# It’s Risky, But We Are Continuing Our Investment in Ford

Behavioral biases likely play a part, but we think we have a good chance for success

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## Key Takeaways

- **IOI’s Effective Buy Price for Ford has been reduced thanks to dividend payments, but we are still suffering an unrealized loss on our position.**
- **While we no longer think Ford is a good investment, we also think that the present environment is too bearish and hesitate to sell while most investors are panicking.**
- **We will use a “Bond Replacement” strategy to further reduce our Effective Buy Price and hopefully avoid realizing a loss in this position and discuss how to implement this strategy correctly.**
- **Our desire to keep the position open and attempt to minimize realized losses probably has its roots in a common behavioral bias which we discuss as well.**

## Introduction

We dropped our fair value estimate range for Ford in an earlier report but still hold a small position in the shares. In a case like this, when an investor realizes that an investment is no longer desirable, what is the best way of “unwinding” that investment?

This report reviews our results from this investment and discusses our reasons for believing that we may yet be able to snatch victory from the jaws of defeat in this case. In short, we believe that the present environment of fear is overblown and are hesitant to sell when everyone else is selling and we also see enough to like in Ford’s results to think that the firm’s value will end up at the high end of our estimated range.

We look at an option strategy to further lower our Effective Buy Price and discuss an important rule for implementing this strategy to “repair” a stock investment. We also discuss how behavioral factors may be influencing our decision to extend the life of what we now consider to be a “busted” investment.

We believe that this presents a terrific case study for people who have participated in IOI training sessions as it incorporates lessons into the three pillars of Intelligent Option Investing: behavioral and structural influences, valuation, and option strategies.

# Investment Strategy

Our original investment was based on the valuation we published in April 2014. The stock was trading at $16 at that time, and we estimated a valuation range with a minimum of $6, a maximum of $37, and a most likely value of $25. At that time, the option market foresaw a future price range of around $11 to around $25. Our original valuation is detailed in this article. Our recent reassessment of Ford's valuation is detailed in this article.

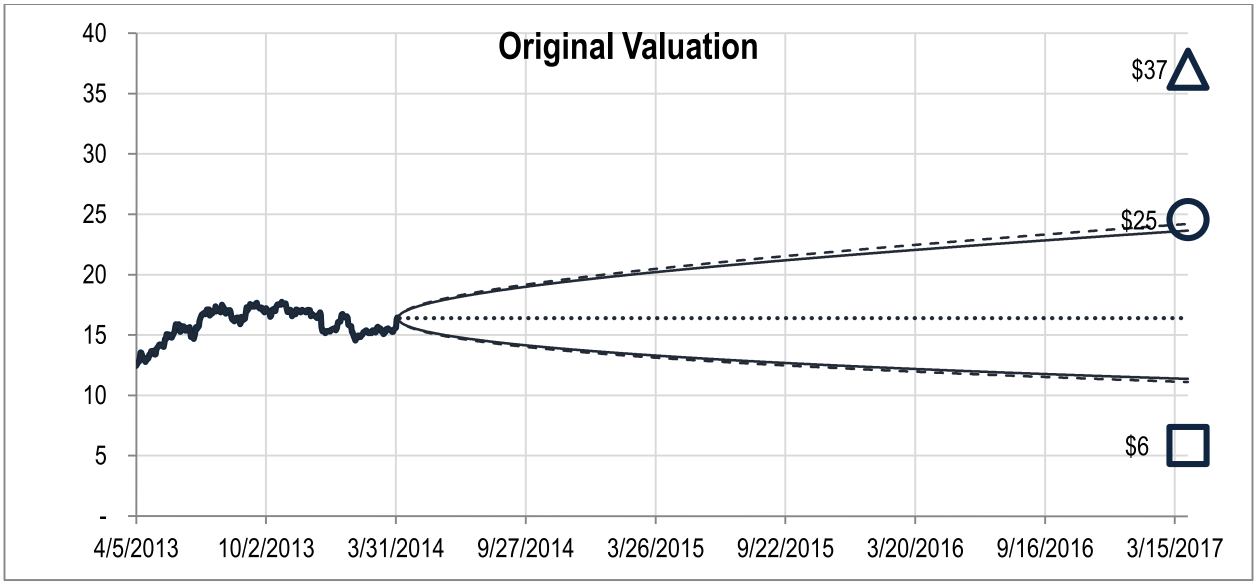


*Figure 1. Source: YCharts, CBOE (data), IOI Analysis (valuation range). IOI's valuation range is marked by the triangle, circle and square. The option market's forecast of Ford's future price is represented by the cone-shaped range.*

## Original Investment Strategy

In our 2014 commentary regarding the Ford investment, we noted several factors informing our asset allocation decision:

1. Demand for the company's products had weakened as a result of structural factors.
2. The firm was taking what we thought were reasonable steps to improve its profitability and profitability improvement was the key rationale behind our investment.
3. A high degree of valuation uncertainty combined with Ford's significant operational and financial leverage made us wary of adding option-based investment leverage

**In considering this investment we looked at our best- and worst-case valuations, Ford's operational and financial leverage, and our time horizon for this investment.**

Because the best-case valuation was so much higher than the market price of the stock, we were tempted to make an investment. However, because the worst-case valuation was so much lower than the market price we were hesitant to allocate much capital to the idea. In addition, we were cautious layering investment leverage on top of Ford's significant operational and financial leverage and also believed that the investment idea might take some time to work. Taking these factors into consideration, we ended up making a small, unlevered position in the underlying stock, rather than a position in the options.

Our position was initiated at an average price of just $16.00 per share and represented 1.6% allocation of the portfolio. Since initiating the position, we have received $1.375 per share worth of dividends, generating an effective buy price (EBP) of $14.625 / share.

Ford's closing price on Friday, February 12 was $11.55. This price represents an unrealized loss of 21.0% on a 1.6% allocation – a 0.3% performance headwind on the portfolio since initiation.

While upset about making this valuation mistake, we are at least happy that the logic we used in sizing this investment was sound, so that we allocated only a small proportion of our portfolio to this investment. One cannot be right 100% of the time, but the mark of a successful investor is one who is able to allocate relatively less to investments that end up as losing ones and relatively more to successful ones.

## Present Situation

As outlined in our note dated February 9, our present fair value range for Ford has a minimum value of $5, a maximum of $17, and a most likely value of $11 per share. With the recent market volatility, the option market foresees a future price range of around $7 to just under $20.

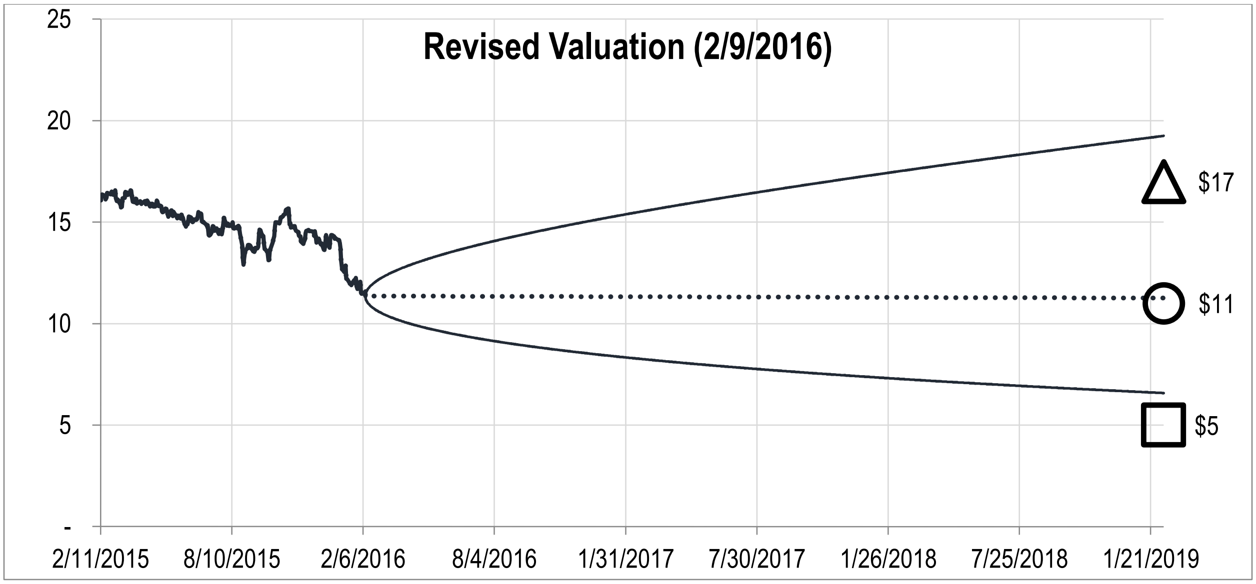


*Figure 2. Source: YCharts, CBOE (data), IOI Analysis (valuation range)*

Because there is not a significant discrepancy between our estimated fair value range and the option market's projected price range, we would not consider Ford an attractive investment, and would not invest in the company. If we would be unwilling to make a new investment at this price level, we should be unwilling to continue to hold the stock at this level. By this logic, we should sell the shares.

However, we are reluctant to realize a loss at this level for two reasons: 1) what we perceive as an environment of irrational fear in the market and 2) Ford's performance versus our operational expectations. We will discuss these factors in this section, and touch on a behavioral bias that may also be influencing our decision to hold the shares in the section entitled Behavioral Factors.

### Environment of Fear

Over the past six months, global markets have sold off in response to various factors which may or may not be material to valuations. We have written on this topic elsewhere, so will not go into detail about each of these factors, but they include issues such as:

- Slowing growth in China
- Weak oil prices
- Geopolitical uncertainty in the Middle East
- Refugee crisis in Europe and related to Middle Eastern problems
- High levels of debt in the developed world
- The moral hazard of Quantitative Easing and other loose monetary policy

All of these issues do have the potential to affect economics for global firms, and if weak oil prices lead to firing of oil workers in the U.S., we may see weakened consumer demand domestically as well. However, considering what appears to be a slightly improving employment picture here in the U.S. leading to slightly improved spending, we believe the risk of a global recession is presently overblown. If employment continues to firm and demand improves, companies are likely to respond by increasing capital spending to meet the increased demand. This would lead to what Soros calls a virtuous cycle where companies expand production to meet demand and wages inflate, creating yet more demand.

Recent data – employment numbers, numbers of workers quitting, car and truck sales, and household formation – looks as though this positive economic cycle may be starting.

Selling into an environment of fear while observing what looks like gradually improving economic conditions is the antithesis of the principles of intelligent option investing. As such, while a rational response to our new valuation assessment would be to sell our shares of Ford, we are reluctant to do so.

## Ford's Operational Performance

As mentioned in our February 10 report, Ford has been performing well on the one critical driver whose improvement we had originally identified as the impetus for our investment in the company – profitability.

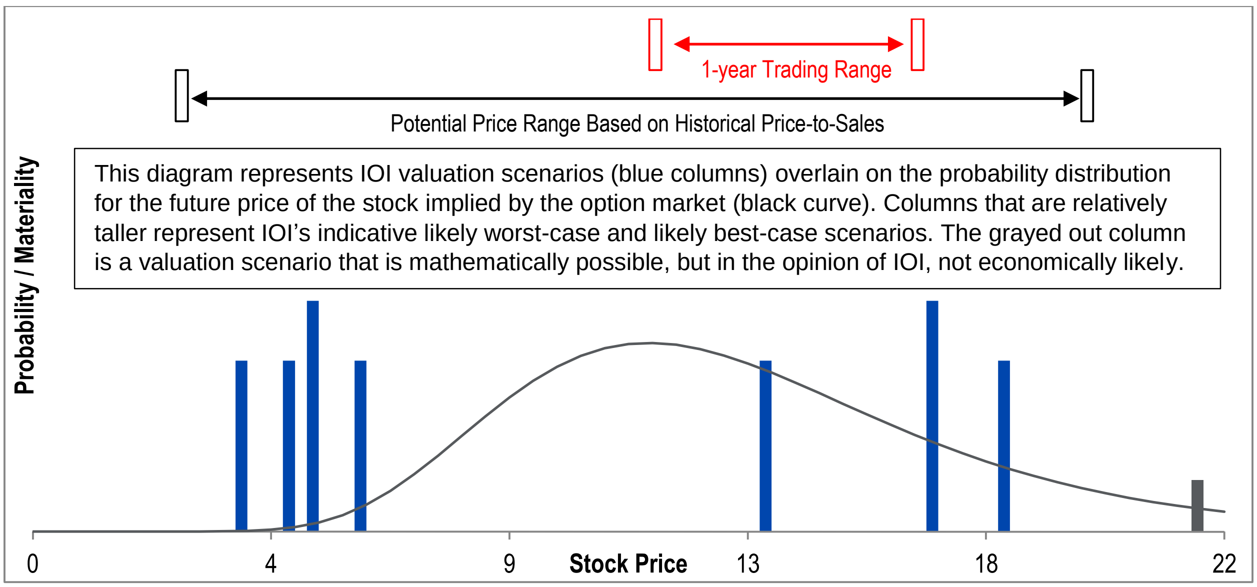


*Figure 3. Source: CBOE (data), IOI Analysis (valuation scenarios)*

| | Case / Scenario | Value |
|---|---|---|
| | PSR Implied Low | 3 |
| | -2% \| 2% \| 0% | 4 |
| | 3% \| 2% \| 0% | 5 |
| * | -2% \| 2% \| 8% | 5 |
| | 3% \| 2% \| 8% | 6 |
| | 252-day Low | 11 |
| | -2% \| 7% \| 0% | 14 |
| | 252-day High | 17 |
| * | 3% \| 7% \| 0% | 17 |
| | -2% \| 7% \| 8% | 18 |
| | PSR Implied High | 20 |
| | 3% \| 7% \| 8% | 22 |

Scenarios in the table on the left correspond to columns above. Our scenarios are based on short-term revenue growth, short-term profit margin, and medium-term cash flow growth. For example, "-2% | 2% | 0%" means average revenue fall of 2% per year and average OCP margin of 2% for years 1-5, followed by FCFO growth of 0% for years 6-10. This valuation scenario is associated with a valuation of $4.

# Investment Strategy

As noted in our earlier note, each of the higher value scenarios are associated with high profit margins at Ford, and Ford has indeed performed extremely well in terms of profitability. We ae still not confident enough that Ford can retain this higher level of profitability in a lower demand environment, so we are hesitant to change our assessments regarding likelihood of various scenarios, but subjectively, it seems as though the firm may be able to perform relatively well in terms of profitability.

If we are right about the likelihood of the higher valuation scenarios, selling at this level would mean we would potentially realize a loss on an investment on which, if held longer, we would be able to realize a gain.

Considering these two points, we have decided to retain the position on a speculative basis, but alter it using options with the hope that we can turn what would otherwise be a realized loss into basically a break-even position. There are several behavioral biases that are likely influencing our decision in this case – we discuss those in the last section of this report.

## New Investment Strategy

**We are using a "Bond Replacement" style strategy to extend our position in Ford and better our financial position.**

At a high level, our strategy will revolve around attempting to decrease our effective buy price by selling call options against our stock position until the point at which we do not have to realize a loss on the position.

A common mistake of investors attempting to use covered calls to "repair" a stock position is that they pick a strike price for the covered call that is below their EBP. Selling a call is a promise to sell a stock at the strike price. If the price at which you promise to sell your stock is lower than the price at which you bought and the stock is called away, you have bought high and sold low – locking in a loss.

Our present EBP is $14.625 / share, so we must design our option position such that our strike price is above this level. Looking at option pricing for Ford last week, we found the following options:

F

| Call | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Last | Change | Bid | Ask | DivAmt | Dividend Date | Impl. Bid Vol. | Impl. Ask Vol. | Delta | Days | Description |
| 0.03 | 0.00 | 0.02 | 0.04 | | | 32.331% | 36.724% | 0.0389 | 65 | APR 15 '16 14.75 |
| c0.06 | | 0.04 | 0.07 | 0.15 | APR 28 '16 | 30.946% | 34.812% | 0.0679 | 100 | MAY 20 '16 14.75 |
| 0.10 | +0.01 | 0.08 | 0.09 | 0.15 | APR 28 '16 | 31.853% | 32.854% | 0.0902 | 128 | JUN 17 '16 14.75 |
| c0.16 | | 0.14 | 0.17 | 0.15 | APR 28 '16 | 29.107% | 30.837% | 0.1394 | 219 | SEP 16 '16 14.75 |

*Figure 4. Source: Interactive Brokers (prices taken during market hours on 2/10/2016)*

As we discuss in IOI training courses, it is usually preferable to sell at-the-money (ATM) options. However, because Ford's present stock price is so far from our EBP, we will not be able to. Our only choice if we are to avoid locking in a loss, is to sell an OTM option, which is a relatively inefficient strategy as evidenced by the very low bid prices for the options listed above.

Another suggestion from the IOI training courses is to sell relatively short-tenor options, but because we are looking at options so far OTM, shorter tenor options (such as the one expiring on April 15 above) pay so little that there is really no point in selling them.

We see that the option expiring on September 16, 2016 is bid at $0.14 per share and also notice that there is a scheduled dividend payment of $0.15 on April 28, 2016. We should also expect another dividend payment in July, so if we sell the September call option and hold the stock through expiration, we should receive an additional ($0.14 + $0.15 + $0.15 =) $0.44, and thus will be able to reduce our EBP to ($14.625 - $0.44 =) $14.185. If the stock is called away at that time, we will be able to generate a very small profit equaling the difference between our EBP ($14.185) and the strike price ($14.75). If the stock is not called away, we can again assess pricing in the market at the time of expiration and make a similar calculation to the one we have made here.

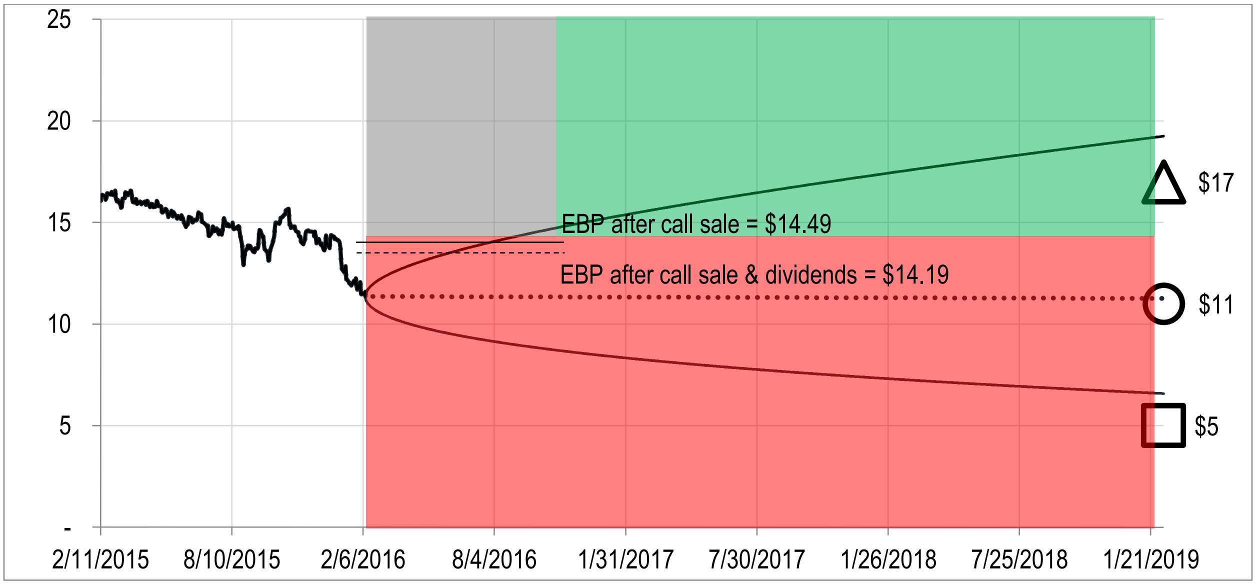


*Figure 5. Source: YCharts, CBOE (data), IOI Analysis. Figure displays the risk-return profile of a covered call on Ford.*

# Decision-Making Process

Investing well means consistently making good decisions – decisions about what and when to buy and sell and how much capital to allocate to a chosen investment.

Behavioral biases affect the way we make decisions, so their influence on investing cannot be overstated. The first step in overcoming biases is being able to recognize them and acknowledging their influence in the decision-making process. This topic is so important that we spend the better part of a day discussing how to recognize them in the IOI 101 course.

## Behavioral Biases in Ford Decision

In thinking through our investment strategy for Ford, we recognized several biases that are likely influencing our decision to leave this position open, both of which relate to peculiarities with the way that humans perceive of risk. This subject was first introduced by Nobel Prize winners Daniel Kahneman and Amos Tversky in a paper entitled Prospect Theory.

**People become more risk seeking when they are facing a losing position.**

The key finding of Prospect Theory is that investors are never rational when it comes to risk. When people are losing, they become more risk seeking; when they are winning, they become more risk averse.

In the case of Ford, we are suffering an unrealized loss. Rather than closing the position and realizing that loss, we have decided to keep the position open – keeping our capital at risk. This is precisely the choice Prospect Theory predicts we would make in this case.

We believe that our reasoning is sound for keeping the position open, but we acknowledge that this quirk in risk assessment may be affecting us.

**People tend to gain disproportionate satisfaction from making little bets.**

Another key finding of Prospect Theory is that people get relatively greater satisfaction from betting when the stakes are small compared to their net worth. This is the reason that the highly regressive form of taxation called lotteries are so effective. "You can't win if you don't play and it only costs a dollar…" is the perfect illustration of this aspect of Prospect Theory.

The Ford position is a small one for us, and we believe that our willingness to extend our investment in this stock is indeed a function of this quirk in risk perception.

While we acknowledge that these behavioral issues may be influencing our decision, we have decided to continue our investment in Ford for two reasons:

1. We believe that we have a better than 50-50 chance of winning this "bet" because of the arguments made earlier in this paper, and
2. We believe in following the ancient medical principal *primum non nocere* (first do no harm).

Regarding the second point, the fight-or-flight instinct is one of the strongest in the animal kingdom. In this case, in a sense it would be psychologically easier to close the position and forget about it now that we lowered our assessment of the company's value. However, by reacting in this way, we would in effect be acting with the herd and selling when others are panicking.

Just because we have dropped our assessment of Ford's fair value does not mean that the rest of the investing world perceives it differently. In a sense, when thinking about our investment strategy in Ford, we realized that it was important not only to consider our valuation error, but also the general irrationality of other market participants.

We have a high level of confidence in our present valuation. However, Ford is trading at a 5.2% dividend yield, and we think that the chance that other investors will, when and if the present panic passes, rush to invest in Ford at these levels is probably pretty good. If we sell now, we will be unable to enjoy the fruits of our insight and possibly to avoid from realizing a loss on this part of our portfolio.

When investing, our first presumption is that we cannot be right 100% of the time. Our second presumption is that other market participants are making decisions that are subject to various behavioral biases and structural impediments. Thinking that the market will act rationally and in agreement with our present fair value estimate is as big of an error as assuming that we are infallible.