



Musings on the Cost of Capital, with advice from Omaha

I attended the Berkshire Hathaway meeting in May this year and was interested to hear Mr. Buffett and Mr. Munger briefly discuss their views on the cost of capital. I laughed heartily at Mr. Munger's dismissal of the 'MBA definition' of same. I have been thinking about a sensible way to view the cost of capital and its consequences on business valuations for a couple of years and coming home from Omaha I thought I would try to tie some of the concepts together coherently; this article is the result. Expounding a thought process like this is, for me, an excellent way to learn and refine one's thinking – and I would enjoy any feedback from those with contrasting and similar views.

Phrases like 'consistently generates returns in excess of its cost of capital', the analyses of companies' cost of capital via the capital asset pricing model (CAPM), and valuations reliant thereon, are ubiquitous throughout sell-side reports. I want to deal with: from a CEO's or Board's perspective, what is the most sensible way to think about cost of capital; and from an analyst's perspective, how best to think about valuations using this new paradigm?

I don't buy into how some business executives think about the cost of capital; that is, if their companies' corporate presentations / investor communications are indicative of how they actually view the concept. When a CEO sits down to consider an investment opportunity, what should dictate whether or not she allocates capital to it, and how much capital to employ? In other words, what exactly is her cost of capital, when it comes to a capital allocation decision?

In my opinion, if the manager uses the following simple definition, the owners of the of the business' capital will be more than satisfied, over time.

A business's cost of capital is the return that can be generated by employing incremental capital in its collective next best idea / investment opportunity on a risk-equivalent basis.

Thus, a CEO with capital employed in multiple 'projects' and excess capital to employ, should examine the level of returns the 'best' project is generating today, and whether any incremental capital can be allocated to this project whilst maintaining returns. If not, the second best returning project should be favoured for incremental capital, and so on. Presuming that the lowest-returning project generates returns greater than what the capital owners of the business could, in aggregate, achieve outside of having capital employed in the business (again, taking the same level of risk), the last hurdle to meet is that potential for the capital owners to generate excess returns externally. It may be that some of the 'worst' current projects in the business are not meeting this hurdle rate, and clearly should not be assigned any more capital. It is of course assumed that all of these business decisions are taken on an expected value basis, that is, with some sensible integration of the concept of probability or risk.



Many companies eventually end up having some capital employed in sub-par businesses – even Berkshire Hathaway. It isn't necessarily a good idea to liquidate this part of the business and distribute capital – after all, it provides employment and does some social good. So long as such sub-par businesses are small in the context of the overall company, and so long as they don't require any more capital above the cash generated internally, these won't be too destructive to the value of the aggregate capital employed. However, neither should one be criticised for identifying this 'inefficient' capital and liquidating it, as this is probably in the best interests of shareholders.

Management (and Boards) should never forget to include dividends and share buybacks as alternative 'investment projects'. These, too, are very effective tools – in the right hands – for delivering improved returns to shareholders over time. In a business which is extremely cash generative today, but more than likely in secular decline, it is obviously best to distribute as much capital as possible – through dividends rather than buybacks, since it makes little sense for non-selling shareholders to have a greater claim on a permanently declining asset (unless the share buybacks can be executed at prices below liquidation value). Yet often managements of companies in secularly declining industries refuse dogmatically to do the most business-like thing. Instead, they pander to Wall Street and spend shareholders' funds on extremely risky and high-priced acquisitions; alternatively, they allocate more capital to internal projects with comparably bad long-term economics.

Indeed, paying out dividends or, in the event that equity owners prefer not to pay taxes on distributions or for other sensible reasons, simply holding cash on the balance sheet, are the best alternatives if, after all investment options have been analysed, they fail to yield what the equity capital owners can generate externally whilst taking the same level of risk, and Mr. Market doesn't give the Board an opportunity to buy common stock / bonds at significant discounts to intrinsic value.

In the 2013 annual report, the Honeywell CEO and Chairman David Cote wrote rather intelligently on his thoughts about options for capital deployment:

"I used to say that after CAPEX and dividends, there were two other potential uses for cash...share repurchases and acquisitions. Now I would add a third and that is to let cash build a bit. When it comes to share repurchases, we want to do enough on an ongoing basis to keep share count flat. Beyond that, we want to be opportunistic so we're buying at the right time. Studies estimate that nearly two out of three companies in the S&P 500 repurchase at the wrong time. I'd say the 2007 big repurchase we did wasn't one of my better decisions.

While we repurchased at an average price of \$54 and today it's about \$90 (so it wasn't that bad), it sure would have felt better to have that \$4 billion in the middle of the recession when the stock price dropped to \$23.23. Our repurchase strategy is to do enough on an ongoing basis to hold share count flat (dollar cost averaging if you will) and be opportunistic for bigger amounts when we can be confident we will be in the one third of companies that get the timing right.

Letting cash build a bit will also let us be opportunistic to do more smart acquisitions, something we do very well and now have a lot of credibility given our performance.”¹

If I were to make any critique of what Mr. Cote says it would be that the stock price today relative to the price at which the share repurchases were done should not be an element in a business-like appraisal of whether the share repurchases were sensible. Rather, what is important is only how much was paid relative to current business value – for Honeywell, clearly it’s earning power. It happens that the earning power of the business today is well above what it was in 2007 and the share repurchases were done at fairly cheap multiples of today’s earnings, but the stock price being higher today than when the repurchase was done is not the important indicator here.

Buying back stock (at the right price) is principally the allocation of incremental capital to the existing projects of the company without increasing risk (i.e. increasing the per share allocation of real capital employed in those projects). It gives non-selling shareholders a bigger share of the future earnings pie of the company and, when done at discounts to business-like valuations of the company’s equity value, can be a very high returning allocation of equity capital. Since Executive Management teams and Boards (should) best know the financial characteristics of the current projects under way in the business, it would probably make sense for them to make much more effective use of this method of allocating capital when given the chance by Mr. Market. That is, after all, their fiduciary duty.

All of the foregoing was my scenic route to saying that a business’ cost of capital is equivalent to its owners’ collective opportunity cost – what they could earn on their capital if it were employed elsewhere in an asset (real or financial) with substantially similar risk characteristics. That’s hardly a ground-breaking proclamation; finance 1.01 deals with the philosophical reason for discounting cash flows. Unfortunately, somewhere along the line professors have complicated things with the development of the Capital Asset Pricing Model (CAPM), which analysts use to estimate costs of capital and make valuations based thereon. Worse still – management and Boards use the cost of capital, so derived, to justify investment decisions based on their ‘calculations’.

John Meynard Keynes scribbled some apt words, which I believe apply to business valuation today:

“We cannot expect to legislate for a generation or more. The secular changes in man’s economic condition and the liability of human forecast to error are as likely to lead to mistake in one direction or the other. We cannot as reasonable men do better than base our policy on the evidence we have and adapt it to the five or ten years over which we may suppose ourselves to have some measure or prevision; and we are not at fault if we leave on one side the extreme chances of human existence and of revolutionary changes in the order of Nature or of man’s relations to her”.

Keynes wrote this in the pre-ample to his estimation of what he thought was a reasonable levy of reparations which the victorious allies could impose on the German economy after WWI; that is, according to her industrial power (needless to say he made a very rational and, what turned out to be prescient, argument for how the Treaty of Versailles was doomed to inflict further horror on

¹ Honeywell 2013 Annual Report – Shareowner letter

Europe). JMK is more or less saying that it is, at best, futile to come to a conclusion on the worth of something by making projections far into the future and applying some mathematical rigmarole to bring those projections to the present.

Mr. Buffett often refers to Aesop's 'bird in the hand' thought as being his north star in avoiding complicated math and projections – he clearly views the capital asset pricing model with enmity. Following Mr. Munger's philosophy of inversion is a good starting point in solving any given problem. My approach to valuation, first and foremost therefore, avoids the long-term projection and discounting of those projections with derived rates, both of which are possibly as wrong in one direction as in the other.

For me, the starting point in business valuation is always to ask some questions: am I sure that the economics of the business are not changing for the worse, over time, and whether earnings will be at least as big, in real terms, in the medium term as they are today? If I am reasonably confident that the answer to both is yes, I try to sensibly and conservatively estimate what equity or enterprise earnings might be in the medium term and apply a multiple based on what I deem the company's equity / debt or equity cost of capital to be.² In other words, almost all the work and rationale is qualitative and the valuation is a very simple 'back of the envelope' calculation based on simple projections a few years forward. I admit freely that that applying multiples to some sustainable level of earnings is fundamentally a perpetuity DCF. I acknowledge its failings (I would never assume to value uncertain future cash flows at anything greater than say 15-20% of their current fair value) and prefer to be roughly right than exactly wrong. If, on the other hand, I can't communicate succinctly my rationale on answering 'yes' to the above questions, then I simply move on and fret not.

A business that is growing its earnings rapidly and which has economic attributes that afford it some degree of sustainability with regards to maintaining these earnings (company A) after a supernormal growth phase clearly has a lower cost of capital than a business which is expected to grow at only nominal levels (company B) with equivalent economic characteristics. In other words, one would have to give me more units of wealth today, relative to the real wealth represented by its current (or some years forward) earnings, to give up on owning company A than for company B.

A higher quality business gets a higher multiple than a lower quality business, naturally. Quality can be characterised by traits like high returns on tangible capital. It is indicative of the existence for example of positive competitive dynamics, franchise or brand value, recurring revenues, high switching costs / network effects for customers, toll-booth like business models.

Quality, in the context of valuations, is essentially the qualitative gauge of how sure one is that future earnings are going to be at least as high as they are today – that competition can't break the company, recessions can't break the company, bad management can't break the company, that is to say can't impair its long term earning power.

² Clearly, I am inclined to look at companies whose value is based upon their earning power – not on wind up, or liquidation situations. This does not exclude me from considering fixed and working capital asset values as protection in my downside scenario analysis.

The matter of whether a cyclical business has a higher cost of capital than a non-cyclical business in the real world, *ceteris paribus*, is particularly perplexing, to me at least. Take for example a commodity producer with assets that happen to be in the lowest decile of the global cost curve in terms of cash costs of production. This is clearly a business that will have good economics relative to the vast majority of producers in its industry throughout the economic cycle for its particular output. Let us say that this business earns a 20% ROE through the cycle – through the cycle equity earnings of 20 units on equity base of 100 units (this might be -5 units in some years and 45 units others, depending on the point in the cycle). The second business is a fast moving consumer goods business that throws off 20 units in annual cash earnings on an equity base of 100 units over the same timeframe. Both businesses – we are somehow sure – will throw off equivalent amounts of free cash over the cycle relative to their respective economic capital invested, and both have the same organic growth profiles – that of nominal growth only, i.e. zero real growth.

One can conclude, after some thinking, that were it not for external factors both businesses would have the same cost of capital. However, when we add in issues like the need for external financing at unfavourable points in the cycle and growth opportunities it becomes clear that the cyclical business has a higher cost of capital than that of the non-cyclical one. The lower cost of capital is mostly afforded by the increased flexibility which stability of cash generation gives it. It can lever up at whatever stage in the cycle, and its borrowing costs will be unaffected by changes in credit – whereas the commodity producer will find it difficult to uncover a bank willing to lend at the same credit spread at the bottom of the cycle as at the top. In addition, the FMCG business is unlikely to see the vast swings in cost of investment opportunities that a commodity producer will. It may be that the low-cost commodity producer's manager eyes a fantastic asset but finds it at the wrong time and the debt capital would be too costly to raise for it to make sense. On the other hand, it may find the quality opportunity at the top of the cycle, at which point valuations of external growth opportunities no longer make sense for current shareholders. So in nearly all cases, in a business with growth opportunities and/or and external financing needs, the annual earnings of the non-cyclical business are worth more than the cyclical business' through-the-cycle earnings.

There is a proviso here, however, which is that a quality capital allocator can lower the cost of capital for a cyclical business. If we could identify, *ex-ante*, a manager who would manage his cyclical business to take advantage of its very cyclicity to increase equity value over time, we could perhaps assign his business a lower cost of capital than the FMCG business. The manager would do things like, for example, hold cash at the top of the cycle, make acquisitions at the bottom of the cycle at valuations that don't properly price in cyclical recoveries in the underlying commodity prices, borrow with long maturities and low interest rates at the top of the cycle in order to finance inventory produced at the bottom of the cycle (which can then be sold at higher prices during stronger points in the cycle for the underlying commodity). I can think of several managers of businesses with commodity like characteristics that I would consider as cycle busting-allocators – but unfortunately they became obvious *ex-post*, after the fact post the last crisis. They have been duly noted for inevitable future economic downturns (which I hope are accompanied by 'overdone' equity price downturns). A lot of equity managers dedicate much of their resources to uncovering superstar managers / allocators – it probably warrants a separate article in itself in terms of how much these

guys can impact the long-term equity value of the businesses over which they have decision making influence.

Therefore, if both businesses have the same level of risk (viewed throughout the cycle) and neither is managed by superstar capital allocators, the cyclical business has a higher cost of capital since its owners' opportunity cost would be *not having invested* in the non-cyclical business which could generate higher equity returns. So it should be clear that the cost of capital for businesses with equivalent economics and risk profiles to their through-cycle cash flows is the same – in spite of cyclical profiles – except where there are growth investment opportunities and in a society where we have debtor / creditor contracts payable in a fixed unit of value – which, after all, is the foundation of capitalism.

Clearly there is additional uncertainty with regards to the cash flows of a cyclical business – it is difficult to know ex-ante what the true through-the-cycle, or mid cycle, cash flows are, whether there are actually changing dynamics in the underlying commodity market that shift its equilibrium price upwards or downwards and this, in practical terms, leads to commodity businesses being assigned higher opportunity costs.

Since opportunity cost is the intrinsic driver of the cost of capital, it's clear that in an environment where the returns on every financial asset (and perhaps, to a lesser extent, on real assets) have been taken down by Central Banks, conspiring to provide what seems like unlimited amounts of liquidity, one might ask the question: Has the long run equity cost of capital come down and should that affect valuations? Of course, each business has its own cost of capital but, for index investors whose opportunity cost is not to own bonds or cash, one can clearly argue that today's equity earnings should be assigned higher multiples to reach fair valuations.

I believe that in the long term it would be imprudent, if one chiefly is concerned with avoiding capital impairments, to adjust the cost of capital downwards and thus apply higher multiples to equity earnings today to value businesses. This is chiefly because I believe we are in a financial context which is ephemeral in nature (relative to genuine investors' time horizons). So, whilst it may continue for a generation or more, I believe that in the long run man's productivity and the real wealth at his disposal has been unimpaired by central banks and the psychology which drives a lot of investment inhibiting decision making today will eventually give way to optimism, higher employment, higher interest rates and steadily rising prices again and so ultimately the cost of capital will be unaffected by the current low return environment in the long run.

That being said, I would find it difficult to advise a typical medium income person with a responsibility for retirement prescience, not to buy the same dollar amount of a low cost equity index fund this year as last, as the year before that and the same as next year. In other words, it is only to those professional investors charged with buying businesses that are selling at prices much below their worth that need be concerned with these matters.