Musings on Markets

My not-so-profound thoughts about valuation, corporate finance and the news of the day!

Saturday, April 11, 2015

## The Small Cap Premium: Where is the beef?

For decades, analysts and investor have bought into the idea of a small cap premium, i.e., that stocks with low market capitalizations can be expected to earn higher returns than stocks with higher market capitalizations. For investors, this has led to the pursuit of small cap stocks and funds for their portfolios, and for analysts, it has translated into the addition of "small cap" premiums of between 3-5% to traditional model-based expected returns, for companies that they classify as small cap. While I understand the origins of the practice, I question the adjustment for three reasons:

1. On closer scrutiny, the historical data, which has been used as the basis of the argument, is yielding more ambiguous results and leading us to question the original judgment that there is a small cap premium.
2. The forward-looking risk premiums, where we look at the market pricing of stocks to get a measure of what investors are demanding as expected returns, are yielding no premiums for small cap stocks.
3. If the justification is intuitive, i.e., that smaller firms are riskier than larger firms, much of that additional risk is either diversifiable, better adjusted for in the expected cash flows (instead of the discount rate) or double counted.

The small cap premium is a testimonial to the power of inertia in corporate finance and valuation, where once a practice becomes established, it becomes difficult to challenge, even if the original reasons for it have long since disappeared.

The Basis
The first studies that uncovered the phenomenon of the small cap premium came out in the 1970s. They broke companies down into deciles, based on market capitalization, and found that companies in the lowest decile earned higher returns, after adjusting for conventional risk measures, than companies in the highest decile. I updated those studies through the end of 2014, and the small cap premium seems intact (at least at first sight). In summary, looking at returns from 1926 to 2014, the smallest cap stocks (in the lowest decile) earned 4.33% more than the market, after adjusting for risk.

Source: Ken French's online data
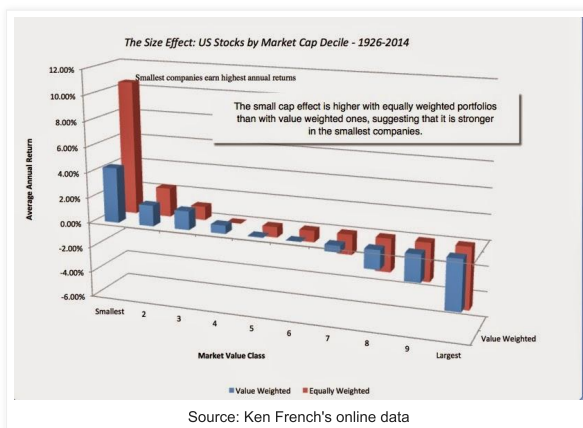
This is the strongest (and perhaps) only evidence for a small cap premium and it is reproduced in data services that try to estimate historical risk premiums (Ibbotson, Duff and Phelps etc.). This historical premium has become the foundation for both valuation and investment practice. In valuation, analysts have referenced this table to estimate a small cap premium (4-5%) that they then add to the required return from conventional risk and return models to estimate discount rates. For instance, in the conventional capital asset pricing model, it plays out as follows:

Expected Return = Risk free rate + Beta * Equity Risk Premium + Small Cap Premium

That discount rate is used to estimate the value of future cash flows, and not surprisingly, the use of a small cap premium lowers the value of smaller companies.

In investing, it has been used as a weapon both for and against active investing. Those who favor active investing have pointed to the small cap premium as a justification for their activity, and during the periods of history when small cap companies outperformed the market, it did make them look like heroes but it quickly gave rise to a counterforce, where performance measurement services (like Morningstar) started incorporating portfolio tilts, comparing small cap funds against small cap indices. Since almost all of the "excess returns" disappeared on this comparison, it was only a matter of time before index funds entered the arena, creating small-cap index funds for investors who wanted to claim the premium, without paying large management fees.

The Problem with the Historical Premium
In the decades since the original small cap premium study, the data on stocks has become richer and deeper, allowing us to take a closer look at the phenomenon. There are some serious questions that can be raised about whether the premium exists and if so, what exactly it is measuring:
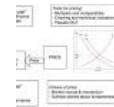
1. Trend lines and Time Periods: Small cap stocks have earned higher returns than large cap stocks between 1928 and 2014 but the premium has been volatile over history, disappearing for decades and reappearing again. While the premium was strong prior to 1980, it seems to have dissipated since 1981. One reason may be that the small cap premium studies drew attention and investor money to small cap stocks, and in the process led to a repricing of these stocks. Another is that the small cap premium is a side effect of larger macroeconomic variables (inflation, real growth etc.) and that the behavior of those variables has changed since 1980.

Source: Ken French's online data
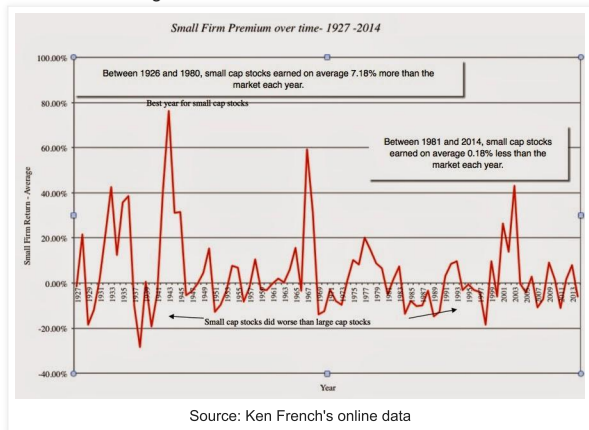
2. Microcap, not small cap premium: Even over the long time period that provides the strongest support for existence of a small cap premium, one study finds that removing stocks with less than $5 million in market cap causes the small firm effect to vanish. In effect, what you have is microcap premium, isolated in the smallest of stocks, not just small stocks.

3. Standard Error: Historical equity returns are noisy and any estimates of risk premium from that data will reflect the noise in the form of large standard errors on estimates. I have made this point about the overall historical equity risk premium but it becomes magnified when you dice and slice historical data into sub-classes. The table below lists standard errors in excess returns by decile class and reinforce the notion that the small cap premium is fragile, barely making the threshold for statistical significance over the entire period.

Decile	Average	Standard Error	Maximum	Minimum
Smallest	4.33%	1.96%	76.28%	-28.42%
2	1.63%	1.14%	41.25%	-17.96%
3	1.47%	0.77%	41.98%	-13.54%
4	0.64%	0.55%	15.56%	-7.33%
5	0.05%	0.53%	11.63%	-16.05%
6	-0.01%	0.51%	15.21%	-14.01%
7	-0.51%	0.55%	7.48%	-19.50%
8	-1.50%	0.81%	11.20%	-29.42%
9	-2.13%	1.02%	21.96%	-36.09%
Largest	-3.98%	1.56%	31.29%	-65.57%

Source: Ken French's online data

4. The January Effect: One of the most puzzling aspects of the small cap premium is that almost all of it is earned in one month of the year, January, and removing that month makes it disappear. So what? If your argument for the small cap premium is that small cap stocks are riskier, you now have the onus of explaining why that risk shows up only in the first month of every year.

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Source: Ken French's online data
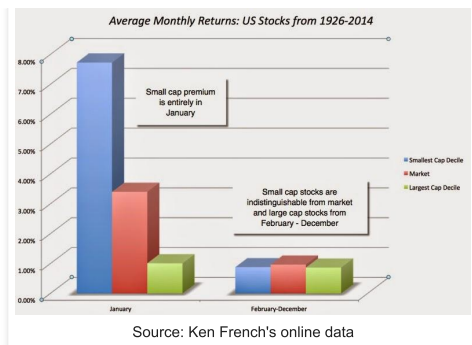
5. <u>Weaker globally</u>: The small cap premium seems to be smaller in non-US markets than in US markets and is non-existent in some. In contrast, the value effect (where low price to book stocks outperform the market) is strong globally.

6. <u>Proxy for other factors</u>: A host of papers argue that the bulk or all of the small size effect can be attributed to a liquidity effect and that putting in a proxy for illiquidity makes the size effect disappear or diminishes it.

7. <u>Works only with market cap</u>: Finally, you can take issue with the use of a market-priced based measure of size in a study of returns. Others have tried other non-price size measures such as income or revenues but there seems to be no size effect in those variables.

A recent working paper by Asness, Frazini, Israel, Moskowitz and Pedersen tries to resurrect the size effect, but accomplishes it only by removing the subset of small companies that they classify as "low quality" or "junk". While the results are interesting and can be used by active small-cap fund managers as a justification for their activity, <u>they are in no way a basis for adding a small cap premium to every small company</u>, and asking analysts to add it on only for small, high quality companies is problematic. In summary, if the only justification that you can offer for the addition of a small cap premium to your discount rate is the historical risk premium, you are on thin ice.

Market-Implied Small Cap Premium

If the historical data ceases to support the use of a historical risk premium, can we then draw on intuition and argue that since small companies tend to be riskier (or we perceive them to be), investors must require higher return when they invest in them? You can, but the onus is then on you to back up that intuition. In fact, you can check to see whether investors are demanding a forward looking "small cap" premium, by looking at how they price small as opposed to large companies, and backing out what investors are demanding as expected returns. Put simply, if small cap stocks are viewed by investors as riskier and that risk is being priced in, you should expect to see, other things remaining equal, higher expected returns on small cap stocks than large cap stocks.

As some of you are aware, I compute a forward-looking equity premium for the S&P 500 at the start of each year, backing out the number from the current level of the index and expected cash flows. On January 1, 2015, this is what I found:
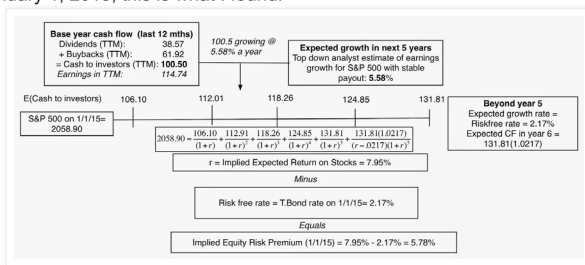
In effect, to the extent that my base year cash flows are reasonable and my expected growth rate reflects market expectations, the expected return on large cap stocks on January 1, 2015 was 7.95% in the US (yielding an overall equity risk premium of 5.78% on that day).

To get a measure of the forward-looking small cap premium, I computed the expected return implied in the S&P 600 Small Cap Index, using the same approach that I used for S&P 500. In spite of using a higher expected earnings growth for small cap stocks, the expected return that I estimate is only 7.61%:
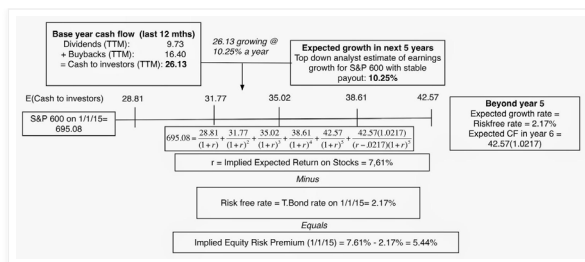
In effect, the market is attaching a smaller expected return for small cap stocks than large ones, stories and intuition notwithstanding.

I am not surprised that the market does not seem to buy into the small cap premiums that academics and practitioners are so attached to. After all, if the proponents of small cap premiums are right, bundling together small companies into a larger company should instantly generate a bonus, since you are replacing the much higher required returns of smaller companies with the lower expected return of a larger one. In fact, small companies should disappear from the market.

The Illiquidity Fig Leaf
Looking at the data, the only argument left, as I see it, for the use of the small cap premium is as a premium for illiquidity, and even on that basis, it fails at one of these four levels:

1. *If illiquidity is your bogey man in valuation, why use market capitalization as a stand-in for it?* Market capitalization and illiquidity don't always go hand in hand, since there are small, liquid companies and large, illiquid ones in the market. Four decades ago, your excuse would have been that the data on illiquidity was either inaccessible or unavailable and that market capitalization was the best proxy you could find for illiquidity. That is no longer the case and there are studies that categorize companies based on measures of illiquidity (bid ask spread, trading volume) and find an "liquidity premium" for illiquid companies.

2. *If illiquidity is what you are adjusting for in the small cap premium, why is it a constant across companies, buyers and time?* Even if your defense is that the small cap premium is an imperfect (but reasonable) measure of the illiquidity premium, it is unreasonable to expect it to be the same for every company. Thus, even if you are valuing just privately owned businesses (where illiquidity is a clear and present danger), that illiquidity should be greater in some businesses than in others and the illiquidity (or small cap) premium should be larger for the former than the latter. Furthermore, the premium you add to the discount rate should be higher in some periods (during market crises and liquidity crunches) than others and for some buyers (cash poor, impatient) than others (patient, cash rich).

3. *Even if you can argue that illiquidity is your rationale for the small cap premium and that it is the same across companies, why is it not changing over the time horizon of your valuation (and especially in your terminal value)?* In any valuation, you assume through your company's cash flows and growth rates that your company will change over time and it is inconsistent (with your own narrative) to lock in an illiquidity premium into your discount rate that does not change as your company does. Thus, if you are using a 30% expected growth rate on your company, your "small" company is getting bigger (at least according to your estimates) and presumably more liquid over time. Should your illiquidity premium therefore not follow your own reasoning and decrease over time?

4. *If your argument is that size is a good proxy for illiquidity, that all small companies are equally illiquid and that that illiquidity does not change as you make them bigger, why are you reducing your end value by an illiquidity discount?* This question is directed at private company appraisers who routinely use small cap premiums to increase discount rates and also reduce the end (DCF) value by 25% or more, because of illiquidity. You can show me data to back up your discount (I have seen restricted stock and IPO studies) but none of them can justify the double counting of illiquidity in valuation.

Why are we slow to give up on the "small cap" premium?

It is true that the small cap premium is established practice at many appraisal firms, investment banks and companies. Given the shaky base on which it is built and how much that base has been chipped away in the last two decades, you would think that analysts would reconsider their use of small cap premiums, but there are three powerful forces that keep it in play.

1. <u>Intuition</u>: Analysts and investors not only start of with the presumption that the discount rates for small companies should be higher than large companies, but also have a "number' in mind. When risk and return models deliver a much lower number, the urge to add to it to make it "more reasonable" is almost unstoppable. Consequently, an analyst who arrives at an 8% cost of equity for a small company feels much more comfortable after adding a 5% small cap premium. It is entirely possible that you are an idiot savant with the uncanny capacity to assess the right discount rate for companies, but if that is the case, why go through this charade of using risk and return models and adding premiums to get to your "intuited" discount rate? For most of us, gut feeling and instinct are not good guides to estimating discount rates and here is why. Not all risk is meant for the discount rate, with some risk (like management skills) being diversifiable (and thus lessened in

portfolios) and other risks (like risk of failure or regulatory approval) better reflected in probabilities an expected cash flow. A discount rate cannot and is not meant to be a receptacle for all your hopes and fears, a number that you can tweak until your get to your comfort zone.

2. Inertia (institutional and individual): The strongest force in corporate finance practice is inertia, where much of what companies, investors and analysts do reflects past practice. The same is true in the use of the small cap premium, where a generation of analysts has been brought up to believe (by valuation handbooks and teaching) that it is the right adjustment to make and now do it by rote. That inertia is reinforced in the legal arena (where many valuations end up, either as part of business or tax disputes) by the legal system's respect for precedence and general practice. You may view this as harsh, but I believe that you will have an easier time defending the use of a bad, widely used practice of long standing in court than you would arguing for an innovative better practice.

3. Bias: My experiences with many analysts who use small cap premiums suggest to me that one motive is to get a "lower" value". Why would they want a lower value? First, in accounting and tax valuation, the client that you are doing the valuation for might be made better off with a lower value than a higher one. Consequently, you will do everything you can to pump up the discount rate with the small cap premium being only one of the many premiums that you use to "build up" your cost of capital. Second, there seems to be a (misplaced) belief that it is better to arrive at too low a value than one that is too high. If you buy into this "conservative" valuation approach, you will view adding a small cap premium as costless, since even it does not exist, all you have done is arrived at "too low" a value. At the risk of bringing up the memories of statistics classes past, there is always a cost. While "over estimating" discount rates reduces type 1 errors (that you will buy an over valued stock), it comes at the expense of type 2 errors (that you will hold off on buying an under valued stock).

A Requiem for the Small Cap Premium?

I have never used a small cap premium, when valuing a company and I don't plan to start now. Needless to say, I am often asked to justify my non-use of a premium and here are my reasons. First, I am not convinced by either the historical data or by current market behavior that a small cap premium exists. Second, I do believe that small cap companies are more exposed to some risks than large cap companies but there are other more effective devices to bring these risks into valuation. If it is that they are capital constrained (i.e., that it is more difficult for small companies to raise new capital), I will limit their reinvestment and expected growth (thus lowering value). If it is that they have a greater chance of failure, I will estimate a probability of failure and reflect that in my expected value (as I do in my standard DCF model). If it is illiquidity that is your concern, it is worth recognizing that one size will not fit all and that the effect on value will vary across investors and across time and will be better captured in a discount on value.

To illustrate how distorted this debate has become, note that those who routinely add small cap premiums to their discount rates are not put to the same test of justifying its use. So, at the risk of opening analysts up to uncomfortable questions, here are some questions that you should pose to anyone who is using a small cap premium (and that includes yourself):

1. *What is your justification for using a small cap premium?* If the defense is pointing to history (or a data table in a service), it is paper thin, since that historical premium defense seems to have more holes in it than Swiss cheese. If it is intuitive, i.e., that small companies are riskier and markets must see them as such, I don't see the basis for the intuition, since the implied costs of equity for small companies are no higher than those of large companies. If the argument is that everyone does it, I am sorry but just because something is established practice does not make it right.

2. *What are the additional risks that you see in small companies that you don't see in large ones?* I am sure that you can come up with a laundry list that is a mile long, but most of the risks on the list either don't belong in the discount rate (either because they are diversifiable or because they are discrete risks) or can be captured through probability estimates. If it is illiquidity that you are concerned about, see the section on illiquidity above for my response.

If you are investors, here are the lessons I draw from looking at the data. If you are following a strategy of buying small cap stocks, expecting to be rewarded with a premium for just doing that, you will be disappointed. Even the most favorable papers on the small cap premium suggest that you have to add refinements, with some suggesting that these refinements should screen out the least liquid, riskiest small cap stocks and others arguing for value characteristics (stable earnings, high returns on equity & capital, solid growth). I do think that there is a glimmer of hope in the recent research that the payoff to looking for under valued stocks may be greater with small companies, partly because they are more likely to be overlooked, but it will take more work on your part and it won't be easy!

Data sets

1. Professor Ken French's data library (on small cap stocks)

Spreadsheets

1. Implied equity risk premium (S&P 500)
2. Implied equity risk premium (S&P Small Cap 600)

Posted by Aswath Damodaran at 1:57 PM

Labels: Cost of equity, Discount Rates, Small Cap Premium, Valuation Practice

21 comments:

Max said...

It's worse when you look at the performance of the most widely used small cap index, the Russell 2000. The R2K has underperformed small caps in general. (Why? Perhaps because membership in a major index grants a stock improved liquidity).

April 11, 2015 at 4:38 PM

Unknown said...

When we talk about January effect, we're in effect talking about a 12 month reversal phenomenon. In other words(dogs of the Dow theory), the losers of the preceding year outperform the winners of the preceding year and quite understandably so, the micro cap firms whose market cap had plummeted in the preceding 12 months would be expected to outperform the broad market. Further small cap premium would be expected to be significantly positive in bull markets and significantly negative in bear markets, in other words small cap effect is a function of investor sentiment (risk -on vs. risk off sentiment). So splitting the sample period (1926-2014) into three periods of bull markets, bear markets and range bound markets would give us some more insights on the small cap premium. Further there is the migration effect i.e. small caps going onto become mid caps due to stock price surge and mid caps becoming small caps due to stock prices plummeting in the preceding years. In other words when we look at decile 10 of the capitalization strata, the character of the firms in the decile 10 is vastly different every year. Further empirical evidence suggests small cap premium is concentrated in few sectors/industries which emerge out of nowhere and become sunrise industries. In other words analyzing small cap effect is vastly complicated and there are too many forces at work!

April 11, 2015 at 10:12 PM

Aswath Damodaran said...

Yogesh,
It it takes this much convoluted back tracking for you to try to explain with small cap stocks, there is no small cap effect. It is not complicated. It is just not there.

April 11, 2015 at 10:16 PM

UniverseofRisks said...

In your calculation of the small cap ERP,shouldn't the terminal growth rate be much higher than the risk free rate. By using the same rate as the S&P 500 you're actually calculating the return on equity of companies that begin as small cap but are treated as large caps after year 5. Wouldn't you want your inputs for calculations beyond year 5 to reflect a constant rate of growth for small caps, which to me is much higher than the risk free rate?

April 12, 2015 at 8:41 AM

Aswath Damodaran said...

UniverseofRisks,
You have a good point, though the growth rate you use can only be marginally higher than the growth rate of the economy, since it is a perpetual number. By the take same token, I should probably use a slightly lower than the economy growth rate for larger companies.

April 12, 2015 at 9:43 AM

Unknown said...

Playing with the IFA index calculator it seems like small almost always outperforms large:

https://www.ifa.com/calculator/?
i=sv&g=100000&s=1/1/2000&e=1/31/2014&infl=true&af=true&aorw=false&perc=true

Also see:

http://www.marketwatch.com/story/the-one-asset-class-every-investor-needs-2014-06-25

BR Martin

April 13, 2015 at 9:15 AM

Anonymous said...

What if there were an instance where the implied small cap premium were higher than the large cap? Would it be more precise to use the small implied premium?

April 13, 2015 at 4:54 PM

MD said...

In line with comments from UniverseofRisk, I think the growth assumption, and particularly the assumed growth differential between large and small caps, can easily change your conclusion. Duplicating your math, I can justify a premium of about 1.25% if I assume 10% growth in small caps for 10 years (vice 5), and then capitalize at the risk free rate. This may not justify the 4-5% premium that is ubiquitously applied, but it does highlight that both growth and risk expectations must be considered.

April 15, 2015 at 2:59 PM

David Velasco said...

Having valued hundreds of small and very small businesses over the years I have never been comfortable imposing substantial small cap premiums when developing my discount rates used in DCF analysis. However, valuators do face real differences when valuing "small" companies (i.e., less than $5 million in annual sales), such as: 1) Investment diversification is rarely achieved where the typical owner owns 100% of the equity; and 2) that ownership comprises a very significant portion of that individual's personal wealth. Given the reality of typically poor diversification in small business valuation, is any premium warranted for the owner's inability to diversify systematic risk?

April 15, 2015 at 5:50 PM

RoE said...

I once had a discussion with you at a CFA Valuation Conference about when cash flow riskiness should be reflected in the cash flow estimate, rather than discount rate, and you talk about that again here. Could you please explain (or point to references)under what circumstances you adjust cash flows and not discount rates? I think its a very important topic. (Maybe a separate blog session on it??)

April 15, 2015 at 8:29 PM

Unknown said...

In a significant level of valuation work, a "micro-cap" premium is being applied as those companies are much smaller than a small cap company. In those cases, is it at least marginally reasonable and justifiable to use a micro-cap premium?

April 16, 2015 at 11:42 AM

Aswath Damodaran said...

MD and UniverseofRisks,
It is entirely possible that giving a longer growth period for small cap stocks or a slightly higher growth rate in stable growth can yield a small cap premium, but the fact that you have work that hard to get any significance is revealing.
David,
The lack of diversification is an entirely different issue and I am not sure why a small cap premium (that comes from publicly traded companies) would yield an answer. I have argued that lack of diversification effectively scales up your exposure to conventional market risk. (I concocted the total beta measure to capture it).
Michael,
I think that the bulk of the premium, if it exists in microcap companies is a reflection of either survival risk or illiquidity and my points about double counting still stand.

April 16, 2015 at 1:39 PM

Rohit said...

Thanks for a great piece, Professor.

"While 'over estimating' discount rates reduces type 1 errors (that you will buy an over valued stock), it comes at the expense of type 2 errors (that you will hold off on buying an under valued stock)."

As a long-only investor, wouldn't it not be okay to commit a few type II errors as a price for incorporating 'margin of safety'?

April 16, 2015 at 5:00 PM

Aswath Damodaran said...

Rohit,
Sure. As long as you don't end up with a lot of cash in your portfolio because you have set your expected return too high (or applied too large a margin of safety in your portfolio). In this market, finding an under valued stock is tough enough.

April 16, 2015 at 6:59 PM

UniverseofRisks said...

My only concern is; intuitively when you're computing the Implied ERP for small cap stocks, you are looking at a cash-flows of a dynamic set of companies. Ones that are small and fast growing now,which will be replaced by newer and younger companies in the future. I think the stable period growth spread over the risk free rate should be significant in this context because you're dealing with a dynamic set of companies that are always young and fast growing

April 17, 2015 at 7:39 AM

SDHakala said...

What you are saying is what I found in the 1990s and have consistently asked others about. In a chapter to an update to a valuation text in 1998, Hakala (me) and Bajaj found no forward-looking small stock premium, found small stock premiums largely disappeared after 1980, and found that the small stock premium was highly correlated with the bid-ask spread (transactions cost) which has gone done steadily over time. Additionally, if you look at actual buy and hold small cap fund returns (like Vanguard's NAESX from 1960 onward) or DFSCX since inception, small caps have only slightly outperformed large caps on a geometric return basis by 1.0% since 1960s and microcaps have only slightly outperformed large caps since 1982 by 1.0%. The NAESX has actually underperformed S&P 500 funds since the end of 1986 on a geometric return basis. Thus, much of the findings appear to be data mining and biases (arithmetric annual returns in Ibbotson and Duff & Phelps; monthly average returns in Fama-French work) and to have largely declined to not being statistically significant post 1980.

April 17, 2015 at 1:15 PM

SDHakala said...

There are a number of problems that have never really been addressed with the return data and methods commonly used to estimate small cap premiums (particularly Duff& Phelps and Fama-French data):
First, the use of arithmetic average returns over relatively short holding periods will mathematically always overstate the correct size premium for a three to five year DCF and for the terminal value discount rate. There have been numerous studies on this in the academic literature that have largely been discounted or ignored (from Blume's work in the 1970s to more recent work by others such as Jacquier's work with Kane and Marcus).
Second, the Compustat (and to a much less extent CRSP) data has two biases associated with construction of the combined data: a backfilling bias (as the databases were constructed and filled in over time from the 1970s to current with subsequently successful companies "backfilled" and added to the historical data overtime) and a restatement bias (historic data was restated after mergers or subsequent restatements). There was work done for Compustat on this issue by Northfield around 2000-2001 that found substantially inflated return averages (as much as 6% overstatement of returns in 1980s) using backfilled and restated data as compared with the originally "as reported" data. Compustat now sells a separate set of "corrected, as first reported" financial data that acknowledges this issue. But even the academic studies often do not use this corrected data (because it does not come automatically matched up with the CRSP data, requires a separate purchase, and the data only goes back to 1983). Requiring companies with two or five years of historical trading or financial data is a common "academic" "solution" to the backfilling bias but does not appear to entirely solve the backfilling problem and does not address the significance and importance of restatements in the data (Companies with negative restatements will drop out of the D&P study and companies with positive restatements for mergers and such will suddenly show up in the data, for example.) Despite the academic work going back and forth on this issue, no one has actually studied the true effects of the bias beyond guesses that I know of.
Third, microcap stocks are more likely to experience positive jumps in returns due to being acquired/restructured that are not representative of expected returns. These "outliers" have been shown to significantly explain some of the "anomalies" in some of the academic research. At least one could argue this part of the equation has some validity but it is a non-priced excess return on a current basis for most microcaps.

April 17, 2015 at 1:57 PM

Anonymous said...

In estimating implied ERP for small cap you have used dividend discount model (for stable firms), is this model right in the first place for small companies which are typically 1) growing and 2) not stable?

However, I agree with you that small cap premium is actually not warranted since we have to estimate cash flows based on the characteristics of a particular small firm, and discount rate should not capture it.

April 19, 2015 at 8:32 AM

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hernando rivas said...

I understand your blog and I agree with your arguments. But is very subjective to adjust the DCF for possible bankruptcy or other adjustments.
Why are better or less subjective those adjustment than use a small cap premium?
Do you have any longer documents about those topic?
My mail is hrivas82@gmail.com

February 16, 2017 at 5:12 PM

Bo said...

If there is no small cap premium, do you see a mid cap premium? Over the long-haul they seem to have had higher returns and are potentially lower risk being larger and more established than their smaller cap counterparts.

April 18, 2017 at 2:48 PM

Sanjay said...

Dear Professor Damodaran,

Thank you for addressing this topic and in advance for consideration of my question. In practice, I have noted that a number of the stocks I am reviewing in the UK that are listed below the FTSE100 have lower equity betas (and asset betas) than direct comparables. How do we adjust for trading volume, at least in the short term, to reflect the lack of liquidity in the specific stocks. Whilst I agree that there is limited logic for a small cap premium, WACCs do appear lower for smaller cap stocks, even when adjusting for the higher marginal after tax cost of debt.

April 25, 2018 at 7:23 AM

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