

DISCUSSION OF “CREDIT CRISES,  
PRECAUTIONARY SAVINGS, AND THE  
LIQUIDITY TRAP” BY VERONICA  
GUERRIERI AND GUIDO LORENZONI

Discussion by Bob Hall

EF&G Research Meeting  
NBER Summer Institute  
July 16, 2011

.

# BEWLEY MODEL

Annual discount factor: 0.92

# BEWLEY MODEL

Annual discount factor: 0.92

Borrowing opportunities: \$10 K on credit cards, any amount on payday loans at 200 percent per year

# BEWLEY MODEL

Annual discount factor: 0.92

Borrowing opportunities: \$10 K on credit cards, any amount on payday loans at 200 percent per year

Realistic shocks

# BEWLEY MODEL

Annual discount factor: 0.92

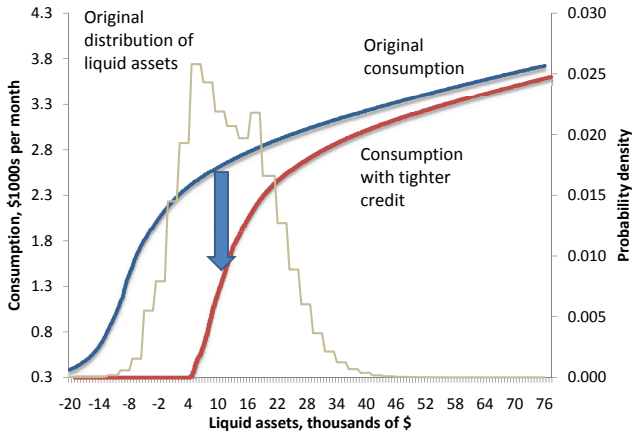
Borrowing opportunities: \$10 K on credit cards, any amount on payday loans at 200 percent per year

Realistic shocks

No labor supply response

.

# THE HOUSEHOLD STORY



# THE MACRO STORY

Euler equation:  $\Delta \log c(W) = \sigma(r(W) - \rho) + g(W)$

# THE MACRO STORY

Euler equation:  $\Delta \log c(W) = \sigma(r(W) - \rho) + g(W)$

After credit tightening,  $r$  is high for low  $W$  (payday loans) and  $g(W)$  is also high, because of increased volatility of future consumption and positive third derivative of utility



# THE MACRO STORY

Euler equation:  $\Delta \log c(W) = \sigma(r(W) - \rho) + g(W)$

After credit tightening,  $r$  is high for low  $W$  (payday loans) and  $g(W)$  is also high, because of increased volatility of future consumption and positive third derivative of utility

In endowment economy,

$$\int c(W)[\sigma(r(W) - \rho) + g(W)]dF(W) = 0$$

so higher interest rate for low  $W$  must result in lower interest rate for high  $W$ .

# THE MACRO STORY

Euler equation:  $\Delta \log c(W) = \sigma(r(W) - \rho) + g(W)$

After credit tightening,  $r$  is high for low  $W$  (payday loans) and  $g(W)$  is also high, because of increased volatility of future consumption and positive third derivative of utility

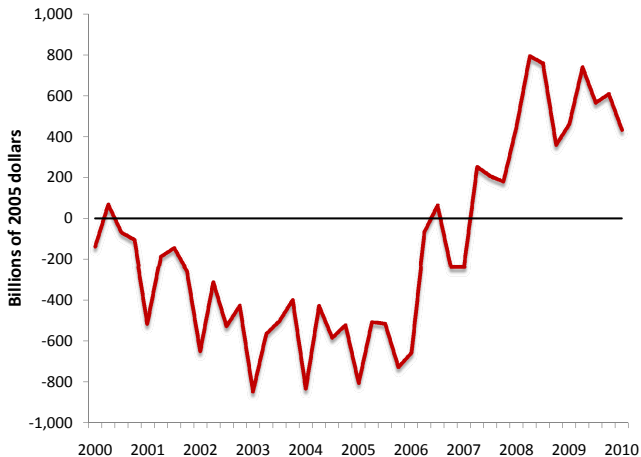
In endowment economy,

$$\int c(W)[\sigma(r(W) - \rho) + g(W)]dF(W) = 0$$

so higher interest rate for low  $W$  must result in lower interest rate for high  $W$ .

But the zero lower bound may block that lower rate

# CASH FROM HOUSEHOLDS TO FINANCIAL INSTITUTIONS

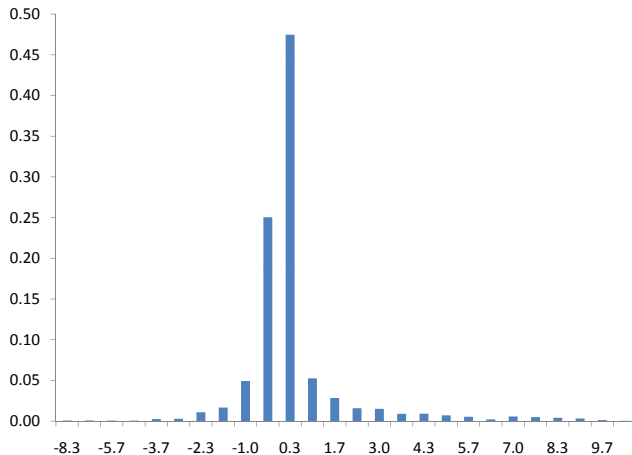


# SOMETHING TO CHECK

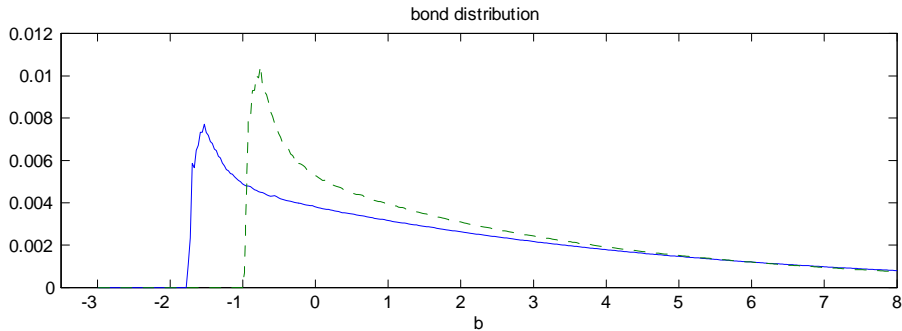
Compare cash from low- $W$  households in the model to these numbers

.

# DISTRIBUTION OF LIQUID ASSETS, SURVEY OF CONSUMER FINANCES



# DISTRIBUTION OF LIQUID ASSETS IN GL MODEL



# EXPLAINING THE TIGHT DISPERSION OF LIQUID WEALTH

Both this paper and my own work on SCF data informed by a household DP model seem to find that the magnitude of shocks generates more dispersion in liquid asset holdings than is found in the data

# EXPLAINING THE TIGHT DISPERSION OF LIQUID WEALTH

Both this paper and my own work on SCF data informed by a household DP model seem to find that the magnitude of shocks generates more dispersion in liquid asset holdings than is found in the data

One explanation: Families have access to financial buffers apart from those reported in the SCF (Blundell, Pistaferri, and Preston *AER* 2008)



# EXPLAINING THE TIGHT DISPERSION OF LIQUID WEALTH

Both this paper and my own work on SCF data informed by a household DP model seem to find that the magnitude of shocks generates more dispersion in liquid asset holdings than is found in the data

One explanation: Families have access to financial buffers apart from those reported in the SCF (Blundell, Pistaferri, and Preston *AER* 2008)

Another possibility: “Neither a borrower nor a lender be.” (*Hamlet*, Act 1, Scene 3). Families follow the advice of Polonius more enthusiastically than our DP models recommend

.

# HETEROGENEITY

The paper makes progress in state heterogeneity: liquid wealth holdings, personal productivity, and durable holdings

# HETEROGENEITY

The paper makes progress in state heterogeneity: liquid wealth holdings, personal productivity, and durable holdings

The SCF makes it pretty clear that we should allow for heterogeneity in permanent characteristics as well: productivity and time preference

.

# TRADITIONAL SIMPLIFICATION OF THE IDEAS OF THE PAPER

Some households have no meaningful financial buffer and simply consume their incomes—they are on the steep part of the  $c(W)$  policy function

# TRADITIONAL SIMPLIFICATION OF THE IDEAS OF THE PAPER

Some households have no meaningful financial buffer and simply consume their incomes—they are on the steep part of the  $c(W)$  policy function

The rest are well buffered and follow the life-cycle-permanent income principle—they are on the flat part of the policy function

.

# POTENTIAL DICHOTOMY FROM THE SCF

Define a family as liquidity-constrained if its holdings of net liquid assets are less than two months of income.

# POTENTIAL DICHOTOMY FROM THE SCF

Define a family as liquidity-constrained if its holdings of net liquid assets are less than two months of income.

Net liquid assets are the difference between holdings in savings accounts and the like and borrowing from credit cards and other unsecured forms.

# POTENTIAL DICHOTOMY FROM THE SCF

Define a family as liquidity-constrained if its holdings of net liquid assets are less than two months of income.

Net liquid assets are the difference between holdings in savings accounts and the like and borrowing from credit cards and other unsecured forms.

In the 2007 Survey of Consumer Finances, households illiquid by this standard earned 58 percent of all income.



# POTENTIAL DICHOTOMY FROM THE SCF

Define a family as liquidity-constrained if its holdings of net liquid assets are less than two months of income.

Net liquid assets are the difference between holdings in savings accounts and the like and borrowing from credit cards and other unsecured forms.

In the 2007 Survey of Consumer Finances, households illiquid by this standard earned 58 percent of all income.

The fraction of households that were constrained—74 percent—is even higher because lower-income households are more likely to be constrained.

## ZLB ISSUES

A non-rigorous but almost completely reliable principle: When you add an equation to a model (such as  $r_N = 0$ ), you need to remove an equation to retain equality of equations and variables.

## ZLB ISSUES

A non-rigorous but almost completely reliable principle: When you add an equation to a model (such as  $r_N = 0$ ), you need to remove an equation to retain equality of equations and variables.

In this model, the equation that is dropped, in effect, is on page 19:

$$w_t = \frac{\epsilon - 1}{\epsilon},$$

the labor “wedge”.

## ZLB ISSUES

A non-rigorous but almost completely reliable principle: When you add an equation to a model (such as  $r_N = 0$ ), you need to remove an equation to retain equality of equations and variables.

In this model, the equation that is dropped, in effect, is on page 19:

$$w_t = \frac{\epsilon - 1}{\epsilon},$$

the labor “wedge”.

Instead, the “wedge adjusts endogenously so that a reduction in goods demand is translated into a reduction in labor inputs.” The wedge becomes a free variable only under the extreme assumption of fixed prices.

## ZLB ISSUES

A non-rigorous but almost completely reliable principle: When you add an equation to a model (such as  $r_N = 0$ ), you need to remove an equation to retain equality of equations and variables.

In this model, the equation that is dropped, in effect, is on page 19:

$$w_t = \frac{\epsilon - 1}{\epsilon},$$

the labor “wedge”.

Instead, the “wedge adjusts endogenously so that a reduction in goods demand is translated into a reduction in labor inputs.” The wedge becomes a free variable only under the extreme assumption of fixed prices.

# ZLB IN STANDARD NK MODEL

The standard New Keynesian model does not make the wedge a free variable—it relates the wedge to the rate of inflation.

# ZLB IN STANDARD NK MODEL

The standard New Keynesian model does not make the wedge a free variable—it relates the wedge to the rate of inflation.

The free variable is the rate of inflation.

## ZLB IN STANDARD NK MODEL

The standard New Keynesian model does not make the wedge a free variable—it relates the wedge to the rate of inflation.

The free variable is the rate of inflation.

So the model would be overdetermined if the rate of inflation is also specified.



## ZLB IN STANDARD NK MODEL

The standard New Keynesian model does not make the wedge a free variable—it relates the wedge to the rate of inflation.

The free variable is the rate of inflation.

So the model would be overdetermined if the rate of inflation is also specified.

This is the clash mentioned in footnote 7.

.