

Economics 1: Introduction to Economics

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Administrivia

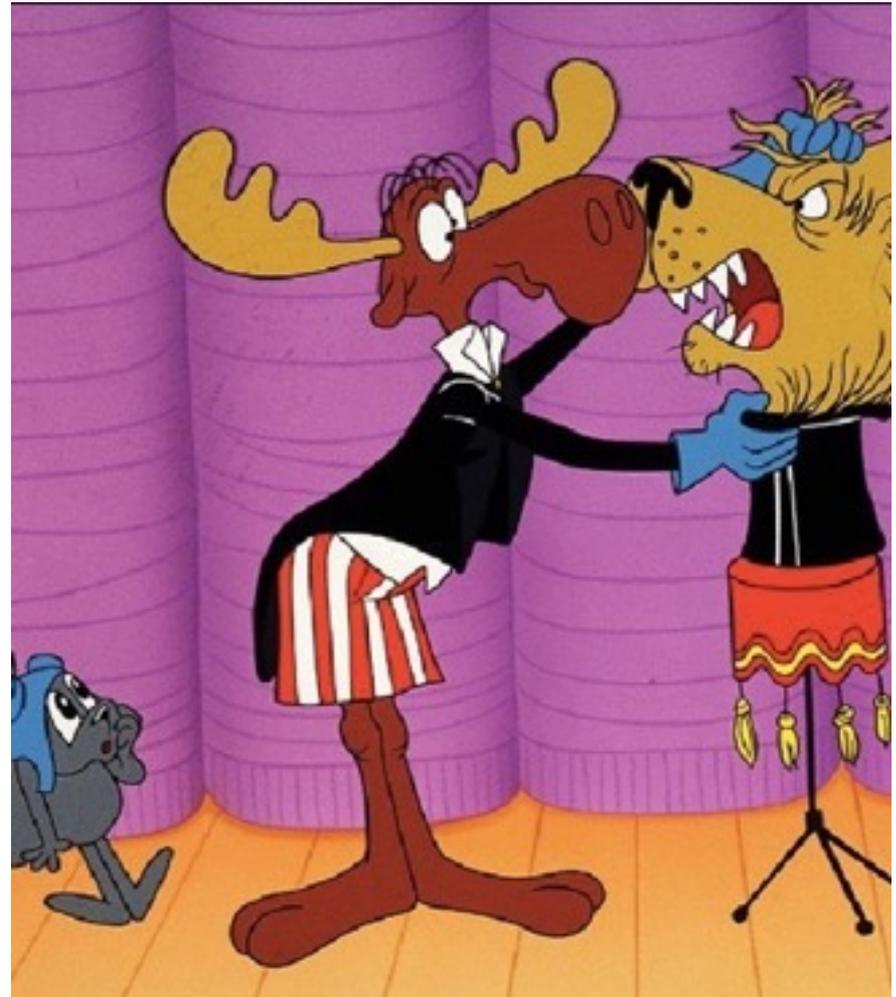
April 18, 2016 8-9 AM
Wheeler Auditorium, U.C. Berkeley

Problem Set 9

- It has been pointed out that R&R week is supposed to be a *review* week, rather than a *teach-new-material* week
- And that giving people new graded assignments is frowned upon by California Hall
- Therefore everybody will get a “4” on problem set 4

And on the Fifth (This Time, for Sure!) Try...

- The i>Clicker database appears to have successfully talked to the Canvas database...
- Which means that you ought to be able to see your i>Clicker scores...
- We have, so far, had 28 i>Clicker points; we will have 36. Each i>Clicker point will be worth 1/3% of your final score up to a total of 9%...
- But databases need to be cleaned...



You Still Need to Register Your i>Clickers If Your i>Clicker IDs Are

- 36a97ce3
- 42d370e1
- 4319a7fd
- 45260A69
- 46111047
- 417fa57b

- Please do so...

- Or if your scores appear wrong:
 - In my 55 years I have learned:
do not trust databases



Median Grade

- That means that the median grade in this course will rise to a B+...
- Rather than the B/B+ that I had guessed it would be...
 - You deserve it—the midterm showed that you have learned a bunch of stuff
 - Besides: would you believe the grades they are giving out at Haas, and at Harvard these days?

The Keynesian Model: Review

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Our Keynesian Income-Expenditure Model

- $Y = \mu[c_0 + I_0 + NX] + \mu G - (\mu I_r)r$
 - μ — multiplier = $1/(1 - c_y)$
 - $+ \mu[c_0 + I_0 + NX]$ — private sector-driven spending flows
 - $+ \mu G$ — government purchases, fiscal policy
 - $- (\mu I_r)r$ — interest-sensitive investment, monetary policy

Our Keynesian Income-Expenditure Model II

- $Y = \mu[c_0 + I_0 + NX] + \mu G - (\mu l_r)r$
 - $\mu = 1/(1 - c_y)$ — Changes in consumption spending reinforce changes in other kinds of spending
 - $C = c_0 - c_y$ — Why? Because consumption rises (falls) when income rises (falls).
 - $I = I_0 - l_r r$ — Investment spending is high when the interest rate is low
 - $r = i + \tau + \rho - \pi$ — the Federal Reserve influences but does not control the interest rate
 - $Y = E = C + I + G + Y$ — the components of spending and the equality of spending and income

Our Keynesian Income-Expenditure Model III

- $Y = \mu[c_0 + I_0 + NX] + \mu G - (\mu I_r)r$
 - $\mu = 1/(1 - c_y) : C = c_0 - c_y Y : I = I_0 - I_r r : r = i + \tau + \rho - \pi$
- Basic rule-of-thumb parameter values:
 - $\mu = 3$ —a multiplier of 3, corresponding to an mpc $c_y = 2/3$
 - $Y = \$18T$ —annual GDP, with a full-employment value of Y of $\$20T$ (if you are me) and of about $\$18T$ (if you are Janet Yellen)
 - $I_r = \$0.2T$ —a 1%-point decline in the real interest rate r should boost annual business investment spending by about $\$0.2T$

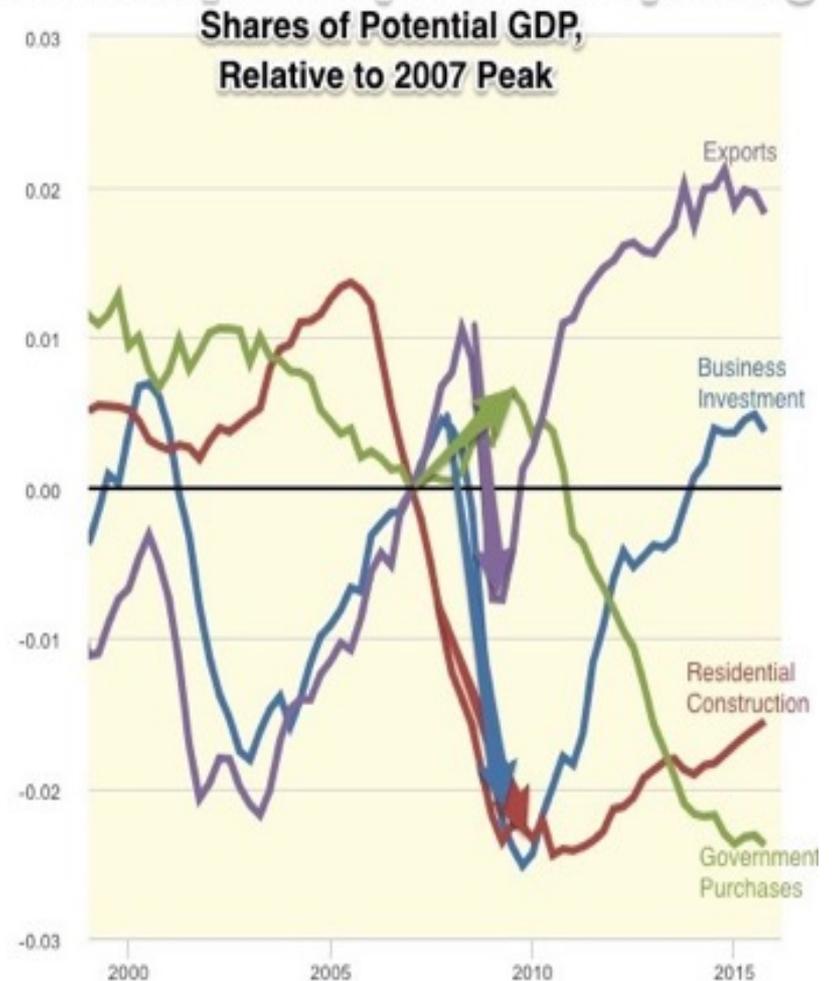
The “Neutral” Interest Rate

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The “Neutral” Interest Rate

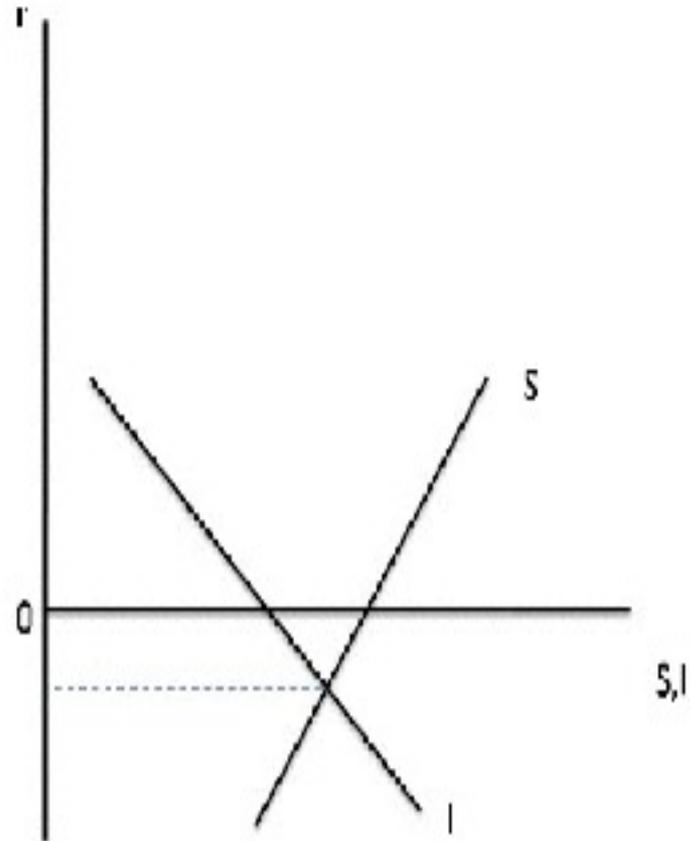
- Our enhanced model:
- $Y = \mu[c_0 + I_0 + NX] + \mu G - (\mu I_r)r$
- There is, at any point in time, a “full employment” level of GDP Y^*
- Substitute and solve for r and call it r^* :
- $r^* = [Y^*/\mu - (c_0 + I_0 + NX + G)]/I_r$
- r^* is the “neutral” real interest rate
- Can think of the Fed’s job as being to shift the money stock around in order to make the actual long-term risky real interest rate equal to this r^*

Four Principal Components of Spending



The “Neutral” Interest Rate II

- Can think of the Fed’s job as being to shift the money stock around in order to make the actual real interest rate equal to this r^*
- And you will often see, if you read Paul Krugman, a figure like this one here ($S=I$ is where $Y=E$, where income = expenditure \rightarrow)
- The point of this figure is to say that, in the economic conditions we have had since 2008 and have today, even an i of 0 is too high and keeps the actual interest rate above r^*
- (Yes, this is a confusing graph—PK should have labeled the vertical axis with an “ i ” rather than an “ r ”. This is a bad habit of MIT macro...)



In effect, we have an incipient excess supply of savings even at a zero interest rate. And that’s our problem.

Aggregate Supply: Inflation, Unemployment, and GDP

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Unemployment and Inflation



What Is the Aim of Economic Policy?

- Things that the Federal Reserve takes as its objectives:
 - Price stability
 - Maximum feasible employment
 - Moderate long-term interest rates
 - Financial stability (concern for not creating situations in which financial crisis are going to cause collapses in I_0 and NX)

John Maynard Keynes in 1924

- The individualistic capitalism of today, precisely because it entrusts savings to the individual investor and production to the individual employer, *presumes* a stable measuring rod of value, and cannot be efficient—perhaps cannot survive—without one...

John Maynard Keynes in 1924 II

- Rising prices [inflation] and falling prices [deflation] each have their characteristic disadvantage. The Inflation which causes the former means Injustice to individuals and to classes—particularly to investors; and is therefore unfavorable to saving. The Deflation which causes falling prices means Impoverishment to labor and to enterprise by leading entrepreneurs to restrict production, in their endeavor to avoid loss to themselves; and is therefore disastrous to employment...

John Maynard Keynes in 1924 III

- Inflation is unjust and Deflation is inexpedient. Of the two, perhaps deflation is the worse; because it is worse, in an impoverished world, to provoke unemployment than to disappoint the *rentier*. But it is not necessary that we should weigh one evil against the other. It is easier to agree that both are evils to be shunned...

John Maynard Keynes in 1924 IV

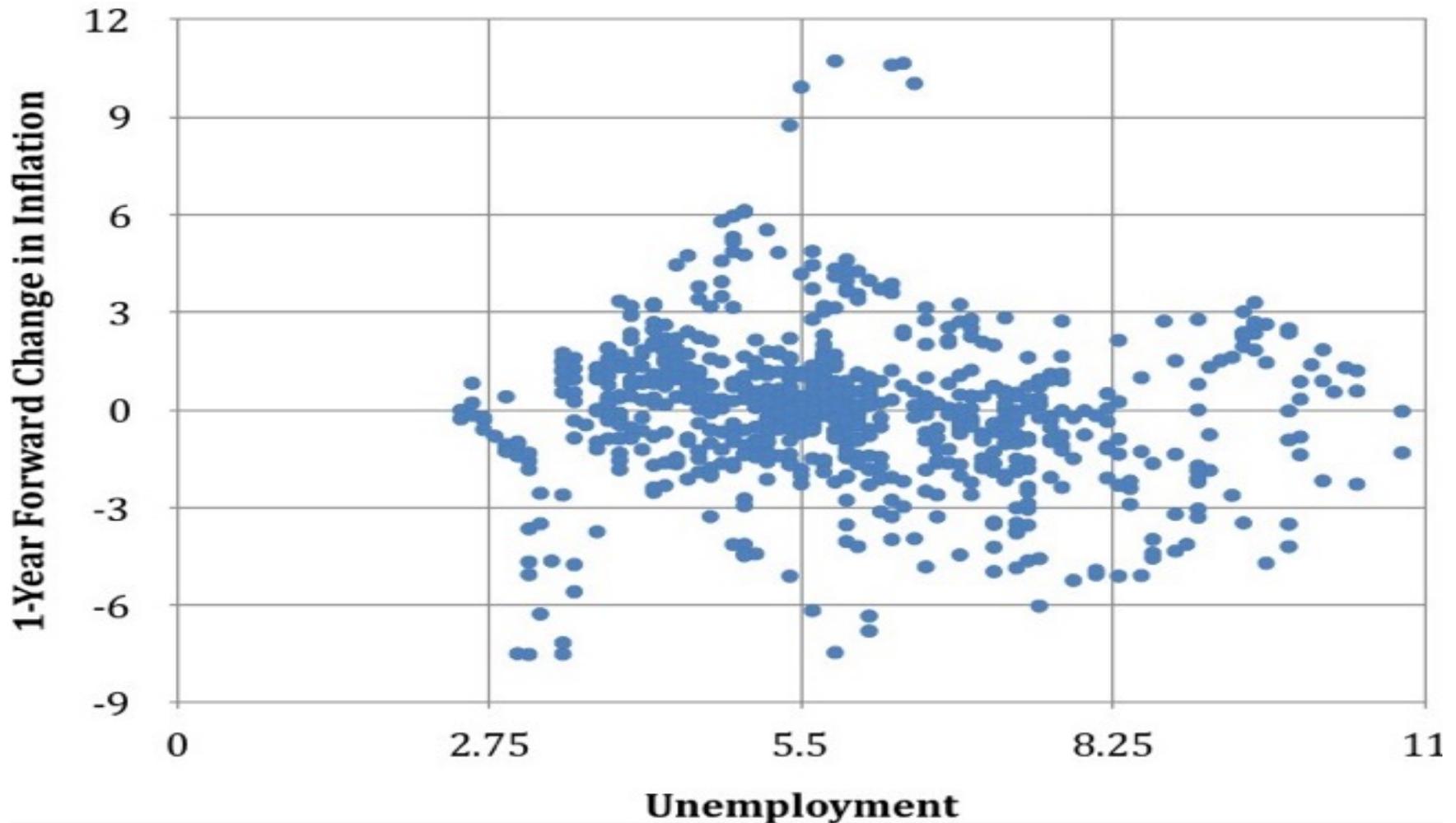
- Those who are not in favor of drastic changes in the existing organization of society believe that [our current economic] arrangements, being in accord with human nature, have great advantages. But they cannot work properly if the money, which they assume as a stable measuring-rod, is undependable.
Unemployment, the precarious life of the worker, the disappointment of expectation, the sudden loss of savings, the excessive windfalls to individuals, the speculator, the profiteer--all proceed, in large measure, from the instability of the standard of value...

Unemployment and Inflation



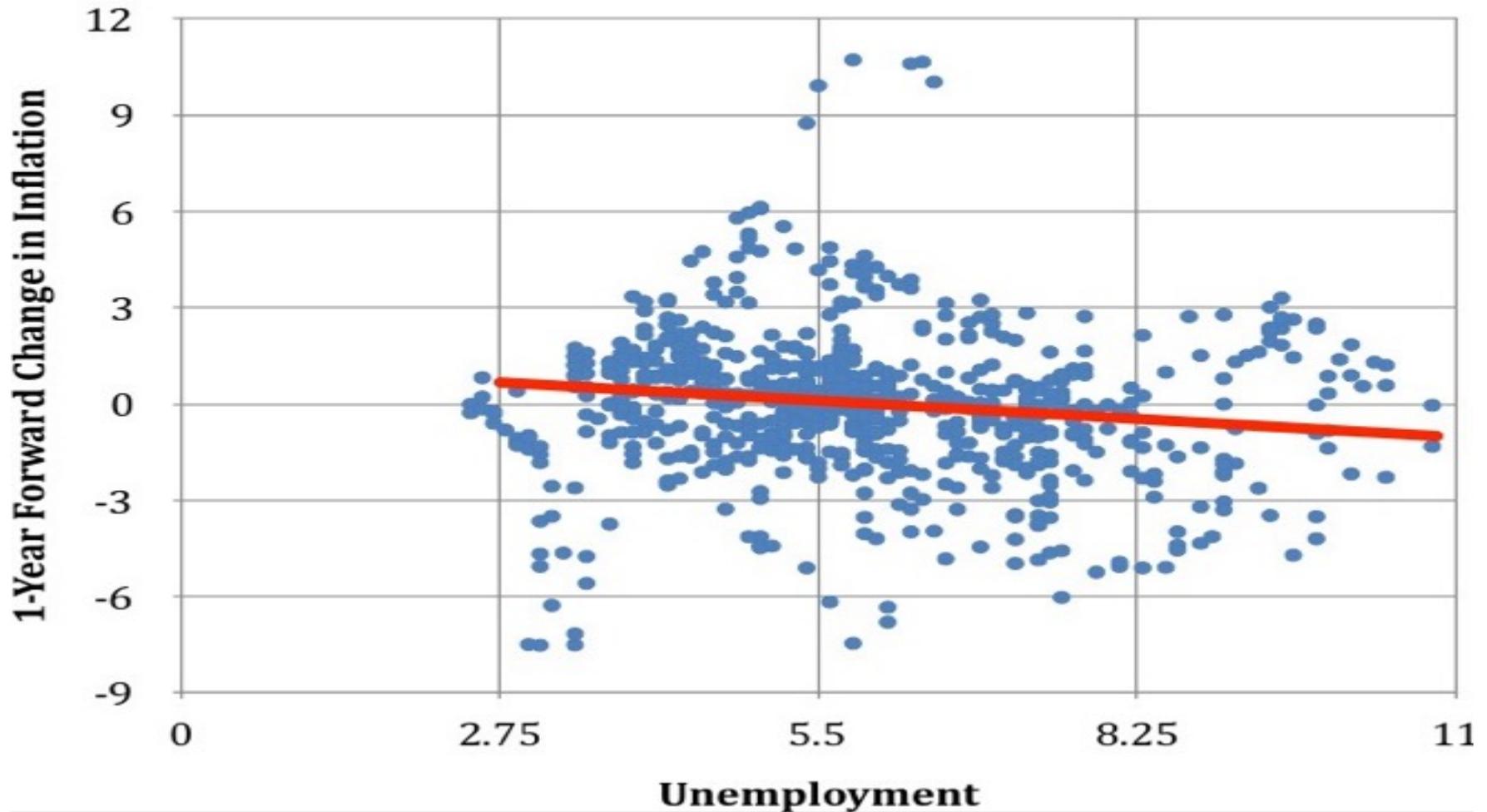
Unemployment and Inflation II: A Mess

1-Year Forward Change in Inflation and Unemployment



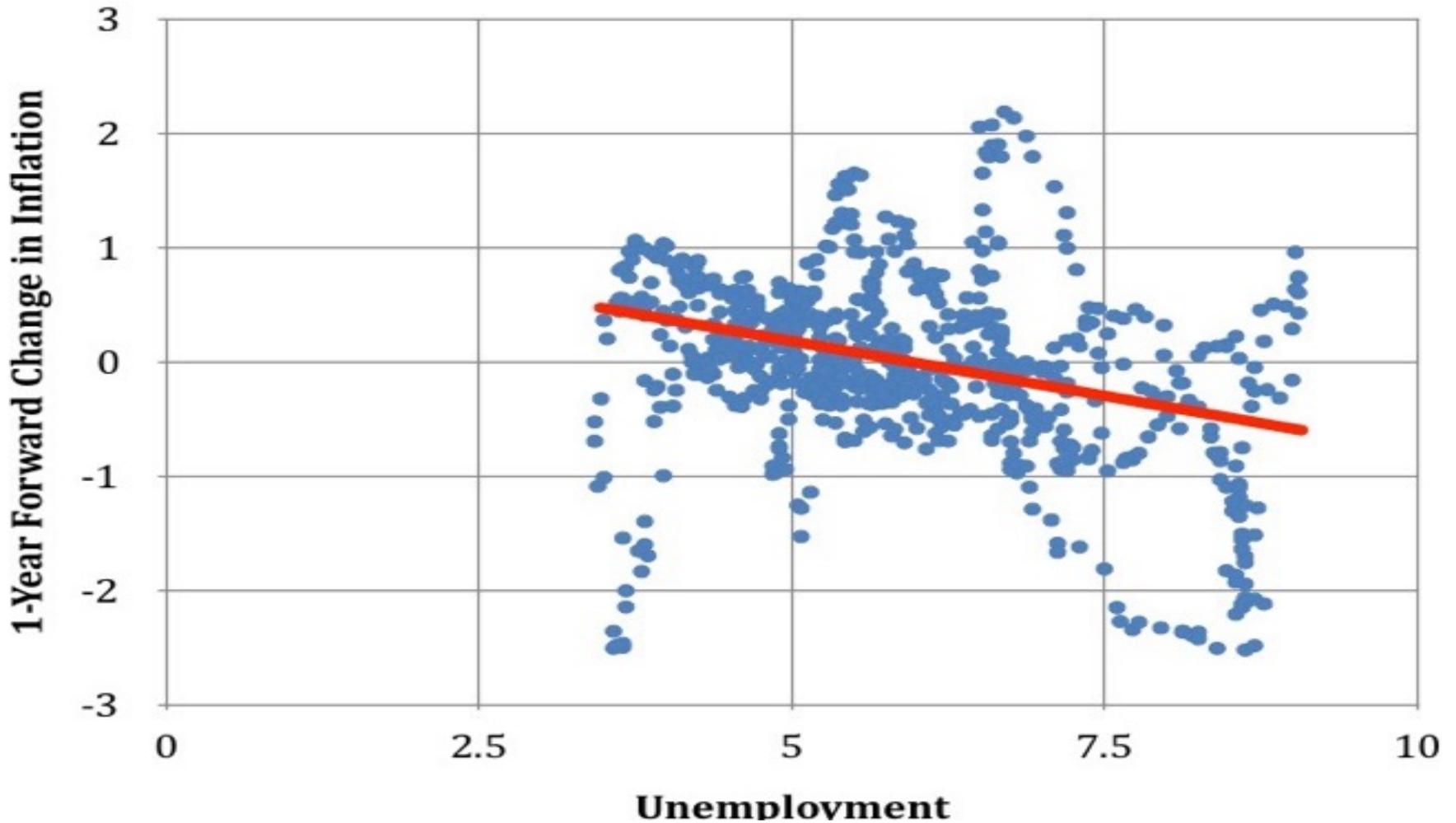
Unemployment and Inflation III: Maybe a Signal...

1-Year Forward Change in Inflation and Unemployment



Unemployment and Inflation IV: But in the Longer Run...

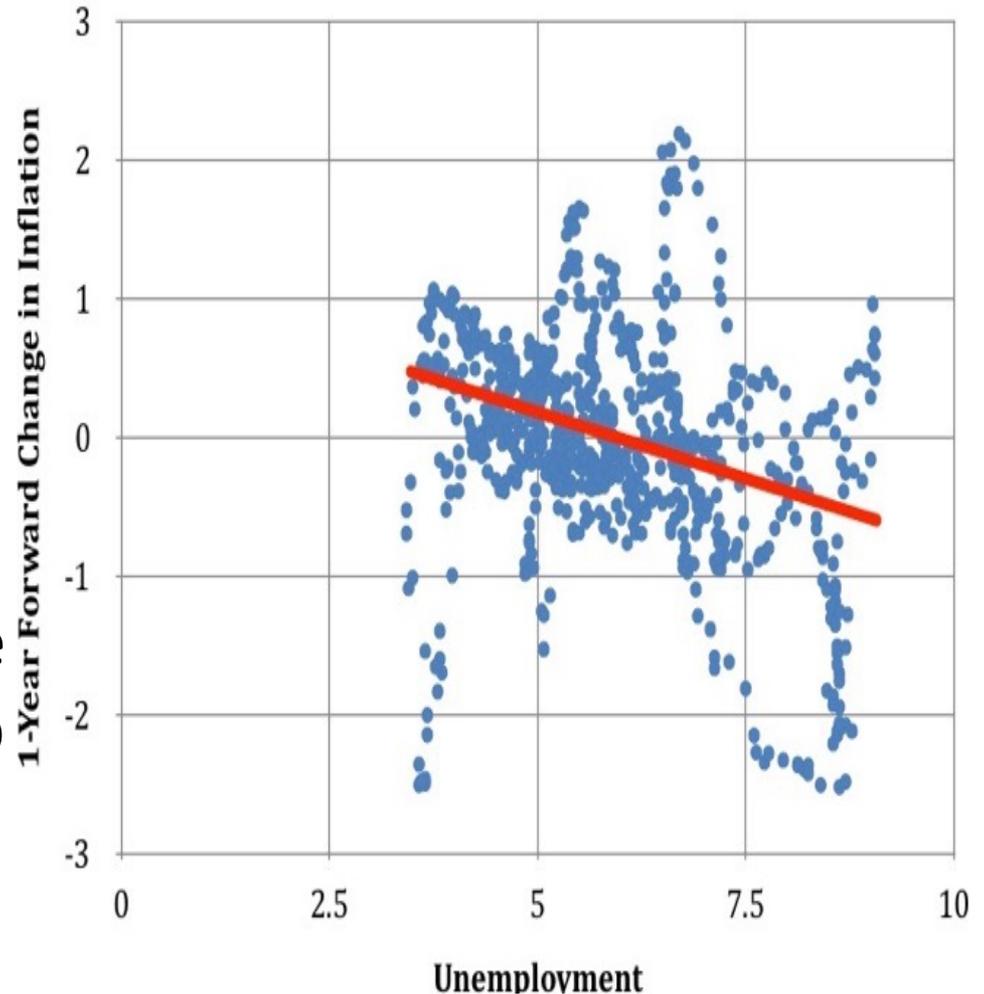
4-Year Forward Change in Inflation and Unemployment



Unemployment and Inflation IV: But in the Longer Run...

- The 1970s and the 1980s in the lower right and upper middle...
- The 1950s and the late 2000s in the lower left and upper right
- But a negative unemployment-change in inflation relationship is the way to bet if you are patient...

4-Year Forward Change in Inflation and Unemployment



Rules of Thumb

- Unemployment 1%-pt above average means Δ 2%-pts below potential GDP
- Reduce (raise) real GDP below (above) potential output by 1%-pt and keep it down (up) for 5 years, and inflation will fall (rise) by 1%-pt
- But other, bigger things than movements along this “Phillips Curve” may well be happening to prices—like the 1970s

4-Year Forward Change in Inflation and Unemployment

