Review of
Manuscripts 3106 / 3107

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This report reviews the two manuscripts MS 3106 and MS 3107 submitted to the e-journal "Economics". I am somewhat more sympathetic to the underlying research question of the second manuscript. Hence, my report starts with MS 3107.

MS 3107 - Behavioural Effects and Market Dynamics and Laboratory Experimental Asset Markets

This paper studies to what extent the behaviour observed in an experimental asset market can be replicated within a more "realistic" setting implemented via a "field" experiment. Generally speaking, this is a question of obvious importance to experimental economics, as the lack of external validity limits any contribution to the context of artificial environments. However, this paper falls victim to the common misconception that external validity can only be increased by deprioritizing laboratory control. As an experimenter, one should only be willing to trade off the clean identification offered by the lab in return for a meaningful approximation of the real world. Contrary to the authors, I do not agree that their "field study" meets this necessary requirement.

To make my argument more precise, I rely on the same comparison between laboratory and field experiments that the authors refer to themselves.[1] In the context of financial markets, field experiments – in contrast to the lab – are characterized by:

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[1] The authors refer in particular to Harrison and List (2004).

1. Participants who are financial professionals (ideally traders)

2. Participants who possess sufficient experience in the task

3. Real-world financial assets

4. Real-world incentives (both in nature and magnitude)

5. Real-world trading task

From my understanding, the paper's "field study" falls short of all (!) the above listed conditions. By simply introducing numerous "long-lived" Arrow-Debreu securities to an otherwise quite artificial trading environment,[2] neither condition 3 nor 5 can be satisfied. Therefore, the authors' "field" experiment cannot claim any more external validity than any laboratory experiment that involves inexperienced subjects trading a factitious asset for small stakes.

Needless to say that there exist valid reasons for conducting a controlled laboratory experiment to study the behaviour of financial markets. However, the lab experiment of this paper fails to provide any meaningful insights. The following list provides a collection of arguments to support this rather harsh conclusion:

- No clear hypothesis

- Vague and unsurprising results at the microstructure level:

  1. Trading activity influenced by learning (known from existing literature)

  2. Some mispricing at aggregate level (expected based on findings of existing literature)

  3. Higher correlation between individual ex-ante and ex-post beliefs than with market prices (surprising?)

  4. Higher earnings associated with higher "illusion" of control (confusing conclusion as control can exist in the presence of arbitrage opportunities!)

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[2]There exists a vast literature in experimental finance that studies information aggregation via the trading of Arrow-Debreu securities (see, e.g., Plott and Sunder (1988)).

- Lack of statistical power to draw general conclusions: only one session, i.e., three markets, with a total of 36 subjects

- Compensation introduces potential wealth effects

- Belief elicitation is not incentivized (because of hedging concerns?)

- Questionnaire is not included in the provided instructions

Finally, neither the similarities nor the differences between the results from the laboratory experiment and the "field study" are unexpected. On the one hand, the closely-related design mechanically introduces a somewhat similar structure. On the other hand, changing some important parameters unsurprisingly causes certain discrepancies. For instance, a much shorter trading period naturally makes it harder to stabilize trading prices, to decrease (relative) mispricing, and to trade numerous assets simultaneously.

MS 3106 - Overpricing persistence in experimental asset markets with intrinsic uncertainty

This paper studies (mis)pricing patterns in an experimental asset market with inherent uncertainty. In contrast to the seminal work by Smith, Suchanek and Williams (1988), the paper makes use of a prediction market setting in which the underlying probabilities are unknown. More specifically, market prices depend on students' beliefs about the teaching style (speed) of the lecturer of a university course on "Financial Market Risks".[3]

As this paper largely relies on the same "field" experiment as MS 3107 (see above), the same criticism with respect to its design and result interpretations applies. Moreover, I am concerned about the relatively low participation rate of 55% (reported in MS 3107). This could indicate a lack of incentives generated by the chosen bonus credit point scheme. In the case of the final experiment (predicting the future performance of real-world stock indices) two additional confounding factors are introduced: (i) the implied signal from predefined return intervals (of

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[3]The final dividend payment depends on the number of slides covered by the lecturer during a weekly 2-hour lecture.

different length), and (ii) students' subjective beliefs about future market performance.

Generally, the paper fails to acknowledge the existing experimental literature on (mis)pricing, bubbles, and crashes that has already introduced alternative environments to the one proposed by Smith et al. (1988): e.g., Moinas and Pouget (2013) on bubbles, Asparouhova, Bossaerts, Eguia and Zame (2015) on mispricing under asymmetric reasoning, and Crockett, Duffy and Izhakian (2018) on the Lucas asset pricing model. While Asparouhova et al. (2015) introduce a setting of intrinsic uncertainty that allows for a well-defined mispricing measure at the *security* level, Crockett et al. (2018) study a more realistic consumption-based trading economy. Additionally, there exists a vast and mature literature on experimental prediction markets involving Arrow-Debreu securities (see report on MS 3017).

Lastly, in its current state, this paper is not well-enough written to be published in an academic journal.