Financial Sector Evolution in the New Regulatory Environment

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Stanford University

FRBNY Financial Advisory Roundtable
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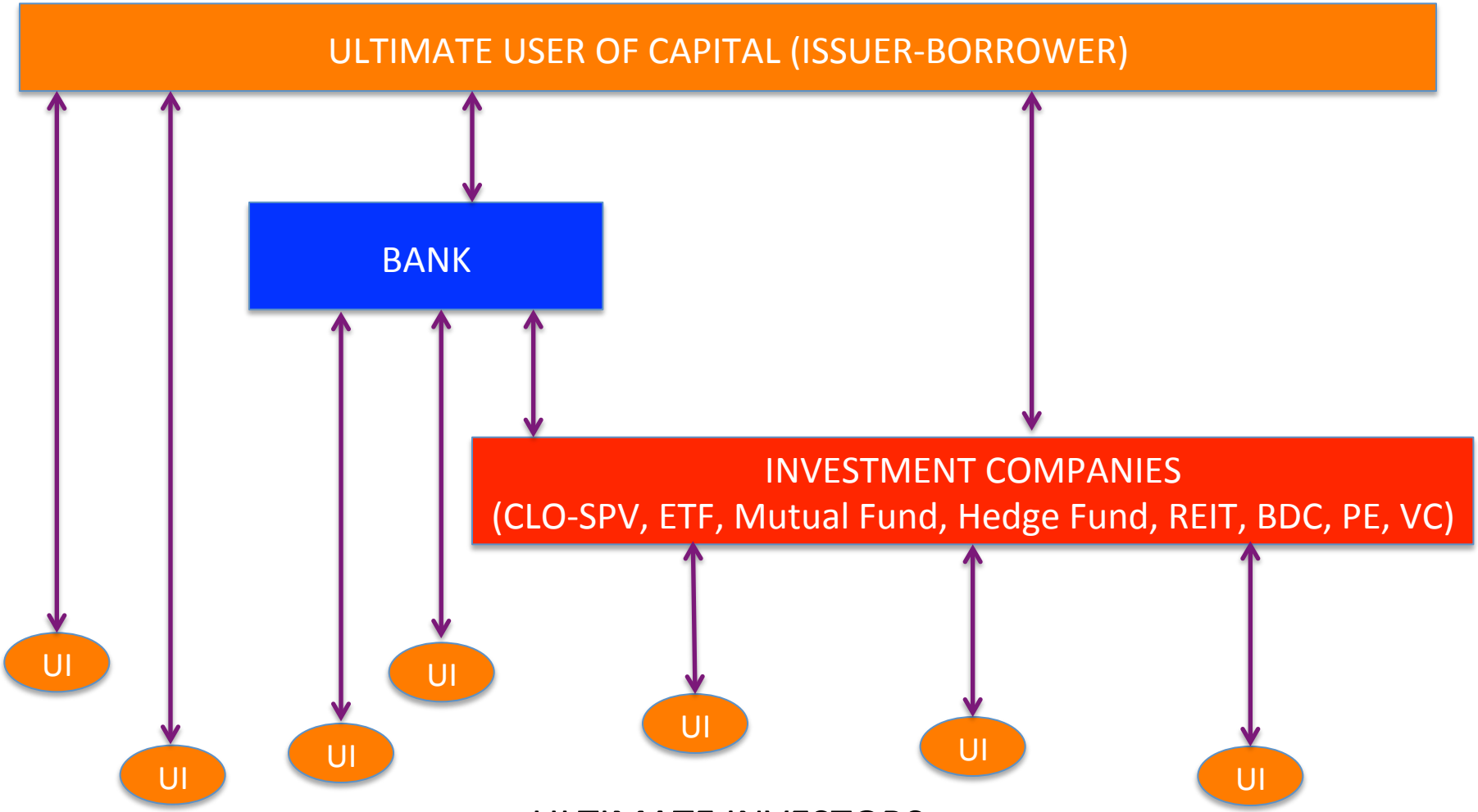
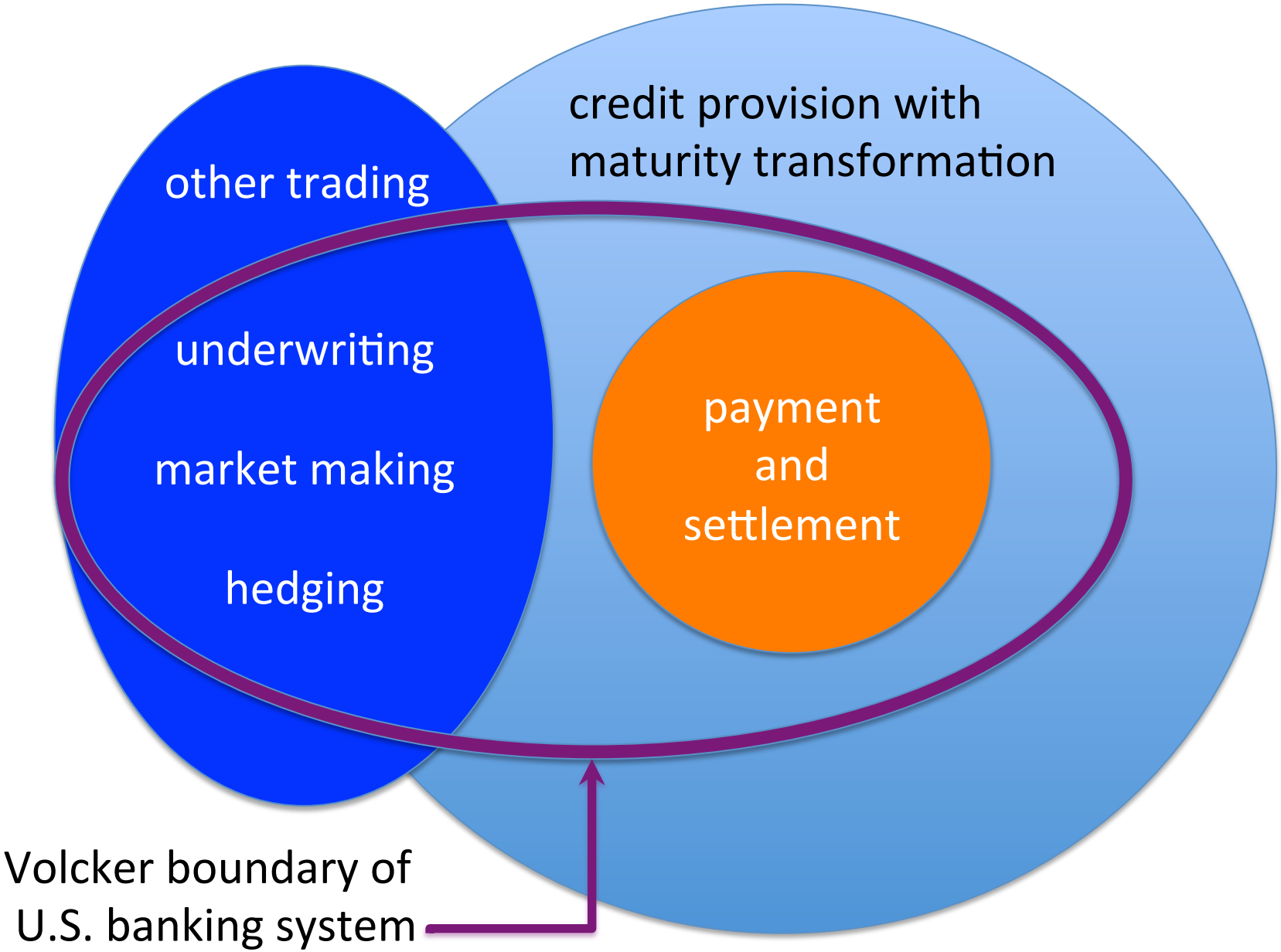
Capital and Liquidity Provision

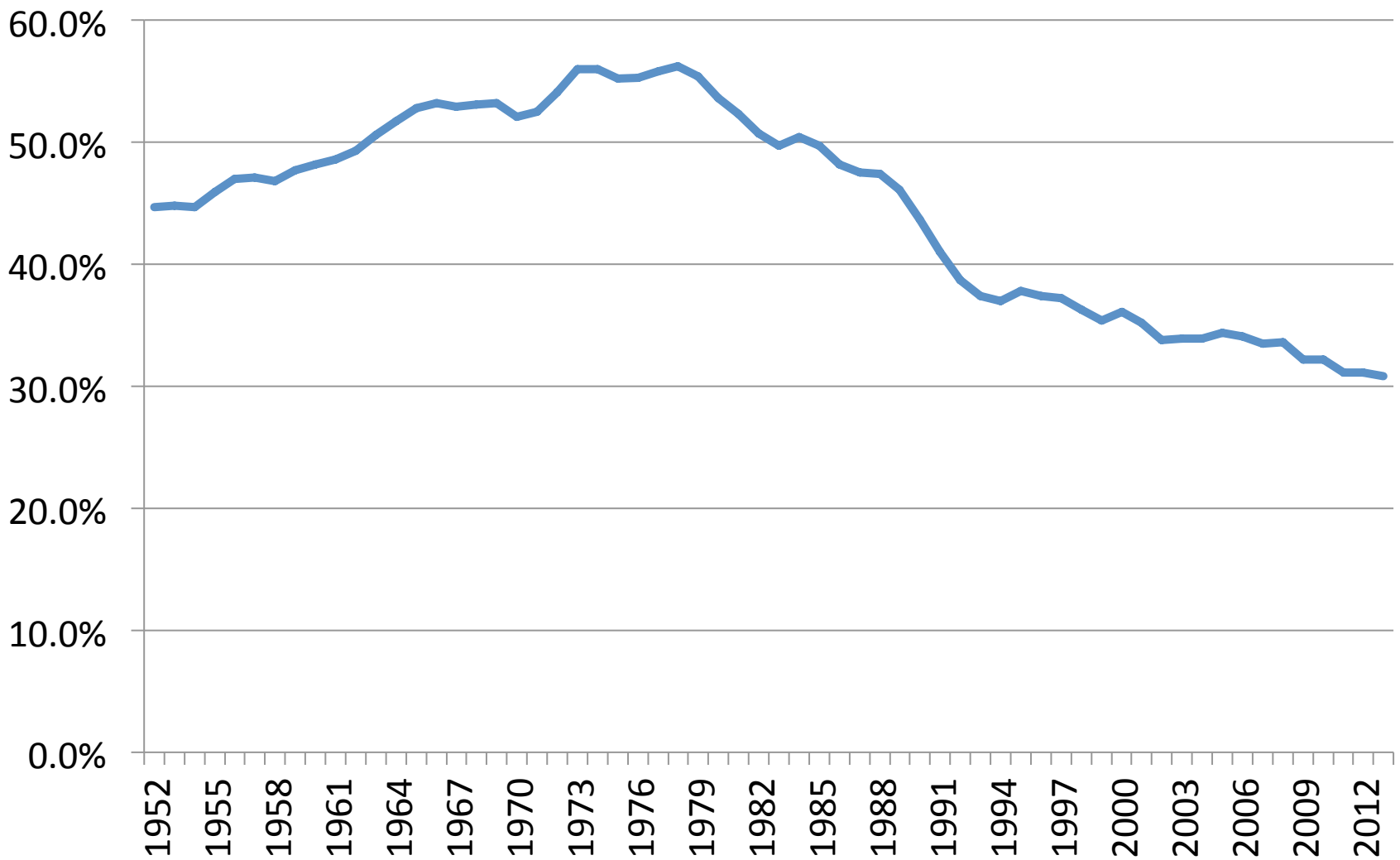



credit provision with
maturity transformation
other trading
underwriting
market making
hedging
payment
and
settlement
Volcker boundary of
U.S. banking system

Policy changes affecting market structure

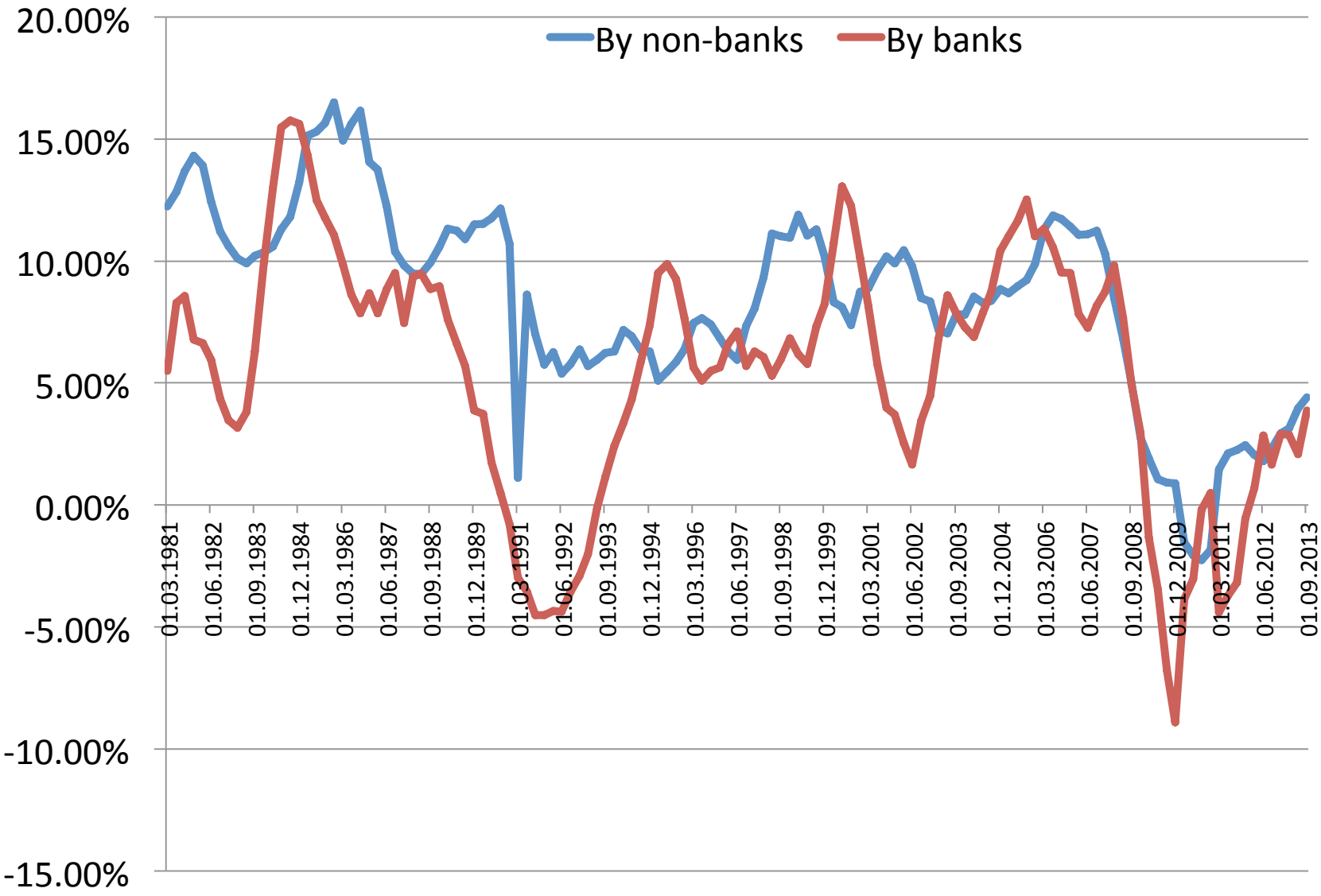
- Bank capital and liquidity rules (Basel, CCARs)
- Bank activity limits (Volcker, merchant banking)
- Derivatives market competition, transparency
- Collateral, central clearing, counterparty limits
- Monetary policy (ZLB, LSAP, RRP)

Fraction of U.S. Private Credit Provided by Banks



Data Source: Federal Reserve, BIS, adjusted for breakpoints

Annual Growth Rate of U.S. Private Credit Provided

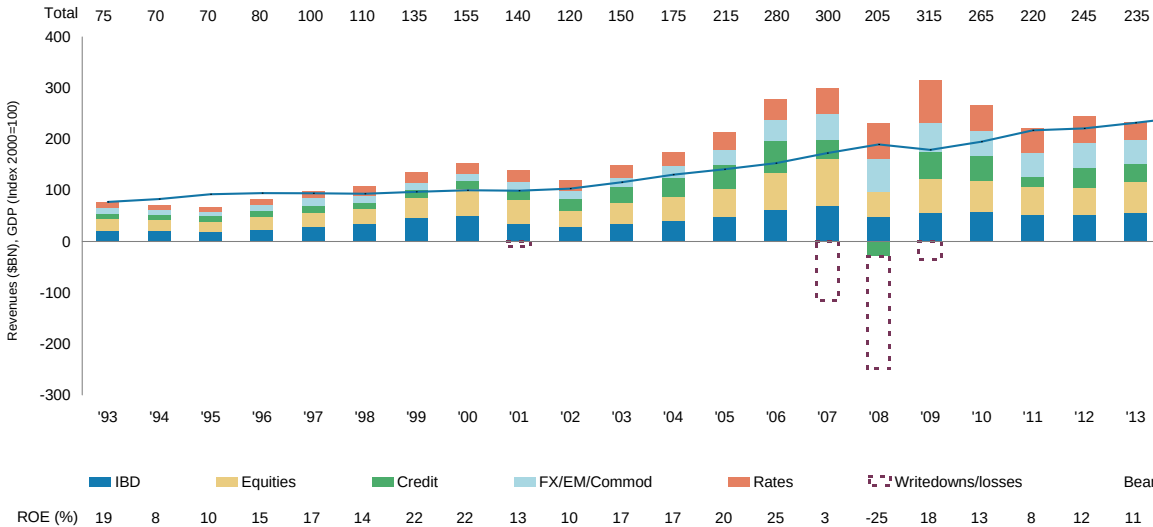


Data Source: Federal Reserve, BIS, adjusted for breakpoints

Exhibit 12

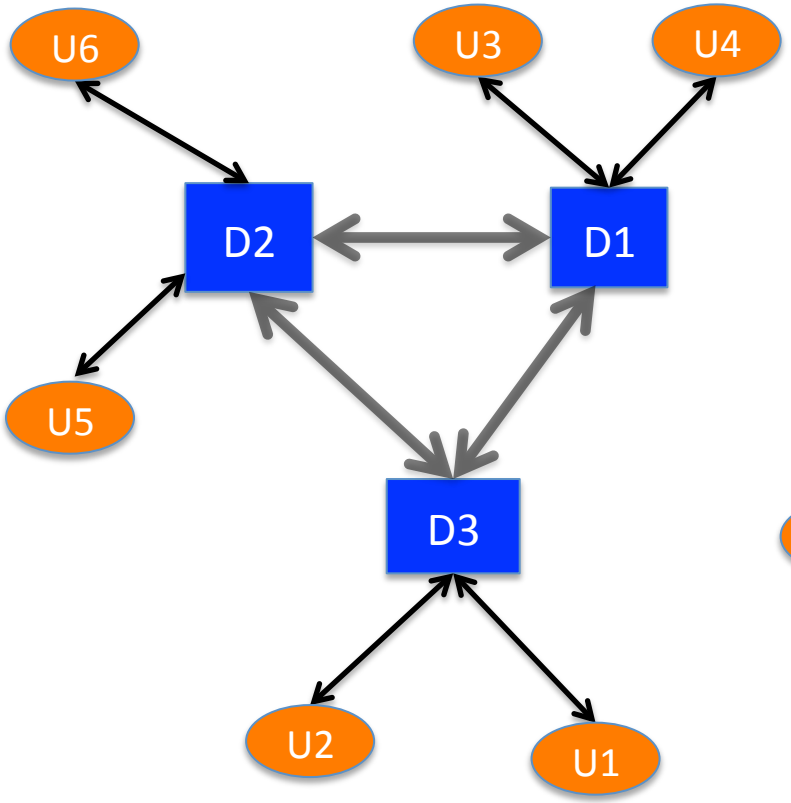
Historical and forecast Wholesale industry revenue pools

1993-2016E, $BN

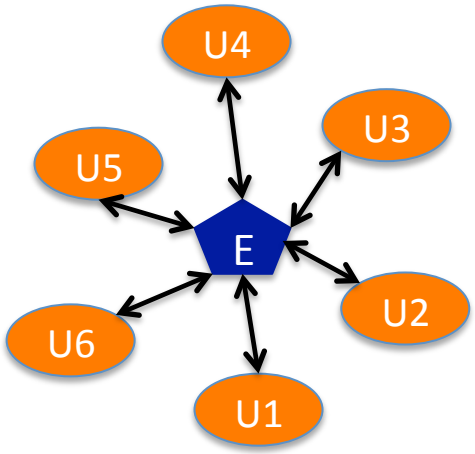


Source. Oliver Wyman analysis

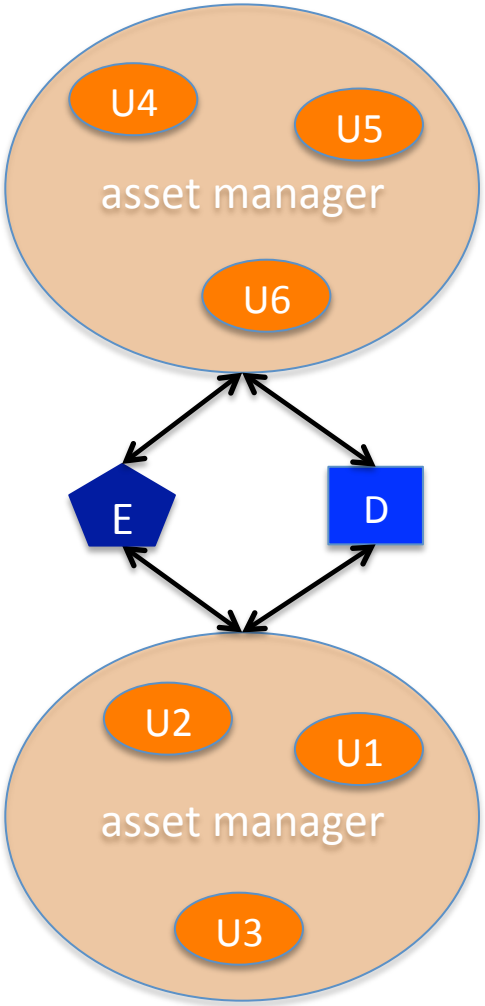
Secondary Market Architecture



OTC (dealer as principal)

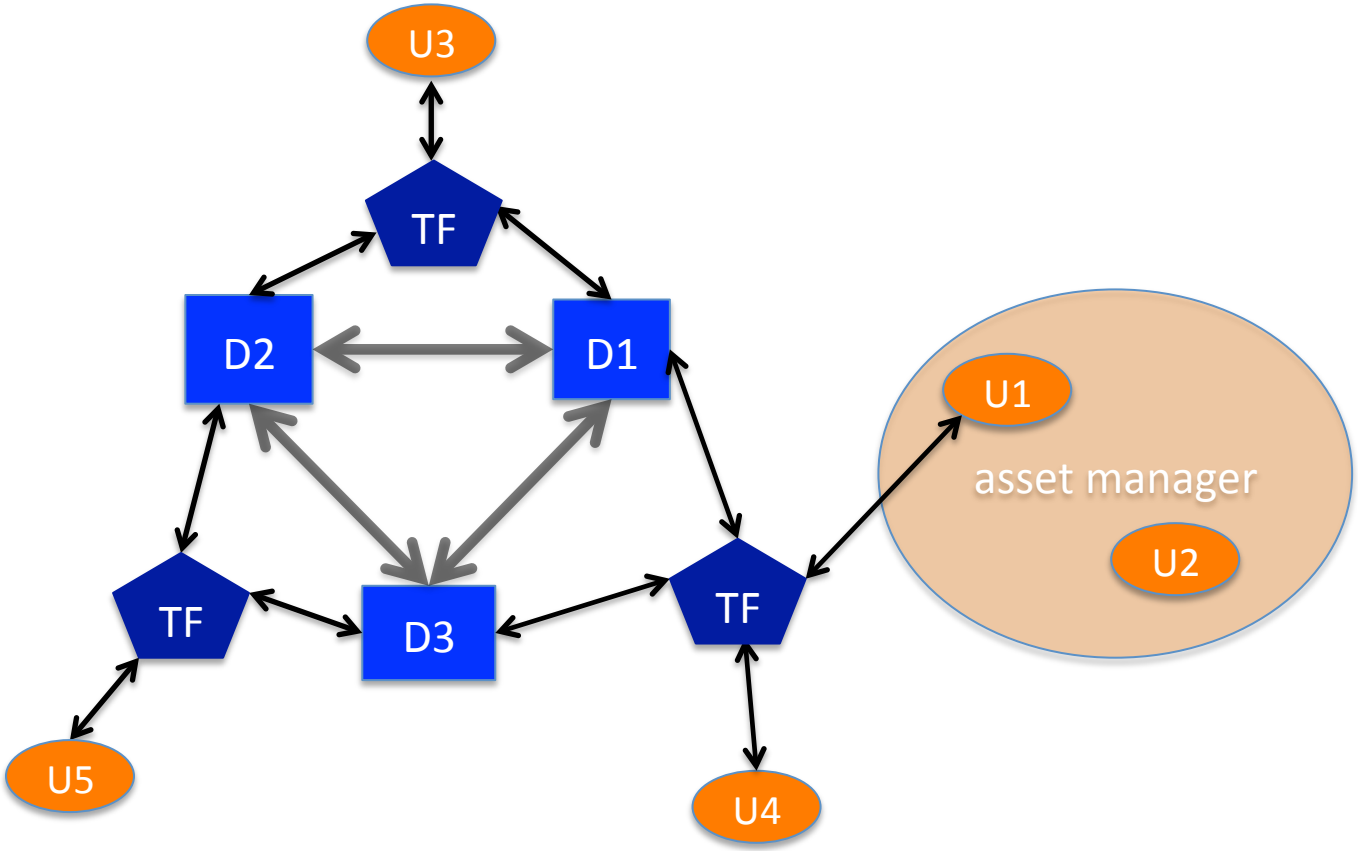


direct exchange



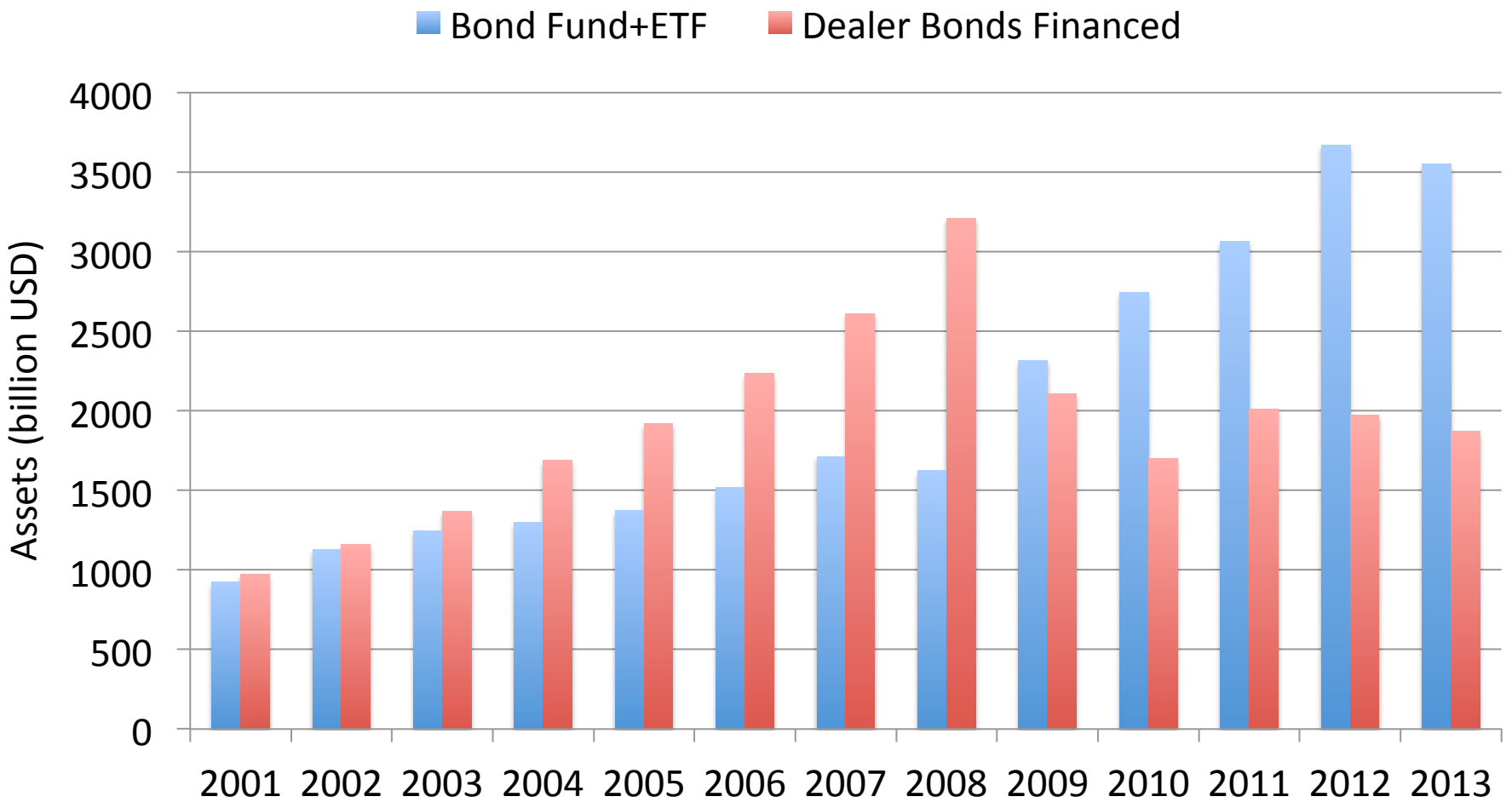
agency intermediation

Hybrid OTC Market Approaches



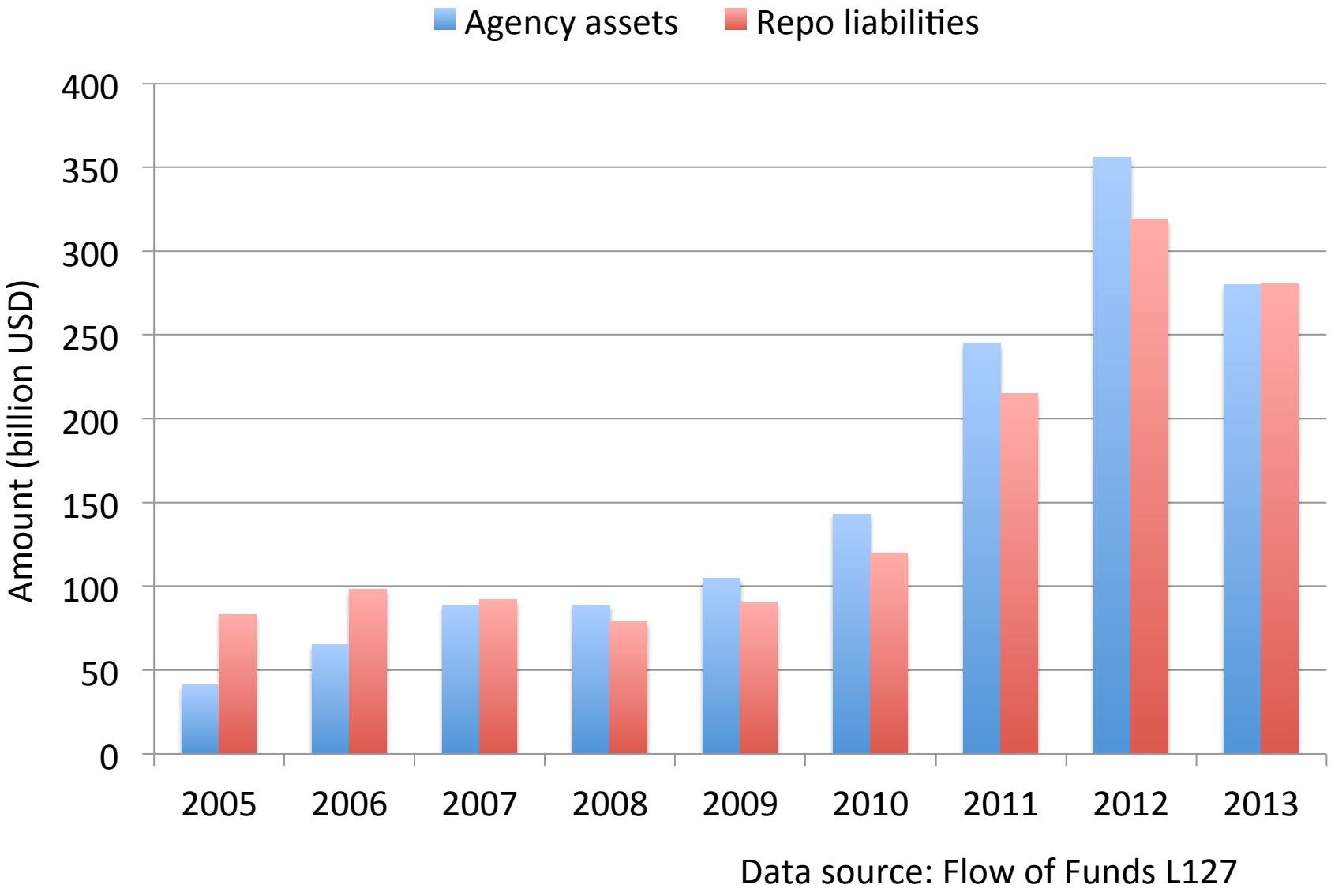
OTC multilateral trading facilities
(swap execution facility, bond trading platform)

Who handles the bonds?



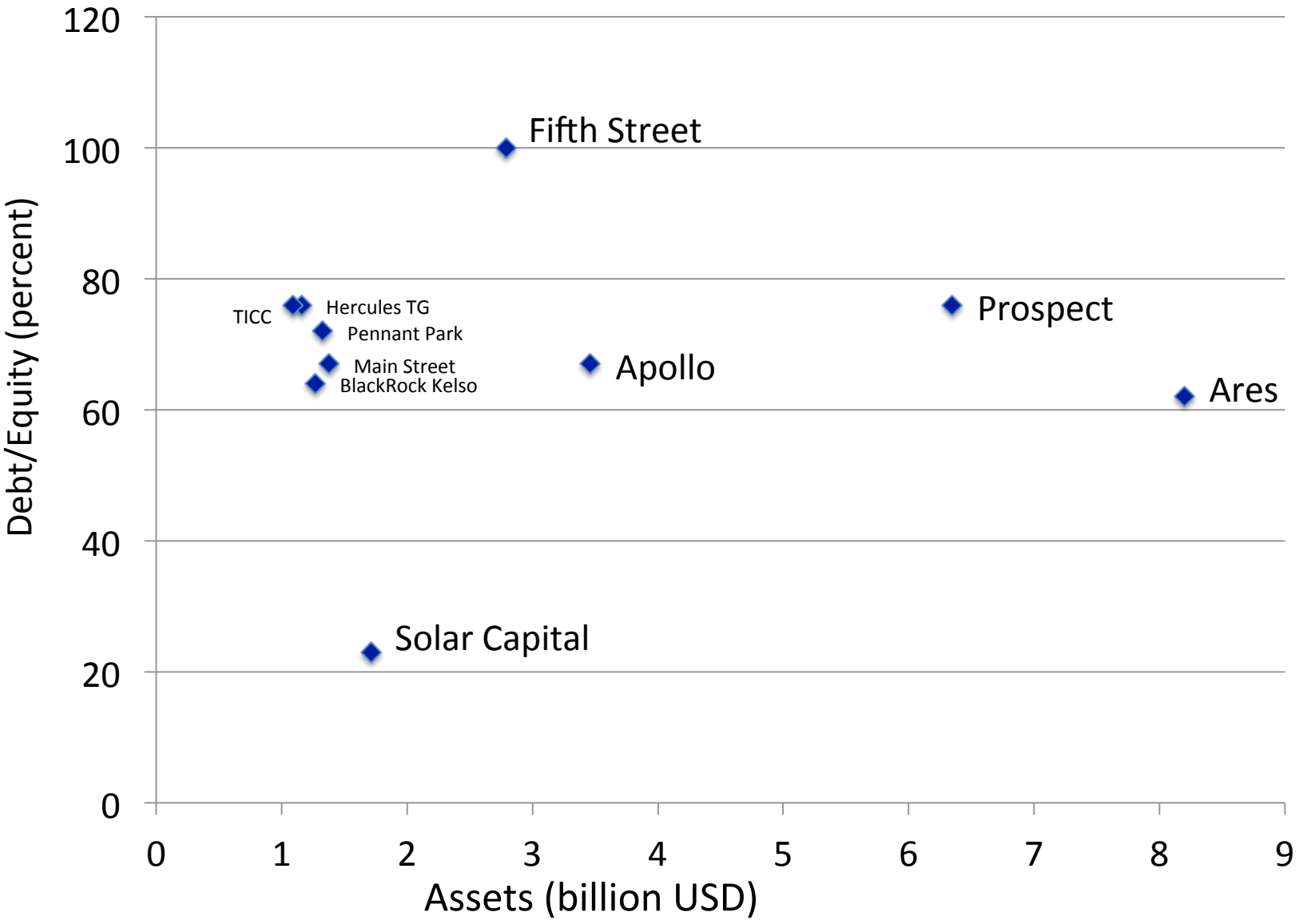
Data sources. ICI: AUM, bond mutual funds + ETFs. FRBNY: primary dealer daily financing (securities out) of UST + agencies + MBS + corporate bonds (first quarter).

How are REIT assets growing?



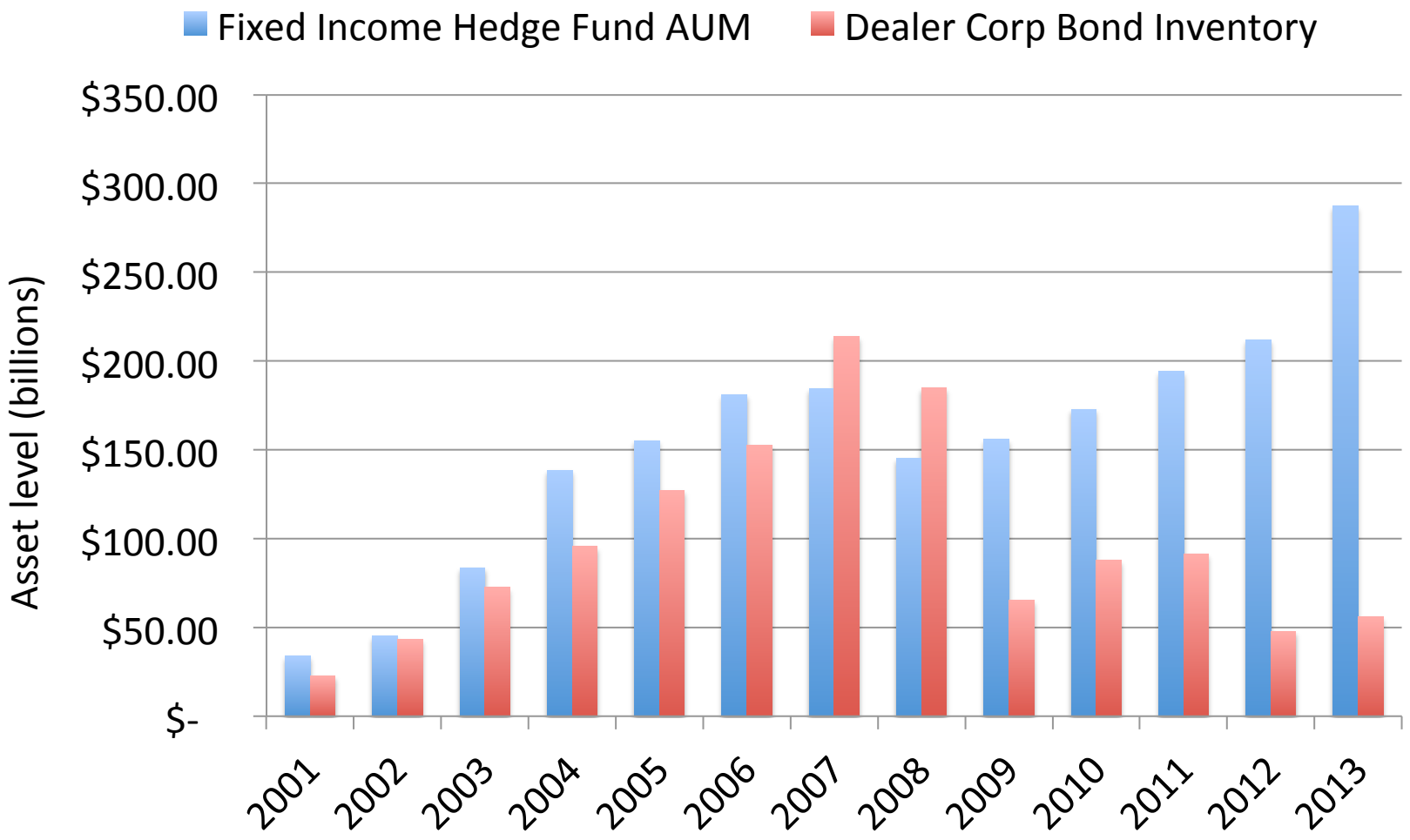
Data source: Flow of Funds L127

Larger Business Development Companies



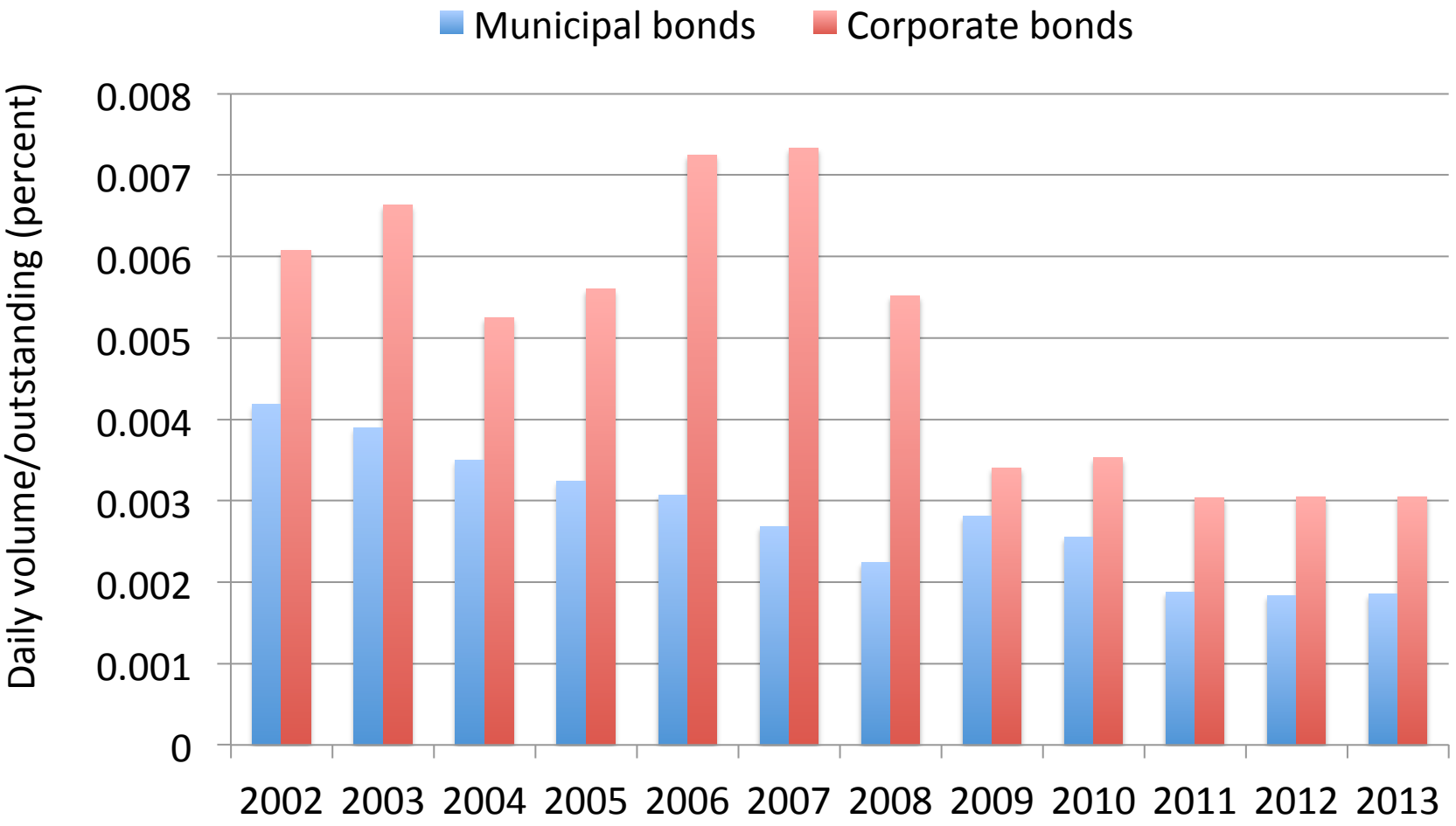
Data source: StreetAuthority

Dealers and Hedge Funds



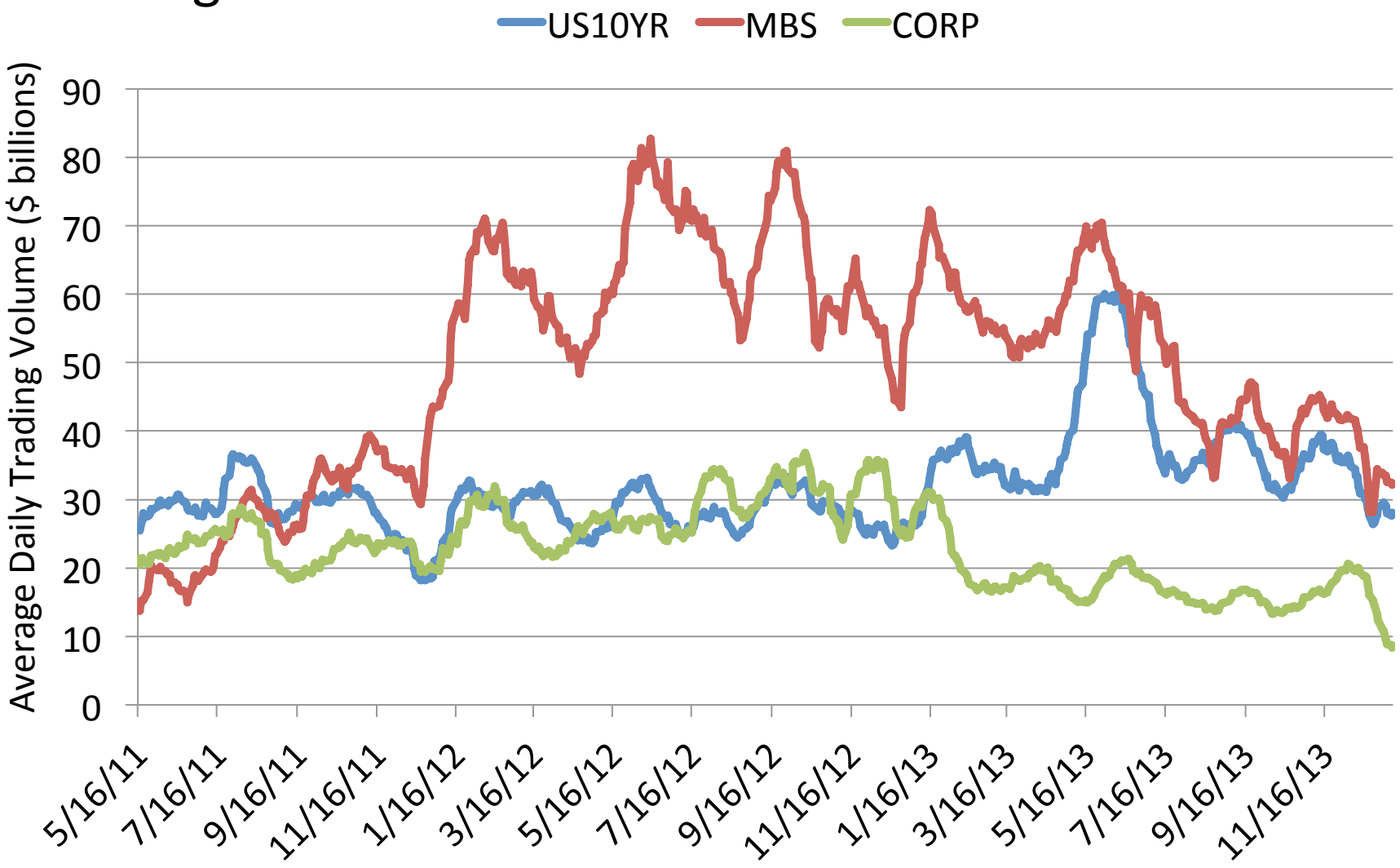
Data sources. Dealer inventories: FRBNY (March). Fixed income hedge funds AUM (Barclay)

Average daily bond market turnover



Data source: SIFMA

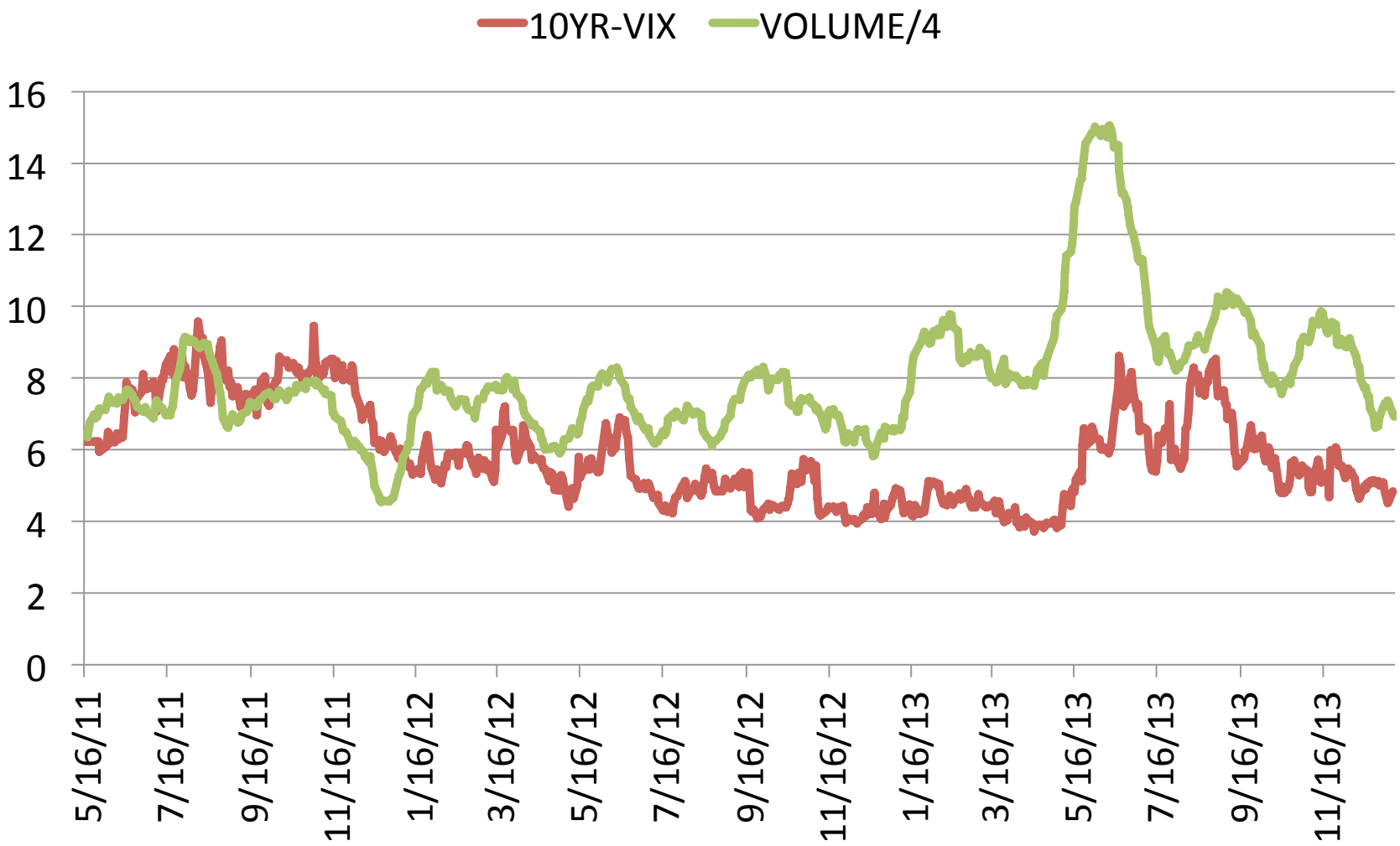
Trading volume



Data Source: Campbell, Li, Im (2014)

BrokerTec: US10YR. TRACE: MBS 30yr FNMA TBA 3%, 3.5%, 4%. CORP 100 most traded IG.

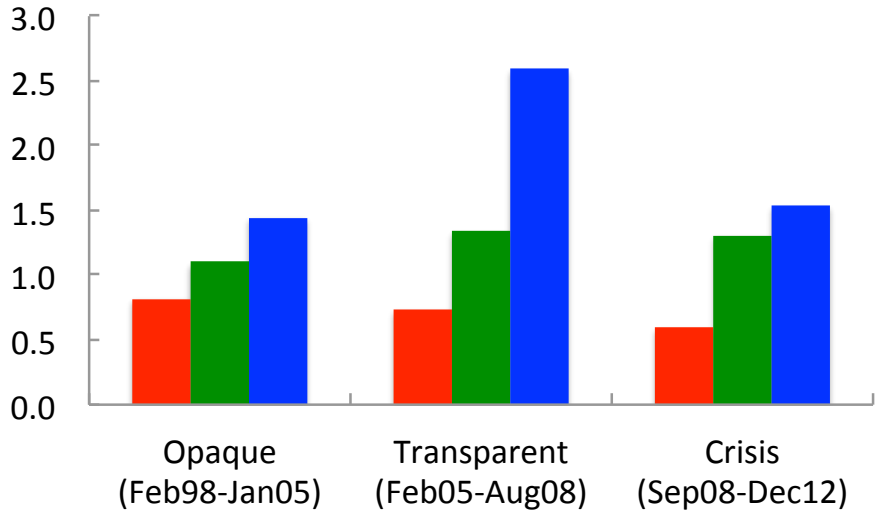
UST10yr: Volume and Volatility



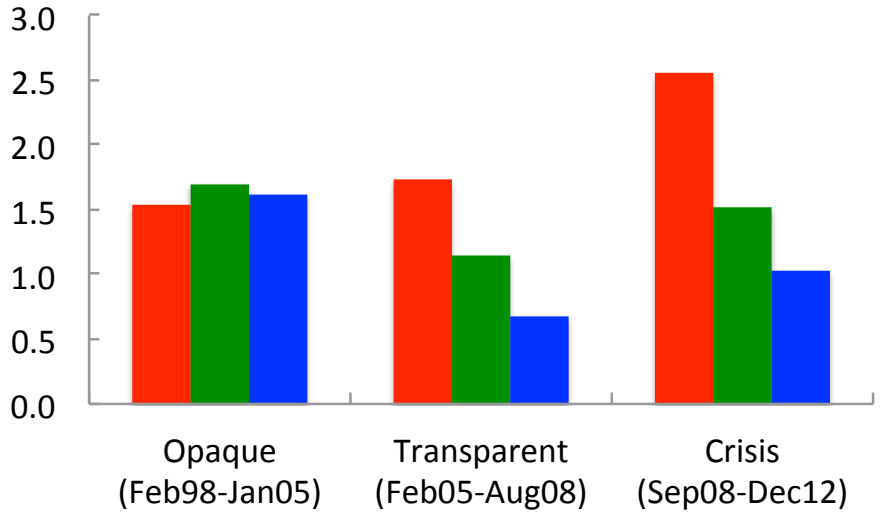
Data sources: CME: UST10yr-VIX. BrokerTec: UST10yr daily volume ($ billions).

Liquidity before and after financial crisis

Liquidity supply $E[L_{ij}] = X_i\gamma_j$:

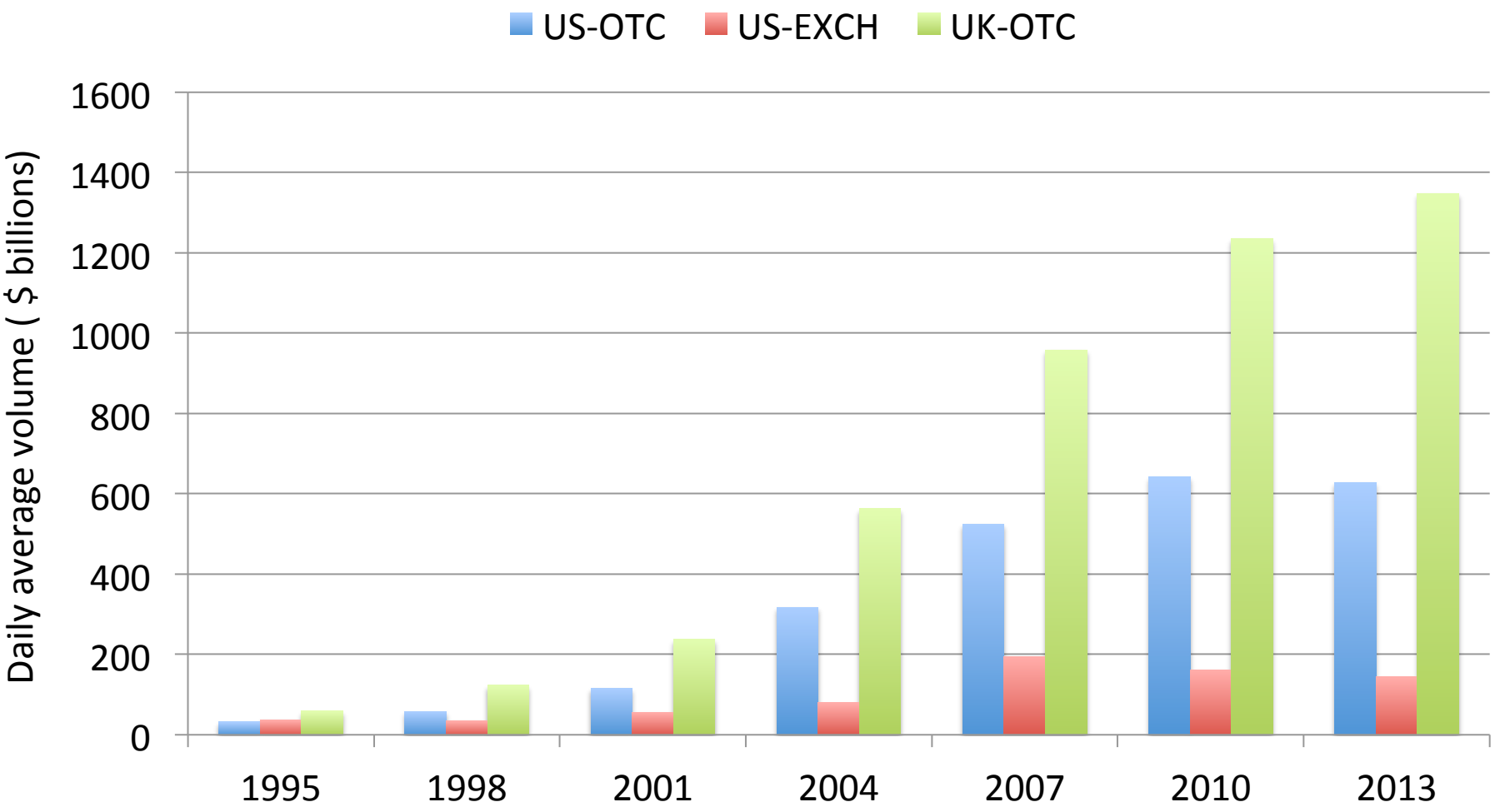


Price of Liquidity $p_j = \frac{E[X_i\beta_j]}{E[X_i\gamma_j]}$:

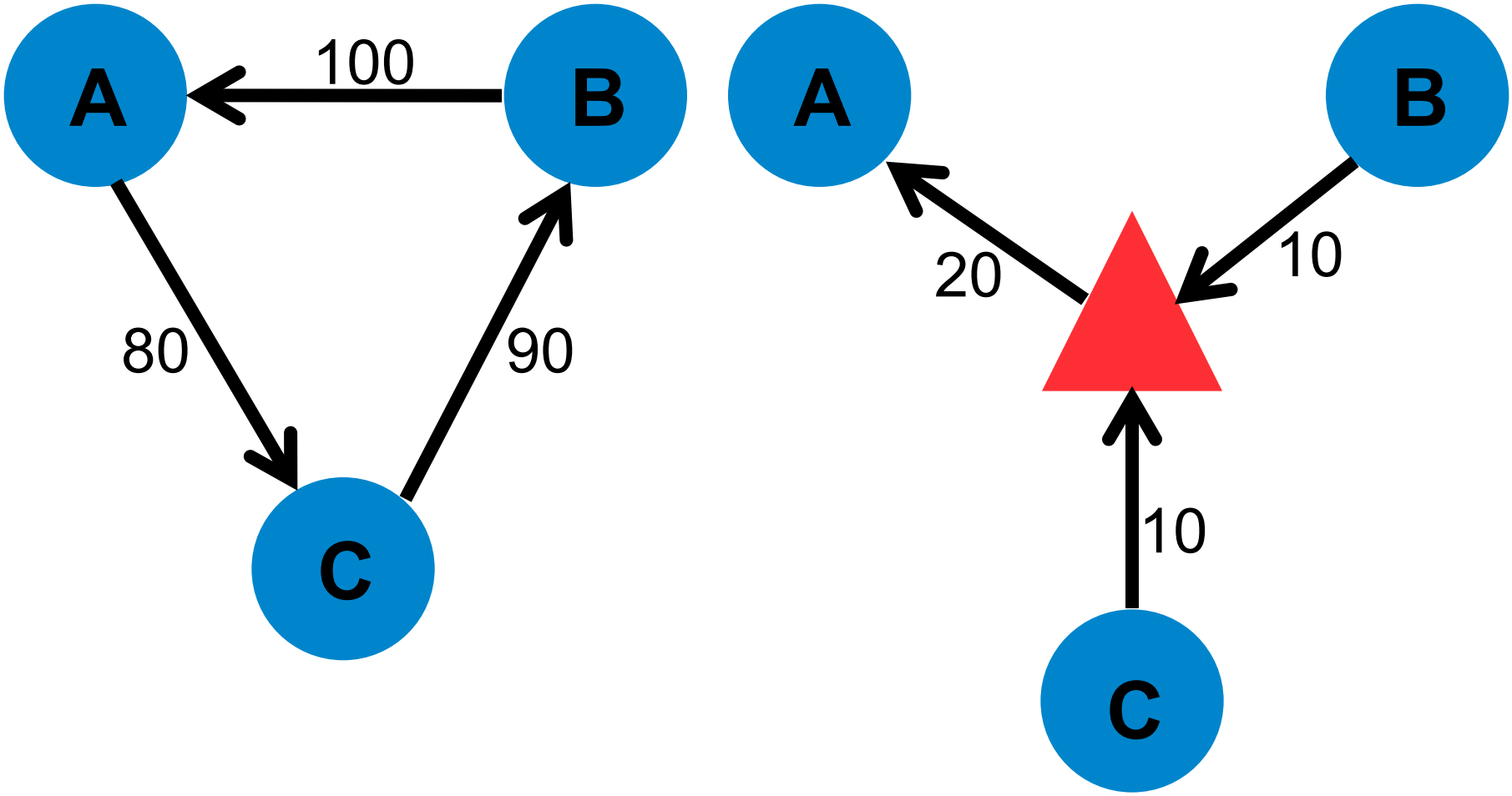


- Central dealers affected the most by transparency
- All dealers affected by crisis

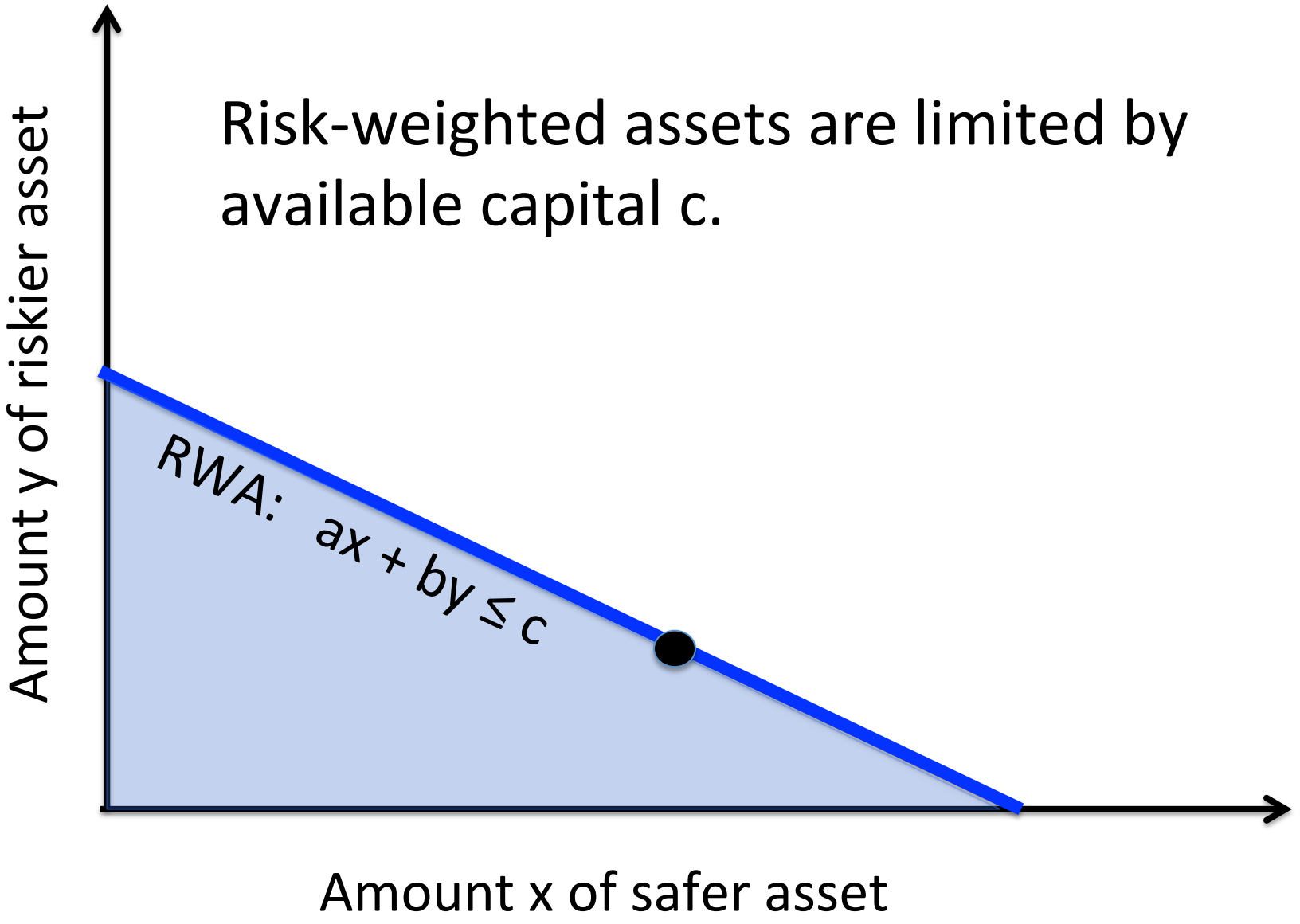
Daily Average Volume: Interest Rate Derivatives



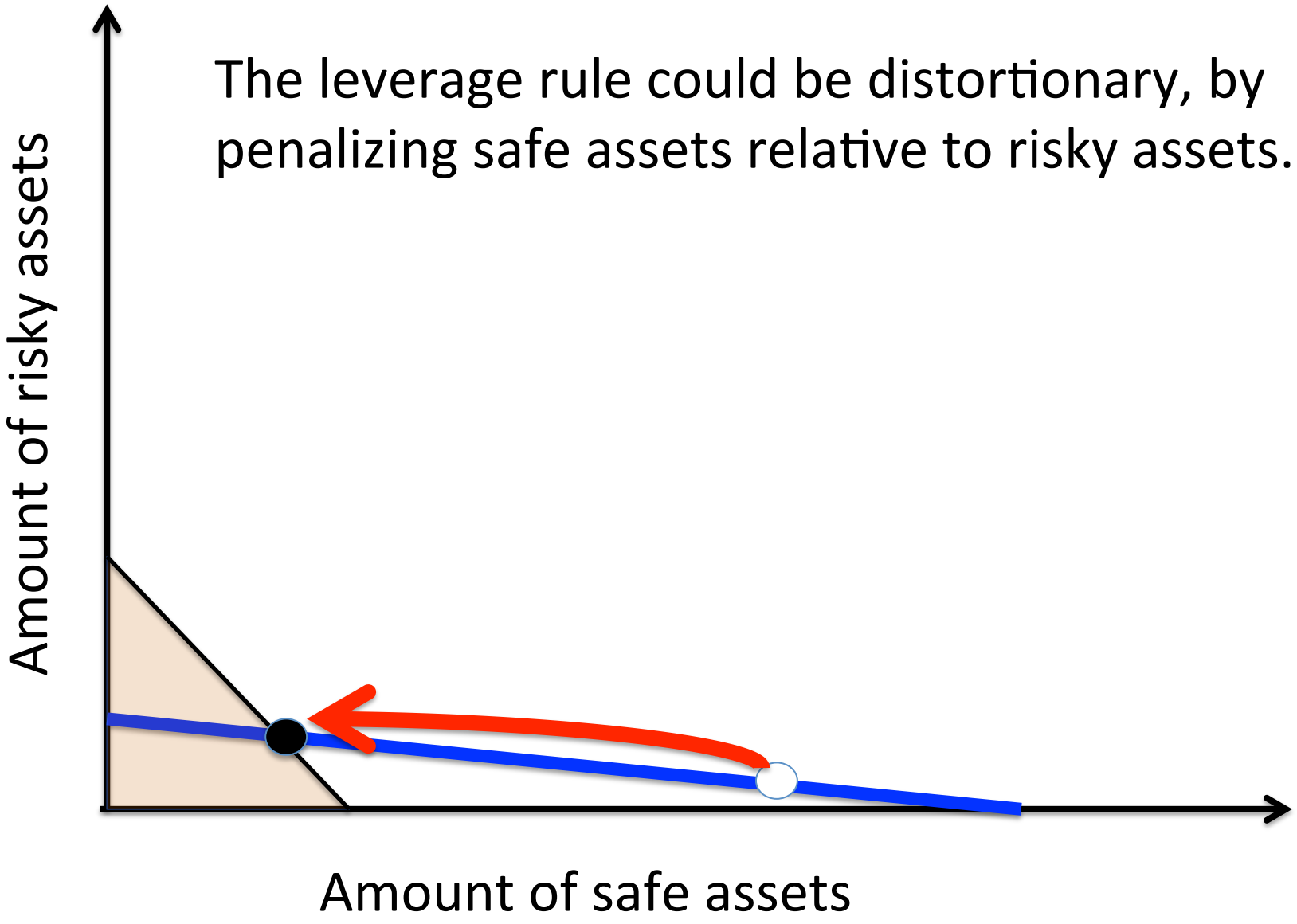
Data sources. BIS: OTC Triennial (April), U.S. exchanges Table 23A (March).



Central clearing and trade compression are reducing outstanding derivatives positions.


Risk-weighted assets are limited by available capital c.
RWA: ax + by ≤ c
Amount y of riskier asset
Amount x of safer asset

The leverage rule could be distortionary, by penalizing safe assets relative to risky assets.



Potential adverse policy implications

1. Growth of risky non-bank-affiliated intermediaries.
2. Ability to safely resolve the failure of new systemic market infrastructure.
3. Uncertainty regarding the efficiency of SEFs/MTFs.
4. Implementation costs (compliance frictions).
5. Atrophied ability of banks to act as shock absorbers?
6. Market distortions under gross leverage constraints.
7. Reaching for yield (distortions and risks).
8. Implications of new monetary tools such as RRP facility for private monitoring efficiency and run risk.
9. New difficulties with international rule harmonization.

Positive policy implications

- Increased financial stability (in most respects).
- Increased ability to compete with large banks and bank affiliates, with associated efficiency benefits.
- Additional effective monetary policy tools.
- Increased market transparency.