

THE INVESTMENT MONTHLY

BANISHING GIGO

Asset-Liability simulations help prepare you for how your balance sheet copes with the unexpected.

But what comes out is only as good as what goes in: we must know what states of the world might prevail.

In this issue we look at the perils of being precisely wrong versus approximately right.

Knowing the range of potential outcomes tells you what you might have to confront in the future.

Knowing what's affordable and what isn't helps decide what amount of risk should and should not be taken.

RADICAL UNCERTAINTY

Pension plans and endowments sometimes forget they are liability managers, and the basic role of asset allocation gets lost chasing the thrill of the deal. Yet, the value of every asset we own is a discounted cash flow, as is the present value of our liabilities. Every asset we own is sensitive to unknown future changes in interest rates. While the coupons on bonds are fixed, borrowers still default so cash flows are uncertain as well.

Interest rate trends begin and end in the economy, and in today's world of economic policy management what policy makers do – or don't do – will have a big impact on your investment outcomes. Some bad policy choices in the past forty years have delivered zero interest rates and moving them up is Herculean if not Sisyphean in the absence of radical change.

Our clients spend a lot of time thinking about how to allocate their assets and manage their managers—whether they consciously link them to liabilities or not. When someone enters a defined benefit plan, they may be in that plan for sixty years. Any number of investment regimes may prevail in that time. When an endowment with an infinite life is thinking about its investment horizon, there are an infinite number of potential opportunities – for good and ill. One can invest in haste and repent in leisure, so it's best to think about the potential outcomes that lie ahead lest repentance be your fate.

The Costs of Being Precisely Wrong

Actuaries like precision, and economists equivocate in approximation. The advent of value at risk and the quantitative take-over of investment management as a way to distance managers from the perils of discretion, caters to the illusion that if it's programmed in python then it must be perfect. Quantitative precision is the antidote to human error. Except – for now anyway – a human wrote the code!

In their 2020 book *Radical Uncertainty*, Kay & King emphasise that it is better to have true but imperfect knowledge than seek certainty that doesn't exist. Instead of asserting that a given scenario has a precise probability of achievement, they argue that it's better to know a range of possible outcomes and to prepare for them.

Those Who Fail To Plan...

Critics of Kay and King respond that preparing plans for any eventuality strains resources, and this is a fair response. But it does not exculpate us from anticipating what might happen and how we should respond.

In the current macroeconomic environment, the ability to use monetary policy as a car to drive the economy is a car out of gas. The interest rates that people actually pay can't go much lower to stimulate growth without causing other problems. This leaves fiscal policy as the only game in town, and fiscal managers are convulsed with fear about debt sustainability.

Looking at this landscape, and anticipating what interest rates might do, an asset allocator would rationally discount stagnation. Interest rates will likely be just above zero far into the future, inflation will be barely positive, economic growth will bump along, and expected returns will be very low. And she might not be wrong. This is where Japan has been stuck for a long time.

Plan to Fail

If something is unsustainable then it will stop. Revolutions happen when the expectations of a large share of the population are not met, and a lot of people in the world are unhappy with their lot. So, change is coming.

In times of economic crisis- and if zero interest rates don't signal a crisis then I'm not sure what does -- the relationship between fiscal and monetary policy changes. Monetary policy now meets the needs of fiscal policy by money financing the government budget and targeting interest rates instead of inflation. With bloated balance sheets, governments need low interest rates to keep the fiscal train on the tracks. Who's managing inflation? Who

Who indeed now that the central bank has become handmaiden to the finance minister.

In this world interest rates are low and stay low. Growth will be what the fiscal authority has the courage to pump out, and inflation must manage itself. Lower for very long with the added excitement of much less predictable inflation.

The impact of this regime change – ushered-in under cover of the Covid-19 emergency -- on asset performance can be the difference between meeting your liabilities ten to twenty years in the future or not. Knowing what potential regime change means for your plan or endowment will undoubtedly inform the validity of your choice today and definitely tells you of the risks that lie ahead.

What Happens to Interest Rates?

When the central bank acts as fiscal agent, it holds nominal interest rates at both short and long maturities at a targeted level to support the fiscal authority. Debt and financing have to be sustained and that is all that matters. At least for now. Inflation must fend for itself.

The swing to money financing and the end of inflation targeting is begging inflation expectations -- and actual inflation – to surge, and if so then real short rates decline passively. Rising inflation expectations cause long-term break evens to widen, and real rates to decline reflecting lower real short term interest rates and the excess demand for a scarce inflation protection asset.

If past is prologue, when inflation finally rears its head, it will be all of a sudden. It will hit hard and hit fast; don't blink.

What Happens to Equities?

What does that mean for today's expensive equity markets? That they are expensive is not in question. The cyclically adjusted price-earnings ratio, or CAPE, of 37.7 is sitting at the top 2.0% of the entire distribution since 1881.

According to Bob Shiller, the maximum is 44.2, so if dividends are roughly constant over time at 1.5% and earnings growth will be 1.5% then those positioned for significant equity upside are betting on multiple expansion. Reaching the old CAPE high means a gain of 27%. But this means you aren't an investor but a speculator.

What's at risk to capture this gain? The average CAPE since 1881 is about 17.1. At the 2% mark at the bottom of the distribution is a CAPE of 6.3. Mean reversion alone would see a capital loss of

50%. More jarring still is a trip to the bottom 2% of the CAPE distribution; this would deliver a capital loss of 81%.

This doesn't seem like a good risk-reward choice for a long horizon investment decision when the economic regime is shifting shape.

Bob Shiller's suggests we look at the excess CAPE yield – the CAPE yield less today's bond yields and inflation—which is a mere 3.4%. This seems poor return for the equity risk staring us in the face.

Stocks for The Long Run

As a liability manager looking to secure cash flows decades in the future, you can ride-out the swings in equity valuation if you don't overpay on the way in, and you are cash flow positive. But, if you are an old DB pension plan you likely are cash-flow negative or likely soon to be so. And, if you are an endowment then if all you get paid is the excess CAPE yield of 3.4% you need a surge in donations and bequests to make it last into the future. Well, the population is ageing, but best not to roll the dice on death.

Buying Manager Alpha – Separating the Wheat from the Chaff

Meeting future cash flows with such low expected returns, constrained by the need for affordable pensions and minimum tax mandated disbursements for endowments, means taking lots of risk in the hope of return. If one gets it wrong, then one will have to beg for both resurrection and redemption.

Alternatives to risk are few and far between. Many plans have chosen to go private, often in the equity space. The risk of loss remains the same, it just costs more to assume. The absence of mark-to-market valuations makes for an easier day-to-day existence, but all it does is make the risk opaque.

That's why so many liability managers do it themselves, they save on fees and avoid difficult conversations. Clearly there are both significant transparency and agency issues. You had better control for manager character, and have top-notch governance, if you go internal.

We know that alpha is difficult to find, and with the weight of capital flowing to privates, not only will managers find it harder to separate the wheat from the chaff, but the allocator may well end up buying the chaff. There is also a top-of-house agency issue, as the allocator is likely long gone before we know whether we will feed the chickens with grain or chaff.

Finally, size matters. The bigger you are the less successful shopping for alpha will be. Alpha – whether in the private or the public market space – is a better option for the smaller endowment fund who can find nimble managers in a less crowded space.

Don't Let the Past Shape the Future

Today's hurdle rates were set in a time when expected returns were higher than they are today. All institutions have opted to take additional risk in an attempt to meet the old hurdle. Recontracting to acknowledge today's expected returns meets political and administrative challenge. So stocks for the long run it is. After all, liability managers and their asset managers are the ultimate long-term investors so they can ride it out.

But, these investors are also farmers: they must reap an annual harvest to feed their annuitants, so values at specific points in time matter when the cheque needs to be cut.

Things never turn out the way you thought they would, but that doesn't mean you shouldn't try. Today's economic world is neither what it was – obviously – and is unlikely to be what we think it will be.

When you allocate assets you are making choice under uncertainty, and your allocation is (hopefully) the best constrained maximization of expected returns you can find. But it isn't meant to be static. Times change, risks change, and expected returns change and it's best to respond to that change tread the imagined unchanged path to ruin.

Instead of pretending that you know the probable outcome and making a best guess, sketch-out a few different states of the world and see what might happen to your ability to meet your liabilities.

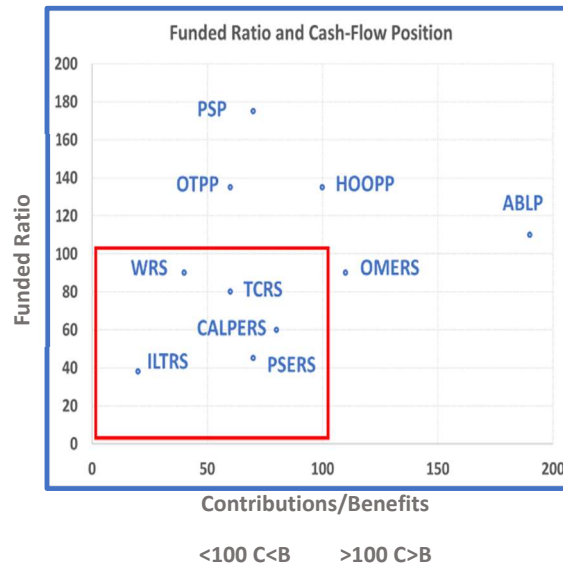
All of us have difficult conversations on a daily basis, but none are more difficult than the conversation about lost money or dashed expectations. Better to prepare your constituents ahead of time and let them know what's at stake, what can go wrong, and how much it costs to fix it. Misery loves company.

A Three-Foot Fence Towers over a Six-Foot Hole

A recent paper from Lipshitz and Water "Public Pension Reform & the 49th Parallel, Lessons from Canada for the United States" points-out the difference between those who manage to their liabilities and those that don't. In their comparative analysis of Canadian and U.S. pension plans, they identify stark difference in outcome and challenges.

Choice of discount rate is important – if it's too far from reality then so is the pension promise. Also important is the mix of assets chosen to meet the liabilities. Many US plans have a lot more equity exposure than Canadian plans, and many of them do so as they face negative cash flows and are underfunded.

Figure 1: Funded Ratio and Cash Flow Selected US & Canadian Funds



In the graph reproduced here, many US plans inhabit the bottom left corner. They are both underfunded and subject to negative cash flow. US plans have fewer liability matching assets and more risk assets.

The causality is not clear: did this put US plans at a relative disadvantage or are they there because they desperately need the upside from the equity risk premium to get them out of the hole?

Most of the answer is found in past labour bargains settled for lower wages today on the promise of a good pension tomorrow, one that was never provided for with adequate contributions. Regardless of the answer, the closer you are to the red square, the bigger the bet on risk you are taking.

Great Expectations

Do you want to be an actuary or an economist when it comes to asset allocation? Well, as an economist I would prefer to be approximately right than precisely wrong but neither state is satisfactory. We all go into the world with big expectations and we must all adjust when those expectations are not met. How well we manage the outcome is very much a function of how well we prepared for the change. Take the time to consider the range of outcomes, so that when one of them comes along you know what you are going to do. Best not to find your self hoping for the best and not prepared for the worst.

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