

Chapter 12

Keynesian Business Cycle Theory: The Sticky Wage Model and The Animal Spirits

Keynesian Business Cycle Models

- Developed by Hicks in late 1930s
- Advanced by Samuelson in 1950s
- Large-scale Models in 1960s

- Here: Sticky Wage Model
- Chapter 11: Other BC models

Keynesian Sticky Wage Model

- The **Nominal** wage rate is not flexible to clear the labor market in the short run. **Not Market Clearing Framework.**

- Property: 1) **Money is not Neutral.**
 - Δ Money \rightarrow Δ Aggregate Output and Employment
 - Monetary policy **can be** used to be improve ECN welfare.

- Property: 2) **Unemployment exists.**

Plan

Labor Market, Money Market, Goods Market

→ derive IS and LM curves

Figure 12-1 The Labor Market in the Keynesian Sticky Wage Model

Nominal Wage rate is **STICKY**
Because **Institutional Rigidities**
ONLY in the SHORT RUN

Labor is determined by the labor demand

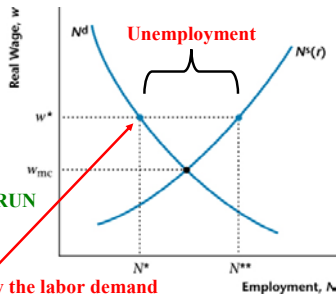


Figure 12-2 The Labor Market in the Keynesian Sticky Wage Model When There Is Excess Demand

There is no Unemployment

This is a situation of Excess Labor Demand

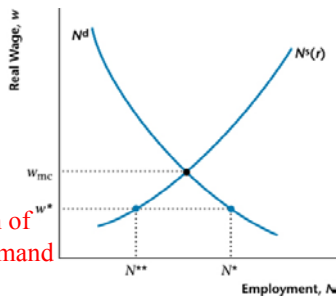


Figure 12-3 Construction of the Aggregate Supply Curve

Sticky Wage

→ Labor Supply is irrelevant

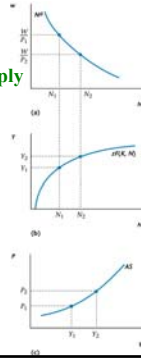
→ r is irrelevant to determine Output Supply

Given W (nominal wage) fixed

$\Delta P \rightarrow \Delta w \rightarrow \Delta N \rightarrow \Delta Y$

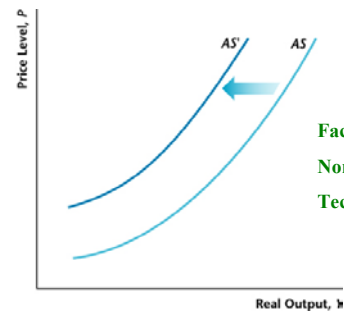
Given W (nominal wage) fixed

Graph the relation between P and Y



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Figure 12-4 The Effect of an Increase in W or a Decrease in z



Factors Shifting AS:
Nominal Wage Rate W (-)
Technology Z (+)

How about the interest rate?

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Construction of Aggregate Demand

From the IS and LM curves

- IS is exactly the same as Y^d in Chapter 9.
- We will derive the LM curve (slide 11).

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Figure 12-5 The IS Curve

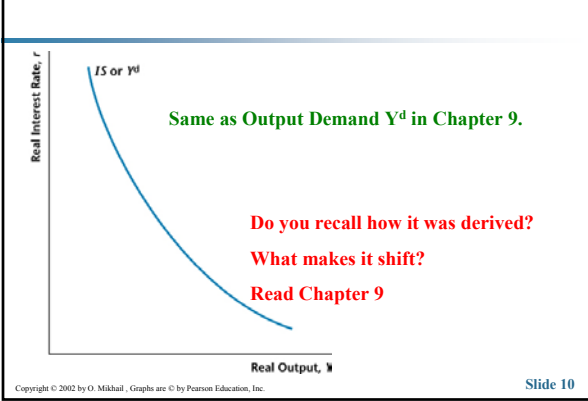


Figure 12-6 Money Demand, Money Supply, and the LM Curve

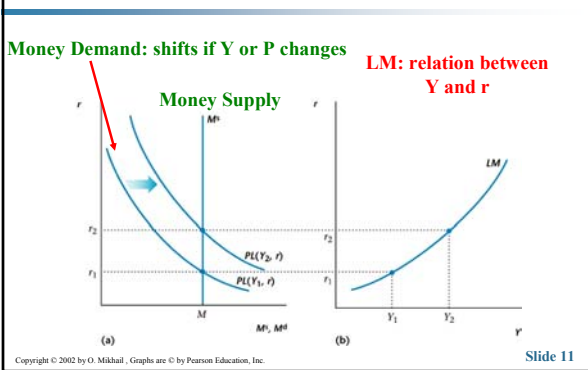
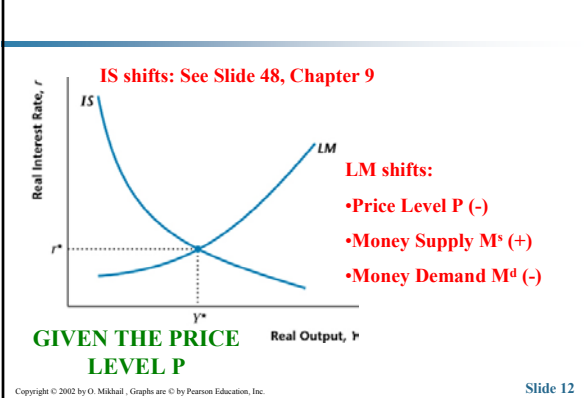


Figure 12-7 Determination of r and Y Given P



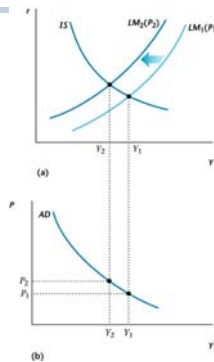
AGGREGATE DEMAND from IS/LM

Derive the Aggregate Demand AD from the IS/LM

Figure 12-11 The Aggregate Demand Curve

$\Delta P \rightarrow \Delta LM \rightarrow \Delta Y$

Track relation between P and Y



Aggregate Demand / Aggregate Supply

- AD shifts:
 - IS (+)
 - LM (+)

- AS shifts: slide 8
 - Wage (-)
 - Technology (+)

The KEYNESIAN Sticky Wage Model

THE MODEL (non-market clearing)

- IS / LM
- AD / AS

Figure 12-14 The Keynesian Sticky Wage Model

AD / AS \rightarrow P and Y

P \rightarrow determines position of LM
 \rightarrow determines r

P \rightarrow determines w/P \rightarrow N

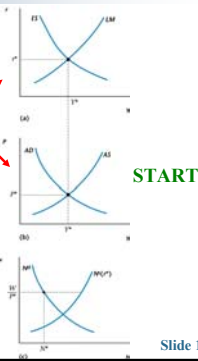


Figure 12-15 An Increase in the Money Supply in the Sticky Wage Model

Direct:

$\uparrow M^s \rightarrow \uparrow AD \rightarrow \uparrow Y$ and $\uparrow P$

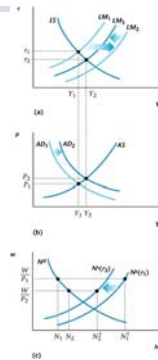
$\uparrow M^s \rightarrow \uparrow LM$

Secondary:

$\uparrow P \rightarrow \downarrow LM$, therefore $\downarrow r$ and $\uparrow Y$

END RESULT:

$\downarrow r$, $\uparrow Y$, $\uparrow P$, $\downarrow N^s$, $\downarrow w$, $\downarrow UE$



Is Money Neutral?

- NO in Keynesian Sticky Wage Model.
- Money has REAL effects through the monetary transmission mechanism.
- Is it a 'good' model? Let's compare the predictions of the model to the Data.

STICKY WAGE vs. DATA

Data vs. Predictions of the Keynesian Sticky Wage Model with Monetary Shocks		
	Data	Model
Consumption	Procyclical	Procyclical
Investment	Procyclical	Procyclical
Price Level	Countercyclical	Procyclical
Money Supply	Procyclical	Procyclical
Employment	Procyclical	Procyclical
Real Wage	Procyclical	Countercyclical

COMPARE PREDICTIONS of

REAL BUSINESS CYCLE MODEL (Chapter 9)

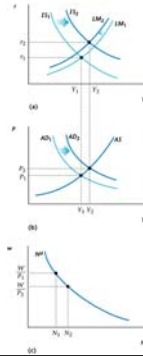
to

KEYNESIAN STICK WAGE MODEL (Chapter 12)

Figure 12-16 An Increase in the Demand for Investment Goods in the Sticky Wage Model

ANIMAL SPIRITS

= $\uparrow I^d$



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ANIMAL SPIRITS vs. DATA

Data vs. Predictions of the Keynesian Sticky Wage Model with Investment Shocks

	Data	Model
Consumption	Procyclical	Countercyclical
Investment	Procyclical	Procyclical
Price Level	Countercyclical	Procyclical
Money Supply	Procyclical	Acyclical
Employment	Procyclical	Procyclical
Real Wage	Procyclical	Countercyclical

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