

The Welfare Effects of Vertical Integration in the Securities Clearing and Settlement Industry



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Prepared for the conference “Clearing and Settlement of Financial Markets:
Europe and Beyond” Cass Business School, London UK, June 16-18, 2005

INTRODUCTION

The European Securities Clearing and Settlement Industry is experiencing a vast movement of consolidation.

This is encouraged by the European Commission, who seeks to establish a single market for the trade of financial securities across the European Union, and reduce the cost of cross-border transactions.

Several forms of integration have been taking place:

- Horizontal integration: consolidations of exchanges, Central Counterparties (CCPs) or Central Securities Depositories (CSDs).
- Vertical integration: consolidations between an exchange, a CCP and a CSD or alternatively a CSD also performing custodian bank activities, forming what is known as an ICSD (International Central Securities Depository).

In a recent communication (2004), the European Commission refuses to take any position about which form of consolidation is most likely to maximize social welfare.

It states that “Market forces will determine the “final” structure of the Clearing and Settlement Industry” (p. 11), implicitly taking for granted that the market outcome will coincide with the social optimum.

The objective of this article is to challenge this view by showing that market forces will not necessarily lead to a socially efficient industry structure

We offer a simple comparative welfare analysis of two industry structures, one with a CSD servicing competing custodian banks, the other with a CSD competing with custodian banks (the ICSD model).

Our formal model allows us to pinpoint the main trade-offs involved in the choice of the industry structure.

Moving from the CSD model to the ICSD model has several consequences :

- It changes the nature of the settlement service.
- It reduces the intensity of competition for banking services.
- It induces redistributive effects between broker dealers (who may gain from the integration) and final investors (who typically lose).

We also show that cost based regulation of access pricing (together with accounting and governance separation of the ICSD with its banking subsidiary) can in principle restore efficiency of competition in the banking industry.

But such a regulation would face some difficulties:

- The ICSD would not have any incentive to reveal its costs.
- In any case, it would be very difficult for the regulator to separate the costs of depository and settlement services from the costs of associated banking services.
- More importantly cost-based pricing may not be the appropriate benchmark, due to indirect externalities with issuers (“two-sided markets”).

PLAN OF THE TALK

- A FORMAL MODEL OF THE C.S. INDUSTRY
- THE CSD CASE
- THE ICSD CASE
- COST BASED REGULATION OF AN ICSD
- INDIRECT NETWORK EXTERNALITIES
- CONCLUSION

2- A Formal Model of the CS industry

Model is in the spirit of Holthausen and Tapking (2003), with one CSD, two competing custodian banks labeled $i= 1, 2$, and a large number of investors.

The CSD provides depository and settlement services

The two custodian banks compete to provide differentiated services tailored to satisfy the needs of final investors.

This model is represented in Figure 1 when the CSD is independent from the banks (CSD model) and in Figure 2 when bank 1 and CSD are integrated (the ICSD model).

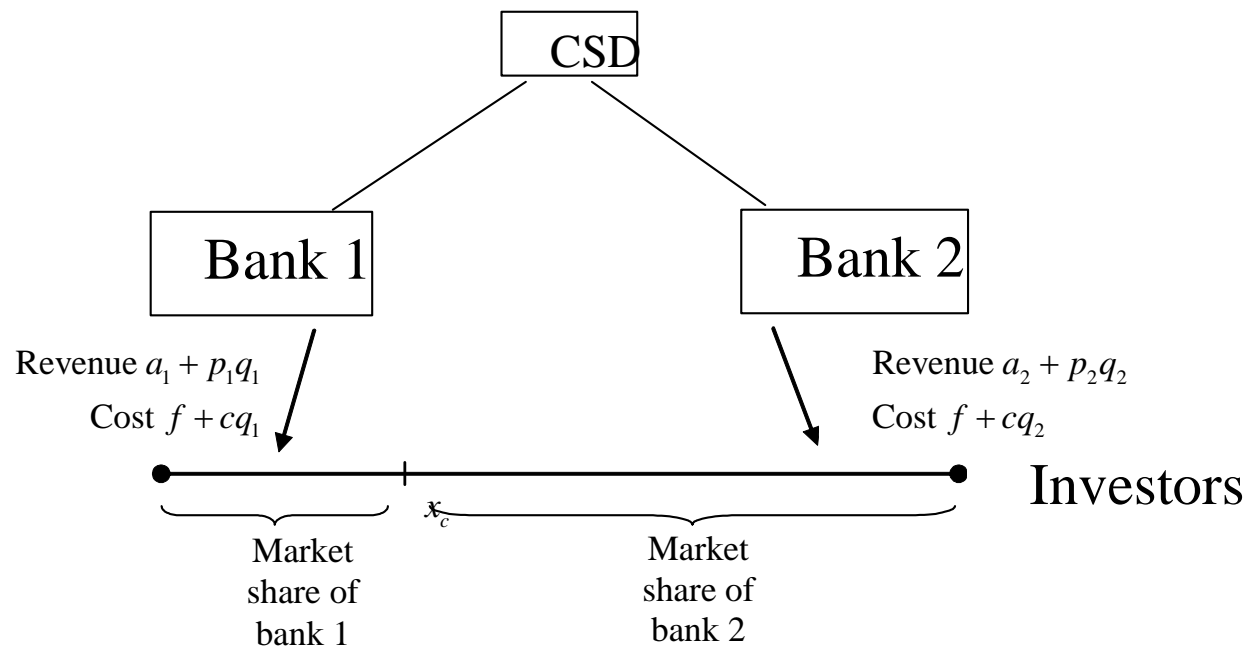


Figure 1: The CSD model.

Notation:

q_i : number of transactions during the relevant time period (say, a year), by a customer of bank i ($i = 1,2$),

p_i : unit fee charged (per transaction) by custodian bank i

a_i : fixed fee charged by custodian bank i for managing a customer's account during the relevant time period (say, a yearly fee),

We determine the competitive equilibrium of the banking industry, depending on the type of relations prevailing between the CSD and the custodian banks. We consider in turn two different industry structures:

- In the first structure, which we call the CSD model, the CSD is independent. It independently contracts with the two custodian banks on similar conditions.
- In the second structure, which we call the ICSD model, the CSD is integrated with one of the custodian banks.

3- The CSD Model

In this section, the CSD is independent from the custodian banks, and contracts with each of them (on equal access conditions) for the provision of depository and settlement services.

The cost structure is as follows:

- CSD : fixed cost F and a variable cost CQ for providing settlement services to each custodian bank (for a volume of transactions Q);
- each custodian bank: fixed cost f and a variable cost cq for providing complementary services to each of his final customers (for a volume of transactions q).

We assume that the CSD is not for profit.

Result 1: Competition between custodian banks in the CSD model results in the following prices:

$$p_1 = p_2 = c + C, \quad (4)$$

(per transaction prices charged by custodian banks equal their total marginal cost)

$$a_1 = a_2 = f + t, \quad (5)$$

(fixed fees charged by custodian banks equal the fixed cost f of managing each customer's account plus the differentiation cost parameter, that measures the intensity of downstream competition).

4- The ICSD Model

In this section the CSD merges with custodian bank 1 (and thus becomes an ICSD) and selects directly the two part tariff offered to the customers of bank 1.

The nature of settlement services is modified (lower cost, due to the internalisation of some trades, but settlement in private money instead of CB money).

Unless regulated, the ICSD has the choice of the price at which offering clearing and settlement services to bank 2, or even to exclude bank 2. This second case is represented in Figure 2.

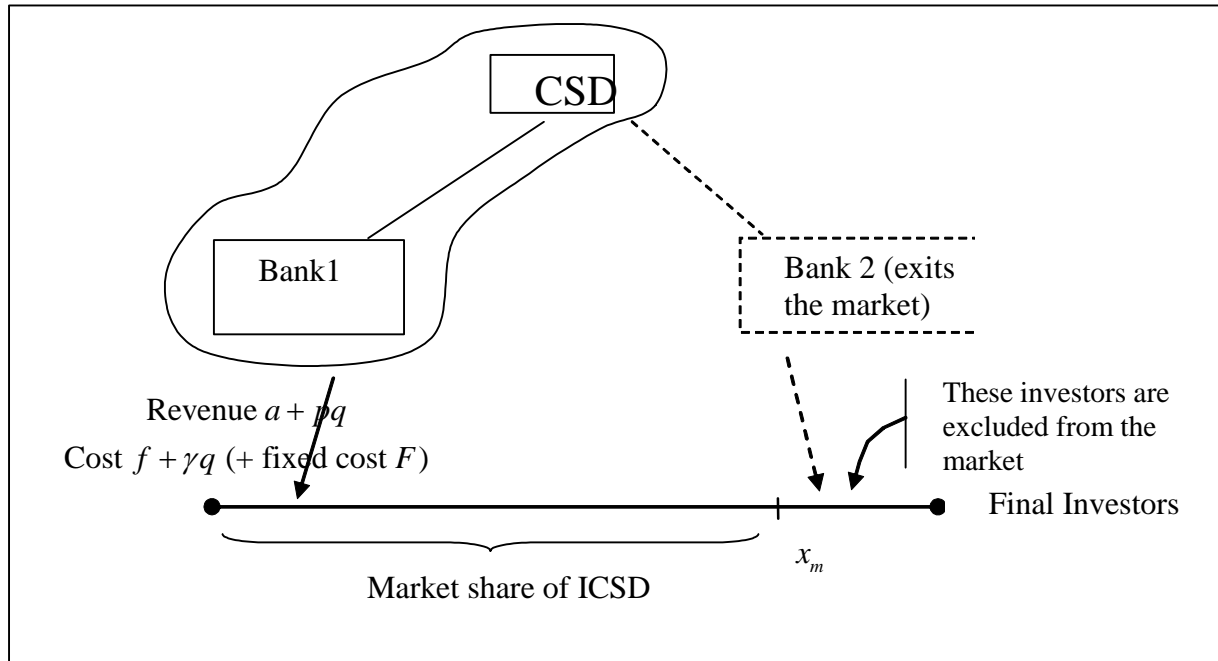


Figure 2: The ICSD model (in the case of foreclosure of bank 2). The dotted lines indicate inactive links.

COMPARISON BETWEEN CSD AND ICSD

- The nature of the settlement services is modified.
- The per transaction price is lower in the ICSD case.
- The fixed fee paid by investors is higher in the ICSD case.
- Custodian bank 2 maybe forced to exit, in which case the variety of services offered to final investors decreases
- In all cases the net surplus of the customers of bank 2 decreases.

Result 2: *After vertical consolidation (ICSD), the equilibrium of the clearing and settlement industry would be characterized by:*

- *A lower per transaction price than in the CSD case. This would favour brokers and dealers.*
- *A higher fixed fee paid by investors than in the CSD case. This would penalize small investors.*
- *Social welfare may be higher or lower than in the CSD case, according to which of the following effects dominates:*
 - *increase in technical efficiency due to the merger of the CSD with custodian bank 1,*
 - *additional costs to the Central Bank (systemic risk) or additional costs to final investors (collateral) due to settlement in private money.*
 - *decrease in competition for banking services.*

5- Cost-Based Regulation of an ICSD

The exclusion of bank 2 by the ICSD hurts a fraction of final users (most of the former customers of bank 2).

This is why regulators may be tempted to allow the merger between the CSD and bank 1 only if bank 2 keeps an open access to the CSD, and for a "reasonable" access charge.

We show in the paper that in the absence of any informational problem (i.e. if the regulator could perfectly monitor costs) and of any indirect externality such a regulation can indeed restore efficiency.

This situation is represented in Figure 3.

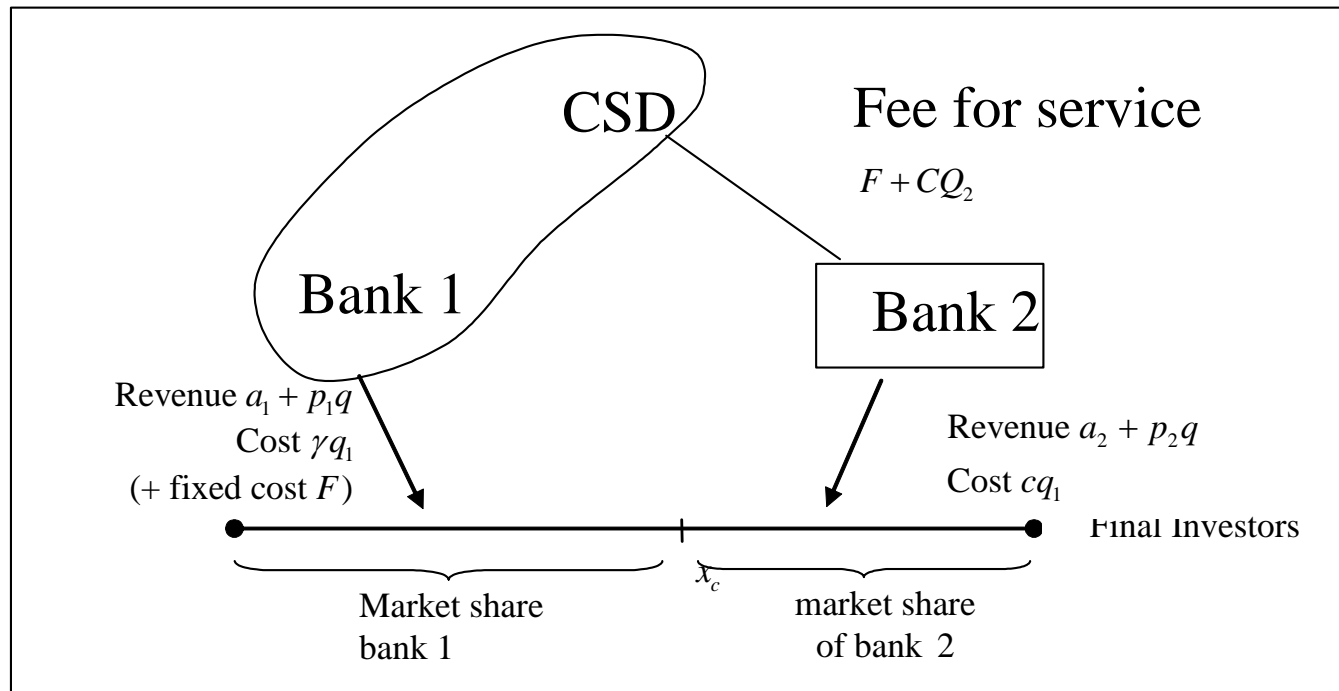


Figure 3: The ICSD model (in the case where bank 2 has open access to the platform).

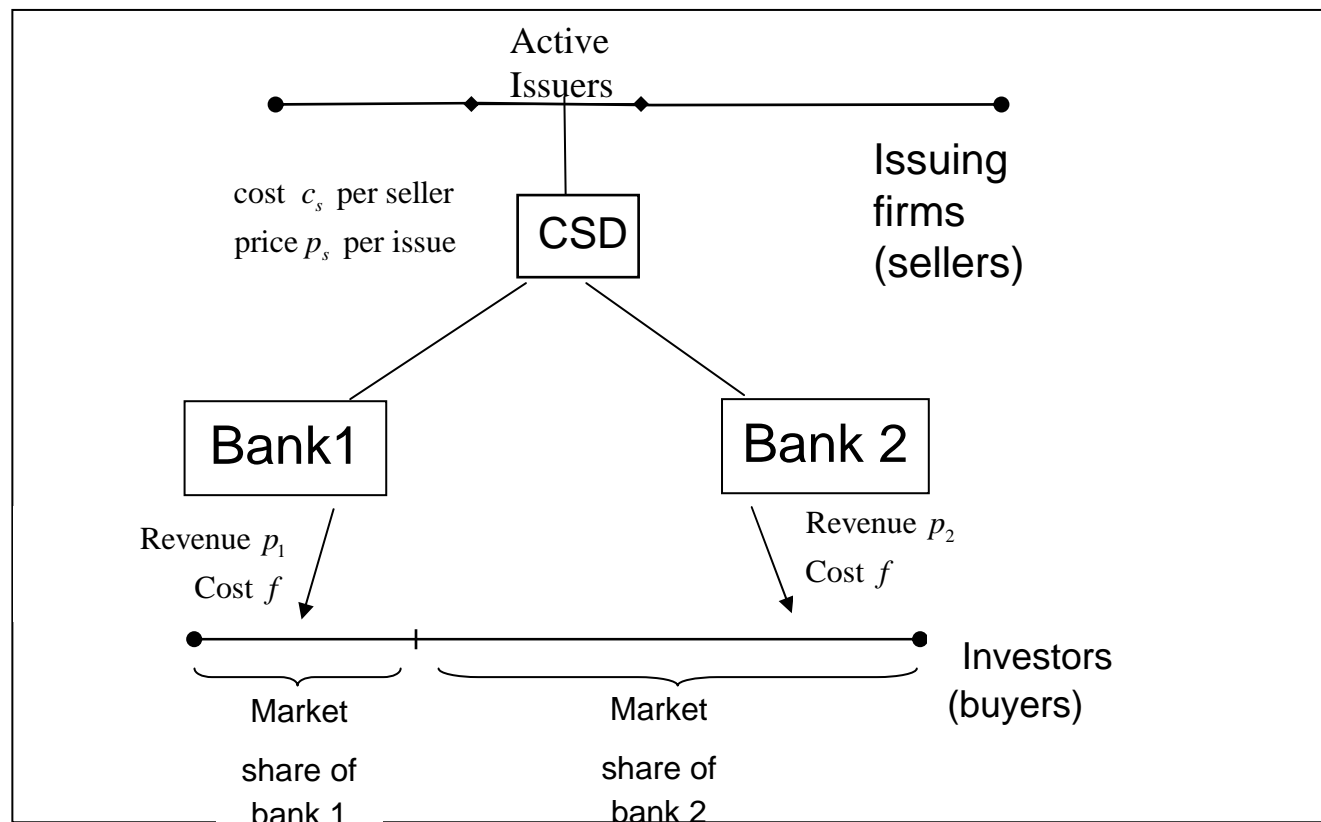
However we also argue in the paper that :

- such a cost based regulation is likely to be difficult to implement, due to the incentives of the ICSD to hide (or manipulate) the information about its costs [cost of regulation].
- in any case, due to indirect externalities with issuers, cost based regulation may not be the appropriate benchmark.

Cost-based regulation is not appropriate in two sided-markets!

6- Indirect Network Externalities

CSDs have two kinds of users: investors (buyers) and issuing firms (sellers)
The utility of buyers depends on the number of sellers and vice versa: two-sided market (Rochet-Tirole 2003)



In this case cost-based regulation does not necessarily lead to the socially optimal situation: cross subsidies between investors and issuers may be needed to stimulate issuing .

An ICSD would partially internalize these indirect externalities but would charge high mark ups, leading to insufficient number of issuers.

More research is needed on this complex topic, in order to capture the role of exchanges and intermediaries on the other side of the market (issuing) and the implications of indirect externalities for the optimal structure of the clearing and settlement industry.

Conclusion

This paper is a first attempt to analyze the welfare effects of vertical integration between a CSD and a custodian bank in the Clearing and Settlement Industry.

It shows that a move from the CSD model to the ICSD model is likely to entail a change in the nature and the costs of settlement services (leading to a possible decrease in per transaction fees) accompanied with a decrease in competition for providing services to final users (leading, on average, to an increase in the fixed fees charged to investors).

Regulation of access pricing, together with accounting and governance separation between the ICSD and its banking subsidiary is in principle an appropriate way to restore efficiency of competition in the banking industry

But such would be confronted with several difficulties, due in particular to the incentives of the ICSD to hide cost information.

In any case the design of an optimal regulation is likely to be complex, once indirect externalities (with issuers) are taken into account. These externalities imply that socially optimal prices depend on demands on the two sides of the market, and not only on costs .