Machine beats man in first bout

BY **HARRY HUO**

First-month results of the Battle of the Portfolios are out! Our AI called Deep Deep has performed admirably well, achieving 4.46% monthly return against the competing portfolios. From the comparison table, we can see that Deep Deep edged out Tong's Portfolio by 2.38% and our very own Aggregate Value Fund by 0.83%.

Overall, **Berkshire Hathaway**'s 6.47% gain beat Deep Deep portfolio's 4.46% gain. However, do note that Berkshire Hathaway is an investment-holding company comprising mainly US companies and assets. Our single US stock pick, **Genworth Financial Inc** achieved a stunning 12.38% monthly return, thereby beating Berkshire Hathaway by 5.91%. Sorry, Warren Buffett. The Terminator is coming for you.

The MSCI All Country World Index gained 6.06% mainly due to 62% of its constituents in US stocks which seemed to beat Deep Deep's portfolio. Do note that Deep Deep's portfolio is equally weighted in 15 countries. If we adjust the weights to mirror MSCI ACWI's country weights, Deep Deep's weighted portfolio would have achieved a staggering 17.47%. Our single US stock, Genworth Financial, when weighted at 62%, would amplify its performance tremendously. The choice of a benchmark can have unintended consequences.

Nevertheless, we are cognisant that it is premature to form any conclusion so early in the Battle of the Portfolios. For example, we note that Tong's Portfolio has 46.2% in cash. This means that if the global market continues its falling trajectory, Tong's Portfolio will be hard to beat as Deep Deep is always fully invested in equities. Time will tell.

15 stock picks for November

Stock	Country	Price (US$)	% of portfolio
Aurizon Holdings	Australia	2.42	7.0
George Weston	Canada	115.15	6.7
Shanghai Yaoji Technology Co	China	2.20	6.7
Mercedes-Benz Group	Germany	60.29	6.8
SINOPEC Engineering (Group) Co	HK	0.38	6.1
PT Bukit Asam	Indonesia	0.23	6.2
Sharp Corporation	Japan	6.30	6.6
Sime Darby Berhad	Malaysia	0.46	6.3
DMCI Holdings	Philippines	0.16	5.9
Hutchison Port Holdings Trust	Singapore	0.17	5.8
S&K Polytec Co	South Korea	2.79	6.6
Pegatron Corporation	Taiwan	1.83	6.6
Supalai Public Company	Thailand	0.60	5.9
IG Group Holdings	UK	8.96	6.8
Conn's, Inc	US	8.65	7.1

** Cash level at less than 2%*
**Price (US$) as at Nov 9*

Aggregate Asset's core belief

Aggregate Asset Management (AAM) started its fund management journey as Singapore's first zero management fee value fund in 2012. Today, it has more than 1,000 clients with an AUM of around $600 million. The ethos of AAM has always been the alignment of the fund's interest to that of our clients — if our clients don't make money, neither should we. Our core investment tenet has always been using value investment strategies, coupled with diversification, to achieve capital preservation for our investors.

In 2018, we started to explore the possibility of incorporating AI into our stock-screening process. It took us years to develop our proprietary Machine Learning algorithm and take it to new levels of predictive performance we see today.

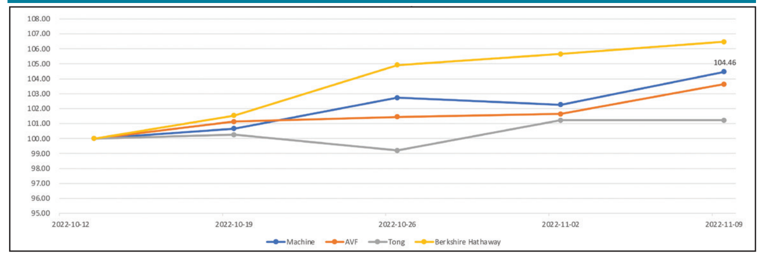
The power of diversification

A typical global equity fund would invest in 30–50 companies with a tendency to focus on certain sectors. Similarly, an exchange-traded fund (ETF) may appear to be more diversified but it is still exposed to high sectoral concentration risk. For example, as much as 40% of a US diversified ETF can be in tech stocks due to the huge market-weighted valuations of FAANG stocks.

Instead, AAM adopts a unique approach to diversification by spreading investments across nearly 1,500 stocks to ensure good returns, while minimising over-concentration risk. With recent market turbulences, the era of investing in tech stocks or thematic tech funds as "sure win" bets is possibly over. Furthermore, it showcases the wisdom and resilience of our long-held diversification strategy. Diversity is king!

CHART AND TABLES: AGGREGATE ASSET MANAGEMENT

Performance comparison



How the portfolios stack up

Portfolio	1-week change	1-month change	Since inception
Machine	2.14%	4.46%	4.46%
Aggregate Value Fund	1.96%	3.63%	3.63%
Tong's Portfolio	0.8%	2.08%	2.08%
Berkshire Hathaway	0.78%	6.47%	6.47%
Dow Jones	3.16%	5.93%	5.93%
MSCI ACWI	2.32%	6.06%	6.06%
MSCI AC AP	2.86%	10.44%	10.44%

AI-enhanced stock-picking process

Many investors imagine AI-powered fund managers start the day this way — a robotic Alexa-like voice calmly announcing the stock picks of the day and the humans just blindly follow the instructions. If only this is true. Reality is less science fiction and more grind work.

This is how we work. Our fund management team runs the Machine Learning algorithm to generate the stocks for each country. As an additional measure of safety, we scrutinise each selected stock to look out for company-specific news and qualitative anomalies. Next, we rebalance the portfolio to optimise returns and then perform a post-mortem analysis.

Concurrently, we train and backtest the algorithm with new market data and new financial indicators to see how we can do better. New lines of code are written to replace older versions, followed by rigorous testing. It is a demanding, relentless process. We all look like Keanu Reeves in the *Matrix* with his sleep-deprived eyes or so we imagine. But it is worth it and the result shows: Our AI-enhanced, heavily diversified Aggregate Value Fund has beaten MSCI AC APAC year to date by a lofty 10.23%. Deep Deep delivers. E

Harry Huo is head, special projects, at Aggregate Asset Management

Battle of the Portfolios challenge

The table above shows the 15 stocks picked on Oct 17 by Aggregate Asset Management to form a concentrated, proprietary AI-picked portfolio. This machine-picked portfolio will challenge human stock pickers via the following competing portfolios and benchmarks:

a. Aggregate Asset Management's diversified fund, Aggregate Value Fund, with nearly 1,000 stocks picked by human inputs but enhanced by AI stock screening.

b. Tong's Portfolio which has been published in *The Edge Singapore* since December 2017.

c. Warren Buffett's investment vehicle Berkshire Hathaway's stock performance.

d. Dow Jones Industrial Index, MSCI All Country World Index (MSCI ACWI) and MSCI AC Asia Pacific (MSCI AC APAC) will be included as reference benchmarks.

Next month onwards, we will publish an updated table showing the relative performance of these portfolios and benchmarks, and we will continue to do so monthly for a year. In October 2023, we will declare the winning portfolio based on the highest portfolio return. For simplicity, all our portfolios' returns and benchmarks will be in US dollar for easy comparison.

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the West. Countries including the US, France, the UK, Canada and Germany reported their worst deaths in 2020 and early 2021. As a result, many Asian and Asean countries managed to keep excess mortality lower than Western and Latin American countries (see column E in table).

South Korea is one of the standout successes, proving how an early alert system and preparedness for just such an event can save lives. Learning from previous experience with a MERS outbreak in 2015, the country had already undertaken critical reforms of its healthcare and insurance systems and had the necessary infrastructure in place. It successfully flattened the curve early with effective tests (at scale), contact tracing, quarantine and treatment as well as containment measures, aided by the heavy use of technology within a centralised response system. This kept excess mortality (E) relatively low at just 1% — and the country never had to resort to drastic lockdown measures. This was evidenced by the small decline (5%) in Google Mobility data for retail-recreation activity (F) from February 2020 to December 2021, compared with pre-pandemic levels. Successful containment (low local transmission), in turn, enabled economic activities to normalise very quickly by February 2021. As a result, there was minimal impact on the economy and employment. In fact, unemployment fell in 2Q2022 (H) compared with 4Q2019, and GDP in 2Q2022 (I) was in line with the International Monetary Fund forecast made in 2019. All of this was achieved without massive increase in public spending — government debt-to-GDP rose a comparatively modest 10.5% (J).

China, too, managed to limit the impact of the virus throughout 2020 and 2021 on both lives and the economy — albeit by adopting far more draconian measures, including rigorous and mandatory mass testing, stringent quarantines and lockdowns for the few outbreak events. The total number of deaths would actually have been fewer than expected had there been no pandemic (negative excess mortality). For much of 2020 and 2021, life in China largely went about normally for most people, as the number of cases stayed very low and economic activities did not suffer as greatly as they did in the rest of the world.

China was the only major economy to register positive growth in 2020, of 2.2%, even as world GDP contracted 3.3%. Growth gained momentum in 2021, expanding 8.1%. Exports and trade surplus surged — China's manufacturing sector gained market share as the rest of the world shut down (see Chart 1). Having said that, its zero-Covid strategy is now causing greater disruption as the virus mutates into far more transmissible variants, resulting in more widespread and frequent lockdowns. Export growth has turned lower in 2022, though this is also likely due to the reopening of other economies (export competitors) and, more recently, slowing global demand (see Chart 2).

Speed of vaccination saved lives

In addition to fast and effective early suppression measures, the speed of inoculating the people has also played a critical part in saving lives. WHO approved the first vaccine, from Pfizer-BioNTech, for emergency use in December 2020, just one year after the initial outbreak. This was soon followed by several other vaccines. Not only were these produced in record time in terms of vaccine development, but most had remarkably high efficacy levels. The table shows a strong negative correlation between the speed of vaccination (B) — the time taken to vaccinate 60% of the population — and excess mortality (E). In other words, countries that inoculated more of their population faster saw lower excess deaths, and vice versa.

It took just 7.2 months for 60% of Singaporeans to complete the initial vaccination protocol (two doses for most vaccines) — compared with 7.8 months in Canada, 8.3 months in the UK, Germany and France and more than 11 months in the US. Excess mortality in Singapore, estimated at 2.6%, is far lower than that in all the above-mentioned countries.

That Singapore would excel in vaccination rollout is to be expected, given its relatively small geographical area and population size, excellent infrastructure, high level of public trust and confidence in the government, highly efficient public service as well as educated population.

For Malaysia to also achieve the 60% target in 7.2 months is something we should all take great pride in. We did better than Japan (7.4 months), South Korea (7.8 months), China (eight months), Thailand (9.4 months), Vietnam (9.9 months) and Indonesia (15.8 months). And this is despite the severe shortage of vaccines at the start of Malaysia's vaccination programme in late February 2021. Supply did not start to improve until around June. We have no doubt that the speedy vaccination rate, once vaccines were available, saved lives — the resulting immunity significantly reduced the number of cases and the severity of illness for the infected. Case in point: the most recent surge in Covid-19 cases

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