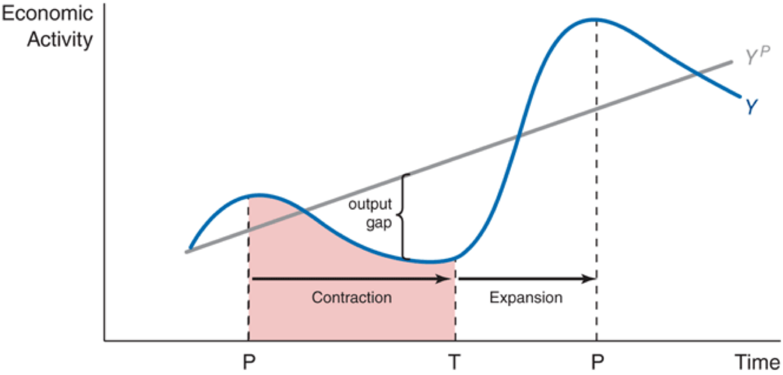
Business Cycles

Bilgin Bari

1. Business Cycles
   - Explaning Business Cycles
   - Analyzing Business Cycles

What is Business Cycles

...is short-run fluctuations in output and employment (or overall economy)



Characteristics of Business Cycles I

Overall economy

Business cycles are fluctuations of aggregate economic activity, not a specific variable.

But real GDP closely measures aggregate economic activity.

Expansions and contractions

There are expansions and contractions in the economy.

Recession: economic activity falls
If the recession is severe, it's called 'depression'.

Expansion: economic activity grows

Characteristics of Business Cycles II

Comovement

Economic variables show comovement.
They have regular and predictable patterns of behavior over the course of the business cycle.

Recurrent but not periodic

The business cycle is recurrent, but not periodic.
Recurrent means the pattern of contraction–trough–expansion–peak occurs again and again.

Persistence

Declines are followed by further declines; growth is followed by more growth.

The Cyclical Behaviour of Economic Variables

Direction of economic variables

- Procyclical: in the same direction
- Countercyclical: in the opposite direction
- Acyclical: with no clear pattern

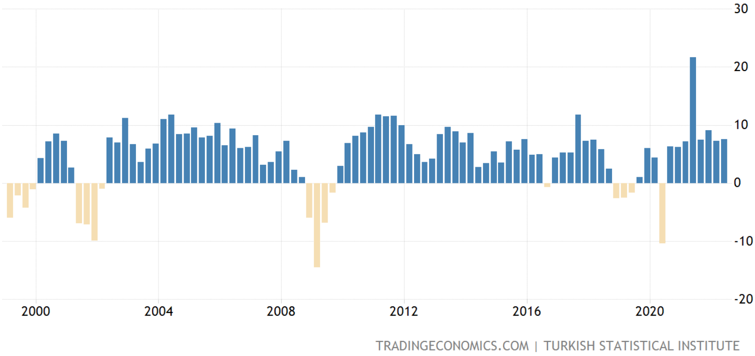
Timing of economic variable

- Leading: in advance
- Coincident: at the same time
- Lagging: after

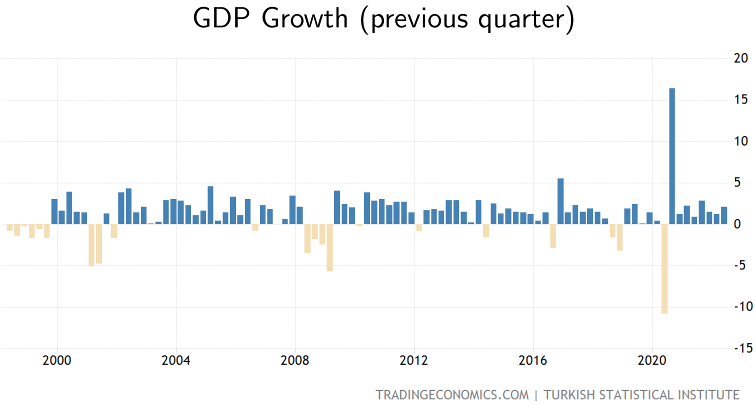
Data for Business Cycles I

Data for Business Cycles II

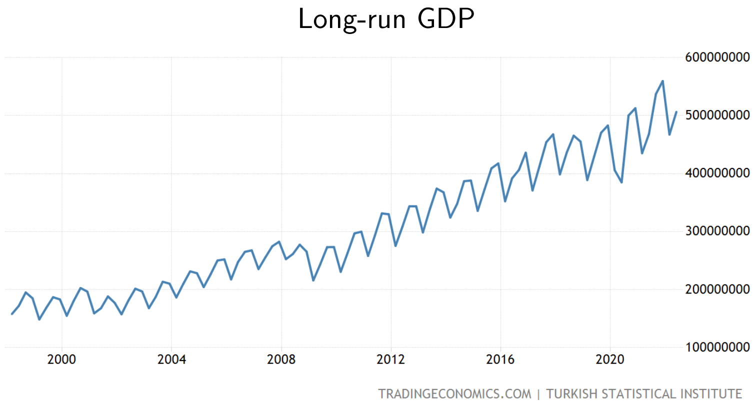
GDP Growth (quarterly)



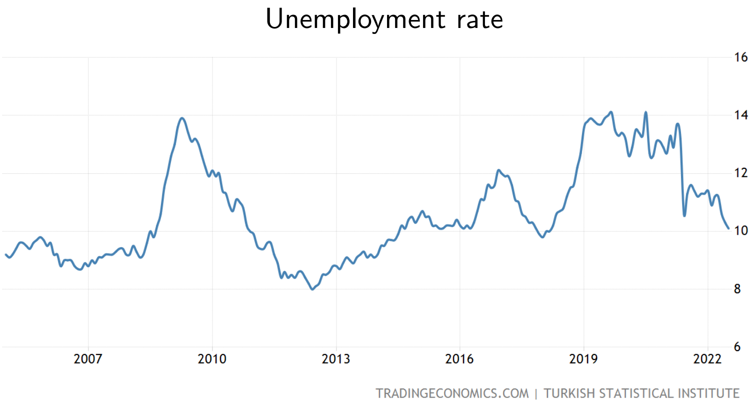
Data for Business Cycles III



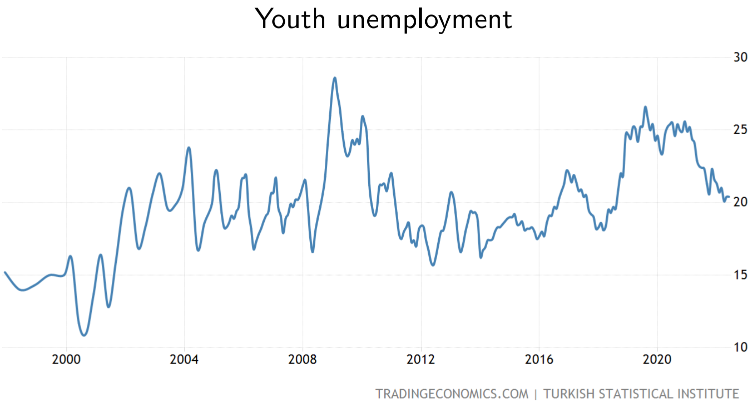
Data for Business Cycles IV



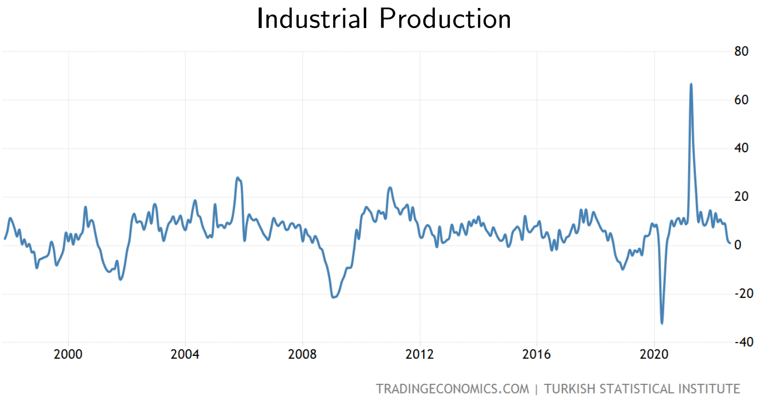
Data for Business Cycles V



Data for Business Cycles VI

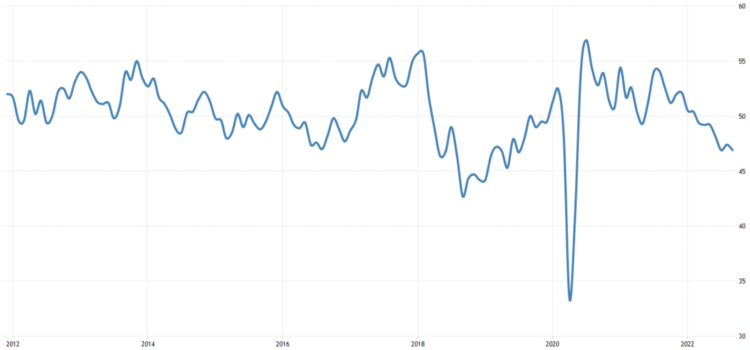


Data for Business Cycles VII

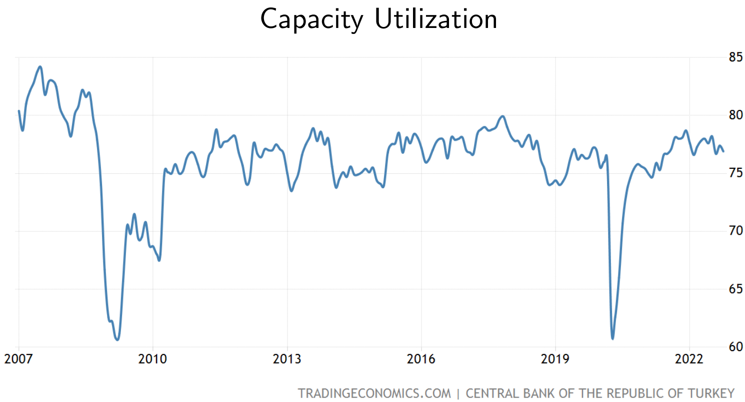


Data for Business Cycles VIII

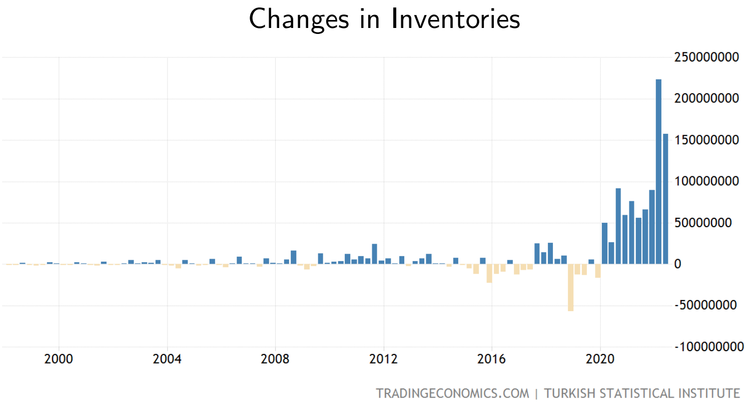
The Manufacturing Purchasing Managers Index



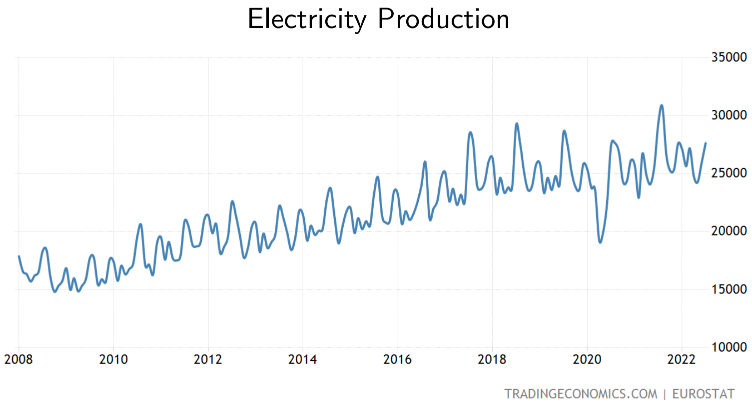
Data for Business Cycles IX



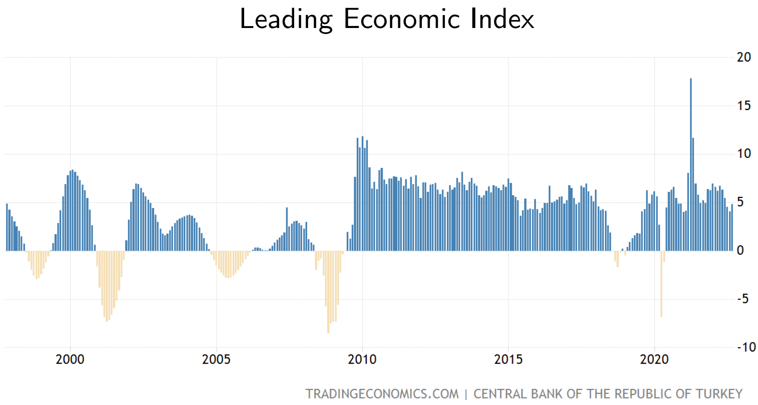
Data for Business Cycles X



Data for Business Cycles XI



Data for Business Cycles XII



Data for Business Cycles XIII

The Composite Leading Indicator predicts fluctuations in economic activity.

It was constructed by the Central Bank with OECD cooperation.

The Index includes the following series:

- amount of electricity produced
- treasury auction interest rate weighted by the amount sold
- imports of intermediate goods
- CBRT Business Tendency Survey related to (1) stocks of finished goods, (2) amount of new orders received from domestic market, (3) export possibilities and (4) employment.

Analyzing Business Cycles

- The key difference between the short-run and the long-run is the behaviour of prices.
  $\rightarrow$ in the long-run, prices are flexible
  $\rightarrow$ in the short-run, prices are sticky
- Because of this difference, policies have different effects effects over time horizons.
- A model of economic fluctuations must take into account this short-run price stickiness.

Price Stickiness I

Market Structure

- Perfect Competition
  - In classical models, economic actors (buyers and sellers) are price takers.
  - They decide how much to buy or sell.
  - Goods and services are standardized (homogenous).
- Monopolistic Competition
  - Most goods and services are not standardized.
  - Firms have some market (monopoly) power.
  - There is a substantial competition the market. Firms set prices.

Price Stickiness II

Sources of Price Stickiness

- Menu Costs
  - Changing prices is a complex process that involves many hidden costs.
  - Changing prices cause that customers might switch to different store.
- Staggered Price Setting
  - Competitors adjust prices at different intervals.

Theoritical Backround

Classical Theory

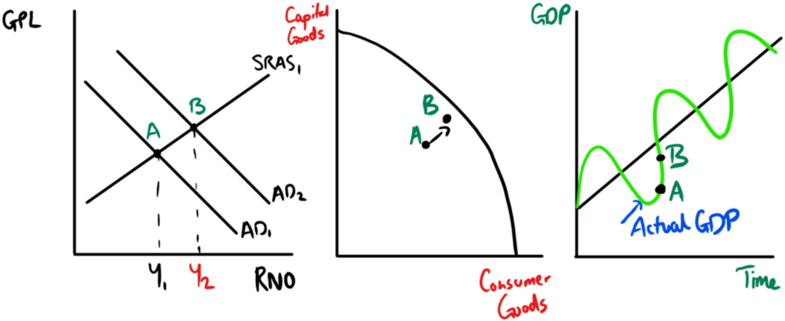
- prices are flexible
- output depends on economy's supply
- supply depends on capital, labor, technology

Keynesian Theory

- prices are sticky
- output depends on economy's demand
- demand depends on consumers' confidence, firms' expectations, monetary and fiscal policy

AD-AS Model: A Brief Introduction

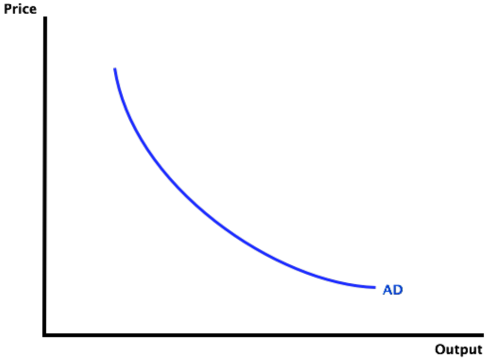
Short-run Economic Growth



AD-AS Model

- The model allows us to study how the aggregate price level and the quantity of aggregate output are determined in the short-run.
- We can compare how economy behaves differently in the short-run and in the long-run.
- The model is a sophisticated model that incorporates the interactions among many markets.

AD: Aggregate Demand



Derivation of AD

We use the quantity theory of money to derive AD curve :

$$MxV = PxY$$

M : money supply
V : velocity of money
P : price level
Y : output (production)

AS: Aggregate Supply I

- Goods and services have flexible prices in the long-run and sticky prices in the short-run
- The aggregate supply relationship depends on time horizon
- We use two different AS curves

the long-run

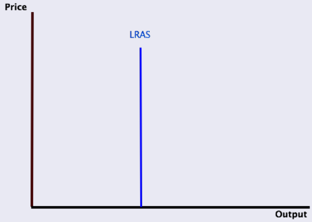
- the vertical AS curve
- flexible prices
- output depend on supply

the short-run

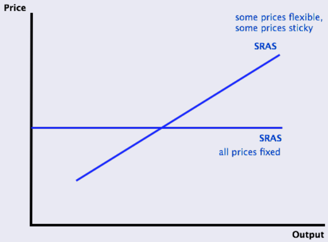
- the horizontal AS curve
- sticky prices
- output depends on demand

AS: Aggregate Supply II

the long-run



the short-run



AD-AS: A Framework for the Short-run Analysis