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 13: Other BC models

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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 → Δ Aggregate Output and Employment
  - Monetary policy can be used to be improve ECN welfare.
- Property: 2) **Unemployment exists**.

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Plan

Labor Market, Money Market, Goods Market

→ derive IS and LM curves

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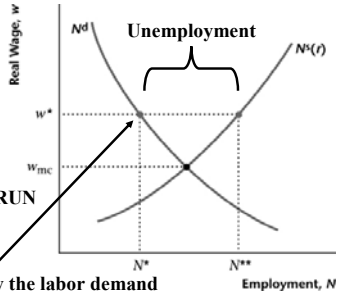
Figure 12-1 The Labor Market in the Keynesian Sticky Wage Model

Nominal Wage rate is STICKY

Because

Institutional Rigidities

ONLY in the SHORT RUN



Labor is determined by the labor demand

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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

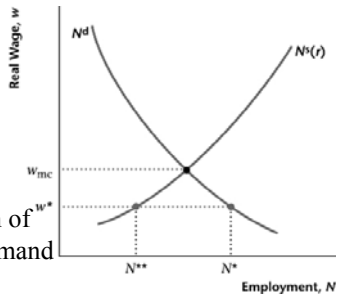

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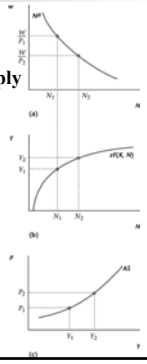
Figure 12-3 Construction of the Aggregate Supply Curve

Sticky Wage
→ Labor Supply is irrelevant
→ r is irrelevant to determine Output Supply



Given W (nominal wage) fixed

Δ P → Δ w → Δ N → Δ Y

Given W (nominal wage) fixed

Graph the relation between P and Y

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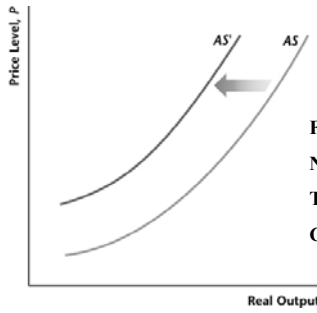
Figure 12-4 The Effect of an Increase in *W* or a Decrease in *z*



Factors Shifting AS:

Nominal Wage Rate W (-)

Technology Z (+)

Capital K(+)

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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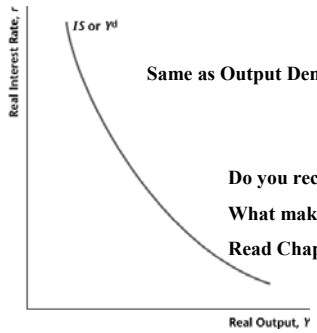
Figure 12-5 The *IS* Curve



Same as Output Demand Y^d in Chapter 9.

Do you recall how it was derived?

What makes it shift?

Read Chapter 9

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

Money Demand: shifts if Y or P changes

LM: relation between Y and r

Money Supply

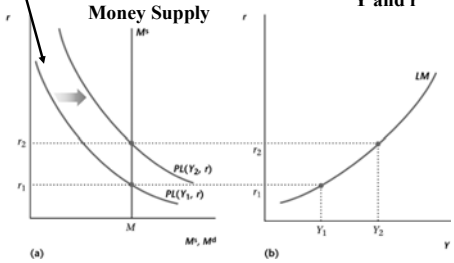

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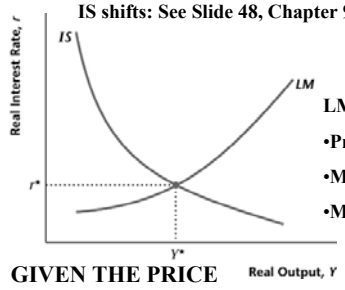
Figure 12-7 Determination of *r* and *Y* Given *P*

IS shifts: See Slide 48, Chapter 9



LM shifts:

- **Price Level P (-)**
- **Money Supply M^s (+)**
- **Money Demand M^d (-)**

GIVEN THE PRICE LEVEL P

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AGGREGATE DEMAND from IS/LM

Derive the Aggregate Demand AD from the IS/LM

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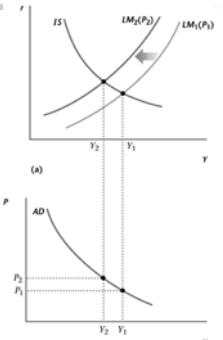
Figure 12-11 The Aggregate Demand Curve

Δ P → Δ LM → Δ Y



Track relation between P and Y

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Aggregate Demand / Aggregate Supply

- AD shifts:
  - IS (+)
  - LM (+)
- AS shifts: slide 8
  - Wage (-)
  - Technology (+)
  - Capital (+)

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The KEYNESIAN Sticky Wage Model

THE MODEL (non-market clearing)

- **IS / LM**
- **AD / AS**

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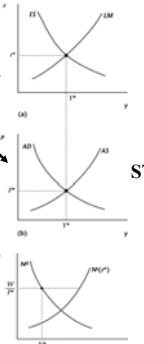
Figure 12-14 The Keynesian Sticky Wage Model

AD / AS → P and Y

P → determines position of LM → determines r

P → determines w/P → N



START

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

Direct:

↑ M^s → ↑ AD → ↑ Y and ↑ P

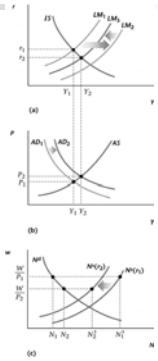
↑ M^s → ↑ LM

Secondary:

↑ P → ↓ LM, therefore ↓ r and ↑ Y

END RESULT:

↓ r , ↑ Y, ↑ P, ↓ N^s, ↓ w, ↓ UE



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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.

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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

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COMPARE PREDICTIONS of

REAL BUSINESS CYCLE MODEL (Chapter 9)

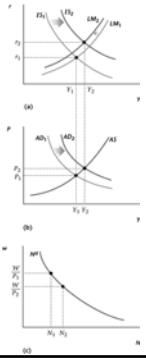
to

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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