Prerequisite CAPITAL

See page 8 for Portfolio Results

3rd Jan 2018 // Quarterly Client BRIEFING

Dear Valued Client,

[As an unexpected blessing, we increasingly count as clients a very wide and varied audience of investors within our portfolios – ranging from teachers, engineers, retirees, business owners, to an increasing array of investment & finance professionals (some with more experience than we have years behind us). As a result, it has become more challenging for us to write these Quarterly Client Letters in a manner that is helpful to the full array of our diverse clients. *We would encourage all clients to talk with us further if there is anything in this letter (or any of our letters) that you would like further clarity around.*]

> *"The approach of systems thinking is fundamentally different from that of traditional forms of analysis. Traditional analysis focuses on the separating the individual pieces of what is being studied; in fact, the word "analysis" actually comes from the root meaning "to break into constituent parts." Systems thinking, in contrast, focuses on how the thing being studied interacts with the other constituents of the system – a set of elements that interact to produce behaviour – of which it is part.*
> *"This means that instead of isolating smaller and smaller parts of the system being studied, systems thinking works by expanding its view to take into account larger and larger numbers of interactions as an issue is being studied. This results in sometimes strikingly different conclusions than those generated by traditional forms of analysis, especially when what is being studied is dynamically complex or has a great deal of feedback from other sources, internal or external."*
> **...Daniel Aronson**
> *(www.thinking.net)*

Unappreciated Structural Undercurrents.

In assessing the global environment within which we must make investment decisions – *to drive returns whilst preserving capital* – occasionally we find ourselves led to conclusions (by a series of observations and 'data-driven' common-sense) that are strikingly different to the majority of market participants.

...underlying issues & vulnerabilities within the global banking & financial system have increased (not decreased) since 2007...

As a result of conversations with our clients and investors, we have concluded that we need to expand on the current situation that is unfolding in the world *as pertaining to the banking and financial system globally* – we are a little cautious in approaching this discussion as we need to venture into realms that are a little more 'complicated' relative to a typical investor's level of understanding – so we'll do our best to describe things in an absorbable format in this letter – but if you are interested in a more detailed and extensive explanation of these issues, you will find it within our *Portfolio Construction Strategist (**PCS**) Reports* [available to our existing Australian Portfolio management clients on a complementary basis (subject to account size minimums), available to everyone else via annual subscription - *see www.prerequisite.com.au/research for more information*].

▶ *Some Background to the Present Situation:*

Contrary to popular belief, Central Banks presently account for a staggeringly 'small' amount of money (or liquidity) creation in the world.

...when it comes to money creation in the global system, Central Banks are currently not as important as people think they are...

Central Banks do however play a more significant role in the shaping and reinforcing of the *'incentives'* within which capital must operate.

Liquidity (or more simplistically 'money') creation and contraction occurs 'mostly' within the private (i.e. non-Central Bank) banking and financial system of the world.

There is a BIG difference between a dollar of liquidity created by *Central Bank* activities, and a dollar of liquidity created because of the interactions of *non-Central Bank participants* – both sources of liquidity creation are in a sense 'confidence'-driven, but for vastly different reasons.

Frequently if market participants see that Central Banks (or Governments) are becoming active in the creation & provision of liquidity, they realise that this is a 'reactive' recognition of bigger problems within the system – and so market participants in aggregate often don't respond to the provision of central bank liquidity in ways in which the academics (running the central banks) would like or anticipate... i.e. a healthy, sustainable system requires no significant injections of Central Bank liquidity.

▶ *The Current Predicament:*

Presently what we have in the world is a condition wherein **the global banking & financial system has grown to such an excess *that it is increasingly starting to strain under its own weight*** (with issues pertaining to OTC Derivatives, Off-Balance Sheet funding structures, wholesale/Eurodollar liquidity creation, maturity miss-matches and forms of collateral-backed liquidity creation in the context of a *more indebted* world that makes the pre-2008 financial-crisis world look almost desirable by comparison).

...'traditional' bank analysis suggests banks are 'strong' because of improved capital backing – a complex systems analysis of the same global banks reveals they are not just weak, but dangerously positioned...

Ironically, when most investors study the top 15 global banks in the world *'in isolation'* of the interrelationships and issues that arise when you take a *broader* look at the complex global system – you will hear them mistakenly talk about the improved 'capital' positions of these banks, thereby implying the relative 'safety' or strength of the banks globally.

"One reason that risk premiums may be low is precisely because the environment is less risky... The Fed has long focused on ensuring that banks hold adequate capital and that they carefully monitor and manage risks. As a consequence, banks are well-positioned to weather the financial turmoil."
...Janet Yellen, July-September 2007

However, when you step back and *"take into account larger and larger numbers of interactions as an issue is being studied. [...You are led to] strikingly different conclusions than those generated by traditional forms of analysis"* (see D. Aronson quote on the first page)... you start to realise that the banking and financial system globally is *more* (not less) fragile than it was in 2007.

"I think the public can see the capital positions are very much stronger this year. All of the firms passed the quantitative parts of the stress tests. "Would I say there will never, ever be another financial crisis? You know probably that would be going too far but I do think we're much safer and I hope that it will not be in our lifetimes and I don't believe it will be."
... Janet Yellen, June 2017

At the same time we have seen *globally* a decisive deterioration of (in substance) '**high quality' assets and collateral**... dysfunctional liquidity conditions (money & credit) nevertheless is still out-pacing a shrinking 'quality' asset base – people also mischaracterise this issue as a 'currency' problem – forgetting that the ultimate definition of currency at a first principles basis derives from 'unencumbered productive private enterprise'. In a world awash with excessive levels of debt and debt-like structures (requiring increasing government intervention to sustain), little wonder that *productive private enterprise* is progressively becoming more and more 'strained' whilst *overcapacity* is continually being sustained.

...the periodically increasing strains in the global banking and financial system are increasingly being reflected in higher structural demand for US Dollars and also US Treasury Bonds...

But what does this strained liquidity condition look like in data?

When we measure the magnitude of the implicit 'incapacity' of the global financial system's balance sheet *(explained in proper detail within our more recent PCS 019 Report)*, we find it unsurprising that it tracks well both the changed conditions underpinning the US Dollar globally and also the implicit 'collateral bid' aspect is one of the primary drivers of US Treasury yields more generally.

"Without data you're just a person with an opinion."
...W. Edwards Deming

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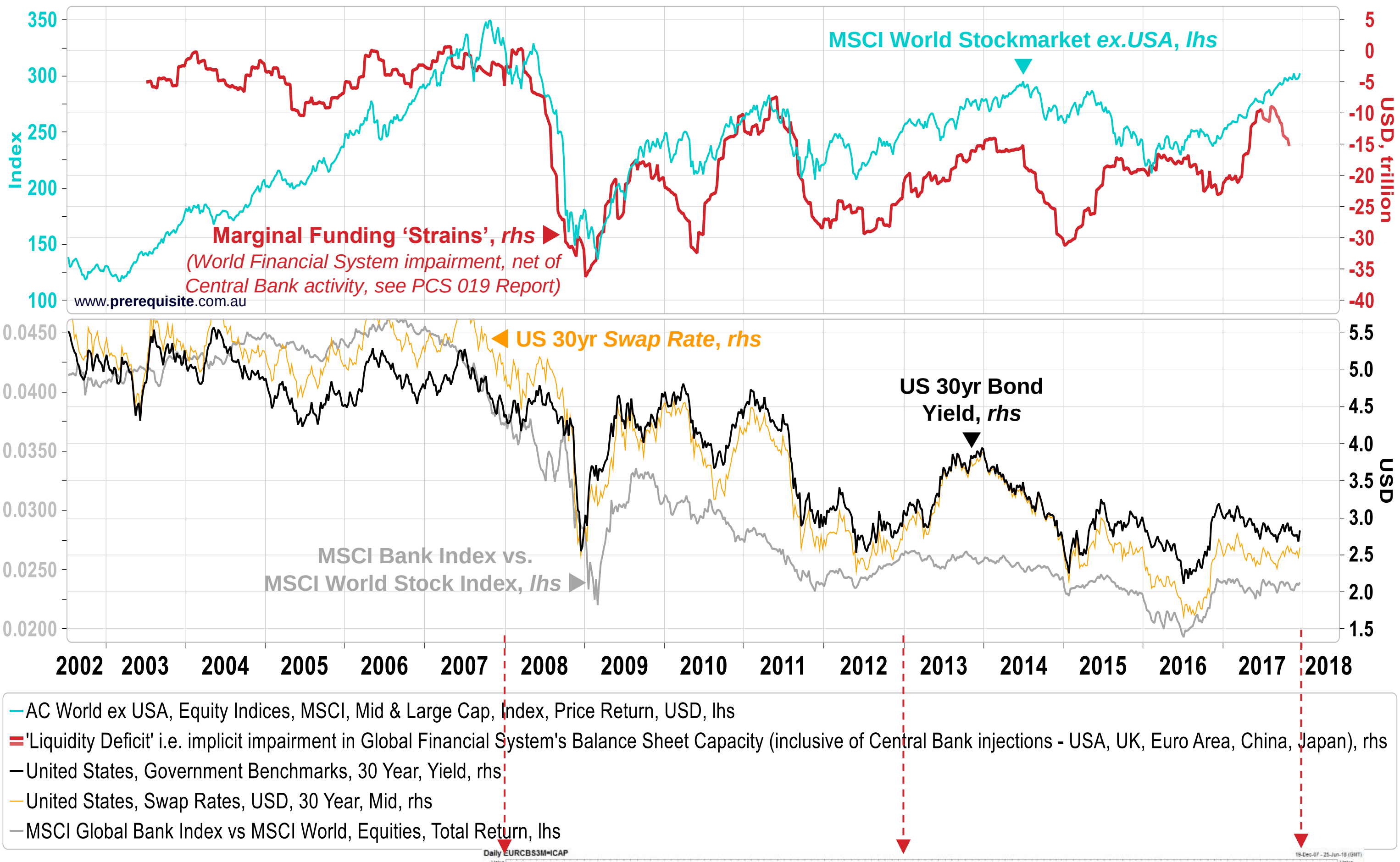
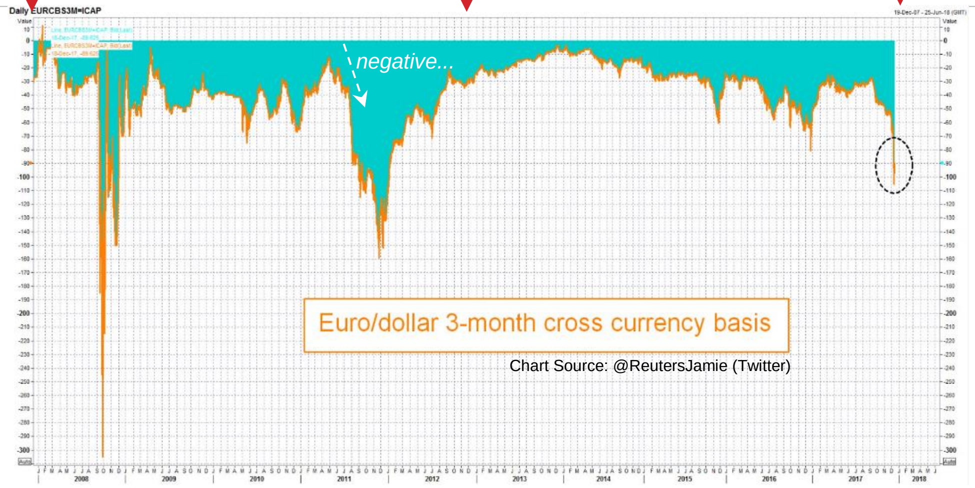
...*a simple understanding of this chart is just to focus on the 'top panel' and to forget the rest of the page*
--- *it shows that* ***the global financial system has been impaired with an effective liquidity 'shortfall'***
that has oscillated between circa -35trillion to -7t USD since 2008*, and this is despite*
a (sluggish) global 'growth' cycle and much Central Bank intervention...



...a somewhat more involved explanation is that the impairment of the global banking and financial system has had substantial effects around the world, with its sub-cycles accounting for most of the transitory 'reflationary' sub-cycles we have seen for the better part of the last 10 years.

You can see the interplay of these issues manifesting with alternating expression in the US Dollar (& US Treasury Prices) on the one hand, and swap spreads & the cross currency basis on the other.



The liquidity impairment measure at the top of this page is primarily the difference between the 'demand' for cash and collateral (by the global financial system) relative to the marginal 'supply' of liquidity created by the global central & commercial banks (combining the USA, UK, Euro Area, China & Japan)... with the deficit of supply being tenuously filled by the shadow banking system's use of rehypothecation and greater pressures towards the use of maturity miss-matched funding sources.

The demand for cash and collateral in the world is also highly related to the volatilities of global asset markets (bonds, FX and equities) – which makes sense given that VaR style concepts are at the core of risk definition within the majority of the largest participants within the financial system (clearly there are fallacy of composition issues with such VaR use in the wider system).

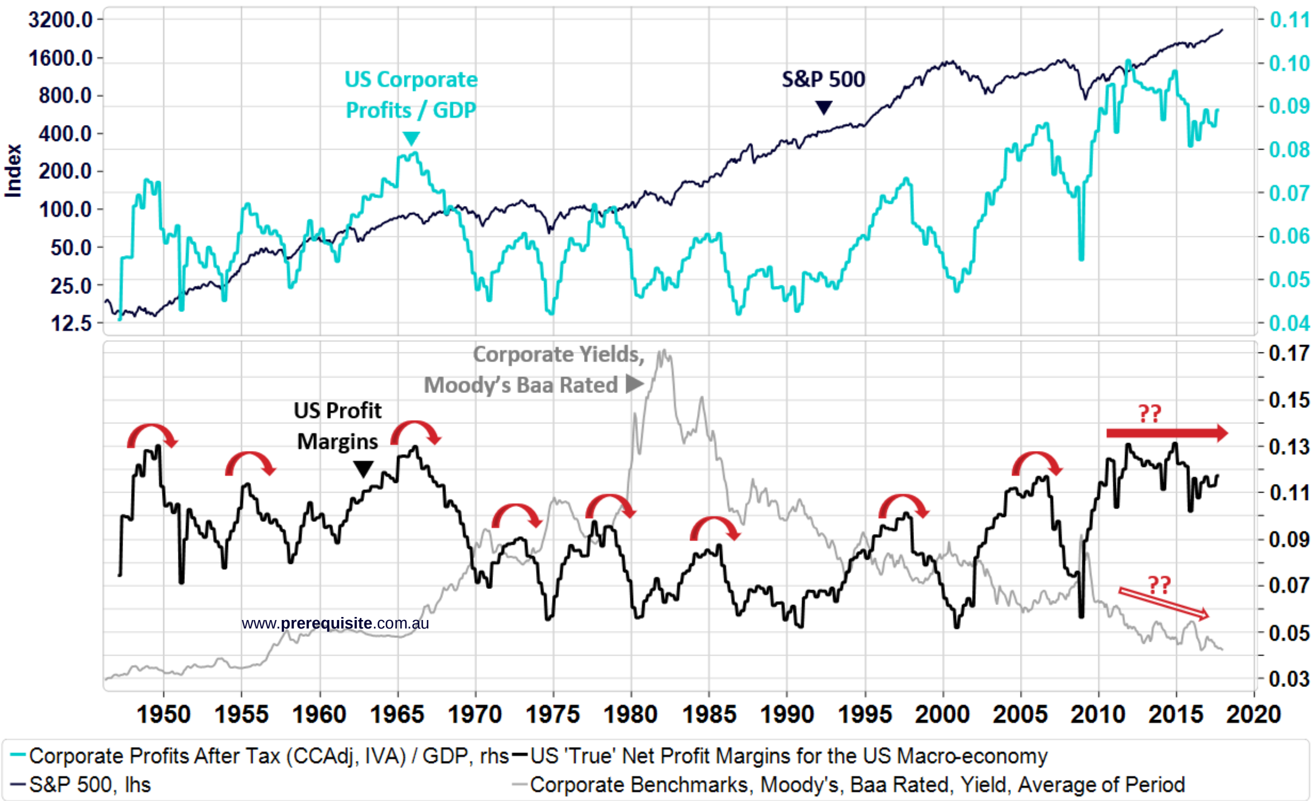
Much talk in recent years (both in Central Banking circles and also by market participants) has also been concerning falling bond yield 'term premiums' that have compressed bond yields more generally – largely the confused ***term premium*** *concept is an academic 'catch all' theory that both; (a) sounds 'smart' but is in no way practical, and (b) provides a convenient way for market commentators to account for the 'remainder' of bond yield behaviour that they can't explain by either growth or inflation considerations... the reality however, is that what economists refer to as the 'term premium' is really a composite of other drivers that influence yields that have to do with global liquidity issues and capital flow conditions (to be explained more fully in an upcoming PCS Report).*

...even after all the Central Bank liquidity injections over the last 10 years, the global financial system still has a sustained structural liquidity problem to the tune of some $5 to $35 trillion USDs... which makes the circa $1.9 trillion USD of combined equity of the largest 12-15 banks in the world look somewhat 'immaterial' to say the least...

To put the above into some simple perspective, the combined 'capital' (i.e. equity) of the largest 12-15 banks at the heart of the global financial system is only circa $1.7 to $1.9 trillion USD... world GDP is running at circa-$75trillion USD p.a. which is supporting global indebtedness in excess of $220t USD; total banking assets (central & commercial bank assets for USA, UK, Euro Area, China & Japan) of circa $140t USD; with global stock & bond markets capitalised at a total of circa $180t USD ...**so an oscillating -$35t to -$5t deficiency causes substantial impact the world over**.

Interestingly enough, persistent or increasing global liquidity pressures do not necessarily translate *directly* into a 'bear market' for US stocks over the next 12 months (explained in our recent *PCS 020 Report*) – even though it does seem 2018 is likely to have quite a bit of turmoil in store for share markets, there are still other drivers that are likely to see US equities in particular still prove quite resilient for a while yet.

Clearly, we're not experiencing a 'normal' growth cycle this time round... thanks (in part) to the changed incentive structures central banks around the world have orchestrated...



When the global growth cycle does eventually turn down in earnest, the latent risks that are building within the world's financial system could possibly make some of the issues in 2008 seem quite 'tame' by comparison.

"There is no security on this earth; there is only opportunity."
...General Douglas Macarthur

Despite what this might appear like, such conditions actually represent potentially a *once in a lifetime opportunity* for investors who are both patient, reasonably well-informed, prepared and able to intelligently adapt as conditions evolve. Although markets could potentially end up doing some very paradoxical things (due to the likely *disorientation* and destruction of capital in the world should these latent risks begin to more reflexively amplify any system disorder), there are already opportunities starting to build in many areas that will help to drive portfolio returns in the years to come even amidst such conditions.

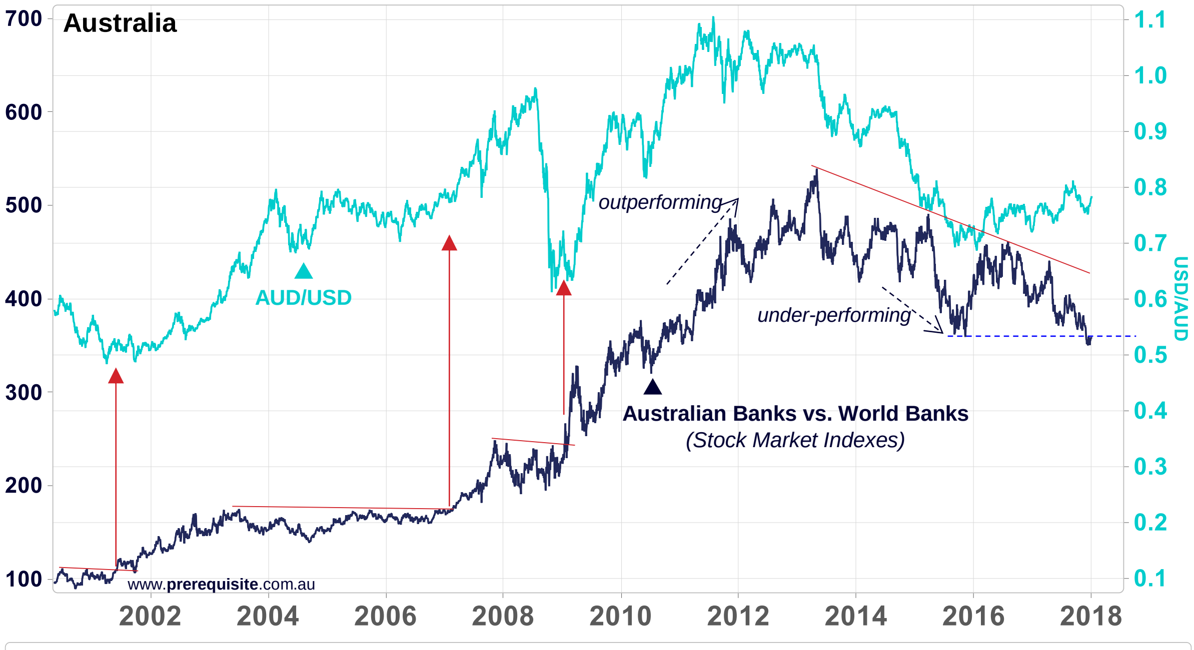
Presently, our portfolios are structured such that should some of the latent risks manifest more unexpectedly 'tomorrow' – we are still able to sleep well at night knowing that we have a portfolio structure and approach that is still likely to prove resilient amidst such conditions... but if such latent risks still remain 'latent' for a while longer (our base scenario at the moment) then we still have a prudent allocation to investments within the portfolio that are likely to help us generate respectable returns whilst we continue to monitor conditions as they continue to evolve/unfold.

"The antidote to risk is knowledge."
...Warren Buffett

▶ ***The Australian Dollar:***

Within our last *Quarterly Client Letter*, we presented a chart comparing the relative performance of Australia's banks to the performance of the world's banks, overlaid with the AUD/USD. Here is an update of that chart...

...'beneath the surface' ***confidence continues to erode*** *towards Australia's banks and unbalanced financial system – suggesting that the rally in the AUD/USD is likely to prove transitory...*



−Australian Banks vs MSCI World Bank Index, Total Returns, lhs
−Australia, FX Spot Rates, Reserve Bank of Australia, USD per AUD, rhs

Given the broader conditions evolving in the world, even though the 0.81 level on the AUD/USD might once again be tested, *at the moment* it would seem unlikely that it will be materially broken but rather it is still likely that the broader bear market in the AUD/USD is intact.

But just like all of our market exposures within our Portfolios – we are not going to fight price past a certain *'line in the sand'* being breached (i.e. 0.81 in the AUD/USD for example) within the markets we're exposed to, we will still be tactically rebalancing and managing exposures according to our framework if and when is needed. **The world is after all, a *complex adaptive system***, and we can never be fully certain of the entirety of our analysis at all times, and so by maintaining such *'lines in the sand'* pertaining to each of the markets we are operating in we are able to maintain the purchasing power and resiliency over-all of our portfolios even amidst unexpected evolutions in the complex system that is the world --- overall, however, our analysis of conditions helps us to see risks and opportunities often where others don't which has helped us greatly in

"Our grand business is not to see what lies dimly at a distance, but to do what lies clearly at hand."
... Thomas Carlyle (1795-1881)

generating the *risk-adjusted* returns we have produced to date, and will continue to serve us well in the years to come.

As always, please feel free to contact us should you have any questions about your portfolios or the conditions unfolding in the world.

Kind regards,

Daniel & Darren

P.S. – on the following page we decided to include as an ***Appendix*** to this letter (in addition to the usual 'Portfolio Performance' update at the end) an excerpt from our *PCS 019 Report* as pertaining to the 'short volatility' trade in the world...

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APPENDIX 1: 'Short Vol' Trade Estimates...

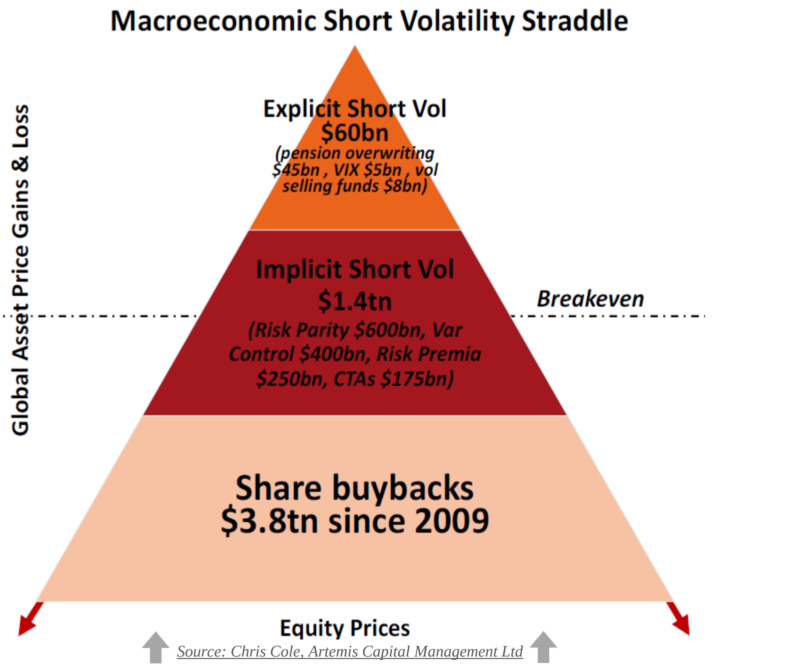
[Excerpted from our Dec-2017 PCS 019 Report, page 30]

It's likely that in reading this [PCS] report, you are probably realising that with these dynamics within the global banking system, that the true implicit *'short-volatility'* trade is actually much, much larger than even the biggest estimates proffered to date.

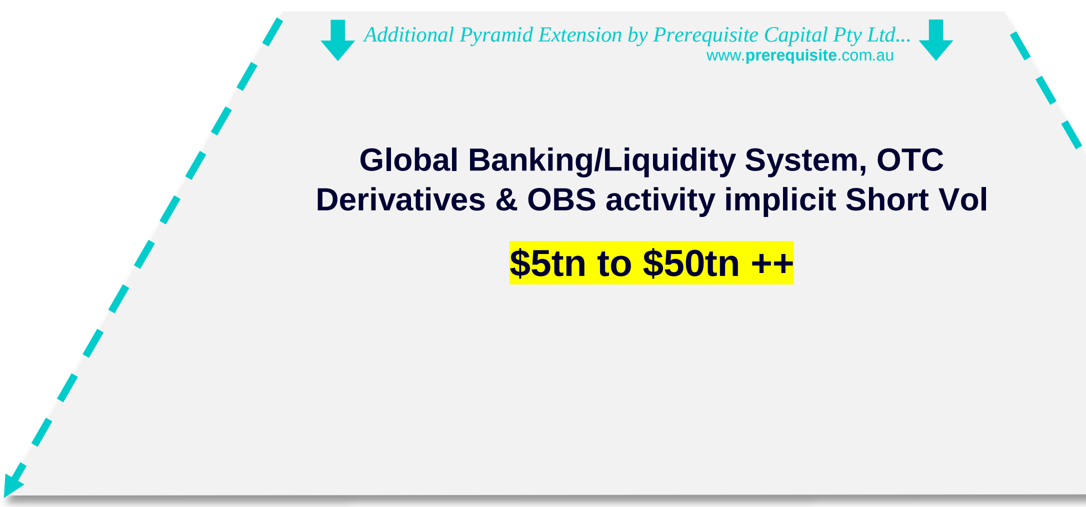
One of the best discussions of the 'short volatility' trade can be found in the latest publication of Mr. Chris Cole (of Artemis Capital Management Ltd, www.artemiscm.com)... namely, *'Reflexivity in the Shadows of Black Money 1987'* published Oct-2017. (We would also highly recommend that you read *'Volatility and the Allegory of the Prisoner's Dilemma'* published Oct-2015.)

Within Mr. Cole's excellent Oct-2017 publication, he estimates both direct and indirect 'short-volatility' trades globally aggregate *in excess of $2 trillion* – shown diagrammatically by the below pyramid.

> *"**Explicit Short Volatility** are strategies that literally sell options to generate yield from asset price stability or falling stock market variance."*
>
> *"**Implicit Short Volatility** are strategies that, although not directly selling options, use financial engineering to generate excess returns by exposure to the same risk factors as a short option portfolio."*
>
> *"Many popular institutional investment strategies derive excess returns via implicit leveraged short correlation trades with hidden fragility."*
>
> **...Chris Cole, *'Volatility and the Alchemy of Risk', Oct-2017***
> *(Artemis Capital Management Ltd, www.artemiscm.com)*



Our analysis suggests the aggregated global short volatility trade is actually in the vicinity of $10t to $50t *(or more)*. By stepping back and including the present state of the global banking system (and particularly the OTC Derivative & off-balance-sheet activities implicit within the global financial system), you end up realising that <u>the $2t or more short-vol estimate is almost certainly drastically underestimated</u>.

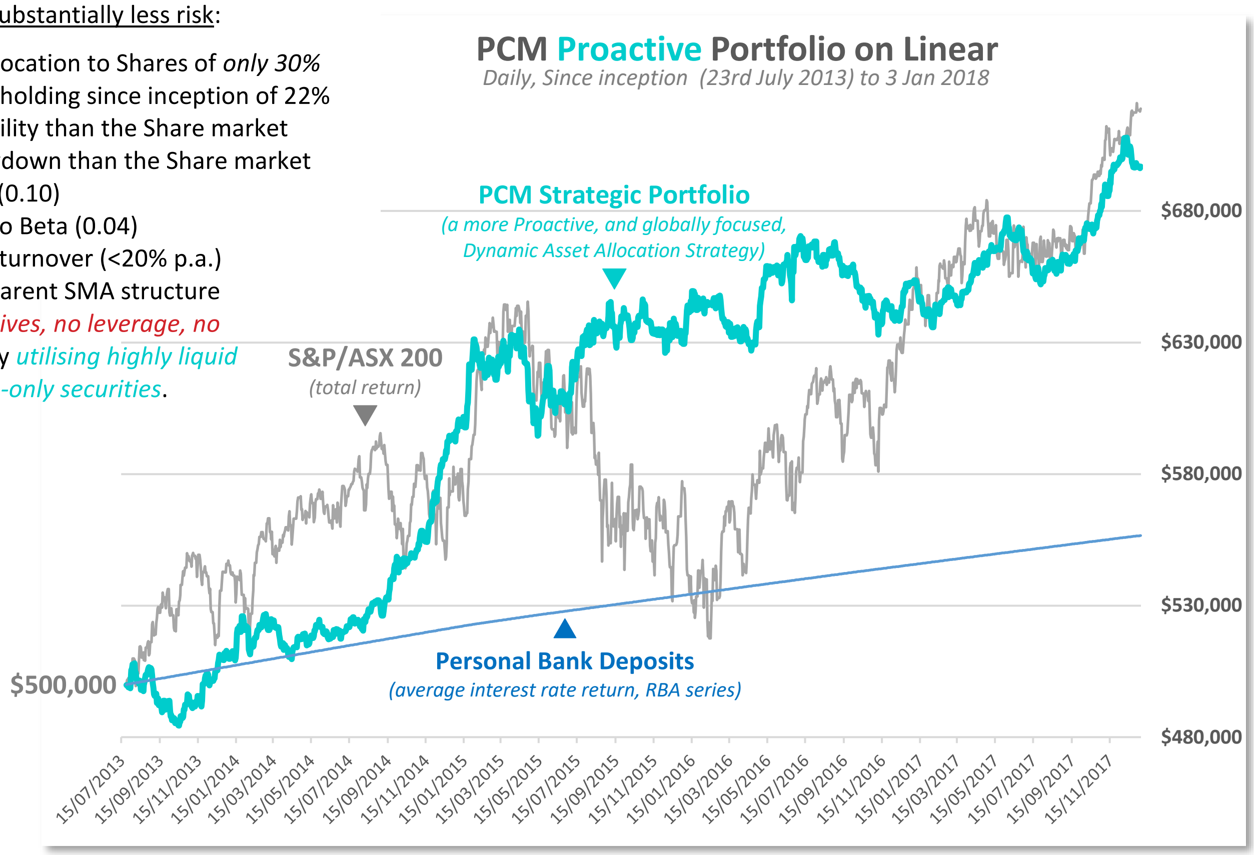


Over the 4.5 year history of our portfolio, **the Australian Share market** (S&P/ASX 200) has delivered a total return of about **8.50% p.a.**

Our **more proactively managed, Diversified, Dynamic Asset Allocation Portfolio** over the same timeframe has delivered a total return net of fees of about **7.74% p.a.**, capturing about 91% of the equity market's total return, but with substantially less risk:

- ✓ An average allocation to Shares of *only 30%*
- ✓ Average Cash holding since inception of 22%
- ✓ 54% less volatility than the Share market
- ✓ 70% less drawdown than the Share market
- ✓ Uncorrelated (0.10)
- ✓ Effectively zero Beta (0.04)
- ✓ Low portfolio turnover (<20% p.a.)
- ✓ Totally Transparent SMA structure

Whilst using *no derivatives, no leverage, no short positions* and only *utilising highly liquid ASX or NYSE listed long-only securities*.

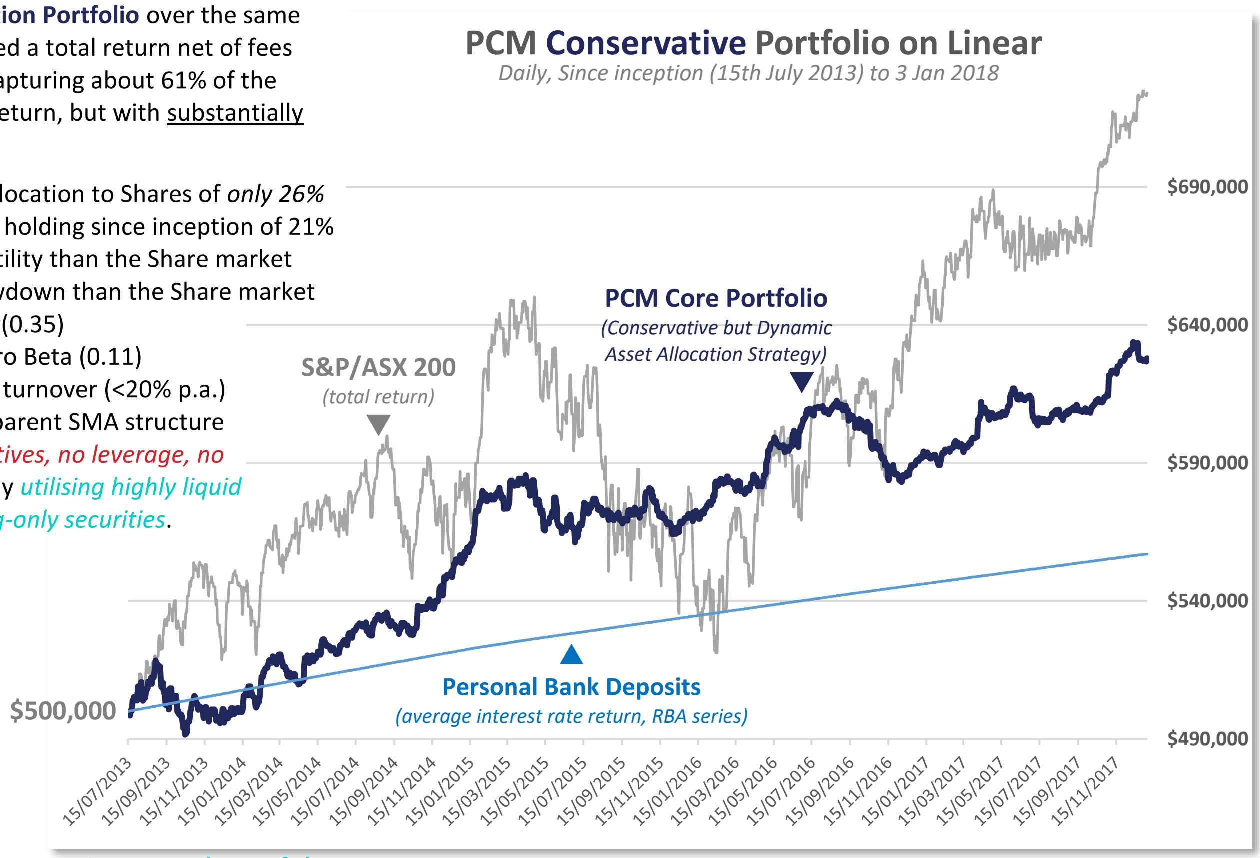


Over the 4.5 year history of our portfolio, **the Australian Share market** (S&P/ASX 200) has delivered a total return of about **8.63% p.a.**

Our **Conservatively Managed, Diversified, Dynamic Asset Allocation Portfolio** over the same timeframe has delivered a total return net of fees of about **5.23% p.a.**, capturing about 61% of the equity market's total return, but with substantially less risk:

- ✓ An average allocation to Shares of *only 26%*
- ✓ Average Cash holding since inception of 21%
- ✓ 68% less volatility than the Share market
- ✓ 70% less drawdown than the Share market
- ✓ Uncorrelated (0.35)
- ✓ Effectively zero Beta (0.11)
- ✓ Low portfolio turnover (<20% p.a.)
- ✓ Totally Transparent SMA structure

Whilst using *no derivatives, no leverage, no short positions* and only *utilising highly liquid ASX or NYSE listed long-only securities*.



www.prerequisite.com.au/managed-portfolios