

“Which Intermediary Costs Matter for Asset Prices?”

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We would like to know how and why intermediaries distort asset prices.

- In particular: **limited risk-bearing capacity vs. constraints or costs on position size.**

Two main reasons to care:

- Positive: it is useful to know how, e.g., monetary policy or shock transmission works.
- Normative: some intermediary frictions are determined by regulation. Should we change them?

For either, it is useful to **measure structural parameters** which determine intermediary behavior.

This is a difficult problem

We don't know the true value of an asset, so how can we say what a distortion is.

Intermediaries do lots of complicated things that interact. How can we isolate a particular parameter?

The CFL approach: big picture

1. Assume that intermediaries make very limited decisions: **trade just two special assets**.
Specifically, treasury bond (cash) and a synthetic (OIS) with the same fundamentals.
2. Asset menu admits trading strategies – arbitrage and directional – which load differentially on costs.
Can use price levels and differences in response to a shock to isolate net risk and gross position costs.

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Headline result: gross position costs matter little, except perhaps during crises.

Simple reason: spreads between OIS and cash don't move much in response to Treasury auction surprises.

1. How exactly does the identification work?
2. What can we learn from this model about, say, monetary policy transmission?

1. Identification

The CFL approach: the details

The intermediary sector is tightly parameterized based on mean-variance with position costs:

$$\max_{x_{C,t}, x_{S,t}} \mathbb{E}_t[dW_t] - \frac{\gamma}{2} \text{Var}_t(dW_t) - \left(\frac{\psi_C}{2} x_{C,t}^2 + \frac{\psi_S}{2} x_{S,t}^2 \right) dt \quad (3)$$

where

$$dW_t = x_{C,t} dP_{C,t} + x_{S,t} dP_{S,t} + \left(W_t - \sum_{i \in \{C,S\}} x_{i,t} P_{i,t} \right) r dt. \quad (4)$$

The blue parameters are the target, the green price process is the data.

If you knew the positions $x_{j,t}$, you could (easily) identify parameters. But CFL do not use this data.

How do you back out marginal costs from just prices?

Central asset pricing problem: marginal **benefits** (i.e., future payoffs) are also latent and time-varying.

To be able to identify cost parameters, CFL assume the following:

1. Long-run price is **determined only by fixed institutional demand parameters** (not intermediaries).
2. Yield “surprise” at auction is an inventory shock in Treasuries that is not immediately hedged.
3. Only intermediaries optimize continuously (and competitively) – are always on their FOC.

(1) and (2) fix the beginning and end of the price impact curve, (3) tells you how to back out costs.

The two equations

General pricing equation:

$$\underbrace{M_\tau}_{\text{price impact}} = \underbrace{\zeta}_{\text{Institution elasticity}} + \underbrace{\frac{\partial \mathbf{x}_{t+\tau}}{\partial \beta_t^\top}}_{\text{Intermediation share}} \times \underbrace{\lambda_x}_{\text{Intermediary required comp.}} \quad (32)$$

Long-run impact
Transitory impact driven inventory dynamics

Differentiate with respect to event time to remove fixed long-run component, specialize to time zero:

$$\underbrace{-\frac{\partial M_\tau}{\partial \tau} \Big|_{\tau=0}}_{\text{instantaneous price impact}} = - \underbrace{\frac{\partial \mathbf{x}_{t+\tau}}{\partial \beta_t^\top} \Big|_{\tau=0}}_{\text{Intermediation share}=100\%} \times \underbrace{C}_{\text{marginal required comp.}} = \begin{pmatrix} \psi_C + \gamma\sigma_C^2 & \gamma\sigma_{CS} \\ \gamma\sigma_{CS} & \psi_S + \gamma\sigma_S^2 \end{pmatrix} \quad (34)$$

Should you believe these results?

The estimates are strongly determined by the assumed structure.

Goal: think through whether these identifying assumptions are sensible.

I will raise some issues, but you should of course make up your own mind.

A. The initial starting point shock is not actually observed

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- Auctions may *reveal* news about long-term valuations without (much) reallocation.
- Intermediaries are informed traders; they may hedge “instantaneously” as they receive news.
If (some) hedging occurs instantaneously, the shock differentially affects the spread and level trades.

Counterarguments are not yet fully convincing

CFL argue that information should already be impounded, and that instant hedging is infeasible.

- Informed investors may want to trade auction rather than in when-issued market,
- The econometrician does not observe the literal instant of information impact.
- Information revelation can be gradual and *strategic* (Fleming, Nguyen and Rosenberg 2024).

(Endogenous bidding may scale both legs equally, which would then cancel in the spread/level ratio).

B. Is there really uncontaminated decay to a fixed anchor?

Method assumes clean decay to a fixed anchor. But dealers trade many bonds, and calendars overlap:



- If inventory cycles overlap, they contaminate the risk measure (which depends on **portfolio risk**).
- If auctions reveal information (Ray-Droste-Gorodnichenko), the long-run anchor changes mid-cycle.

Tension: non-overlap needs fast capital, with little role for intermediation. Slow decay forces overlap.

Concerns A and B share a common root: we fit a curve called “intermediary demand” and another called “institutional demand” to data that contains no direct evidence of investor *actions* (or costs).

- The data is prices; costs are linked to actions (quantities), and **the price-quantity mapping is latent.**
- **Intermediary behavior is inferred from the same price dynamics it is meant to explain.**

We can debate the meaning of these attributions, but they ultimately depend on a priori assumptions.

Evidence of actions—or overidentifying restrictions—critical to narrow the scope of debate.

2. What about the big questions?

The motivation is long-run, but the model is short-run

By construction, **intermediation has only transitory effects** in the model:

- No spillovers to other assets or lending activities, no non-linearities, no long-term effects.
- Average inventory is zero, so γ generates no average premium; long-run price is institutions only.

This is helpful for identification, but does not quite match with the framing.

- Not clear how intermediation *could* meaningfully affect financing costs or monetary policy.
- If you introduce these features, not clear the identification would carry over.

An interesting and creative approach on how one can use trading strategies as “controls.”

- This basic idea can be a useful ingredient in many demand estimation exercises.

I'm not yet equally convinced by the rest of the scaffolding.

- But: the paper makes it easy to understand the next steps one might want to take.

Obvious suggestions: Position data is critical, and can be obtained. Add overidentifying restrictions.