POLICY ADVICE
○○○○

UNEMPLOYMENT
○○○

RAVENNA AND WALSH
○○○○○

A FEW EQUATIONS
○○○○○○○

REACTIONS
○○

CONCLUSION
○○

SOME UNPLEASANT IMPLICATIONS FOR UNEMPLOYMENT TARGETERS

James Bullard
Federal Reserve Bank of St. Louis

22nd Annual Hyman P. Minsky Conference
New York, N.Y.
17 April 2013

Any opinions expressed here are my own and do not necessarily reflect those of others on the Federal Open Market Committee.
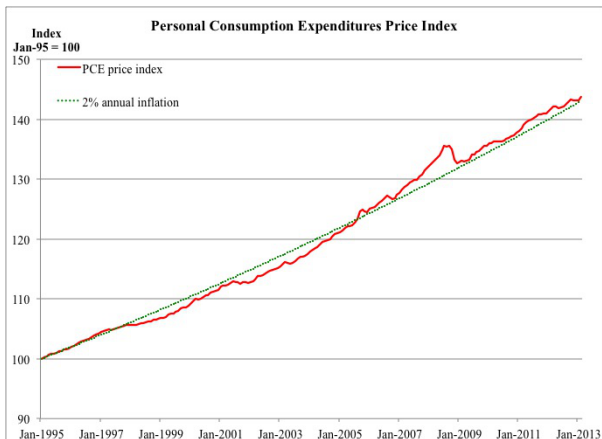
Policy advice

NEW KEYNESIAN POLICY ADVICE

- The "New Keynesian" (NK) macroeconomics literature has been extraordinarily influential.
- The literature assumes "sticky prices" to be the key problem facing the economy.
    - The idea is that prices do not adjust appropriately to reflect changing supply and demand conditions. Controversial.
- A central bank that controls a short-term nominal interest rate can mitigate the sticky price problem and improve macroeconomic outcomes.
    - At the zero lower bound, the central bank can still operate effectively through "forward guidance."
- The Fed has experimented with this policy advice.

PRICE STABILITY

- The essence of the NK policy advice is to keep inflation close to a prescribed inflation target.
- The FOMC adopted an inflation target in January 2012, and was perceived to have one much earlier.
- Technically, the policy advice is to maintain a *price level path* consistent with the inflation target.
- Has the Fed maintained such a price level path?
- Yes!
- I have called this "A Singular Achievement of Recent Monetary Policy."
  - Theodore and Rita Combs Distinguished Lecture, University of Notre Dame, September 20, 2012.

THE PRICE LEVEL PATH SEEMS APPROPRIATE

Source: Bureau of Economic Analysis. Last observation: February 2013.

ACTUAL POLICY

- Conclude: Actual FOMC monetary policy since 1995 seems to have mimicked the policy advice emanating from the NK literature.
- This is despite all that happened during this 18-year period.

- However ...
    - ... the standard NK model does not have unemployment, and ...
    - ... today's level of unemployment is high ....

POLICY ADVICE
○○○○

UNEMPLOYMENT
○○○

RAVENNA AND WALSH
○○○○○

A FEW EQUATIONS
○○○○○○○

REACTIONS
○○

CONCLUSION
○○

Unemployment

UNEMPLOYMENT

- The unemployment rate remains high by historical U.S. standards.
- It has declined from its post-recession peak level at a rate of about 7/10 of 1 percent per year.
  - This occurred during several years of relatively weak economic growth.
  - Very similar to the U.S. experience from June 1992 to June 1994 and again from June 2003 to June 2005.
- At this pace, the unemployment rate will be in the low 7 percent range by the end of 2013.

DECLINING UNEMPLOYMENT

Source: Bureau of Labor Statistics. Last observation: March 2013.

MAIN QUESTION

- Should the Fed adopt a policy rule that "puts more weight" on unemployment?

- *The surprising answer: "No," based on the current state of knowledge on this matter.*

- The remainder of this talk will be devoted to trying to understand this finding.

Ravenna and Walsh

PATH TO AN ANSWER

- I consider recent research by Federico Ravenna (Institute of Applied Economics, HEC Montreal) and Carl Walsh (University of California, Santa Cruz).

- Their state-of-the-art paper is: "Welfare-Based Optimal Monetary Policy with Unemployment and Sticky Prices: A Linear-Quadratic Framework."

- It was published April 2011 in the *American Economic Journal: Macroeconomics*, 3(2), pp. 130-62.

- They calculate fully optimal monetary policy in a model that explicitly includes sticky prices and search-based unemployment.

- They have also sharpened their conclusions in more recent work.

WHY THIS PARTICULAR PAPER?

- Ravenna and Walsh (RW) designed the research effort to carefully address the following issues:
  - We want to know if the standard "maintain price stability" advice survives in a NK economy with explicitly-modeled unemployment.
  - Unemployment is a relatively difficult topic in macroeconomics.
    - One has to move toward search-based ideas.
    - Peter Diamond, Dale Mortensen, and Christopher Pissarides were cited in this area for their Nobel Prize.
  - We want to know what the households living inside the model would want the policymaker to do.
    - What would be the best monetary policy from the point of view of a household facing both sticky prices and unemployment?

THE RAVENNA AND WALSH ECONOMY

- The Ravenna-Walsh economy has both sticky price and labor search frictions.
- This means:
  1. Prices do not move one-for-one with changes in supply and demand, and
  2. It is hard to find a job.
- We know that if the economy only had the sticky price problem, the optimal policy is close to price stability.
- How will this advice change when labor search frictions are an explicit part of the macroeconomic landscape?

WHAT RAVENNA AND WALSH FOUND

- With unemployment explicitly in the model, one might expect that the optimal monetary policy would partly try to mitigate the sticky price problem and partly try to mitigate the labor search problem.
- But this is not the case.
- The optimal policy is still very close to price stability, even with unemployment explicitly in the model.
- The policymaker still does best by following the maxim, "keep inflation as close to target as is practicable."
- Attempts to "put more weight" on unemployment may be highly counter-productive.

INTERPRETING RAVENNA AND WALSH

- I take the advice from the Ravenna and Walsh (2011) analysis as an important baseline for contemporary U.S. monetary policy.
- In the remainder of this talk, I will:
  - discuss some key aspects of their analysis, including more recent work that sharpens some of their conclusions.
    - The essential problem is that monetary policy is not a good tool to address labor market inefficiency.
  - address some some possible reactions to this work.

A few equations

TWO EQUATIONS

- The key linearized equations in RW can be written as

$$\tilde{u}_{t+1} = \frac{\beta}{1+\beta}E_t\tilde{u}_{t+2} + \frac{1}{1+\beta}\tilde{u}_t - \frac{1}{\hat{\sigma}}\tilde{r}_t \tag{1}$$

$$\pi_t = \beta E_t\pi_{t+1} - \chi_{\tilde{u}}\tilde{u}_{t+1} + \chi_{\tilde{r}}\tilde{r}_t + \chi_{\hat{b}}\hat{b}_t. \tag{2}$$

- Variables: π_t is the deviation of inflation from target, and $\tilde{u}_t = (\hat{u}_t - \hat{u}_t^e)$ is the unemployment gap.
- Shocks: $\tilde{r}_t = (\tilde{i}_t - E_t\pi_{t+1})$ is the real interest rate gap, and $\hat{b}_t$ is a shock to workers' surplus share.
- Parameters: β, $\hat{\sigma}$, $\chi_{\tilde{u}}$, $\chi_{\tilde{r}}$, $\chi_{\hat{b}}$.

KEY FEATURES

- The equations are forward-looking as they depend on households' views of the future.
- Inflation is expressed as a deviation from the target level.
- Unemployment is expressed as a deviation from the level that would prevail if prices were perfectly flexible.
  - Ravenna and Walsh (2011) remark: "Thus, neither the level of unemployment nor simply the level of the unemployment gap correctly measures the appropriate objective of monetary policy."

WHAT DO HOUSEHOLDS WANT?

- The households in this economy have to cope with sticky prices and unemployment.
- How can the monetary policymaker help?
- RW show that the households want the monetary policymaker to minimize a loss function which depends on inflation variability, consumption variability, and a term involving labor market tightness—the number of vacancies per unemployed.
- The labor market tightness term is what is new in this paper.
  - This extra term is exactly what one would expect by carrying the analysis in this direction.

WHAT SHOULD MONETARY POLICY DO?

- RW turn to studying optimal monetary policy via changes in the nominal interest rate.
- The main finding is that the policy advice remains "price stability."
  - That is, the policymaker should still "keep inflation as close to target as is practicable."
  - Expressed as a Taylor-type rule, it would mean putting almost all the weight on the inflation term.
- RW suggest that deviating from this policy can lead to substantially worse outcomes for households.

MORE WEIGHT ON UNEMPLOYMENT?

- The idea that the Fed should "put more weight" on unemployment does not fare well in this analysis.
- Such an approach may be highly counter-productive.

STILL MORE RESEARCH

- Why do Ravenna and Walsh obtain this finding? What is the intuition?
- RW have another paper, "Monetary Policy and Labor Market Frictions: A Tax Interpretation," (*Journal of Monetary Economics*, 2012).

SOURCE OF THE PROBLEM

- In this paper RW ask:
  - "Why is price stability close to optimal even when labor market distortions are present?"
- Here is the short explanation:
  - The monetary policymaker has only one tool in this model (changes in the short-term nominal interest rate).
  - But the model with labor market frictions has multiple distortions.
  - Attempts to address the various labor market inefficiencies solely with monetary policy do not work very well, because improvements on one dimension are simultaneously detriments on other dimensions.
  - This means that other policy tools are needed.
  - "Other policy tools" could be interpreted as more direct labor market policies.

Reactions

THE ZERO LOWER BOUND

- The Ravenna and Walsh findings do not incorporate an analysis of monetary policy at the zero lower bound (ZLB).

- However, the RW argument is that even a completely unconstrained monetary policy cannot effectively address labor market inefficiencies.

THIS IS JUST ONE MODEL

- The Ravenna and Walsh (2011) paper is certainly not the last word on these issues.
- However, it does have some advantages over other current work:
  - Search-theoretic unemployment explicitly included.
  - Comparability to standard results from New Keynesian literature.
  - Household happiness with policy is evaluated through utility of those living inside the model.
  - Calibrated to U.S. data, but results likely to hold across alternative parameter settings.
- I think the RW results should be considered as an important benchmark for contemporary monetary policy.

Conclusion

PRICE STABILITY

- The standard policy advice emanating from the influential New Keynesian macroeconomics literature is "price stability."
- Practically speaking, this means "focus on keeping inflation close to target."
- The FOMC has followed this advice in broad terms since 1995.

LABOR MARKET POLICIES

- The current high level of unemployment is causing some to suggest that the FOMC should "put more weight" on unemployment in its decision-making process.

- However, frontline research suggests that "price stability" remains the policy advice even in the face of serious labor market inefficiencies.

- This research should provide the benchmark for contemporary monetary policy.

- The essential finding is that monetary policy alone cannot effectively address multiple labor market inefficiencies, and so one must turn to more direct labor market policies to address those problems.