

Discussion of three papers:

1. Bond Pricing Implications
2. Bank Funding Costs
3. Effects on Bank Lending

Mark Flannery, University of Florida

Organize discussion around 3 questions

1. Does regulation affect asset prices?
2. Will new capital rules affect bank funding costs (WACC)?
3. Will higher capital requirements affect overall lending?

How should we measure the social cost of these regulatory changes?

Does regulation affect asset prices?

- Murray and Nikolova: “YES”
- Insurance companies dis-prefer bonds with higher “non-investment grade proximity” = BBB-
- Previous papers have shown that insurance companies quickly sell bonds when they are downgraded.
- Here we see that they avoid bonds likely to be downgraded.



Murray-Nikolova (cont'd)

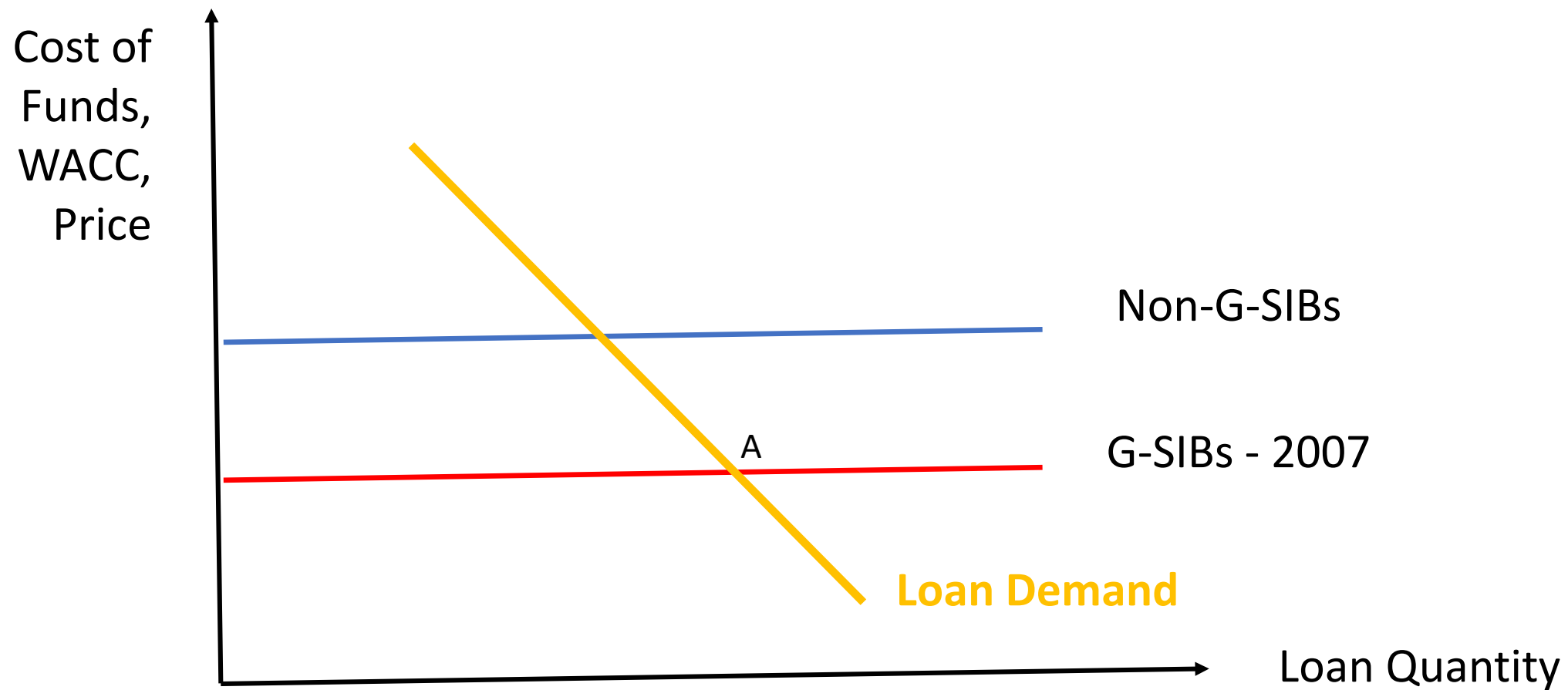
- Moreover, we learn that insurance companies are a large enough part of the demand for corporate bonds that
 - their preferences affect prices, and
 - those price effects last for at least 12 months.
 - no similar effects before NAIC imposed risk-based capital requirements.
- Implication: there are not enough alternative investors to absorb insurance company withdrawals without affecting corporate bond prices.



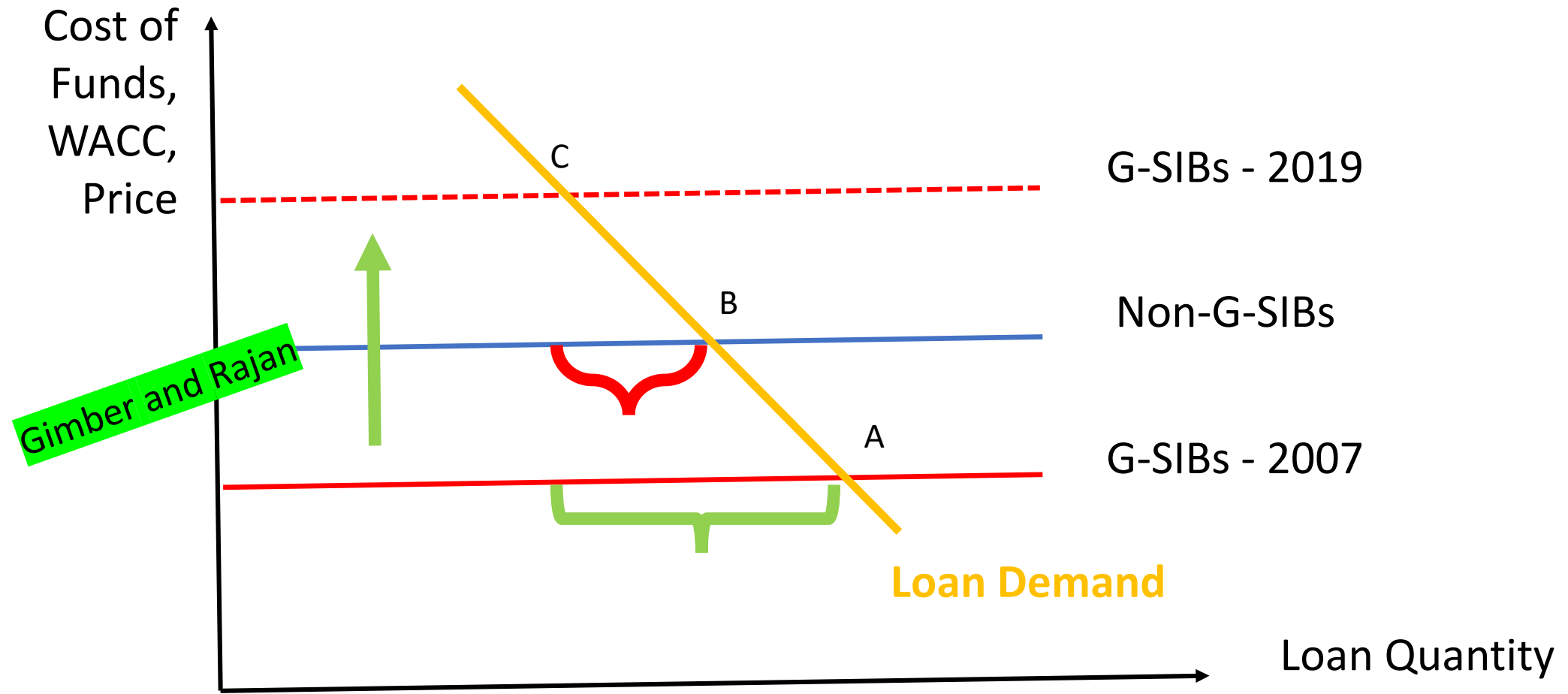
How much will new capital rules affect bank funding costs (WACC)?

- Gimber and Rajan – “YES, but maybe not so much as some people think.”
- Theory indicates that R_e and R_d should both fall when we finance a portfolio with more equity.
- By how much?
 - Baker and Wurgler (AER 2015): “low risk anomaly” in bank stocks.
 - Endogeneity challenges
- Gimber and Rajan have assembled data on U.S. bank balance sheets and CDS premia.
 - Assume fixed asset portfolio risk
 - Measure b.s. with book values
- Extracting these premia is a nice contribution.

Lending to borrowers with uniform risks



Lending to borrowers with uniform risks





How much will new capital rules affect bank funding costs (WACC)?

- $WACC = kR_e + (1 - k)R_d$

- $\frac{\partial WACC}{\partial k} = [R_e - R_d]$ (“direct effects”)

- $\frac{\partial WACC}{\partial k} = [R_e - R_d] + \left\{ k \frac{\partial R_e}{\partial k} + (1 - k) \frac{\partial R_d}{\partial k} \right\}$
(-) (-) (adding “MM offsets”)

- How big?

Empirical specification:

$$R_{i,t}^E = \beta_{E,E} \left(\frac{E}{A} \right)_{i,t-1} + \beta_{E,J} \left(\frac{E+J}{A} \right)_{i,t-1} + \alpha_i^E + \gamma_t^E + \mathbf{Z}'\delta^E + \varepsilon_{i,t}^E$$

$$R_{i,t}^J = \beta_{J,E} \left(\frac{E}{A} \right)_{i,t-1} + \beta_{J,J} \left(\frac{E+J}{A} \right)_{i,t-1} + \alpha_i^J + \gamma_t^J + \mathbf{Z}'\delta^J + \varepsilon_{i,t}^J$$

$\beta_{E,E}$ measures effect on equity's required return when equity's share of assets rises: **- 21 bp**
per 1 pp increase in equity

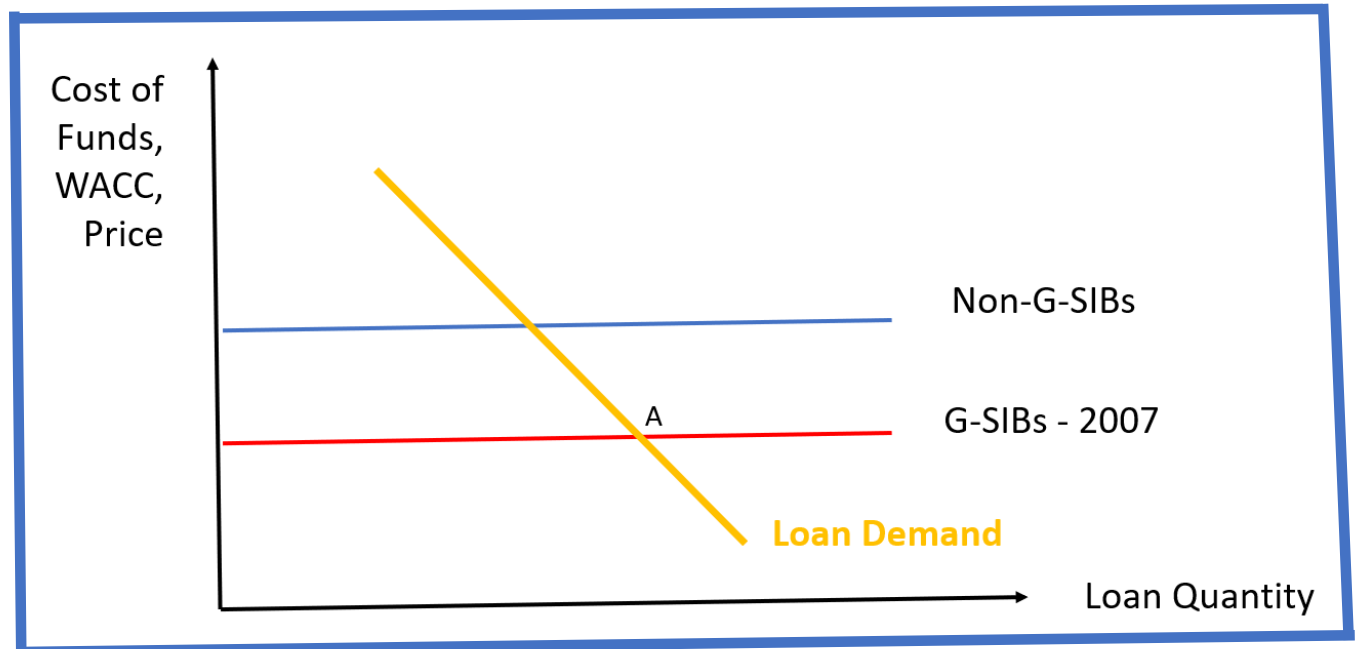
$\beta_{E,J}$ measures effect of junior debt's required return when equity's share rises: **- 153.6 bp**

These are the values we need to calculate the effect of higher equity requirements on WACC.

The simplest measure of equity's effect on WACC is a non-trivial over-statement.

Safer banks – at what private/social cost?

- A regulation's social cost depends on how costly/efficient are the alternative suppliers?
- How well can they bear the risks being shed by the banking system?
 - Other banks
 - Nonbanks (e.g. CLO)





Will higher capital requirements affect bank lending?

- Berrospide and Edge: “Yes, definitely.”
- A fun paper to read.
 - Great, loan-level data (FR Y-14A has borrower information)
 - Excellent identification
 - Interesting conclusions
- Main take-aways
 - Borrowers from stress-tested banks see their loan volumes decline when the bank’s stress capital buffer is larger
 - However, those same borrowers do not end up with smaller total debt or investment the following period.



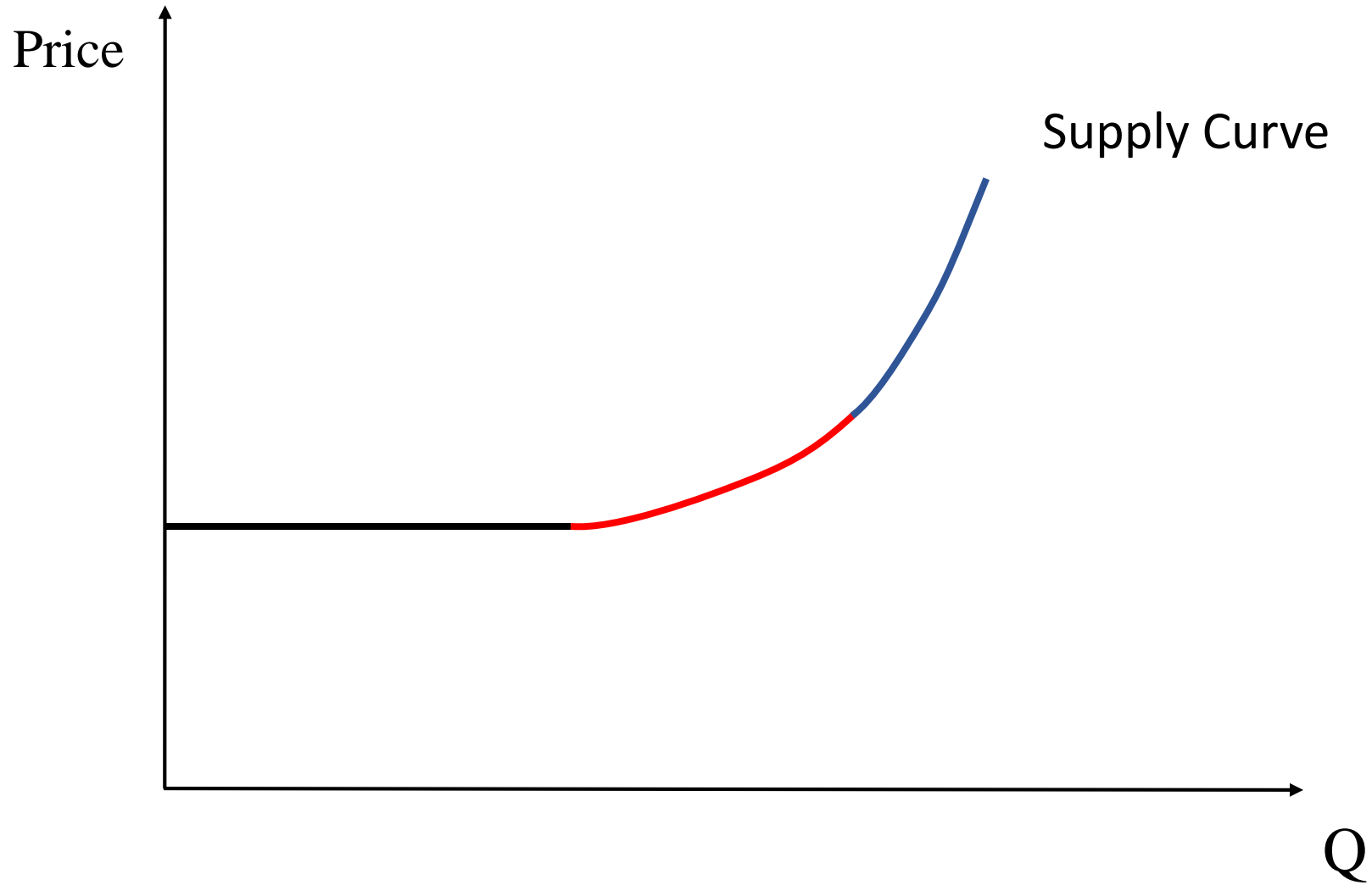
Similar evidence for small business loans

- Cortes *et al.* (2018), ***Stress Tests and Small Business Lending***
- Stress-tested banks
 - Raise rates and cut quantities in counties where they have branches
 - Withdraw from small-firm lending where they have no branches
- Both papers suggest a more relevant question: Will higher capital requirements affect borrowing firms' welfare/value?
- Likewise, both papers conclude that other lenders – un-stressed banks or someone else – fill the gap left by stress-tested banks.
- Cortes *et al.*, (page 33): “small banks unaffected by stress testing, and perhaps non-bank lenders as well, substitute in for large, non-local banks.”

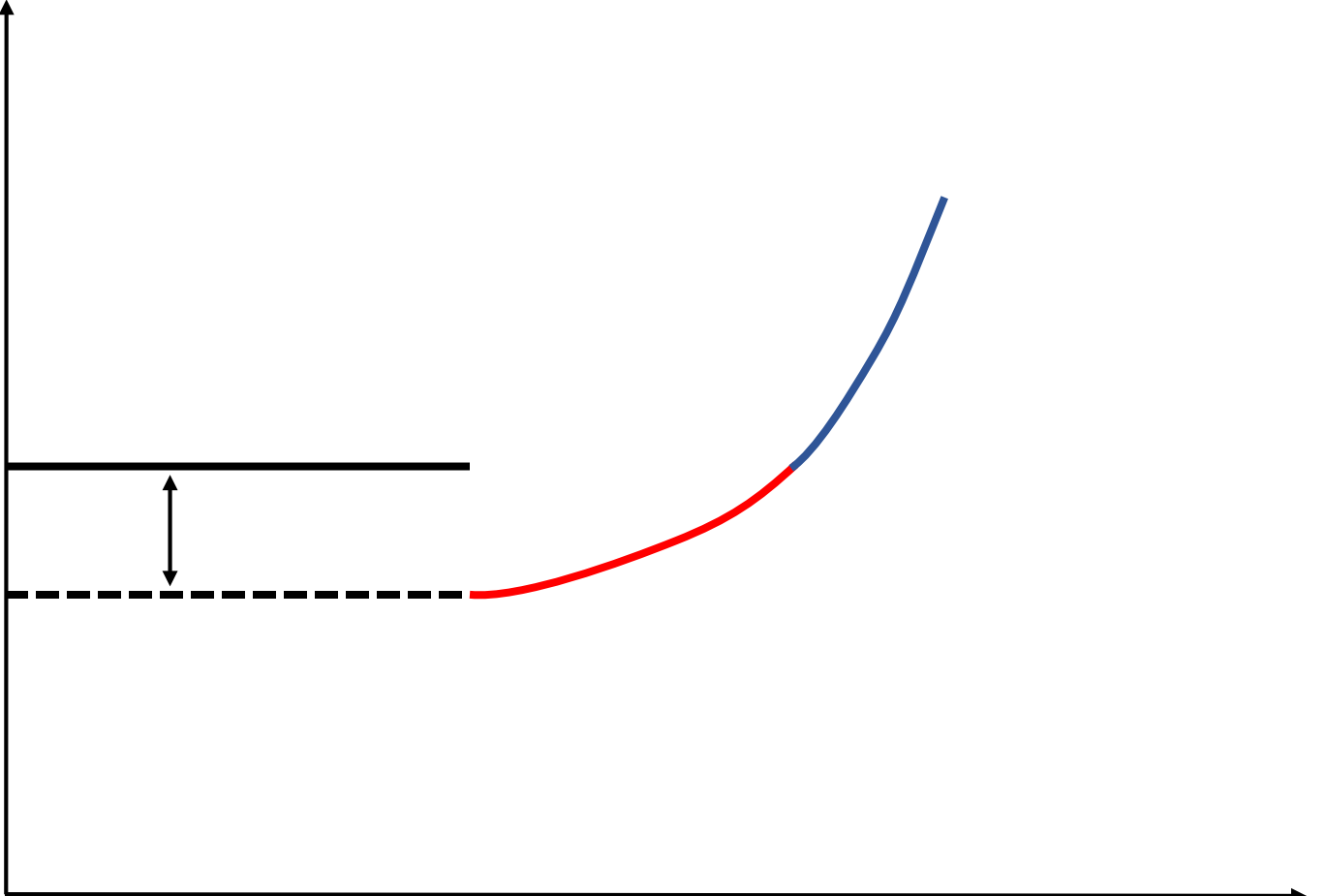


Provider replacement: repo and clearing

- Other studies document the extent to which imposing higher costs on a subset of suppliers will cause business volume to shift away from those suppliers.
- “Our evidence suggests that the leverage ratio requirement pushes derivatives activities toward less constrained institutions and market segments.” Haynes, McPhail and Zhu, *When Leverage Ratio Meets Derivatives: Running Out of Options*
- “we find evidence that suggests that competing, non-constrained, foreign dealers took the opportunity to capture market share when affected, UK dealers withdrew from the small end-user segment of the dealer-client market. The market therefore seems to have been resilient and adjusted quickly.”, Kotidis and van Horen, *Repo Market Function: The Role of Capital Regulation*

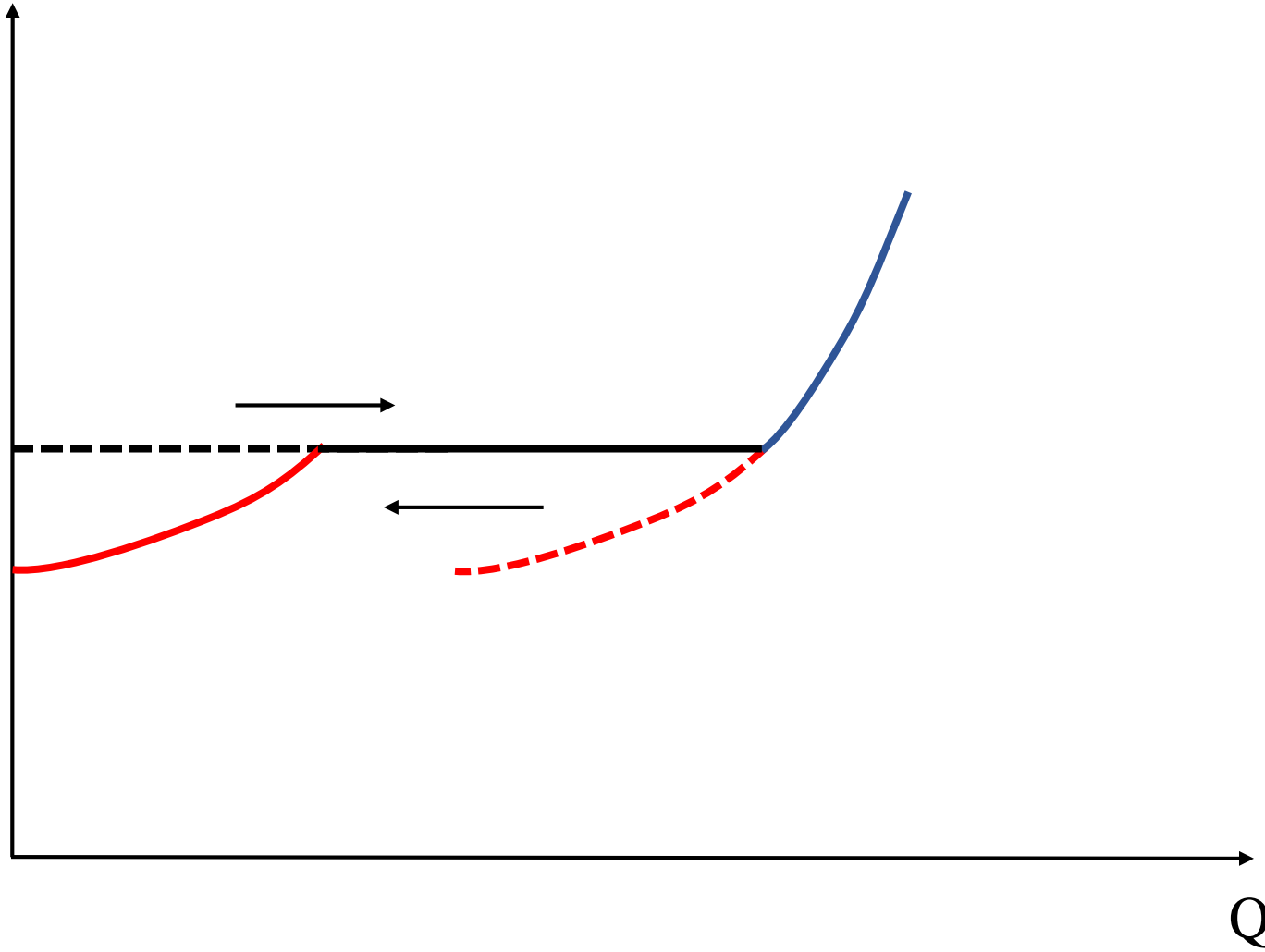


Price

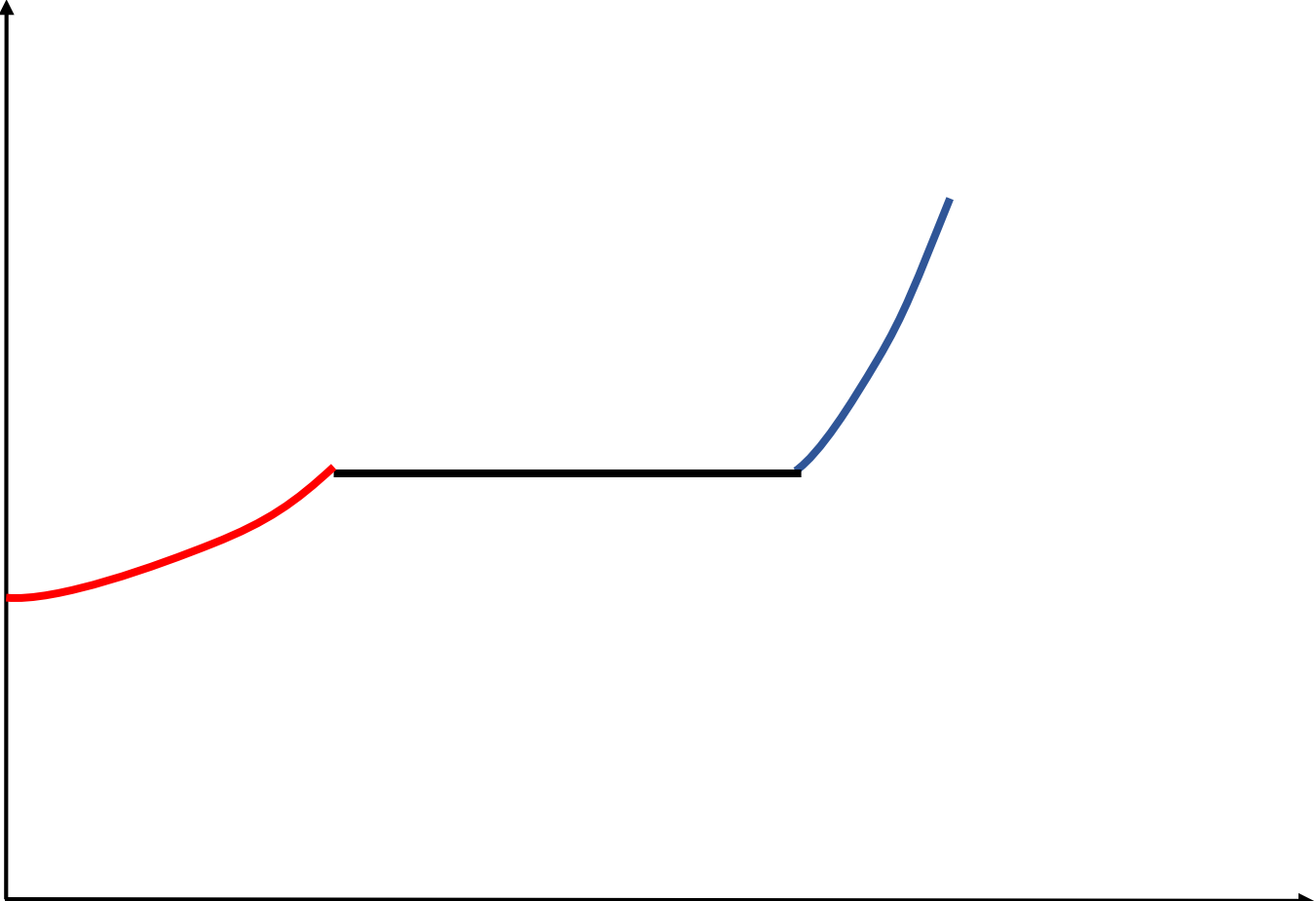


Q

Price

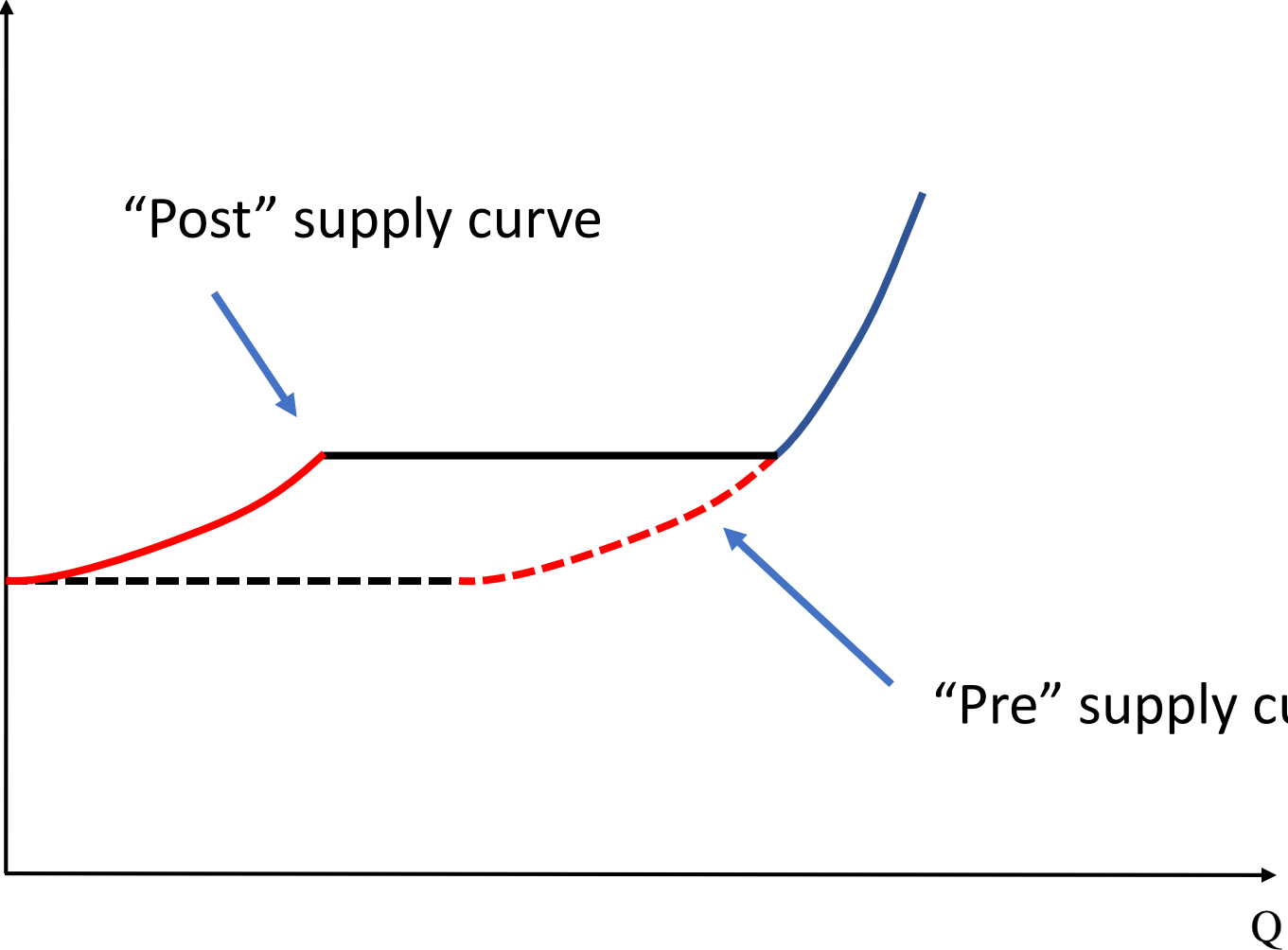


Price



Q

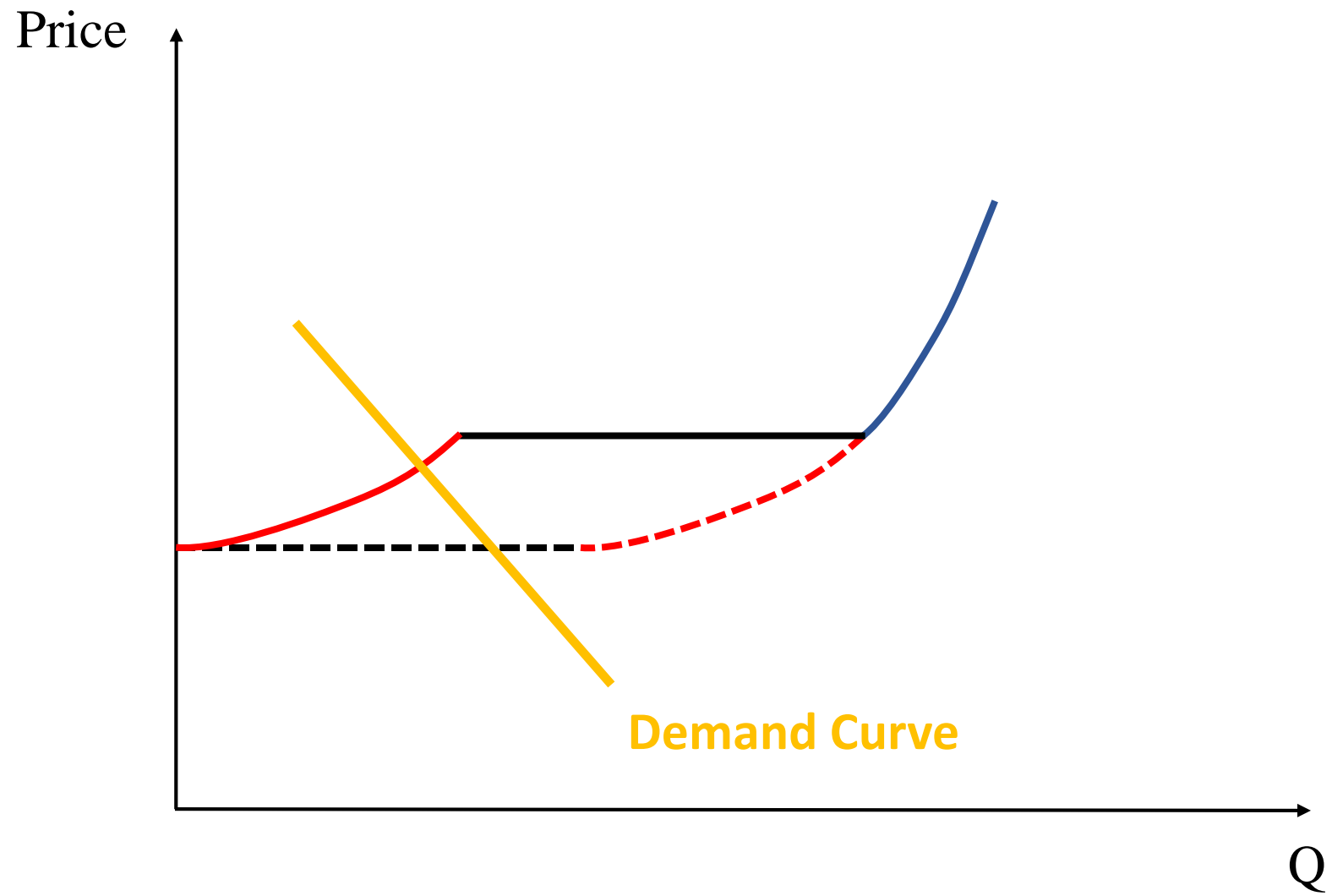
Price

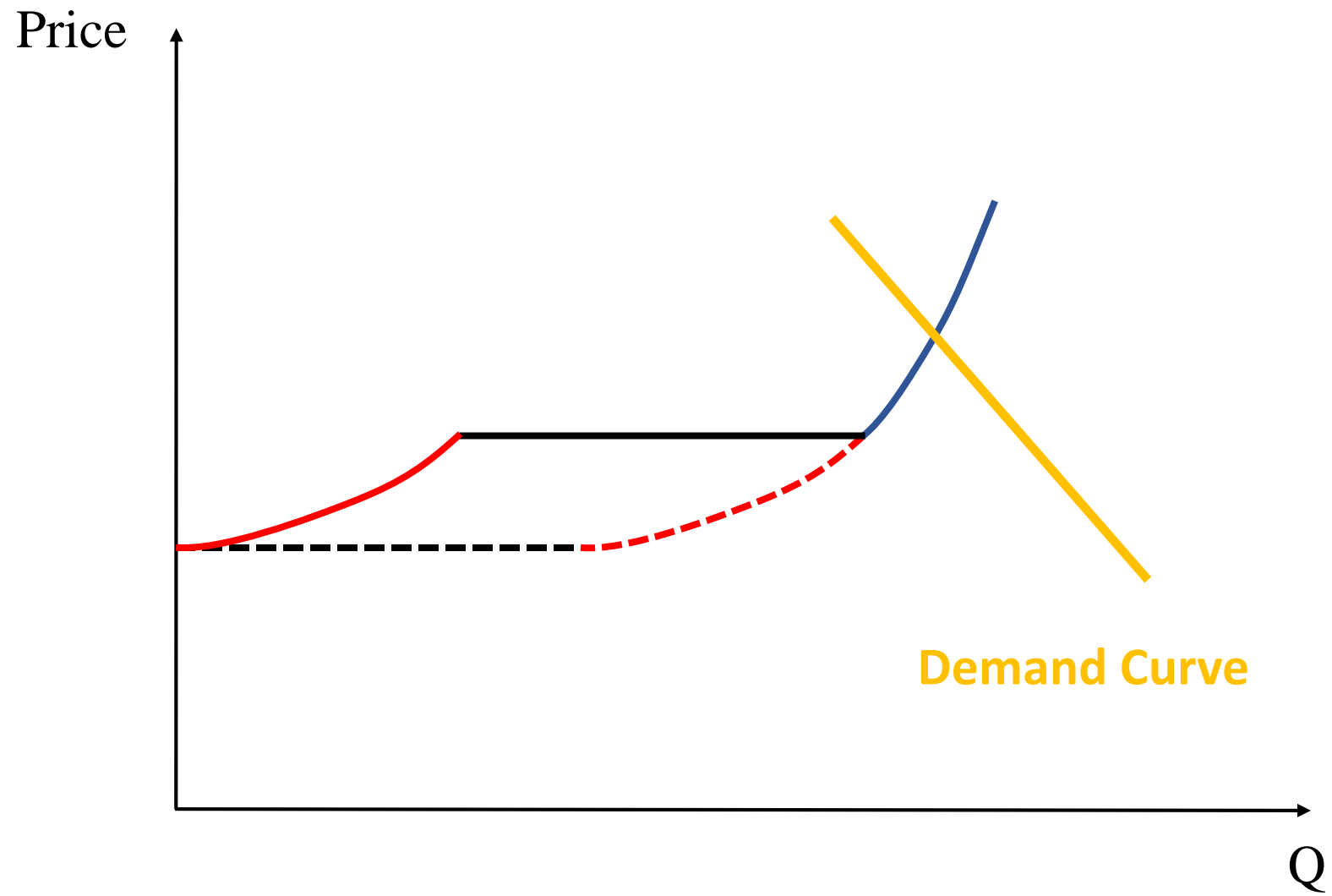


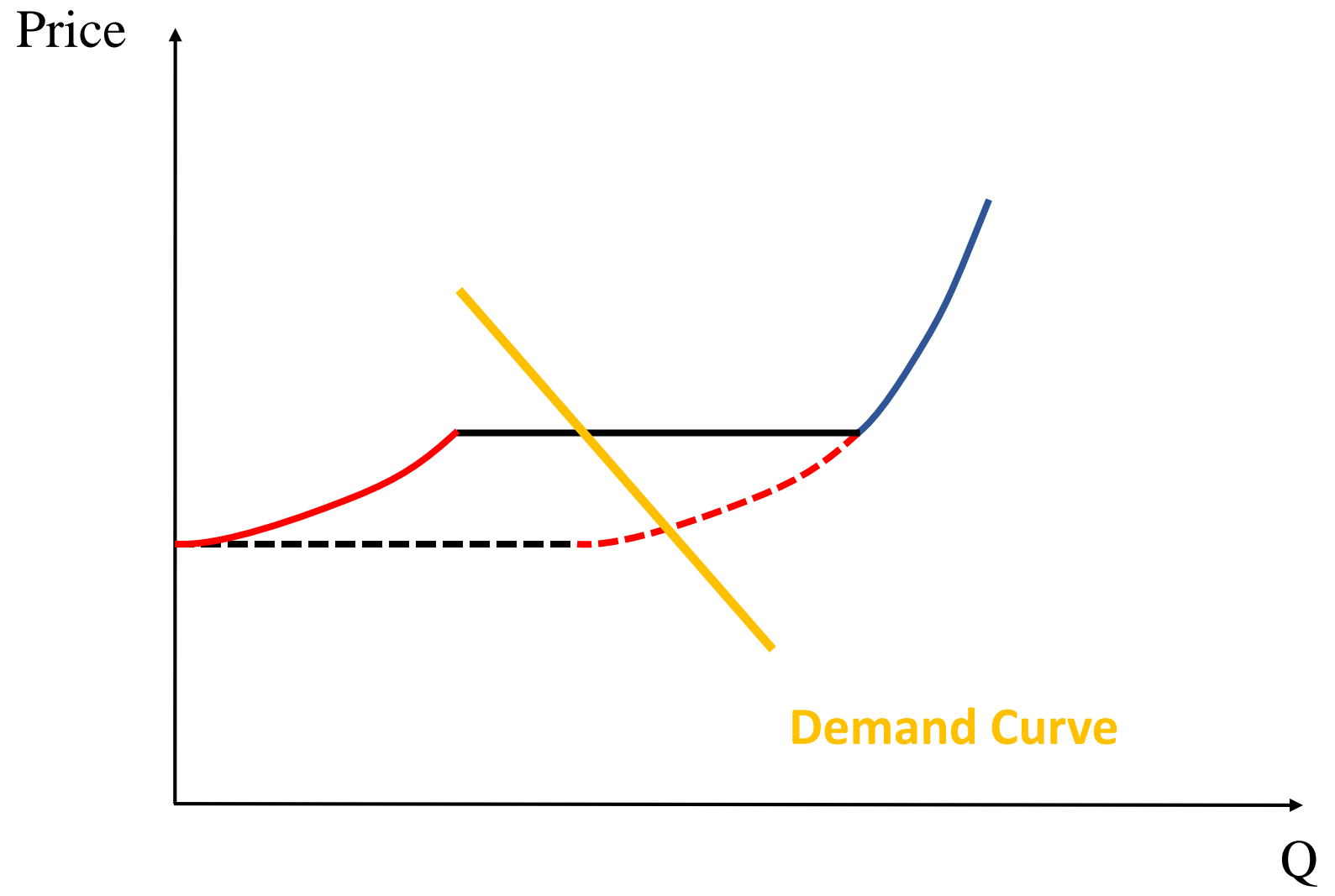
“Post” supply curve

“Pre” supply curve

Q







Do we care who bears these default risks?

- Private costs and benefits will determine which institutions provide services.
- Banks' risks can be monitored; nonbanks, not so much.
- Social inability to monitor risk might be a social cost of this shift in funding sources.
- In Europe there may be less opportunity (although higher bank capital requirements should stimulate emergence of new institutions).
- Still, the paper on UK gilt repos demonstrates some elasticity of substitution.

Conclusions

- Three enjoyable papers.
- Examine effect of regulations on asset pricing and portfolio composition.
- When talking about regulatory costs, distinguish between private and social.