Modeling economic crises under whirling flow of money: How economic crises occur

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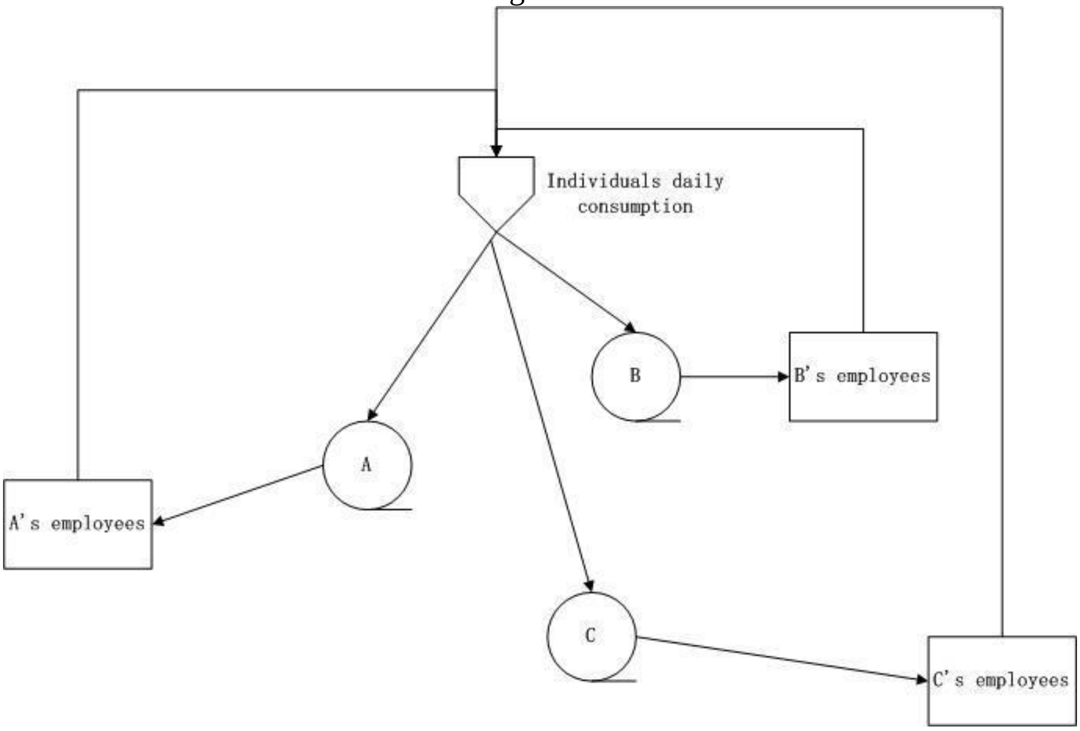
Introduction:

In this paper, I will briefly discuss the occurrence of an economic crisis during free market movements. I will describe the whole process in a simple way. Non-mathematical models are used in order to make the process easier to understand.

1. How economic crises occur

Whenever an economic crisis occurs, there must be a breaking point. As shown in the following picture, there are some companies (A, B and C) and their employees. The employees buy commodities and services from all these companies, their consumption is the main profit source of these large companies, and employees' incomes are salaries from these companies. In our model, to simplify the whole process, we assume there are no business activities between companies A, B and C.

Figure 1.



Assume these employees invest their non-consumption income. If their investments fail the employees then lose their entire non-consumption income. They then have less money to spend on consumption, so the source of all the companies' revenues profits will decrease. Because these companies have less revenue, their employees receive less salary. These employees then spend less money, leading the companies to have less income, the individuals to have even less salary income, and so on. This results in a vicious circle, where the companies owe debt for their employees' back pay, while they must also fire more employees. Demand is consequently low, commodities which are produced cannot be sold, and the entire economy goes into depression.

2. How 2008 economic crisis happens

In the real market, Bear Stearns had clients and employees. Bear Stearns also did business with other companies, including Lehman Brothers. When Bear Stearns clients could not afford their debts, the income of Bear Stearns decreased. Bear Stearns would then have less profit and eventually had no profit. Since Bear Stearns could not find other income sources, as a result, finally it went bankrupt. After it went bankrupt, because Bear Stearns was the source of Lehman Brothers' income, Lehman Brothers also had less profit. After a period of time, Lehman Brothers could not enlarge its income so it went bankrupt. Then, since Lehman Brothers was the source of its employees' income and the source of income of other companies who did business with it, Lehman Brothers' bankruptcy led the incomes of other companies to decrease, leading the other companies to go bankrupt.

Figure 2.

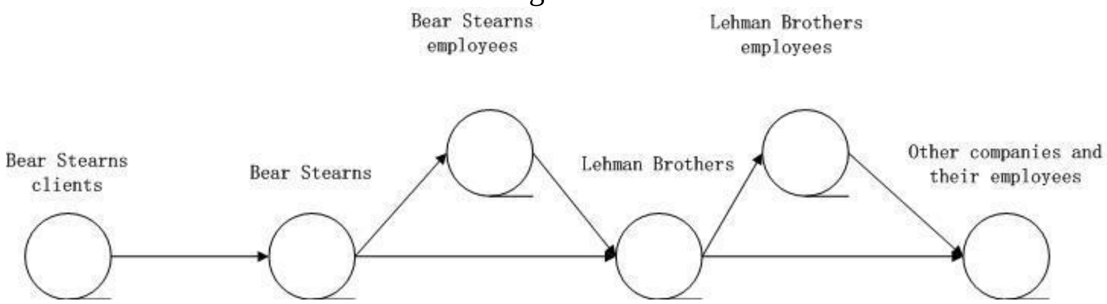
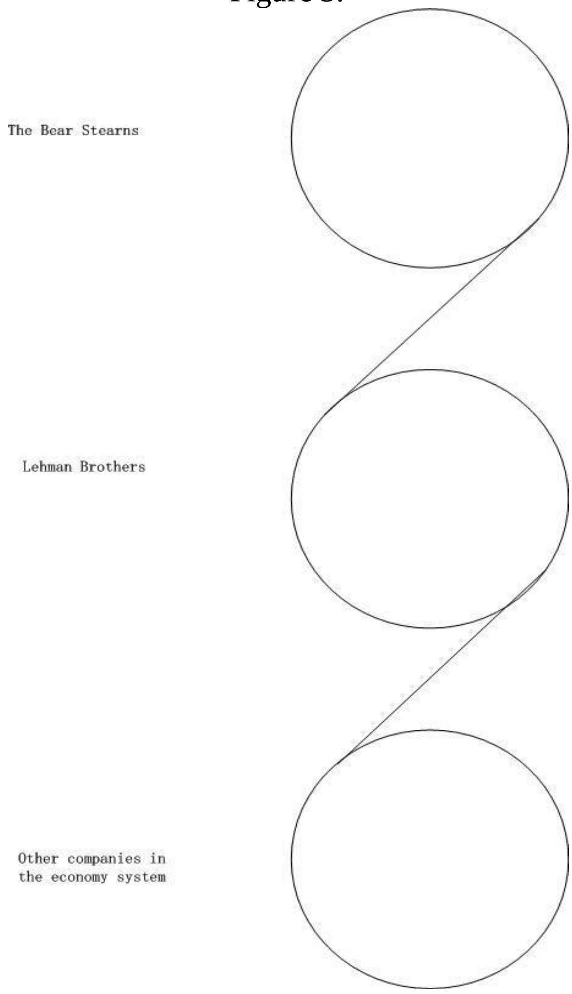


Figure 2 shows the flow of money. Because the volume of the money flow from the source (Bear Stearns) decreases, through this track, the flow of money to its destination also decreases.

Some of the other companies and their employees might even go bankrupt, leading the whole economy system to be destroyed.

If we regard these three companies as the three money flow circles, we have the following graph:

Figure 3.



The whole process is the termination of the Bear Stearns circle causes the termination of the Lehman Brothers circle, which then causes the termination of other circles. This chain reaction happens because there were business activities among these various companies.

Figure 4.