Firms

Core Attributes:

Reserves – amount of cash Firm actually holds.

Revenue – normally distributed

Expenses – normally distributed

(Revenue – expenses) is net positive

Shocks – come in the form of random small and large shocks.

loanPaymentTotal – amount of loan payments firm must make each month

loansFromIB – HashMap of loanId’s and loans from iBanks

waitingLoans – HashMap of loanId’s and pending loans from iBanks

If Firms experience a deficit in a month, they must either remove money from their reserves or borrow money from an iBank to cover the deficit. They can only borrow as long as their loanPaymentTotal (monthly) is less than their average profits. Otherwise the Firm goes bankrupt.

Interactions Handled:

Firms join iBanks here.

Firms calculate their own payments on loans to iBanks.

Firms ask iBanks for loans. Firms create the uuid that is issued to link and identify loans. A loan request from a Firm that necessitates a loan from a cBank will share the same uuid.

If iBanks do not have the reserves to service the loan, they will attempt to borrow the money from a cBank. I have waitingLoan lists which basically hold pending loans. iBanks accumulate waitingLoans and then attempt to borrow this money from cBanks once they have received all requests from Firms. Once the iBanks have attempted to borrow from the cBanks, they will distribute any money they can to Firms to satisfy Firm waitingLoans.

Firms collect on waitingLoans here. Although iBanks will create actual LoanToFirm objects, receiving of cash by the Firm happens when Firms collectLoans().

Firms make payments on loans to iBanks here.

Scheduled Methods:

Firms check to see what their net monthly balance is (revenue – expenses – shocks – loanPayments). If this amount is positive, they deposit it. If it is negative, they attempt to pay out of their reserves, and then borrow money from iBanks if needed.

If firm requests for loans are not immediately satisfied by iBanks, the Firms must wait for the iBank to process the pending loan. (process means iBanks attempt to borrow the money from cBanks). Once the iBanks are done processing, the Firms check if all their loans were approved. Firms then pay off their remaining monthly balance and then any monthly payments.