Payoff Investing

The 4 Ps of Individual Investing

Introduction

Payoff investing is an investing concept centered on individual and family investing choices. Its emphasis is less about the instruments or asset classes utilized in personal portfolios but on the eventual outcomes of these portfolios. Little emphasis is placed on names or instrument types because individual portfolio cashflows can be structured to deliver outcomes with clear preferences, loss criteria and expected wins.

Its main objective is to ensure that individuals maximise their lifetime wealth opportunities through a meaningful allocation of limited available resources. Put differently, maximising one's lifetime investment payoff function. At the point of investing, individuals are clear about the various outcomes that can emerge from holding an instrument, a stock or bond and its potential impact on their wealth growing opportunities.

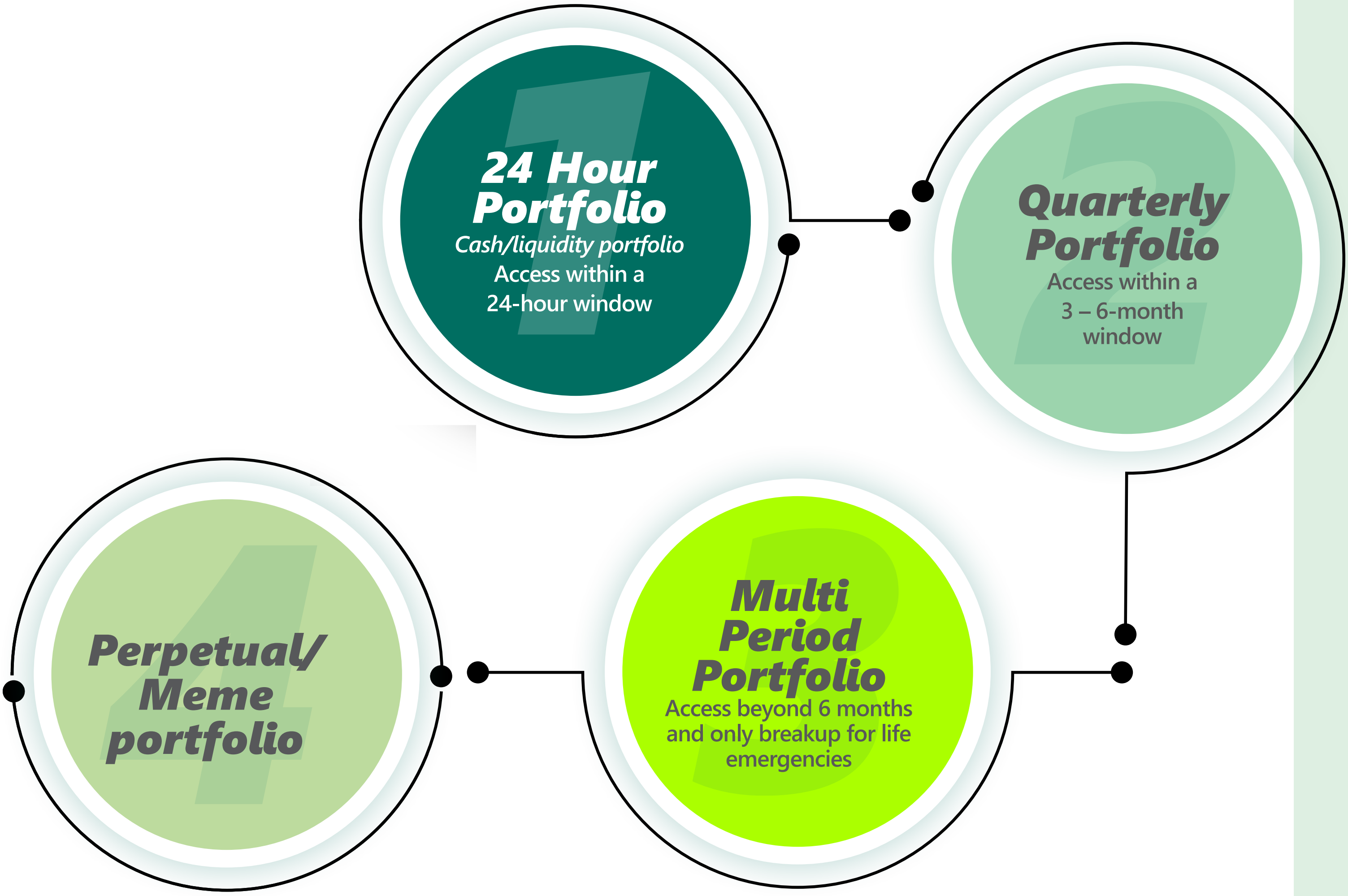
Research continues to show that when faced with conditions of uncertainty in the decision-making process, individuals are not expected utility maximisers. Investors will react to information, returns, changes and risk in ways suited to their understanding of the World using the rules of thumb available to them. As a result, investing decisions and portfolios must conform to the understanding of the holders of the portfolio and their expectations over the course of their lives. This approach helps prevent destructive patterns like closing out an investment when faced with a temporary drawdown or decline in returns. Its origins are in the behavioural sciences and game theory.

Traditionally, individuals are encouraged to worry about specific instruments; stocks, bonds, commodities, and currencies, drilling down to granular levels. There are hundreds of thousands of listed companies in different industries, in different countries, with different strategies. It is difficult to see why individual and retail investors fall into the trap of restricting their lifetime opportunities by following difficult to implement ideas. Some market participants also actively encourage investors to maximise their sharpe ratios. Sharpe ratios are very useful and great when managing resources for endowment funds but fall short for individuals who have a very different profile and behaviours. Choosing and finding skilled investment managers is a difficult task and tends to deliver below simple market index returns over an extended period. Strategies that may work for a decade may fail in the successive decade.

Individuals save and invest to meet their future needs; from retirement expenses, to healthcare, to education of their children, to leaving a meaningful legacy or inheritance for their children. It is important to remember that some individuals also enjoy the thrill of abnormal profits from investments or lottery type stocks. This behaviour is not abnormal, it delivers non quantifiable benefits and enjoyment to those who throw this element of uncertainty into their cashflows. As these disparate actions form how some individuals behave, payoff investing takes these critical behaviours into consideration in how portfolios are constructed.

Research shows that individuals tend to think about their money in various buckets; payoff investing also considers these buckets and incorporates optimal instruments into these portfolios. In Nigeria, the retirement savings accounts are largely directed by a government-controlled entity and as such within the Nigerian context, final retirement accounts are treated separate from these. However, these can be included easily within the Perpetual bucket or portfolio.

Our work is to provide a meaningful solution split into portfolios buckets.
These include:

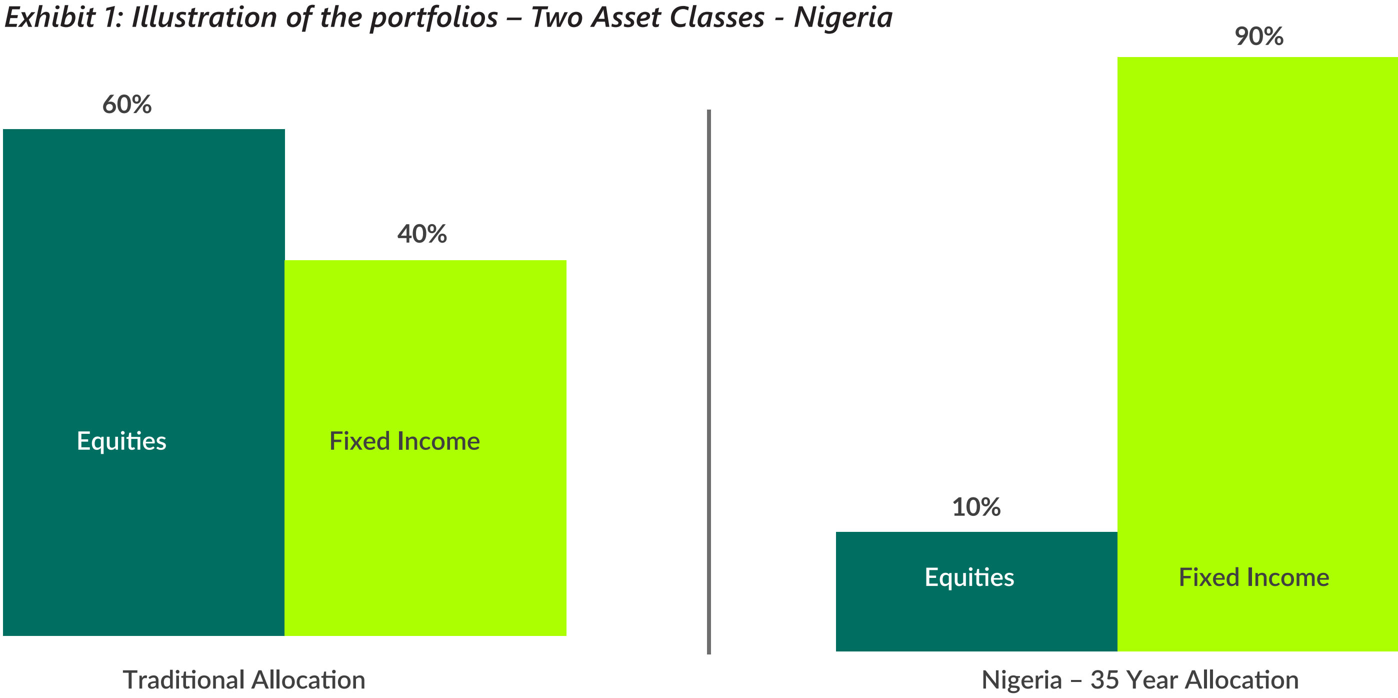


The instruments that go into these various portfolios are highlighted below:

Type of Account / Bucket	Instruments / Cashflow Profile	Payoff Profile
Near Portfolio It's a near term portfolio for near term cashflow requirements This will hold fixed income like instruments as they meet immediate needs, significant drawdowns are not tolerable here. The individual investor knows with a great degree of certainty daily how much is accruable when this account is emptied out for immediate needs. Replacement of a fridge, a new telly, hospital bill etc. The weight in the portfolio of the individual is dependent on their age, income levels and aversion to losses. Younger people should hold a lower amount of their available savings in an account of this nature because the rates of return within this payoff profile is rather low. Liquidity is the key variable at hand here.	24hr money market fund Call / fixed deposit accounts Short term government securities Structured note with 24-hour call feature with no termination costs attached.	Outcome is simple. Amount held in portfolio plus accrued interest. Payoff = Principal + accrued interest (Time dependent) No penalties should ensue or loss of accrued interest.
Quarterly portfolio	***Money Market Funds*** Longer tenured bond like investments, CP's (depending on wealth levels) ***Variable Income Notes*** A simple tenured principal protected note with partially guaranteed returns or note depending on where the client is at through their lives.	Payoff profile = Principal + accrued returns (variable dependent on time). The longer the duration of cash in this bucket, the higher is the compounded return received. Minimum outcome = Principal + fixed return component over time

Multi period portfolio	Primarily variable investments or notes with no principal guarantees attached. Outcomes can be hedged for more loss averse individuals. Choice of hedge approach also important. A portfolio hedge approach is preferred to individual instruments. A simple note can be structured to meet the preferences of the investor incorporating concepts like impact investments and sustainable cashflows can also be incorporated. Bespoke index funds replicating a global portfolio should form the building block for this portfolio to benefit from country diversification and currency diversification. Adjustments for themes like outperformance of emerging market equities can be incorporated into the mix.	Payoff profile (unhedged) = Starting investment + / - return from note, investment etc. Minimum outcome is hedged portion of portfolio. Expected volatility will also be stated alongside potential drawdowns based on historical examples. Limits to these downsides can be set, thereby improving the startoff payoff profile.
Perpetual / meme	This is where the highest potential for loss instruments go. For those looking for capital appreciation opportunities from a variety of existing instruments today. The important criteria is the size of total investment cashflows that go in. A very limited amount flows here. It's important to view the buckets as a waterfall, this is the last bucket to get filled. In certain instances, for older less affluent individuals, the bucket will remain empty.	Payoff profile = Investment amount + / - return. Minimum outcome is zero. Profile is simply unhedged for maximum upside. Downside is limited to investment amount

Exhibit 1: Illustration of the portfolios – Two Asset Classes - Nigeria



Asset class returns globally and locally (Nigeria) are well researched, Exhibit 2 and 3 are an illustration of these returns for Nigeria and the rest of the World. Similarly, simple asset allocation strategies are captured in the other associated tables Exhibits 4 – 5. It is apparent that both real estate and equity instruments contribute the highest potential to portfolio outcomes returns wise, however the allocation of capital to these asset classes when considering the four buckets approach requires a careful approach. As such, one could view this approach as an optimization problem with clear objectives and a set of simple constraints attached to it.

Exhibit 2: Returns to various asset allocation strategies in Nigeria over 35 Years (1985 – 2020)

Real rates of return	*Bills*	*Bonds*	*Equity*
Annual rate of return	-4.37%	-2.51%	3.52%
Standard deviation	11%	18%	27%

Nominal rates of return	*Bills*	*Bonds*	*Equity*
Annual rate of return	12.15%	14.25%	22.78%
Standard deviation	5%	10%	35%

Exhibit 3: Rates of return (real and nominal) to World assets (1950 – 2015)

Real rates of return	*Bills*	*Bonds*	*Equity*	*Housing*
Annual rate of return	2.13%	3.99%	9.45%	8.91%
Standard deviation	10.59%	13.78%	26.15%	14.92%
Nominal rates of return	*Bills*	*Bonds*	*Equity*	*Housing*
Annual rate of return	5.74%	7.61%	13.20%	12.75%
Standard deviation	10.97%	13.90%	26.67%	15.36%

Source: Taylor et al. (2019)

Exhibit 4: Nominal Returns to various asset allocation strategies in Nigeria over 35 Years (1985 – 2020)

Allocation	*Adjusted Return*	*Annual Return*	*Multiple of Cash*	*Standard Deviation*
PPN*	13.91%	15.58%	4.87x	13.49%
100% Debt	10.99%	10.56%	3.85x	6.44%
10/90 Allocation	10.60%	11.10%	3.71x	7.91%
40/60 Allocation	9.44%	11.22%	3.30x	15.70%
60/40 Allocation	8.66%	10.83%	3.03x	20.03%
90/10 Allocation	7.49%	9.91%	2.62x	25.61%
100% Stocks	7.10%	9.53%	2.49x	27.35%

*Please see Oduwole (2021) - The curious case of Nigerian asset allocations
Available at - www.payoffinvesting.com

Exhibit 5: Dollar Returns to various asset allocation strategies in Nigeria over 35 Years (1985 – 2020)

Allocation	*Annual Return*
PPN	0.63%
100% Debt	-3.45%
10/90 Allocation	-2.94%
40/60 Allocation	-2.84%
60/40 Allocation	-3.21%
90/10 Allocation	-4.08%
100% Stocks	-4.43%

So how do we allocate these assets?

Exhibit 6: Base case allocation to the four portfolios for a representative individual

Base case	*Early career*	*Development*	*Peak*	*Pre retirement*	*Retirement*
Near portfolio	5%	5%	5%	10%	10%
Quarterly portfolio	5%	10%	40%	40%	45%
Multi period portfolio	85%	80%	50%	45%	40%
Perpetual portfolio	5%	5%	5%	5%	5%
Total allocation	100%	100%	100%	100%	100%
Age range	*25 - 34*	*35 - 50*	*51 - 62*	*63 - 68*	*70*

Its important to note that these allocations do not take individual and family preferences into consideration, but these are a simple guide to thinking about how these portfolios could be held.

The focus for the holder or the designer of the portfolios would therefore be to match the potential withdrawal or adjustment requirements through payoff profiles. Investing directly into the asset classes that generate the payoff profiles is also a meaningful approach but potentially tedious for non-finance professionals.

About the author

Oladayo Oduwole

Oladayo has been researching asset pricing and pricing anomalies for over 15 years.

Contact: *Oladayo@cefmr.com*

Twitter @TheRealOladayo