DISCUSSION OF "THE EMPLOYMENT EFFECTS OF CREDIT MARKET DISRUPTIONS: FIRM-LEVEL EVIDENCE FROM THE 2008-09 FINANCIAL CRISIS" BY GABRIEL CHODOROW-REICH

Discussion by Bob Hall

NBER ME Program Meeting Finance and Macroeconomics Workshop Andrew Metrick and David Scharfstein, Organizers 13 July 2012 1:30 pm Sonesta Ballroom A

# CURRENT STATE OF FINANCE-MACRO ANALYSIS OF THE CRISIS

Finance: Outpouring of work on the sources of the crisis, but little attempt to embed in a GE model that tackles the hard problems of macro modeling, notably unemployment

# CURRENT STATE OF FINANCE-MACRO ANALYSIS OF THE CRISIS

Finance: Outpouring of work on the sources of the crisis, but little attempt to embed in a GE model that tackles the hard problems of macro modeling, notably unemployment

Macro: Finance stripped down beyond recognition, focus mainly on the traditional hard problems

# CURRENT STATE OF FINANCE-MACRO ANALYSIS OF THE CRISIS

Finance: Outpouring of work on the sources of the crisis, but little attempt to embed in a GE model that tackles the hard problems of macro modeling, notably unemployment

Macro: Finance stripped down beyond recognition, focus mainly on the traditional hard problems

Welcome appearance of work relating finance to employment: This paper and the related work of Mian and Sufi on household spending effects and the consequent movements of employment

## How big is the estimated EMPLOYMENT EFFECT?

Item	Source	Value
Small-med firm employment effect	C-R, Table 14	2.4%
Employment in small-med firms	BED	69,265
Employment effect	Calculated	1692
Total employment, September 2008	Payroll survey	136,332
Trend growth, 1990 to 2007	Payroll survey	1.4%
Change in total employment, 9/2008 to 9/2009	Calculated	-4.8%
Shortfall	Decline in employment plus growth rate	6.2%
Employment shortfall	Calculated	8,480
Employment effect as a fraction of employment shortfall		20%

# HARDLY ANY SMALL-MEDIUM FIRMS IN THE SAMPLE RELATIVE TO THE U.S. ECONOMY

Firm size	GC-R employment	BED employment	Sampling rate
Large	6,000,000	42,824,000	0.1401
Small-medium	500,000	69,265,000	0.0072

### A basic principle of finance

The packaging of risks into securities is immaterial

### A BASIC PRINCIPLE OF FINANCE

The packaging of risks into securities is immaterial

Thus the shareholders of a firm don't want the firm to diversify—they are just as happy if a firm specializes in one type of risky activity

### A basic principle of finance

The packaging of risks into securities is immaterial

Thus the shareholders of a firm don't want the firm to diversify—they are just as happy if a firm specializes in one type of risky activity

Diversely held banks specialize in lending geographically, by industry, by risk exposure, and by extent of asymmetric information

### A basic principle of finance

The packaging of risks into securities is immaterial

Thus the shareholders of a firm don't want the firm to diversify—they are just as happy if a firm specializes in one type of risky activity

Diversely held banks specialize in lending geographically, by industry, by risk exposure, and by extent of asymmetric information

Though we know of many reasons why this principle does not hold strictly, it remains the case that there is no fundamental pressure on a bank to balance its exposures

.

$$g = \beta L + \gamma X + \epsilon$$

$$g = \beta L + \gamma X + \epsilon$$

Identifying assumption:  $Cov(L, \epsilon) = 0$ 

$$g = \beta L + \gamma X + \epsilon$$

Identifying assumption:  $Cov(L, \epsilon) = 0$ 

g is employment change of a firm from normal to crisis

$$g = \beta L + \gamma X + \epsilon$$

Identifying assumption:  $Cov(L, \epsilon) = 0$ 

g is employment change of a firm from normal to crisis

L is the ratio of (1) the crisis period lending of the firm's last pre-crisis lending syndicate to borrowers *other* than the firm, to (2) the pre-crisis lending of that syndicate to those other borrowers

.

### Comments on identification

The exclusion of the firm on the left side from the variable on the right side avoids the obvious source of correlation of L and  $\epsilon$ 

### Comments on identification

The exclusion of the firm on the left side from the variable on the right side avoids the obvious source of correlation of L and  $\epsilon$ 

But specialization of banks and syndicates still leaves room for positive correlation

### Comments on identification

The exclusion of the firm on the left side from the variable on the right side avoids the obvious source of correlation of L and  $\epsilon$ 

But specialization of banks and syndicates still leaves room for positive correlation

Example: Banks in a syndicate specialize in an industry, the crisis hits the industry hard and employment falls, other firms in the industry cut back borrowing, so a correlation arises from loan demand shocks rather than loan supply shocks

### COMMENTS ON IDENTIFICATION

The exclusion of the firm on the left side from the variable on the right side avoids the obvious source of correlation of L and  $\epsilon$ 

But specialization of banks and syndicates still leaves room for positive correlation

Example: Banks in a syndicate specialize in an industry, the crisis hits the industry hard and employment falls, other firms in the industry cut back borrowing, so a correlation arises from loan demand shocks rather than loan supply shocks

In general, identification rests on the hypothesis that loan demand shocks for the firm on the left side are not correlated with L

Table 3: L unambiguously negatively correlated with loan interest rate

Table 3:  ${\cal L}$  unambiguously negatively correlated with loan interest rate

If  $\epsilon$  were pushing L upward, it would be a movement up the lending supply function and contribute a positive element to the (L, r) correlation

Table 3:  ${\cal L}$  unambiguously negatively correlated with loan interest rate

If  $\epsilon$  were pushing L upward, it would be a movement up the lending supply function and contribute a positive element to the (L, r) correlation

Table 4: L unambiguously *positively* related to measures of bank conditions

Table 3:  ${\cal L}$  unambiguously negatively correlated with loan interest rate

If  $\epsilon$  were pushing L upward, it would be a movement up the lending supply function and contribute a positive element to the (L, r) correlation

Table 4: L unambiguously *positively* related to measures of bank conditions

Although as a general matter this finding would not help, here there are good reasons to believe that outside forces—mainly the real-estate price collapse—caused the weakening of banks

# More support for the identification assumption

Table 7: Following Khwaja-Mian, use borrower fixed effects for firms borrowing from multiple banks

# More support for the identification assumption

Table 7: Following Khwaja-Mian, use borrower fixed effects for firms borrowing from multiple banks

Borrowers unambiguously switched borrowing to healthier lenders

.

# CONCLUSION ON IDENTIFICATION

The most convincing point is that banks got in trouble not from their loans to businesses but from holding mortgages and mortgage-backed securities

## CONCLUSION ON IDENTIFICATION

The most convincing point is that banks got in trouble not from their loans to businesses but from holding mortgages and mortgage-backed securities

Failure of identification would result in an upward bias in the estimated effect, but the effect is actually pretty small

A weak bank enjoys a high value of the free government put on its assets

A weak bank enjoys a high value of the free government put on its assets

S&Ls exploited this aggressively in the late  $1980\mathrm{s}$ 

A weak bank enjoys a high value of the free government put on its assets

S&Ls exploited this aggressively in the late  $1980\mathrm{s}$ 

Around the world today, weak banks become timid and cut back on risky lending

A weak bank enjoys a high value of the free government put on its assets

S&Ls exploited this aggressively in the late  $1980\mathrm{s}$ 

Around the world today, weak banks become timid and cut back on risky lending

.

No good explanation for the change, yet

# "Quantifying the Forces Leading to the Collapse of GDP after the Financial Crisis"—financial friction



### Effects

