A New Monetary and Fiscal Framework for Economic Stability

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Roger E A Farmer
Department of Economics UCLA

The Current Situation

- The Great Recession ended in June of 2009
- Unemployment has remained at 9% for the past 23 months
- The Fed has no plans to extend Quantitative Easing
- A second large fiscal expansion is unlikely
- What can we do to reduce unemployment?

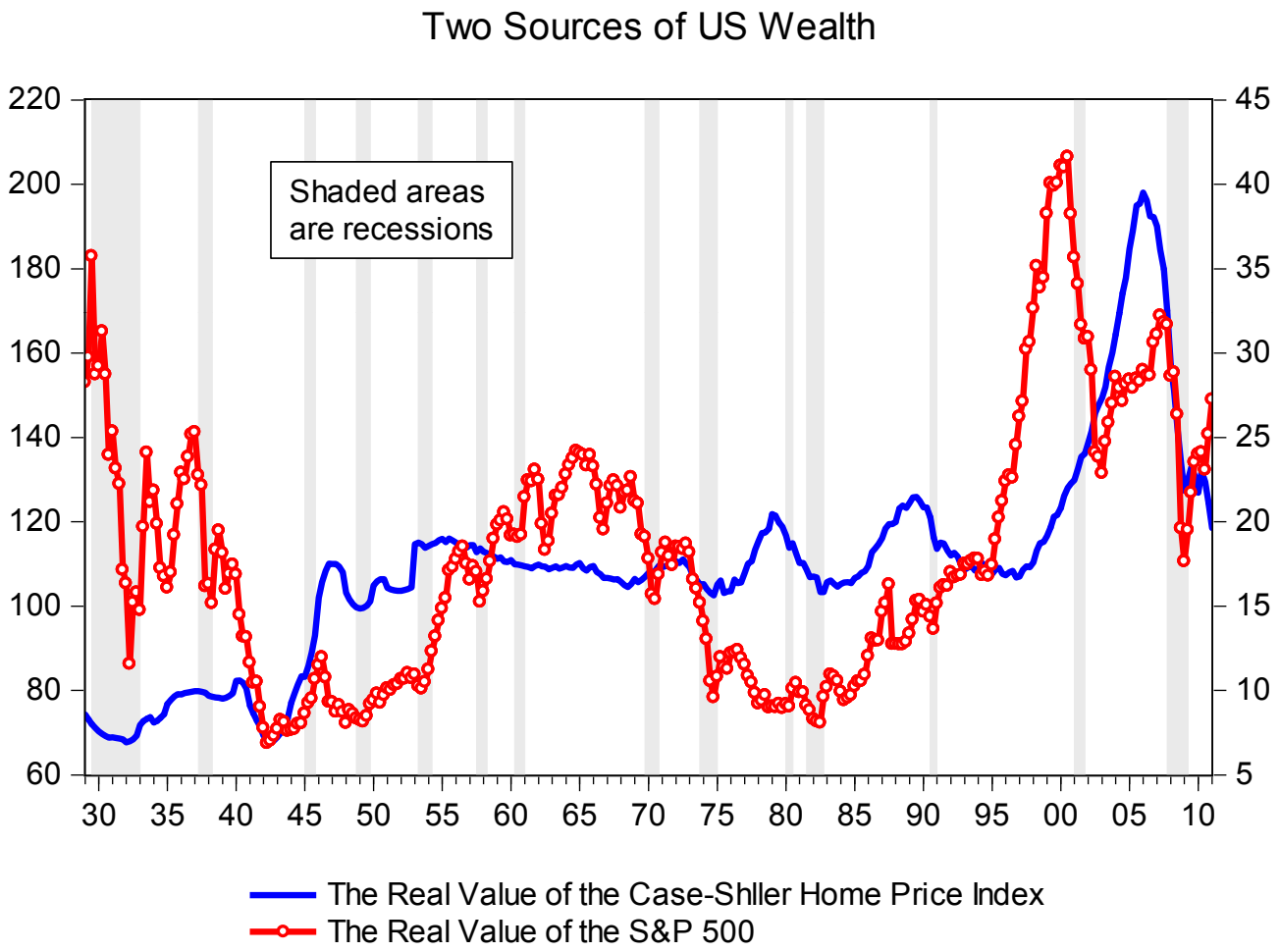
The Plan of My Talk

- I will present some evidence from the US on the connection between unemployment and wealth
- I will discuss a new way of explaining these data
- I will discuss the implications for economic policy

The Bottom Line

- Use traditional monetary policy (e.g. a Taylor Rule to control inflation)
  - This involves varying the interest rate by expanding or contracting the monetary base
- Use a new policy of stock-market targeting to control unemployment
  - This would involve buying and selling assets by varying the composition of the monetary base

Wealth

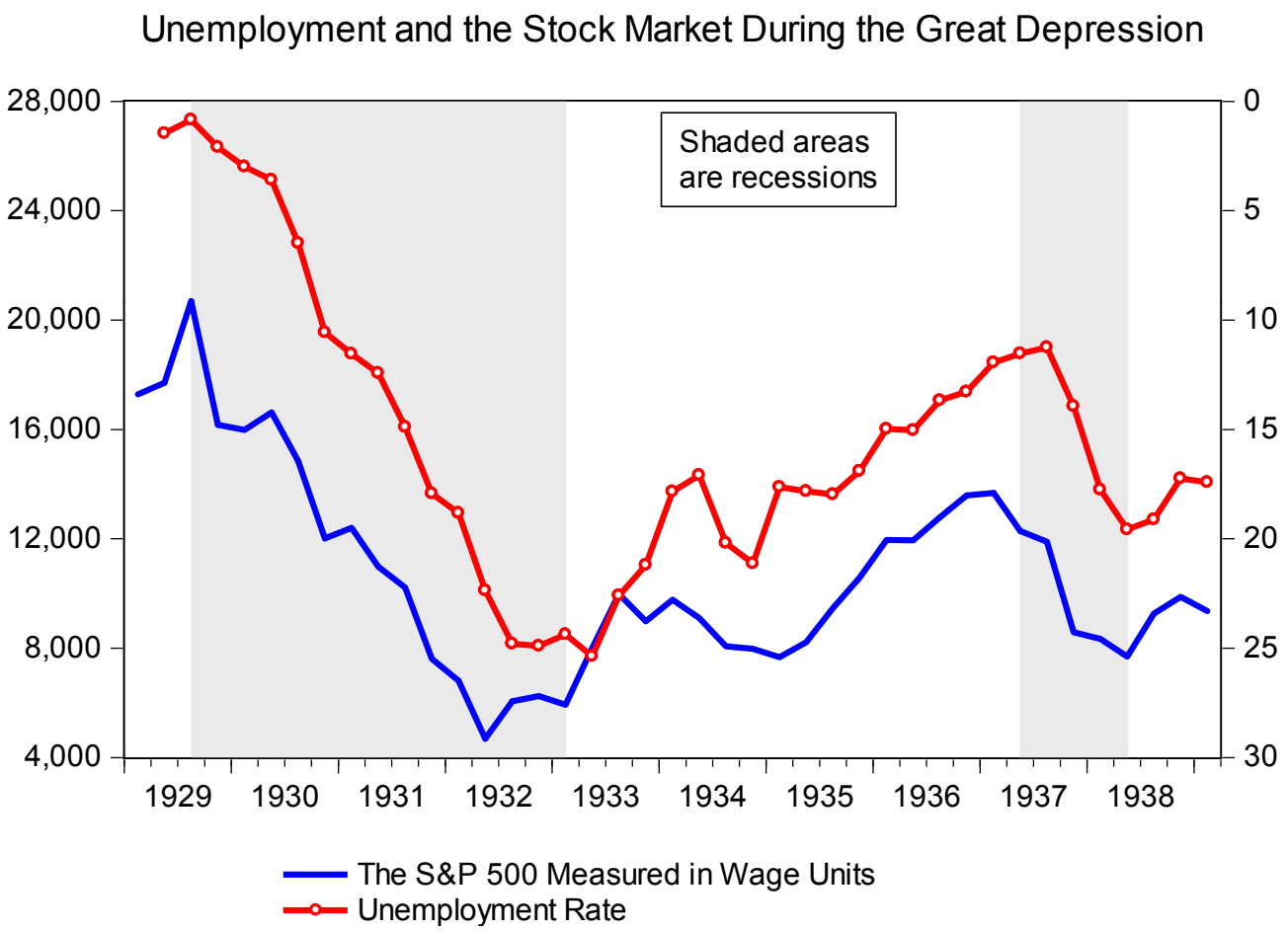


US wealth is:

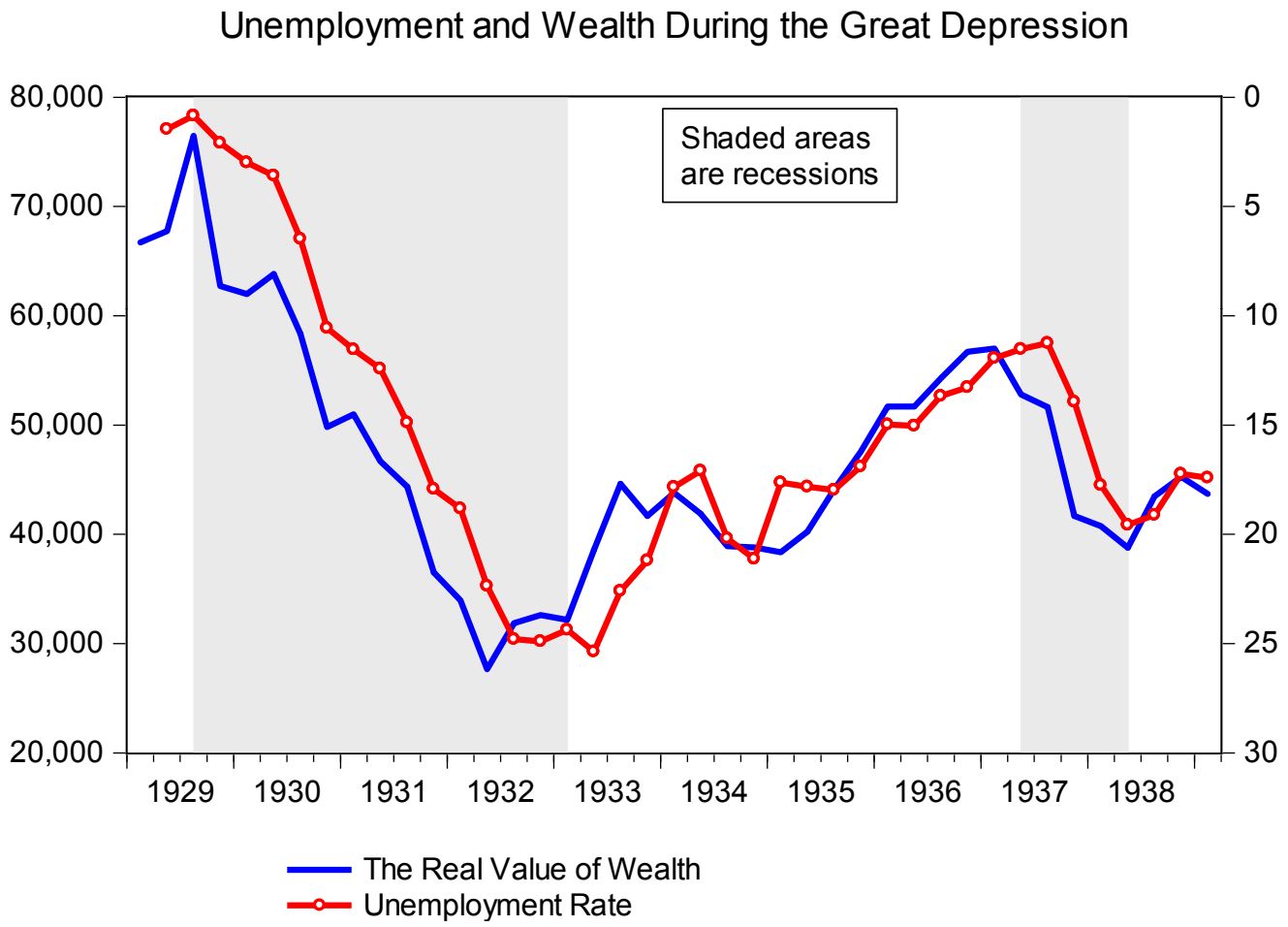
2/5 housing

3/5 factories and machines

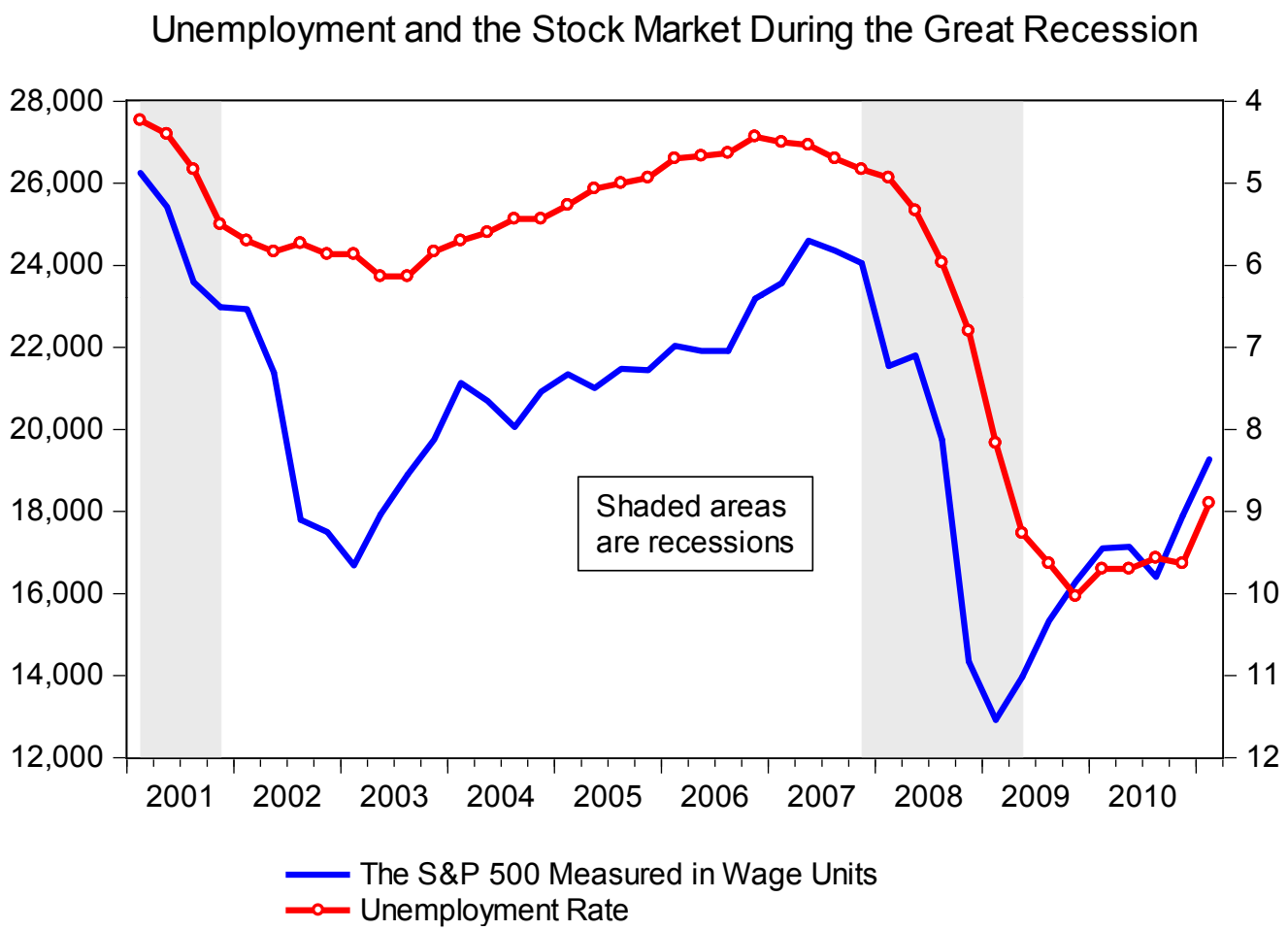
The Stock Market During the Great Depression



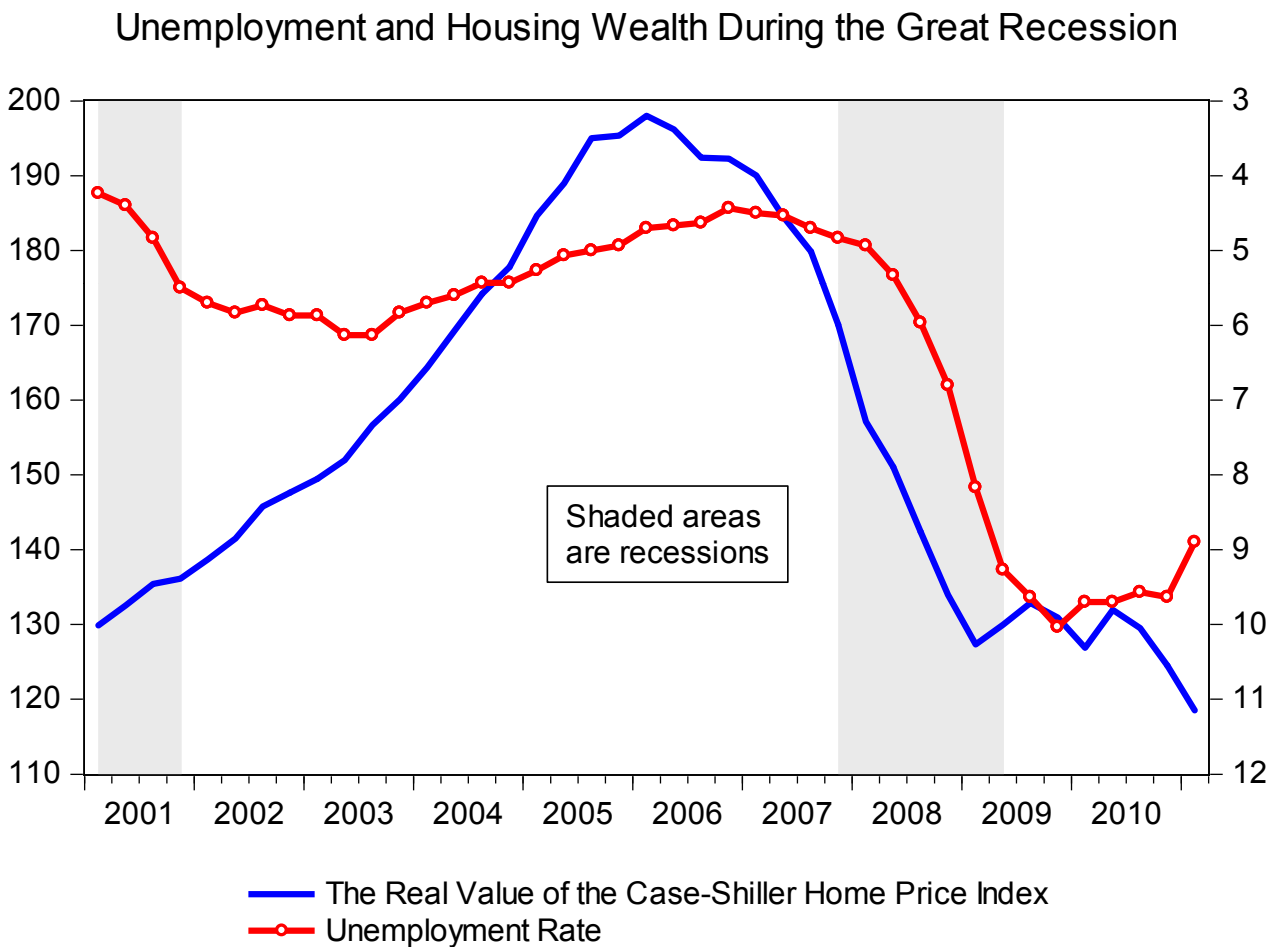
Wealth During the Great Depression



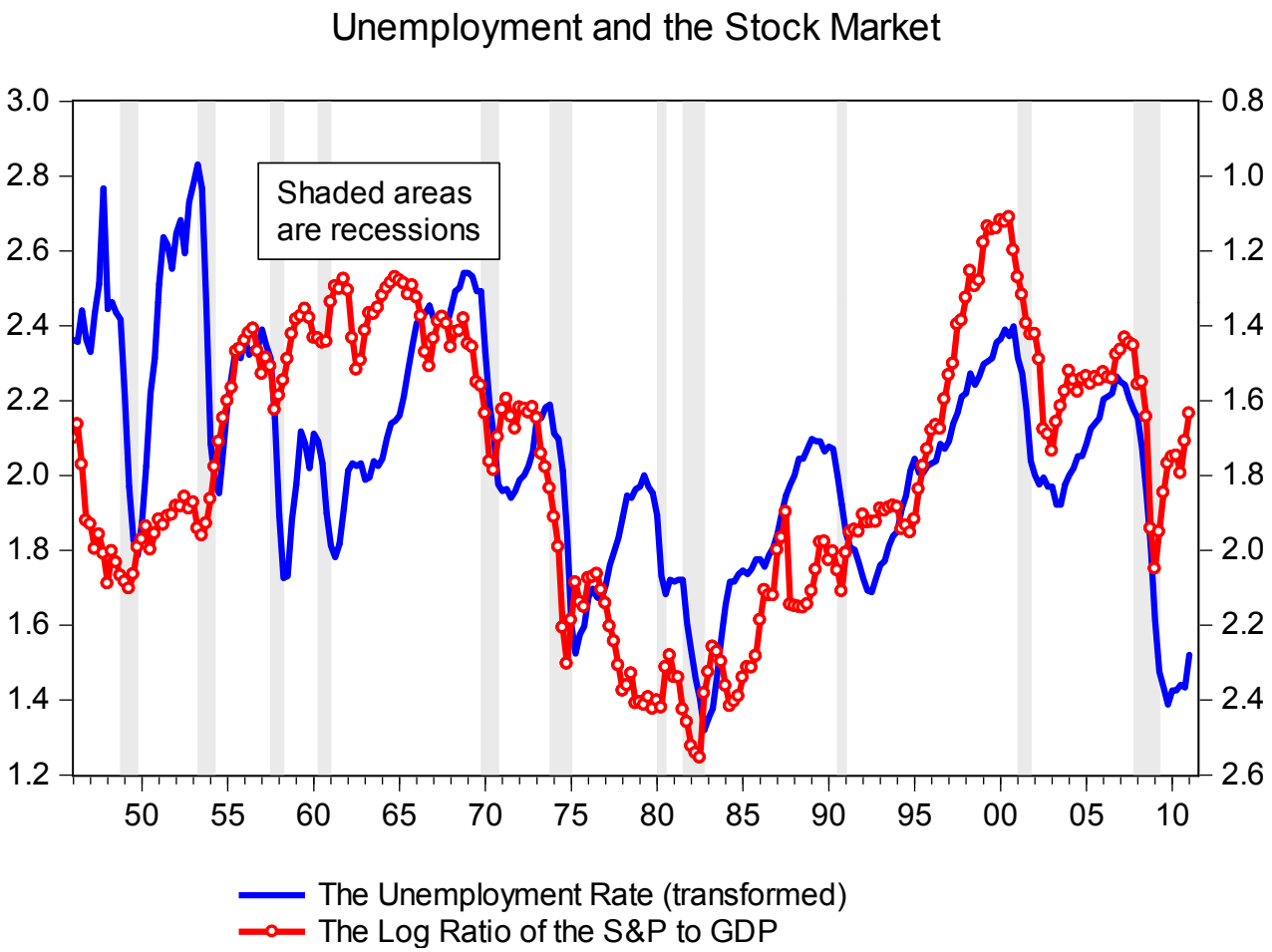
The Stock Market During the Great Recession



Housing Wealth During the Great Recession



Post-War Unemployment and the Stock Market



There is a Stable Relationship Between these Two Variables

	First sample 1946q1--1979q3		Second sample 1980q1--2011q1	
dependent variable	p	u	p	u
p(-1)	1.34	-0.3	1.34	-0.4
	(0.08)	(0.05)	(0.09)	(0.12)
p(-2)	-0.34	0.2	-0.34	0.4
	(0.08)	(0.05)	(0.09)	(0.12)
u(-1)	-0.02	1.6	0.14	1.4
	(0.1)	(0.06)	(0.04)	(0.07)
u(-2)	0.02	-0.6	-0.13	-0.5
	(0.1)	(0.06)	(0.04)	(0.07)
c	0	0.16	0	0.15
		(0.05)		(0.05)

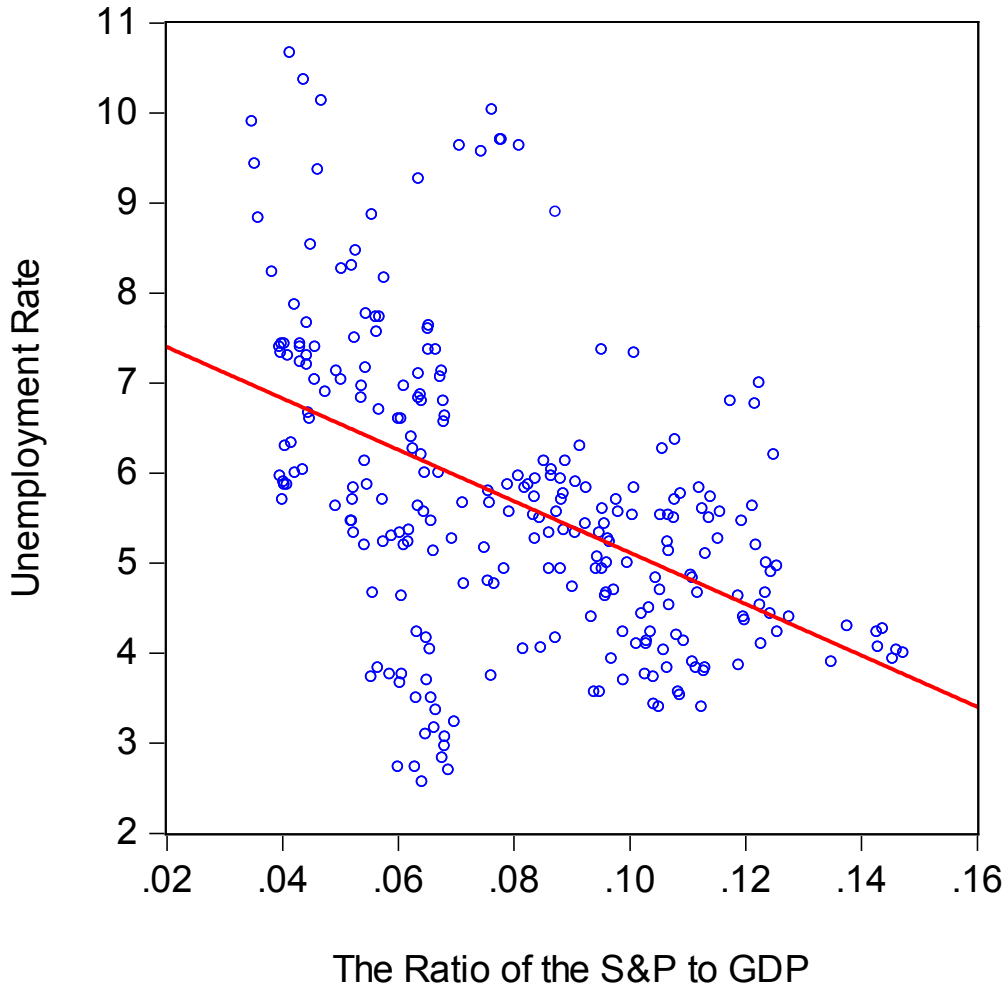
p is the log ratio of the S&P 500 to GDP

u is the transformed unemployment rate

Characterizing these Data

- u and p both have a unit root
- They are cointegrated
- There is some evidence of non-linearity
- There is also evidence that volatility matters
- I will ignore both of these aspects in this talk

The Cointegrating Relationship



$$u = 8 - 28p$$

To reduce the steady state unemployment rate by 1%: The ratio of the stock market to GDP must increase by a factor of 28

Back to Basics

- Is the economy self-correcting?
- Yes
  - Classical economics
  - New-Keynesian economics
- No
  - Keynes of the General Theory
  - Farmer's interpretation of Keynes

A Simple Model

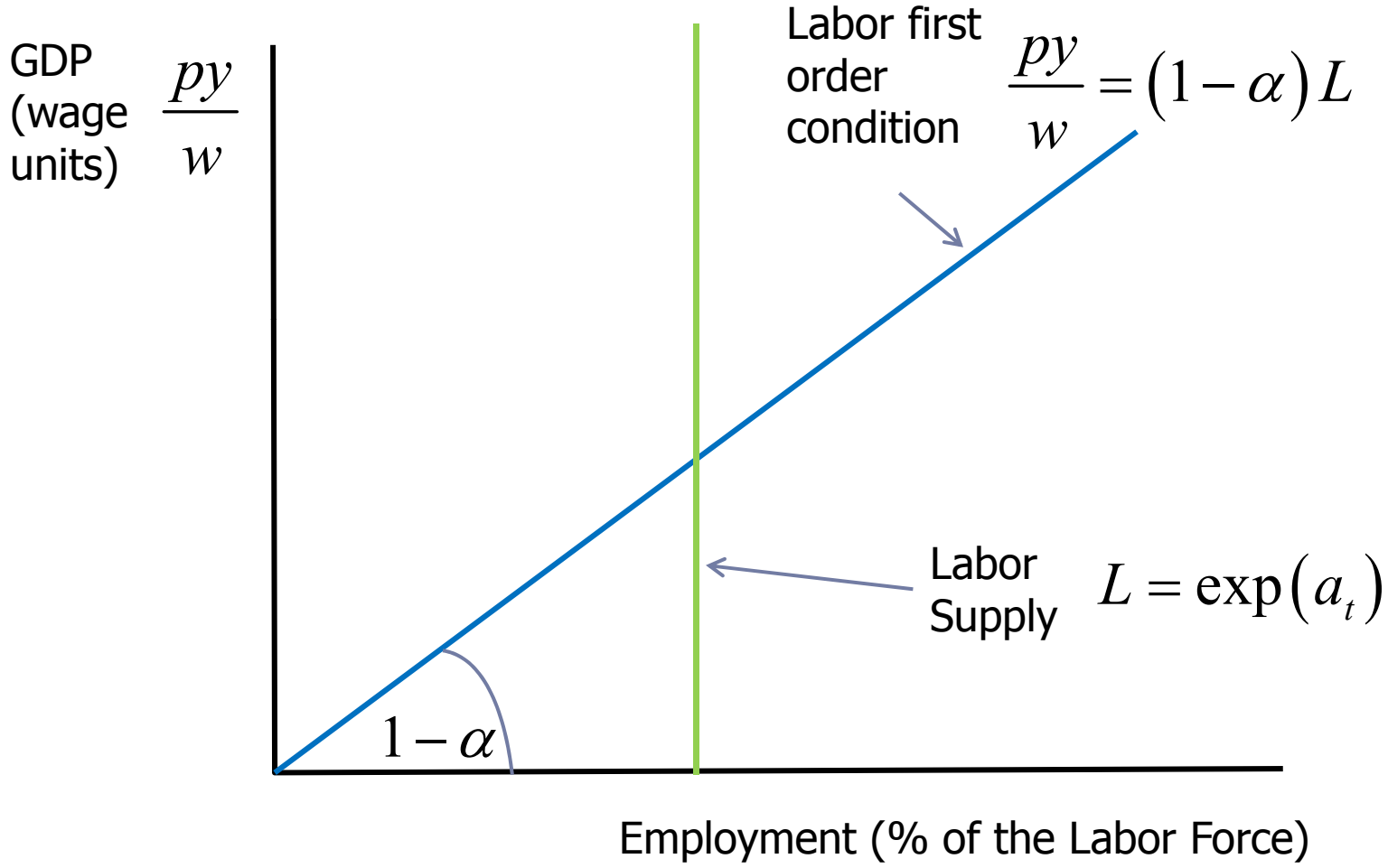
- Representative agent
- Logarithmic utility
- Cobb-Douglas technology
- One good
- Inelastic labor
- Non-reproducible capital
- Money as a unit of account

The Classical Model

$$y = f(L) \qquad L = \bar{L}$$

$$f'(L) = \frac{w}{p} \qquad p_k = \theta y p$$

Classical Economics 101



The Keynesian Model

$$C = a + bY$$

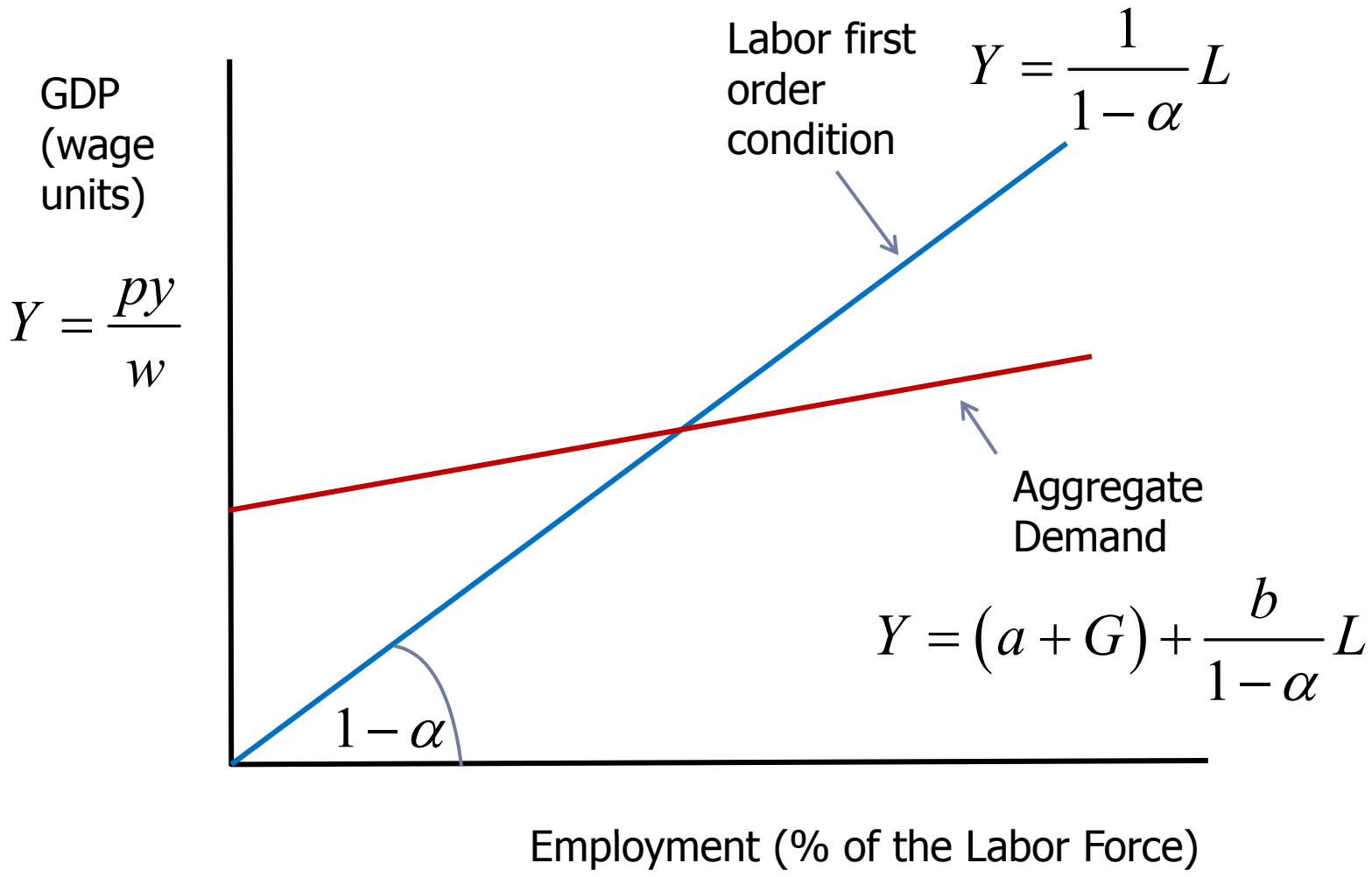
C and Y are measured in wage units

$$Y = \frac{py}{w}$$

$$Y = C + G$$

$$L = \frac{1}{1-\alpha} Y$$

Keynesian Economics 101



Questions for Keynesian Economics

- Theory of Aggregate Demand
  - Why don't households optimize?
    - Keynesians: Credit constraints
    - Farmer: They do. Consumption depends on wealth.
- Theory of Aggregate Supply
  - Why doesn't the labor market clear?
    - Keynesians: Prices are sticky
    - Farmer: Search externalities

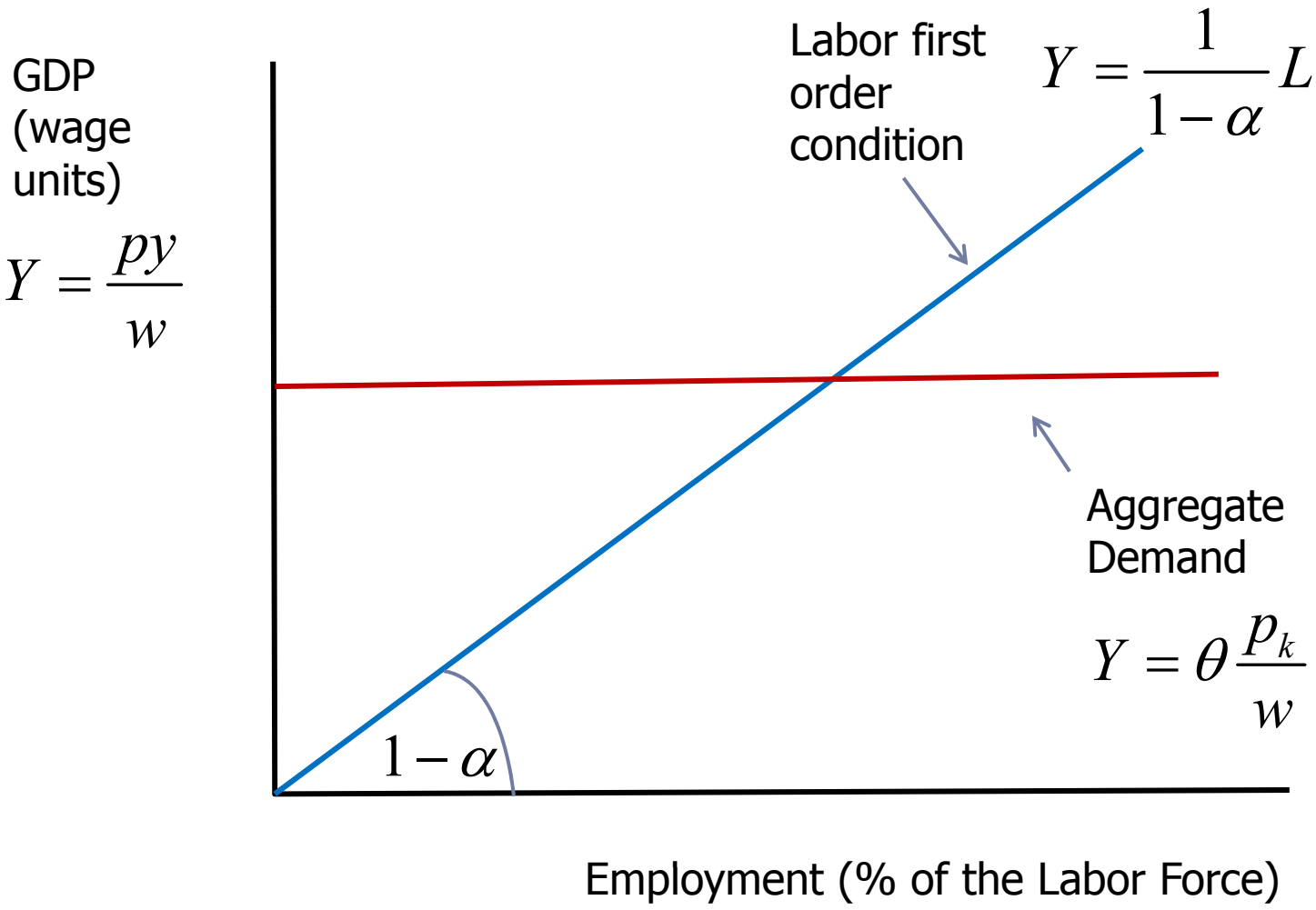
The Farmerian Model

$$y = f\left(L, \tilde{L}\right) \qquad L = \tilde{L}$$

$$f_1\left(L, \tilde{L}\right) = \frac{w}{p} \qquad p_k = \theta y p$$

$\frac{p_k}{w}$ is a random walk

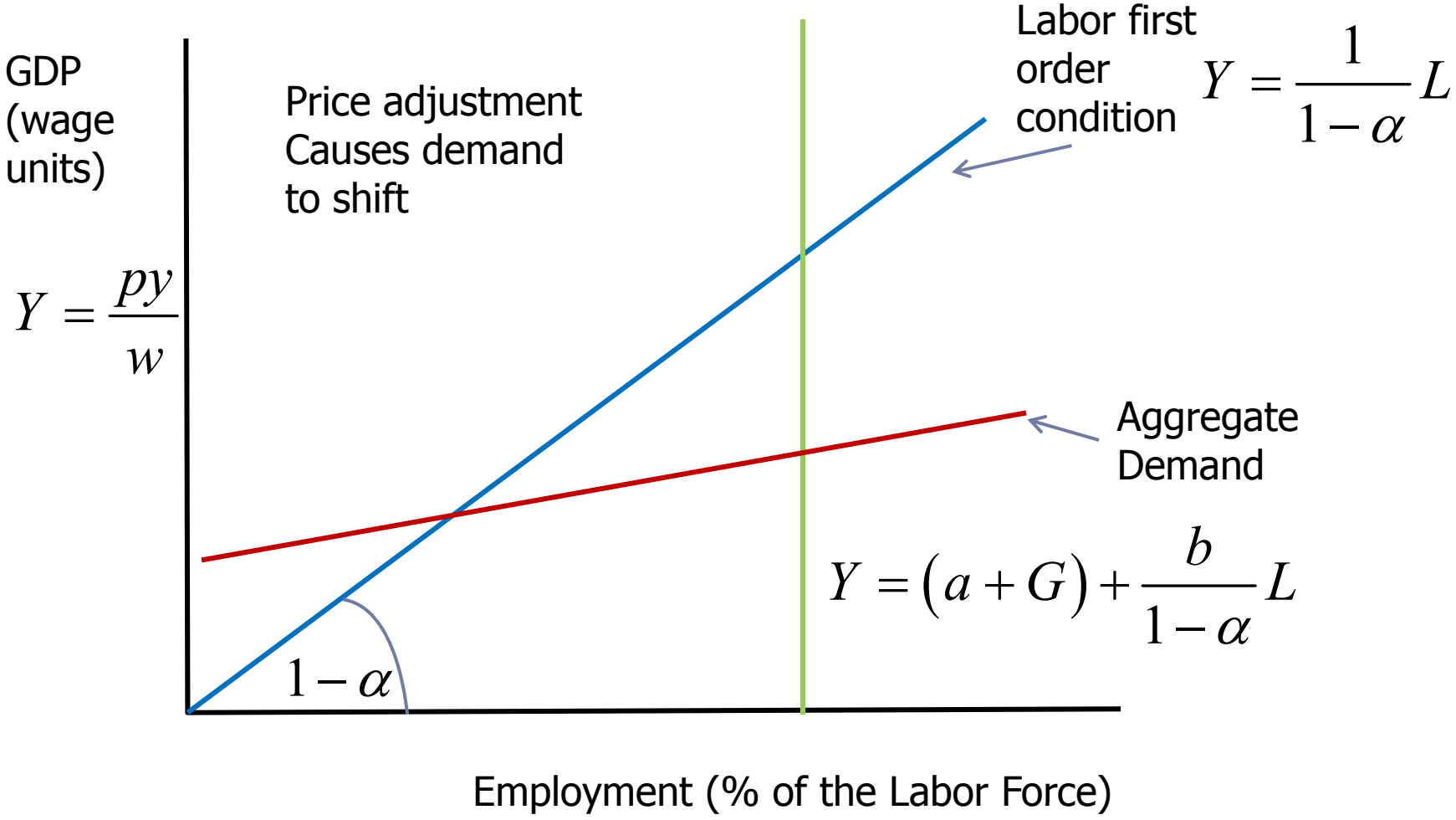
Farmerian Economics 101



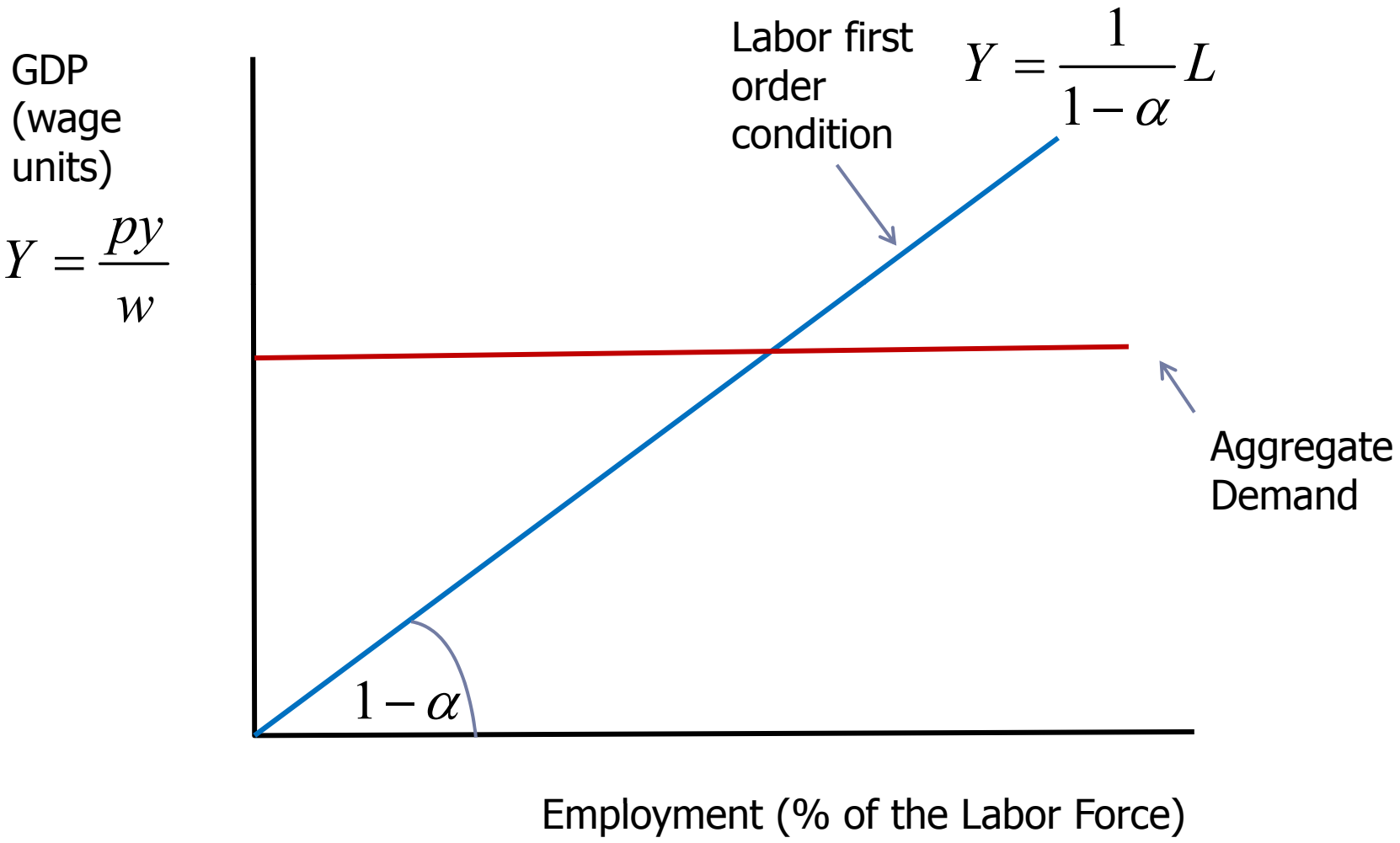
Two Layers

- How are real variables determined?
  - Aggregate demand and supply
- How are monetary variables determined?
  - Liquidity preference vs. loanable funds
- Do we need monetary economics to understand unemployment?
  - No

Ph.D. Keynesian Economics



Ph.D. Farmerian Economics



A New Fiscal Policy for Economic Stability

- Define a broad value weighted stock market index
- Set up an exchange traded fund based on the index
- Buy an initial share in the fund -- $800b -- paid for with agency debt
- Announce a price path for the fund

How to Trade the Fund

- Set a target for the unemployment rate at (for example) 4%
- Let p be the ratio of the value of the index to GDP
- Announce an initial level, and a growth rate, for p
- Adjust p in response to excess unemployment above or below target

Isn't this Inflationary?

- No. The new fiscal policy and current monetary policy can be run independently
- If the Fed were to run the new policy:
  - The size of the monetary base would be adjusted to set the interest using, for example, a Taylor Rule
  - The composition of the monetary base between T-bills and the index fund would be set in response to an unemployment target

Wouldn't this ignite a New Stock Market Bubble?

- No: To remedy the current situation of high unemployment we would need a big initial boost to the stock market
- As employment picks up – the policy would choose a lower growth rate for the index, with the index converging back a value consistent with the long-run relationship between p and u

Summary

- The economy is not self-stabilizing.
- Any inflation rate is consistent with any unemployment rate as a long-run steady-state equilibrium
- It took a century or more to learn how to use monetary policy to stabilize inflation. We must now learn how to stabilize unemployment.