

Ownership Structure and Enforcement Incentives at Self-Regulatory Financial Exchanges

David Reiffen

U.S. CFTC

and

Michel Robe

U.S. CFTC

Kogod School of Business at American University

This paper reflects the opinions of its authors only, and not those of the U.S. Commodities Futures Trading Commission (CFTC), its staff, or any of the Commissioner.

SRO: CFTC Seminar – 2006

Background: Demutualization

- Many of the world's major financial exchanges have converted
 - from : mutual, non-profit organizations
 - to : publicly-traded, for-profit firms
- 1990's – the beginning
 - Stockholm Stock Exchange, Deutsche Börse
- 2000's – demutualization goes mainstream
 - Major stock exchanges:
 - U.S.: New York Stock exchange (NYSE), NASDAQ
 - London Stock exchanges (LSE), Hong Kong Stock Exchange
 - Derivatives exchanges:
 - Sydney Futures Exchange
 - CME, CBOT, NYMEX

The Issue: Self-Regulation

- Many exchanges are self-regulating (SRO)
 - establish and enforce rules governing behavior of exchange members
 - stock brokers, stock specialists, stock dealers, futures commission merchants, etc.
- Our focus: Rules that affect investors (TP violations)
 - investors are the exchange’s customers (derivatives exchanges)
- The fear:
 - enforcement activities are costly
 - as exchanges demutualize, they will try to cut costs to maximize profits
 - so, “self-enforcement” will become “too little enforcement”
 - Therefore, the government should step in
 - what if the exchange sets up an independent subsidiary for regulatory operations (or even completely outsources them)? The basic fear of under-funding remains

The Fear

- Widespread worries

- “[T]he profit motive of a shareholder-owned SRO could detract from proper self-regulation. For instance, shareholder-owned SROs may commit insufficient funds to regulatory operations.”

SEC’s Concept Release, 2004

- “Might a for-profit, publicly-traded SRO attempt to attract volume or increase its profits through lax self-regulation?”

CFTC, 2005 Request for comments

- “(W)hen operated by a management team whose main goal is to create a profit, an exchange may have less interest in devoting resources to its regulatory functions.”

IMF Financial Sector Assessment: A Handbook, 2005

This Paper: Basic idea

- Are enforcement incentives of for-profit and mutual exchanges really different?
- Customers and their agents should react to cost cutting...
 - enforcement is an issue *because* agents will misbehave if we let them (e.g., if we don't monitor them)
 - What about incentive-compatibility?
 - Customers have choices, too
 - Will they trade if the exchange is seen as a den of thieves?
 - What about participation?
- ... so cost-cutting could be costly

- Two possible outcomes, or states.
- W is the realization of the trade in state i , with $w_2 > w_1$
- π_i is the probability that the state is state i

Trade Practice Violations

- Examples:
 - **pre-arranged trades** (the trade is routed to a counter-party, rather than exposed to the trading pit or electronic screen)
 - **front running** (the agent makes a trade in the same direction as the order, after the client's order is entered, but before it is carried out)
 - **changing price** (misreporting)
 - **bucketing** (the FCM is the counter-party, with no exposure to arm's-length traders)
- Why are TP violations bad?
 - They hurt customers directly
 - They hurt the demutualized exchange through its profit stream

- The **essence of all of these** prohibited practices is that the agent does not attempt to get the best feasible price for the customer, but rather reports a price that is worse for the customer than some price that is feasible (with the agent keeping the difference).

Framework

- Costly state verification (CSV) model
 - describes the contract between two parties when one side cannot costlessly observe the true state of the world
- CSV framework has been used to evaluate debt contracts (e.g., Townsend, 1979; Gale and Hellwig, 1985; Boyd and Smith, 1994)
- DeMarzo et al. (2005) use this framework to analyze the enforcement incentives of mutual SROs, but not the question of ownership structure
- In SRO context, the principal (the customer) sets up a reward schedule that induces honest reporting. We model the SRO as setting out some enforcement parameters that affect how the customer chooses the reward schedule.
- Basic results are that the principal uses both carrots (payments) and sticks (fines and positive detection probability) to encourage honest reporting.
- We model ownership structure via SRO's objective function and compare the relative use of carrots ("kowtowing") vs. sticks ("enforcement")

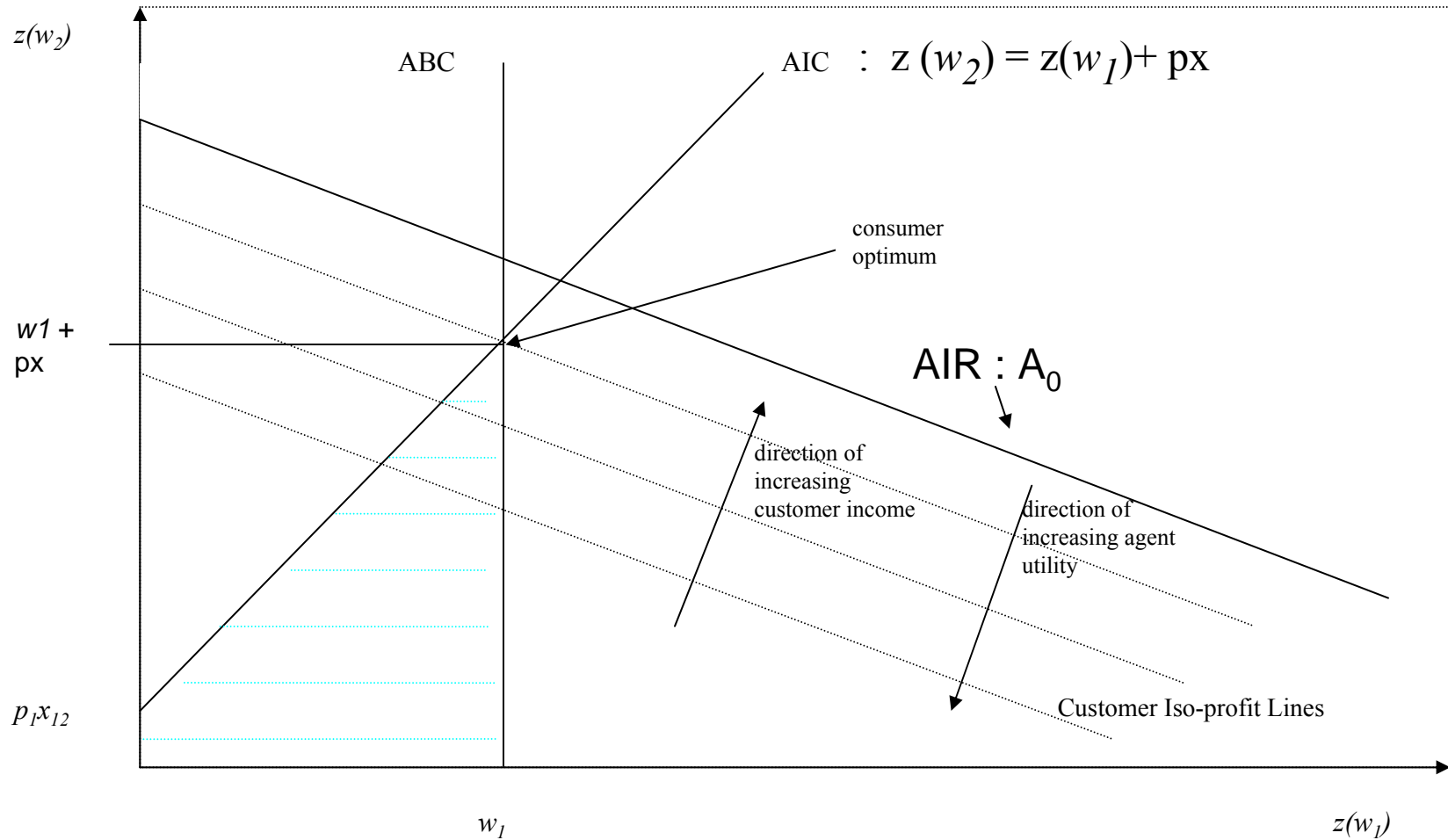
Model

- Customer
 - needs to hire an agent to carry out a trade on an exchange
 - W is the realization of the trade in state i , with $w_2 > w_1$
 - chooses fee schedule to maximize expected income $Z(W)$ from trade
 - takes the exchange's enforcement policy as a given
 - but can refuse to trade (reservation utility α)
- Agent
 - can cheat customer by misreporting W
 - gets *actual* $W - Z(\text{reported } W)$, unless caught lying
- Exchange (SRO):
 - sets probability of investigating agent report + penalties for lying + fees
 - chooses this enforcement policy to maximize its own objective
 - **Mutual SRO**: MAX agent income; fees cover enforcement costs
 - **For-profit SRO**: MAX exchange profits = fees – enforcement costs
 - takes customer's response to enforcement policy and fees into account
 - Customer-agent contract + possibility that customer may refuse to trade

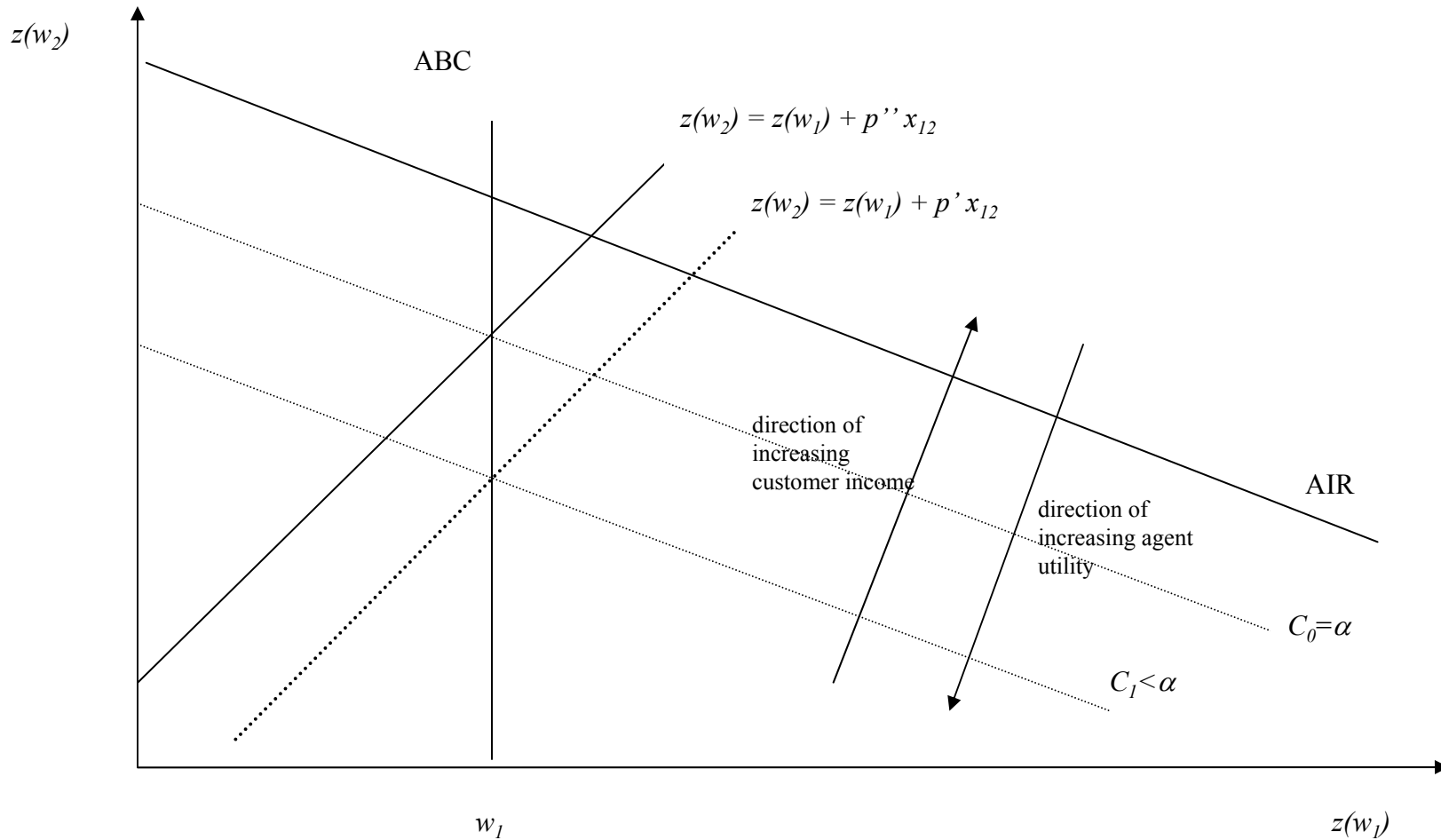
Customer's problem

- Maximize its profits, $\pi_1 z(w_1) + \pi_2 z(w_2)$ given p and x , subject to
 - Agent must prefer telling the truth in state 2; $w_2 - z(w_2) \geq w_1 - z(w_1) - px$.
 - Agent cannot go bankrupt in either state.
 - Agent has to earn his reservation value.

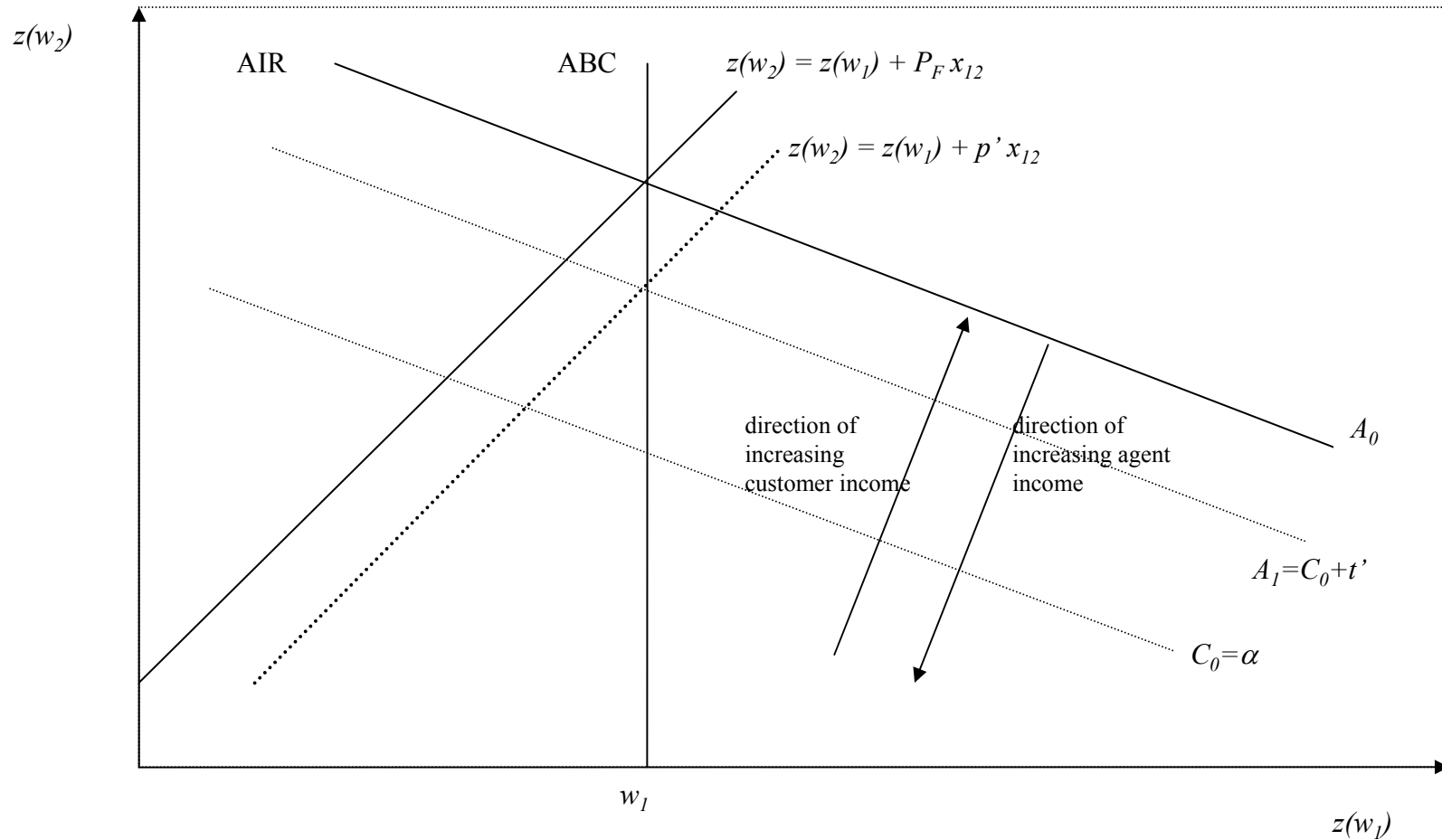
Customer's Problem



Mutual Exchange's Problem



For-Profit Exchange's Problem



Conclusions

- The main conclusion is that the same constraints that lead a mutual SRO to enforce trade practice regulations also lead a for-profit SRO to enforce these regs.
- The main difference between the enforcement practices of for-profit and mutual exchanges is that for-profits devote more resources to enforcement.
- The intuition is that for-profit exchanges use more sticks and fewer carrots to induce honest FCM behavior.
- These results are robust to various extensions of the basic model.