

Discussion of

Herd Behavior in Financial Markets: A Field Experiment with Financial Market Professionals

by

Sjaak Hurkens (IAE, CSIC)

Motivation/Aim

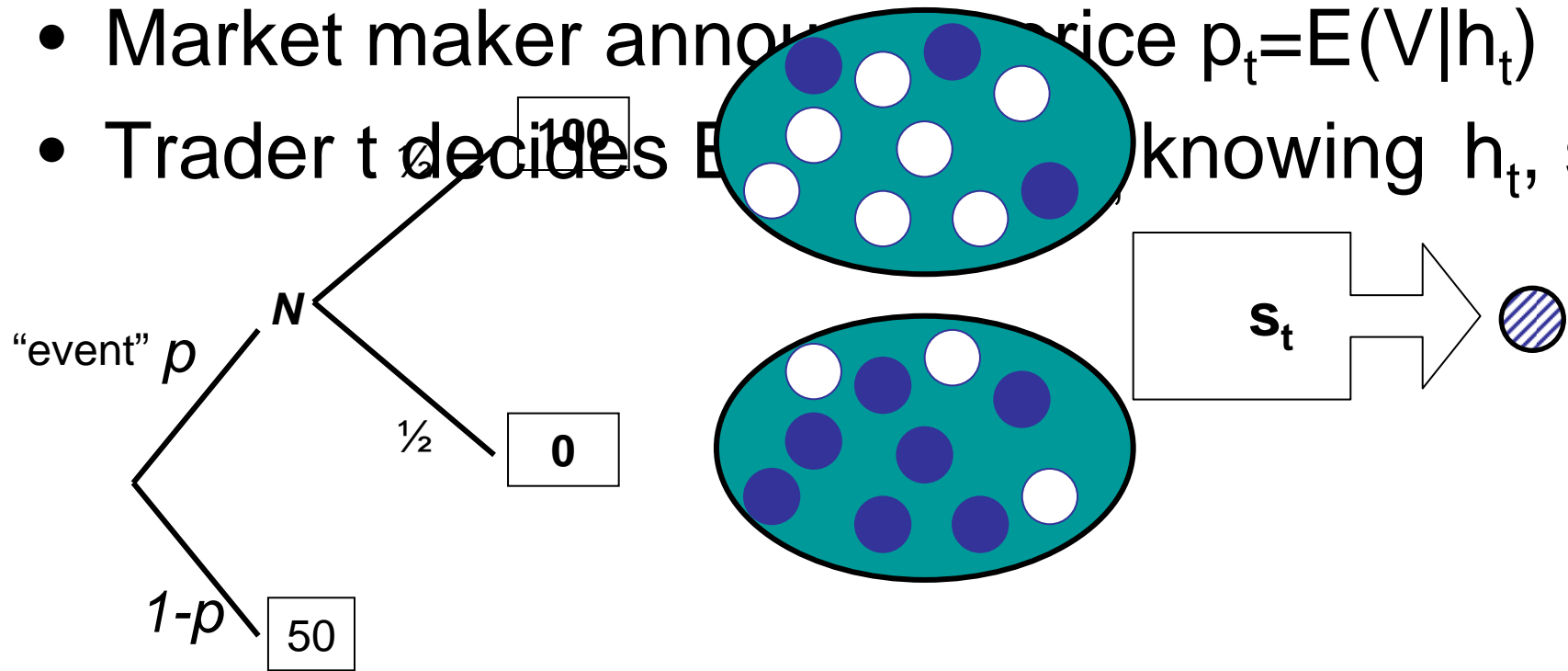
Experimentally test financial market for:

- Herd behaviour?
- Contrarian behaviour?
- Other (ir)rational behaviour?
- Does price aggregate information?

Lab is well-suited since one observes prices, buy/sell decisions, and **private information**.

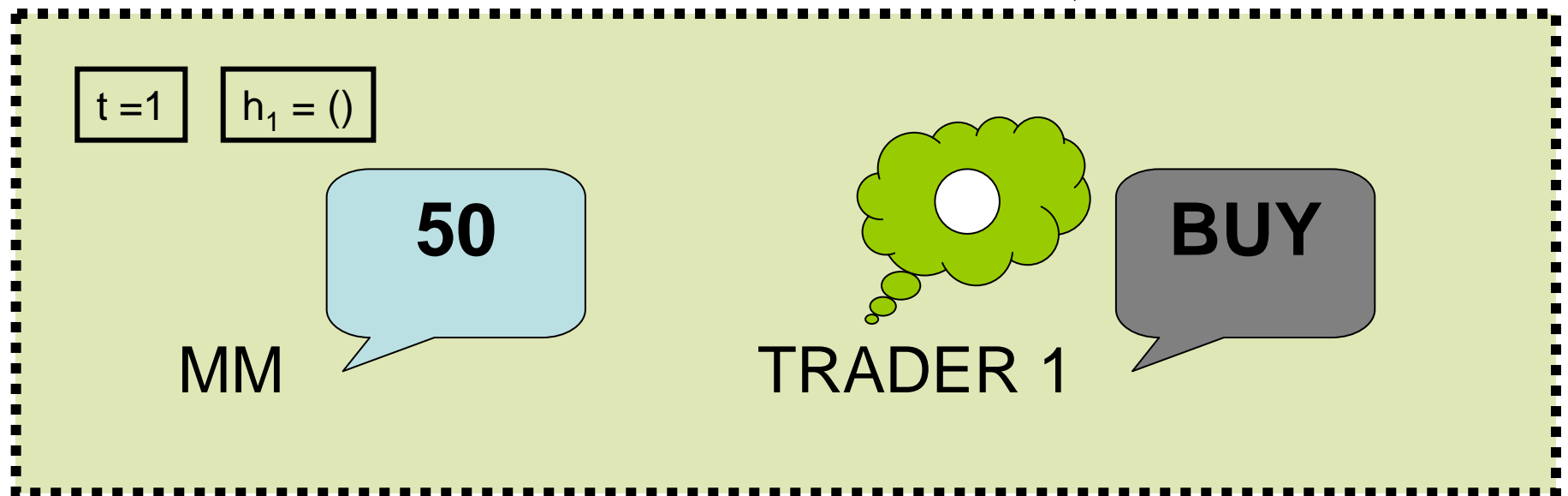
Model

- Nature determines value of asset
- Traders $t=1,2,\dots$ receive private information
- Market maker announces price $p_t = E(V|h_t)$
- Trader t decides E knowing h_t, s_t



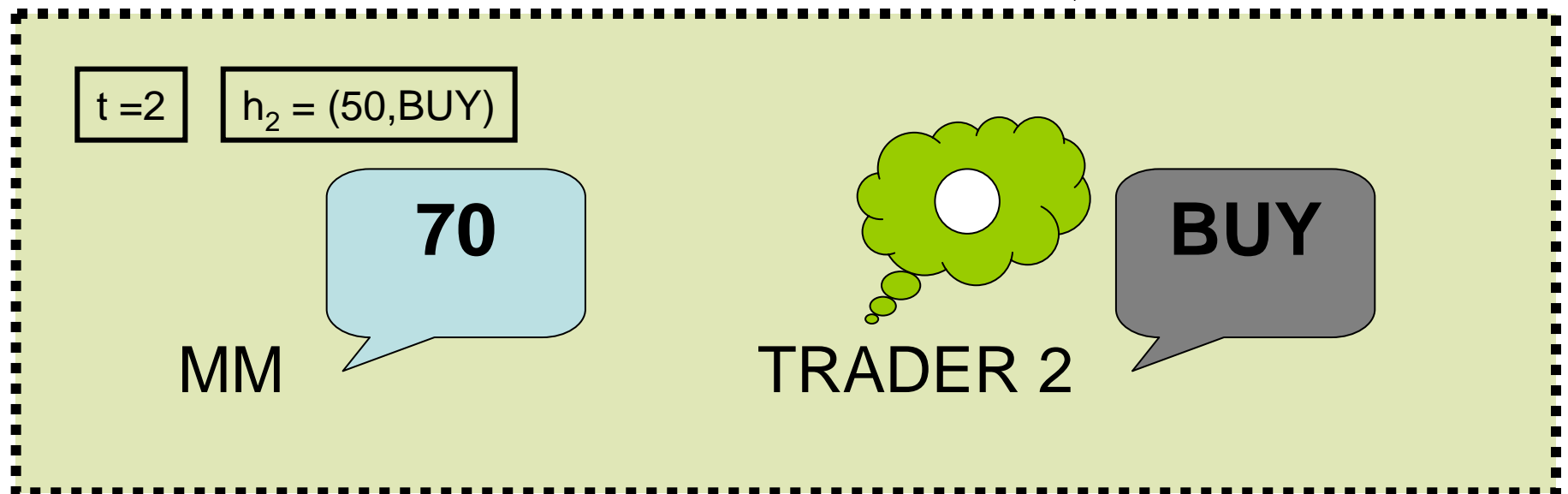
Model

- Nature determines value of asset
- Traders $t=1,2,..$ receive private information
- Market maker announces price $p_t = E(V|h_t)$
- Trader t decides B/S/NT at p_t , knowing h_t, s_t



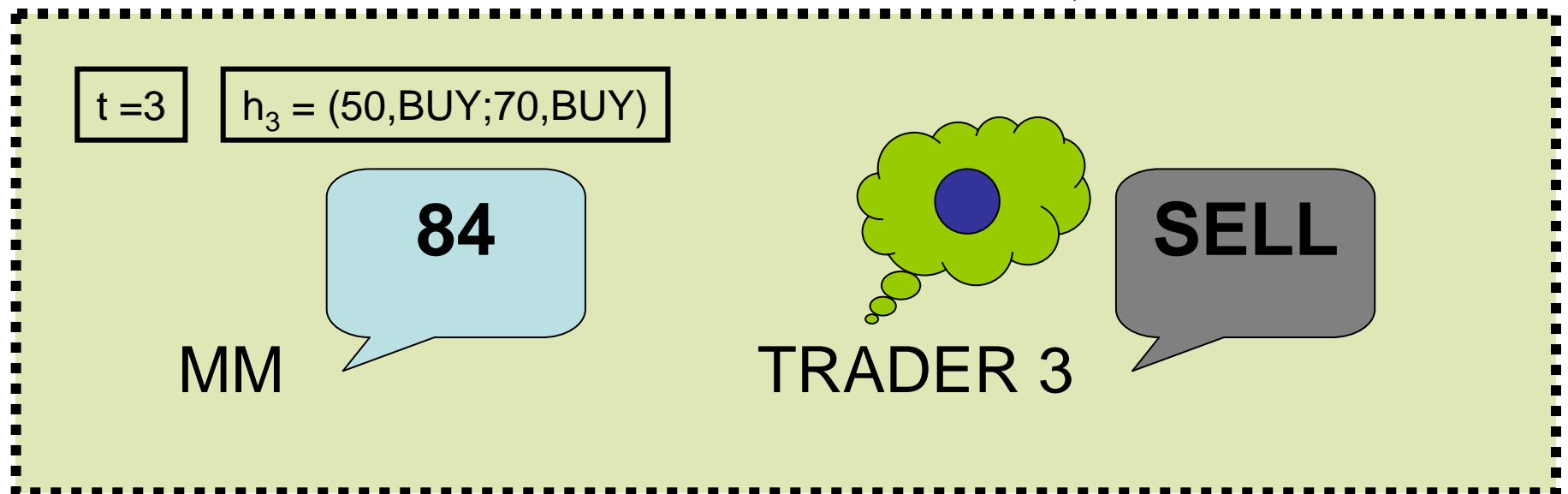
Model

- Nature determines value of asset
- Traders $t=1,2,..$ receive private information
- Market maker announces price $p_t = E(V|h_t)$
- Trader t decides B/S/NT at p_t , knowing h_t, s_t



Model

- Nature determines value of asset
- Traders $t=1,2,..$ receive private information
- Market maker announces price $p_t=E(V|h_t)$
- Trader t decides B/S/NT at p_t , knowing h_t, s_t



Theory

Assuming $p=1$, MM updates price interpreting buy/sell as white/blue signal and traders are **rational and risk neutral**:

- Traders should always buy/sell upon white/blue signal (no herding, no contrarian)
- If B&S involve small transaction costs, then NT cascades arise at high/low prices


Theory

Assuming $p < 1$, MM updates price interpreting buy/sell as imperfect evidence of white/blue signal and traders are **rational and risk neutral**:

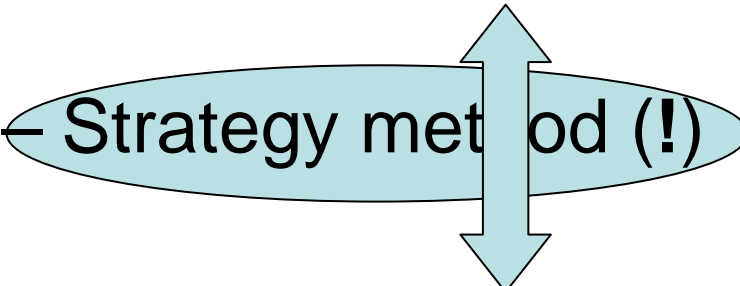
- Traders should initially buy/sell upon white/blue signal but **temporary herd behaviour** arises after some time since MM sets price too close to the mean.

Experiments

CG2007: Two treatments (professionals)

– Treatment I $p=1$,  Treatment II $p<1$
(noise trading)

– Strategy method (!)



CG2005: One treatment (students) $p=1$



CG2006: One treatment (students) $p=1$, and
transaction costs

Comments on Design

- Using professionals is interesting but has been done before (Drehman *et al.*, AER 2005; Haigh and List, J. of Fin. 2005)
- Strategy method yields more, and more precise information, but is disputed
- Computer interface/pen & paper
- No risk neutrality imposed
- Why treatment II?

Comments on results: Tr. I

Decision	
Following Private Information	45.7%
Partially Following Private Information	19.6%
Cascade Trading	19.0%
Cascade No-trading	12.3%

Comments on results: Tr. I

- Most behaviour is “rational” once risk aversion is allowed for
- Cascade trading is not, but very few subjects (2 or 3) are responsible for more than half of the observations.
- Contrarian behaviour at high trade imbalance seems consistent with motivation of relative utility (beat the crowd) (buying at $p=97$ is lottery between +3 and -97 ; selling at $p=97$ is lottery between +97 and -3)

Comments on results: Tr. II

Recall: Updating is very different:

No noise, 1 buy, 1 white signal

- $p=70$; $E(v|\text{Buy},+) = 84$

Noise, 1 buy, 1 white signal

- $p=52.9$, $E(v|\text{Buy},+) = 78$

Herd behaviour is sometimes rational,

Contrarian behaviour becomes more irrational

Results confirm more herding, less contrarian, less cascade no trading.

Final comments

Are **professionals** better than **students**? Do they have same objectives? Are they less risk-averse? (compare with CG2005)

- Suggestion: have them play lotteries!

Heterogeneity:

20% extremely r.a. non-traders at $p=50$, (**29%?**)

50% “rationals”

30% others