CYPRESS
CAPITAL MANAGEMENT

Investment Rate of Returns

Time-Weighted Rate of Return vs. Internal Rate of Return

Measuring investment returns is important. Unfortunately, when there are contributions or withdrawals into or out of a portfolio the calculation is not straightforward.

There are two common methods for measuring investment returns: the Time-Weighted Rate of Return (TWRR) and the Internal Rate of Return (IRR), which is also known as the Money-Weighted Rate of Return. Each of the two approaches has particular circumstances where it is the preferred method.

TWRR Method:

The TWRR method has been the industry standard. The goal of this method is to eliminate the impact of withdrawals and contributions into and out of a portfolio, so the performance of a portfolio can be compared to other portfolios or benchmarks such as the S&P/TSX Composite or S&P 500. The key drawback to this methodology is that it may not reflect an investor's experience in terms of dollar growth because of the presence and timing a significant contributions and withdrawals into and out of the portfolio.

IRR Method:

The IRR method recognizes contributions and withdrawals, which results in periods with more money in the portfolio having a larger impact on the IRR. This method addresses the primary drawback of the TWRR method but introduces a potentially more significant disadvantage in that a portfolio's IRR often cannot be meaningfully compared to another portfolio or benchmark.

If there were no contributions or withdrawals into or out the portfolio, the TWRR and the IRR methods would produce the same result.

Example:

The difference between the two methodologies is best illustrated with an example. Let's say an investor starts a portfolio with a $50,000 contribution. Three years later (i.e. beginning of year 4), the investor makes an additional $50,000 contribution.

	Starting Value	Contributions (Withdrawals)*	Ending Value	Portfolio Return
Year 1	$50,000.00		$52,500.00	5.0%
Year 2	$52,500.00		$56,175.00	7.0%
Year 3	$56,175.00		$49,434.00	-12.0%
Year 4	**$49,434.00**	**$50,000.00**	**$114,349.10**	**15.0%**
Year 5	$114,349.10		$123,497.03	8.0%
Total Invested	$100,000.00			
Ending Amount	$123,497.03			
Annualized TWRR	**4.2%**			
Annualized IRR	**6.1%**			

*Contributions (Withdrawals) assumed to take place at the beginning of the year

In this example, the annulized TWRR over the 5 years is 4.2%, while the IRR is 6.1%. This occurs because the investment portfolio had relatively higher returns in the last two years after the additional contribution. In this case the IRR may better reflect the investors actual return in dollars but the TWRR of 4.2% should be used to compare the performance of the portfolio to a benchmark or other investment portfolio.

To further illustrate how contributions and withdrawals impact the IRR, let's assume that the investor invested the $50,000 a year earlier.

	Starting Value	Contributions (Withdrawals)*	Ending Value	Portfolio Return
Year 1	$50,000.00		$52,500.00	5.0%
Year 2	$52,500.00		$56,175.00	7.0%
Year 3	**$56,175.00**	**$50,000.00**	**$93,434.00**	**-12.0%**
Year 4	$93,434.00		$107,449.10	15.0%
Year 5	$107,449.10		$116,045.03	8.0%
Total Invested	$100,000.00			
Ending Amount	$116,045.03			
Annualized TWRR	**4.2%**			
Annualized IRR	**3.8%**			

*Contributions (Withdrawals) assumed to take place at the beginning of the year

In this example, the TWRR would be the same 4.2% but the IRR would have dropped to 3.8% as the investor would have had a larger portfolio during the third year, when the annual performance was negative.

Our View:

At Cypress, we have designed our TWRR report to provide you with what we believe is the most relevant information concerning your portfolio. In addition to the annualized TWRR, the TWRR report includes a table outlining the value of the portfolio at the end of each year, the net contributions and withdrawals into and out of the portfolio and the TWRR achieved by the portfolio in each year. We believe this provides you with the ability to compare your portfolio performance since inception and annually to other investment opportunities such a benchmark, or different investment managers, as well as insight into how contributions and withdrawals have impacted the portfolio and how the portfolio has changed in dollar terms. We consider the new IRR report a complement to, and not a replacement of, the TWRR report.