

# Discussion of “Unemployment (Fears) and Deflationary Spirals”

by Wouter den Haan, Pontus Rendahl and Markus Riegler

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“Challenges for macroeconomic policy in a low inflation environment”

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U Bonn

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- ▶ A rich set of implications on both monetary and labor market policy.  
(Even though it is written very concise, the paper is still 51 pages long + Appendix!)

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Recessions are times when households neither want to consume, nor invest in productive assets.

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6. **Consequently:** Unemployment goes up AND returns on non-money assets fall.
7. **The deflationary spiral:** **Both** effects shift asset demand towards money. The unemployed prefer money as savings device. [Go back to 4.]

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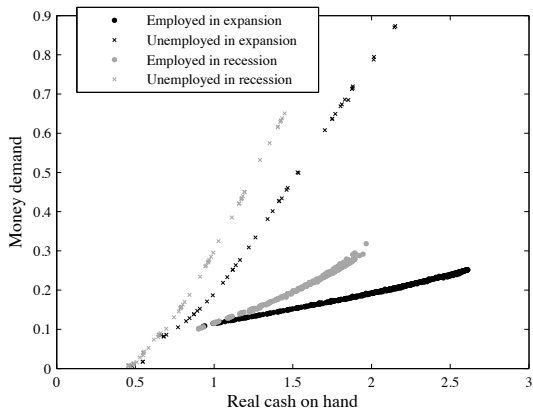


Figure 7: Money demand (real).

## Have we seen an increase in liquidity of portfolios?

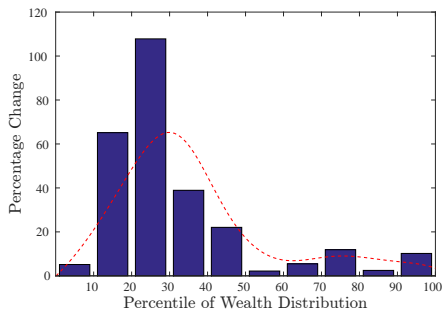


Figure: Change in Portfolio Liquidity 2004-2010 SCF

From Bayer, Lüticke, Pham-Dao and Tjaden (2015, CEPR-DP).

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1. **Here and in the representative agent economy with MIU:** When consumption falls, households want to hold less money.
2. **Market incompleteness:** The unemployed like money better, because it's the better hedge.
3. In this paper: [2.] dominates [1.] therefore more unemployed means more money demand.

## Optimal Money Holdings

- ▶ Write up the **Portfolio Problem** for an unconstrained household,
- ▶ The *relative* real return of equity to money is  $(1 + i)$ , the ex-post nominal interest rate
- ▶ The marginal utility from money is  $\chi m^{-\xi}$
- ▶ The FOC is:

$$\chi m^{-\xi} = \beta E [(1 + i) c'^{-\gamma}]$$

# Optimal Money Holdings

## Some Algebra

- ▶ Rewrite this as

$$\chi m^{-\xi} = \beta E[(1+i)] E[c'^{-\gamma}] + \text{cov}(1+i, c'^{-\gamma})$$

- ▶ Express covariance in terms of coefficients of variation (cv) and correlation

$$\begin{aligned} \chi m^{-\xi} &= \beta E[(1+i)] E[c'^{-\gamma}] \\ &\times (1 + cv(1+i)cv(c'^{-\gamma})\text{corr}(1+i, c'^{-\gamma})) \end{aligned}$$



# Optimal Money Holdings

## An Approximation

- ▶ Approximate this as

$$\begin{aligned} \log m + \text{const.} &\approx -\frac{1}{\xi} E[i] + \frac{\gamma}{\xi} \left\{ E[\log c'] - \frac{\gamma}{2} \sigma^2(\log c') \right\} \\ &\quad - \frac{\gamma}{\xi} [\sigma(i)\sigma(\log c') \text{corr}(1+i, c'^{-\gamma})] \end{aligned}$$

using:

- ▶  $cv(x) \approx \sigma(\log(x))$ ,
- ▶ utility 2nd order,
- ▶  $\log(1+i) \approx i$

## When will money demand increase with unemployment

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$$\Delta C - \Delta\sigma^2 < \sigma(i) \times \left[ \sigma(\log c'_u) \text{corr}(1+i, c'_u{}^{-\gamma}) - \sigma(\log c'_e) \text{corr}(1+i, c'_e{}^{-\gamma}) \right]$$

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- ▶ A necessary condition:

$$\Delta C - \Delta\sigma^2 < \sigma(i) [\sigma(\log c'_u) + \sigma(\log c'_e)]$$

## How does that compare to data?

PSID consumption data from Blundell/Pistaferri/Saporta-Eksten (2015)

Controlling for age, year, education, marital status, HH size, using total consumption:

	Data		Model
	$E \log c$	$\sigma(\log c)$	$\text{corr}(1 + i, c'^{-\gamma})$
employed	0.05	0.48	$\pm$
unemployed	-0.35	0.77	—
$\Delta C$ Data, unconditional	0.40		0.2 (on impact)
$\Delta \sigma^2$ Data, unconditional	0.36		
$\sigma(\log c_u) + \sigma(\log c_e)$	1.25		

N.B.: The model items are next period's consumption.

## So how does the model produce the increase in money demand

Returns are highly volatile

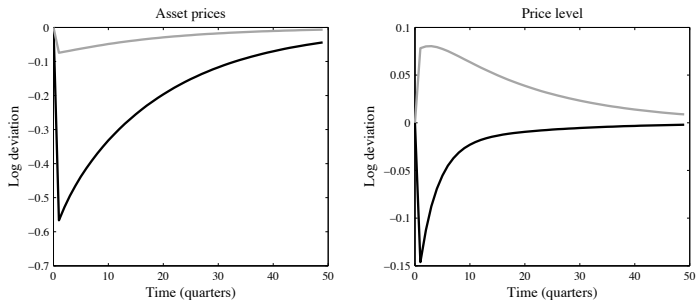


Figure: Return reactions

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- ▶ It would be good to have standard business cycle statistics for quantities and prices.
- ▶ Could there be multiple recursive equilibria? The volatility of the nominal return on equity depends on what HH assume about it!
- ▶ **Alternatively:** Model the liquidity of money (Bayer, Lütticke, Pham-Dao & Tjaden, 2015). When incomes are more risky, the liquidity value of money increases!

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- ▶ In fact, monetary policy can be extremely powerful here. If it stabilizes prices (somewhat) it can kill the deflationary spiral in its beginning because the volatility of  $i$  decreases.
- ▶ Very unconventional policy optimal here: Let the central bank buy equity, the central bank should stabilize asset prices!



## Conclusion

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- ▶ and shows that the interactions can substantially amplify the business cycle.
- ▶ **My takeaway message:** Central banks should stabilize asset returns and unemployment benefit should be countercyclical.