

OCTOBER



The Cost of Biases

Behavioral finance—the interaction between human psychology and money—has become a major component of current economic theory. Experts on behavioral finance love to study how greed and fear cause massive swings in the markets.

But behavioral finance doesn't just exist in academic theory and panicked stock crashes—it's part of everyday life. The human brain isn't a calculator and struggles to separate money from emotion. Every time we open our wallets, our financial biases and blind spots threaten to disrupt good decision-making.

Fortunately, biases become much easier to fight once we learn to recognize them. Here are a few of the most common financial biases people face:

Bandwagon Effect

One of the strongest biases, the bandwagon effect is the tendency for people to change their opinion or behavior to match that of those around them. Bandwagons often create social pressures and can push people to spend far too much "keeping up with the Joneses." Always evaluate your financial decisions on what works best for you, not what works best for others.

Familiarity Bias

Familiarity bias is when people show an irrational preference for something that they've used in the past. One common effect of this is default brand loyalty, which can hurt the efficiency of a budget or draw you into extra spending. How many times have you bought a familiar product brand even when there is evidence another option might be better or cheaper? Give something new a try.

Ego Depletion

This bias is a kind of mental lapse. Self-discipline is difficult, and our brains can only do so much of it before taking a break. If we push ourselves too much, we often react strongly in the opposite direction. Ego depletion is

what leads to shopping binges after you cut too much discretionary spending from your budget. Remember: rewarding yourself for progress is an investment in your goals.

Recent/Available Information Bias

When it comes to information, people are quick to embrace the new and forget the old. Information biases are responsible for many fads and false fears. For example, if you have two coworkers who were robbed in the past year, you may want to buy an expensive security system. Even if the thieves were caught and local crime rates are extremely low, your judgement is disproportionately affected by the information that is most recent and most available to you.

Survivorship Bias

This bias is the tendency to misinterpret a situation by focusing on the quality examples. It can be paraphrased as, "you only hear about the ones that make it big." This bias is most dangerous to entrepreneurs or investors because it causes them to underestimate difficulties and overestimate success. People should be brutally honest with themselves and consider the possibility of failure before investing their life savings in a business.

Zero-risk Bias

Humans love certainty; it eliminates risks and makes planning for the future much easier. We love it so much we're often willing to pay more for extra peace of mind, even if it doesn't make complete sense. For instance, people happily pay a lot of money for the reliability of a new car and then also buy the dealership's short-term warranty to protect it against a breakdown. We know a new car is highly unlikely to have problems for a few years, but we still feel the need for added certainty.

the market at a glance

SEPTEMBER

U.S. Large Cap
(Dow Jones Industrial Average)

16,284.70 (-1.47%) ▼

U.S. Mid/Small
(Russell 2000)

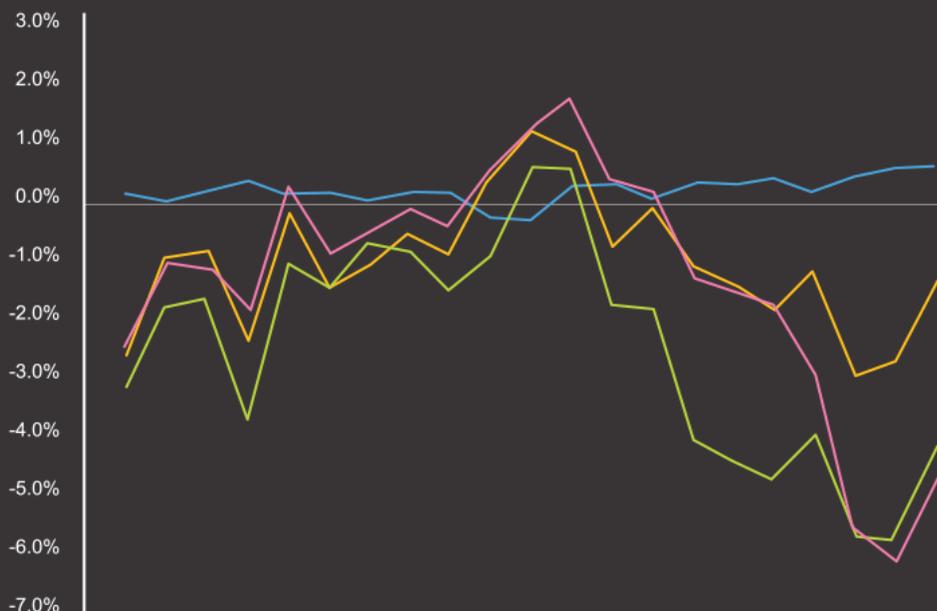
1,100.69 (-5.07%) ▼

Foreign Large
(MSCI EAFE Index Fund)

57.32 (-4.42%) ▼

Bond Market
(Barclays Aggregate Bond Fund)

109.58 (0.61%) ▲



Past performance is no guarantee of future results. Indices are unmanaged and cannot be invested into directly.

the market in action

- The U.S. Department of Labor announces that employers added 173,000 jobs in August, pushing national unemployment down to 5.1 percent—the lowest rate since April 2008. Although the August jobs number was later revised down to 136,000 in early October, the unemployment rate maintained its low.
- Japan's Nikkei Stock Average gains 1343.43 points on September 9, the largest one-day point increase for the average since 1994.
- Anheuser-Busch InBev opens discussions with SABMiller about the possibility of a corporate takeover. The conglomerates are already the two largest brewing companies in the world; the purchase, if allowed, would create a globally dominant beer company worth over \$250B.
- After failing to handle last year's holiday shipping rush, United Parcel Service Inc. (UPS) announces plans to hire up to 95,000 temporary workers to support package delivery during the 2015 holiday season.
- Hewlett-Packard Co. states it may cut as many as 33,000 jobs over the next few years as it works to restructure as two separate business entities.
- Volkswagen AG becomes the center of a criminal investigation when it is discovered thousands of its U.S. vehicles have computer systems that actively cheat on emissions tests. If found guilty of misconduct, the Environmental Protection Agency could levy a penalty of up to \$18B against the German automaker.
- Caterpillar Inc. makes drastic cuts to its 2015 revenue forecast and says it plans to terminate as many as 10,000 jobs by 2018.
- Energy Transfer Equity, LP (ETE) announces plans to buy fellow energy pipeline operator Williams Companies Inc. for \$37.7B. Williams had previously refused a June merger proposal from ETE for \$53B, suggesting that weakness in the energy sector has softened business prospects.



The Flu's Free Market

As the leaves turn and the weather gets colder, America braces itself once again: **flu season is coming.**

Illness, in all its form, is expensive. Most research puts American spending on medical care at over \$3 trillion annually. While the flu is estimated to be only responsible for a little over \$10 billion that amount, it still means that the average flu victim (5-20 percent of the U.S. population annually) will spend somewhere between \$150 and \$625 on treating the virus.

However, the cost of influenza goes beyond just medical costs. A 2012 research paper in the *International Journal of Health Geographics* estimates that lost business productivity from seasonal influenza is around \$20 billion—double the size of its medical costs. This estimate is conservative compared to many others; the Center for Disease Control (CDC), for example, references an estimate of \$83 billion for the total annual economic cost of influenza.

Reaching an Efficient Solution

To limit the impact of seasonal illness, medical companies began producing flu shots that vaccinated people against common strains of influenza. Unfortunately, these vaccines only protect against a few of the influenza strains that are common that season. Since influenza mutates rapidly, it is necessary to receive updated vaccines each year to maintain the highest level of protection.

If we assume each dose of flu vaccine costs \$30 and is 100 percent effective, Americans would need to spend a \$9.6 billion to vaccinate the entire population. That means national inoculation is less than the flu's \$10 billion annual medical costs and much less than its total annual economic costs.

So why doesn't everyone just get a flu shot?

Like any commodity, vaccines follow the rules of market efficiency. Demand is created by individuals weighing

values and acting in their own best interest. Those with higher risks are more likely to pay for vaccination (assuming they are medically able to receive a flu shot), while those with very low risk of infection will opt out.

In the case of an influenza, "risk" combines both the odds of being infected and the dangers of being ill. For instance young, healthy adults have extremely low risk: they resist infection well and generally recover quickly. On the opposite end of spectrum, children and the elderly tend to have high risk because they are more easily infected and have a greater chance of developing life-threatening pneumonia while ill. For some people, like doctors and nurses, risk is mixed: the dangers of the flu are low but the likelihood of being infected is extremely high.

For communicable sickness, risk is also dependent on the behavior of others. If everyone a person knows is vaccinated, their risk of infection decreases and it's an easy choice to save \$30 and avoid a sharp poke. However, if no one got the vaccine, the rate of exposure and infection would climb exponentially and a vaccine would become more valuable. In either case, the number of total purchased vaccinations would theoretically increase or decrease until it finds an efficient rate.

According to the CDC, the 2014-15 rate of flu vaccination was around 45 percent. Whether this rate is truly "efficient" is unclear, but their demographic data does show a strong correlation with risk. The highest rate of vaccination was among doctors and nurses (80+ percent), with the next highest groups being children under 12 and adults over 65 (both 60+ percent). Not surprisingly, the least vaccinated group were people ages 18-49 (33 percent).

Economists are unclear whether there is a "best" strategy for vaccinating the public exists. It's incredibly difficult to predict and map the behavior of viruses... or people who really, really hate needles.



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