Financial Crises and Aggregate Economic Activity

The effects of adverse selection and moral hazard caused by asymmetric information can help us understand financial crises – major disruptions in financial markets that are characterized by sharp declines in asset prices and the failures of many financial and nonfinancial firms.

When certain factor(s) hit the financial markets, adverse selection and moral hazard problems worsen. This amplifies the initial impact, leading to malfunctioning of the financial markets and sharp contractions in economic activity.

(Recall the book Kindleberger, Charles P. (1996),

Manias, Panics, and Crashes: A History of Financial Crisis. New York: John Wiley and Sons.)

1 Five Categories of Causes That Trigger Financial Crises

1.1 Increases in interest rates

Interest rate rises significantly

$\Longrightarrow$ good borrowers may be driven out of the market

$\Longrightarrow$ adverse selection problem worsens

$\Longrightarrow$ borrowing and lending $\downarrow$; Investment and aggregate economic activity $\downarrow$

1.2 Increases in uncertainty

Uncertainty (failure of a major financial or nonfinancial institution, recession, or stock market crash) rises

$\Longrightarrow$ This makes it harder to sort out good borrowers from bad borrowers

$\Longrightarrow$ adverse selection problem worsens

$\Longrightarrow$ borrowing and lending $\downarrow$; Investment and aggregate economic activity $\downarrow$

1.3 Asset market effects on balance sheets (Stock market and/or real estate market decline)

(1) Stock prices $\downarrow \Longrightarrow$ Net worth of firms $\downarrow$

$\Longrightarrow$ (a) Lower net worth (collateral value) worsens the problem of adverse selection by raising the loss of lenders in case of default

$\Longrightarrow$ (b) Lower net worth (collateral value) worsens the problem of moral hazard because the firm has not much to lose and shifts toward riskier investment

$\Longrightarrow$ borrowing and lending $\downarrow$; Investment and aggregate economic activity $\downarrow$

(2) Unanticipated decline in aggregate price level lowers the net worth of firms because debt payments are usually contractually fixed in nominal terms. An unanticipated decline in the price level raises the value of the firm's liabilities in real terms, and thus lowers net worth of the firm (Debt-deflation (Fischer (1933)).

$\Longrightarrow$ worsens the problem of adverse selection and moral hazard

$\Longrightarrow$ borrowing and lending $\downarrow$; Investment and aggregate economic activity $\downarrow$

(3) Unanticipated depreciation of the domestic currency raises the debt burden of domestic firms who borrow from foreign lenders denominated in foreign currency

$\Longrightarrow$ worsens the problem of adverse selection and moral hazard

$\Longrightarrow$ borrowing and lending $\downarrow$; Investment and aggregate economic activity $\downarrow$

(4) Interest rate rises significantly

$\Longrightarrow$ it also affect firms' and households' balance sheet by raising their interest payments and decrease their cash flows.

$\Longrightarrow$ This reduces their liquidity and their net worth

$\Longrightarrow$ worsens the problem of adverse selection and moral hazard

$\Longrightarrow$ borrowing and lending $\downarrow$; Investment and aggregate economic activity $\downarrow$

1.4 Deterioration in Banks' Balance sheets

If banks suffer a substantial loan loss

$\Longrightarrow$ This erodes bank capital, reducing banks' resources to lend

$\Longrightarrow$ Contraction in bank lending

If the deterioration in bank balance sheet is severe, banks start to fail. Fear may spread and cause even healthy banks to fail, leading to bank panic.

One of the sources of contagion is asymmetric information. Because when the public cannot tell solvent banks from insolvent banks, fearing for the safety of their deposits (without deposit insurance) and not knowing the quality of their own banks' loan portfolio, depositors will withdraw their deposits from their own banks as well.

Failure of a large number of banks means a loss of information production in the financial markets and a disruption of financial intermediation.

One way to restore confidence of the public is to sort out good banks from bad banks by

– the government or central bank

– a private clearing house: an example is the clearing house organized by J.P. Morgan in 1893 and 1907 panic. The clearing house acted as the central bank and selectively issue certificates to provide liquidity for the banking system.

1.5 Government fiscal imbalances

In emerging markets, huge government debt may create fears of default on the government debt. The government may force domestic banks to purchase bonds. When default on government bonds is likely, bond prices collapse and banks suffer huge losses, causing a large increase in interest rate and weakening the balance sheet of financial institutions.

Fears of default on government debt can also trigger a foreign exchange crisis in which domestic value of currency declines sharply when investors pull their funds out of the country. This also worsens the balance sheet of those firms and financial institutions that have debt denominated in foreign currency.

2 Anticipation of Government Regulatory Forbearance and Bailout

In face of financial distress by major financial institutions, governments may be inclined to (1) exercise government regulatory forbearance (expanding relaxing bank capital requirement, deposit insurance coverage, requiring banks to roll over loans, plumping up stock market, ...) or (2) to bail out these financial institutions, in the name of financial stability and preventing bank panic.

A motivation, however, is Too-Big-To-Fail. The problem of Too-Big-To-Fail is more acute in recent years when consolidation and merger make financial institutions bigger than ever.

When financial institutions and corporates anticipate that the government will bail them out in case of financial distress, they will take on larger risk by ignoring the downside risk. This raises severe moral hazard problem.

Furthermore, in anticipation of government bailout, those "bad" banks and firms (prone to take high risk and more likely to default) will be more likely to enter the industry, which worsens adverse selection problem. For example, Cargill et al. (1997) find that the "buy time" policy by Japan's government in early 1990s prolonged the recession enduring throughout 1990s.