# The Graham Number: What Makes a Value Stock a Value Stock?

by GEOFF GANNON

In recent years – and especially recent months – many stocks have gotten a lot more expensive. Especially among bigger U.S. stocks, the "value" category has shrunk. I did a quick check of the biggest stocks in the U.S. – basically the top 40% of stocks by size in the S&P 500 – and I'd say that about 85% of these stocks can now be clearly labeled "non-value stocks". A non-value stock might not be expensive. It might turn out that Amazon (AMZN) will grow so fast and so profitably for so long to justify an above-average multiple. But, we can't call something with an above average multiple a "value stock".

The easiest way to define a value stock is to use what I've – a couple times on the podcast now – called the "Graham Number". This is my word for it. Some people call a different number the Graham number. But, having read Ben Graham's writings – I'd say this is the number that most deserves his name. It's a simple product of two factors: 1) The price-to-earnings ratio and 2) The price-to-book ratio. Graham suggested – in the Intelligent Investor – that you shouldn't buy a stock with a "Graham Number" over 22.5. He probably got this number by using a P/E ratio of 15 as "normal" and then he asked how high or low a P/B is acceptable based on that P/E ratio of 15. So, for example, a stock with a P/E of 15 and a P/B of 1.5 would be considered a "normal" price level for a stock. This would then – through simple multiplication – tell you that a "Graham Number" of 22.5 marks the dividing line between a "value" and a "non-value" stock.

So, let's start with some extreme examples of clear value stocks. Among stocks I've mentioned frequently on the podcast, two stand out. One is NACCO (NC). According to QuickFS.net, NACCO – at about $23 a share – has a P/E of 5.3 and P/B of 0.6. This gives you a Graham number of 3.2. That's a stunningly low number. Anything under 5 is pretty rare. Is it a good idea to buy stocks with Graham Numbers that low? No. I don't think you should favor stocks with a super low Graham Number of 5 or less over stocks with a Graham Number of 15. A Graham Number of 15 would equate to a one-third "margin of safety" versus the "normal" Graham number of 22.5. This is because 15/22.5 = 0.67. Graham frequently used a one-third margin of safety as a sort of nice, round figure for what you should look for in a stock. I think it's fine to do the same. It's probably better – and, in fact back tests I've done for the two decades ending in 2020 show it's been empirically better – to buy good companies at as high a Graham Number as 15 instead of just focusing on buying everything with a Graham Number of 5, regardless of quality. Accounts I manage own NACCO. So, I obviously don't think the business is trash. But, if you did come across a business you considered trashy with a Graham Number of 3 and a business you thought had real quality with a Graham Number of 15 – I think you'd be fine to go with the less trashy, but still cheap, stock. An example of a stock with a Graham Number closer to 15 would be Miller Industries (MLR). This is a highly cyclical business that's a leader in its field. It makes "wreckers" and "car carriers". These are the vehicles you see totaled cars put on (in the case of wreckers) and driven away to auto-shops in. Car carriers are a familiar sight on highways. They are the usually double-

decker trucks moving lots of new (or used) cars to dealerships and places like that. It's obviously a very cyclical industry. We might've been at a peak in the business last year (which is the "e" we have in the P/E here). But, Miller Industries has a P/E of 9.2 and a P/B of 1.3. Multiply those together and you get a product a bit below 12. P/E of 9.2 times P/B of 1.3 equals Graham Number of 12. It's a value stock. The number 12 is a lot lower than the number 22.5 (12/22.5 = 53%). So, you're giving yourself a pretty big margin of safety versus the price of a "normal" stock. I did a write-up of Miller Industries for the Focused Compounding website. If you're a paying member of the site, you can read my write-up there. The other clear value stock I've talked a lot about recently is Vertu Motors (VTU, in London). I also wrote that one up for the Focused Compounding website. The Graham Number here depends on which year of earnings you use. Using last year's earnings, QuickFS.net would tell you the P/E is 4.4 and P/B is 0.3. So, that's a Graham Number of 1.3. That's even lower than the Graham Number on NACCO. Using this year's COVID shutdown crushed earnings, you get a P/E of 30 and a P/B of 0.3. That's still a Graham Number of 10. Either way, it's a value stock.

Other examples of value stocks would be things like Movado (MOV) in watches and Hunter Douglas (HDG, in Amsterdam) in curtains and shades. Movado – going into this year, it had bad numbers from COVID for the first part of this year now – would've had a P/E of 5.7 and P/B of 0.7 for a Graham Number of 4. Hunter Douglas has a P/E of 6.5 and a P/B of 1.1 for a Graham Number of 7.2.

Right now, the banks are the biggest single supply of value stocks. Probably most U.S. bank stocks would count as value stocks. Bank of

America (BAC) has a P/E of 10.2 and a P/B of 0.8 for a Graham Number of 8.2. J.P. Morgan (JPM) has a P/E of 10 and P/B of 1.2 for a Graham Number of 12. Wells Fargo (WFC) has a P/E of 7.1 and a P/B of 0.6 for a Graham Number of 4.3. The big banks are probably cheaper than the smaller banks right now. But, I can find tons of banks with Graham Numbers below 15. These range from the very small one bank variety all the way to the biggest banks in the country. Even a fast-growing bank (and often fairly popular stock) like Hingham (HIFS) has a P/E of 12.5 and a P/B of 1.6 for a Graham Number of 20. That's still lower than the 22.5 threshold Graham set as the dividing line between what an "intelligent investor" was allowed to buy and what he wasn't. And that's for a bank with a really good, really long history of strong value creation. Banks are obviously the best source of value stocks in the U.S. right now.

I wrote-up 5 "regional banks" over at Focused Compounding. These are old (but very lengthy) comprehensive reports on the banks instead of my usual, shorter write-ups (10,000 words vs. a more usual 2,000 words). Those banks are: Frost (CFR) with a P/E of 11.3 and P/B of 1.1 for a Graham Number of 12.4, Prosperity (PB) with a P/E of 13.4 and P/B of 0.9 for a Graham

Number of 12.1, BOK Financial (BOKF) with a P/E of 7.9 and a P/B of 0.7 for a Graham Number of 5.5, Bank of Hawaii (BOH) with a P/E of 11.2 and a P/B of 1.7 for a Graham Number of 19, and Commerce Bancshares (CBSH) with a P/E of 16.6 and a P/B of 1.9 for a Graham Number of 32. Not all of these are value stocks. I'd say Commerce and Bank of Hawaii are not value stocks. Meanwhile, BOKF and Prosperity and Frost are value stocks. Could you build a basket of big, cheap banks like BofA, Wells, and JP

Morgan? Sure. And could you build a basket of big, cheap regional banks like Frost and Prosperity and BOK Financial? Yeah. But…

You should note that Frost and Prosperity are the two biggest banks in Texas. And BOK Financial is big in Texas and surrounding states as well. So, it wouldn't be a geographically diversified portfolio. Some of you reading this might be worried about putting too much of your portfolio into a single state. What if COVID gets especially bad in Texas while it becomes much less of an issue in the rest of the country? Then your portfolio might underperform. But, the margin of safety in these stocks is kind of amazing right now. There are stocks with similar histories of returns on equity, growth in EPS, growth in dividends, etc. over decades as you see in some of the bigger S&P 500 stocks – and, yet, they are selling for half off. That's the definition of a value stock.

What does a "non-value" stock look like. The biggest stocks in the U.S. are non-value stocks right now. Apple (AAPL) has a P/E of 30 and P/B of 22 for a Graham Number of 660. Microsoft (MSFT) has a P/E of 35 and P/B of 14 for a Graham Number of 490. Amazon, Alphabet, and Netflix similarly have Graham Numbers far above 100. These aren't value stocks. They are priced like the biggest stocks in the U.S. were 20 years ago (during the dot com boom). In some of these stocks, returns will suck for the next decade or so even if the businesses themselves do okay. But, not necessarily for all of them. It's possible a couple of these stocks can grow fast enough for long enough to "grow into their multiples". This extreme "non-value" bubble is not limited to the biggest stocks. It's also present among very high-quality stocks that are much smaller. A great example of this is FICO (FICO). That stock has a P/E of 54 and a P/B of 58 for a Graham

Number greater than 2,500. Of course, FICO could be a bargain with a P/E of 30 vs. a trashier business with a P/E of 15. But, it can't be a bargain at a P/E over 50. The stock has simply gotten too expensive to offer adequate returns going forward. You can see this by looking at the actual past growth of a stock like Hingham and a stock like FICO. FICO as a stock has done off the charts amazing these past 10 years. As a business, it's basically grown in line with Hingham. The value stock (Hingham) has a P/E of 12.5 and the non-value stock (FICO) has a P/E of 54. It's going to be incredibly hard – nearly impossible – for FICO as a stock to beat Hingham as a stock from 2020-2030. This is the kind of thing we saw back in the late 1990s. For the first time in a long time, we're seeing it now. Value stocks have underperformed so badly, because non-value stocks have gone up so much with so little business reason for the rise. The swing between value stocks and non-value stocks in terms of performance is not just a matter of fashion that can't be guessed. You can see these things coming ahead of time. The 2020s will not be a good period for non-value stocks, because we can measure how far their stock prices have outdistanced their business performance in recent years (and especially recent months).

Not all value stocks are better buys than non-value stocks. Accounts I manage own OTCMarkets (OTCM) which is a non-value stock and don't own Tandy Leather (TLF) which is a value stock. There are full write-ups of both these stocks at the Focused Compounding website. Tandy has a P/E of 18.5 (and that's on a far below peak year for "e") and a P/B of 0.5 for a Graham number of 9.3. OTCMarkets has a P/E of 22.5 and a P/B of 20.2 for a Graham Number of 455. I own the non-value stock and don't own the value stock. Am I right to do that?

In the short-run and even the medium-run, I'll be wrong if Tandy turns. Tandy is a turnaround. And it's a really cheap turnaround. If management gets things right and gets things right fast – the stock could quintuple. Even if it's only a partial turnaround and a slow, partial turnaround – a double or a triple from here is very likely. OTCMarkets isn't going to triple anytime soon. It's too expensive for that. But, it isn't a turnaround. If the business just keeps doing what it's been doing, you could get a return of 8-12% a year pretty much indefinitely. Without multiple expansion, that would mean waiting 6-9 years for just a double in this stock. That's the price paid for buying a good, non-value stock. The price is so high that even when the business performs well, you're not going to see a surging stock price. The one exception to this is what we've been seeing recently: a "melt-up". This is where the multiples on non-value stocks explode upwards without any change in their business trajectory. You can get amazing annual results – and sometimes these annual results keep falling into place for 2-3 years in a row – but, then the collapse is particularly bad. Melt-ups in non-value stocks happened in the early 1970s and late 1990s and is happening again now in 2020. The last two of these melt-ups did result in non-value stocks – especially the biggest, most popular, and most expensive non-value stocks – suffering huge declines in market value quickly and then underperforming value stocks for several years in a row. Will this happen this time?

Who knows.

But, baskets of value stocks – that is, stocks with reasonable or low Graham Numbers – have historically been safer bets to hold entering a bear market than a group of stocks with a high Graham Number.

A basket of high Graham Number stocks is the most dangerous portfolio you can hold once pure price momentum has run its course.