Chari, Shourideh, and Zetlin-Jones' "Adverse Selection, Reputation and Sudden Collapses in Secondary Loan Markets"

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Overview

- Motivated by recent collapse in asset backed security markets and associated policy interventions
- Construct an environment that...
  - Studies the interaction of adverse selection and reputational considerations
  - Delivers market collapses (associated with declines in values of underlying assets)
  - Allows for policy analysis
- Emphasize that changes in collateral values can exacerbate adverse selection problem

Environment

- Banks characterized by quality of loan portfolio and cost of holding loans
- Low cost banks should hold loans, high cost banks should sell loans to buyers
- Bank characteristics unobservable to buyers
- Focus on high cost banks with good loans ("HH") – the actions of HH banks determine the extent of adverse selection faced by buyers

Static Model

- Return on loan a random variable v
- If HH holds: $\bar{\pi}\bar{v} + (1-\bar{\pi})\underline{v} - qR - \bar{c}$
- If sells: $p(\mu) - q$
  - $\mu = \Pr(H)$ is bank's reputation
  - $p(\mu) = \mu(\bar{\pi}\bar{v} + (1-\bar{\pi})\underline{v}) + (1-\mu)(\underline{\pi}\bar{v} + (1-\underline{\pi})\underline{v})$

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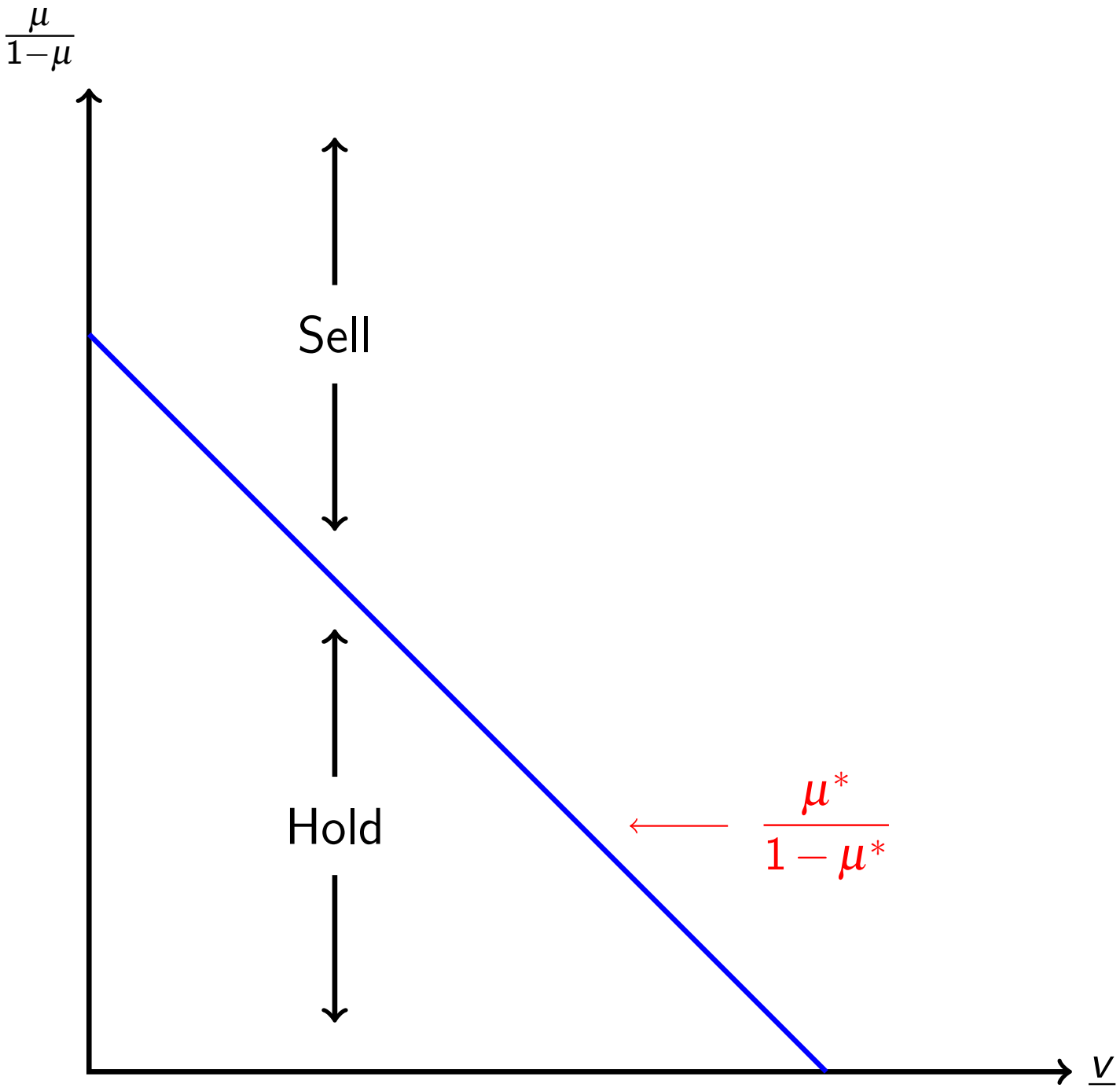
- Or...

$$\frac{\mu}{1-\mu} \geq \frac{(\bar{\pi} - \underline{\pi})(\bar{v} - \underline{v})}{rq + \bar{c}} - 1$$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- Better reputation $\Rightarrow$ higher price $\Rightarrow$ more incentive to sell
- Better collateral ($\underline{v}$) $\Rightarrow$ less risk $\Rightarrow$ price increases, particularly for banks with bad reputation $\Rightarrow$ Draw in more sellers
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  - If hold – buyer makes bank an offer

Multiperiod Extension

- Reputation evolves according to Bayes rule:

$$\mu' = Pr(H|v,\mu) = \frac{\Pr(v|H)\mu}{\Pr(v|H)\mu + \Pr(v|L)(1-\mu)}$$

$$\tilde{\mu}' = Pr(H|v,\mu,a) = \frac{\Pr(a|H)\mu'}{\Pr(a|H)\mu' + \Pr(a|L)(1-\mu')}$$

- Modification: Always observe v

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- Decision same as in static model: support the static equilibrium repeated over and over

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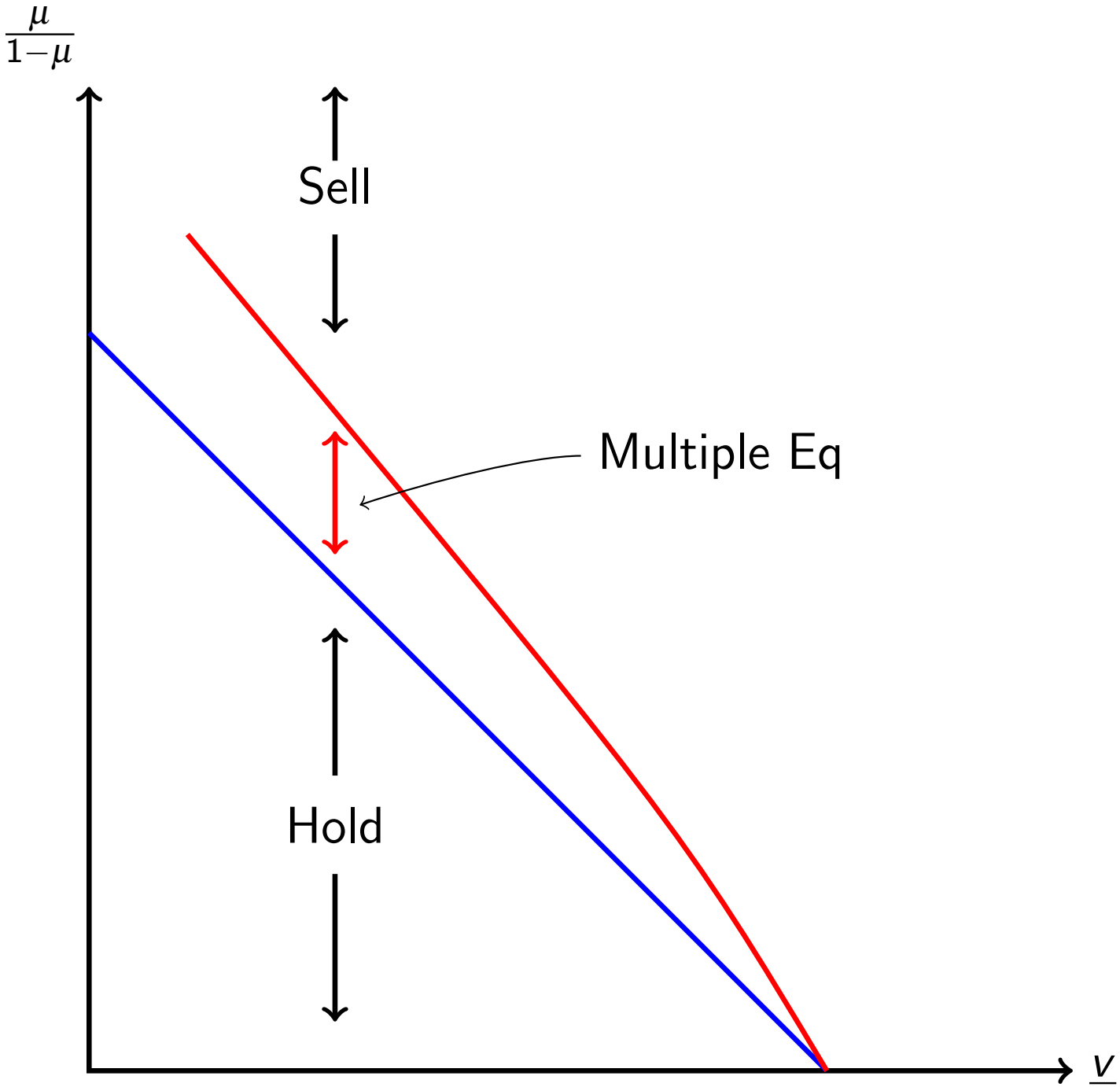
- HH prefer to hold at μ^* because $\mathbb{E}V(0) < \mathbb{E}V(\tilde{\mu}')$ even if offered $p(\mu^*)$
- By paying cost $\bar{c}$ can signal you're not the LH type – reputational considerations can support a thin market
- Set parameters so this is not efficient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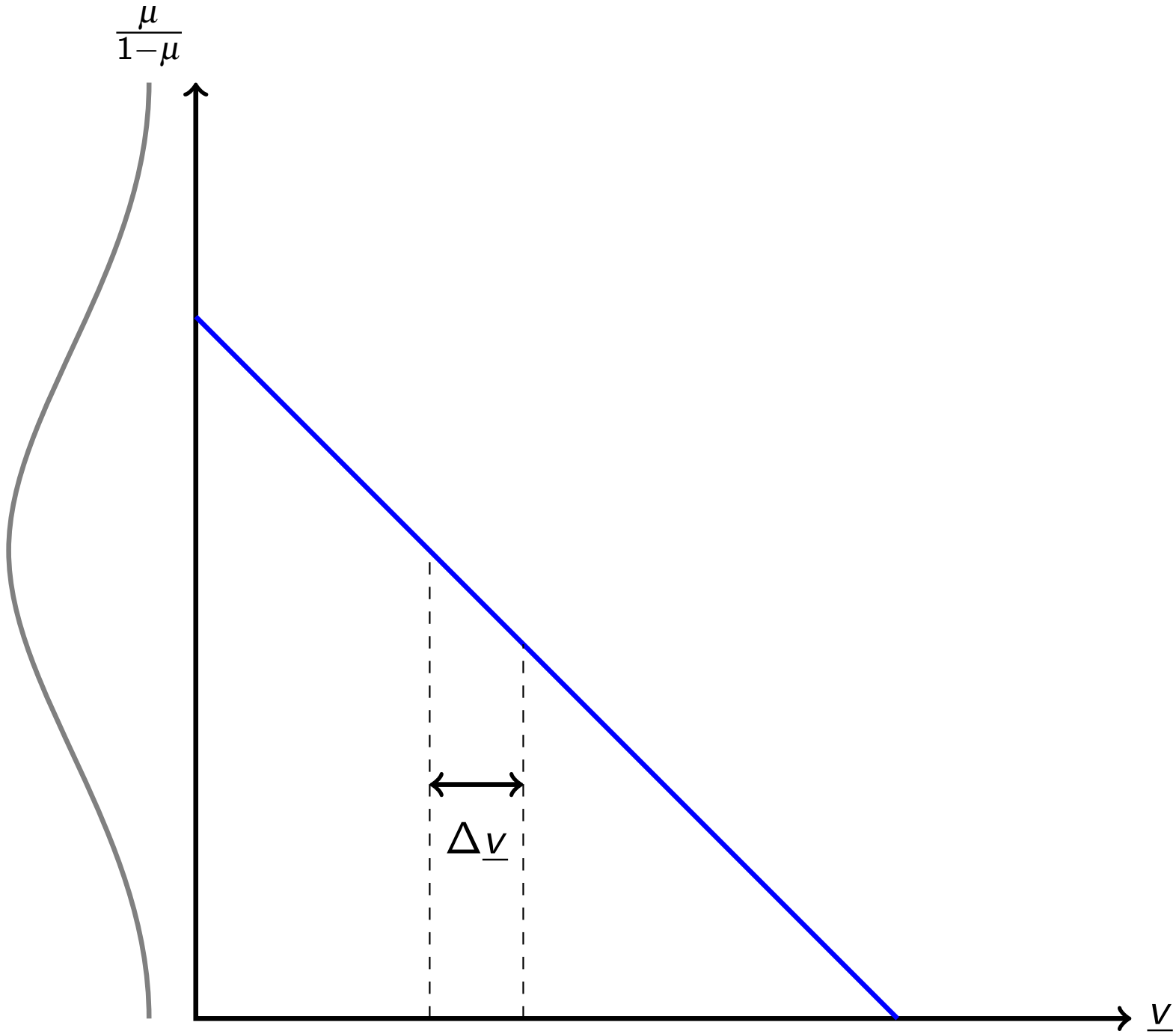
- What if actions (trades) were hidden? Then can break bad equilibrium $\Rightarrow$ rationale for non-transparency

Sunspot Crises

- Switching from good to bad equilibrium leads to drop in market volume and prices
- One interpretation of market breakdown
- Policy difficult
  - Set price at $p(\mu)$ and *HH* still will not sell due to adverse reputational effects of being involved in a sale
  - Force $[\mu^*, \bar{\mu}]$ to sell – also forces HL to sell
  - Raise cost of holding ($r \uparrow$)
  - Set price above $p(\mu)$ to get *HH* to sell, but subsidize LH sellers as well
  - Allow secret trades?

Shocks to Fundamentals

- Was crisis due to sunspot or real shock?
- Consider changes in collateral values $\underline{v}$ in the good equilibrium
- A drop in $\underline{v}$ raises μ^* and encourages more HH to hold
- Periods of falling collateral values are periods of lower volume
- How large a change in volume depends on density of μ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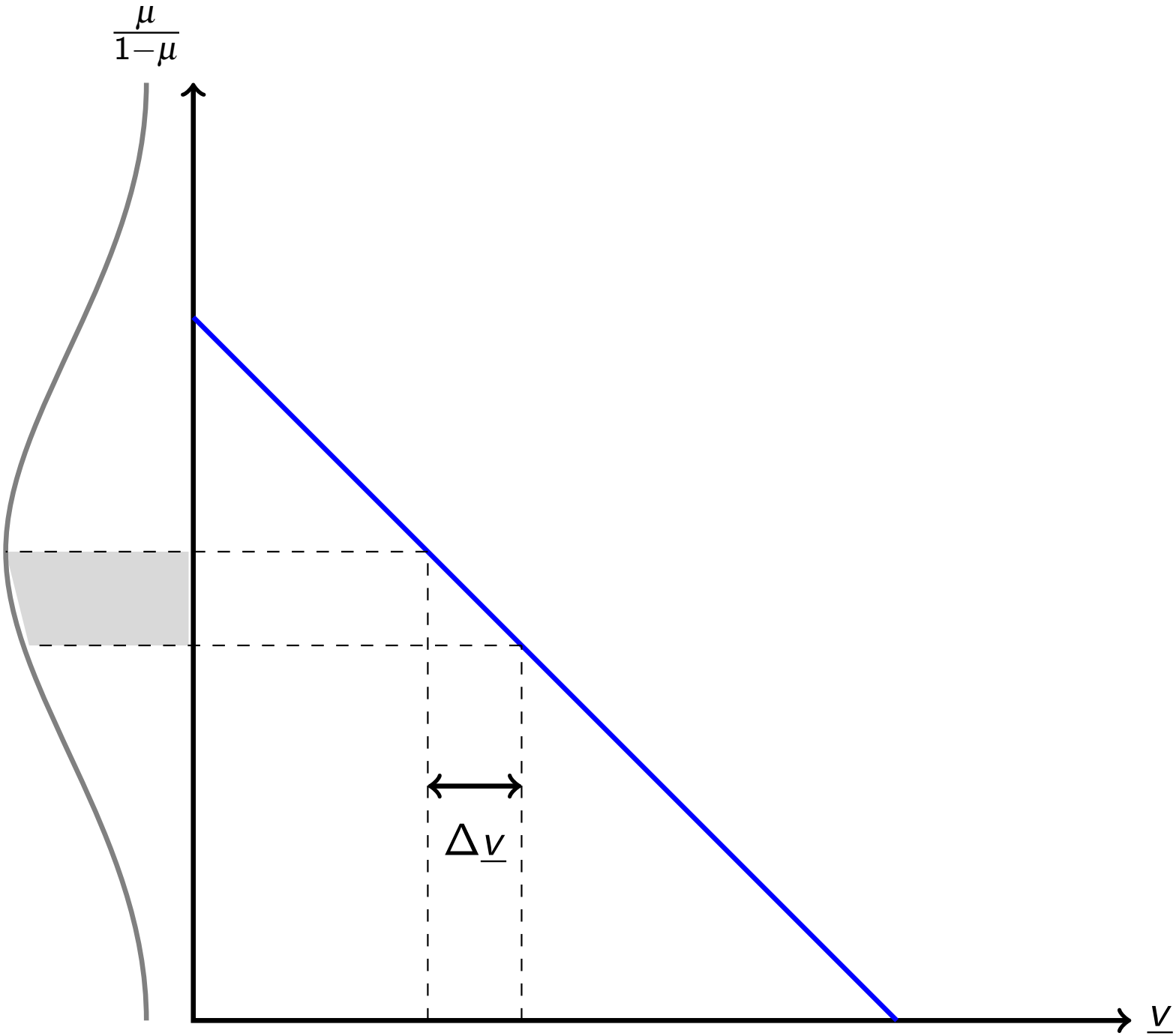
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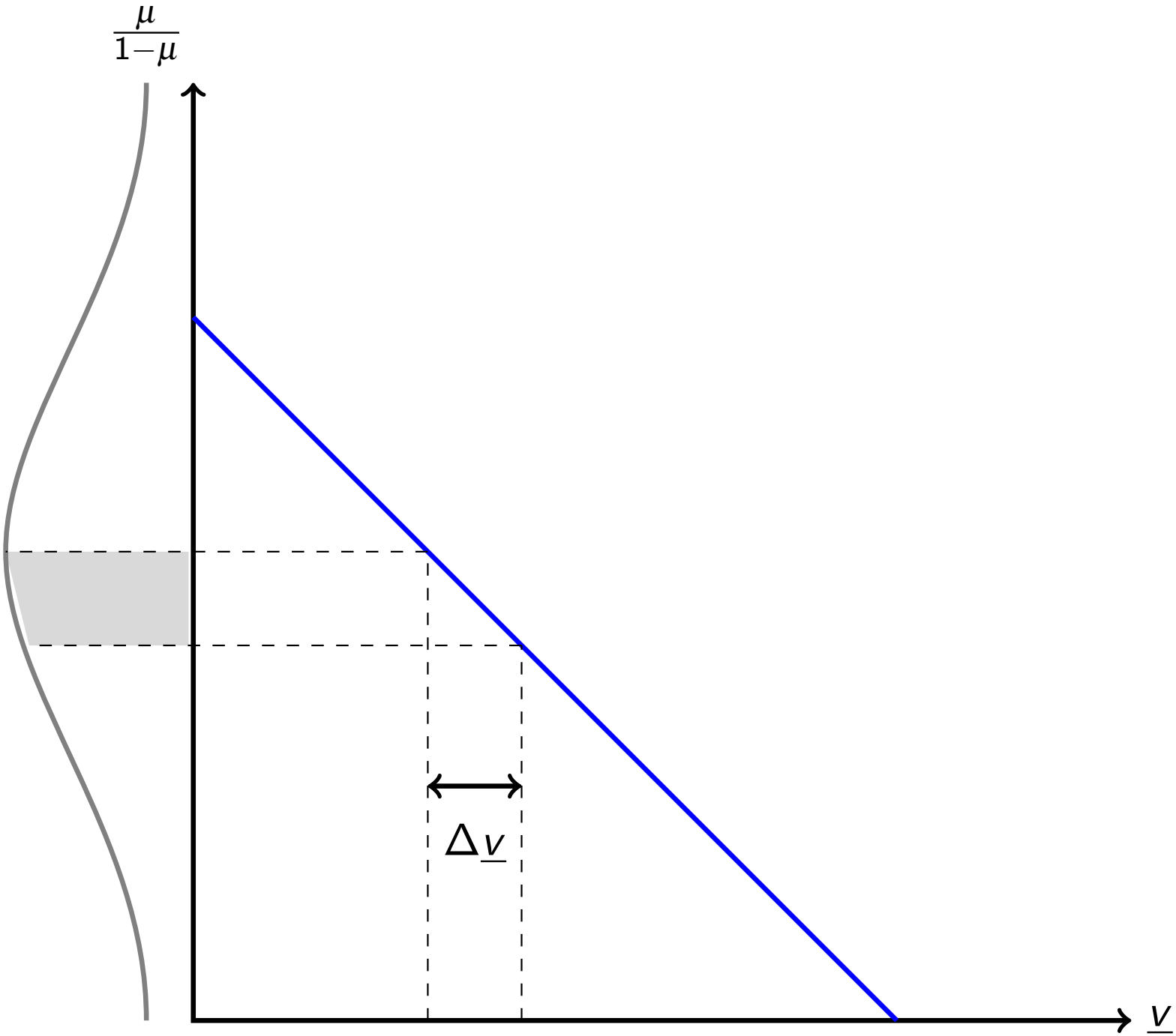
- Kill them off and replace randomly can get non-uniform distribution in μ
- Periods of tranquility (low density) and then periods of market collapses, all for similar sized changes in collateral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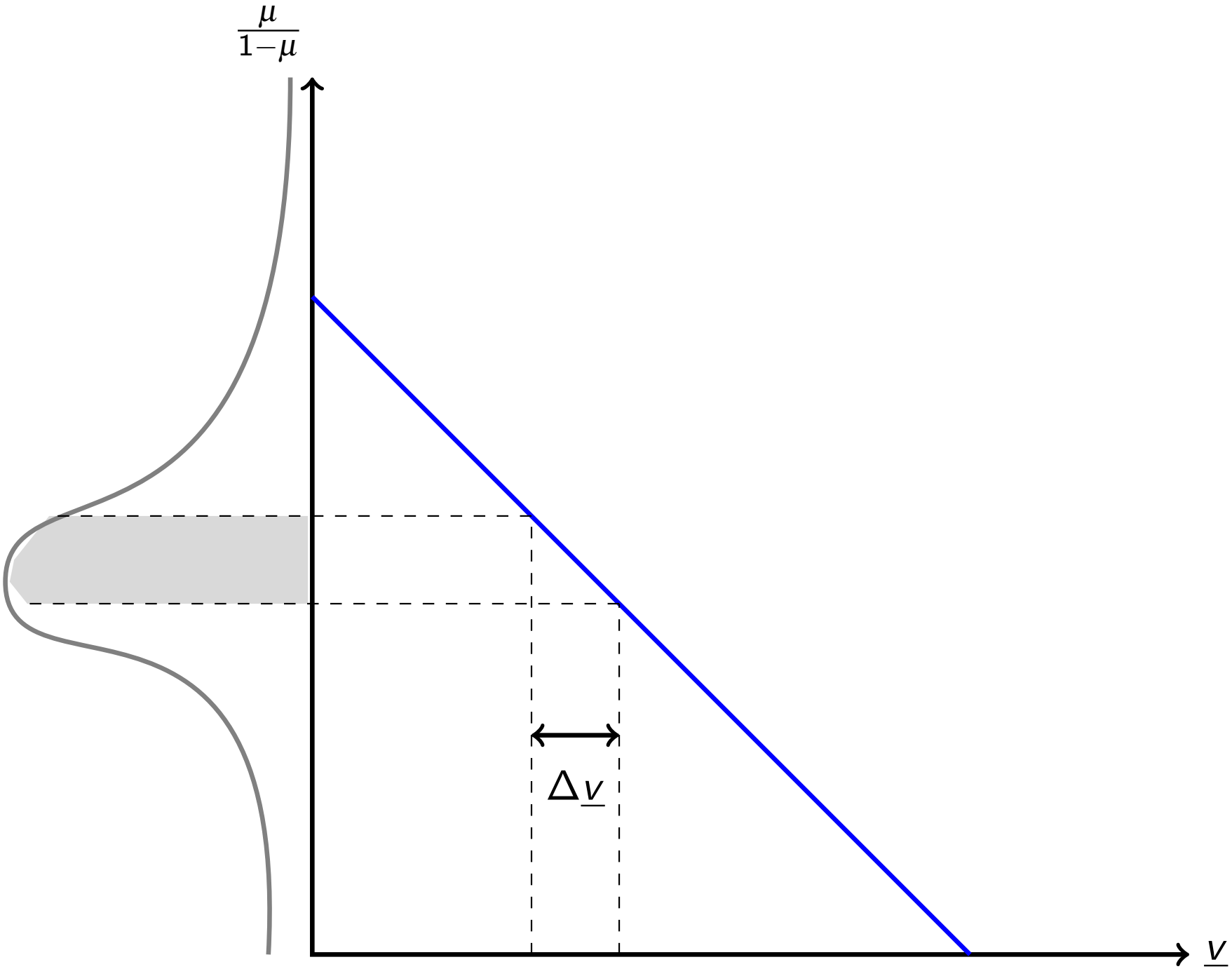
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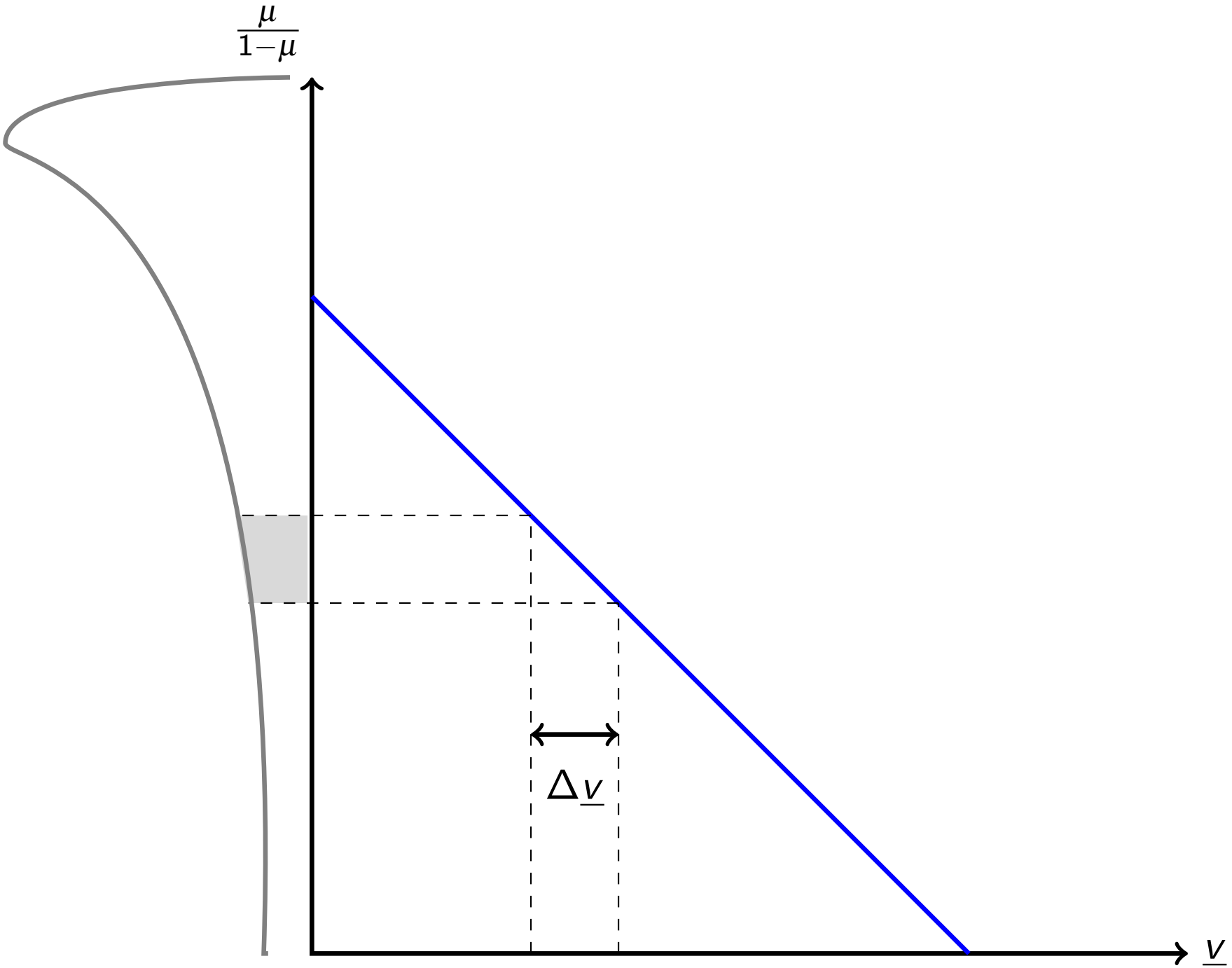
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- and to be fair to policy makers, not clear only issue was adverse selection in recent crisis.