SEMINARIO CONJUNTO: CEMLA-BANCO DE MÉXICO

Modernización e Inclusión Financiera en América Latina

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COMPETITIVE ISSUES OF FINANCIAL MODERNIZATION

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** The views in this presentation are those of the author and may not represent the views of the Federal Reserve Bank of Chicago or the Federal Reserve System.*

1. Measuring competition and the effects of financial innovation

- During the last three decades the empirical Industrial Organization literature has come up with a wide range of competition indicators.

- New databases and econometric techniques have allowed to measure competition beyond the standard Structure-Conduct-Performance (SCP) paradigm. The SCP has been progressively substituted by more direct approaches where marginal costs and mark-ups (i.e. Lerner index = (p-c')/p) are estimated directly using flexible cost functions.

- None of the proposed empirical approaches gives a perfect picture of bank competition (see Diagram 1) [see Carbó-Valverde *et al.*, 2009 JIMF].

- Universal banking: 'one-stop' banking.

- As a matter of general concern, most of the previous empirical studies have neglected the relevance of the demand side. This is critical in order to infer the role of financial innovation and modernization on competition.

2. Two selected methodologies

- The effect of financial innovation on competition can be estimated using the set of approaches shown in Diagram 1. However, two approaches are particularly relevant to capture additional changes in efficiency and in the willingness to pay (demand side) of customers:
  - The so-called **Boone indicator** measures the impact of efficiency on performance in terms of market shares. The idea behind the indicator is that competition enhances the performance of efficient firms and impairs the performance of inefficient firms, which is reflected in their respective market shares. This approach is related to the well-known efficiency hypothesis, which also explains banks' performance by differences in efficiency.
  - The **Bresnahan "mark up"** indicator shows deviations of perceived marginal income from demand for a given multiproduct setting. This may be directly compared to the joint valuation of this setting by customers when the new products/services are added to the output bundle.

DIAGRAM 1. MEASURING MARKET POWER IN BANKING

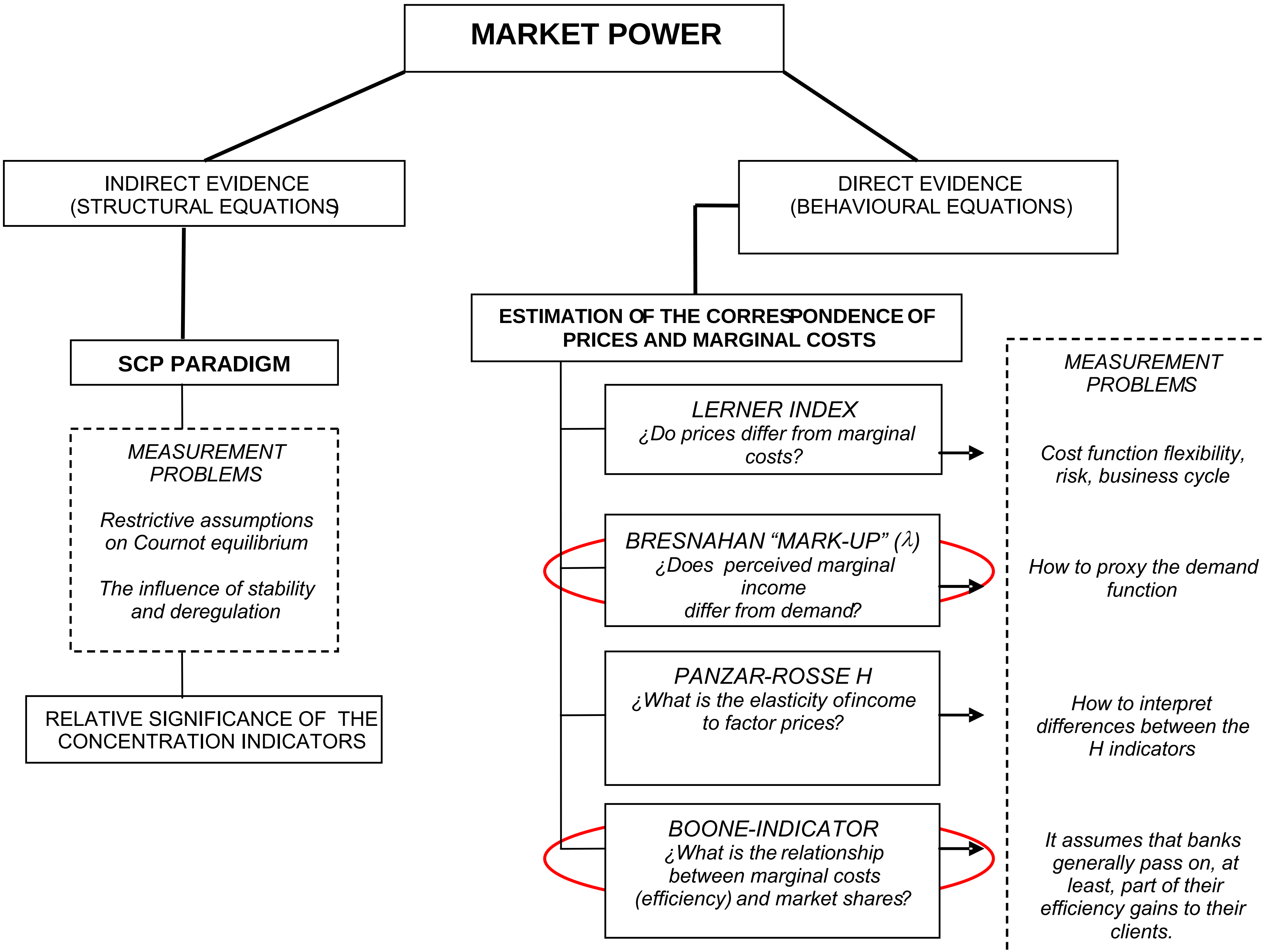
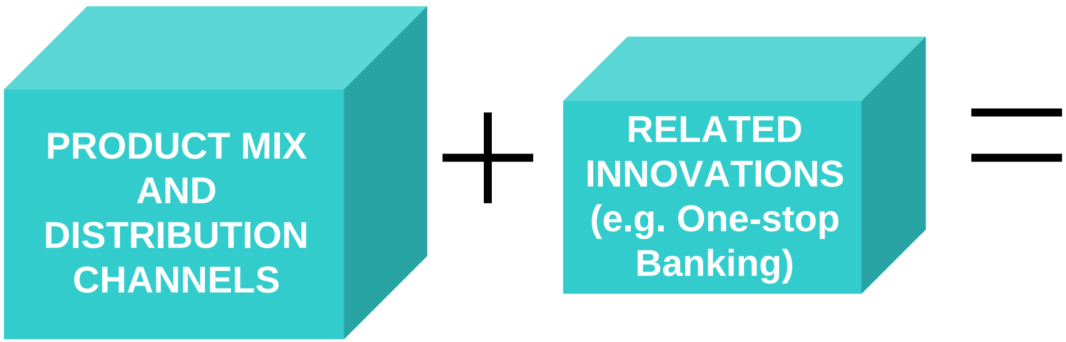
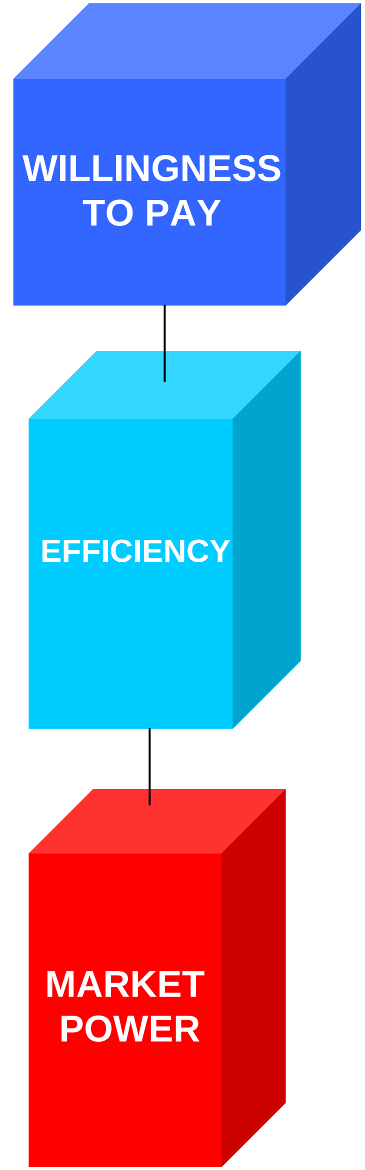


Diagram 2. What is the impact of new products and distribution channels innovations on market power?





NET WELFARE EFFECT?

There is an abundant literature dealing with efficiency measures BUT how to compare changes in market power and willingness to pay?

3. The Boone indicator and the efficiency measures

- This indicator estimates the relationship between the marginal costs of individual banks and their market shares as:

  $\ln(s) = \alpha + \beta \ln(mc) + \varepsilon$

  where *s* stands for market share, *mc* for marginal and ε is the error term. The coefficient β *is* the Boone indicator. However, we wonder whether efficiency gains are passed on to clients.

- The indicator can be computed for different market segment including those bringing the innovation. These estimates should be then compared with changes in efficiency scores from standard parametric (e.g. frontier analysis) and non-parametric (e.g. DEA) methods.

4. Market power and willingness to pay: a methodological framework for the one-stop banking

One-stop banking: shopping traditional and new bank product and services within a branch. How to evaluate the welfare effects of each new product in the output bundle?

MARKET POWER

A direct estimation of the deviation of prices from marginal revenues (multiproduct function)

Mark-up model (Bresnahan)

A simultaneous estimation of demand and supply equations for a multiproduct setting WITH and WITHOUT the innovation

WILLINGNESS TO PAY

Homogenous (same multiproduct function) quantitative estimation

Complementarities in consumption

Revenue complementarities in consumption (revenue scope economies) WITH and WITHOUT the innovation

MARKET POWER VS. WILLINGNESS TO PAY: WELFARE EFFECTS

Market power and willingness to pay: a graphical example

- Figures 1 and 2 show an example of positive welfare effects of introducing a new product or service (Q_N) in the bank output mix. Figure 1 illustrate consumers' payoff while Figure 2 shows banks' payoff.

- In this scenario there is a transfer of consumers' surpluses to the bank's profits, although the net change in consumers' surpluses is positive, due to the higher positive variation in consumers' willingness to pay, as a consequence of the introduction of a new product/service that shifts the demand for bank services (y) and marginal revenues (R) upwards.

Figure 1. A positive welfare effect of product innovation with market power: consumers' payoff

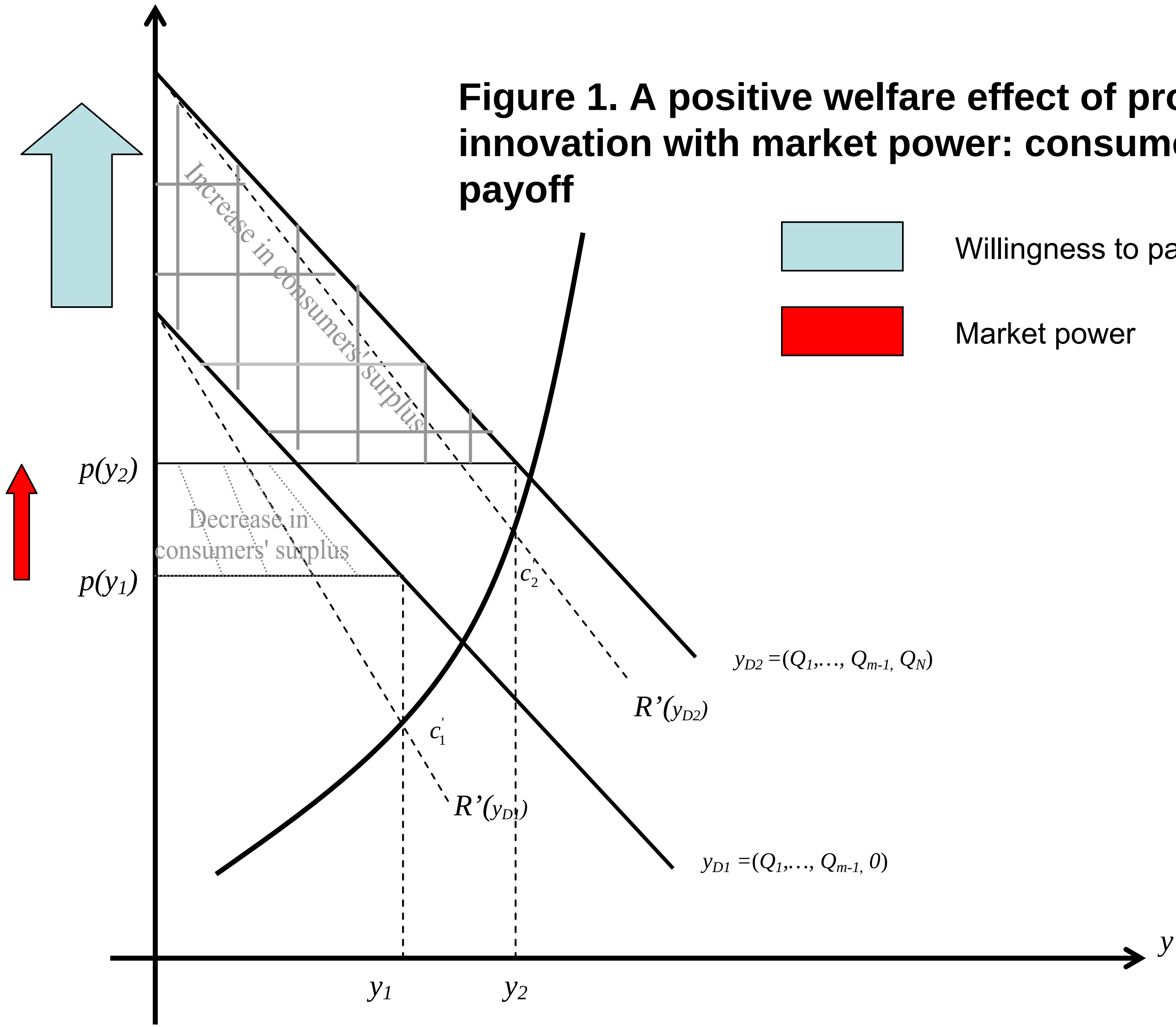
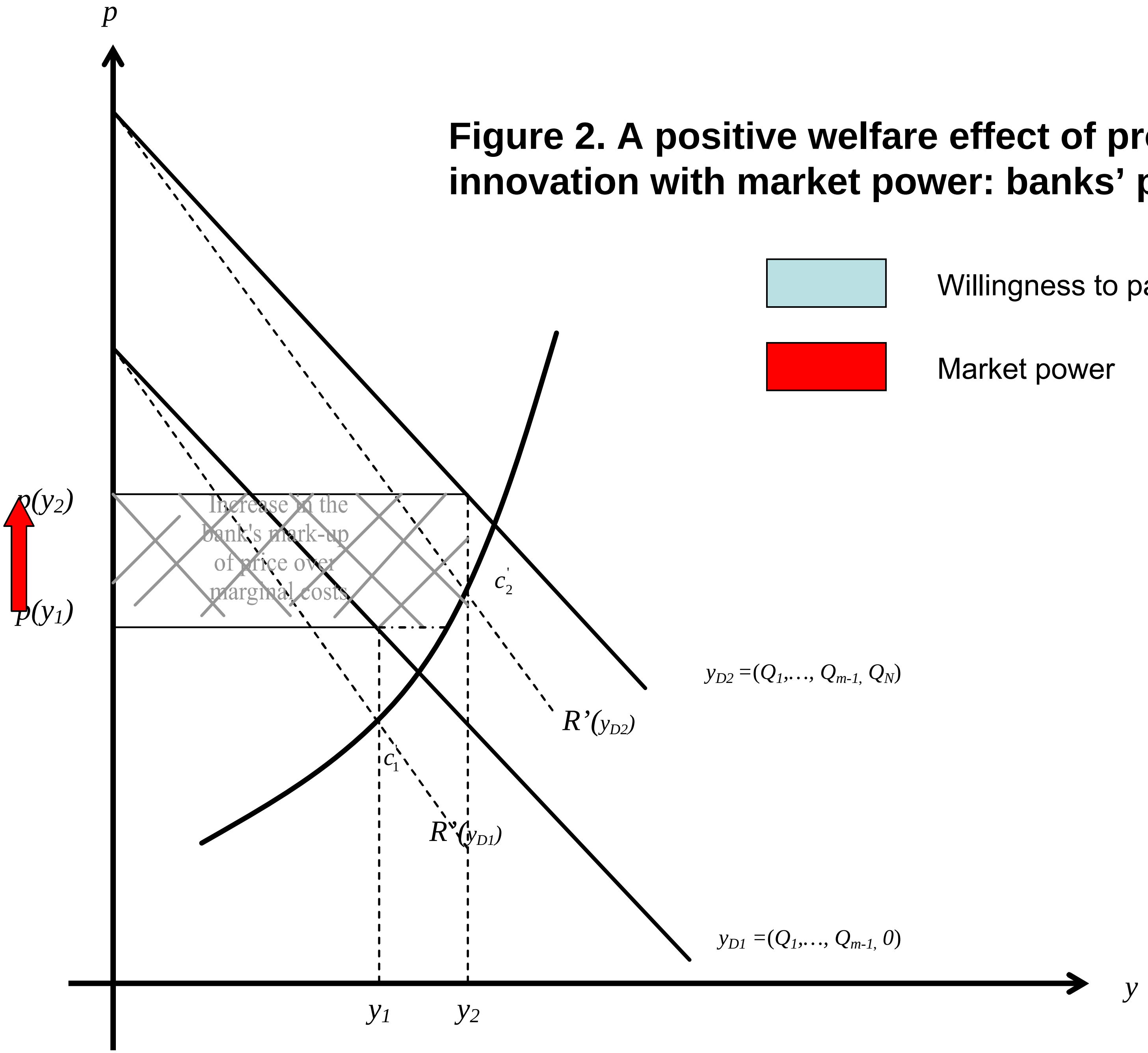
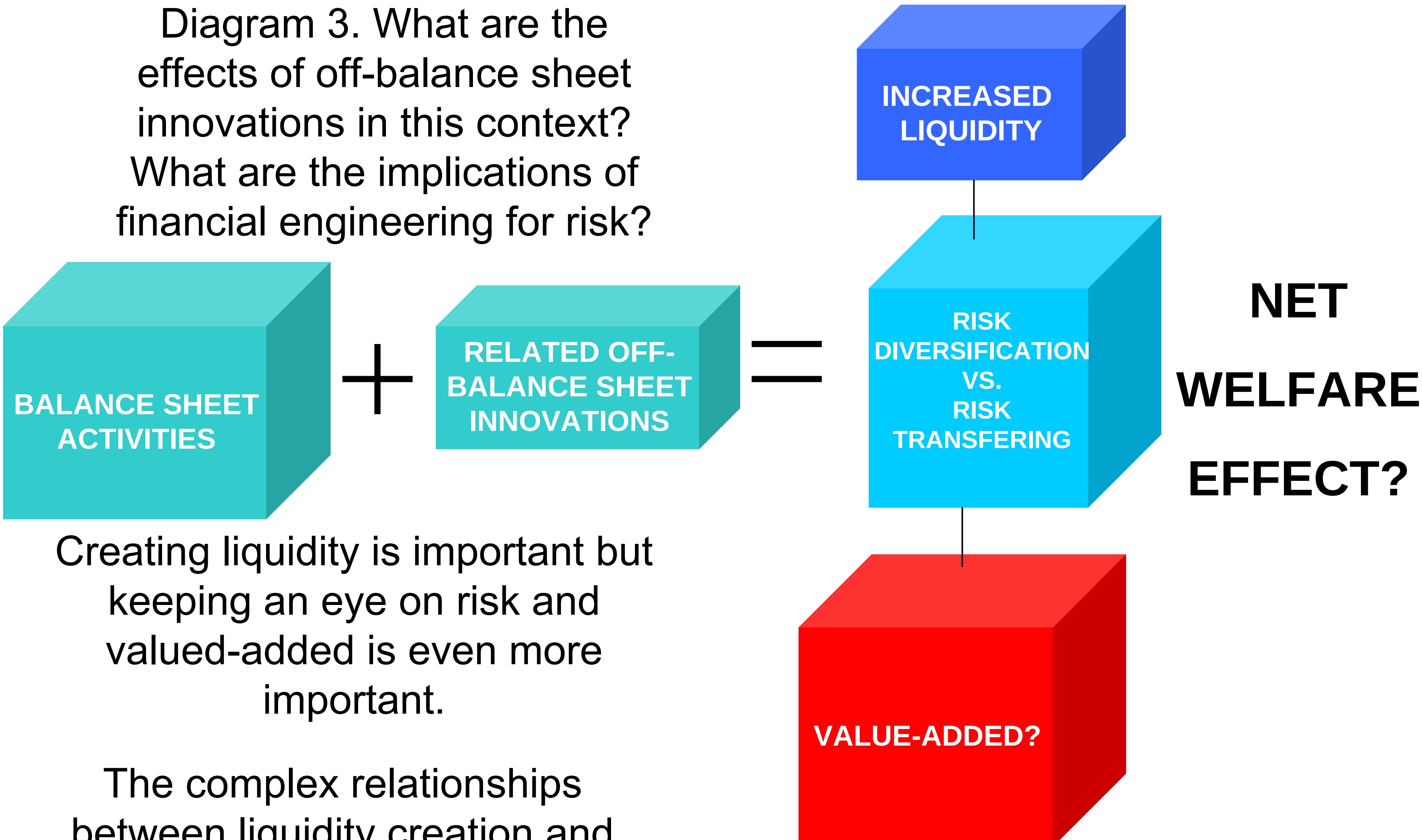


Figure 2. A positive welfare effect of product innovation with market power: banks' payoff



5. Financial innovations and risk

Diagram 3. What are the effects of off-balance sheet innovations in this context? What are the implications of financial engineering for risk?



Creating liquidity is important but keeping an eye on risk and valued-added is even more important.

The complex relationships between liquidity creation and risk diversification may be better examined under value-added considerations.

7. Lessons for financial inclusion and open questions

- Evaluate the role of each financial modernization initiative in terms of access to finance and risk. Is there a trade-off?
- Is there a common trend towards a “one-stop banking” model?
- Does “one-stop banking” promote relationship banking?
- Is there a path for financial innovations in tackling exclusion? Can new products or delivery channels (eg. ATMs, online banking) be particularly useful in potentially excluded areas?