Vertrauen Africa.

Compounding and Diversification

In investing, compounding and diversification are the primary factors in sustainably profiting from the financial markets.

Compounding:

The longer the time money is allowed to compound, the shorter it takes to make the same fraction of our initially invested capital.

As we allow money to compound, we make larger and larger fractions of our initial capital with little or no extra effort.

For example, a company named "ASYLVIA CARS PLC" buys 2 Toyota Corollas on January 1st, 2019 at ₦1,500,000.00 apiece and contracts those cars, on hire

purchase, to Taxify drivers who remit ₦25,000.00 – as part payment for the hire purchased vehicle – every week into the Company account. Asylvia PLC immediately moves the money into a Mutual Funds account. Assuming a conservative 12% per annum on the mutual funds' account, that brings the 2 years return to around ₦5,412,000.00 +80% profit. Impressive? It becomes even more impressive over the next two years. The next two years bring the total sum to around ₦9,600,000.00 or +220% in profit.

The more time we allow money to compound, the shorter time it takes to make the same fractions of capital.

For example, in year 1 it took twelve 12 months to make ₦1,200,000.00 or 80% of initial capital, and by year 4 it only took one 1 month and some weeks to make 80% of the initial capital.

Ceteris Paribus: the time it takes to make your initial capital as profit continues to get exponentially smaller and that is the power of compounding.

The power of compounding is that you are making the same average rate of return on bigger and bigger sums of capital without having to add more capital i.e. making exponentially greater sums without having to add extra capital or improved skill.

Law of Large Numbers:

The Law of Large Numbers, in a sense, states that as a set of numbers approaches infinity i.e. as the set of numbers becomes very large, the result should be close to its probability-weighted average or Expected Value. To simplify, it is easier to predict what the average result will be if you are betting on large numbers and timeframes.

For example, consider a coin. If we flip a coin say, five times, it is practically impossible to predict how many times we'll get a head and how many times we will get

a tail. However, if you flip a fair coin one hundred billion times you are almost guaranteed to get around 50 billion Heads and 50 billion Tails, and that is

the Law of Large Numbers.

Let's consider the average life expectancy. Say the average life expectancy for a Nigerian man is 54 years old. It doesn't mean that no Nigerian male will live longer than 54 years of age and it does not mean that no male will die under 54, what it means is – on average – after say 10 million Nigerian men have died the mean age would probably be 54.

If I had to bet, then, I would prefer to bet on averages (since they are fairly predictable) than on individual outcomes.

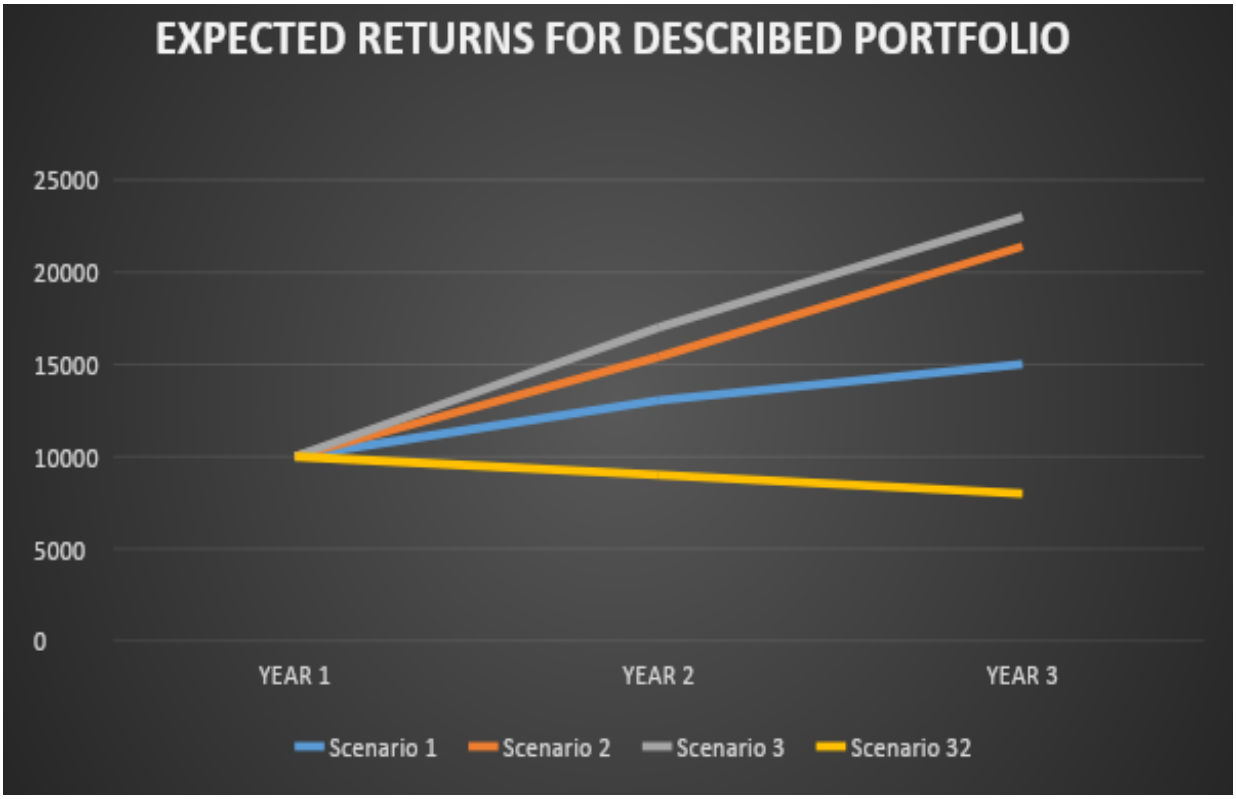
Diversification:

Diversification is owning different assets that are not highly positively correlated. It is useful in investing for many reasons including the Law of Large numbers. The probability of any single asset going up or down at any one moment in time is always an even 50/50 split so owning a few non-positively correlated assets gives better odds at long and short-term success.

Another pro is, we can allocate to riskier assets – often with large upside potential – without the metaphorical "playing with fire." We can gain exposure to asset classes with high upside potential and limit downside potential on our overall portfolio by diversifying. We do not want to be overexposed and we do not want to avoid these markets entirely. What we want is to have an allocation that allows us profit if the market does great but limits our losses to a small fraction of the portfolio should the market perform negatively. To illustrate:

In this portfolio example, we begin with $10,000.00 and put most of it in a Mutual Funds account and 10% of it in XMR (a cryptocurrency). We also assume a stable annual Interest rate of 15%. Let us also assume that this Cryptocurrency goes to zero

but the Mutual Fund performs as expected, by the end of the year, we will be left with $10,350. However, let's assume XMR goes up by 1000% (as Cryptocurrencies often do), by the end of the year you would own $21,350, and that is the magic of diversification.



- In *Scenario 1* (the blue line) we examine the rather unlikely event that the price of a functional cryptocurrency like Monero (XMR) goes to zero and the annualized interest rate for the Mutual Funds remains at a steady 15% over 3 years.
- In *Scenario 2* (the orange line) we examine the historically likely event that the Naira gets devalued by -25% and the cryptocurrency in our portfolio grows by +1000% over 3 years.
- In *Scenario 3* (the grey line) we examine the historically unlikely but plausible event that the Naira does not get devalued, the interest rate stays at a steady +15% and our cryptocurrency grows by 1000%.
- In *Scenario 32* (the yellow line) we examine what is a reasonable worst-case scenario. The cryptocurrency goes to zero, the Naira losses a quarter of its value,

and interest rates do not rise. Even in the worst-case scenario we avoid getting bruised too badly.

Essentially diversification helps give us exposure to [gain from] assets with high upside potential (and notably more risk) without having the risk show up on our entire portfolio.