

Macro consequences.

Deleveraging not good in aggregate (fine at micro level for one bank).

Liquidity/Insolvency.

Must maintain credit in recessions; otherwise money supply falls.

Lack of lending by banks with weak balance sheets (precautionary hoarding), e.g. Japan/US study.

Global lending channel: foreign based banks having problems at home reduce their lending worldwide.

Conventional monetary policy impotent (due to elevated credit spreads like BAA).

Balance sheet effects/lending channel.

One idea: put the OIS/TED spread in Taylor rule.

Important point: really, only problem was the low capital of banks. For instance, in Europe today, problem is mainly sovereign debt (but in Ireland the ongoing mortgage problem will further impair capital of banks). Fundamental issue is balance sheet fragility and high leverage. Raise capital requirements.

Capital is about how you *raise* funding, not how you *use* it.

## Macroprudential Regulation.

Term structure of debt and capital requirements: because of problems with short-run debt, compel banks to hold more long-run debt. Term structure of debt and capital requirements. Short-run debt is the real problem with “runs” . For instance, short-run foreign denominated debt was the trigger for the Asian Crisis in 1997.

Having hold more *liquid* assets would also help; this would reduce *liquidity mismatch* between assets and liabilities. Current regulatory requirements are very one-dimensional.

Deposit insurance is large source of moral hazard: consumers have no incentive to supervise banks. Without deposit insurance, banks could compete on dimension of risk (so risky banks

would go out of business.) Likewise, the bailing out of bondholders induces moral hazard and *their* incentive to scrutinize banks.

Big banks/economies of scale: less competition could assure banks profits and reduce incentives to take risk. Suggestions to break up banks are also problematic; there are some economies of scale to banking.

Large shareholders: these would have incentive to bank is not undertaking unduly risky lending.

Convertible bonds: bonds convert to equity in a crisis. This would raise the cost of debt financing, however.

Regulation.

Regulatory arbitrage (SIVs, CDOs & ratings): because of capital requirements banks moved a lot of their assets off balance sheet to “independent” entities called SIVs. They said they would offer a credit line to the SIVs if the SIVs had funding problem (which is what happened).

Basel 2 introduced concept of “risk weights” and placed great emphasis on degree of risk banks (on paper) were taking on. Low risk weights were given to what appeared to be safe assets (this included securitized mortgages and sovereign debt).

With Basel, capital requirement was based on risk-weighted assets.

As a result, banks tried to minimize this.

Risk-weighted assets. Because of low risk weights, there was an incentive to purchase AAA assets (e.g. sovereign debt, 'good' subprime stuff) and market responded with an array of AAA products (subprime debt packaged up into good parts or tranches). *Ex post* this stuff was risky. In this sense, regulation played a role too. This was also a reason why banks purchased sovereign debt (it had no risk weight; i.e., Greek and German debt was risk free from a regulatory standpoint).

Big moral hazard problem pervades banking. Citi has been bailed out three times now and in late nineties FED was adamant that a hedge fund, LTCM, wouldn't collapse (reason was to prevent fire sales).

Heterogeneity and the Labour Market.

With standard micro, real wage clears market.  
Homogeneous good.

Unemployment when wages are too high (but  
people always finding jobs).

Information frictions and search.

Housing Market.

Churning and Flow Dynamics.

Equilibrium Unemployment.

Assume there are  $L$  in the labour force. *Unemployment rate* is  $u = \frac{U}{L}$  and *vacancy rate* is  $v = \frac{V}{L}$ . Therefore,  $U = uL$  and  $V = vL$ . Number unemployed is  $uL$  and number employed is  $(1 - u)L$ . Number of matches is  $M$ .

$$M = xU^\alpha V^{1-\alpha} = x(uL)^\alpha (vL)^{1-\alpha}$$

$$M = xLu^\alpha v^{1-\alpha}$$

The *job-finding rate* is  $\frac{M}{U}$

$$\frac{M}{U} = \frac{xLu^\alpha v^{1-\alpha}}{uL} = x \left( \frac{v}{u} \right)^{1-\alpha} = xa(\theta)$$

$\frac{v}{u}$  is a measure of *labour market tightness*.

The *vacancy-filling* rate is

$$\frac{M}{V} = \frac{xLu^\alpha v^{1-\alpha}}{vL} = x \left(\frac{u}{v}\right)^\alpha = xq(\theta)$$

Jobs are destroyed at rate  $\phi$ . So change in employment is

$$\dot{U} = \phi(1 - u)L - xauL$$

Labour market equilibrium is given by  $\dot{U} = 0$ :

$$\phi(1 - u)L = xauL \implies u = \frac{\phi}{\phi + xa(\theta)}$$

Beveridge curve: more frictions mean shift outwards (active/passive policies).

Employment protection (productivity).

Matching efficiency has fallen 20 percent.

Lots of recruiting activity, but no matches.

Employers more selective.

Structural shift (Housing boom delayed shift).

Search intensity.

$x$ : RBC shock.

Dynamic: hires fall in recession

*“Note that the flows are always large. Although in the order of 5.5 million per month in the best months, the flow of hires is still 4 million at the depth of the Great Recession. The popular idea that there are no jobs available is simply inconsistent with the facts.”*