

Specialization in Financial Markets

Wittwer & Uthemann (2026)

Filippo Cavaleri¹
University of Toronto

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¹Please send comments and suggestions to filippo.cavaleri@rotman.utoronto.ca.

Motivation and Big Picture

- Arbitrage spreads are very popular barometers of financing conditions and market efficiency.
- Large literature reads off aggregate- or sector-level financing conditions from relative mispricings.
⇒ *Swap spread (Klingler & Sundaresan 2019); TIPS-Treasury bonds (Fleckenstein, Longstaff & Lustig 2014); interest rate futures basis (Fleckenstein & Longstaff 2020); CDS-bond basis (Bai & Collin-Dufresne 2019); ...*
- Spreads inform on aggregates if all intermediaries are (i) marginal or (ii) share common shocks.
⇒ *Typically, intermediary asset pricing considers an integrated sector where all face the same constraints.*
- Growing evidence on intermediary specialization and segmentation has challenged this view.
⇒ *See for example Siriwardane, Sunderam & Wallen (2025) and Bryzgalova, Pavlova & Sikorskaya (2025).*
- *If a small number of dealers is responsible for tying prices together, questions about who the arbitrageurs are and how effectively they respond to arbitrage deviations become fundamental.*

Overview: Very important and Insightful Paper

- **Headline:** Dealers specialize across markets and products; arbitrage capacity is segmented.
⇒ *Novel measure of dealer specialization and impressive data work in the Canadian market.*
- Estimates a demand system with GIV to identify arbitrage capacity and hedging ratios.
- Little overlap in arbitrage capacity across different trades; **distribution** of capacity matters.
⇒ *Dealers who specialize in one spread do not trade the others (Siriwardane, Sunderam & Wallen 2025).*
- **Implication 1:** Weak spread correlation reflects specialization, not common funding shocks.
- **Implication 2:** Spreads reflect constraints of a few dealers, and prices alone cannot reveal them.

My discussion

- Evidence on dealer specialization is very convincing: answers key questions on arbitrage spreads.
- *(1) Arbitrage capacity versus specialization (2) Implications for estimation and counterfactuals.*

The Determinants of Arbitrage Capacity

- How should we think about **arbitrage capacity** and its relation with dealer **specialization**?
- Paper: **Arbitrage capacity** ω_j is defined as *dealer j 's marginal trading cost*.
 $\implies$ *Intuitively, ω_j summarizes how arbitrageurs' demand responds to arbitrage spreads ($\approx$ basis).*

- What determines arbitrage capacity? CARA investor with utility $-e^{-\gamma_j W_{t+1}}$ where

$$W_{t+1} = \underbrace{q_t(b_t + \epsilon_t^j)}_{\text{basis} + \text{markup}} - \underbrace{\frac{c_j}{2} q_t^2}_{\text{funding costs}} + \underbrace{\phi_j \tilde{R}_{t+1}}_{\text{other exposure}} \xrightarrow{\text{demand}} q_t = b_t \frac{1}{c_j + \gamma_j \sigma_b^2} - \frac{\gamma_j \phi_j \sigma_R \sigma_b \rho}{c_j + \gamma_j \sigma_b^2} + \omega_j \epsilon_t^j$$

- Capacity ω_j varies with risk, risk aversion, and funding costs; other exposure just a **control**.
 $\implies$ *Arbitrage capacity is a statement about the **slope** of arbitrage demand, but says nothing about the **level**.*
- Obs 1:** Specialization due to lower costs, higher tolerance, markups? Only (i) and (ii) impact ω_j .

Summary: *Specialization and capacity are conceptually different, and it is not obvious that they should line up: what leads to specialization (entry) does not necessarily generate capacity (slope).*

Looking for the (Specialized) Arbitrageurs and their Capacity

- Capacity and specialization are informative about who the arbitrageurs are (or should be).
⇒ *Key questions in asset pricing (Vayanos & Vila 2021) and international finance (Gabaix & Maggiori 2015).*
- If arbitrageurs are those who **respond** to the basis, demand loadings reveal limits to arbitrage.
- **Obs 2:** Capacity ω_j varies with costs c_j and risk aversion γ_j ; but not b_t , wealth, or exposure.
⇒ *Nevertheless, capacity estimates will summarize all of these limits to arbitrage in one number.*
- A key assumption is that arbs' demand is **independent** of client demand a_t and basis level b_t .
⇒ *Can test (i) in the cross-section but (ii) likely needs a time-series or at least subsamples.*
- But specialization scores do conflate arbitrage demand with other business and client demand.
⇒ *How specialized do pure basis arbs look? Do scores change if arbs are among the clients?* ▶ Benchmark

Summary: *Capacity informs who the arbitrageurs are and their **attributes**, but under assumptions on limits to arbitrage; less obvious if specialization has incremental information on arbs' identities.*

Arbitrage Capacity: Characteristic or Equilibrium Outcome?

- Are arbitrage capacity and dealer specialization primitives or equilibrium outcomes?
⇒ *Is capacity “more endogenous”? Perhaps raising new capital is faster than learning about a new market.*
- **Obs 3:** Arbitrage capacity only varies with dealer-specific parameters c_j and γ_j that are **fixed**.
⇒ *Common in the finance tradition to impose exogenous limits to arbitrage, e.g. risk-bearing capacity.*
- Hedging exposure through the underlying is a tool to build or reduce capacity.
⇒ *Imperfect hedging: underlying exposure $\uparrow$ ⇒ specialization may even **reduce** arbitrage capacity.*
- Capacity may also depend on dealers' wealth, other exposure, and how quickly capital flows in.
- Long tradition identifies **wealth** and speed of capital inflows as key drivers of arbitrage capacity.
⇒ *Wealth affects constraints (He & Krishnamurthy 2013); inflows as basis widens (Duffie & Strulovici 2012).*

Summary: *Which spreads to trade (specialization) is likely more of a primitive than how much to respond (arbitrage capacity): perhaps raising capital is faster than acquiring specialization.*

Does Endogeneity of Arbitrage Capacity Impact Estimates? A GIV Primer

- Recall from the stylized model that arbitrage demand varies with the basis and the markup.

$$q_t = b_t \frac{1}{c_j + \gamma_j \sigma_b^2} - \frac{\gamma_j \phi \sigma_R \sigma_b \rho}{c_j + \gamma_j \sigma_b^2} + \frac{1}{c_j + \gamma_j \sigma_b^2} \epsilon_t^j$$

- Because the spread b_t is endogenous to the unobserved markup ϵ_t^j , OLS estimates are biased.
- GIV (Gabaix & Koijen 2024) instruments b_t with idiosyncratic shocks of large (granular) agents.
 - ⇒ *Market clearing delivers instrument relevance: large shocks move spreads.*
 - ⇒ *Instrument exogeneity obtains if shocks are truly idiosyncratic, that is, $\mathbb{E}[\epsilon_t^j \epsilon_t^k] = 0$ for all other dealers k .*
- Identification fails if the econometrician does not properly control for common factors.
 - ⇒ *Common factors enter the error term in all dealers' demand, making the instrument correlated with it.*

Dealer Interactions in Funding and Asset Markets

- Extension of the GIV approach by constructing idiosyncratic shocks to dealers' **client demand**.
- **Threat 1**: Common factors are not fully removed, so that shocks are not *truly* idiosyncratic.
- **Threat 2**: The same client trades with several dealers at once (robustness ✓).
- **Threat 3** (?): Dealers interact in underlying and funding markets, pinning down funding costs.
⇒ *Underlying arguably exogenous, but arbitrageurs often fund positions through repos (Barth & Kahn 2025).*
- Drivers of capacity not necessarily **structural** (see **Obs 3**) and may vary with the instrument.
⇒ **NOT** *about aggregate funding conditions, but c_j being determined by bilateral relations across dealers.*

Summary: *Shocks may reach dealers through basis and funding markets; instrument moves capacity. Endogeneity of wealth/risk (He, Kondor & Li 2026) also threat, less so with client demand shocks.*

Counterfactuals and Policy Implications

- Endogenous response of capacity and specialization is key for asset pricing and policy.
- Weak co-movements of spreads and absence of a single SDF pricing arbitrage spreads ✓.
- Less obvious to derive implications for financial fragility under **constant** arbitrage capacity.
⇒ *Large dislocations attract capital inflows (Duffie & Strulovici 2012); specialization takes longer to acquire.*
- How do clients adjust their orders? Impact on remaining dealers' capacity?

Policy Implications

- Would identifying the arbitrageurs allow targeted policy intervention at the investor level?
- Should financial policies prioritize building capacity or promoting specialization?

Conclusion

- VERY important paper measuring arbitrage capacity and connecting it to specialization.
⇒ *Specialization and capacity can answer fundamental questions about **who** the arbitrageurs are.*
- Due to specialization, spreads only reflect the capacity of a few arbitrageurs ($\neq$ aggregate).
- Specialization and capacity are conceptually different objects that do not necessarily line up.
⇒ *(i) level versus slope; (ii) informative about different attributes; (iii) capacity faster to adjust.*
- Estimation and counterfactuals account for basis endogeneity and common factors ✓.
⇒ *Dealer interactions in funding markets and endogeneity of capacity affect counterfactuals and policy.*
- Overall, the methodology can address many open questions about arbitrageurs. I learned a lot!

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