Fluctuations in Business Cycle

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Scope

- What is Business Cycle?
- Exogenous vs Endogenous Theory
- Credit/Debt Cycle with examples
- Real Business Cycle with examples

Introduction

- In the Bible, Joseph tells the pharaoh to expect seven years of plenty followed by seven lean years.

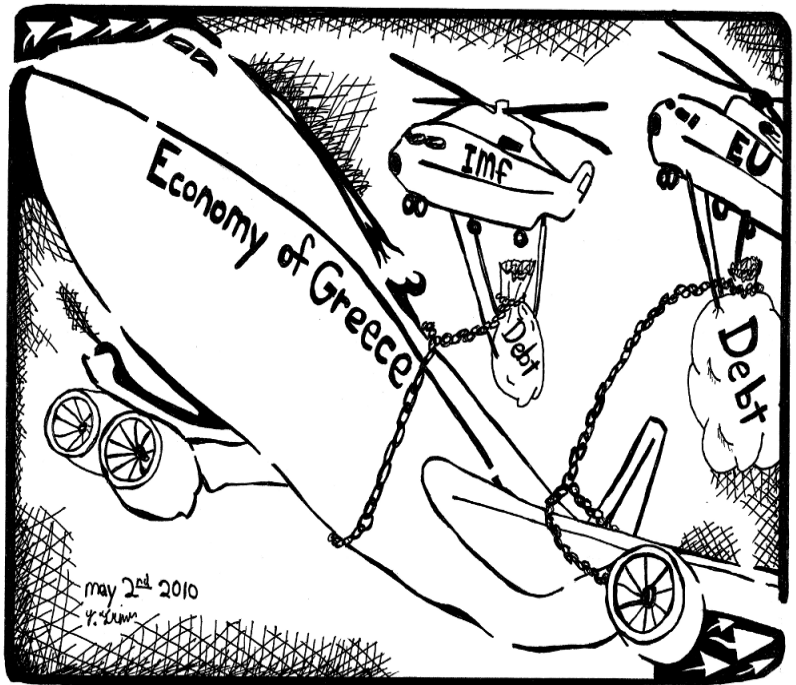
- **Definition**: alternating increases and decreases in the level of business activity of varying amplitude and length around its long-term growth trend.

- How do we measure "increases and decreases in business activity?"

  - Percent change in real GDP and other macroeconomic variables.

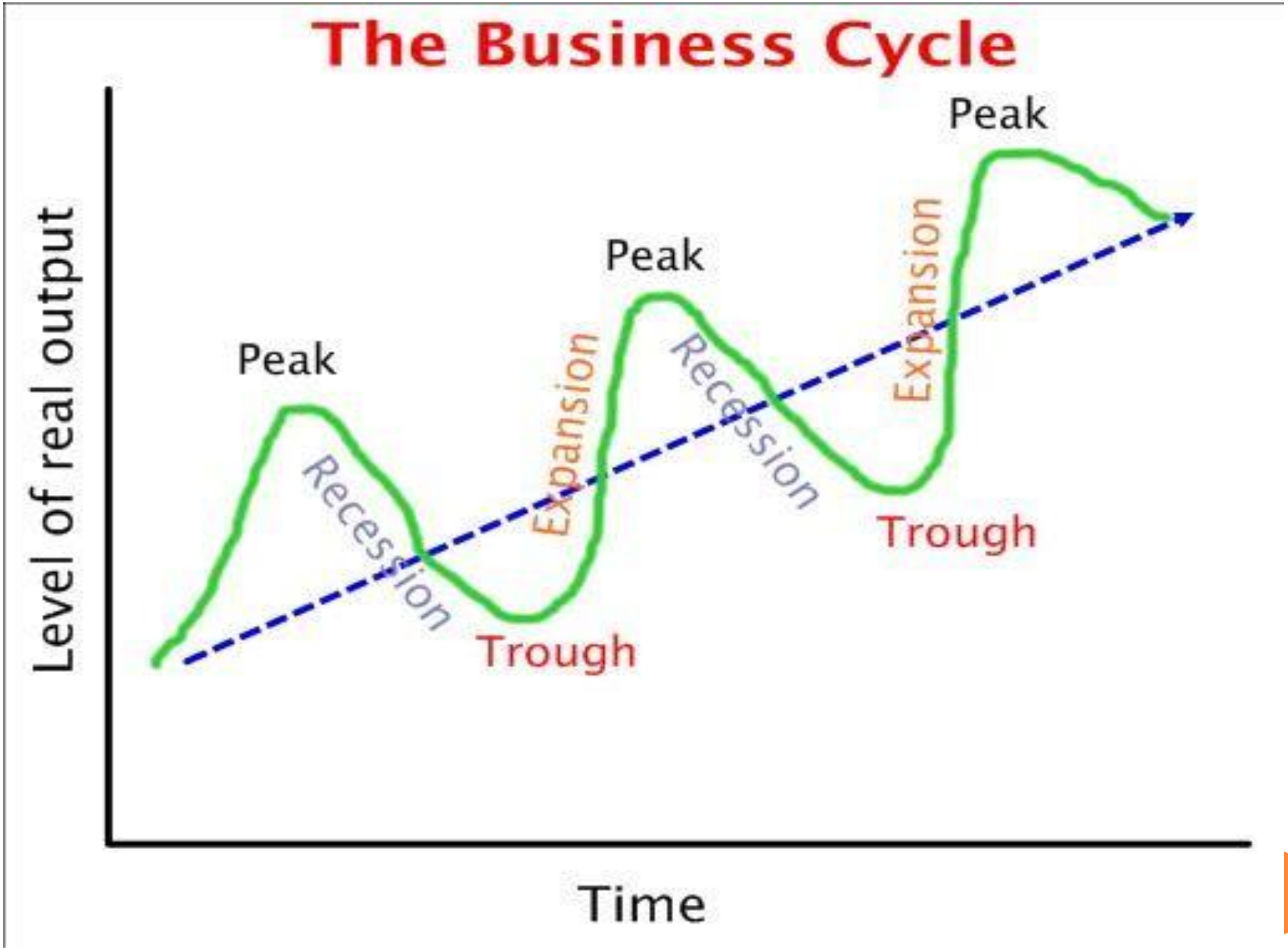
Introduction contd…

- Why do we say "varying amplitude and length?"
  - Some downturns are mild and some are severe
  - Some are short (a few months) and some are long (over a year)
  - Do not confuse with seasonal fluctuations!



Secular trend

- Not seasonal but exists over a relatively long period.
- Secular long-run growth is the sustained upward trend in aggregate output per person over several decades.
- A country can achieve a permanent increase in the standard of living of its citizens only through long-run growth.


The Business Cycle
Level of real output
Time
Peak
Peak
Peak
Recession
Recession
Expansion
Expansion
Trough
Trough

Contraction

- This stage is where a slowdown in GDP growth is observed and eventually turns into negative growth, hence, a contraction of the national output.

Trough

- The trough stage takes place when the economy is turning a corner, with the growth rate still being negative, just not as bad as before.

Expansion

- The expansion stage refers to that period of positive GDP growth after the economic contraction.

Peak

- The peak phase refers to the period when the healthy economic growth starts to slow down.

Table 1: NBER Business Cycle Turning Points and Durations

Trough	Expansion (months from trough to peak)	Peak	Contraction (months from peak to next trough)
Dec. 1914	44 (WWI)	Aug. 1918	7
Mar. 1919	10	Jan. 1920	18
July 1921	22	May 1923	14
July 1924	27	Oct. 1926	13
Nov. 1927	21	Aug. 1929	43 (Depression)
Mar. 1933	50	May 1937	13 (Depression)
June 1938	80 (WWII)	Feb. 1945	8
Oct. 1945	37	Nov. 1948	11
Oct. 1949	45 (Korean War)	July 1953	10
May 1954	39	Aug. 1957	8
Apr. 1958	24	Apr. 1960	10
Feb. 1961	106 (Vietnam War)	Dec. 1969	11
Nov. 1970	36	Nov. 1973	16
Mar. 1975	58	Jan. 1980	6
July 1980	12	July 1981	16
Nov. 1982	92	July 1990	8
Mar. 1991	120	Mar. 2001	8
Nov. 2001			

Source: NBER Web site, *www.nber.org/cycles.html.*

Nov. 2007	73	June 2009	18

Theory

Two key questions about business cycles:

- What are the underlying economic causes?
- What should government policymakers do about them?

Exogenous vs. Endogenous Theories

• Debate over external versus internal causes of economic cycles.

• Policy consequences.

• Alternative theories notably credit-based theory and real business cycle theory.

Credit / Debt Cycle Theory

• Primary cause of economic cycles is the credit cycle.

• Theory places finance and banks at the center of the business cycle and talks about the bursting of speculative bubbles (U.S. and Greece).

• While credit causes have not been a primary theory of the economic cycle, they have gained occasional mention.

• Carlota Perez blames "financial capital" for excess speculation, which she claims is likely to occur in the "frenzy" stage of a new technology, such as the 1998–2000 computer, internet, dot.com mania and bust.

Real Business Cycle (RBC) theory

RBC Theory emerged in 1980s.

First by Kydland and Prescott

Real shocks to the economy are the primary cause of business cycle.

Examples of real shocks:

- Shocks to the production function
- Shocks to the size of the labor force
- Shocks to the real quantity of government purchases
- Shocks to the spending and saving decisions of consumers.

Nominal shocks are shocks to money supply or demand

RBC Theory contd...

Basic assumptions

1. Neutrality of Money: money will impact only the nominal variables
2. Business cycles are created by rational agents (individuals and firms) responding optimally to real shocks.

Main Idea

The largest role is played by shocks to the **production function**, which can be called supply shocks, and RBC theorists call **productivity shocks.**

Examples of productivity shocks

- Development of new products or production techniques
- Introduction of new management techniques
- Changes in the quality of capital or labor
- Changes in the availability of raw materials or energy
- Unusually good or bad weather
- Changes in government regulations affecting production

IMPACT OF ADVERSE PRODUCTIVITY SHOCK

- Reduces *marginal productivity of labour*
- The demand for labour falls
- Equilibrium employment level and real wage fall
- Equilibrium level of output falls
- The interest rate rises
- Consumption and investment falls.
- Price level rises.

RESULT

Most economic **booms** result from beneficial productivity shocks; most **recessions** are caused by adverse productivity shocks.

When there are shocks ,the subsequent fluctuations in output, employment, and other variables are the **optimal responses** to them.

Rapid **price adjustment** ensures that actual output always equal full-employment output.

It views recession as **optimal response** by households and firms.

Hence, there is no role of government in stimulating the economy.

RESULT CONTD..

RBC Theory makes (exogenous) stochastic fluctuations in factor productivity the predominant cause of fluctuations in business activity.

The recessionary impact of an adverse productivity shock leads to:

- Real wage, employment, output, consumption, and investment decline, while the real interest rate and price level rise
- Causes a recession (output declines)

The beneficial productivity shock causes a boom (output increases)

RESULT CONTD..

The RBC theory is consistent with many business cycle facts:

- If the economy is continuously buffeted by productivity shocks, the theory predicts recurrent fluctuations in aggregate output.
- Predicts procyclical employment and real wages.
- Predicts procyclical average labor Productivity.
- Predicts countercyclical movements of the price level

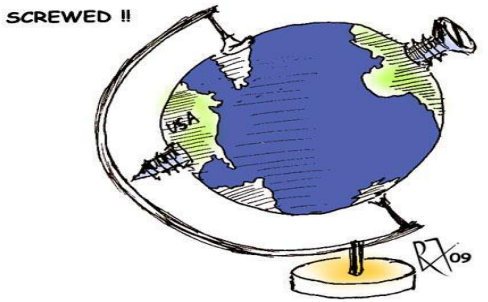
EXAMPLES

Kydland and Prescott argue that since World War II, large adverse supply shocks have caused the price level to rise while output fell.

The surge in inflation during the recessions associated with the oil price shocks of 1973–1974 and 1979–1980 is consistent with RBC Theory.

The Miracle on the Han River in South Korea was the postwar export-fueled economic growth between 1961-96.

India post-1990s and Make in India.



Criticism

- According to RBC theory, coordination failures, price stickiness, waves of optimism or pessimism, or monetary or fiscal policy are not needed to explain business cycles.
- Technology shocks are typically limited to individual industries, and do not have such economy-wide effects.
- The assumed (voluntary) response by the labor force to changes in the real wage. The real-world labor supply curve is very steep. (Work is a necessity.)


THANK
YOU !