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**Ask NUS economists** 

## What has a rise in day trading and online betting to do with Covid-19?

Research points to adversity-hope hypothesis – in times of adversity, demand for 'hope products' rises

## Chew Soo Hong, Liu Haoming and Alberto Salvo

For The Straits Times

**Q** There has been an increase in day trading and recreational gambling since the start of the pandemic. There has also been a boom in the cryptocurrency market. What could account for all this activity?

A Since the outbreak of the pandemic in early 2020, there have been reports of strong and parallel growth in retail investing and in online recreational gambling.

gambling.
Google Trends shows that the number of searches for investing jumped by 53 per cent in Singapore and 52 per cent worldwide from 2019 to 2020. The daily trading volume on the US Nasdaq grew by 88 per cent during the same period.

Such risk-taking activities by individuals, whether non-institutional "day" traders or punters, vary in how favourable or unfavourable are their winning odds.

For example, retail investing may be more deliberate and consequential, whereas leisure gambling may be more impulsive with less money at stake.

Yet the nature of risk-taking in these activities is unlikely to differ too much and both growth trends may have similar determinants.

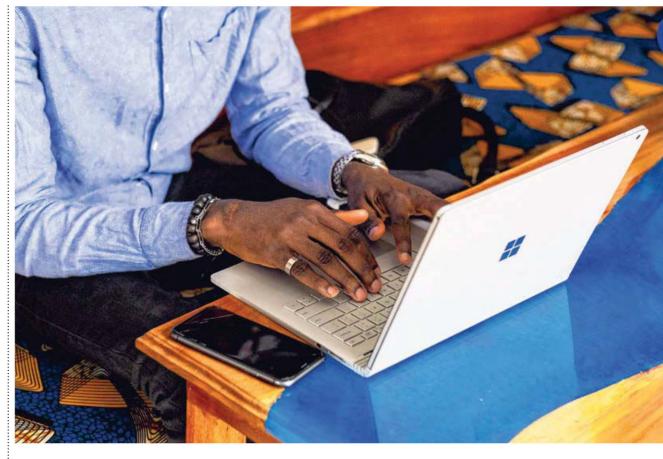
Pundits have suggested that the increase is due to the millions of people feeling bored during lockdown at home and using their free time to dabble in retail investing and recreational gambling.

Another reason, at least in countries with loose fiscal policy during the pandemic, may have been the extra money from stimulus cheques that were used for online trading and gambling accounts.

Our recent research points to the adversity-hope hypothesis. We posit that in times of adversity, the demand for "hope products" rises.

We view hope as being experienced in lottery products and lottery-type stocks, when people enjoy delaying the resolution of uncertainty.

Such products, which involve



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typically small chances of sizeable winnings at low prices, may fulfil a demand for hope, and that demand for hope is in part driven by adversity.

We see evidence for our adversity-hope hypothesis from the sale in China of the digit lotteries, which are similar to the 4-D tickets in Singapore.

We look at daily sales in each Chinese province over five years, from 2013 to 2017 (and prior to the pandemic). Our measure of adversity is the level of air pollution – like Singapore's Pollutant Standards Index (PSI) – recorded at the province on the day. A polluted environment means a smoggy, hazy day with poor ventilation.

The daily digit lotteries pay out when the gambler's picks match those drawn during a live broadcast on national TV on the evening of the day of purchase.

For example, a three-digit lottery ticket costs two yuan and pays a 1,000 yuan prize (around \$\$200) if the three digits picked by the bettor matched the subsequent draw.

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Although it is clear that the average payout is only one yuan, China's welfare lottery authority sells 21 million such tickets every day. This suggests a real demand for hope products. We found that on a severely polluted day in a given province, purchases of three-digit lottery tickets from street-based vendors were 5 per cent higher than in an otherwise comparable clean-air day in the same province.

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tickets from street-based vendors were 5 per cent higher than in an otherwise comparable clean-air day in the same province. Researchers have documented other natural experiments (or quasi-experiments) in which the evidence points to an increase in demand for hope in the face of

economic downturns or after natural disasters. In the United States, a positive relationship has been found between a state's unemployment rate and lottery sales. In Iceland, an increase in gambling participation, but not problem gambling, was reported after the

adversity, for instance, during

2008 economic collapse.
In the wake of heavy snow and an earthquake in China in 2008, there was an increase in demand for lottery tickets in affected areas compared with unaffected areas.

To the extent that religion meets a demand for hope, there is

evidence that people turn to religion or rely on religious support in times of crisis, whether natural or man-made, such as after earthquakes or terrorist

bombings.

The Roman poet Horace, writing two millennia ago, offers us a hint as to what may underpin our hypothesis: "The heart that is well prepared for any fate hopes in adversity and fears in prosperity."

It is conceivable that hit by the shock of the pandemic – and with some extra time and cash – households sought good news in their daily lives, whether through day trading or punting.

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