

THE ROLE OF AN EXPERT RECOMMENDATION IN GROUP DISCUSSION TO MINIMIZE RECENCY BIAS: AN EXPERIMENTAL STUDY IN INVESTING DECISION*

Dedhy Sulistiawan¹, and Riesanti Edie Wijaya²

Abstract: *This study investigates the impact of an expert recommendation in group discussion to recency bias in investing decision. Recency bias decreases decision quality. Investors tend to weigh last information than previous ones in investing decision. An important feature of this experimental study is the use of an expert recommendation as an investors' advisor in a group discussion. This study provides expert-recommendation information in group discussion. That recommendation is expected to influence individual decision of participants in a group discussion. The results give evidence that expert recommendation is useful in group discussion to minimize recency bias. Those findings contribute to recency bias studies in accounting and finance area.*

Keywords: *An expert recommendation, recency bias, group discussion, disclosure*

INTRODUCTION

There are several studies related to recency bias in accounting and finance area. There are Alvia and Sulistiawan (2010), Ashton and Ashton (1988), Libby and Tan (1999), Pinsker (2007 and 2011), Tuttle et al. (1997), and Sulistiawan (2015). Those studies show that sequential information generates recency bias. Participants (and investors) suffer this bias. Same information that is presented in different order produces different decision.

To minimize recency bias, there are several studies are conducted. Alvia and Sulistiawan (2010) use training as a mitigation strategy to overcome recency bias. Ashton and Kennedy (2002) use self-review to reduce the impact of recency effect. This study also tries to minimize recency bias. Using an expert recommendation in group discussion, this study develops Sulistiawan and (2015) that only use group discussion.

In their study, Sulistiawan(2015) give evidence that individual decision using group discussion stimulates recency bias, because participants receive more

^{1,2} Universitas Surabaya, dedhy@ubaya.ac.id

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information. In group discussion, sequential positive (negative) disclosures produce overvaluation (undervaluation) because good (bad) news circulates in that discussion. That is why group discussion stimulates recency bias.

Previous studies use only individual decision in group discussion. Furthermore, this study uses individual decision in group discussion using an expert recommendation. Some people take an individual decision without having the discussion before, but others do. Investor communities reveal that individual investors need to discuss before investing.

This study uncovers that individual decision before group discussion produces more recency bias than individual decision after group discussion using an expert recommendation. In group that receive good news followed by bad news (+++--), recency bias is minimized but statistically not significant. This result presents indicate that when investors weigh negative information, the role of an expert recommendation is not powerful. Otherwise, in another group receive bad news followed by good news (---+++), recency bias can be minimized and statistically significant. This evidence gives evidence that positive information is considered by the participants. Investors give attention to an expert recommendation when they use positive information.

This study contributes to recency bias studies, especially in mitigating recency bias. This study is also important for accounting and finance studies related to stock market. An expert recommendation is one of important role in helping the retail investors.

The article is organized in several sections. The second section describes hypotheses development. The third section discusses experimental design. The forth section presents the findings. The final section concludes.

HYPOTHESIS DEVELOPMENT

Recency bias studies show that sequential information produce overvaluation (undervaluation). Good news followed by bad news stimulates investors to use the last information than previous information; that is bad news. It means that investors will perceive lower stock levels than it should be. Conversely, when a group of investors receives bad news followed by good news, they tend to perceive *higher stock level* than it should be. We call it as overreaction.

There are several studies in recency bias in accounting, namely, Alvia and Sulistiawan (2010), Ashton and Ashton (1988), Libby and Tan (1999), Pinsker (2007 and 2011), Tuttle et al. (1997), and Sulistiawan (2015). As well as, recency bias in the context of legal evidence also discussed by Furnham (1986). In brief, those findings reveal that recency bias potentially decrease decision quality.

It is important to note that investors are affected by order effect that is called recency bias. Hence, this bias needs to be minimized or mitigated. Trotman and Wright (1996) indicate that recency effect due to familiarity problem. Their study shows that both senior auditors and accounting students were affected by recency bias but not for the managers. It points out that people habit (or experience) could mitigate recency effect. Supporting this idea, Sulistiawan and Alvia (2010) who examine recency effects on investment decisions using fundamental information and technical analysis information provide evidences that training mitigates recency bias. Based on ideas of Trotman and Wright (1996) and Sulistiawan and Alvia (2010), this study is conducted using group discussion process.

Subsequently, Sulistiawan (2015) give evidence that individual decision using group discussion stimulate recency bias, because participants receive more information. In group discussion, the sequential positive (negative) disclosures produce overvaluation (undervaluation) as good (bad) news circulates in that discussion. That is why a group discussion potentially stimulates recency bias. In addition, group discussions make participants sharing information one another (Chalos and Poon, 2000). Sharing beneficial information can work when every participant in group discussion has enough experience and knowledge to be shared. Thus, Sulistiawan (2015) find that group discussion stimulated more bias. This research develops that idea by providing an expert recommendation in group discussion.

Based on Bienberg (2011), this study classifies strategic studies in individual decisions. Indeed, the actors (participants) explicitly consider the behavior of other actors. That is why this study is important. In stock market, investors also discuss and respond the other investor behavior. Considering the others behavior (decision) means that the use of group discussion is very contextual.

Stock investors receive information from many sources, for examples newspaper, television, investment communities, broker recommendation, and other sources. They may also join in an investor club or group discussion to share and discuss the news. Moreover, investor clubs with an expert recommendation are considered giving the investor with the beneficial information.

H1: Group discussion using an expert recommendation mitigates overvaluation when participants receive bad news followed by good news.

This study also examines reverse order of information. By presenting good news followed by bad news, investors will generate lower reaction because bad news is weighted more than good news. This phenomenon causes undervaluation of stock. Investors tend to use bad news rather than good news. To overcome this problem, group discussion using an expert recommendation is expected to mitigate undervaluation.

H2: Group discussion using an expert recommendation mitigates undervaluation when participants receive good news followed by bad news.

EXPERIMENTAL DESIGN

Participants

We use final year's accounting undergraduate students as participants in our experiment, just as conducted by Pinsker (2007, 2011) and Sulistiawan (2015). Those studies are selected because having no experience of "stock investing". Surely, Pinsker (2011) and Libby and Tan (1999) also show that students and professional in stock market also experience recency bias when they both have to take a decision based on the sequential information. Following Pinsker (2011), this paper assumes that students as participants are evidence-prone. They tend to be highly sensitive to new evidence. On account of contrary evidence invoke a strong contrast effect that leads larger belief revision.

Procedure

This study uses six-sequential information from Pinsker (2007). This study uses the same disclosures because those disclosures have already tested and have strong effect to stimulate recency bias. To evaluate the usefulness of an expert recommendation in group discussion, this study needs to present recency bias. Comparing the decision before and after receiving an expert recommendation in group discussion can be used to determine the impact of the recommendation to recency bias.

This experimental study divides participants into two groups, the first group receives sequential information that start from good news followed by bad news (GNBN/+++---). The second group also receives the same sequential information but in different order. The information order is bad news followed by good news (BNGN/---+++).

All participants receive same information that is given in sequentially different order. The table 1 illustrates the information given to each group. Before receiving disclosures, participants make an initial assessment. In that procedure, participants determine initial fair value. This study also provides initial fair value; the recommended fair value is fifty. All participants are student of accounting theory. They are distributed randomly in each group. Table 1 present the disclosure items that used in this experiment. These disclosures are adapted from Pinsker (2007).

Table 1
The disclosures

	<i>Group 1: Good news followed by bad news (+++--)</i>	<i>Group 2: Bad news followed by good news (---++)</i>
The first information The first price revision	Company's stock price has been higher recently, because many analysts believe the company	Company's profits are falling due to the company's inability to reduce inventory obsolescence and storage costs.
The second information The second price revision	Company announced today that its second largest market, Europe, has shown a sharp increase in demand for its products.	Due to Company's recent \$1 billion fine for illegally dumping toxic waste, recent sales to environmentally-friendly consumers are significantly increasing revenues.
The third information The third price revision	As a result of adopting a new management style, the company has incurred higher levels of production efficiency and now manufactures its products significantly faster.	"This will be a quarter of record low revenue and earnings," said Company's CEO.
The fourth information The fourth price revision	Company's profits are falling due to the company's inability to reduce inventory obsolescence and storage costs.	Company's stock price has been higher recently, because many analysts believe the company
The fifth information The fifth price revision	Due to Company's recent \$1 billion fine for illegally dumping toxic waste, recent sales to environmentally-friendly consumers are significantly increasing revenues.	Company announced today that its second largest market, Europe, has shown a sharp increase in demand for its products.

The sixth information	“This will be a quarter of record low revenue and earnings,” said Company’s CEO.	As a result of adopting a new management style, the company has incurred higher levels of production efficiency and now manufactures its products significantly faster.
The sixth price revision		

The procedure of this experiment is similar to Sulistiawan (2015), but adding expert recommendation in group discussion feature. The use of that recommendation is expected to minimize recency bias. This study expects that an expert recommendation in group discussion could improve the quality of decision.

Hypothesis Testing

The hypothesis is examined by comparing decision between individual decision before group discussion and individual decision after group discussion using an expert recommendation. In this experiment, the decision is divided by two proxies; there are stock valuation, and price revision. Stock valuation represents participant judgment about the fair value of a stock. Price revision is also used to show participants belief revision. Statistically, this study uses paired-sample t test. The test is within-subject test. It compares decision before and after group discussion using an expert recommendation.

The duration of experiment is one-hour. In this experiment, we use two experimenters. The experimenters are trained by one of the researcher. After finishing their task, experimenters distribute a box of snack as their compensation. Researchers also give credit point for the participants as incentive for this voluntary participation.

RESULTS AND ANALYSIS

Preliminary Analysis

Using a manipulation check of positive-negative disclosures, this study captures participants’ responses. Based on 6 of 20 disclosures presented by Pinsky (2007), our manipulation check shows that good (bad) news generates positive (negative) reaction. Mean responses are different from zero based on one-sample t-test. Table 2 highlights the mean and standard deviation responses of each disclosure.

Table 2
Mean and Standard Deviation Responses of Each Disclosure

<i>Disclosures</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>
GN1# Company's stock price has been higher recently, because many analysts believe the company offers excellent earnings growth potential.	67	3.69***	2.89
GN2 Company announced today that its second largest market, Europe, has shown a sharp increase in demand for its products.	67	5.31***	2.66
GN3 As a result of adopting a new management style, the company has incurred higher levels of production efficiency and now manufactures its products significantly faster.	67	4.37***	2.77
BN1# Company's profits are falling due to the company's inability to reduce inventory obsolescence and storage costs.	67	-3.35***	3.42
BN2 Due to Company's recent \$1 billion fine for illegally dumping toxic waste, recent sales to environmentally-friendly consumers are significantly increasing revenues.	67	-4.35***	3.42
BN3 "This will be a quarter of record low revenue and earnings," said Company's CEO.	67	-3.59***	4.03

#GN (BN) is good (bad) news. *** is significant at one percent, respectively.

Does Expert Recommendation Minimize Recency Bias?

Sulistiawan (2015) clarify that group discussion stimulated recency bias. It could also be said that this study develops Sulistiawan (2015) by using expert recommendation in group discussion. This study expect that an expert recommendation can give benefit to those groups. Consequently, an expert recommendation is informed to the groups to help participants' in group discussion in this study.

Table 3 and 4 show the findings related to the expert recommendation power minimizing recency bias. Table 3 highlights the impact of BNGN (---+++) that makes investors value stocks more than it should be since the last information is good news. On average, sequential information produces recency bias. This study tries to mitigate recency bias by using an expert recommendation in a group

discussion. Based on the table, individual decision group valuation is 61.875. The value is higher than participants from group with group discussion using an expert recommendation. It means that an expert recommendation used by individual decision maker could minimize recency bias. In sequential information that presents bad news followed by good news, participants tend to consider good news as the last information. The result in Table 3 shows that individual decision after group discussion using an expert recommendation is lower than individual decision before group discussion. It is statistically significant at 5%. H1 is supported.

Table 3
Individual Decision Before and After Group Discussion Using Expert Recommendation: BNGN (---+++)

	<i>Mean</i>	<i>N</i>	<i>Std. Deviation</i>	<i>Sig[#]</i>
Valuation				
Individual decision before group discussion	61.875	40	11.749	
Individual decision after group discussion using an expert recommendation.	58.625	40	8.472	0.039
Price revision				
Individual decision before group discussion	5.3	40	12.003	
Individual decision after group discussion using an expert recommendation.	3	40	6.6794	0.086

Using price revision to measure belief revision, this study also justifies that price revision after group discussion using an expert recommendation is lower than decision before group discussion. Notably, the price revision before group discussion is 5.3, but after participants process the information in group discussion using an expert recommendation, price revision is 3. It means that group discussion using an expert recommendation enhance the decision quality by minimizing recency bias. Using price revision methodology, H1 is also supported.

Results in Table 3 illustrate that group discussion using an expert recommendation decrease the effect of recency bias. To improve the discussion, this study also believes that the use of sequential information that present bad news followed by good news (---+++) mitigate recency bias.

Table 4 presents that in GNBN sequential information (+++---). From those tables, it is clear that there is no difference valuation between decision before group discussion and decision after group discussion using an expert recommendation. It means that an expert recommendation in group discussion could not solve

recency bias problem. Moreover, the mean of the individual decision before group discussion value stock is 44.074. As well as, the mean of individual decision after group discussion using an expert recommendation estimate is 44.629. Comparing those numbers present evidence that group discussion potentially minimizes recency bias, but not statistically significant. Whenever presenting good news followed by bad news (+++---), people tend to weigh bad news rather than good news. In this situation, the valuation based on group discussion using an expert recommendation is higher than individual decision before group discussion.

Table 4
Individual Decision Before and After Group Discussion Using An Expert Recommendation: GNBN(+++---)

	<i>Mean</i>	<i>N</i>	<i>Std. Deviation</i>	<i>Sig[#]</i>
Valuation				
Individual decision before group discussion	44.074	27	12.862	0.485
Individual decision after group discussion using an expert recommendation	44.629	27	8.7624	
Belief Revision				
Individual decision before group discussion	-7.962	27	13.101	0.317
Individual decision after group discussion using an expert recommendation	-6.851	27	9.622	

Using experiment based on price revision, the results confirm previous findings. Group discussion using an expert recommendation produces lower revision (-6.851) than individual decision before group discussion (-7.962). It means that recency bias is lower although it is not statistically significant. H2 is not supported.

Discussion

This study predicts that group discussion using an expert recommendation mitigates overvaluation when participants receive bad news followed by good news. The findings support that hypothesis. It means that stocks recommendation from brokers or analysts are useful information for investor communities. They can discuss based on that recommendation to guide their conversation and conclusion. Then, their discussion will help them to minimize recency bias.

Overvaluation is stimulated when investors considering good news rather than bad news. Overreaction to good news produces overvaluation. This study gives evidence that overvaluation can be minimized after group discussion using

an expert recommendation. This finding is important due to its power to fill the recency bias research gap. Based on our knowledge, there is lack of study related to recency bias mitigation using group discussion. Formerly, Sulistiawan (2015) use group discussion, but they show that group discussion stimulate recency without using the advisor (an expert recommendation). The discussion of noise traders does not produce good decision without an expert.

This study also predicts that group discussion using an expert recommendation mitigates undervaluation when participants receive good news followed by bad news. Overreaction to bad news produces stock price undervaluation. This experiment also examines that condition. In information order good news followed by bad news (+++---), investors still suffer recency bias. When bad news is weighted more than good news, investors tend to prefer analysis related to negative disclosures than advice from an expert. Economic downturn makes investors shift their attention from an expert recommendation to its bad news. Swanson et al (2003), Bernard and Stober (1998) and Hartono and Sulistiawan (2015) implicitly support that idea.

From the perspective of human behavior, this study produces different results from different order. Even more, there is an asymmetry reaction of good news and bad news. Facing bad news investors react more negative than good news (Conrad et al., 2002). Finally, this idea is also supported by prospect theory.

CONCLUSIONS AND LIMITATION

Using experimental design, this research investigates the role of an expert recommendation in group discussion to minimize recency bias in investing decision. In brief, this study proves that group discussion using an expert recommendation is useful means to minimize recency bias.

There are several implications of this study. The first, this study improves the use of group discussion in recency bias by providing an expert recommendation as an important feature. This contributes to the methodology of recency bias studies. The second, individual investors could use investor communities, but they have to choose investors communities that provide an expert.

This study can be developed. Using the context of individual investors who use information that they receive and they discuss that information with their community, this study uses within-subject test. Subsequently, the test using between-subject analysis is needed to improve this study although investors usually process their information individually and they discuss based on that information.

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