

Discussion of:

Diversification Disasters

by Ibragimov, Jaffee & Walden

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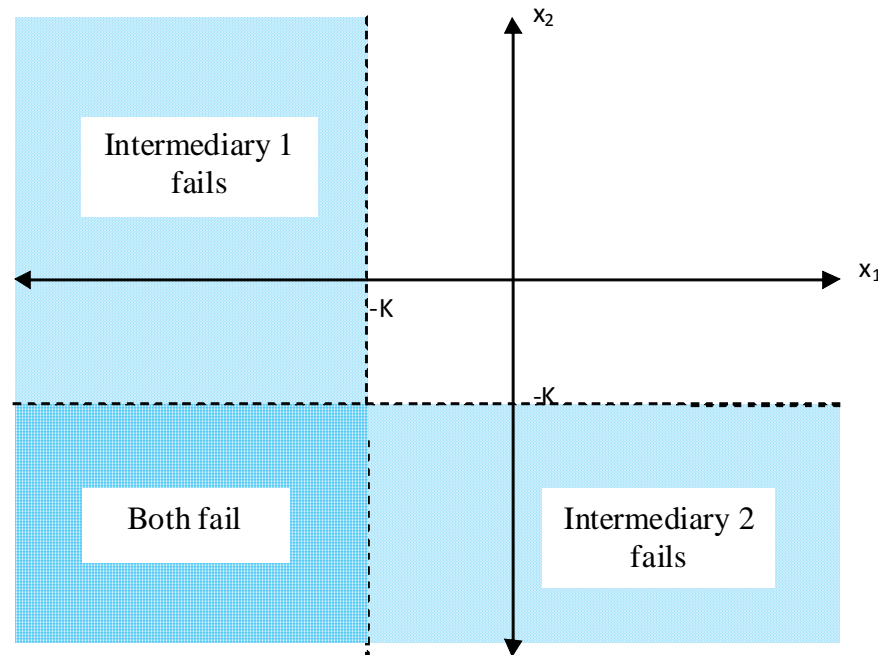
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The Question

- Much discussion about the degree of *interconnectedness* among financial institutions
 - leads to systemic risk; one failure causes many others
 - Bear Stearns was thought to be “too interconnected to fail”
- But interconnectedness is the result of diversification
 - usually we think of diversification as a stabilizing force
- Paper studies a model of diversification/interconnectedness and asks:
 - when is diversification socially optimal?
 - when will it arise in equilibrium?

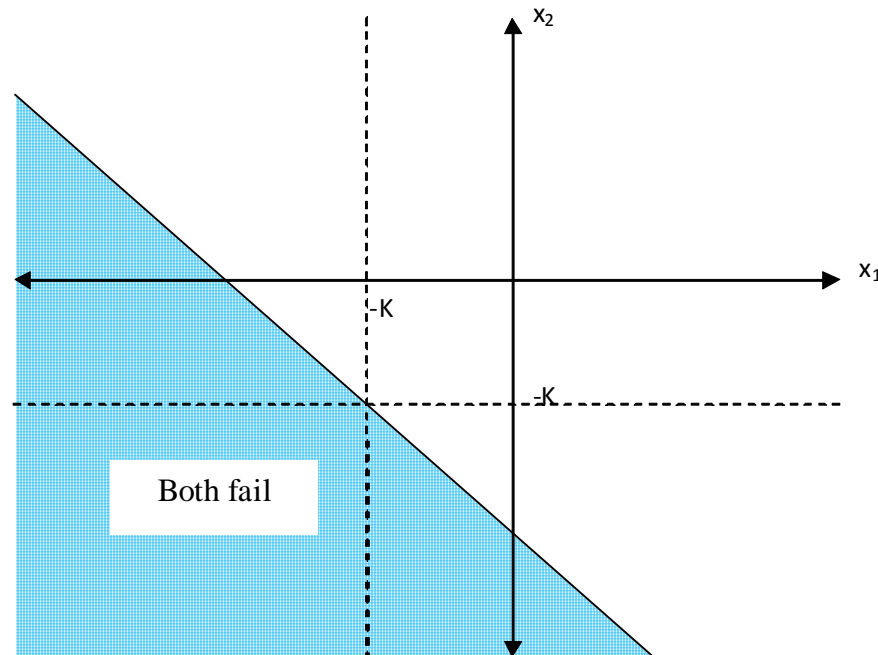
A simplified setup

- Consider the case of two intermediaries, no diversification
 - each earns profit x_i ; fails if $x_i < -K$ (capital)



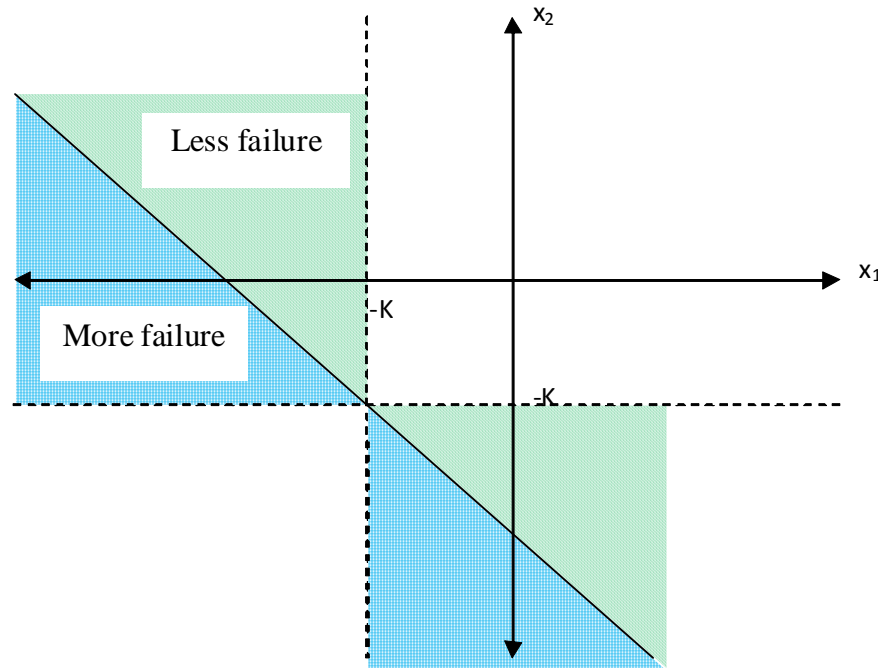
Diversification

- If intermediaries diversify, each earns $\frac{x_1+x_2}{2}$
 - both fail if and only if $x_1 + x_2 < -2K$



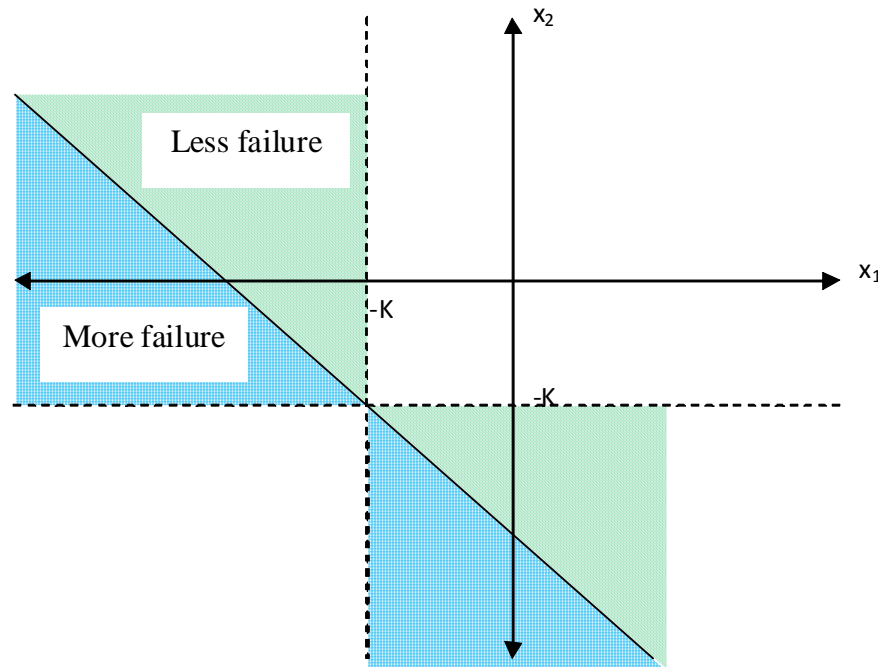
Comparison

- Diversification “shifts” failures across states of nature
 - one failure occurs in fewer states, two failures in more states



Is diversification desirable?

- Depends on the cost of 1 failure vs. the cost of 2 failures
 - *and* on the probability distribution across states



The difficulty

- If the probability distribution over (x_1, x_2) is fixed, this is relatively straightforward
 - integrate gain/loss from diversification using this distribution
- In a reasonably rich model, however, this distribution is *endogenous*
 - depends on investment choices
 - will in general be different in the two cases

⇒ This fact complicates the comparison substantially

What the paper does

- Sets up a model in which the distribution of x_1 and x_2 are Pareto type
 - intermediaries have fixed capital K and a VAR constraint
 - invests in a large number of correlated projects
(where the correlations themselves are random)
- Looks at the limiting case of $K \rightarrow \infty$

⇒ Analysis is about the tails of Pareto-type distributions

- works out remarkably nicely

Results

- If tails are very thin, diversification is socially optimal and occurs in equilibrium
- If tails are very fat, separation is socially optimal and occurs in equilibrium
- In between, there is a region where separation is optimal but diversification occurs in equilibrium
 - potential role for policy arises in this case
- Authors discussion regulations to prevent undesirable diversification
 - argue in favor of Glass-Steagall-like restrictions

Comments

- This is an interesting paper
 - addresses an important and timely question
 - offers a parsimonious model of portfolio choice with nontrivial implications
 - elegant analysis of tail risk
- My comments are essentially a series of questions

(1) Measuring social welfare

- Here:

welfare = present value of all future profits from intermediation

- Does this capture all of the social benefits of intermediation?
 - what about $(1 - d)c$ and losses $> K$?
 - more generally, if firms and consumers derive benefit ...
- Would it matter for the analysis if the social cost of failure is larger?
 - would it enlarge the set of situations in which equilibrium is suboptimal?

(2) Equilibrium concept (technical)

- Paper compares:
 - payoff received by an intermediary in the separated system
 - corresponding payoff in the decentralized system
- Says separation is an equilibrium if the former is larger
- Equilibrium is usually defined in terms of unilateral deviations
 - if everyone else is separated and I diversify ...
- Is that equivalent to what is done here? Or is it different?

(3) Partial diversification

- Paper studies the cases of no diversification and full diversification
 - could the model be extended to allow partial diversification?
- Here: the equilibrium outcome is often optimal (~ 2.5 out of 3 cases)
 - but the solution is always a “corner”
- If diversification were a continuous choice, it seems like the equilibrium and optimum would diverge more often
 - might this change the policy conclusions?

(4) Policy conclusions

- Authors argue in favor of portfolio restrictions to prevent undesirable diversification ...
- ... and against focused capital requirements
 - this second argument is less clear to me
- Proposal: set K much higher for an intermediary that diversifies
 - presumably diversification is observable
 - for K_D large enough, diversification will be unattractive
- Can the model be enriched to distinguish these policies?
 - allowing partial diversification might be helpful in this regard