

TRANSPARENCY AND DISTRESSED SALES UNDER ASYMMETRIC INFORMATION

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OVERVIEW

- What is this paper about? The role of **observability** in bargaining with correlated values.
- Question: How the information available to potential buyers affects the probability of reaching an agreement?
- Common wisdom: More transparency is better
 - Motivates much of Dodd-Frank, MiFID II, EMIR,...
- Not always the case!
 - Hirshleifer effects
 - Trader identities may harm liquidity
 - Corporate disclosure policies (Reg FD)
 - HERE: Rejecting good offers signals good quality. May induce inefficient delays and less trade with public offers

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THE PAPER IN CONTEXT

- Framework similar to Horner and Vielle 2009 (HV hereafter)
 - Dynamic Akerlof's market with better informed sellers
 - Buyers make sequential offers that are accepted (ends the game) or rejected by a single seller
- Main result in HV.
 - If discounting is low, agreement is always reached when previous offers are kept hidden, unlikely to be reached when they are made public
 - Surprising effect with public offers (trading impasse) all offers after period one are rejected. Diamond-Paradox-like effect. Competition from future buyers prevent 'serious' offers to arrive.

BRIEF SUMMARY OF THE SETTING

- Seller owns single perpetuity, cash flow δc ($PV=c$). $c \in [0, 1]$
- Buyers valuation $v(c)$, with $v(c)' > 0$ and $v(1) = 1$
- Gains from trade: $v(c) - c > 0$ for all c
- Times $t \in \{1, 2\}$. *Transparent* market: rejected offers at $t = 1$ are observable. Otherwise market is *opaque*
- *Three key differences with HV*
 - Bertrand competition between buyers in each period (kills HV's impasse)
 - Liquidity shock to the seller. If no trade at $t = 2$ seller captures $\alpha(v(c) - c)$ with $\alpha \in [0, 1]$. If $\alpha < 1$ then efficiency loss at deadline (important for new quiet period prediction and welfare)
 - Continuous types for seller (with two types equilibria coincide)

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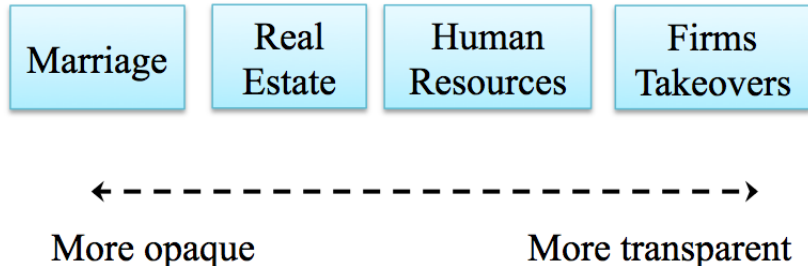
MAIN RESULTS: POSITIVE

- **Volume.** There is (weakly) more trade with private offers (similar to HV)
- **Delays**
 - Transparency of price offers affects the amount of *inefficient delay* (if the time between offers not too low)
 - Quiet periods. With $\alpha = 1$ no quiet periods. When $\alpha < 1$ Public offers lead to quiet period at $t = 1$ (contrasts with HV). Trade in every period with private offers
- **Prices.** If discounting is small:
 - Disclosure policy affects equilibrium prices
 - With private offers buyers randomize between prices (thus prices are more volatile)
- Rich set of empirically testable predictions!

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TRANSPARENCY IN BARGAINING MARKETS: SOME EXAMPLES



APPLYING THE MODEL PREDICTIONS

Trades (Everything else constant)

- Celebrities marry later (e.g., sports trophy wives signal through mass media. Irina-Shayk effect?)
- Real estate: dealers keep past offer private to accelerate deals
- Universities may consider 'explosive' offers to tenured professors to impair signaling. Little trade before the deadline
- Deals easier to reach for private equity/startups than for public corporations

Prices

- If sellers post prices, and buyers have heterogeneous valuation, prices may fall over time (tech products such as iPhone, new real estate developments)
- Volatility: some evidence later on

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NORMATIVE RESULT

- **The opaque market Pareto dominates the transparent one**
- Intuitive: welfare here depends on trades and delays only
 - the incentive to reject an early offer is higher with public offers (if δ is high enough)
 - more trade at earlier times leads to higher welfare
- **But hard to prove!** Construction of the private offers equilibrium with randomization is main technical contribution
 - Provided not trading by the deadline imposes a loss
 - Or if v is linear and $c \sim U$. Even then hard to prove...
- **Guidelines for which specific regulation?** Reg ATS or Reg NMS revisions? MiFID II? Implementation of Dodd-Frank/EMIR in OTC derivatives markets?

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- Quotes/Order Book
- Incoming orders
- Identities

Post-trade

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INTERMEDIATION AND PRE-TRADE TRANSPARENCY

- With dealers, opaqueness generally increase dealers' rents and decreases liquidity.
 - **Visibility of quotes.** RFQ protocols may lead to Diamond-Paradox non-competitive prices. Transparency: (i) Reduces rents enhancing liquidity (ii) enables customers to fine-tune orders to liquidity supply and reduce execution costs
 - **Visibility of incoming orders.** Help dealers to narrow bid-ask spread and better price discovery
 - **Visibility of order submitters' identities.** Ambiguous effects
- Supporting evidence for NYSE Open Book, TRACE in bond markets, etc
- Real estate platforms (Zillow,...) seem to lowered dealers' rents
- Dark fragmentation, instead, does not improve liquidity (Degryse et al. 2014)

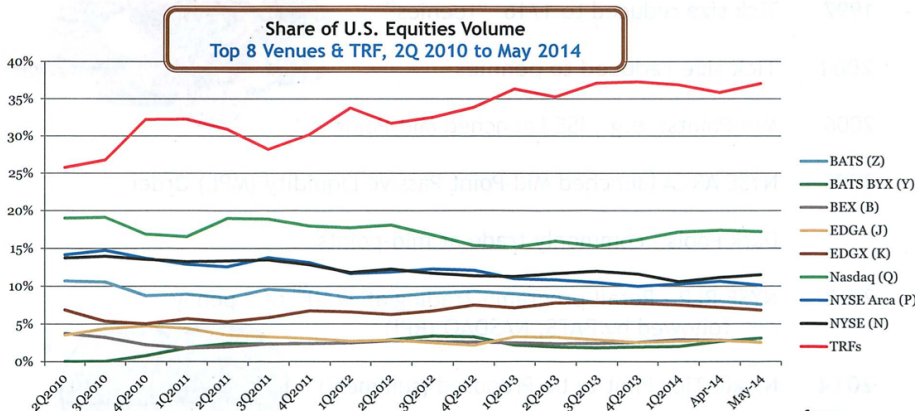
RICHER INFORMATION STRUCTURES

- Buyers may receive private signals (e.g., buyers of credit risk protection in CDS markets)
 - Offer observability may induce more complex learning process
 - Fundamentals vs. size discovery, etc
 - Opaqueness may affect social use of the information in offers. Thus, welfare effect maybe ambiguous
 - But opaqueness may alleviate the 'free option' problem of limit order markets if the signal is costly to acquire
- Regardless of rents, markets maybe opaque because is costly for dealers to gather information to quote continuously

U.S. EQUITY MARKETS

- Most transparent but **far from** 'fully transparent.' Transparency is **time-varying**
- **Increased transparency**
 - Since 1975 SIP aggregates both quote information and trade reports
 - NYSE Open Book in 2002, reduced specialists advantage
 - Reg NMS's trade-through rule (2007), more pre-trade transparency
- **Decreased transparency**
 - Growth of dark pools since Reg ATS (more than 40 reporting venues)
 - Consolidated tape offer some post-trade transp. (delayed, not by venue). Europe way behind
 - Hidden/iceberg orders and 100s complex new order types
 - Fragmentation. Differential access (colocation, proprietary data feeds faster than SIP).

DARK/LIT EQUITY TRADING



- TRFs: Trade Reporting Facilities (all non-exchange traded volume)
- 5 maker-taker exchanges with 7-18% share; 3 inverted venues with 2-3% share.

GETTING CLOSER TO POLICY

- In the paper there is no clear benefit to transparency...
- **Two interesting tradeoffs:** dynamic signaling inefficiencies against
 - Intermediary rents
 - Price discovery with socially useful information
- Big picture. Why so many markets are opaque? We still don't have general theory of optimal transparency

- Dodd-Frank and EMIR in the U.S. and in Europe reflect the spirit of the communiqué of the G20 Summit in Pittsburgh in September 2009: *“All standardized OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties...”*
- Concern not only related to rents but systemic risk
- Major increase in transparency
 - Futurisation and transparency in risk management
 - Enhanced pre- and post-trade transparency with SEFs
 - Clearinghouses increase counterparty risk transparency through novation

TRANSPARENCY AND PRICE VOLATILITY

- Does counterparty risk transparency enhance price stability?
- Evidence from equity markets (Menkveld, Pagnotta and Zoican 2015)
 - Equities in Denmark, Finland, and Sweden were traditionally cleared bilaterally. In October 2009 stocks in these markets started clearing centrally through the European clearinghouse EMCF.
 - Quasi-experimental differences-in-differences approach. Affected Nordic stocks are matched (propensity scores) with similar European equities that did not experience clearing changes

TRANSPARENCY AND PRICE VOLATILITY.

MENKVELD, PAGNOTTA AND ZOICAN (2015)

The dependent variable is the difference between the volatility of Nordic stock returns and that of matched stocks. Volatility is measured monthly by $Return_{it}^2$, the average of daily squared returns, and $PriceRange_{it}$, the average ratio between high and low prices, scaled as in Alizadeh, Brandt and Diebold (2002).

	$\Delta Return^2$	$\Delta PriceRange$
Dif-in-dif co-efficient	-0.21*** 2.91	-0.13** 2.24
Intercept	0.04* 1.92	0.08*** 4.62
Stock FE	Yes	Yes
#Obs	3281	3281

- Return volatility decreases by 21 basis points, a **9.21% decline from pre-reform levels**

CONCLUSIONS

- Very important topic
- Successfully addresses a difficult technical problem
- Clean testable implications for bargaining markets
- Opportunity: Normative implication not easy to extrapolate to secondary financial markets