance

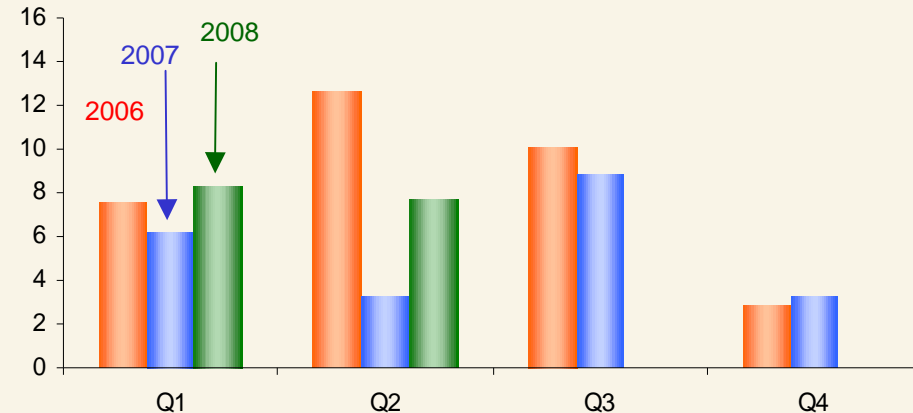
In the first half of 2008, budget realizations were more favorable compared to the previous year.



✓ According to program-defined Central Government budget accounts, primary surplus stood at YTL 7.6 billion in the second quarter of 2008.

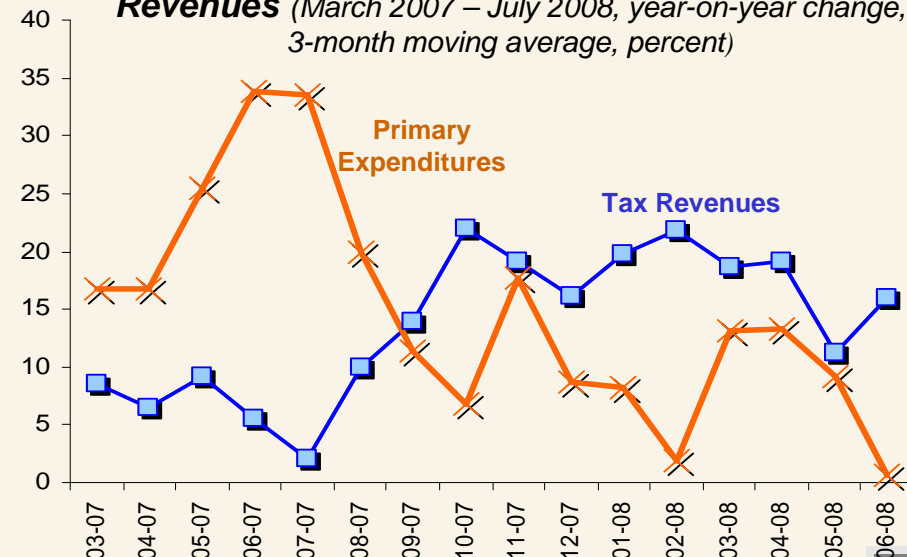
✓ Quarterly rate of cumulative increase in tax revenues has outpaced that of the primary expenditures since the last quarter of 2007.

**Central Government Primary Balance** (Program defined, 3-month total, 2006 Q1- 2008 Q2, YTL billion)



Source: Undersecretariat of Treasury

**General Budget Primary Expenditures and Tax Revenues** (March 2007 – July 2008, year-on-year change, 3-month moving average, percent)



Source: Ministry of Finance



# CENTRAL BANK OF THE REPUBLIC OF TURKEY

**Durmuş YILMAZ**  
Governor

**4 September 2008**