Taking the Fear out of Retirement Savings in Equities

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The common advice financial advisors have for individuals is to start saving as young as possible, and to let the savings compound with time.

With interest rates being so low, putting one's money in fixed deposits is a very inefficient way of achieving the compounding effect. Consider this: It takes 72 years to double your savings from say, $100,000 to $200,000 at an interest rate of 1 per cent a year.

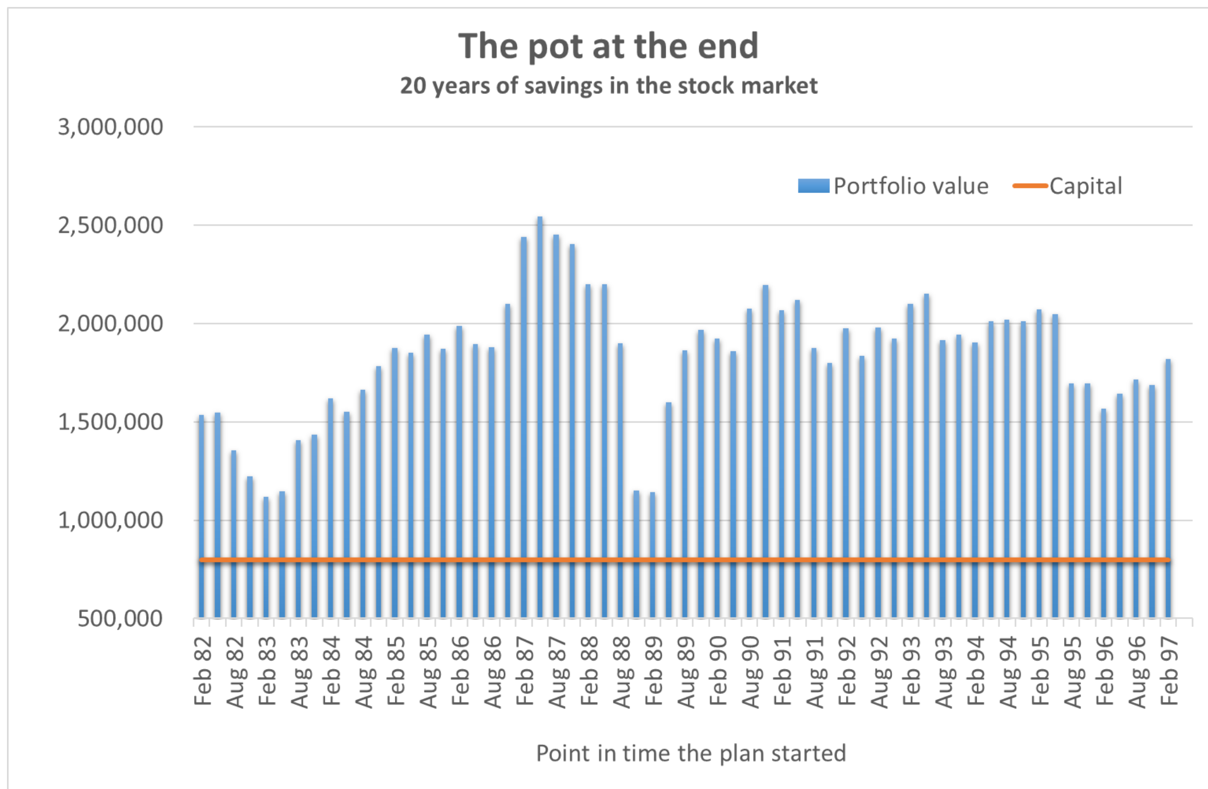
However, if you are able to find a way to grow your money at 10% a year, your $100,000 would grow to $200,000 in less than eight years. In 24 years, your $100,000 would have grown to some $1 million. That's the magic of compounding.

One way of letting the money compound at a faster rate is via the stock market. However, this route entails significant volatility as we have witnessed time and again for examples during the Global Financial Crisis, the SARS epidemic and the Asian Financial Crisis, just to name three.

Now, let's take a look at how market volatility impacts on one's retirement savings.

Let's just say the retirement savings plan entails putting $10,000 each quarter into the Straits Times Index for 20 years, with dividends reinvested. That's $40,000 a year, over 20 years. So the principal amounted to $800,000.

The chart below shows the value of the portfolio at the end of each 20-year period starting from 1Q1975.



The good news is, over a 20-year period, every single person who had consistently put money into the stock market quarterly would have managed to have a pot which is higher than the capital put in. Most people ended up with a retirement sum of $1.95 million – double that of the principal they put in.

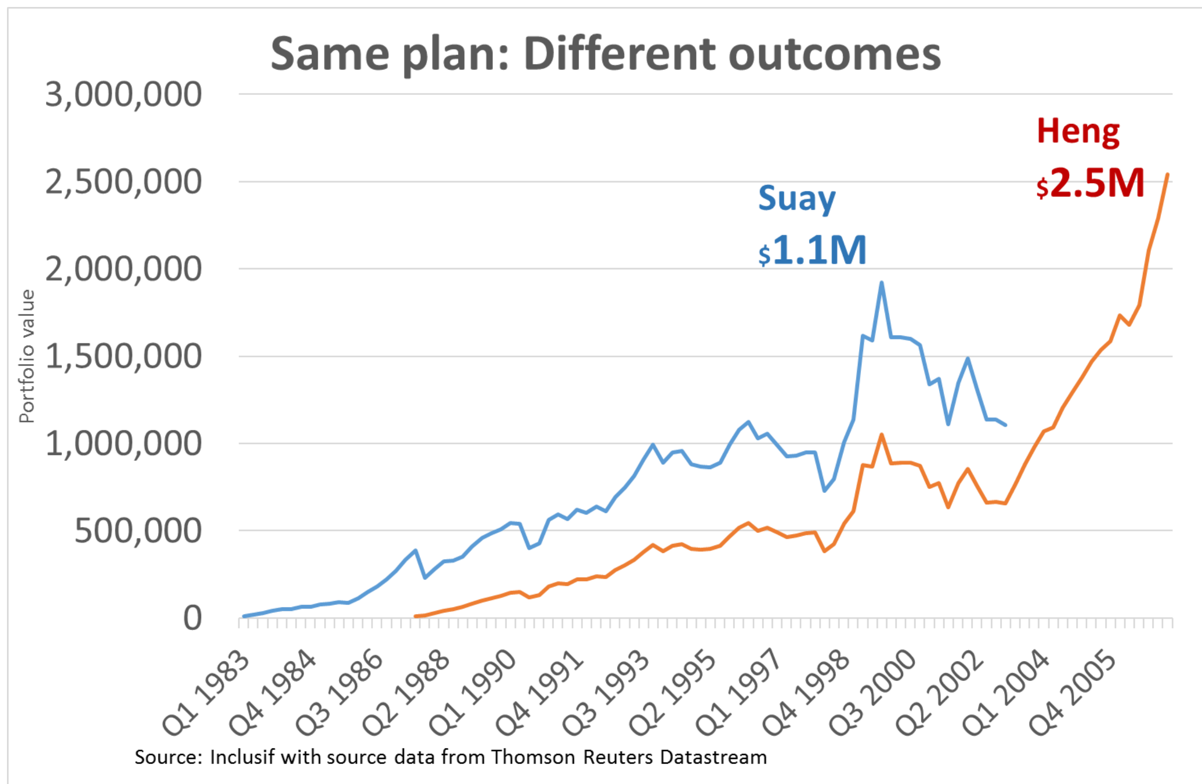
The not so good news is, depending on when one started investing in the market and when one retires, the outcome at the end of 20 years can vary significantly. It can mean a difference as large as $1.4 million! The lucky person, let's call her Heng, who started investing in 3Q1987 would have a pot of $2.5 million after her retirement as at 3Q2007. That's the peak of the market just before the Global Financial Crisis.

However, the person who joined the work force just four years earlier and started investing in 1Q1983, let's call her Suay, would end up with a retirement pot of just $1.1 million as at 1Q2003! That period in 2003 was when the Singapore market was depressed from fears of the SARS epidemic.

Sequence risk in retirement savings

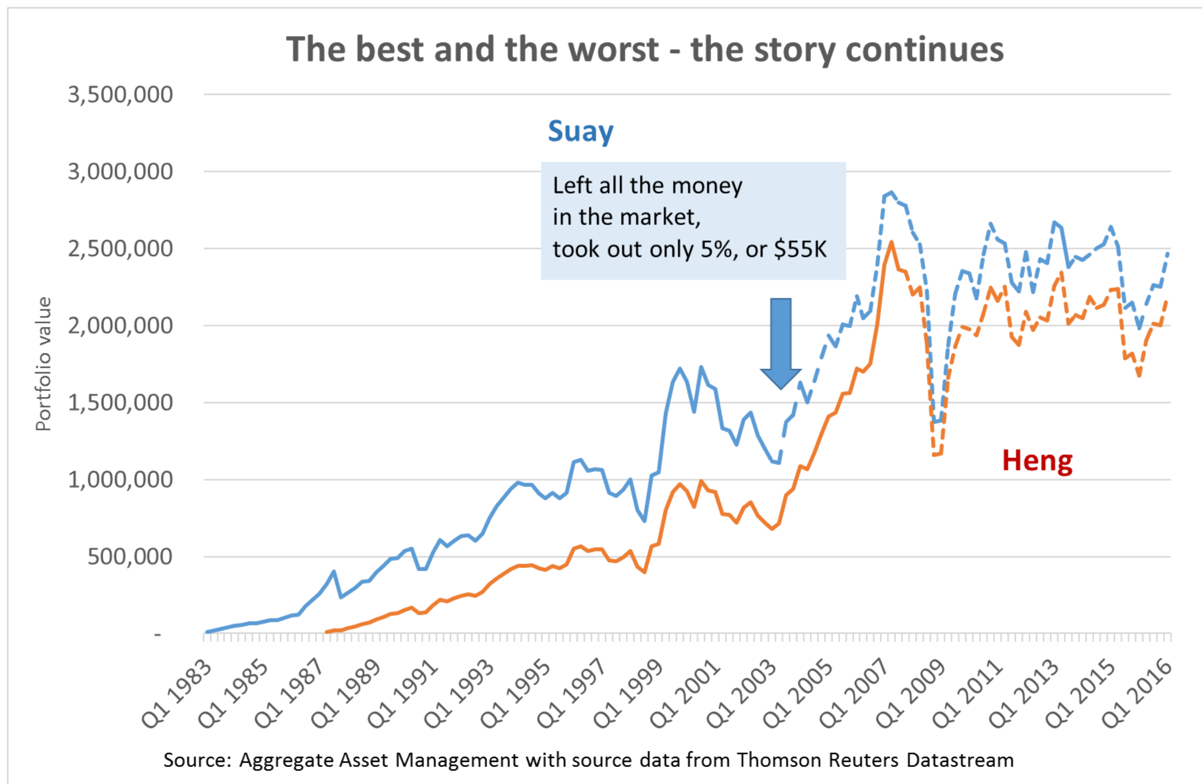
This is called sequence risk. A saver may earn different sequence of returns during the accumulation phase and that made a world of difference to the final outcome. In Suay's case, even though she got good returns early in her savings plan, she suffered bad returns near to her retirement when her account balance was higher. Heng, as the name suggested in Hokkien, was lucky to have caught the bull run from 2004 till 2007.

Here's how the two retirement savings plans grew over time.



Suay would have gotten very miserable returns for her 20 years of diligent saving had she withdrawn **ALL** her money as soon as she retired.

However had she left the bulk of the money in the market, and just took out 5%, or $55,000, to fund her living expenses that year, and continues to take out just 5% of the portfolio value every year since, her portfolio as of today would look like this:



Source: Aggregate Asset Management with source data from Thomson Reuters Datastream

Between 2003 and 2016, Suay would have taken out $1.5 million to spend and as at 25 Feb 2017, her portfolio is worth $2.5 million.

As for Heng, she would have done better had she taken out all her retirement pot at the peak of the market. But she needs to have the courage to reinvest the entire pool back when the market has corrected. Had she not, she is already worse off by keeping her money in the bank versus leaving it in the stock market at the point of writing this.

Let's assume she had taken out her total portfolio of $2.5 million and she left the entire sum in a fixed deposit that yielded her 2% a year from 2007 until now. And assume that she takes out 5% from her account every year. Up till end May 2016, she would have taken out $1.1 million and as at that time, she had $1.9 million in her account. The amount she is withdrawing reduces by the year as her account is shrinking since her interest is not compounding as fast as her 5% withdrawal every year.

In comparison, had Heng left the money in the market as what Suay had done, she would have taken out a slightly smaller sum of $1.06 million between 2007 and May 2016, and her portfolio at 25 Feb 2017, was worth $2.2 million. The recovery in the Singapore market in the last few months has lifted the pot significantly higher than $1.9 million – the level it was at in May 2016. The $2.2 million as at 25 Feb 2017 is also higher than $1.96 million, the amount she would have had in her fixed deposit had she withdrawn everything and put the money in the bank and took out 5 per cent from there every year for her spending money.

By leaving her money in the stock market, Heng will have to contend with the volatility of her spending money – it will fluctuate with the market. On the other hand, there is certainty if the money is left in the bank – the certainty is that the amount will get smaller every year as long as the interest rate is below 5 per cent.

	Heng			
	Savings in FD: 2% interest	5% withdrawal on FD amount	Savings in STI	5% withdrawal from STI
May-07	2,545,379	127,269	2,545,379	127,269
May-08	2,466,472	123,324	2,246,188	112,309
May-09	2,390,011	119,501	1,659,873	82,994
May-10	2,315,921	115,796	1,934,130	96,706
May-11	2,244,127	112,206	2,252,530	112,626
May-12	2,174,560	108,728	1,971,026	98,551
May-13	2,107,148	105,357	2,344,583	117,229
May-14	2,041,827	102,091	2,187,974	109,399
May-15	1,978,530	98,926	2,235,889	111,794
May-16	1,917,196	95,860	1,903,543	95,177
Total sum withdrawn		1,109,059		1,064,056

Notice also that Suay's retirement pot today is larger than Heng's. Starting early does pay.

	Suay	Heng
Portfolio at the point of retirement	1,117,330	2,545,379
Portfolio as at 25 Feb 2017	2,469,082	2,194,942
Years since retirement	14	10
Amount withdrawn	1,539,625	1,064,056
Amount withdraw from May 2007	1,196,196	1,064,056

To recap, for retirement savings, end of period market valuation makes a difference if **ONE DECIDES TO WITHDRAW <u>THE ENTIRE SUM</u> AT THAT POINT. IT IS LESS SO IF IT IS A PIECEMEAL REDEMPTION**. And for a plan of constant investment over a 20-year period, the starting market valuation doesn't really make a big difference either.

The takeaway is: stretching out the investment period and doing piecemeal redemptions take the stress out managing one's retirement fund and one will not be held ransom emotionally and psychologically to market gyrations. That's from the comfort of knowing that one will never run out of money with 5% redemptions a year from a pool invested in a basket of productive and decently priced companies. So one can tune out the market noise!

All the above analysis is done using STI, with dividends reinvested. No transaction costs are taken into consideration. And it is assumed that investments and withdrawals take place at a fixed rate at a fixed time of the year every year. Quarterly investments were done in end February, end May, end August and end November and redemptions are done in end February every year for Suay and end May for Heng to coincide with the month of their retirement.

Teh Hooi Ling is a fund manager. She is also the author of the Show Me the Money series of books, the latest of which – Ideas and Philosophies to Navigate Life and the Markets – is in the book stores.