

EDITORIAL

SGX must earn buy-in from foreign markets if it wants their liquidity

The Singapore Exchange's (SGX) recent troubles in India and Malaysia show that a strategy of leveraging another market's liquidity to boost one's own is not an easy one to pull off.

Since its formation in 1999, the modern SGX has always set its sights beyond Singapore's shores. That regional focus is partly born out of necessity – with its relatively small domestic economy, SGX needs to serve more than just Singaporeans and Singapore entities if it means to build a meaningful and relevant market.

Tapping the regional market's vibrancy can happen in a few ways. One is to try to attract companies from the region to list their securities in Singapore. Another is to get investors from the region to trade Singapore-listed securities. Both of those strategies hinge on SGX generating enough liquidity to draw both the buy and sell sides of the market.

A third way is to borrow the liquidity of another market. With derivatives, SGX can offer futures contracts tied to the performance of an offshore stock index, like India's Nifty, China's A50 or Japan's Nikkei. When those markets are volatile, SGX's contracts help the exchange to capture reactions to those movements. For securities, SGX has looked for trading links, such as a trading-and-clearing tie-up with Bursa Malaysia that SGX had hoped would allow investors to clear trades for Malaysian stocks in Singapore.

On the surface, that third strategy sounds great, because it offers SGX a way to have an active market if the Singapore domestic market itself is dry. But the reality is that this avenue has recently proven to be problematic.

India's National Stock Exchange, which owns the Nifty, has stopped supporting SGX's Nifty futures, and both sides are currently embroiled in a legal dispute over the matter.

In Malaysia, newly elected Prime Minister Mahathir Mohamad has indicated that the country will review the trading link and whether it makes sense for Malaysia.

The common thread for both issues is a counterparty that may feel like it is getting shortchanged. Why should SGX get to benefit from the vibrancy of those markets when it does not contribute to those markets?

SGX will have to address those concerns if it wants to continue using this strategy, which it should. It goes without saying that effort must be taken to ensure that the deals bring benefits to both sides. In fact, these deals often do.

But the market operator must also take pains to communicate those benefits to other stakeholders beyond its immediate counterparties. Those stakeholders can include business leaders, local media and politicians. As SGX learnt years ago in its scrapped merger with the Australian exchange, market-related deals do not just have to make sense to get done. They need buy-in from key stakeholders and decision-makers as well.

SGX's troubles in India and Malaysia also reinforce the importance of building the market in an organic and native way. The more your own market is vibrant, active and growing, the less dependent you have to be on the good graces of a competitor. SGX must continue to attract interesting and successful companies to list in Singapore and maintain a quality primary market. It must also continue to foster an active retail trading scene while keeping the sophisticated money invested to ensure a robust secondary market.



Given its culture of technology-orientation and regulatory oversight, Singapore's experience can provide pointers on the effective governance of ethics, AI and Big Data. PHOTO: BLOOMBERG

Keep an eye on AI and Big Data

As AI becomes smart enough to program itself and Big Data grows into massive data, states must act as the risk of things going wrong or abuse rises. BY ROLAND BOUFFANAIS AND LIM SUN SUN

EVEN as all eyes have been trained on Singapore for the historic Trump-Kim summit, there is a rather more mundane, yet no less critical, reason for the world to look more closely at this city-state. In an arguably far-sighted move, the Singapore government has announced its plan to establish a new Advisory Council on the Ethical Use of AI and Data. The impetus for such an advisory body is pressing, with artificial intelligence (AI), Big Data, machine learning and the Internet of Things being increasingly embraced as the country seeks to fulfil its ambitions of becoming a smart city.

Besides Singapore, the conversation on the ethical use of such technology is also rapidly gathering momentum around the world. Nightmare scenarios of AI failures are often invoked as cautionary tales of technology running amok if devoid of a moral compass. Reports of autonomous vehicles maiming hapless victims or factory robots wreaking havoc stoke visceral fears, further inflamed by dystopian science-fiction tropes.

Yet the adverse impact of AI that contravenes ethical norms and social acceptability is often far less dramatic, considerably more insidious, and increasingly widespread.

There are three significant reasons rapidly technologising societies such as Singapore must establish data and ethics advisory bodies of this nature.

First, while many countries have promulgated data ethics guidelines that centre on the protection of personal data and privacy, the rising complexity of AI technology necessitates more robust and astute regulatory oversight.

Simply ask a researcher working on AI to provide you with a simple explanation of Deep Learning. You will find it challenging to comprehend this most advanced machine learning paradigm, even at a foundational level. This is unsurprising given that the power of Deep Learning is derived from the outcome of a complex emergent process designed to mimic neuronal activity in the human brain.

Such complicated technological processes considerably exceed the ambit of ethics guidelines and the capacities of policy makers. However, a data and AI ethics advisory council

that is well-constituted, comprising domain experts from academia and industry, will be able to provide the requisite expert assessments on the ethicality of new technologies and their applications.

Second, AI is leaving the human-driven design era and entering the AI-driven self-design era. The essence of Deep Learning is that it programmes itself, thereby relieving the human programmer of the basic tasks of developing and coding algorithms for the systems we use and interact with in our daily lives.

With self-programmed systems, it is highly likely that systems may generate errors that go unnoticed and unrectified. Indeed, the argument is often made that detecting an actual error with such AI-driven systems may be impossible due to their lack of "explainability".

Since the developers and coders cannot fully comprehend the way the system processes the data, how can they distinguish between an error and a legitimate, yet unexpected, solution? How do we refine technological architectures to avert such problems that may have pernicious, broad-ranging impact?

DATA VIOLENCE

Third, a paramount issue with AI is the biases inherent in the big data on which algorithms are based. These algorithms are used extensively across diverse industries, used to determine job placements, college admissions, insurance rates, health plans, retail prices, just to name a few.

Distortions in the data can lead to faulty algorithms that unfairly discriminate against particular segments of society, with negative consequences that may be pervasive, irreversible and indiscernible.

As many critics have argued, the most egregious aspect of big data is the absence of a negative feedback loop that signals when an algorithm needs to be refined because it fails to cater to individual differences that render it inadequate or downright erroneous.

In an era of Big Data coupled with machine learning, there is virtually no room for individual recourse in situations of error. Such "data violence" may be exacerbated as technologically advanced societies amass data of an un-

precedented magnitude, at an unprecedented rate. More worryingly, a vast proportion of Big Data now resides in the hands of powerful corporations, beyond the control of any state.

Besides the United Kingdom which has recently set up a Centre for Data Ethics and Innovation, and the European Union's Ethics Advisory Group, no other country has instituted a national level data ethics advisory body. Hence, the establishment of a data and AI ethics advisory council for a country like Singapore is both timely and strategic.

Big, nay, massive data, has started to assume growing importance in the daily functioning and management of all digitally-connected societies. Singapore in particular is actively expanding its digital and physical infrastructure to support the Internet of Things, starting with networks of smart lamp posts that will capture information on weather patterns and other physical phenomena, engage in real-time facial recognition and track human and vehicular traffic.

Such networks, combined with the digital information flows that course through hyperconnected societies, will generate massive volumes of data that can be used by public and private organisations alike. It is imperative therefore that prudent and beneficial use of such data is facilitated, while breaches and abuses are prevented.

As the fourth industrial revolution speeds inexorably forward, states must move beyond mere guidelines to establish agile and proactive advisory bodies that can provide the essential oversight to respond to the increasingly pervasive use of highly complex AI technology in our everyday lives. Given its culture of technology-orientation and regulatory oversight, perhaps Singapore's experience can provide pointers on the effective governance of ethics, AI and Big Data.

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THE BOTTOM LINE



By Paul Krugman

Harley-Davidson case reveals big cracks in Trump's facade

HARLEY-DAVIDSON, the famed manufacturer of "hogs" – big motorcycles – made headlines last week when it announced that it would be moving some of its production out of the United States in the face of the growing tariff war between America and the European Union (EU).

And US President Donald Trump made more headlines when he lashed out at a company "I've been very good to", accusing it of having "surrendered" to Europe. So he threatened it with punishment: "They will be taxed like never before."

The truth is that while Harley-Davidson may be something of an icon, it isn't a big player in the US economy. At the end of last year, its motorcycle segment employed around 5,000 people; that's not much in an economy where around 250,000 are hired every working day.

Nonetheless, I think the Harley story is one of those anecdotes that tells us a lot. It's an early example of the incentives created by the looming Trumpian trade war, which will hurt many more US companies and workers than he or the people around him seem to realise.

It's an indication of the hysterical reactions we can expect from the Trump crew as the

downsides of their policies start to become apparent – hysteria that other countries will surely see as evidence of Mr Trump's fundamental weakness.

And what his alleged experts have to say about the controversy offers fresh confirmation that nobody in the administration has the slightest idea what he or she is doing.

About that trade war: So far, we're seeing only initial skirmishes in something that may well become much bigger. Nonetheless, what's already happened isn't trivial. The US has imposed significant tariffs on steel and aluminium, causing domestic prices to shoot up; our trading partners, especially the EU, have announced plans to retaliate with tariffs on selected US products.

And Harley is one of the companies feeling an immediate squeeze: It's paying more for its raw materials even as it faces the prospect of tariffs on the cycles it exports. Given that squeeze, it's perfectly natural for the company to move some of its production overseas, to locations where steel is still cheap and sales to Europe won't face tariffs.

So Harley's move is exactly what you'd expect to see. But it's apparently not what Mr

Trump expected to see. His view seems to be that since he schmoozed with the company's executives and gave its stockholders a big tax cut, Harley owes him personal fealty. He also appears to believe that he has the right to deal out personal punishment to companies that displease him. Rule of law? What's that?

Now, I suppose it's possible that Mr Trump will, in fact, manage to bully Harley-Davidson into backing down on moving some production from the US. At the moment, however, there's no sign of that.

And anyway, we're talking about a few hundred jobs here out of around 10 million currently supported by exports but put at risk by Trump policies. So if we're talking about a serious trade war, we're talking about thousands of Harley-Davidson-scale job losses. Even Mr Trump can't rage-tweet enough to make a significant dent in troubles of that dimension.

So what do his economists have to say about all of this? One answer is, what economists? There are hardly any left in the administration.

But for what it's worth, Kevin Hassett, the chairman of the Council of Economic Advisers, isn't echoing Mr Trump's nonsense: He's uttering completely different nonsense. Instead of

condemning Harley's move, he declares that it's irrelevant given the "massive amount of activity coming home" thanks to the corporate tax cut.

That would be nice if it were true. But we aren't actually seeing lots of "activity coming home"; we're seeing accounting manoeuvres that transfer corporate equity from overseas subsidiaries back to the home corporation but in general produce "no real economic activity".

So the Harley incident reveals the pervasive cluelessness behind the administration's signature economic policy. But it also reveals the deep weakness at Mr Trump's core.

Think about it. Imagine that you're Xi Jinping, the Chinese president, who has already been telling leaders of multinational corporations that he plans to "punch back" against Mr Trump's tariffs. How do you feel seeing Mr Trump squealing over a few hundred jobs possibly lost in the face of European retaliation?

Surely the spectacle inclines you to take a hard line: If such a small pinprick upsets Mr Trump so much, the odds are pretty good that he'll blink in the face of real confrontation.

So the Harley story, while quantitatively small, may tell us a lot about the shape of things to come. And none of what it tells us is good.

NYTIMES

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