Considerations on Market Transparency

A Lit Review on Pros and Cons of Market Transparency

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A Perspective on Market Transparency

Market Transparency

Existence
Empirical question

Interaction
Theory

Magnitude
Empirical question
(little attention)

Supporting MT is a concern if:

Another distortion is in place

Price opacity and the other distortion ‘pull’ into different direction

The magnitude of the interaction is non-negligible

Distortion

Perfect Competition

Possible market allocations

Market ‘Opacity’
Market transparency can be defined as the availability of relevant market information (e.g. concerning prices, weather, production, trade, consumption and stocks) for all market participants.

- **Issue**: data gaps in the chain while farm-gate prices are transparent
- **Objective**: fill gaps so as to increase market transparency & efficiency along the chain
- **Recommendations**:
  - EC to collect data deeper into chain & disseminate
  - Create platform for better integration of MS data
  - Food euro calculations
  - Use ‘big data’

Reducing uncertainty about ‘average prices’ (Azzam 2003)

Transparency in supply relationships: concept and practice

Shaping transparency for critical relationships in the supply chain

Without hedges or security, by demanding the exposure of sensitive data. This is incompatible with long-term survival for the supplier, who must therefore respond by hedging the risk, providing distorted or corrupt information, thereby protecting its economic position. Elsewhere, Lamming, Caldwell, and Harrison (2003), this hedging is called “cheating.” An extreme but common-place example is the creation of entirely false books for the customer to inspect. Clearly, it would not be in a supplier’s commercial best interests to reveal sensitive supply relationship information without some reciprocation. In seeking to hedge this risk (to cheat), the supplier is behaving entirely rationally. Such rationality is supported by the classical approach in which strategy is perceived as a “game of move and counter-move, bluff and counter-bluff” (Waltzian 1988). These strategic moves and countermoves require

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Price Transparency: key distinctions

Types of Transparency

Price Discovery Issue (What)
Whom should I sell to?

Price Determination Issue (Why)
What will prices be if ...?

Prices are public knowledge
The way prices are determined is public knowledge

Symmetric vs. Asymmetric Market Opacity

Downstream Firm

Opaque

Farmer

Opaque

Transparent

AMTF

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Outline

Intro

Market Opacity
  - Production
  - Policy
  - Arbitrage

Existence

Interaction

Magnitude

Conclusions
Better Production Decisions

### Short term production decisions
- Using markets to facilitate price discovery
- Making information available to farmers
- Data Integration (prices + auxiliary info)

### Risk & Information
- Risk & Information
- Sandmo 1974

### Long term production decisions
- Innovation
- Production capacity
- (US Health Industry)

### Financial markets
- ICT
- (especially developing countries)

### Big data for demand forecasting
- Big data for demand forecasting

### Risk & Information
- Azzam 2003
- Moschini & Hennessy 2001
- Svensson & Drott 2010

### Using markets to facilitate price discovery
- Financial markets
- Thomas 2003 (India)
- Easwaran & Ramasundaram 2008
- Sendhil et al. 2013

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- Innovation
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Monitoring & Policy Design

- Policy
- Design
- Enforcing
- Transparency
- Data-Driven Policy

You know this better than I do.
Price Transparency and Arbitrage

Local Market 1

\[ p_1 \]
\[ q_1 \]

Local Market 2

\[ p_2 \]
\[ q_2 \]

\[ p \]
\[ q \]

Opacity

Jensen 2010
(Spatial model)

Does this increase competition?
(better prices for farmers)

Is this something we want?

No clear prediction
Lambrecht et al. 2018

Healthcare studies
(prices go up in poor areas)

It depends on other distortions
(OECD 2012)

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- Market Opacity
  - Production Policy
  - Arbitrage
- Existence
- Interaction
  - Barg. Power
  - Collusion
  - Info Ineffic.
- Magnitude
- Conclusions
Bargaining with Incomplete Information

Bargaining with incomplete information (Ausbel et al. 2001)

Market transparency helps less informed farmers bargaining more effectively

Price transparency offers only incomplete information (costs are missing). Distorted information can be worse than no information

AMTF Courtois & Subervie 2014 (developing countries, mostly)

Later
Bargaining with *Complete* Information

- **Supplier's Share**
- **Agreed Price**
- **Total gain from trade**
- **Buyer's Share**

- **Supplier's Cost of Production**
- **Consumer Price Minus MKTG Costs**
- **Consumer Price**

- **Price Paid by an Alternative Buyer**
- **Price paid to an alternative Supplier**

- **Price Paid by Buyer to Supplier**
Bargaining with *Incomplete* Information

- **Supplier's Share**
  - Supplier's Cost of Production
  - Agreed Price
  - Price Paid by an Alternative Buyer

- **Total gain from trade**
  - Negotiation Space

- **Buyer's Share**
  - Consumer Price
  - Consumer Price Minus MKTG Costs

- **Price Paid by Buyer to Supplier**
  - Price paid to an alternative Supplier

- **Price Paid by an Alternative Buyer**

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Bargaining under Incomplete information

Assumption: Downstream firm designs the contracts

Screening: Laffont & Tirole 1988
Riley 2001 (review)

Using quality standards and RMP to select ‘efficient’ suppliers
Russo et al. 2014
Fulponi 2006

Large buyer are already using contracts to solve the information asymmetries regarding suppliers’ cost structure
Bargaining under Incomplete Information

**Proposition 1 (Welfare):** Information sharing always benefits growers and increases expected total welfare. Expected consumer surplus increases whenever expected firm profits increase, and may increase even as expected firm profits fall.

**Hueth & Marcoul 2006**

Farmers’ switching costs reduce the value of PT

**Mitchell 2017**

- Fear of buyer’s exit reduce the value of PT
- Farmers' switching costs reduce the value of PT

**Ranjan 2017**

- PT is valuable if farmers have non-zero bargaining power under perfect information
Bargaining under Incomplete Information

Leading firms (principals) have several ways to deal with opacity

- Can be costly
- Info can be imperfect

Opacity may help buyer power

- Unlike collusion (static vs. dynamic)

Transparency benefits for farmers can be small if buyers have strong bargaining power under perfect information

- Relative Magnitude is an empirical question
Collusion

Agree on a common strategy

Monitor each other behavior

Enforce / Retaliate

Collusive agreement
Stigler 1964
Tirole 1988
Carlton & Perloff 1990

Collusion: Effects of PT (Information disclosure)
(Albæk et al. 1997)

Convergence of prior conjectures (Njoroge 2003)

Focal point & Tacit collusion
(Levenstein & Suslow 2006)

Easier to reach an agreement because all have the same information

No one offers more than the ‘official price’

Monitoring & enforcing
Genesove & Mullin, 2001
Compte 1988

Defecting firms are detected. Retaliation is expected
Do Firms Need PT to Collude?

**Dynamic games of imperfect information (1980’s)**

- Green & Porter 1984
- Rotemberg & Saloner 1986

**Collusion is sustainable but ‘less severe’**

«industries continue to collude successfully after communication is disabled» Fonseca & Normann 2012.

**What if firms do not know prices?**

**Non-linear prices**
- Piccolo & MiklósThal (2012)*
- Gilo & Yehezkel (2015)
- Gilo & Yehezkel (2017)

**Collusion is sustainable and not necessarily ‘less severe’**

**Use of alternative mechanisms**

**Non-price collusion**

**Price Discovery Strategies (e.g., matching prices)**

 matrimonial
MT, Collusion and Anti-Trust Authority

PT helps detecting collusion. Implicit in: Harrington 2006 Porter 2005

A more efficient Anti-Trust Authority may mitigate the intensity of collusion


The net effect of MT on collusion is an empirical question

Dynamic vs. static Effectiv. Anti-Trust Non-price collusion Altern. enforcing

III. Conclusion

In this paper we formulated and tested a simple model of collusive pricing in the presence of antitrust enforcement. We showed that if a cartel’s probability of detection increases with its markup, then the cartel’s optimal price is neither the competitive price nor, in most cases, the price that a cartel would charge in the absence of antitrust enforcement, but rather an intermediate price that depends on the levels of antitrust enforcement efforts and penalties.
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Information Inefficiency

Thinning markets

Adjemian et al. 2016 (competition in thin markets)

Prices from thin markets might be ‘misleading’

Prices are just a subset of relevant info. PT might induce a bias

Releasing Unreliable Information

Releasing Incomplete Information

Incomplete information

Hviid & Møllgaard (2006)

Non-price elements in procurement contracts
Net Benefits of PT under Market Power: Empirical Evidence

Does Mandatory Disclosure Lead to “More Competitive” Prices?

Danish Concrete Industry (Albaek et al. 1997)
Quite the Opposite Gov’t Assisted Oligopoly
Capacity (partial data)

US Railroads (Grain Fares) (Schmitz & Fuller. 1995)
Depends on Competition Model
Infrastructure and Availability of Waterways

US Livestock Mandatory Price Report (several)
It’s complicated

It’s complicated
Net Benefits of PT: Empirical Evidence

- Livestock Mandatory Reporting Act USA 2001
  - Koontz & Ward (2011)

- Theory: Positive Net Effect
  - Boyer & Brorsen, 2013
  - Njoroge et al. 2007
  - Price reduction
    - Wachenheim & DeVuyst 2001

- Farmers’ mixed opinion ('unrealistic expectations')
  - Grunewald et al 2004

- Overestimated price variability (no 'secret deals')
  - Ward 2004

- Gain over voluntary system?
  - No, on average (Fausti et al. 2007)
  - Yes, discount & premiums (Fausti et al. 2010)
  - Yes, overall (Mathews et al. 2015)

- Anti-competitive effects?
  - No Evidence (Null hyp.)

- Azzam & Salvador 2004
  - Pendell & Schroeder 2006 cointegration ↑

- Fausti & Diersen 2004

- Koontz 2007 p.trasmission ↑ volatility ↑
  - Chung et al. 2017 p.trasmission ↑ asymm. ?

- YES

- Grimes & Plain 2006 Strategic pricing (timing)
  - Cai et al. 2011 (other factors are possible)
  - Fausti et al. 2015
Conclusions

Consensus

- MT is good per se
- Problems with interaction with a specific subset of distortions
  - Dynamic collusion
  - Information ineff.
- MT makes collusion easier to detect
  - Easier, not easy
- Principals have ways to screen agents
  - Opacity can be asymmetric (not nec. one-way)

More studies needed

- Do we have collusion?
- Are price signals efficient?
- Existence of distortions
  - Do we overestimate benefits?
  - What is the magnitude of the interaction with collusion?
- Impact of disclosure
  - Is partial information harmful or good?
  - How to minimize negative impact?
- Distortive public disclosure
  - Impact of disclosure

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References


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