The Value of a Business

This articles examines the factors that determine the intrinsic value of a business, as well as the pitfalls of paying too much for growth.

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What is a business worth?

The value of a business is determined based on the cashflows it can produce, discounted to an appropriate rate.

Very profitable businesses, those who generate cash flow from investments above the cost of the investments, create value. In other words, one dollar invested in the business becomes worth more than one dollar in the market– the capital's opportunity cost.

To illustrate:

A company invests $10,000 and the opportunity cost is 8 percent.

In the first scenario, the investment generates cash flow of $500 per year into perpetuity, which equals a value of $6,250 ($500/.08). This firm is destroying value because those $10,000 could have earned $800 cashflow per year.

In the second scenario, the business earns $800 in cash flow per year, making the investment worth exactly the cost of $10,000 ($800/.08). A growth in invested capital adds no value in this case. For example, if the firm reinvests its earnings and next year earns 8% of 10,800, then the return would be the same as the amount earned in the market. As such, the business should not trade at a premium to the invested amount. As a metaphor, imagine that your checking account generates 8%, $100 dollars invested in your checking account generates the same as $100 dollars invested in the business. As such, the business should be valued at $100 dollars.

In the final scenario, the firm earns $2,000 in cash flow per year, making the investment worth $25,000 ($2,000/.08). The logic of this is that it would take $25,000 invested at 8%, which is what the market return, to generate $2,000 a year. As such, a checking account with $25,000 earning 8% a year is worth the same as a business that can generate $2,000 a year, even if its invested capital is only $10,000.

Of course, this also means that a decrease in the profitability of a very profitable business can have a dramatic effect on its valuation. For example, imagine that the business's return dropped from 20% to 15%, this translates into $1,500 in cashflow per year, making the investment worth $18,750 instead of $25,000 when profitability was higher. This makes it dangerous to pay up for a very profitable business with uncertain durability. Companies that can sustain high growth and high ROICs are rare.

The faster a company can grow while sustaining high returns, the more value it creates. For example, take the business in the final scenario, the invested capital of the business would look like this if it reinvests all profits at a 20% return for 10 years:

Year	1	2	3	4	5	6	7	8	9	10
Invested Capital	10,000	12,000	14,400	17,280	20,736	24,883	29,859	35,831	42,998	51,597
Earnings	2,000	2,400	2,880	3,456	4,147	4,976	5,971	7,166	8,599	10,319

In this scenario, during the 10 years, invested capital and earnings grew around 5 times, in a linear fashion. Assuming that the business is able to continue to generate a return of 20%, the value of the business would be $128,987 (10,319/0.08) in year 10 or $59,745 today (128,987/1.08^10). If we had bough the business at a fair value of 25,000 in year 1, then we would have generated a return of 512% in 10 years.

On the other hand, if we had bough the mediocre business at a fair price of $10,000 and it would have reinvested its earnings at 8%, then invested capital in year 10 would be $21,589, making our return 210%.

In summary, a great business that is able to reinvest the majority of its earnings and continue to sustain its returns will be able to grow faster and create more value than a business who generates a mediocre return. This sustains the argument that a great business at a fair price is better than a bad business at a great price.

What about a very profitable businesses that pay out the majority of their earnings?

Mature companies with high returns on invested capital may choose to stop chasing growth and return most of the earnings to shareholders to maintain high returns. How do you value these types of businesses?

Considering that the value of a business is based on the future cashflows that it will produce, discounted by an appropriate rate. The value of a business is therefore determined by the cashflows that it produces today, the earnings growth rate, and the discount rate. For most businesses, growth is a function of invested capital, thus, a very profitable business that reinvest the majority of its earnings will have a higher growth rate than a business that does not reinvest its earnings. As a result, the difference when estimating the value of a very profitable business that reinvest its earnings and one that does not, is the growth rate of earnings.

For example, take two companies:

Company A invests $10,000 with an opportunity cost of 8 percent, earns $1,500 a year, and reinvests 100% of its earnings. As a result, it is able to grow its earnings at a rate of 15%.

Year	1	2	3	4	5
Invested Capital	10,000	11,500	13,225	15,208	17,490
Earnings	1,500	1,725	1983	2281	2,623
Growth		15%	15%	15%	15%
Dividends & Share repurchases	0	0	0	0	0

On the other hand, company B invests $10,000 with an opportunity cost of 8 percent, earns $1,500 a year, reinvests 10% of its earnings, and pays 90% to shareholders in the form of dividends and share repurchases. As a result, it is only able to grow its earnings at a rate of 1.4%.

Logically, company B is worth less than company A because it is able to compound less capital at a high rate of return. We can estimate the value of company B by taking current earnings and discounting them at the opportunity cost of 8% minus the growth rate of 1.4% from reinvesting 10% of earnings–$20,454 = 1,350/(0.08-0.014) or 14.8x earnings. We use $1,350 in our estimation of instrinsic value because this is the free cashflow left for the owners of the business, as $150 are reinvested back.

Year	1	2	3	4	5
Invested Capital	10,000	10,150	10,302	10,456	10,612
Earnings	1,500	1,522	1,545	1,568	1,591
Growth		1.4%	1.4%	1.4%	1.4%
Dividends & Share repurchases	1,350	1,369	1,390.5	1,411	1,431

What about businesses that can grow their earnings and maintain high returns without requiring much additional capital?

The best businesses are those that can maintain high rates of return for long periods of time and grow their earnings without requiring much additional capital. For the reasons that depreciation charges roughly match capital expenditures and working capital requirements are minor.

These businesses are thus able to grow earnings in a non-linear relationship to the amount of money that they reinvest back into the business.

This is very uncommon, as most businesses require their owners to commit more capital, usually in the form of retain earnings, to grow.

We can value these businesses by taking the current earnings and discounting them at an appropriate rate of return, with the earnings growing at a rate each year–Intrinsic Value = Free Cash Flow / (Discount Rate - Growth Rate). Akin to owning a perpetual annuity set to grow at X% each year.

These types of businesses can return value to shareholders in the from of cash earnings each year, and still grow because they do not have to reinvest their earnings.

A great example of this is Sees Candies.

At the time that Blue Chip Stamps (then an affiliate of Berkshire) bought the company. The nominal price that the sellers were asking - calculated on the 100% ownership they ultimately attained - was $40 million. But the company had $10 million of excess cash, and therefore the true offering price was $30 million. The company's tangible net worth was $7 million.

Buffet recounts how Charlie and him, at the time, were not fully appreciative of the value of an economic franchise that allows a company to grow without requiring much additional capital. They offered $25 million and the sellers accepted.

See's candy sales grew from $29 million to $196 million from 1972 to 1991. Moreover, profits grew even faster, from $4.2 million pre-tax to $42.4 million.

For an increase in profits to be evaluated properly, it must be compared with the incremental capital investment required to produce them.

From 1972 to 1991, See's was able to increase its earnings 10 times whilst just increasing its tangible worth from $7 to $25 million.

How was See's able to achieve this?

In the purchase of See's Buffett and Charlie had one important insight: untapped pricing power. A company can increase its revenues by raising prices. This is great because it does not require the business to invest more capital to produce growth.

As a final side note, please take note that paying up for these types of businesses is dangerous. As Buffett, explains in his 1991 letter to shareholders with media companies, a change in the assumption that a business can forever grow its earnings without requiring additional capital, significantly reduces the intrinsic value of company. And this, unfortunately, is the fate for most businesses. Capitalism, after all, is brutal.

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