

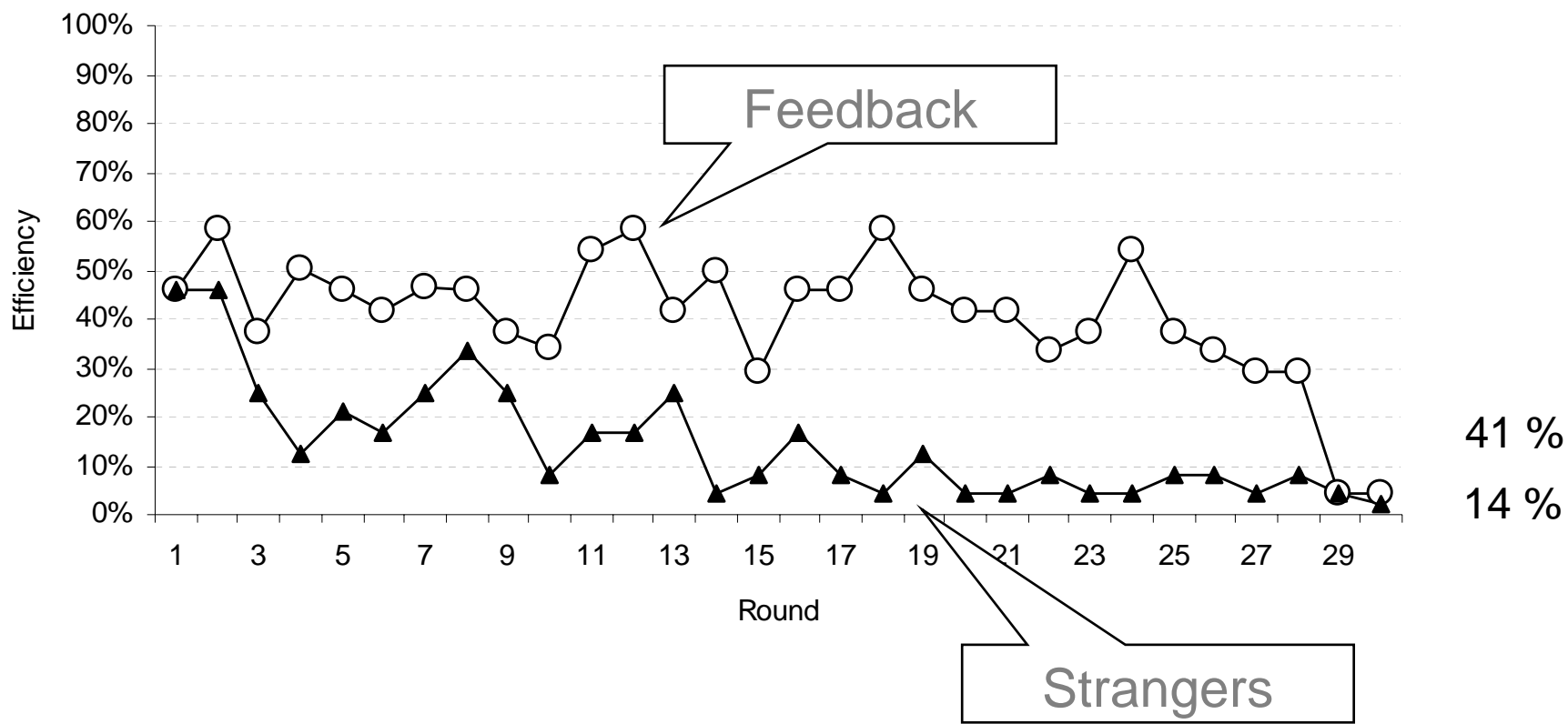


Reputation, Matching and Information Externalities

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&
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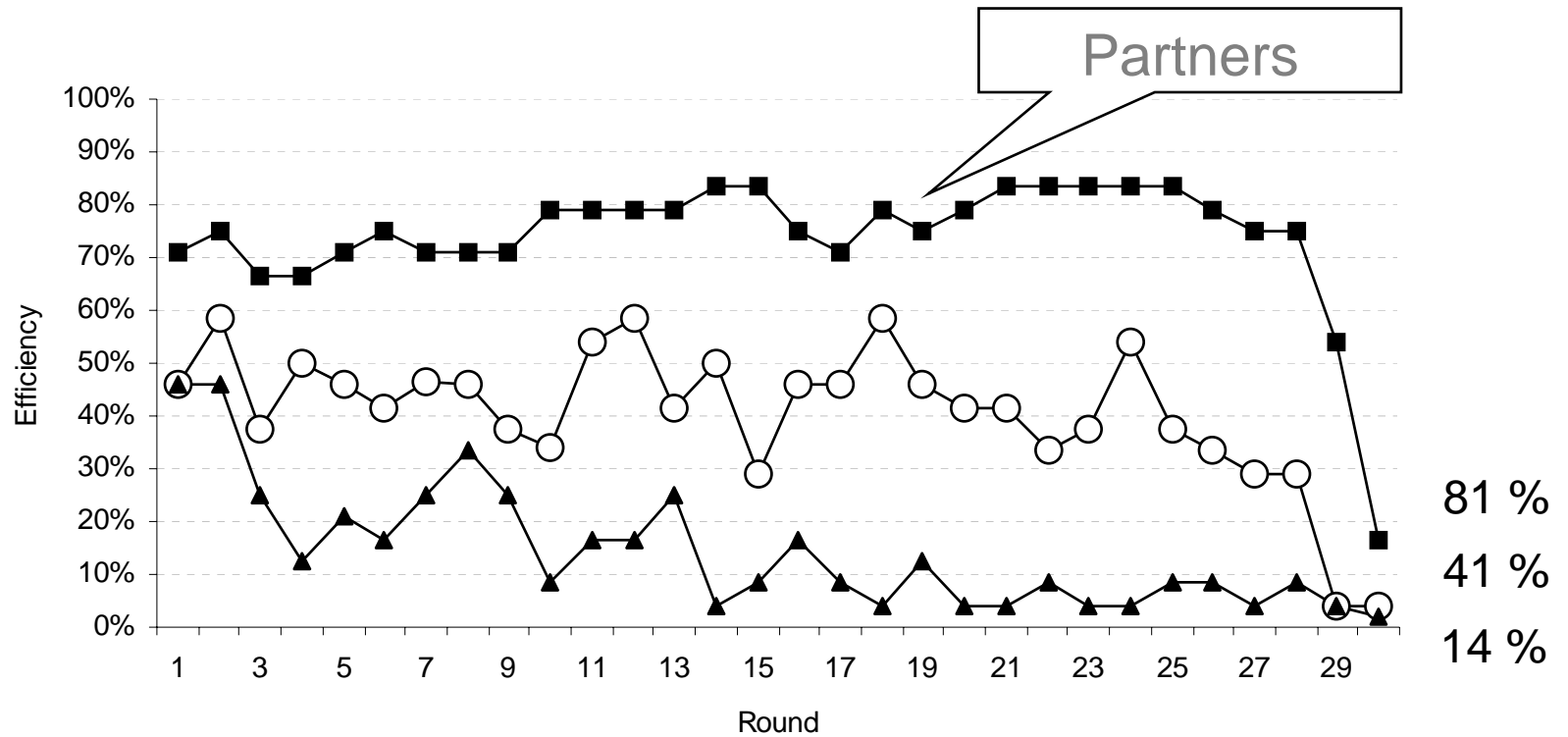


Information matters!



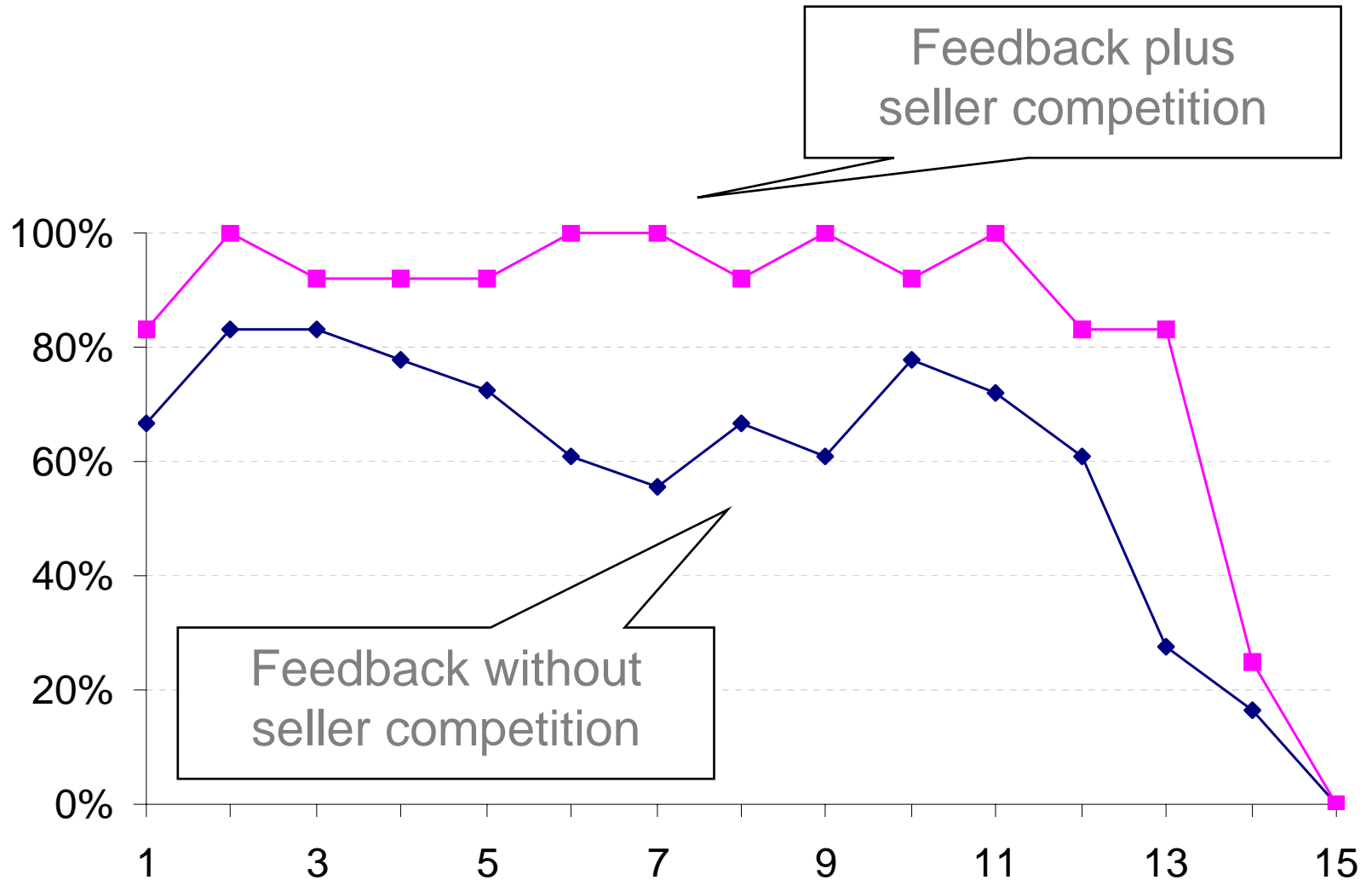


But why does matching matter?





And why does competition matter?

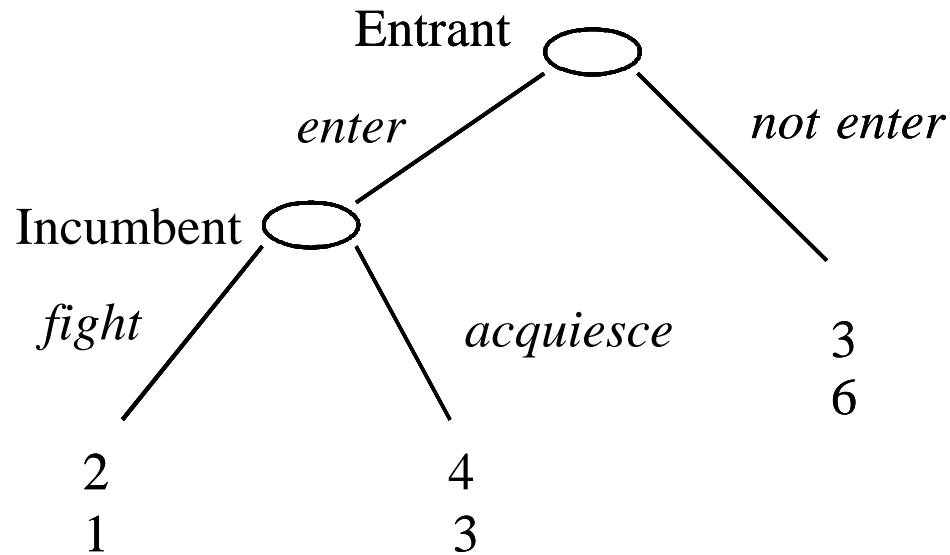




... because reputation information
has **economic value**
- beyond forecast value.



The Chain Store Game

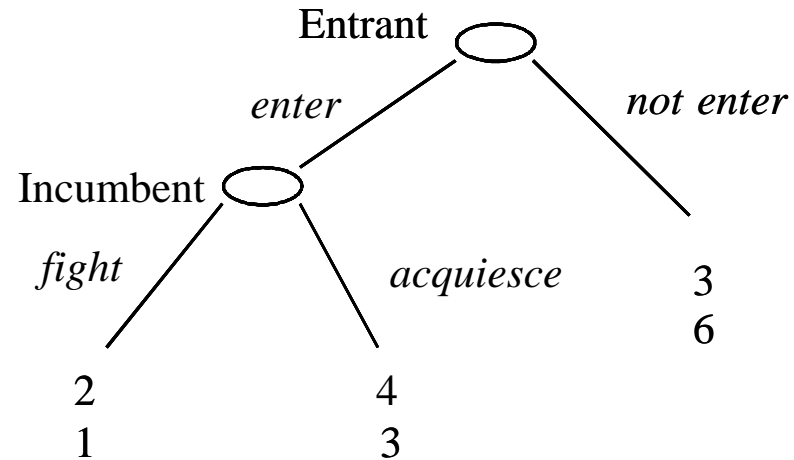


- The game is played repeatedly.
- There is a small chance that the incumbent is strong and always fights.



Chain Store Game: (Sequential) Equilibrium

- If the incumbent fails to fight, future entrants will make a payoff of 4, otherwise 3 (economic value).



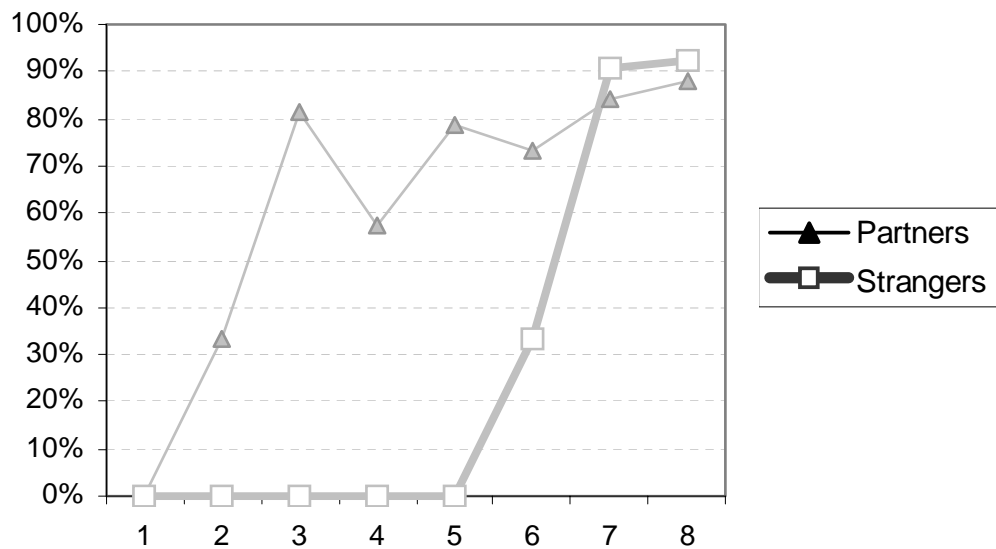
- **Partners:** This guaranteed future payoff accrues to the same entrant.
- **Strangers:** Others profit from the reputation information (information externality).
- **Chain store game hypothesis:** There is more entry and less fighting in partners than in strangers.



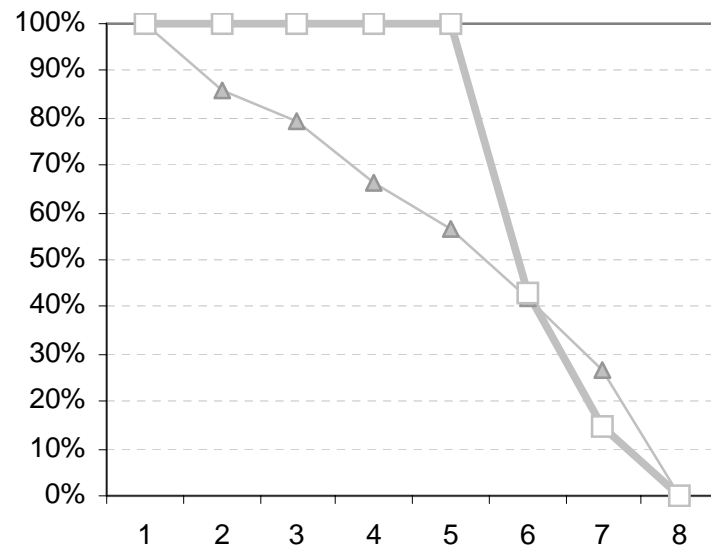
Chain Store Game: Predictions

(following the stationary sequential equilibrium by Kreps and Wilson, 1982)

Frequency of entry per period



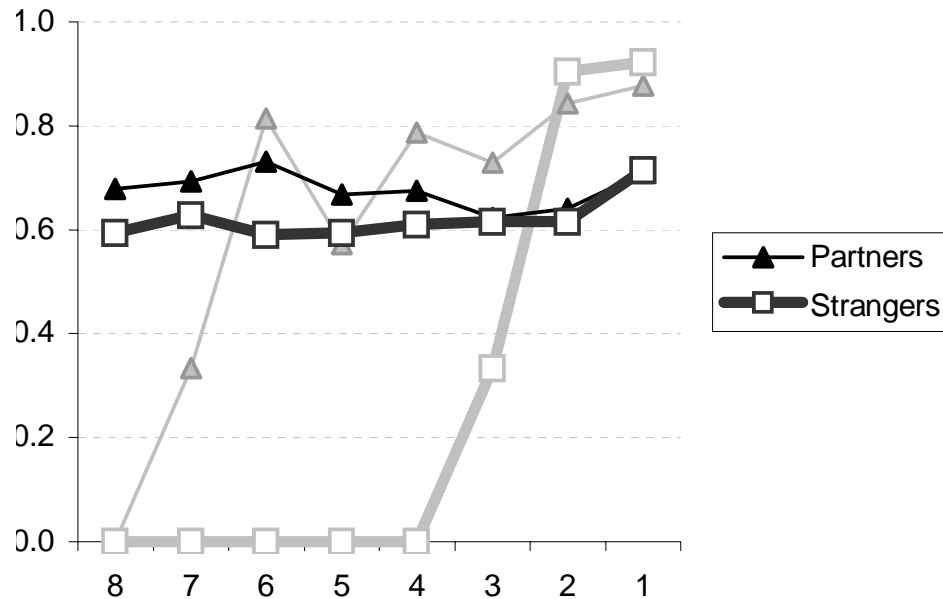
Frequency of fighting per period



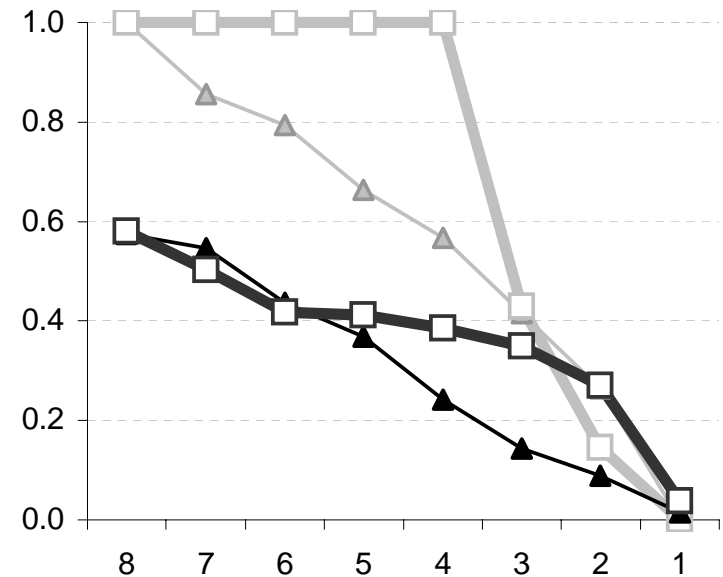


Chain Store Game: Results (for experienced players)

Frequency of entry per period



Frequency of fighting per period



- There is 7% more entry and 16% less fighting in partners.
- There is a strong learning trend towards qualitative predictions for incumbents.



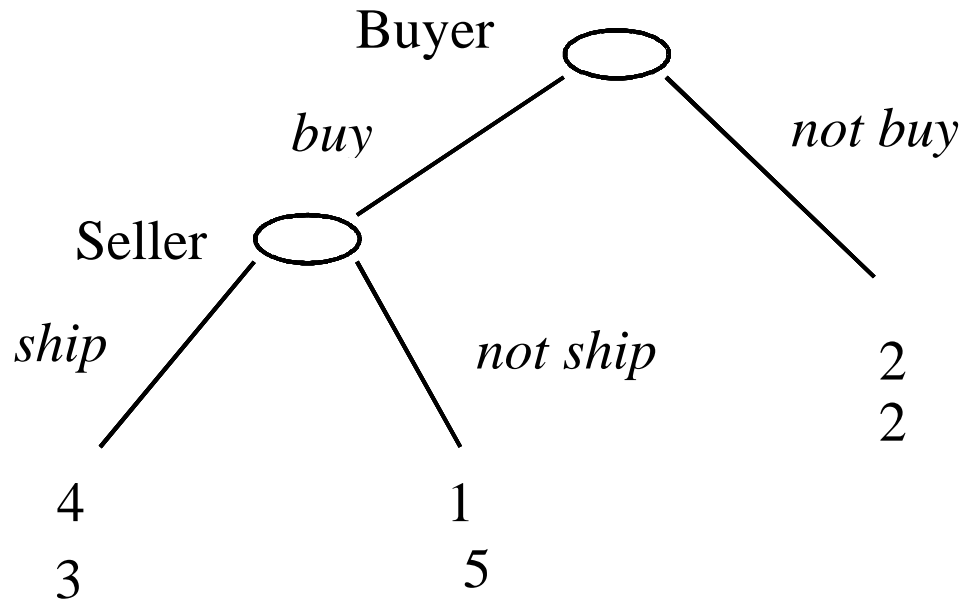
Information externalities of this sort have not been recognized in the literature before.

- **Kreps and Wilson** (1982) for the chain store game:

"... the analysis is unchanged if there is a single rival with repeated opportunities to enter."



The Trust Game

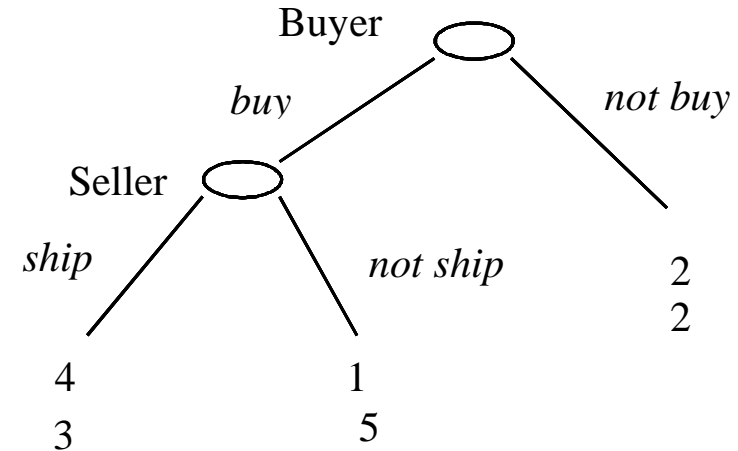


- The game is played repeatedly.
- There is a small chance that the seller is trustworthy and always ships.



Trust Game: (Sequential) Equilibrium

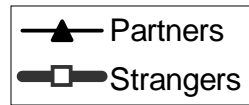
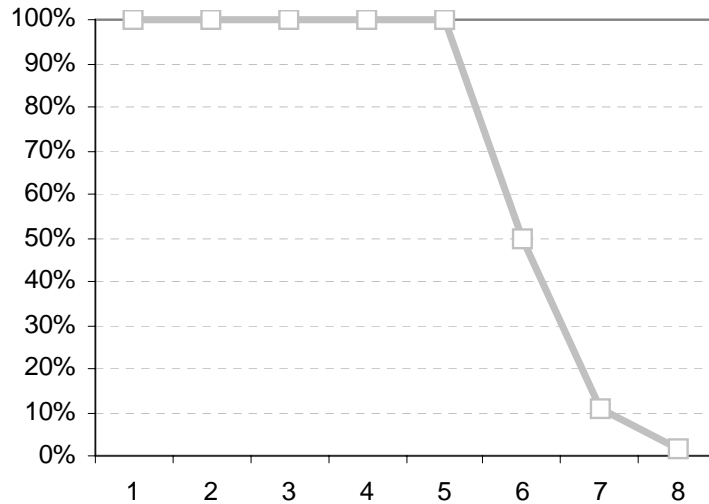
- On the equilibrium path, buyers are indifferent between sellers, regardless of their reputation:
- Early in the game, all sellers ship.
- Late in the game, the expected payoff to the buyer in any period is 2, regardless of whether the seller's type is revealed.
- *Trust game hypothesis*: There is no difference in buying and shipping between partners and strangers.



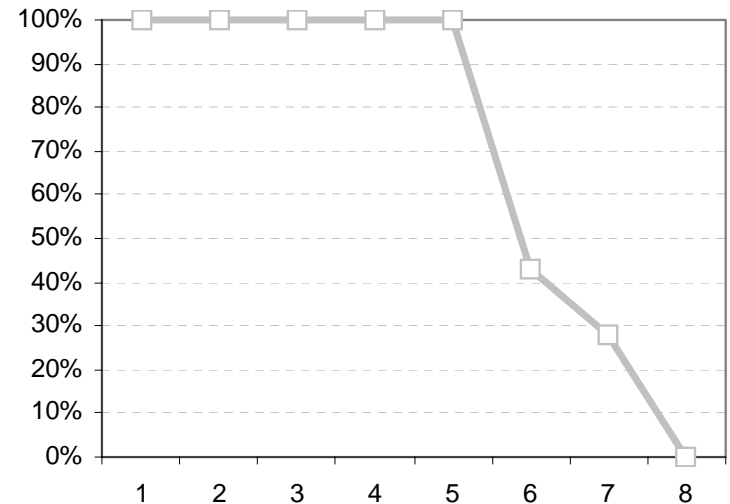


Trust Game: Predictions

Frequency of buying per period



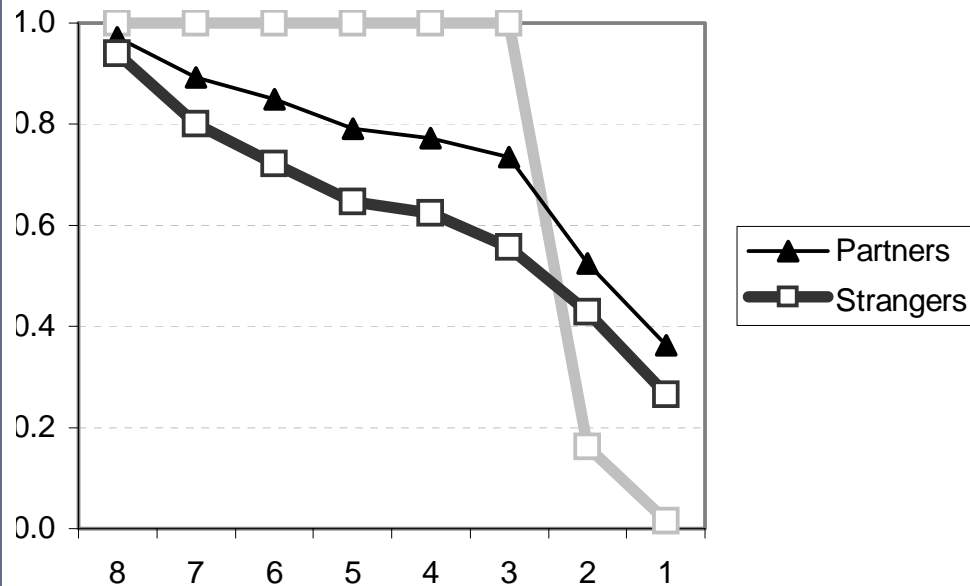
Frequency of shipping per period



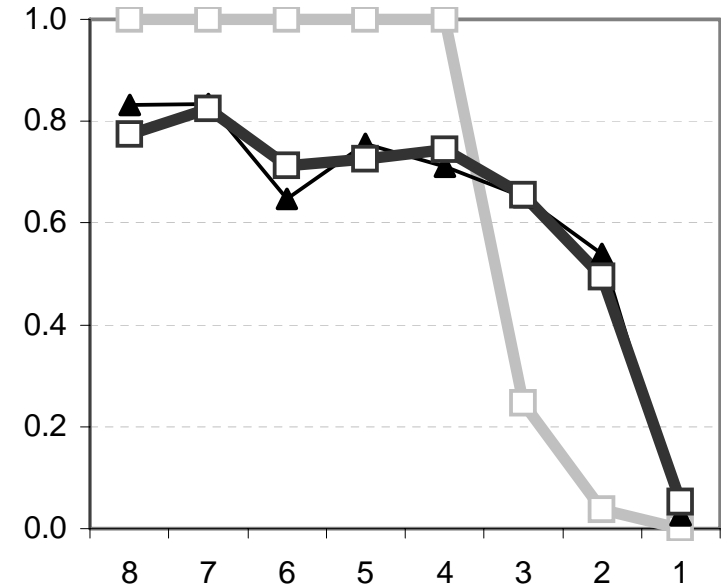


Trust Game: Results

Frequency of buying per period



Frequency of shipping per period



- There is 21% more buying in partners (no difference in shipping).
- The matching effect tends to *increase* with experience.



The value of reputation

- In theory, the matching effect arises because reputation is
 - (1) predictive of future behavior (**forecast value**), **and**
 - (2) predictive information benefits future players (**economic value**).

- In the data, this is true for *both* chain store and trust game.



Forecast value

		Chain store		Trust game	
		Enter	Fight	Buy	Ship
Second mover's type revealed ?	No	50.4	68.2	96.0	75.8
	Yes	92.6	2.5	29.9	47.5



Economic value

- Expected payoffs of first movers when challenging second movers

Period	Type revealed	Chain store		Trust game	
		Partn.	Stran.	Partn.	Stran.
8	No	2.74	2.74	3.56	3.41
7	No	2.29	2.33	3.59	3.60
	Yes	3.72	3.75	3.06	1.38
6	No	2.36	2.25	3.11	3.31
	Yes	3.73	3.67	2.88	2.38
5	No	2.38	2.14	3.39	3.35
	Yes	3.72	3.73	3.31	2.95
4	No	2.59	2.23	3.48	3.58
	Yes	3.65	3.72	3.01	2.81
3	No	2.77	2.26	3.68	3.51
	Yes	3.67	3.66	2.66	2.42
2	No	2.88	2.39	3.62	3.13
	Yes	3.70	3.74	1.82	1.87
1	No	3.70	3.60	1.38	1.38
	Yes	3.73	3.74	1.59	1.79



Summary

- **Theory**

- ☺ Theory captures many of the qualitative patterns we observe, e.g., it is 'more difficult' to build up a reputation of being strong in the chain store game among partners.

- ☹ No matching effect is predicted in the trust game, because all valuable information is 'mixed away'.

- **Evidence**

- Reputation information robustly has economic value.

- **Implication**

- Thus, matching, but also competition, market design etc. systematically and predictably influences the effectiveness of reputation systems.



The End