

▶ the many billions being splurged on roads, railways and so forth would double Islamic banks' assets, Mr Bustaman reckons. Indonesia is already the top international issuer of sovereign *sukuk* (sharia-compliant bonds), points out Bashar Al-Natoor of Fitch, another rating agency, and this year sold the first "green" *sukuk*, raising \$1.25bn, although Malaysia issues far more *sukuk* in all through its domestic market.

The OJK says it indeed expects Islamic banks to play a bigger role in infrastructure. It also envisages a special role for them in financial inclusion, microfinance and supporting small businesses—which, it says, will differentiate Indonesia's model from those of Malaysia and the Gulf states. Yet financial inclusion is rising fast anyway. The share of Indonesians aged 15 and over with bank accounts leapt from 36% in 2014 to 49% last year, according to the World Bank. Conventional banks and Asia's technology companies will also vie to serve them. Islamic banks have their work cut out. ■

Overbond

Unbounded

TORONTO

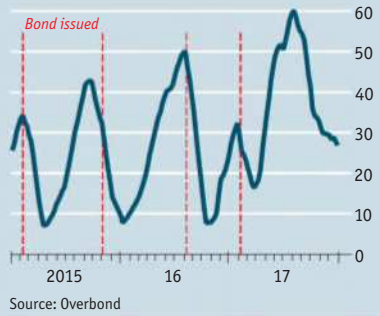
A Canadian startup seeks to shed light on bond issuance

WITH the exception of a few governments big enough to run their own auctions, anyone wishing to issue bonds must seek bankers' help. A hefty fee will buy assistance in calibrating the size, structure and timing of a bond issue, as well as connections to lots of buyers. And once a bank has agreed to underwrite an issue, it bears the risk of failing to get a good price for the bonds. But the process is old-fashioned and inefficient (the head of bond origination at one American bank jokes that "not a lot has changed since 1933"), and the accuracy of the advice is hard to gauge. Overbond, a financial-technology startup in Toronto, wants to change all that.

Investment bankers responsible for bond issuance still operate largely by feel, calling up asset managers to get a sense of demand, rather than by crunching numbers. Rules against insider trading mean they cannot talk directly with their trader

Timing the market

Likelihood of Microsoft issuing a bond
Score, maximum=100



colleagues. Data on existing bonds are more abundant. In America, for instance, information on the price, timing, yield and volume of all bond transactions must be reported publicly within 15 minutes. But so far, comparing primary and secondary markets has been difficult. By crunching a wide array of public data, Overbond seeks to provide a link between the two.

Its main offering is a set of machine-learning algorithms powered by neural networks, a type of artificial intelligence, that predict the timing and pricing of new bond issues. The service is already fully in place for the Canadian corporate-bond market, and partly so for the American one. The algorithms crunch through credit ratings and real-time data on secondary trading for a firm and its peers, among other things. Recent predictions for the yield on new bond issues have been, on average, off by less than 0.02 percentage points.

A subscription buys tailored estimates of demand for new bonds, including the interest rate the market is willing to bear. This helps corporate treasurers gauge market conditions and decide when to issue bonds and in what maturity. Of the 200 or so Canadian corporations that issue debt frequently, 81 are signed up.

Investors can use a basic version of the service without charge, partly because the firm collects data from them that then feed into the algorithms. They can, for instance, get estimates of the timing of the next bond issue to hit the market, using data on the timing of previous issues, issues by similar companies and balance-sheet data. Around half of Canada's institutional bond investors use it in some way.

Canada's corporate-bond market is a relative tiddler, with a total of 604 new bond issues in the past two years. Its investment-banking community is small, too; Overbond reckons that every new bond issue passes through one of just seven individuals. But the firm now hopes to break into America, the world's largest corporate-bond market with around 3,000 new issues annually. There, issuance is much more fragmented. Around 40 banks are active in bond origination, and no

firm has more than a 12.5% market share, according to Thomson Reuters, a financial-data firm.

Vuk Magdelinic, Overbond's founder and chief executive, says that starting small in Canada gave the firm the chance to perfect its algorithms. It has refined its timing-prediction algorithm for the American market (see chart for an example on Microsoft). Some actively managed bond funds have already expressed interest. It has opened a New York office and is seeking funding from American investors.

Bankers, perhaps unsurprisingly, proclaim themselves sceptical that something as sophisticated as bond origination could be prised from their grasp by a fintech challenger. Instead, they think they spy an opportunity. Some have expressed interest in using Overbond's timing algorithm to help spot firms in need of financing before they come asking for it. In finance, as elsewhere, machines and humans may be more powerful together than either is alone. ■

Tariffs

Steeling for battle

To avoid Donald Trump's levies, Europe must first negotiate with itself

DIPLOMATS are racking up the air miles, but the prospect of trade war has not receded. Negotiations between American and Chinese representatives in Beijing ended on May 4th without agreement. Indeed, the two sides' starting positions are so different that a mutually agreeable deal is hard to imagine. Talks will resume next week when Liu He, China's vice-premier, travels to Washington. Negotiators will need to work quickly. From May 23rd America can impose its first set of tariffs against China, on around \$50bn of goods. The Chinese would soon retaliate.

America is edging towards trade conflict not just with an avowed rival but with its closest friends. In March, when President Donald Trump announced plans for tariffs on steel and aluminium, America's allies were granted temporary exemptions to allow time to negotiate deals. Those exemptions are due to run out on June 1st.

Many countries are already off the hook, having agreed to restrict shipments to America. South Korea will cap its exports of steel to 70% of the annual average during 2015-2017. Argentina, Australia and Brazil have reached agreements in principle. Exemptions for Canada and Mexico are linked to progress on renegotiating the North American Free-Trade Agreement; those talks restarted on May 7th. The big exception is the European Union. The Euro- ▶▶

Internship The Economist invites applications for the 2018 Marjorie Deane internship. Paid for by the Marjorie Deane Financial Journalism Foundation, the award is designed to provide work experience for a promising journalist or would-be journalist, who will spend three months at The Economist writing about finance and economics. Applicants are asked to write a covering letter and an original article of no more than 500 words suitable for publication in the Finance and economics section. Applications should be sent to deaneintern@economist.com by June 2nd. For more information, see www.marjorielaideane.com