

# Learning from Mistakes

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## 1 What weathermen and equity analysts (do not) have in common

Among our favourite pieces of practitioner oriented Finance literature is the great collection of articles by James Montier published under the name "Sins of Fund Management" in 2005 (It is available for download at SSRN under <https://ssrn.com/abstract=881760> . The series of articles covers a wide range of behavioural phenomena observable in the industry. Although it is from the pre financial crisis era, it has not lost its timeless relevance. Among the most memorable articles was one essay about the relation between accuracy and confidence when making forecasts. It included the two stunning charts below.

The first one shows the outcome of an experiment in which weathermen and doctors were both given a set of information relative to their own discipline and asked to make predictions. The weathermen were asked to predict the weather based on weather patterns they were given and the doctors had to diagnose a patient based on conditions they were given. They were also asked to name the level of confidence they had in their own prediction. The chart now depicts the relation between the stated level of confidence and the actual accuracy for both groups of professionals. It shows a pretty high correlation between the stated level of confidence and accuracy for weathermen. On the other hand, the doctors misjudged their capabilities dramatically. When they were 90% sure their diagnosis was right, they were actually correct in only 15% of the cases (something rather unresting in view of the current crisis).

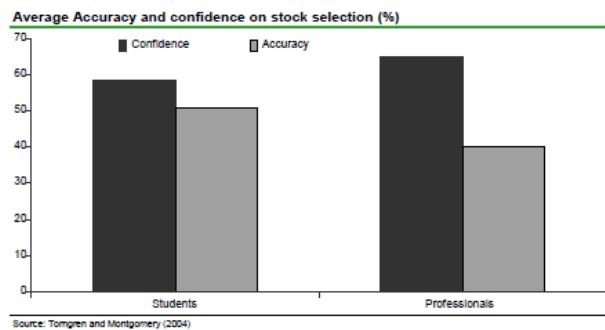
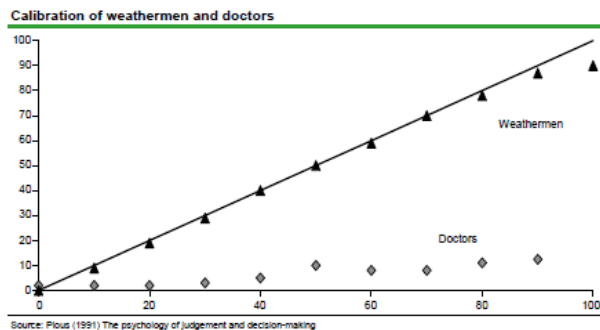


Figure 1: Calibration among weathermen and doctors      Figure 2: Stock selection confidence and accuracy  
 Source: Montier, James, Seven Sins of Fund Management (November 18, 2005)

Now what does this have to do with the Financial industry? The answer can be found in the second chart. In this experiment, both psychology students and investment professional (portfolio managers, analysts and brokers) were asked to forecast which stocks would outperform. Just like the weathermen and doctors they were as well requested to state their level of confidence. Both, students and professionals stated a level of

confidence that was higher than their accuracy indicating that both groups suffered from overconfidence. Interestingly however, the student's forecasts were in fact more accurate than those of the professionals. On the contrary, the stated level of confidence among the professional was higher than among the students.

In other words, investment experience did not lead to an increase in judgement ability but rather to an increase in arrogance. Compared to the first experiment, investment professionals seem to be closer to doctors than to weathermen.

## 2 Introducing a Feedback Loop

Apparently, weathermen manage to achieve something that doctors and investment professionals don't: A highly accurate assessment of their own capabilities and limitations. This is due to a concept called Feedback Loop. By definition, weathermen quickly see whether their forecast was accurate and the weather is a kind of feedback that is generally hard to ignore. On the other hand, feedback to investment professional is in many cases less straight. While it can be quite painful, the complexity of financial markets usually leaves a lot of room for excuses - justified or unjustified.

To be able to take profitable investment decisions in the long run and manage risk effectively we consider a good judgement of our own abilities absolutely crucial. Building in Feedback Loops is therefore at the core of our efforts to systemize our investment processes. This include the fundamental valuation of single stocks.

One of the major shortfalls of classical excel based valuation models is that it tends to be difficult to update and revisit them. It is therefore easy for any analyst to forget about prior forecasts and assessments. In our web-based automated Discounted Cashflow Model we therefore implemented the possibility to save own valuations at the click of a button and thereby create a perfect history that can be easily tracked. As systematic, quantitative investors we tend to follow corporations less closely than fundamental bottom-up research analysts but we do look into single-stocks occasionally for different reasons.

### 2.1 Revisiting our Covestro Valuation using our Automated Cashflow Model

Among the companies we have analysed in detail is the German chemicals specialist Covestro and it was quite interesting to revisit our own forecast from early last year that we saved back then.

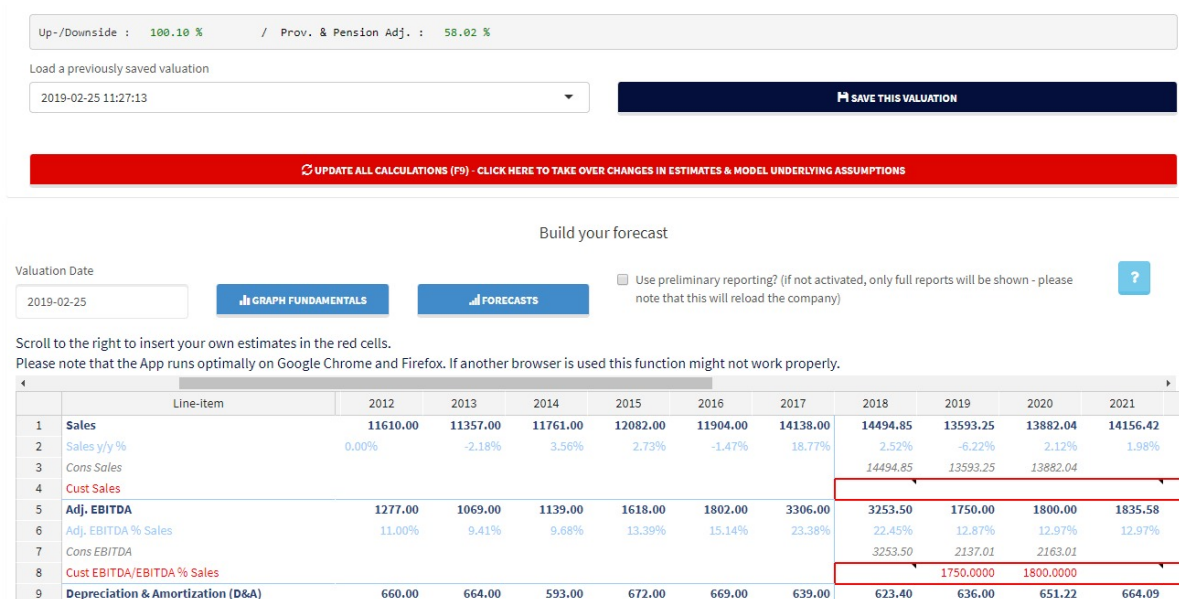


Figure 3: Covestro Model as of 2019-02-25  
Source: Amadeus Quantamental

The snapshot above shows a part of the output of our valuation model as of the 25<sup>th</sup> of February 2019 including our EBITDA assumption for 2019 and 2020. Based on meetings with the company we were rather cautious and expected a strong mean reversion of Covestro's margin due to the fade out of historically unprecedented shortage in several of the company's core markets and consequential price inflation for its products. The Factset consensus still expected an EBITDA of €2.14bn for 2019 and €2.16bn for 2020. After analyzing the company, we assumed a number of €1.75bn and €1.80bn respectively. This still resulted in significant upside potential as can be seen in the target valuation of €8.56bn compared to a market capitalization of only €5.42bn.

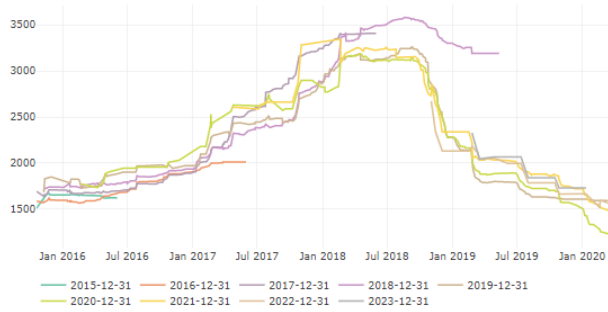


Figure 4: Covestro Adj. EBITDA Consensus  
Source: Amadeus Quantamental

Obviously, since then a lot has happened and the stock did not only suffer especially strongly from the dramatic slowdown in the world economy but already underperformed before. The chart on the left depicts the development of sell-side analyst's EBITDA expectations over time (revisions) until the 27<sup>th</sup> of March 2020. Clearly, consensus deteriorated materially since our valuation in early 2019. However, while our expectations were already more conservative than those of the consensus, the reality turned out to be worse and this can not be blamed on recent developments. 2019 EBITDA came in at €1.53bn, roughly €0.2bn below our 2019 forecast and €0.6bn below February consensus. Our prediction was therefore off by 14%. Not too bad after all.

However, what this exercise clearly shows us: Our ability to predict the subsequent year was fairly weak. Over the past 13 months, consensus' EBITDA expectations for 2020 have moved from €2.16bn to a meagre €1.21bn resulting in a congruent drop in the share price as longer-term expectations are usually a function of the short-term.

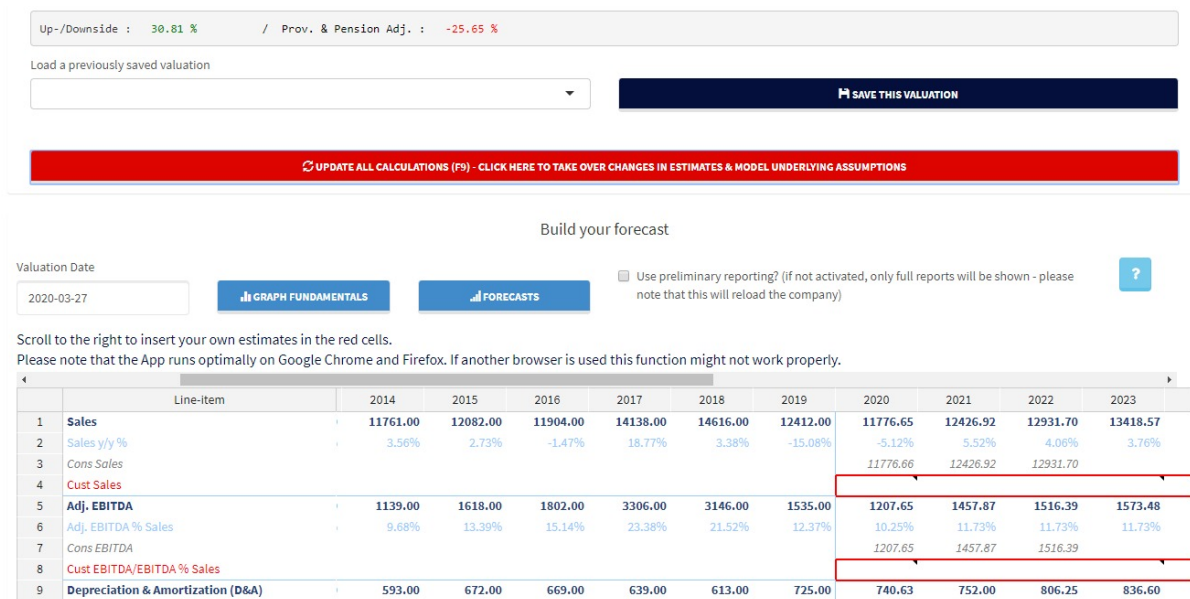


Figure 5: Covestro Automated Model as of 2019-03-27  
Source: Amadeus Quantamental

### 3 Lessons learned

Is this level now too low? Is the consensus after years of overestimating earnings power now pricing in too much negativity? We do not intend to communicate a view here but we learned some lessons from this investment case:

1. Investing in a stock where consensus' estimates are clearly too high is a dangerous thing to do even if the case is based on lower expectations. Based on our conversations with the company, we were pretty sure that the consensus was overestimating its future profitability. Despite of that we thought its valuation looked decently attractive assuming that future negative revisions were already priced-in. As the consensus moved towards our forecast the stock nevertheless underperformed massively.
2. Your prognosis is likely to be off way more than you think. Assessing prior estimates regularly is crucial. It may not lead to better forecasts but helps to develop a realistic understanding of your own level of accuracy.
3. We derive the standard deviation of major accounting line-items as well as the volatility of consensus estimates and their maximum drawdown over night for all stocks in our universe. This helps us to manage forecast risk better when performing single stock valuations. It is also an investment factor we take into consideration in our portfolio construction.

What's even more important however is that technology enables us to calibrate our capabilities and self-evaluation much better. Creating forecasts in a standardized, traceable way with the help of flexible applications offers a wide range of advantages:

1. A high degree of automation enables the implementation of multiple scenarios and their tracking.
2. Inputs from any employee can be easily shared and tracked by the team. Professionals can be held accountable for past forecasts and recommendations much easier. As every forecast is saved and can be traced back efficiently, there is no way to hide.
3. Regulatory due diligence requirements can verifiably be fulfilled, reducing legal risk to the firm.
4. Standardized models can be developed further over time and survive employee turnover. Duplicate activities are avoided.