Problem 1

(a). Consider the Glosten-Milgrom model. Often we assume that the liquidity traders are pure noise traders, that is, that they are price insensitive. What is the effect of this on the spread, compared to the situation where liquidity traders are price sensitive? Furthermore, discuss the possibility of market breakdown (in the sense that no zero-profit bid and ask prices exist) when liquidity traders are price sensitive/insensitive. Can a breakdown occur in both cases?

Solution: Suppose liquidity traders are price sensitive. First, if we construct otherwise identical trading models in which there is the same number (mass) of liquidity traders, they will trade less when they are price sensitive than when they are price insensitive. Therefore, there will be more adverse selection at any given price and thus a higher spread. Second, if the liquidity trading is sufficiently more price sensitive than the speculative trading, then an equilibrium may not exist. Exercise 6 of chapter 3 deals with this situation.

To see why this happens, consider the ask side of the market. When liquidity traders are price insensitive, then increasing the ask price a does not affect liquidity trading, but lowers the probability of speculation. Therefore, setting the ask price high enough will eventually all but crowd out speculation, but not affect liquidity trading. Therefore, the expected value of the asset $\mathbb{E}[v|a, \text{buy}]$ will revert toward the prior μ. If the problem is 'continuous' then at some point the ask price and the expected value will cross each other such that $\mathbb{E}[v|a, \text{buy}] = a$, and there is an equilibrium.

On the other hand, when liquidity traders are price sensitive, the aforementioned reasoning is not valid. Now, the probability of a liquidity trader also decreases as the ask price increases, and therefore, it is possible that $\mathbb{E}[v|a, \text{buy}] > a$ always, since the expectation can increase faster than a if liquidity traders leave the market sufficiently fast as a increases.

(b). In the article by Kondor (lecture 12), we saw that second-order beliefs can be important in generating trade. Explain why in the Kyle model, for the market maker, there is no difference between the first-order beliefs (what the market maker believes about v) and second-order beliefs (what the market maker believes the traders believe about v).

> **Solution:** In the Kyle model, traders have more information than market makers, and therefore first- and second-order beliefs are the same. What the market maker believes the traders to believe about v is also the market maker's own best guess about v. On the other hand, in the Kondor article the different trader types have different information, and therefore they can entertain first and second order beliefs that are not the same.

(c). In the model by Abreu and Brunnermeier, it is possible to have a situation in which everybody knows that there is a bubble, and everybody knows that everybody knows, but still, the bubble persists.

(i). Explain why that is impossible in the standard Glosten-Milgrom framework we have considered.

(ii). Do you find the Glosten-Milgrom or the Abreu-Brunnermeier model more realistic? Explain your answer.

> **Solution:** In the Glosten-Milgrom model, there is no resale, and therefore no incentive to speculate. Thus, traders will never sustain a bubble by not selling if they think that the asset is overvalued. Nor is it possible that market makers believe there to be a bubble without adjusting prices. Furthermore, since market makers have no information of their own, it also holds that if they think that the traders believe there is a bubble, they will also themselves believe that there is a bubble and adjust prices.
>
> Which is more realistic? Ad lib...

Problem 2

In the following we describe a model inspired by Glosten and Milgrom (1985), but add a new feature: speculators' private information now comes from a financial analyst.

Setup. There is a single asset with value $v \in \{0, 1\}$, where $\mathbb{P}(v = 1) = \mu$. The model has two periods $t = 1, 2$. All trade takes place in period $t = 1$, and in period $t = 2$ the profits are realized and v is revealed. The model has three players: a dealer, a trader and an analyst.

Dealer. The competitive (zero-profit) dealer sets ask prices a and b. Thus $a = \mathbb{E}[v|\text{buy}]$ and $b = \mathbb{E}[v|\text{sell}]$.

Trader. There is a single trader who either buys or sells one unit, or abstains. With probability $\pi \in (0, 1)$ the trader is a **speculator** who trades for profit. The speculator's payoff if he buys is $u_B(v) = v - a$ and his profit if he sells is $u_S(v) = b - v$. If he abstains, his profits are zero. With probability $1 - \pi$ the trader is a **noise trader**, who buys or sells with equal probability.

Analyst. In period $t = 1$, the analyst privately observes a signal $s \in \{0, 1, n\}$. The signal $s = n$ can be interpreted as 'no signal'. The probability of not getting a signal is $\mathbb{P}(s = n) = 1 - \phi$. However, conditional on getting a signal, the probability that the signal is correct is 1.[1] The analyst prepares a report $r \in \{0, 1, n\}$. The report $r = n$ can be interpreted as 'no report'. The report r is observed by the trader but *not* the dealer. Thus, r is private information to the trader.

The analyst gets a payoff of 1 if he issues a correct report, a payoff of -1 if he issues a wrong report, and a payoff of f if he issues no report. Think of f as a fee that accrues to the analyst independently of what he does. Suppose $f \in (0, 1)$.

The analyst's payoffs can thus be written as

$$U(r, v) = \begin{cases} 1 \text{ if } r \neq n \text{ and } r = v; \\ -1 \text{ if } r \neq n \text{ and } r \neq v; \\ f \text{ if } r = n. \end{cases}$$

[1] That is to say: $\mathbb{P}(v = 1|s = 1) = \mathbb{P}(v = 0|s = 0) = 1$.

His expected payoffs are then

$$U(r|s) = \begin{cases} \mathbb{E}[\mathbb{I}(r = v) - \mathbb{I}(r \neq v)|s] & \text{if } r \neq n; \\ f & \text{if } r = n, \end{cases}$$

where $\mathbb{I}(\cdot)$ is the indicator function.

Equilibrium. We will look for an equilibrium in which: the trader chooses his trade to maximize his payoff given a, b, r, and the analyst's strategy; the analyst chooses r to maximize his payoff given a, b, s, and the trader's strategy.

(a). Suppose first that the analyst is truthful, in the sense that he chooses the report $r = s$. Suppose $a \in (\mu, 1)$. Find the trader's optimal strategy, and show that conditional on this strategy:

$$\mathbb{P}(v = 1|a, \text{buy}) = \frac{\mu(1 + \pi(2\phi - 1))}{\mu(1 + \pi(2\phi - 1)) + (1 - \mu)(1 - \pi)} \equiv p_B.$$

Hint: It is useful to consider three cases: $r = 1$, $r = 0$, and $r = n$.

Solution: We consider the three cases in turn.

(i) $r = 1$. Given the analyst is truthful, $r = 1$ implies $s = 1$ and therefore $v = 1$. Thus, the trader will buy if $u_B(1) \geq 0$ which is equivalent to $1 \geq a$. Given $a \in (\mu, 1)$, this inequality is always satisfied. Hence,

$$\mathbb{P}(\text{buy}|r = 1) = 1.$$

Notice that conditional on $v = 1$, $r = 1$ with probability ϕ. Conditional on $v = 0$, $r = 1$ with zero probability.

(ii) $r = 0$. Given the analyst is truthful, $r = 0$ implies $s = 0$ and therefore $v = 0$. Thus, the trader will buy if $u_B(0) \geq 0$ which is equivalent to $0 \geq a$. Given $a \in (\mu, 1)$, this inequality is never satisfied. Hence,

$$\mathbb{P}(\text{buy}|r = 0) = 0.$$

(iii) $r = n$. Given the analyst is truthful, $r = n$ implies $s = n$. Thus, the trader will buy if $\mathbb{E}[u_B(v)] = u_B(\mu) \geq 0$ which is equivalent to $\mu \geq a$. Given $a \in (\mu, 1)$, this inequality is never satisfied. Hence,

$$\mathbb{P}(\text{buy}|r = n) = 0.$$

Use Bayes' Rule to calculate beliefs about v conditional on a buy order.

$$\begin{aligned}
\mathbb{P}(v = 1|\text{buy}) &= \frac{\mathbb{P}(v = 1)\mathbb{P}(\text{buy}|v = 1)}{\mathbb{P}(\text{buy})} \\
&= \frac{\mu[\pi\phi(1) + (1-\pi)\frac{1}{2}]}{\mu[\pi\phi(1) + (1-\pi)\frac{1}{2}] + (1-\mu)(1-\pi)\frac{1}{2}} \\
&= \frac{\mu(1 + \pi(2\phi - 1))}{\mu(1 + \pi(2\phi - 1)) + (1-\mu)(1-\pi)}.
\end{aligned}$$

(b). Find a using your answer to (a). Check that $a \in (\mu, 1)$ to show that you have found an equilibrium for the trader (recall that we have fixed the analyst's strategy).

Solution: Notice that $a = \mathbb{E}[v|\text{buy}] = \mathbb{P}(v = 1|\text{buy}) = p_B$. Thus,

$$a = \frac{\mu(1 + \pi(2\phi - 1))}{\mu(1 + \pi(2\phi - 1)) + (1-\mu)(1-\pi)}.$$

It is clear from this expression that $a < 1$. Furthermore, we can rewrite a as $\mu \cdot \frac{1-\pi+2\pi\phi}{\mu(1-\pi+2\pi\phi))+(1-\mu)(1-\pi)}$. Since the fraction is greater than 1, $a > \mu$. Thus, $a \in (\mu, 1)$, and therefore our initial assumption holds. Hence, this is an equilibrium.

(c). Now suppose the analyst is strategic, such that he maximizes his expected payoff $U(r|s)$. Argue that he will always send the report $r = s$ if $s \neq n$. Suppose then $s = n$, and argue that there exist $\overline{x}$ and $\underline{x}$, such that whenever $\mu > \overline{x}$ the analyst will send the report $r = 1$, whenever $\mu < \underline{x}$ the analyst will send the report $r = 0$, and whenever $\underline{x} \leq \mu \leq \overline{x}$, the analyst will send the report $r = n$. Find $\underline{x}$ and $\overline{x}$. What is the intuition for this result?

Solution: Notice:

$$\begin{aligned}
U(r|s=1) &= \mathbb{I}(r \neq n) \cdot [\mathbb{I}(r=1) - \mathbb{I}(r \neq 1)] + \mathbb{I}(r=n) \cdot f; \\
U(r|s=0) &= \mathbb{I}(r \neq n) \cdot [\mathbb{I}(r=0) - \mathbb{I}(r \neq 0)] + \mathbb{I}(r=n) \cdot f; \\
U(r|s=n) &= \mathbb{I}(r \neq n) \cdot \mathbb{E}[\mathbb{I}(r=v) - \mathbb{I}(r \neq v)|s=n] + \mathbb{I}(r=n) \cdot f \\
&= \mathbb{I}(r \neq n) \cdot [\mathbb{I}(r=1) - \mathbb{I}(r=0)](2\mu - 1) + \mathbb{I}(r=n) \cdot f.
\end{aligned}$$

Clearly, for $s = 1$ the report $r = 1$ maximizes expected payoff, and for $s = 0$ the report $r = 0$ maximizes expected payoff. For $s = n$, the analyst prefers $r = 1$ over $r = n$ for $2\mu - 1 > f$, which is to say $\mu > \frac{1+f}{2} \equiv \overline{x}$. Since $f > 0$, $2\mu - 1 > f$ also implies $2\mu - 1 > 1 - 2\mu$, and therefore the analyst prefers $r = 1$ over $r = 0$. Similarly, he prefers $r = 0$ over $r = n$ if $1 - 2\mu > f$, which is to say $\mu < \frac{1-f}{2} \equiv \underline{x}$. A parallel argument to that above establishes that he also prefers $r = 0$ to $r = 1$ in this case.

The analyst is willing to 'gamble' whenever he has no information from his signal ($s = n$) but the prior (μ) points towards either $v = 0$ or $v = 1$. If μ is too close to $1/2$, however, he prefers just getting his fee.

(d). Suppose the analyst follows the optimal strategy you found in the previous question. Given this strategy, find $\mathbb{P}(v = 1|r = 1)$ as a function of μ.

Solution: Given the strategy found as the solution of the previous question, the following holds. When $\mu \leq \overline{x}$, $r = 1$ only if $s = 1$. When $\mu > \overline{x}$, $r = 1$ if either $s = 1$ or $s = n$, and Bayes' Rule gives us $\mathbb{P}(v = 1|r = 1) = \frac{\mu(\phi+(1-\phi))}{\mu(\phi+(1-\phi))+(1-\mu)(1-\phi)} = \frac{\mu}{1-\phi(1-\mu)}$. Thus,

$$\mathbb{P}(v=1|r=1) = \begin{cases} 1 & \text{if } \mu \leq \overline{x}; \\ \dfrac{\mu}{1-\phi(1-\mu)} & \text{if } \mu > \overline{x}. \end{cases}$$

(e). Suppose again the analyst follows the optimal strategy you found in (c). Find the optimal strategy of the speculator. Use this to find the equilibrium values of $\mathbb{P}(v = 1|a, \text{buy})$ and a.

Solution: Suppose $\mu \leq \overline{x}$. Assume $a \in (\mu, 1)$. Then speculators will buy conditional on $r = 1$ and not otherwise. Thus,

$$a = \mathbb{P}(v = 1|a, \text{buy}, \mu \leq \overline{x}) = \frac{\mu[\pi\phi + (1-\pi)\frac{1}{2}]}{\mu[\pi\phi + (1-\pi)\frac{1}{2}] + (1-\mu)(1-\pi)\frac{1}{2}} = p_B.$$

This satisfies that $1 > a > \mu$.

Suppose now $\mu > \overline{x}$. Assume $a \in (\mu, \frac{\mu}{1-\phi(1-\mu)})$. Then speculators will buy conditional on $r = 1$ and not otherwise. However, now $r = 1$ will be emitted whenever $s = 1$ or $s = n$. Thus,

$$\begin{aligned}
a' &= \mathbb{P}(v = 1|a, \text{buy}, \mu > \overline{x}) \\
&= \frac{\mu[\pi\phi + \pi(1-\phi) + (1-\pi)\frac{1}{2}]}{\mu[\pi\phi + \pi(1-\phi) + (1-\pi)\frac{1}{2}] + (1-\mu)[\pi(1-\phi) + (1-\pi)\frac{1}{2}]} \\
&= \frac{\mu[2\pi + (1-\pi)]}{\mu[2\pi + (1-\pi)] + (1-\mu)[2\pi(1-\phi) + (1-\pi)]} \\
&= \frac{\mu(1+\pi)}{\mu(1+\pi) + (1-\mu)(1+\pi-2\pi\phi)}
\end{aligned}$$

Rewrite a as $\mu \cdot \frac{1+\pi}{\mu(1+\pi)+(1-\mu)(1+\pi-2\pi\phi)}$. Since the fraction is greater than 1, $a' > \mu$ as assumed. Notice that

$$\mu\frac{1+\pi}{\mu(1+\pi) + (1-\mu)(1+\pi-2\pi\phi)} = \frac{\mu}{1 - \frac{2\pi}{1+\pi}\phi(1-\mu)} < \frac{\mu}{1-\phi(1-\mu)}.$$

Hence, $a' < \frac{\mu}{1-\phi(1-\mu)}$, giving us the second part of our assumption. The prices found are thus equilibrium prices.

(f). Draw the ask price you found in the previous question as a function of μ. How does it compare to the price you found in (b)? Discuss.

Solution: The ask price is now given by

$$a(\mu) = \begin{cases} a \text{ if } \mu \le \overline{x}; \\ a' \text{ if } \mu > \overline{x}. \end{cases}$$

Hence, the ask price coincides with the ask price of part (b) whenever $\mu \le \overline{x}$, since this is the condition for which the strategic analyst is honest. For $\mu > \overline{x}$, the ask price differs in the two cases.

Notice $a(\cdot)$ is non-monotone in μ at $\overline{x}$. To see this, write a' as

$$a' = wa + (1-w)\mu,$$

where $w = \mathbb{P}(s = 1 | s \in \{n, 1\})$. Thus, $a' < a$.

It follows that at $\mu = \overline{x}$, there will be a drop in the ask price, since the analyst starts garbling more noise into his signal for $\mu > \overline{x}$.

(g). Now, suppose that the analyst's signal s is not perfectly revealing, such that $\mathbb{P}(v = 1|s = 1) = \mathbb{P}(v = 0|s = 0) = \psi \in (1/2, 1)$. Show that there are $\mu \in (0, 1)$ such that $a = \mu$. Discuss.

Hint: Try to look at extreme values of μ.

Solution: Now, let $\mu^+ = \frac{\mu\psi}{\mu\psi + (1-\mu)(1-\psi)}$ and $\mu^- = \frac{\mu(1-\psi)}{\mu(1-\psi)+(1-\mu)\psi}$. Then

$$\begin{aligned} U(r|s = 1) &= \mathbb{I}(r \neq n) \cdot [\mathbb{I}(r = 1) - \mathbb{I}(r = 0)] \cdot (2\mu^+ - 1) + \mathbb{I}(r = n) \cdot f; \\ U(r|s = 0) &= \mathbb{I}(r \neq n) \cdot [\mathbb{I}(r = 1) - \mathbb{I}(r = 0)] \cdot (2\mu^- - 1) + \mathbb{I}(r = n) \cdot f; \\ U(r|s = n) &= \mathbb{I}(r \neq n) \cdot [\mathbb{I}(r = 1) - \mathbb{I}(r = 0)] \cdot (2\mu - 1) + \mathbb{I}(r = n) \cdot f. \end{aligned}$$

As $\mu \to 1$, then $\mu^+, \mu^- \to 1$. There will be a $\hat{x}$ such that the analyst prefers $r = 1$ over $r = n$ and $r = -1$ for all s for $\mu > \hat{x}$. Notice first that $U(1|s)$ is increasing in μ for all s. Furthermore, notice that $U(1|s = 0) = U(n|s = 0)$ implies $U(1|s) \ge U(r|s)$ for all r and s. Thus, we can identify $\hat{x}$ as the μ such that $U(1|s = 0) = U(n|s = 0) \Leftrightarrow 2\mu^- - 1 = f$. This yields $\hat{x} = \frac{\psi(1+f)}{1-f(1-2\psi)}$. Given $\psi > 1/2$, $\hat{x} \in (0, 1)$.

The reason for this results is that at some point, the prior becomes so 'strong' that it swamps the signal. In this case, the analyst's report contains no information, since he will always send the report $r = 1$. As a consequence, speculators have no private information, and only noise traders will trade for prices $a \neq \mu$ and $b \neq \mu$. Therefore, the prices must be $a = b = \mu$, and speculators may trade or not: they will have zero profits in either case.

Problem 3

On the next pages you find two articles. Both articles relate to the role of so-called *sell-side financial analysts* who work for firms that also trade stocks. The first article from *The Economist* is about sell-side analysts' long- and short-term forecasts. The second article from the *Wall Street Journal* reports the finding of a study of the recommendations of top (sell-side) analysts.

(i) Identify the main arguments of the two articles, and evaluate them using your knowledge from the course as well as any outside knowledge you find relevant. (ii) Discuss how the apparently opposing views of the two articles can be reconciled. Think about how it matters whether you take a short-term/long-term view, and whether you consider analysts who are forecasting a variable (such as company earnings) or analysts who are giving buy/sell stock recommendations to investors. (iii) What effect might sell-side analysts have on market outcomes? You may want to consider the effect on liquidity but also issues such as bubbles.

Solution: (i) Some of the main arguments of the articles are:

- Sell-side analysts need to maintain relationships with the companies they cover, both in order to get information from them to improve future forecasts, but also since the banks for which the analysts work may be engaged in business with the companies that are being evaluated.
- Since long-term forecasts are by nature difficult to do, analysts may choose to 'herd' or to commit other types of errors rather than producing an independent estimate.
- Sell-side analysts are often evaluated based on their short-term forecasts, leaving little incentive to try to be accurate in their long-term forecasts. It is argued that the long-term forecasts are therefore often too positive in order to flatter the companies.
- When it comes to short-term forecasts, it is argued that the analyst sometimes has an incentive to issue slightly pessimistic forecasts, such that the company can 'beat expectations'.
- When it comes to buy/sell recommendations, research finds that top stock analysts, defined using Institutional Investor's All-American ranking, indeed do produce better recommendations.

- However, in order to benefit from the recommendation of a top analyst, one has to act fast: acting a day after the recommendation was made did not produce the same return.

It is very possible that analysts' incentives are not always to produce the best forecasts. If this were the case, then to some extent one would expect 'bad analysts' to be weeded out when it became clear that their advice was not as good as thought. However, as the article says, investors may often take a short-term view on the analysts' advice and ignore whether their long-term projects are good. Also, if an investor has access to a top analyst's recommendations and can act fast, the research cited in the second article shows that this can indeed be used profitably. Therefore, it is possible that the analyst bias is well-known among investors, who then adjust accordingly. We have seen an example of this in exercise 2 of this exam, where an analyst, depending on the prior belief, may be 'truthful' or not. Whenever he is not truthful, this is known to the investors and dealers, and prices are adjusted accordingly. The argument that analysts may herd is reminiscent of the models of trader herding. Analysts can be subject to reputational herding and information herding just as traders can.

(ii) The two articles seemingly arrive at different conclusions. However, the first article is mostly concerned with *forecasts* and, in particular, long-term forecasts. The second article talks about *recommendations*. It seems perfectly plausible that an analyst can simultaneously make poor long-term earnings forecasts, while being closer to the mark on the short-term forecasts, and while making good buy/sell recommendations. Nothing seems to preclude this, if the analysts' incentive structures are indeed as described in the articles. It is also possible that the analyst's recommendation to some degree influence prices, and therefore the recommendations may become (at least in the short term) self-fulfilling prophecies. This is, however, not true for earnings forecasts. Thus, an influential analyst could produce bad earnings forecasts but good recommendations, simply because of the market reaction.

(iii) If the sell-side analysts' forecast are biased, such as it is suggested, then they may either create upward pressure on prices, if they are believed, or be considered as noisy signals of the analysts' true forecast, if the bias is well-known. In the former case, analysts may contribute toward creating price bubbles. In the latter case, the information of informed traders will be more noisy, and this will generally lead to better market liquidity (less adverse selection) but poorer price discovery.

In the case of the recommendations, the fact that early access is of importance seems to suggest that these work as a source of adverse selection: some investors may have privileged access to analysts' recommendations and therefore be able to act on them before the rest. Thus, the information contained in recommendations eventually becomes incorporated into prices, but in the meantime informed investors have an advantage. This will lead to adverse selection in the short term, with typically less liquidity but better price discovery.

Discounting the bull; Analyst forecasts

ProQuest document link

FULL TEXT

Stock analysts' forecasts tend to be wrong in reassuringly predictable ways

"SELL-SIDE" analysts, whose firms make money from trading and investment banking, are notoriously bullish. As one joke goes, stock analysts rated Enron as a "can't miss" until it got into trouble, at which point it was lowered to a "sure thing". Only when the company filed for bankruptcy did a few bold analysts dare to downgrade it to a "hot buy".

Economic research shows that there is some truth to the ribbing. The latest figures from FactSet, a financial-data provider, show that 49% of firms in the S&P 500 index of leading companies are currently rated as "buy", 45% are rated as "hold", and just 6% are rated as "sell". In the past year, 30% of S&P 500 companies yielded negative returns.

Profits forecasts made more than a few months ahead have a dismal record of inaccuracy. According to Morgan Stanley, a bank, forecasts for American firms' total annual earnings per share made in the first half of the year had to be revised down in 34 of the past 40 years. Studying their forecasts over time reveals a predictable pattern (see chart 1).

In theory, a diligent share analyst should do his own analysis--that is, by projecting a firm's future revenue and expenses, and discounting them to the present. Such models, however, are extremely sensitive to different assumptions of growth rates. Since no one can know the future, analysts cheat.

Three statistical sins are common. Analysts can look at comparable companies to glean reasonable profits estimates, and then work backwards from their conclusions. Or they can simply echo what their peers are saying, and follow the herd. Or, most important, they can simply ask the companies they are following what their actual earnings numbers are.

Surveys conducted by Lawrence Brown of Temple University found that two-thirds of sell-side analysts found private calls with company managements to be "very useful" in making their estimates. Analysts' need to maintain relationships with the companies they cover must colour their projections. They are judged primarily on the accuracy of their short-term forecasts, so there is little risk in issuing flattering, if unrealistic, long-term projections. In the short run, however, they have an incentive to issue ever-so-slightly pessimistic forecasts, so companies can "beat" expectations. Since the financial crisis, company profits have exceeded short-term analyst forecasts around 70% of the time.

So are forecasts are useless? Simply taking the market's earnings figures from the previous year and multiplying by 1.07 (corresponding with the stockmarket's long-run growth rate) can be expected to yield a more accurate forecast of profits more than a year in the future.

Yet the very predictability of the errors in analysts' forecasts suggests they could be informative, if they are properly interpreted. Taking forecasts of S&P 500 earnings from 1985-2015, The Economist has built a simple statistical model to try to take out the bias that taints Wall Street's prognostications. After controlling for the forecasts' lead time and whether or not they were made during a recession, we find that even our relatively crude model can improve upon the Wall Street consensus for forecasts made more than a quarter in advance (see chart 2).

Adjusting for bias in short-term forecasts is harder. It is tempting simply to accept the errors--after all, they tend to be off by just a little. Data from Bloomberg show that the 320 S&P 500 companies that beat earnings expectations in 2015 did so only by a median of 1.4%. An alternative is to look at crowdsourcing websites such as Estimize. There punters--some amateur, and some professional--are shown Wall Street consensus estimates and asked to make their own forecasts. Estimize users beat Wall Street estimates two-thirds of time.

To some extent, judging Wall Street by its ability to make accurate predictions is silly. Harrison Hong, an economist at Columbia University, reckons that stock analysts should be viewed "more like media". The latest forecasts aggregated by Thomson Reuters suggest that the S&P 500 will yield earnings per share of $130.83 in 2017 and $146.33 in 2018. According to our model, that would imply that they believe the actual numbers will be closer to $127.85 and $134.30. Share analysts want to tell the truth. They just like making it difficult.

DETAILS

Publication date:	Dec 3, 2016
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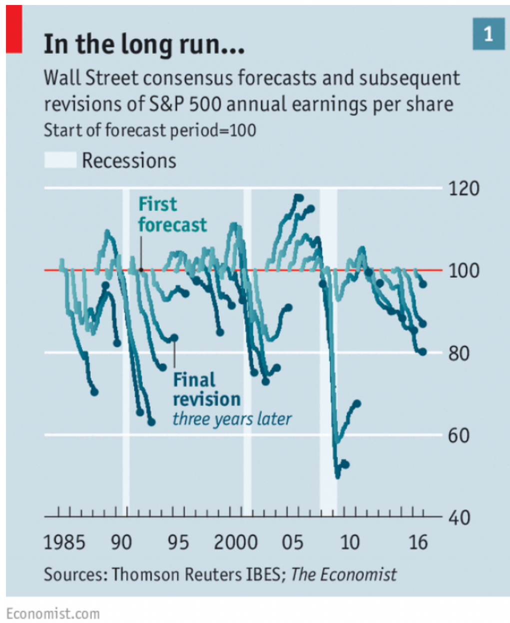

Figure 1: Chart 1 from the article "Discounting the bull; Analyst forecasts"

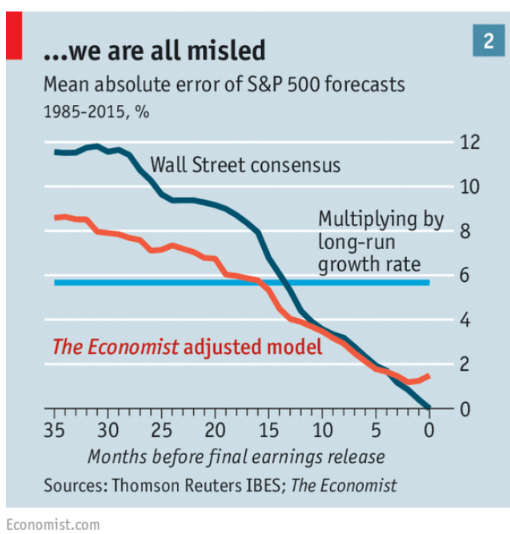

Figure 2: Chart 2 from the article "Discounting the bull; Analyst forecasts"

Investing in Funds &ETFs: A Quarterly Analysis --- Stock Tips From Star Analysts Are Worth a Lot... --- ...but only if you act very fast

Schoenberger, Chana R.

ABSTRACT

The professors, Ayako Yasuda, an associate professor of management at the University of California, Davis, Graduate School of Management, and Lily Hua Fang, an associate professor of finance at the Insead business school in Singapore, published their findings in the Journal of Financial Services Research last month.

FULL TEXT

Do annual rankings of star stock analysts predict their stock-picking abilities? Or are they often a popularity contest?

Two business-school professors have addressed this long-standing Wall Street question. Their answer: Top analysts in the annual rankings by Institutional Investor magazine really do offer more-lucrative recommendations than their peers with lower rankings.

The catch: Investors have to act immediately on "buy" recommendations to take full advantage of the difference.

The professors, Ayako Yasuda, an associate professor of management at the University of California, Davis, Graduate School of Management, and Lily Hua Fang, an associate professor of finance at the Insead business school in Singapore, published their findings in the Journal of Financial Services Research last month.

Their research was based on data from 1994 to 2009.

"We wanted to know, if you follow these [top-ranked] analysts' buy and sell recommendations, and bought and sold stocks accordingly in a timely manner, if that portfolio strategy would have a higher risk-adjusted investment return" than a portfolio based on other analysts' recommendations, Dr. Yasuda says.

The professors constructed a portfolio that mimicked the buy and sell calls of Institutional Investor's All-America analysts, who are chosen in a poll of money managers, institutional investors and analysts. Then they measured the results against those of a portfolio based on recommendations from analysts who weren't ranked the highest.

The All-Americans' recommendations, they found, produced returns that were higher by about 0.6 percentage point a month.

That advantage shrank, though, if the top analysts' buy recommendations weren't acted on right away. A portfolio that followed the star analysts' buy calls one day after they were made produced about half the extra returns of the portfolio that traded on the recommendations the day they were made.

That indicates that clients who receive top analysts' research notes when they are first issued are in a better position than investors who don't pay for rapid access to the notes and have to wait until the calls become public.

Or as Dr. Yasuda says, "Investors who have access to these AA analysts' opinions have a leg up over other investors who get the news when it's yesterday's news."

Ms. Schoenberger is a writer in New York. She can be reached at reports@wsj.com.

Credit: By Chana R. Schoenberger

DETAILS

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