

Integration of Clearing and Settlement in the EU

Regulatory Impact Assessment - Annex I: Lower Bound

CESAME, March 7th 2005

Plan of the presentation

- Introduction
- The reviewed studies
- Analysis of the data
 - Cost per transaction
 - Lower Bound
- Conclusion
 - What is the lower bound?
 - Inputs to the upper bound

Introduction

- The **Regulatory Impact Assessment** for a possible Directive on Clearing and Settlement is based on a two-step approach:
- First, we assess the **benefits of an integrated market for C&S** services in the EU (without regard to whether it comes from self-regulation or from any given community action):
 - **Integration**: a situation where all obstacles to the use of the different clearing and settlement cross-border channels are eliminated

Introduction

- **Lower bound:** the current (aggregate) cost of the existing inefficiencies, i.e. the benefits of performing cross-border C&S at the same cost as domestic C&S
- **Upper bound:** takes into account the effect of reduced cost of C&S to financial markets' liquidity, cost of capital for issuers, etc
- **Second, we test two main alternatives as to how to reach such benefits and their costs:**
 - No Community action
 - Community action

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The reviewed studies

- Top-down studies:
 - LSE/Oxera, CEPS
- Bottom-up studies:
 - Nera
 - AFTI/Eurogroup
- Industries studies:
 - Deutsche Boerse Group (2002, 2005)
 - Morgan Stanley – Mercer Oliver Wyman
 - Euroclear

Top-down studies

- Compare/aggregate operating incomes/expenditures of (I)CSDs and CCPs
- Operating income/expenditure per transaction
 - US vs EU
 - Domestic: CSDs
 - Cross-border: ICSDs
- Estimates of the current extra-cost of cross-border C&S (**lower bound**)

Number of transactions

- CEPS:
 - Pre-netting
 - Post-netting
- LSE/Oxera:
 - Only pre-netting
- Focus on pre-netting and operating income figures

Bottom-up studies: Nera

- Derives an estimated C&S price of a market transaction – **exchange-traded equity transaction** – by looking at (I)CSDs' and CCPs' price lists
 - US vs EU
 - Domestic: CSDs
 - Cross-border: ICSDs, links
- Does not consider custody fees nor fixed tariffs

Bottom-up studies: Nera

- Need to make several assumptions about the users' characteristics as price lists are usually quite complicate:
 - **Number of transactions**: Fees vary with volumes
 - **Netting ratio**: Most CSDs charge on the basis of the number credits/debits made
 - **Number of shares per transaction**: NSCC applies a recording fee which depends on the number of shares

Bottom-up studies: AFTI/Eurogroup

- Compares the total cost (including trading) of a market transaction – **exchange-traded equity transaction** – for the final investor
 - US vs EU: Domestic and cross-border
- Assumes a local presence in the foreign market:
 - global custodian
 - local agent
- It seems it does not consider custody fees

Industry studies: DBG/MS-MOW

- Gives an estimate of the current extra-cost of cross-border C&S (**lower bound**) for equities (2002):
 - C&S (narrow definition)
 - Custody
- Operating income per transaction (2005)
- Value of the market (Morgan Stanley – Mercer Oliver Wyman)

Industry studies: Euroclear

- Gives an estimate of the current extra-cost of cross-border C&S (**lower bound**) for securities
- Gives a break-down of the total cost of cross-border C&S

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Cost per transaction/domestic

CEPS (CCPs' and CSD' operating incomes):

- EU much more expensive than DTCC
- EU (without ICSDs) = €1.74
- DTCC = €0.4
- EU (without ICSDs)/DTCC = **4.35:1**

Cost per transaction/domestic

NERA (CCPs' and CSD' fees,)

- EU much more expensive than DTCC
- EU = €0.35 - €0.80
- DTCC = €0.10
- EU/DTCC = 3.5:1 – 8:1

Cost per transaction/domestic

- Misrepresentation of the price schedules of some CSDs:
 - Italy (according to Monte Titoli) = ~€0.10
 - Inclusion of a matching fee for market transactions settled in Monte Titoli
 - Application of settlement fees to pre-netting figures instead than post-netting figures
- EU/DTCC = 1:1 – 8:1

Cost per transaction/domestic

DBG (CSDs' settlement-related revenues, no CCPs):

- CBF: €0.30
- Monte Titoli: €0.33
- Euroclear France: €0.35
- DTCC: €0.20
- EU (sample)/DTCC = 1.5:1 – 1.75:1
- Considering economies of scale, EU CSD are not systematically less cost-efficient than DTC

Cost per transaction/domestic

AFTI/Eurogroup (brokers', custodians' and infrastructures' fees – internal accounting):

- Total costs roughly similar in the EU and US
- Brokers' costs (including exchanges) highly dominate:
 - EU: €60-€75 out of a total cost of €67-€90

Cost per transaction/cross-border

AFTI/Eurogroup (US investor investing in the EU – French investor investing in the US or in EU)

- Trading costs roughly the same as domestic ones
- C&S more expensive:
 - €18-€25
 - Possibly under-estimation as it assumes only one extra level of intermediation (global custodian)

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Lower Bounds: LSE/Oxera

- comparison with DTCC – unique technical, regulatory, legal and tax environment
- €1.6 (2000) and €2 (2001) billion:
 - current number of transactions in the EU, multiplied by the difference between the EU (including ICSDs) and DTCC levels of operating income

Lower Bounds: LSE/Oxera

- assumes the DTCC level of efficiency, in this sense capture “cross-border” and “domestic” inefficiencies
- Captures direct and indirect costs to users, but mainly the ICSDs channel
- Does not include the custodian banks’ channel
 - Under-estimation

Lower Bounds: Alternative comparison

- **Alternative comparison** between ICSDs and a CSD (CBF) captures exclusively the cross-border element
- **€0.7 billion (2000)**
 - current number of transactions in the ICSDs, multiplied by the difference between the ICSDs (cross-border) and CBF (domestic) levels of operating income
- **€1 billion (2001)**
 - Rough extrapolation based on the previous result and 2001 LSE/Oxera result

Lower Bounds: DBG (2002)

- €2 billion
 - **Equities**
 - C&S (narrow): €1 billion, on the basis of estimated:
 - incremental cost: €25
 - Number of cross-border settlements: 36 million
 - Custody: €1 billion, on the basis of estimated:
 - incremental custody fee of: ~2.8 bp
 - cross-border equity holdings: ~3.7 trillions

Lower Bounds: Euroclear

- €5 billion
 - **Securities**
 - It's not clear whether custody is included
 - ...

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What is the lower bound?

- DBG: €2 billion (1+1) (**equities**)
- Euroclear: €5 billion (**securities**)
- LSE/Oxera: €1 - €2 billion (**ICSDs**)

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- Number of cross-border settlements
(double counted):
 - 100 millions (SWIFT)

What is the lower bound?

- AFTI C&S cross-border incremental cost per transaction – €18 - €25 – may be an under-estimation given that the study assumes just one more intermediary in the chain – in fact there can be more
 - We consider €25 as our estimate, the same as DBG (still conservative)

What is the lower bound?

- **DBG C&S** (narrow) lower bound (€1 billion) may be an under-estimation as it is based on what may be an under-estimation of the number of cross-border settlements:
 - SWIFT figure includes bonds

What is the lower bound?

- Combining **DBG/AFTI** C&S cross-border incremental cost per transaction – **€25** – and **SWIFT** number of x-border settlements - **100 millions**:
 - **€2.5 billion**
- Including custody (DBG):
 - **€3.5 billion**

What is the lower bound?

- **LSE/Oxera (ICSDs):** How big is the under-estimation?
- Considering:
 - Custodian banks dominate the market for cross-border settlement in equities
 - ICSDs dominate the market for cross-border settlement in bonds
 - Equities are more expensive than bonds (at least for custody)

What is the lower bound?

- The combined ICSDs' number of transactions is 23 millions (2000)
 - Euroclear: **90%** is internalised
- Assuming:
 - The number of cross-border (not internalised) settlements for ICSDs:
 - 10 millions (corresponds to an internalisation rate of only **25%** for CBL - seems conservative)
 - **20 millions** (double counted)

Lower Bound: LSE/Oxera

- The ratio between the number of cross-border settlements captured by LSE/Oxera and the number of cross-border settlements not captured by the study, that is through the custodian banks' channel, is **4:1**
- Total extra-cost of cross-border C&S, including custodian banks' channel: **5:1**

What is the lower bound?

- If we want to capture exclusively the cross-border inefficiency, the estimate based on the alternative comparison – that is, assuming **CBF's level of efficiency** (€1 billion, 2001) – may be more appropriate than the estimate based on the LSE/Oxera result – that is, assuming **DTCC's level of efficiency** (€2 billion, 2001):
 - €5 billion

What is the lower bound?

- Our estimate:

~~€~~3.5 - ~~€~~5 billion

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Inputs to the upper bound

- **Percentage reduction of the cost of cross-border settlement towards domestic levels, with respect to the total cost of cross-border trading and C&S (AFTI/Eurogroup):**

$$-\text{€}18 - \text{€}25 / \text{€}85 - \text{€}115 = 21\% - 22\%$$

- This may well be an under-estimation given the very high cost of trading which is included in the denominator (~~€60-€75~~)

Inputs to the upper bound

- **Average percentage reduction in the cost of C&S, with respect to the total cost of trading and C&S (C&S cross-border inefficiencies over the total value of the market, including trading, in the EU):**
- **Equities (DBG/MS):**
 - €2 billion / €17 billion = 12%
- **Securities:**
 - €5 billion / €28 billion = 18% (Euroclear/MS-MOW)
 - €3.5 - €5 billion / €28 billion = 12,5% - 18% (our calculations/MS-MOW)