# Repo Collateral Reuse and Liquidity Windfalls

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## Research question and paper's contribution

#### Research questions

- How large is the repo collateral reuse market in Europe?
- Are intermediating dealers earning a temporary profit by haircut differentials via collateral reuse?
- How much are market participants interconnected and how large is the collateral multiplier?

#### In this paper we:

- Build on the SFTDS by developing an algorithm à la Fuhrer, Guggenheim, and Schumacher (2016) to identify collateral reuse in the European repo market.
- Develop the first transaction-level collateral multiplier metric, tracking collateral chains and addressing collateral velocity.
- Empirically test the liquidity windfalls hypothesis (temporary profit via haircut differentials).

### Main results

- Average reuse rate: 11.67%;
- Collateral multiplier: 2.95 (rebound to pre-GFC levels; Singh, 2011), direct approximation of
- Evidence **against** liquidity-windfalls via haircut differentials; differentials co-move with repo-rate differentials.

### Data

We use SFTDS, a transaction-level dataset. Main advantages:

- clear distinction between the different SFTs. We analyze only repo market transactions, while other studies cannot distinguish between securities lending, repo, margin lending
- very wide coverage (all European repo reporters);
- 18 million observations of EGB and corporate bond repos.

### Our algorithm

2-step approach based on Fuhrer, Guggenheim, and Schumacher (2016):

- Sort by purchase date, maturity, and collateral value.
- Iterate over transactions to enforce reuse conditions.

**Main deviation** from the cited algorithm: we do not impose the repurchase date for reuse transactions to happen before the repurchase date of the initial transaction. Contrary to Inhoffen and van Lelyveld (2024), our algorithm does not allow more than one initial transaction to back a unique reuse transaction.

## Collateral reuse in the European repo markets

Average reuse rate 11.67% with €50bn average daily reuse. Daily reused collateral rose from €39bn and if to €62bn (+59%).

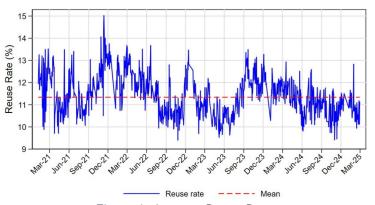
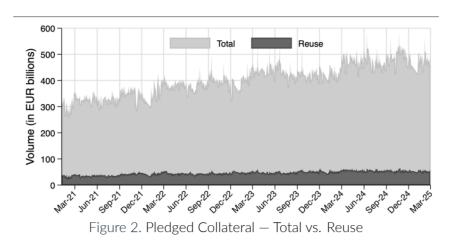


Figure 1. Average Reuse Rate



## Collateral chain length

Transaction-level collateral multiplier is 2.95. On average, reused securities pass through three institutions - excluding original owner and including final collateral receiver.

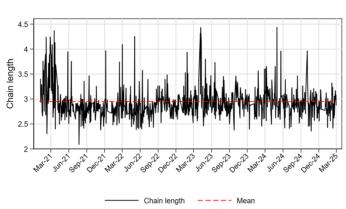


Figure 3. Average Reuse Chain Length

### **Drivers of reuse**

Probit regressions on transaction, counterparty, and collateral characteristics show:

- smaller, shorter trades are more likely to be reused;
- the size of **repo rates** does **not** affect collateral reuse, but the size of **haircuts** matters more
- indicators of financial turmoil and a more hawkish monetary policy stance reduce the probability of reuse, but the effect is small;
- counterparty characteristics are crucial to explain reuse;
- the bond issuer matters when collateral is sovereign bonds;
- specialness does not affect the probability to reuse collateral.

## Liquidity windfalls setup

Hypothesis: initial haircut exceeds reuse haircut  $\Rightarrow$  temporary cash buffer (liquidity windfall); Infante, 2019; Variable of interest is:

 $HC_{\text{initial}} - HC_{\text{reuse}}$ 

 $HC_{\text{initial}} > HC_{\text{reuse}} \Rightarrow \text{liquidity windfall}$ 

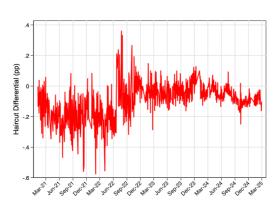


Figure 4. Average Haircut Differentials — Complete sample (mean: -9 bps)

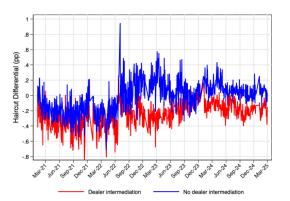


Figure 5. Average Haircut Differentials — Dealer vs. non-dealer (means: -23 bps vs. 0 bps)

### **Econometric specification**

We follow Issa and Jarnecic (2024) in implementing a two-stage Heckman model to account for self-selection bias:

#### STAGE I:

$$\Pr \left( \mathsf{reuse}_i = 1 \right) \ = \ \Phi \left( \beta_0 + \beta_1 \ln(\mathsf{Notional}_i) + \beta_2 \ln(\mathsf{Term}_i) + \beta_3 \, \mathsf{Haircut}_i + \beta_4 \, \mathsf{Repo} \, \mathsf{Rate}_i \right. \\ \left. + \beta_5 \, \mathsf{OISSpread}_i + \beta_6 \, \mathsf{Hike}_i + \beta_7 \, \mathsf{March23}_i + \gamma_{t,b,bw} \right)$$

#### STAGE II (WLS):

$$\Delta HC_{j} = \phi_{0} + \phi_{1}ln(Notional_{j2}) + \phi_{2}ln(Term_{j2}) + \phi_{3}NDN_{j} + \phi_{4}NNN_{j}$$
$$+ \phi_{5}\Delta R_{j} + \phi_{6}OISSpread_{j2} + \phi_{7}Hike_{j2} + \phi_{8}March23_{j2} + \phi_{9}IMR_{j2} + \gamma_{t,b,bw} + \varepsilon_{j}$$

### Main results

- Higher haircuts are applied to reuse transactions relative to initial ones;
- Dealers' intermediation has virtually no impact on this result, contradicting the existence of liquidity windfalls;
- No trade-off between repo rate and haircut differentials;
- Haircut differentials are generally lower (or more negative) when the bond is later provided via CCP.

### Conclusion and further research

Two possible mechanisms:

- 1. There is a certain funding need when participants reuse collateral which limits their ability to profit from this activity
- 2. The mechanism behind reuse is closer to a search and matching one, where dealers try to maintain their relationships via intermediating and not putting a lot of emphasis in a temporary profit

#### Further research (work in progress)

- Deeper analysis of collateral reuse chains. Role of NBFIs and prime brokers in them.
- Connect the collateral reuse chains with the ECB's standing facilities.

### References

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