Summary of: "REALIZATION UTILITY" (Authors: N. Barberis, W. Xiong)

The point of this note is to explain the ideas in the above research paper without using any mathematics or technical jargon (the original paper contains both). The intended reader is someone who is interested in economics and finance but who is not an academic researcher. I welcome your comments on the ideas below, whether you agree with them or not; and also on the write-up itself -- for example, please let me know if it is confusing, so that I can rework it.[1]

I'll start with a short summary, and then give the longer version.

SHORT SUMMARY

We study the idea that investors get a burst of pleasure when they sell an asset at a gain relative to purchase price; and, correspondingly, that they get a burst of pain when they sell an asset at a loss relative to purchase price. We show that this simple idea – an idea that has not received much attention thus far in the academic literature -- can help us make sense of many facts about the trading behavior of individual investors.

LONGER SUMMARY

In this paper, Wei Xiong and I study the idea that people might get a burst of pleasure or pain at the moment that they sell a risky asset that they own. For example, we're interested in the idea that, if you buy a stock at $20, and it goes up to $40 and you sell it, you feel a burst of pleasure *right then*, at the moment of sale; and that if you buy a stock at $20 and it falls to $10 and you sell it, you feel a burst of pain right then, at the moment of sale. We label these bursts "realization utility" because they occur when you *realize* a gain or loss. Our goal is to figure out how they might affect investor behavior.

When we tell people outside academia about this project – specifically, about the idea that people might feel a jolt of pleasure or pain at the moment that they sell an asset -- they generally react by saying: "Well, sure, that's obvious!" To the person on the street, it is self-evident that people *do* get a burst of pleasure or pain at the moment that they sell an asset, and that this does affect their behavior. Interestingly, academic economists sometimes have the opposite reaction. To them, the idea that the act of selling an asset can generate a burst of pleasure or pain that affects behavior is a radical one, and one that they are initially skeptical of.

If you're reading this, you're probably not in academia. So then you might wonder *why* academics are skeptical of realization utility. The reasoning is this. In traditional economic analysis, people are only supposed to get pleasure or pain from *consuming goods and services*. If you consume lots of goods and services, you feel good; and if you don't, you feel bad. But what determines how much you can consume? Your wealth, of course. This explains why some academics are skeptical of realization utility. The mere

[1] This is a preliminary draft. Please do not quote or cite.

act of selling some shares of stock doesn't affect your wealth; all it does is to affect the *composition* of your wealth – to transform a $1,000 position in stock X into a $1,000 position in cash, say. So given that your wealth isn't affected, your capacity to consume goods and services isn't affected either. According to this view, then, the mere act of selling a stock shouldn't be a source of pleasure or pain in itself – or at least, not one you should care about.

Nonetheless, Wei and I feel that, in reality, people really *do* seem to derive pleasure or pain from realizing a gain or loss. In our view, this stems from the way people think about their investing history. Many people don't think about their investing history purely in terms of the return they have earned on their overall portfolio; rather, they think about it as a series of investing "episodes," each one characterized by three things: the name of the asset, the purchase price, and the sale price. "I bought IBM at $80 at sold it at $120" might be one such episode. "I bought my house for $280,000 and sold it for $320,000" might be another.

In our view, this explains where realization utility comes from. If you sell an asset at a gain, you feel good because, at the moment you do so, you are creating a *positive* investing episode, one that is pleasant to look back on or to talk about. And if you sell an asset at a loss, you feel bad because, at the moment you do so, you are creating a *negative* investing episode, one that is *not* pleasant to look back or to talk about.

In this paper, then, Wei and I write down a model to see how investors will behave if their actions are affected by realization utility. What we find is that how our model *predicts* investors will behave matches up quite well with how they *actually* behave – in particular, it seems to explain a number of puzzling things that investors do.

One puzzling fact that realization utility can help explain is something called the "disposition effect." This refers to a striking feature of the way people trade, namely that they have a greater propensity to sell stocks that have gone *up* in value since purchase, than stocks that have gone down in value. (Why is this behavior puzzling? Because of something called "momentum," the tendency of stocks that have recently done well to *keep* doing well, and of stocks that have recently done poorly to *keep* doing poorly. Given that there is momentum in stock prices, the rational thing to do is to hold on to stocks that have recently done well and to get rid of stocks that have recently done poorly. But most individual investors do exactly the opposite).

According to the framework Wei and I present in this paper, the source of the disposition effect is very simple. People tend to sell stocks that have gone up in value since purchase because it feels good to do so! And they tend *not* to sell stocks that have gone down in value because it feels bad to do so. So while it feels very natural to think about your investing history in terms of episodes, and to feel good (bad) about episodes in which you sell a stock at a gain (loss), this kind of thinking hurts your performance: it leads you to sell winning stocks and to hold on to losing stocks, when the smart thing to do is exactly the opposite.

(Some economists find this explanation of the disposition effect – that people tend to sell stocks at a gain because it feels good to do so – a little too simple. We agree that it is simple – but it might also be right! Our hope is that through experimental and empirical tests, subsequent research will help us figure out whether it's the right explanation or not).

While the disposition effect is the most obvious application of our framework, it is by no means the only one. In the paper, we link realization utility to many different features of trading behavior and stock prices. For example, we link it to the fact that individual investors tend to underperform passive indices when they trade stocks for their own account; to the fact that there is more trading in rising markets than in falling markets; to the fact that individual investors are much more willing to sell a stock once it rises above its historical high; and to the fact that individual investors are often drawn to highly volatile stocks.

Our results certainly don't *prove* that realization utility is an important factor in financial markets. But, in our opinion, they do suggest that it is a concept that's worth thinking about more. We're hopeful that there's going to be more work on this topic over the next few years.

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