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HOW WILL BIG DATA CHANGE INSURANCE?

Contents

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New EU data protection and cybersecurity laws could mean big business for insurance companies. [Jorge Franganillo/Flickr]

New EU digital laws could boost specialised cybersecurity insurance

Newly passed EU laws on data protection and cybersecurity could be a boon for insurance companies, which could pick up more clients once the rules go into effect in 2018.

Under the data protection regulation and the network and information security (NIS) directive, the EU's new cybersecurity law, companies will be required to report to authorities if their digital networks are attacked by hackers. Both laws were approved earlier this year.

There is very limited data about how many companies in Europe have already purchased insurance policies to cover hacking attacks. Insurance companies and researchers say that's because the market is still too young.

In 2014, a report from Deloitte found that 90% of the worldwide market for insurance against digital attacks was based in the US, where premiums for those policies alone reached a gross $2 billion that year.

That same year, the large German engineering firm Bosch bought the most expensive insurance policy for digital attacks to date, covering damages worth up to €100,000 million.

Europe slow to catch up

But insurance policies for digital security have been slow to catch on in Europe.

With the data protection and cybersecurity laws set to go into effect in 2018, government offices, industry groups and think tanks are trying to figure out how many companies already pay for what insurers call cyber risk insurance.

The EU cybersecurity agency ENISA organises a working group on insurance covering tech security breaches.

ENISA director Udo Helmbrecht says that there is not nearly as much data reflecting how probable and costly attacks in the technology sector are as there is concerning car security, a traditional industry covered by insurance companies.

"But we see that more and more insurance companies build models for calculating risks. And there is more and more a demand from the industry, which asks for insurance models," Helmbrecht said.

Demand on the rise

Helmbrecht predicted that the demand from companies and insurers will push the cyber insurance market to grow and that the notification

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requirement under the NIS directive might fuel the trend.

The cybersecurity rules will require operators of so-called essential services, including energy, healthcare, banking and transport, to report security breaches.

Under the EU data protection regulation, a broader range of companies will have to inform authorities within 72 hours if they've suffered an attack that exposes personal data.

Those requirements will likely mean that authorities will receive more data about security breaches.

An increase in information detailing attacks could feed back to insurance companies and sharpen their method for calculating the probability of future breaches.

The OECD is planning to publish a series of three reports later this year on the market for cyber risk insurance, which is almost entirely based in the United States and only now starting to get off the ground in Europe.

Requirements to report attacks under the new EU laws could change that.

"I think it is a potential growth factor," said Mamiko Yoko-Arai, coordinator of the research at the OECD.

SMEs more vulnerable

Cyber risk insurance policies often cover liability complaints and loss of income from damage to a company's systems.

The OECD is asking for information from private companies and government offices in its member states, which include 21 EU countries. The organisation plans to outline whether insurers can calculate how likely a company might be to suffer a cybersecurity attack.

"We want to find out if insurance companies can quantify their risks," said Yoko-Arai.

"We're trying to find out what risk models they have. How advanced are they and are there areas where greater data collection could help with policy calculation?" she added.

Yoko-Arai said the OECD studies will use the data on cybersecurity breaches to pinpoint areas where there could be tighter consumer protection measures. While larger companies are more likely to already have insurance that covers digital attacks, smaller companies are much more vulnerable.

"If SMEs are attacked, it could wipe them out completely," Yoko-Arai said.

'Sharing economy' turns to insurers for risk protection

Travis Kalanick, CEO of Uber. [Uber]

The success of sharing economy firms offers new opportunities to insurers who see Uber drivers and Airbnb flat owners as a potential source of revenue. But setting up a safe environment for digital platforms, contractors, and users remains a challenge.

In June, the EU finally started to tackle the legal hurdles and political challenges raised by the rise of sharing economy firms.

With Uber, Airbnb, and Blablacar, citizens are turning into both consumers and producers of a service, which raises questions about their legal status, rights and obligations.

In a set of guidelines published on 1 June, the European Commission acknowledged that the collaborative economy "often raises issues with regard to the application of existing legal frameworks".

"There is a risk that regulatory grey zones are exploited to circumvent rules designed to preserve the public interest," in particular in the field of labour relations and consumer protection of taxation, the executive warned, echoing concerns raised by taxi drivers and consumer organisations.

Not all the same

Guilllermo Beltrá, Head of Legal and Economic Department at BEUC, the European Consumers organisation, said the the Commission "rightly" identified the challenges. In his view, the key question is to determine when a consumer becomes a trader, and what is the responsibility of intermediary

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platforms.

The executive's communication made a difference between digital platforms whose activity is mainly "technical, automatic and passive" and those —like Uber and Airbnb— which offer not only hosting services but also rating facilities, payment facilities, insurance or ID verification, which constitute the "underlying service".

In such cases, the executive said that the liability of digital platforms should be bigger. Companies should be excluded from liability only when they act as hosting services, it said.

When it comes to making the distinction between sporadic contractors and regular service providers, the European Commission recommended setting thresholds under which the economic activity would be considered as a non-professional peer-to-peer activity. An Uber driver who does one or two weekends per month should not be seen in the same way as someone who works five days a week, for example.

The Commission called on member states not to impose "disproportionate" administrative burdens on Uber drivers or apartment owners who provide services only on an occasional basis.

But the EU could find itself lacking the right legal tools to protect the 'prosumers'. The half a dozen directives on consumer protection only apply to company-to-consumer relations, not peer-to-peer relations.

Insuring new relations

In order to bolster a "safe environment", Beltrá said that insurance contracts to protect both users and the contractors could be a way forward.

This is where sharing economy startups are partnering with traditional insurers. Axa recently signed an agreement with Blablacar. Zurich reached an agreement with Uber to extend drivers' insurances (excess contingency liability) in the Asia-Pacific region. Meanwhile, Airbnb offers a host guarantee programme on top of homeowners and renters insurance.

"Certainly, we see sharing economy as a market with a lot of potential that is moving forward," explained Karl Gray, Global Head of Casualty at Zurich.

Around 72% of insurance executives around the globe are planning, or have already established, new distribution partnerships to embrace the opportunities of the sharing economy.

These new digital ecosystems "will force insurers to re-examine how they conduct their businesses in the new sharing economy", wrote Michael Lyman, Senior Managing Director of Accenture Insurance, in a blog post earlier this year.

Insurance liability moving from people to devices

Against the backdrop of a fast-changing digital ecosystem, insurers are developing new models to understand the underlying risks, while preparing new products to better adapt to them.

Hence, the focus of insurance liability is shifting from people to devices. Meanwhile, "smart insurance solutions, that incorporate mobile and connected devices, are driving down premiums while new risk protection and mitigation services are creating new sources of revenue," Lyman noted.

Beltrá believes it is "too soon to tell" whether these insurance-based approaches to create a safe environment would be enough, or whether new legislative provisions would be needed at national or European level.

"We do not have enough data yet," he explained.

The Commission said in its communication that it will monitor the evolution of this nascent sector, collect statistical data and evidence and support the exchange of best practices. The institution did not rule out to come up with new legislative proposals if regulatory gaps remain.

Severe floods highlight climate change challenge for insurers and EU

The threat of extreme weather caused by climate change and the challenges it can pose to EU citizens and insurers were highlighted again last week by the floods in France, which killed four and cost millions.

Floods are increasingly familiar in Europe. [Howard Lake/Flickr]

French Prime Minister Manuel Valls on Monday (6 June) announced emergency help worth millions of euros for those who "lost everything" in the floods in Paris and beyond.

Last week, floods also struck Bavaria, killing six, and leaving about 9,000 homes without power. Three people in the neighbouring state of Baden-Württemberg also died.

In Bavaria, the damage is over €1bn already and the state government is pushing for a mandatory insurance scheme.

Earlier, floods in Britain in 2014 resulted in banks offering victims three month mortgage repayment holidays, as businesses and homeowners struggled to cope with the cost.

Insurance coverage is not keeping pace with the growing frequency of climate impacts such as extreme weather, according to E3G, an environmental think tank.

There is more and more scientific evidence for the links between global

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warming and more frequent and worse natural disasters.

According to data collected by the Munich RE reinsurance company's 2015 report, the number of weather related loss events in Europe has grown steadily over the last 35 years since 1980. Insured losses have also increased over that period.

And it is not just flooding putting pressure on premiums in Europe.

The report read, "The highest losses from heatwave and drought [...] were caused by the hot, dry summer in Europe. The overall loss totalled some 1.9bn; only about a tenth of this was insured."

Insurance industry sources told EurActiv.com that the growing frequency of climate-related claims would result in higher claims and ultimately less affordable premiums.

"Climate change could prove to be an existential threat if not handled properly," said one industry insider.

"We could not guarantee insurability. It would increase risk to a considerable degree," said the source, who preferred not to be named.

That was denied by Robert Dickie, CTO of Zurich Insurance.

He said, "I don't think anyone is uninsurable. Pricing may become less attractive to the client. There is always someone willing to insure, depending on risk appetite.

"There are a number of people coming into the industry because people see insurance as a good return and are prepared to take on and commit to underwriting the risk."

Rosalind Cook, of E3G, warned that the liabilities of some insurers could lead to costs being passed to the taxpayer.

Mark Carney, the governor of the Bank of England, has highlighted the risk of financial shocks to insurers if climate risk grows much further.

The European Commission has also begun to look into the issue of liability as part of its work on the Capital Markets Union. Separately, the executive's climate action department held a stakeholder workshop with insurers to get their opinion ahead of the 2017 review of its climate adaptation strategy.

Taxpayer on the hook?

That raises concerns that if insurers do stop insuring, the costs of climate damage could be passed onto the taxpayer through municipal and national governments.

"Today's model of climate risk insurance is unsustainable in a Europe of climate extremes. It needs to be reformed," said E3G's Rosalind Cook,

"Crucial economic sectors and vulnerable communities face a lack of access to insurance and undervalued risk could lead to insolvency. If insurance coverage becomes unprofitable with climate change who's going to pay? These are major public interest issues that we have barely started to tackle."

In some countries where the risk is too large, public-private partnerships can be launched to ensure affordability of cover.

When the Dutch government pulled out of such a scheme, the Dutch Association of Insurers was able to develop a private flood insurance solution.

Risk and data

Insurers are experts when it comes to calculating risk and have sophisticated models to assess it, including climate change risks.

Zurich's Dickie said those risks were well understood, and pointed out that they affected the whole economy, not just insurers.

"These events have a massive impact on commercial and corporate customers, because of supply chains. And the more we understand the impact of global weather on supply chains, the better.

"Mutual sharing of data helps us understand these risks, provide alternatives and lower premiums."

One industry source agreed. "Big Data and data analytics will have many benefits to taking measures to limit risks, and take responsibility for premiums," he said.

A lot of climate related discussion will be about adaptation, he added.

The European insurance industry supports land-use planning and the raising of risk awareness by developing improved risk-mapping and zoning tools.

Public authorities should also maintain a dialogue with insurers, who can provide specialised knowledge through productive partnerships, said trade association Insurance Europe.

Insurers help policymakers identify the appropriate areas in which public-private cooperation can be beneficial by providing research, encouraging prevention measures, delivering financial solutions and applying their expertise to track trends and define problems posed by climate change, it said in a recent paper.

Capping global warming

But adaptation is pointless – and insurability under threat – if climate change continues to get worse.

The landmark UN Climate Change Conference in Paris last December set a target limiting global warming to two degrees, with an aspirational goal of 1.5 degrees.

At the time, Michaela Koller, director general of Insurance Europe, which lobbied for the cap, said, "Europe's insurers welcome the momentous progress which has been made. Tackling both the causes effects of climate change will be one of the defining issues of our time.

"It is incredibly important that the momentum gained through this agreement is maintained and that governments take steps to limit global warming and prepare their societies to the effects of climate change through better adaptation."

Achieving the necessary shift to a low carbon economy remains a significant challenge for policymakers in the EU and the world, where many countries face even more disastrous consequences as a result of climate change.

INTERVIEW

Insurance exec: Big data allows better understanding of risk


Insurance companies say big data is changing their business models. [KamiPhuc/Flickr]

The insurance industry is adjusting its offers on health, cars, the sharing economy and other services because of the growing amount of personal data becoming available.

Zurich Insurance's CTO Robert Dickie told EurActiv.com in an interview that big data is changing the way insurance works and making the industry more competitive.

Robert Dickie is the Chief Operations and Technology Officer of Zurich Insurance.

Dickie spoke to EurActiv.com Editor Frédéric Simon.

The emergence of big data puts insurance companies in a position where it can know a great deal more about its clients than ever before, for example, with health monitoring applications or driving behaviour. What kind of challenges is this raising for a company like Zurich?

Insurance is based on the solidarity principle. Data allows us to pinpoint better ways of identifying price and risk management. This is a good thing, for us and the consumer. It means we explain the risks we write and price them better.

At its most extreme, shall we say, it allows us to be more selective on those risks and set portfolios that are more attractive.

When it comes to the sectors you mentioned, the insurance industry already has access to a lot of data. Again, we see this as a way of getting richer veins of data in order to provide better risk assessment. Of course, the concern is what this does to the solidarity principle and how we manage risks across the entire population.

It allows you, in theory, to discriminate a lot more than before, in the sense of pricing.

I certainly wouldn't use the word discriminate, as that suggests we are being negatively selective. We are trying to understand the risks that we are looking to underwrite. It's a selectivity of risk.

Insurance companies are aggregations of risk portfolios. Data helps us improve that. After all, in the insurance industry, we are in competition with others to provide risk assessment, balanced with price. It will be an aid to competition.

So you see this as an opportunity to be more selective on how you define profiles for different sorts of clients?

Yes, because we are trying to price risks better for clients and support them in mitigating it. Insurance is intended to allow people to go about their lives without the worry of unmitigated risk. Big data allows us to do that.

More data allows you, in theory, to be more selective. But some current legislation could prevent you from actually doing so, for example, laws on gender.

That's a distinct possibility. That is the discussion between the industry and regulators. We all have a shared interest in the solidarity principle. Take the Japanese market as an example. Quick cover was extremely expensive and difficult to come by, so the government has its own fund, which insurers are a part of.

The data we are talking about should aid the dialogue between regulators, the government and the individual organisations. In a competitive market, there is always going to be someone that will underwrite a risk and see it as attractive.

Better data and all the participants being regulated, to me, seems like a good vehicle to see how the market is being provided and that there is adequate competition.

Back to health. If more is known about an individual, there's the possibility that people are going to be priced out and become uninsurable. How do you see that being solved in a big data world?

I'd challenge one assumption there. The consumer always owns the data. I don't think people are going to be compelled to provide their data. We are stewards of data, not the owners.

Of course the attitude to data varies around the world. Personally, I think there will be a relationship between those people who are willing to share their data and those that are not. Of

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course, being prepared to share data, with mutual consent, could lead to different pricing, not necessarily better naturally.

People would only be willing to share if they think they are going to get a better price, one would assume...

I'd agree with that, but again that's an assumption. Some people simply don't like sharing their data. Their data is worth more to them than the savings they could potentially make. But I agree with your logic. I think that there will be a separate market for those willing to share and those that aren't.

How do you think the regulators will react to this? You're essentially talking about a two-speed market.

I think it would be multi-speed actually. But you'd have to ask the regulators. I think that people are still at a stage where these models are still being tested out. I think it represents challenges to regulators certainly.

On data ownership, some people wonder whether the clients should benefit from the emergence of big data by selling their data themselves. Would you welcome this?

On a personal level, more data awareness among clients is always better. It helps the dialogue greatly. In the past, many insurance models were set up as mutual.

One model that would be interesting would be a return to that. People are prepared to share amongst groups, the basis of a mutual. Spreading risks and looking after each other. In terms of emerging models, it's a virtualisation and rethinking of the mutual model. I think that could be attractive to regulators.

When it comes to motoring, how are you preparing for the developments there? You'll no longer be signing contracts with individuals, it'll be with companies instead.

Yes, we're talking to individual customers and car companies. Why? Because it's moving from an individualised contract to something similar to how we buy finance on vehicles currently. There has to be clear risk accountability.

Who is accountable for the risk? The machine? The satellite link? This is the kind of stuff that needs to be figured out and what the regulators are still working on. It's only by testing and trialling that this will move into production.

The sandbox idea is a good way of getting this done. The technology is going to be there, it almost is already. Some carmakers are already ready to roll this out. Tesla is racking up the data, Uber is compiling dataset on dataset. The tech problem is going to be solved. It's human acceptance that will be the issue and the regulation behind it. It's also going to take a decade to change the current stock.

Depending on the technology car manufacturers opt for, owners of certain car brands are going to be charged less than owners of other brands, because of safety. Is that the logic?

Again, if we are getting feedback on accident history etc., then the answer is going to have to be yes. But it is in the carmakers' interest to up safety, as their sales would be affected otherwise.

Turning to a different topic, what are the specific challenges you see when we talk about the sharing economy? Do you see this as a new market opportunity?

Yes we do. We've been speaking to Uber and AirBnb. When it comes to the former, the challenge is at what point does the car become a commercial vehicle driven to transport valuable cargo, i.e. humans, where is the transition? It should be technically easy to identify. When the driver is driving or the purposes of commercial enterprise.

So you would have to apply different rates at different times of the day...

Correct. That's how it works with telematics at the moment. The difference I would highlight is that in the past it was a blanket time period covered by insurance, this can now be broken down and priced seconds on minutes instead of year on year.

Would you say this is manageable? Do you need supercomputers to manage this data?

Well it's data, so it can be captured. I'd describe it as an 'atomic view' of insurance.

The key thing in computing is not to put the hardware in before what we understand what we are trying to architecturally construct. And it'll be about the right algorithm that'll allow us to do dynamic pricing, not supercomputers. We can get that through the cloud.

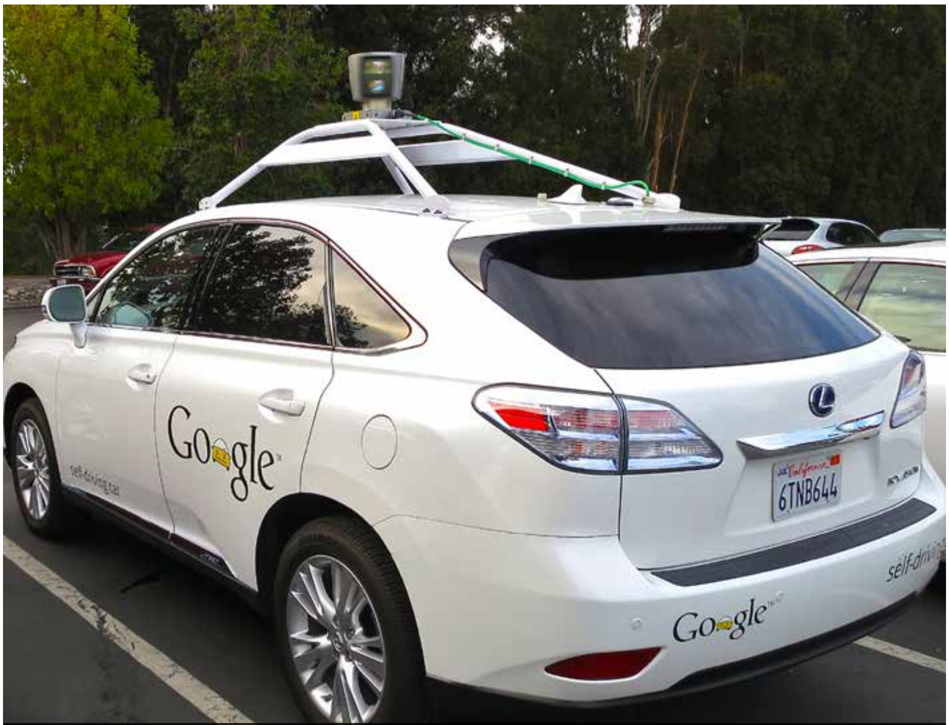
Now, is any insurance company ready to do this currently? I would doubt it. It's something we have to get our head around completely. The Climate Corporation is an example I would cite in which data and the right algorithm were connected. They identified attractive datasets and attractive risks.

We spoke about Uber, but not much about AirBnb. Any specific challenges there for insurers? I guess you must see this as a new market opportunity?

I think it's great. It comes back to data. I'm not sure that the user, the provider or the insurer are always aware of the risk that is being underwritten. It's one of the unseen elements of the sharing model and that it'll only take a few occurrences for it to form a part of the insurance form when you first apply for it for your property.

EU considers new insurance laws for driverless cars

The European Commission is trying to figure out whether insurance laws should be changed to cover crashes caused by driverless cars. With no human in control of the cars, insurance companies are already rethinking who will be liable for the new technology.



Google is test driving its own driverless cars in the US. [Wikimedia]

A Commission-led group is meeting with industry associations on Monday (13 June) to discuss who will be responsible for damages when fully autonomous cars are available for sale in Europe. EU sources say the executive will likely announce whether it will propose new legislation in 2018.

The meeting is part of the executive's Gear 2030 working group with car manufacturers, telecoms companies and the insurance industry to make driverless cars available by its own 2030 deadline.

Cars that run without any help from a driver could upend how insurance works because a vehicle owner will no longer have control.

Fully driverless cars are already being tested on highways in several EU countries. Cars with some partially autonomous functions like automatic braking are already for sale.

A Juncker Commission document outlining Gear 2030's priorities on driverless cars says insurance models would likely not need to be changed for the next ten years since cars will be outfitted with a growing amount of automated features but still be operated by drivers.

"Can there be at all a somehow fault-based liability approach if actions are determined by software and algorithms?," the document reads.

Current EU law requires all vehicles to be covered by car insurance. If pedestrians and bicyclists are injured by a car, they're covered by the car's insurance under the 2009 motor insurance directive.

Officials pushing the executive's work on driverless cars say one draw of automation technology is that it will likely cause a drop in road collisions.

Who is accountable?

But when there are accidents with driverless cars, it could become more difficult to identify what caused them.

"Who is accountable for the risk? The machine? The satellite link? This is the kind of stuff that needs to be figured out and what the regulators are still working on," said Robert Dickie, Chief Technology Officer at Zurich insurance.

Some lawyers say one model to cover fully driverless cars is so-called zero fault insurance that would mean insurance policies covering other vehicles involved in collisions would pay for damages.

"It would be extremely difficult to identify a fault with autonomous vehicles. The longer it would take to identify a responsible party the more costly it would be for insurers," said Daniel Fesler, a partner in law firm Baker & Mckenzie's Brussels office.

According to Fesler, the insurance industry will lose out if liability is shifted from drivers to manufacturers of driverless cars.

"Their interest is that liability stays at the level of the owner or user of the car so they can sell insurance policies to them," Fesler said.

"If the market is reduced to a few manufacturers they could sell important and large policies to these groups but the market would be reduced," he added.

Nicolas Jeanmart, head of personal insurance, general insurance & macroeconomics at trade association Insurance Europe, said, "Irrespective of the future level of automation of cars, insurance will continue to play an integral role in providing essential protection to drivers of automated vehicles."

In the European Parliament,

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deputies are putting together their own views on automation and how new laws could protect users of robots and driverless cars.

A draft report published last week (31 May) in the Parliament's Legal Affairs Committee (JURI) suggested that "the greater a robot's learning capability or autonomy is, the lower other parties' responsibility should be."

Luxembourgish MEP Mady Delvaux (S&D), rapporteur on the draft text, said she hasn't decided yet whether driverless car owners or manufacturers should be liable for accidents, but her priority is to make sure victims are compensated.

"One solution could be to trace responsibility back to the producer. If the producer is always responsible, we can put insurance costs into the cost of a product. Otherwise we would have a complicated system where the victim has to sue all the entities involved," Delvaux told EurActiv.com.

Delvaux's report, an own-initiative text with no legal implications, will be voted on in the JURI committee in November.

Carmakers push back

Car companies are pushing back against calls to shift all liability to manufacturers because they argue that driverless cars will use software from multiple sources.

Eric Jonnaert, secretary general of ACEA, the association representing European car companies, said manufacturers shouldn't be liable for collisions under all circumstances.

"How can you verify what the cause is? Was it an application a driver downloaded or was it some of the technology that was already in the car when the car was purchased?," Jonnaert said.

"That question needs to be clarified because if that's not clear then the potential of expanding autonomous vehicles will be limited. Who wants to take that risk?," he added.

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