

The Perpetuity Fallacy

In business valuation, especially for small and medium-sized businesses, without question the most common approach to valuation is the income approach; and the most common way that is done is by the CPA valuation expert determining the normalized income and then capitalizing same. We capitalize same by applying a capitalization rate (cap rate) to the normalized income. For any of our readers who are not quite familiar with that phrase, essentially a cap rate is the inverse of a multiple – for instance, a cap rate of 20% means a multiple of 5; a cap rate of 25% means a multiple of 4.

There are several steps in the development of the cap rate, several factors to be considered. There is a mix of objective and subjective factors that are part of the process. This article will deal with one of the key subjective factors – the growth rate. Furthermore, in respect to the growth rate, this article's focus is on the issue that is sometimes raised when a “high” rate of growth is chosen by the expert – which then at times results in a challenge along the lines of a growth rate of that magnitude into perpetuity results in a simply untenably large valuation. That issue often is blown far out of proportion to what it really is – and that further, it is often a non-issue. The perpetuity fallacy is often raised as a theoretical bogeyman that has far more bark than bite.

In the build-up/development of the cap rate, the process takes us through several steps, bringing us (prior to the determination and application of a growth rate) to what we refer to as the “discount rate”. For purposes of this article, that is not all that important – other than it is the point from which we then apply a growth rate to arrive at the cap rate. Up to that point, as the process is labeled, we “built-up” the cap rate piece by piece. When we reach the discount rate, the final step in this process is to apply (subtract) the growth rate. The idea is that, to the extent a return on investment is demanded, part of that return is going to come from the anticipated growth of the (normalized) income that the valuation expert has determined. Thus, the higher the growth rate, the greater the subtraction from the discount rate, to arrive at the cap rate, the lower the cap rate, the higher the value. All other things being equal, a growth rate of 3% will result in a greater value than a growth rate of 2%. It is also elemental thinking – after all, if your income is going to grow at a greater rate, you will have more, the value will be greater.

Determining the growth rate is an important part of the process of arriving at the cap rate. Factors that go into determining the appropriate growth rate include:

- ⇒ The Company's past history;
- ⇒ General industry expectations;
- ⇒ Expectations of the specific company;
- ⇒ Overall economy.

Besides taking into account what has happened in the past with this company, we also factor in, to whatever extent possible, management's expectations going forward (and we all know that input from management as to what is expected can be, and often is, skewed, based on management's agenda for the valuation). In addition, we attempt to factor in what is expected in that industry and how the current and expected economy is going to affect the company being valued. Sometimes we also have the practical issue that the Company in the past has grown from a small company to a medium-sized company, with its growth rate being perhaps phenomenal – say, 20%-50% per year for the past several years. Certainly, in the vast majority of the situations, that type of growth rate cannot continue all that much longer (we will not go into those exceptional cases where it can – that's not the focus of this article).

Thus, ideally, besides whatever input we can get from the Company and its history, it is most helpful if we have an industry analysis that says that over the next several years, into the long-term (whatever), this industry is expected to grow at some rate. With that type of information, subject to the valuation expert's opinion as to how that applies to the subject company, we can then apply what we believe is the appropriate rate of growth, and conclude with a cap rate. However, there are many times when there simply is no usable industry-wide information for that purpose. Sometimes it's because the subject company is too narrowly focused, sometimes that information simply is not available in a supportable form, and sometimes the subject company may not comfortably fit into the industry norm. Where we have no authoritative third party sourced growth rate information – and where there is nothing particular about the company that would otherwise dictate (say, it is in very poor shape, and has a history of no growth) – most valuation experts will use, what we'll call for this article, the inflation default rate. That is, if long-term inflation is anticipated to run at say 3%, then for this purpose we factor in a 3% rate of growth to arrive at our cap rate. This is a common procedure, and generally doesn't raise any eyebrows.

The problem (for purposes of this article) that arises is when a valuation expert projects a “high” long-term rate of growth. Let us assume that the valuation expert has supportable foundation for using a growth rate of 6%, or 8%, or even 10%. We’re not going to challenge here the research and the supportability of the data to arrive at that rate – we’re only going to focus on whether or not that rate is, in a sense, sustainable, and logical for these purposes – we are going to face done the perpetuity myth. Assume that one valuation expert concluded with a 3% default rate of growth, whereas the other determined that 8% was appropriate. What you will hear/read sometimes, typically espoused by the 3% growth rate expert, is that the use of 8% is simply too high because this is a growth rate into perpetuity, and after a number of years, with an 8% growth rate, you will have a company that would be larger than perhaps the entire industry, or even rival the US’s GDP. Unless we are talking about a truly unusually large growth rate (for this purpose, let’s assume I mean something like 30% or 40%), these arguments are, at best, theoretical speculation, and at worst, specious and misleading.

The best way to explain and illustrate same, is to leave the world of academic isolation, and get into the practical reality of what the difference in the results would be. I have taken the liberty of providing an illustration immediately below of what the difference in valuation would be for a hypothetical company with a net income to be capitalized of one million dollars, based on a starting point of two different discount rates (25% & 20%), with two different possible growth rates (3% & 8%). Using those factors, the chart illustrates the rounded valuation result based on each of those scenarios:

	25% disc	20% disc
3% growth	4.7 million	6.1 million
8% growth	6.4 million	9 million

What the above chart illustrates is that while a greater growth rate will of course result in a greater value, and sometimes depending on the rate of the growth, a significantly greater value, we are not talking anything that shocks the senses, nor rises to the frightening specter of valuation run amok. What it shows is that (and keep in mind the standard here is normalized net income of one million dollars) with a discount rate of 25%, the difference in value between having a 3% versus an 8% rate of growth (which thus means the difference between a 22% & 17% cap rate), is a difference in value of between 4.7 million & 6.4 million dollars. In a similar way, the above chart illustrates that using a 20% discount rate, the

difference in value between using a 3% & 8% growth rate is a difference in value of between 6.1 million, & 9 million dollars.

Thus, even with a growth rate of 8% – which would send some valuation experts into an apoplectic fit, screaming that the world is coming to an end, and that a growth rate of 8% into “perpetuity” is simply unsustainable – the reality is that the difference caused by this thunderous 8% growth rate (while not an insignificant difference) is only a difference in value of two to three million dollars, and in both the above cases, less than a doubling of the value that’s based on a 3% growth rate.

While differences of millions of dollars (or of a doubling) are not insignificant or irrelevant, it is hardly unreasonable, hardly shocking, that two valuation experts with differences of opinion as to how this company may grow, could conclude with this type of a magnitude of difference. It is well within the realm of what is possible, and sometimes likely, among valuation experts. Thus, once the fear factor of runaway growth and stratospheric valuations are removed, the simple reality, illustrated by the use of the numbers that we are talking about, shows that a “high” rate of growth does not result in a valuation number that offends the intellect. From a practical application point of view, we should not be dissuaded from using a “high” growth rate (assuming of course it’s supportable) simply because of the often fallacious concept of so-called perpetuity.

Another way to look at this, another way to counter an attack postulating the horrors of high growth into perpetuity, is to step back into a several prior year history of the subject company, and then substitute the currently “competing” growth rates into what was in the past, to see where it would have been today. This works best with a reasonably well established, some might even say mature, company – as contrasted with a younger company on what might have been a very rapid upward trajectory that would not necessarily be served well by this type of illustration.

For instance, assume that we have a business that’s been around for a number of years, and that is subject to a current valuation where one expert uses the “safe” 3% growth rate, and the other a more aggressive (but again supportable) growth rate of 8%. A potentially effective way to illustrate the reasonableness of the 8% growth rate, and in contrast, the unreasonableness of the 3% growth rate (and also in effect as a defense of an 8% growth rate in the face of an argument about perpetuity), would be to go back 5 years into the prior history of this company, and starting from a point 5 years ago, grow it by the other expert’s 3%, and keep on growing it until, at that 3% rate, it reaches the size of the company that it is now. Assuming that the company had grown at a fairly good clip in the past 5 years, what you will be able to illustrate is that with the other expert’s 3%

growth rate, it might take 10 or 20 years from the point 5 years ago before it reaches what it already has reached now. To continue that thought process, it could then be further pointed out that had that other expert applied the same logic and thought process in a hypothetical valuation of this company 5 years earlier, that expert would have used that default rate of growth, would have criticized a higher (more realistic) rate of growth – and would have concluded with a company much smaller and less profitable than it evolved to be. Thus, the use of a “safe” or a conservative growth rate – the assumption here of course being in defiance of supportable evidence to the contrary – can be “proven” to result in a gross understatement of the performance (and thus value) of this company – through the benefit of using the company’s actual history.

This article is not advocating the use of “high” growth rates, nor in fact any growth rate that cannot be reasonably and appropriately supported. However, this article is suggesting that the sometimes knee-jerk reaction evincing horror at the use of an 8% (or other “high”) growth rate, is at times misplaced, and grossly distorts the impact of a “high” growth rate – making it sound like such use is tantamount to malpractice, with a result of multiples of reality; when the actuality is that the valuation resulting from the higher growth rate may only be 30% to 80% greater than the value resulting from a “safe” default rate of growth. And, many times, the logic of the higher (assumed of course to be supportable) growth rate is able to be “proven” by the use of history.
