



Private Portfolio Managers

Managing Director
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HOW TO VALUE A COMPANY'S SHARES (APPLICATION OF THE THEORY 101)

*"Rule No.1: Never lose money.
Rule No.2: Never forget rule No. 1"*
Warren Buffett,

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UPDATE:

Throughout our presentation and this paper, you will hear and find references to StockVal. StockVal is a software program we use to value companies. Its formula is derived from the formula outlined by Warren Buffett in 1982. The only problem with the 1982 formula is that it only applies to companies paying all of their earnings as dividends. StockVal is an evolution of that basic formula and correctly values companies based on their equity, return on equity, proportion of earnings retained and paid out and a discount rate. Investors now have access to the very same valuation software that we use to manage approximately \$130 million. Fund managers helped develop the software and fund managers, use it and update performance data on over 300 companies. Now private investors and their advisers can access the same information, add their own data and company forecasts or override ours and rank and sort companies by their proximity to intrinsic value.

Warren Buffett famously noted that of his two rules for investing, the first was to never lose money and the other was to never forget the first. Simple arithmetic reveals that if you lose 50% of your capital, you are subsequently required to generate a 100% return on your remaining capital to break-even.

At Clime, we have historically held large amounts of cash when we have not been able to find great businesses at prices cheap enough to convince us to invest. The safety of cash is always preferable to an unattractive investment because losing money presents the arithmetical hurdle outlined above. Losing money is something we loathe and while it is not always avoidable it must be minimized.

And we minimize this risk, not by diversifying broadly, but by avoiding situations where a company's shares are trading at prices significantly higher than their estimated value. And while we may be accused of being too conservative in our valuations and using discount rates that appear unrealistic, we have experienced far too many examples of being right to acquiesce to demands to be less conservative.

In our opinion (and remember its just an opinion), it is the market that is currently being unrealistic in its assessment of value and risk. As we will show, some company's share prices could only be described as "euphoric" and representing 'good value' only if absurdly low discount rates are used. And on this point, keep in mind what the Reserve Bank of Australia said in its most recent Biannual Financial Stability Report – also a thinly-veiled warning that interest rates will rise;

“There continue to be a number of puzzles regarding the pricing of risk in the financial system...Investors tend to underestimate and thus underprice, risk...It would therefore be surprising if there were not at least some element of this type of myopia in financial markets currently.”

Reserve Bank of Australia

Investment success requires an even keel – a level head when everyone else is losing theirs, experiencing euphoria or suffering myopia.

In describing the mental attitude toward market fluctuations that is most conducive to investment success, Benjamin Graham – the founder of Security Analysis and Warren In describing the mental attitude toward market fluctuations that is most conducive to investment success, Benjamin Graham offered his ‘Mr Market’ allegory and for our purposes, he suggested the following:

You should imagine market quotations as coming from a remarkably accommodating fellow named Mr. Market who is your partner in a private business. Without fail, Mr. Market appears daily and names a price at which he will either buy your interest or sell you his.

Even though the business that the two of you own may have economic characteristics that are stable, Mr. Market’s quotations will be anything but.

For, sad to say, the poor fellow has incurable emotional problems. At times he feels euphoric and can see only the favorable factors affecting the business. When in that mood, he names a very high buy-sell price because he fears that you will snap up his interest and rob him of imminent gains...

Mr. Market has another endearing characteristic: He doesn't mind being ignored. If his quotation is uninteresting to you today, he will be back with a new one tomorrow. Transactions are strictly at your option...But, like Cinderella at the ball, you must heed one warning or everything will turn into pumpkins and mice: Mr. Market is there to serve you, not to guide you. It is his pocketbook, not his wisdom that you will find useful. If he shows up some day in a particularly foolish mood, you are free to either ignore him or to take advantage of him, but it will be disastrous if you fall under his influence.

You cannot be guided by an unrealistic, euphoric or myopic market. You see the market is very confused about the difference between price and value. It can get very excited when prices are high, even though values may be falling, as there is a perverse human

tendency to believe that a product, service or asset is more valuable if it has a high price attached to it.

And this point is made clear by a recent front-page article in ***The Sydney Morning Herald*** in relation to the rising wealth of Australians:

“Mr Causbrook, 50, has been married for 21 years and has two children, aged 13 and 16. His main asset, his home... has risen in value from about \$480,000 to about \$780,000 in 10 years.”¹

Aside from the fact that the Sydney Morning Herald failed to point out that Mr Causbrook’s return on his property is less than 5% per year and that he might have made a better return by putting his \$480,000 in the bank over the last ten years, it’s the phrase, “has risen in value” that really rubs us up the wrong way. You see it is not the *value* of the house that has risen but its *price*. *Value* and *Price* are two different things. *Price* is what you pay and *value* is what you get. If, as Charles Munger said, all investing is value investing, then an investment is the acquisition of an asset at a price that is less than its value.

We have written several articles about how to value a company (www.clime.com.au) and our approach is to base valuation estimates on four elements, balance sheet equity, the return the company can sustainably generate from that equity, the manner in which it retains and distributes its earnings and a discount rate.

Using our model, which ignores earnings growth, weighted average cost of capital, beta and terminal values, a business that can generate a high rate of return on equity is worth more than a business that cannot - all things being equal. This is logical. If you could give \$1 to someone who could generate a consistent 20% per year, they would be worth more in present value terms than someone who could only generate a consistent 10%. A business that generates a high rate of return on equity and is able to retain all of its earnings without detriment to that rate of return, is worth more than a business with the same return on equity, but, forced to pay all of its earnings out. Again, this is logical. If a business can generate 20% per year but pays all its earnings to you as a dividend and you can only put those earnings in the bank and achieve 5% per year, it is not as valuable as another, that, instead of paying you a dividend which you bank at 5%, retains all the earnings and generates (on your behalf) another 20%.

So we turn to an actual comparison.

In 1998 a travel agent listed on the Australian Stock Exchange began the year with \$34.9 million in equity and produced a profit after tax of \$18.3 million from which \$8.7

¹ Sydney Morning Herald, Page 1, March 27, 2006

million in dividends were paid, producing a return on equity to the owners of 64% (yes, 64%). Fast-forward to 2002 and the travel agent's earnings had risen to \$62 million. This, no doubt was a significant reason for the rise in the share price from \$3.00 in 1998 to almost \$29.00 in 2002. But while earnings more than tripled in the period, the equity base rose almost seven times!

One should expect earnings to rise, indeed they should insist on it, if more capital is provided. And unsurprisingly, anyone with a bank account and a rocking chair can increase earnings every year by simply retaining the interest and compounding it.

The company's equity rose by several means but only \$41 million was from retained earnings. More than \$156 million was from capital raisings. The important consequence of the increase in equity was that the profitability of the company was declining. Return on equity (as we measure it) declined from 64% to under 50% by 2002.

It is not uncommon to see businesses in a fresh light using this measure of performance. Indeed it is even less uncommon to see small businesses with wonderful economics turn into large businesses with merely mediocre economics. In 2002, the listed travel agent was by no means a mediocre business but nor was it worth nearly \$29.00 – its share price at the time. If each dollar of equity is compounding at a declining rate, the value of the business is also declining. As a business's return on equity drops, all things being equal, so does its worth. You simply would not be willing to pay as much for an asset generating a lower return.

In valuing companies, discount rates or 'required returns' are also important. What rate of return do you want, pre tax, from your investment in the business? Given a risk free government bond offers around 6%, inflation is around 5% (add, 5%), interest rates could go higher and there is additional risk in the stock market (add 4%-5%) it is reasonable to require a 15% return from a stock market investment. In valuing a business listed on the stock market we like to start by using a required return that will produce a reasonable post tax, inflation adjusted return that reflects the added risk of being in the stock market. Then, after we have calculated a valuation, we like to buy the shares well below that valuation.

Based on 2002 data, and using a 15% discount rate, we estimated the travel agent was worth \$12.30 assuming the company could sustain a return on its equity of 49%. But as we demonstrate, it couldn't.

Fast forward again to 2006 and the company is expected to produce earnings of \$75 million dollars but another \$105 million has been raised in new capital since 2002

pushing equity up to \$415 million and lowering return on equity to 24.6% - a number not to be sneezed at, but not nearly as valuable as the 64% being produced in 1998.

Benjamin Graham said; "*in the short run the market is a voting machine, in the long run the market is a weighing machine*". He was right. In the short run - the four years between 1998 and 2002 - rising earnings and popularity **voted** the company's share price up from \$3.00 to \$29.00. In the long run – the eight years between 1998 and 2006, the market more correctly **weighed** the value of the business.

Using a discount rate or required return of 15% again and assuming that the business is able to sustain a return on equity of 24.6%, the value of the business is \$8.37 per share. Of course there is every possibility that the return on equity could rise, but history records such events as much more difficult to achieve. Competition often produces the opposite result.

Chart 1, below, displays the relationship between longer-term price movement, our valuation of the listed travel agent each year and return on equity. Importantly, the valuations displayed on this chart are based on an assumption that the return on equity and payout ratio produced that year would continue. Call it a "myopic valuation". Our myopic valuation process reveals that the price of the travel agent's shares was cheap when it first listed, as the price was clearly below Clime Asset Management's estimate of value. In 1999, the price crossed above value and even though the value of the company rose each year, price rose each year beyond the valuation. In 2002 however the valuation fell and if I recall correctly, so did the price, briefly, before surging to near all time highs again. But with the valuation falling (an undesirable event), the signal to exit was given in 2002 and ever since the value of the company has been in decline. And proving that Ben Graham was right, in the long term, **the price follows the value**.

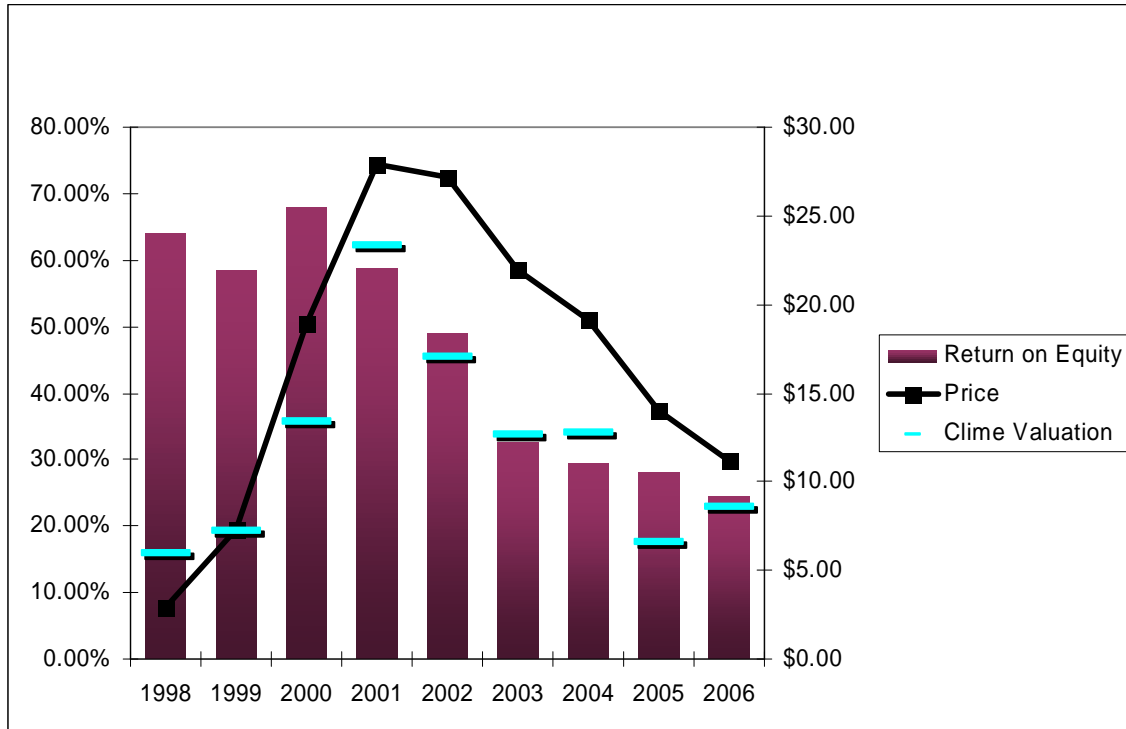


Chart 1.

But why the history lesson? Well, there are other high-flying companies trading today whose shares have risen in price almost as dramatically as the travel agent between 1998 and 2002, whose earnings have grown just as quickly over the same period but whose equity has risen even more dramatically than the earnings and thus witnessed a similarly dramatic decline in ROE as the travel agent. Indeed the similarities are uncanny and if history has any say in the matter, the outcome could be just as disappointing for those who are currently buying shares on the back of bullish broker reports, international expansion announcements and supportive demographics.

Take a look at one high flying example on Chart 2 - a screen shot from StockVal² (www.stockval.com.au) below – a software package that covers over 200 listed companies (and growing fast) with prices, fundamental data and valuations updated daily by Clime. While our proprietary calculation of earnings for this company has grown at an average annual rate of 86% in the four years since 2002 – a significant reason for the company's share price appreciation from \$2.39 to over \$8.35 – equity has grown at an even more staggering 146% per year. This is due to the company raising just shy of \$1 billion **from** shareholders in the four years to 2006. Our rocking chair principle comes into effect here; one would certainly expect earnings to rise if you inject an additional \$1 billion into a business – why, even a person sitting in a rocking would be likely to earn more interest by injecting an extra billion into their account!

² StockVal Valuation Software www.stockval.com.au

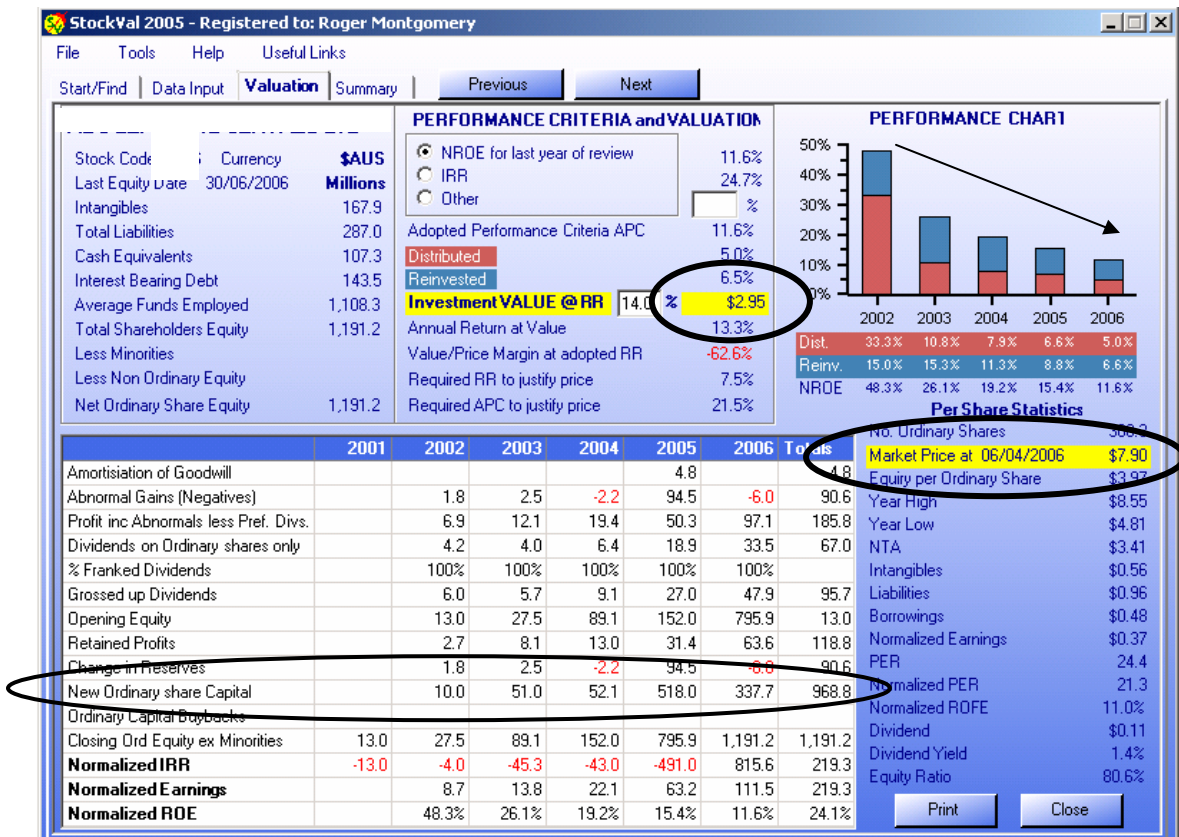
Ultimately however the company in the example is producing a return on equity now of just 11% - down from 48% in 2002 and a rate of return that is lower than our required return of 15%. If the return on equity remains at 11% and we adopt a 15% required return, the only sensible price to pay for the business is a discount to the equity in the business. Indeed by our estimates the company has \$4.68 of equity per share and our estimate of value is less than \$3.00. If ground level represents value, the share price for this company is hovering somewhere in the stratosphere.

Of course all could indeed be fine and the company may next report an improvement in return on equity, but it would need to be a substantial improvement to justify the current price. On our metrics the return on equity would have to rise to a sustainable 21.5% and that would only justify the current price, it would still be no bargain.

And what if the price dropped to our valuation or below? Well, unless the appetite for capital raisings fell (its hard to teach an old dog new tricks), we would still be receiving the short straw on dilution.

The screen shot below from StockVal reveals salient facts about the underlying business that are rarely decipherable from the reports produced by brokers which usually focus on the earnings growth and number of “store openings”.

Chart 2. Screenshot from StockVal. (www.stockval.com.au)



The lower section contains the fundamental information about the performance of the business, as well as its management's attitude to capital allocation – that is, how much capital it retains, raises and pays out as dividends. This is extremely valuable information, because it provides an instant snapshot of the businesses performance and its relationship with its owners, ultimately producing a return on equity figure to the owners of the business (its shareholders) over a five years period, as if they had owned the entire business, not just a few shares.

This 'business owner' approach to investing in the stock market is precisely what Benjamin Graham and later, Warren Buffett espoused and have been advocating for decades. For the company illustrated, you can see that profits have totaled \$185.8 million for the last five years, if a forecast \$97.1 million is adopted for 2006. Of this, \$67 million has been paid out in dividends and \$968.8 million has been raised, assuming the company doesn't go out and raise any more before the end of the financial year (a difficult assumption to accept given the company's track record).

Now just imagine for a moment that you owned a business and in 2001, you injected 13 million to get it going. In 2002, the business earned \$6.9 million and paid you a dividend of \$4.2 million. On that information alone, you'd be quite content. You received a \$4.2 million dividend and the business earned 53% on the money you invested last year. But Screenshot from StockVal Software (www.stockval.com.au) you and asked for another \$10 million for new stores? You'd still be content because in the year just gone the business generated a very high return on the equity you injected into the business. You now pay your tax on the dividend you received and then give back that \$4.2 million and an additional \$5.8 million (total \$10 million). So you have not banked any cash yet from this business, merely injected more and paid some tax on the dividends received. Fast-forward to today and you have still received nothing on a net basis, paid tax and injected over \$1 billion! If your reference point was still that rate of return in the first year, you might be in for a nasty surprise. Your \$1 billion is not generating a 53% return anymore. It is now generating just 11%p.a.

The return on equity to the owners (you) appears at the bottom of the screen and the row entitled "Normalised IRR" reveals the cash flows an owner of the business has received or had to inject over the period. If you owned the business outright, it would be all injections at this stage – indeed you've injected over a billion dollars and now own a business producing an 11% return on equity. As an owner, I can assure you, the right questions now would be; what return am I going to get from the business for my \$1 billion and is 11% satisfactory?

The increase in profits over the years looks attractive for this business, however it is not due to the original subscribed capital, but new capital subscriptions (shareholders

money) over the years that are now approaching \$1 billion. If the shareholders keep pumping in more money then of course the profit should rise; but so what? Remember our rocking chair principle.

What was once a highly profitable small business is now a more mediocre, large business. There is nothing inherently evil or wrong with the business, but the price cannot be justified on present performance. Future performance will need to improve dramatically to justify the current price.

At the top of the screen you can see, in this instance, we adopted a continuation of the 11.6% return on equity (this may be optimistic) and a discount rate - "RR" - of 14%. Obviously if equity per share of \$3.97 (see right hand side of screen) were to generate an ongoing 11.6% return and we require a 14% return on our investment, the only sensible price to pay, is a discount to the equity per share. StockVal, the only program we, as fund managers, know of in the world that uses rational and sensible arithmetic to value listed companies, indicates a valuation of \$2.95.

The Outlook:

Using StockVal helps us to understand what future performance expectations are being built into the price. The low return on equity is a function of raising equity to build the number of centres quickly. One would expect a focus now, on raising revenue and cutting costs, would result in improving return on equity.

Rational management is likely to make further acquisitions and one would expect those to be debt funded. This would have an immediate impact on Return on Equity, but of course, the increased debt changes the risk profile of the business and one should still attempt to discover why owning a small number of child care centres produces a high return on equity (with little or no debt) while owning many more produces a significantly lower return on equity.

StockVal helps us understand that the performance must improve to justify the current price.

The above discussion provides a practical example of how to think about market prices and valuations. Perhaps more importantly, it represents a live example of growth that may have a negative impact on the valuation of the business.

According to Buffett,

"growth benefits investors only when the business in point can invest at

incremental returns that are enticing - in other words, **only when each dollar used to finance the growth creates over a dollar of long-term market value**. In the case of a low-return business requiring incremental funds, growth hurts the investor."

Table 1.2 helps to explain what Buffett may be referring to when he says, "in other words, only when each dollar used to finance the growth creates over a dollar of long-term market value". Suppose a company with \$5.00 of equity per share is able to generate returns on incremental capital of 20%.

Table 1.2

	Year 1	Year 2
EQPS	\$5.00	\$6.00
ROE	20.00%	20.00%
EPS	\$1.00	\$1.20
DPS	\$0.00	
P/E	10	10
Price	\$10.00	\$12.00

The company's earnings per share would equal \$1.00. If that dollar was retained in the business and the company in the second year was again able to generate a return on equity of 20%, this would equate to 20% growth in earnings which if multiplied by a constant price earnings ratio of 10 produces \$2.00 of additional market value. The one-dollar retained has therefore created \$2.00 of market value and Warren Buffett's 'beneficial growth' requirement is met. A company however with the same metrics but generating only 5% return on equity would lose 50 cents of every dollar retained. In other words the "growth" would have a negative impact to the tune of 50% as Table 1.3 below reveals.

Table 1.3

	Year 1	Year 2
EQPS	\$20.00	\$21.00
ROE	5.00%	5.00%
EPS	\$1.00	\$1.05
DPS	\$0.00	
P/E	10	10
Price	\$10.00	\$10.50

Table 1.3 reveals the impact on market value for a company generating a low return on equity of 5%.

In this example the company has again generated \$1.00 of profits that will be retained. The additional dollar retained however has generated only 50 cents of market value. In other words the “growth” has had a negative impact to the tune of 50%.

As Buffett notes,

“Growth is always a component in the calculation of value...**whose impact can be negative as well as positive.**” And “In the case of a low-return business requiring incremental funds, growth hurts the investor.”

Businesses able to generate only mediocre rates of return on equity should not “grow” or raise capital but instead return profits to shareholders by way of dividends. It is these issues – declining return on equity and expanding business kingdoms – that must be considered when analysing real businesses listed on the Australian Stock Exchange.

For more information about Stockval and to access the FREE Demonstration Version simply return the below coupon by fax or call (02) 9252 8522.

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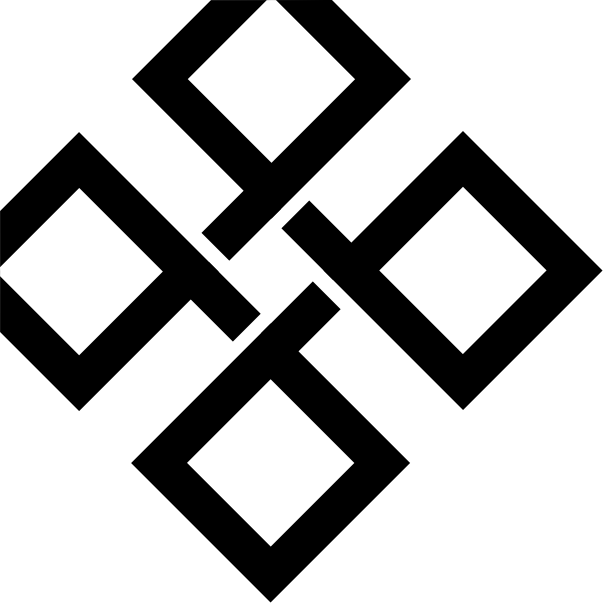
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