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MARKET	S&P/ASX 200	+1.12% 5777.2000	ANZ +1.44% 33.19 WP
S&P/ASX 200	AUD/USD	TOP GAINER TEN	TOP LOSER MRM
+1.12%	-0.15%	+6.67%	-6.15%
5777.2000	\$0.76	\$0.24	\$0.61

Investing with a beautiful mind: John Nash's lessons live on

STIRLING LARKIN THE AUSTRALIAN MAY 30, 2015 12:00AM



John Nash and his wife Alicia were killed in a car accident in New Jersey last weekend. Source: AP

When most people heard the news this week that Nobel laureate John Nash and his remarkable wife, Alicia, died in a car accident, their first thoughts went to Russell Crowe's standout performance of the enigmatic character in the biographical Hollywood film portrayal of Nash in *A Beautiful Mind* (2001).

As masterful a portrayal as that was, Nash's contribution went so much further than most have yet to even realise.

His truly original contributions changed the sciences of mathematics and economics and the ways that financial participants like us go equally about the simplest and most complex of investment and risk management decisions, every single day.

Comparable to Einstein, Newton and Descartes, Nash's eloquently simple propositions married the relationship between real-world decision-making and algorithmic probabilities.

Whether you are an Ultra High Net Worth (UHNW) professional investor or a salaried working employee deciding where best to direct your superannuation, the pathways Nash showed us have become invaluable.

Nash equilibria and specifically the Prisoner's Dilemma formula are regularly employed at the Larkin Group to help us find what is referred to as the Minimax decision rule — minimising the possible loss for a worst-case, maximum-loss scenario.

Sometimes mistaken for the misnomer of a “zero sum” game equation, this application of game theory allows us to determine how best to make long, short and defensive investment decisions in the presence of uncertainty.

Before Nash's 1951 Non-Co-operative Games paper, which defined the Nash Equilibrium solution, decision-making in finance and more broadly in other spheres of life were narrowly broken down into two categories — zero sum games, where one wins/one loses, and supposed optimality theories, which, frankly, just never made any sense at all.

Beyond any esoteric value, this revolution in decision-making allows us in wholesale wealth advisory to decide how best to allocate or defend the marginally higher levels of allocable investment capital that UHNW global investors inherently enjoy.

A pragmatic example might be applying Nash's principles to the land use of a gold mine tenement — it will guide us to the risk factors in a decision on whether or not to develop a mine at the location (see graph). This may be the epitome of “First World problems” but it's a problem for UHNW global investors all the same.

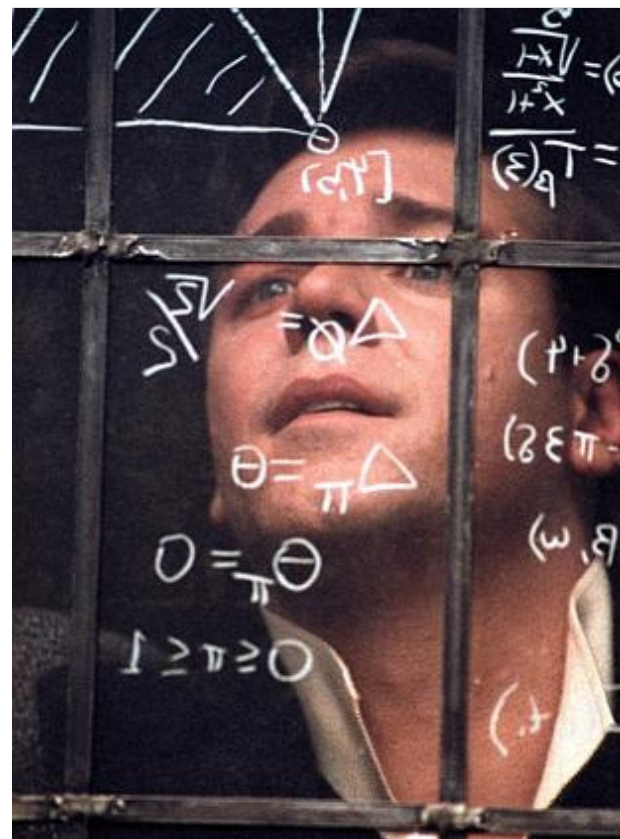
Nash's cornerstone work on game theory helped us make choices in other parts of our lives.

Nash regularly seconded Friedrich Hayek's thinking regarding money and advocacy for a non-typical viewpoint on the function of the authorities; in other words, the role of central banks and the position they have no right to tinker with interest rates.

Beyond game theory, Nash developed important works on the role of money in society. This work mounted a very plausible argument that proposed people can be so controlled and motivated by money that they may not be able to reason rationally about it.

Nash criticised interest groups that promote quasi-doctrines based on Keynesian economics that permit manipulative short-term inflation and debt tactics that ultimately undermine currencies (as is seen right now in 2015). Nash suggested a global “industrial consumption price index” system that would support the development of more “ideal money” that people could trust rather than more unstable “bad money”.

Where such thinking becomes enlightening for Australian investment communities today is that it reminds us to determine where inflation lies in our real economy and markets.



Russell Crowe in *A Beautiful Mind*. Source: News Limited

Doing so allows us to determine our own confidences about what our relative Australian dollar purchasing power should be.

“Fair dinkum” real inflation in Australia is not the official RBA’s CPI level. It just is not.

When celebrating the life and contributions of Nash, it would be remiss not to briefly include mention of his significant battles with mental illness and, specifically, paranoid schizophrenia.

Nash once explained this battle in simple economic terms: he compared not thinking in an acceptable manner, or being “insane” and not fitting into a usual social function, to being “on strike” from an economic point of view. Accepting this proposition, one could agree that he really had a beautiful and unique mind.

With volatility spikes being seen recently in German bund (bond) markets, select commodities futures contracts and some specific stockmarkets, the Prisoner’s Dilemma formula and the Minimax decision rule become more pertinent than ever.

This is because what many of us learned first-hand during the nadir of the GFC, that when an entire herd of investors sprints for the exit doors, not all of us can fit through at the same time.

Minimax provides us a brutally genuine expectation of what we could expect if such a doomsday scenario repeats itself. Respecting and incorporating the principles within game theory, which lean heavily upon the lesson garnished from the Prisoner’s Dilemma formula, also allows us to make pre-emptive moves today that, hopefully, best position us if such a scenario materialised.

What little I personally understand about life, I do know that everything happens for a reason and maybe, just maybe, the reason greats like Nash have been taken from us today is to remind us to celebrate their lives but also go back and take the time to respect the simple, yet powerful lessons that they so graciously taught us.

Larkin Group is a wholesale wealth adviser focusing on high yielding global investments.
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