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GARY GENSLER: Welcome to FinTech-- Shaping the Future of The World of Finance. And happy spring. It's May. I thought what the heck? You've got to be a little innovative. Try teaching from outdoor. So this is not a virtual backdrop. If the sun is too much or the birds are too much, that's an additional thing Romain can give me advice on.

Now today we're going to dive into insurance and technology or what some call this little sector of fintech as insurtech. But it's not so little, it's not just simply because the excitement is around payments and challenger banks and apps like Robinhood and the capital markets and so forth that we leave insurtech to the end. I also think insurtech is an interesting field that it brings all the pieces together in some way. It brings together a part of finance that has big legacy incumbents.

In every country we're in, there is this handful of life-insurance companies and property and casualty insurance-- that's those that offer lines of insurance on our homes, our autos, and so forth; health-care insurers, particularly in those countries that have, like the US, big, open health-care systems. These insurance companies, big, legacy companies, have tended to be a little behind the curve of technology compared to the Wall Street firms-- not a lot behind but a little behind.

And then the insurtech itself, the fintech within insurance, has done some really interesting things particularly around alternative data, and we're going to dive into some of these opportunities. And also they're a little bit new forms of alternative data. It's not just about our credit weighting. It's about our driving. It's about our homes. It's about thinking about can we underwrite insurance risk related to how we live our lives, how we drive our cars, how small businesses are operated, and whether there's more information that can be brought to bear or not just financial inclusion but the pricing and underwriting of risk?

Of course, we're going to see the same trends about artificial intelligence. We're going to see some really important trends around user interfaces. And one of the

most interesting areas around user interfaces is what's called claims management, an area that hopefully you don't have to think about too much. But amongst this class of 80 or more, I'm sure that somebody has had a little fender bender, had some scrape up on the roads. And now that there are apps that you can just, on your mobile phone, take some quick photographs and put it right into the system. Claims management is changing quite a bit now as well, and there's startups in this space that basically say we will get you better claims management faster, smoother, and a better user experience about claims management.

So with that, I'm going to try to upload the slides again. We can join sort of the community together, sort of videos on. Please raise your hands actively. Romain's going to be watching for any blue hands up also in the chat. And if the birds get to be too much, just know that I'll go back inside on Wednesday. Romain, how is it so far?

TEACHING ASSISTANT: It's fine. It's very nice. Don't worry.

GARY GENSLER: All right. He's assuring me that I can keep having a little bit of an indulgence here in this beautiful outdoor setting. And what I'm going to need to do is go to this Share Screens.

So we're going to talk a little bit-- we're going to start a little bit about the insurance value chain and the sector's landscape now. And traditionally in business schools, traditionally in worlds of finance and finance majors, there's a lot of time spent on banking and on capital markets, and there's some time but less time spent on insurance. And so I'm going to just lay the groundwork a little bit about insurance, some of the challenges in the sector itself, and then get into this field fintech and insurance or what a lot of people call insurtech, opportunities, business models, and the startups. So that's sort of the goal of the class.

The readings were really about this area of insurtech. There was a handful of them. The Bank of International Settlement reading was really talking about some of the regulatory challenges and whether insurtech will change some of the risks in terms of regulating this space. And then a little reading about Asia. And if you've not had the opportunity to look at some of the readings because they were just put up last

Friday, go back. Sort of dive. Take a little look.

And again, we'll see if anybody wants to give a little view in this field, but what opportunities in the current insurance sector-- or what are the pain points, you think, that you might want to highlight? And again, this is just to get a little conversation go. So Romain?

TEACHING ASSISTANT: OK, here we go. Who will be our first volunteer for today?

GARY GENSLER: Has anybody ever had insurance and felt there was a little pain point? Michael, I see a hand up.

TEACHING ASSISTANT: As always, Michael is helping us out to get us started. Go ahead.

AUDIENCE: I think one of the obvious ones is just processing time. It's just really kind of through each step of the process, underwriting-- I don't know-- processing, completing, [INAUDIBLE], it just takes a long time. So kind of there's definitely a lot of opportunities for automatic feedback or leveraging AI to really speed that up for consumers.

GARY GENSLER: So the two sides of processing-- it's the front and when you're actually trying to get your insurance, when you're actually-- it's called underwriting. The insurance company is pricing and giving you availability of insurance. And whether it's life insurance where you might have to send in some medical tests and the like, homeowners insurance, renters insurance, auto insurance where there's a process going on at the front end. And then there's also the process if you have an accident.

Insurance is this product that basically if you never hear from your insurance company and they never hear from you, you've paid a premium to protect you against a risk, but the risk has not generated a loss. But then you have the accident.

Then you have the problem. Then you have to send in a claim. And that process on the back end, the insurance companies want to protect against fraud. They want to fulfill your claim, but they want to protect against fraud, and the claim-adjustment process is a significant time and human and paper-based and sometimes legal-based circumstance.

	So, Michael, you're right. Pain points at the front end, particular pain points in the claims-processing side. Anything else you want to throw in?
AUDIENCE:	I guess--
GARY GENSLER:	Oh, we've got a few other hands if you want. I mean if you want to--
AUDIENCE:	That's fine. I can pass it off to somebody else.
TEACHING ASSISTANT:	Alessandro?
AUDIENCE:	Yeah, I think another big trend is we're going to see different type of insurances come to life as more and more risks are becoming quantifiable. And this leads to a number of events or things we can get insurance on. So the selection of things on which we can get insured is going to increase dramatically because the quantifiable risks are getting bigger and bigger.
GARY GENSLER:	Right. And sometimes it's not just a new risk in society but it's, as Alexandro is saying, the quantifiability of it. So let's take auto insurance and a company that started a number of years ago called Metromile. Simple concept-- what if we charged automobile insurance not by the month but maybe by the mile? Could we quantify that you've only driven a mile and that would be the insurance? And if you're a heavy driver, there's more. And, in fact, what if the mile is out on the country roads or it's actually in the cities and where you're driving? So quantifiability, the analytics, the computer capability, but also the connections to all of us with sensors and the internet of things. So I've sort of given a little bit of a preview, but there were some other hands up. How have that which we've talked about all semester-- machine learning, alternative data-- influenced this? But a new factor that we've really not talked much about in banking and challenger banks and payment systems is the internet-of-things devices possibly changing the field of insurance.
TEACHING	Danielle, would you like to go.

ASSISTANT:

AUDIENCE: Sure. And also you just broke up there, so if you lose me, sorry about my internet connection. So there's an opportunity for the insurance landscape to be changed by alternative data in that companies can now inform their underwriting process with a lot more information, a lot richer set of data than they previously had. So whereas for health insurance or life insurance you might have had to fill out a survey-- people are varying degrees of honest on those kinds of surveys. Now we're suddenly generating an extremely accurate picture of ourselves almost passively by everything we do in the world, and companies can access that information.

GARY GENSLER: Right, or can they access it? They still have to have a network. And what's really interesting in this space is that just as we saw a data aggregation an important feature in the payment space with companies like Plaid and Galileo and everything that they were right there collecting data between the banks and the payment systems and then hundreds or thousands of fintech startups, that there were data aggregators in the middle, there are data aggregators in this field as well to collect that data, commercialize the data, but maybe stand between our lives and all the sensors and data-collection efforts and hundreds or thousands of startups on the other side as well.

TEACHING ASSISTANT: Nikhil?

AUDIENCE: Sure. I think this is more specific to the health-insurance side of things where a lot of times in health insurance, 90% of claims are auto adjudicated, and most of them are based on statistical methods. With the influx of AI, you can review claims that you weren't reviewing before, and so you could potentially uncover more fraud, waste, and abuse than you were. So this is a market that they haven't sized yet because they don't know how big fraud might be. So I think there's a big trend there as well.

GARY GENSLER: Great point. And sometimes it's not truly artificial intelligence or machine learning. It's just the remarkable ability to collect, sort, clean up the data, standardize the data that might also have a bit of machine learning on top of it, but it doesn't have to be the machine learning. It's sort of this partnering up.

And then what are some of the challenges? We're going to talk about some of the challenges for the startups trying to get in there-- capital, regulation. And does anybody have a view as to the date why we haven't seen-- with some important exceptions, but we haven't seen big tech firms getting engaged in the insurance field. Now, there's some important exceptions we'll talk about in China, by the way, but why we haven't seen Amazon-- they're in the credit-card space-- and Apple in payment space but why we haven't seen big tech, by and large.

TEACHING ASSISTANT: Laira?

AUDIENCE: Yeah, so I just think that it's mostly because there's a lot of barriers to entry, namely as you mentioned, regulation and also lack of expertise, which all of these insurance companies already have. So I think it's also regulation and high costs because of lack of expertise that prevents these big tech firms from entering into the insurance market.

GARY GENSLER: All right, so I think that's partly right, but I'm also going to put out the question throughout the class and a thought experience at the end, is it just that we haven't gotten there yet? Is it a possibility that-- again, big tech is about data, networks, and activities, as the Bank of International Settlement has written. And so do they want to layer another activity upon that network-- upon that network?

We haven't quite seen it. I said that with one important exception in China. In China a number of years ago, big tech-- Alibaba, Tencent that has WeChat-- partnered up with one of the largest insurance companies in China, and the three of them started effectively an insurtech. It's the world's largest insurtech if we still call it that, and it was owned and operated by three very big companies. Ping An was the insurance company.

And so it wasn't direct. It was a joint venture. But it's a question of will we see this coming into the future or not?

So let's just sort of dive into the value chain. You've got to design a product. You've got to market it. It goes all the way to claims management. You can be in any one of these pieces. This is just pulled from the Federal Insurance Office of the US

Department of Treasury from a report last year. But each of these pieces might have a piece of competition and a pain point.

We talked a little bit about claims management. Claims management separates insurance from the banking fintech we've talked about, but a lot of the underwriting and the front end-- designing a product and the marketing-- you'll see that an awful lot of disruption is going on at that front end. Marketing is sales. It's brokerage. It's bringing in the customer. It's a better user interface, a better user experience.

In the underwriting and rating side, you can underwrite credit. You can underwrite insurance. It's basically how much insurance will I provide to whom at what price? And that underwriting process ultimately comes to administering the policy and then the claims management side of it.

So each of these pieces of the value chain might have pain points. The front four of these, designing products to policy administration, actually has a lot of overlap with the banking sector-- not identical. Important differences.

So what's this sector look like? I just list companies on these several next slides-- life insurance, property, casualty. What I want you to take out of is not particular names in your country, whether it's China Life or MetLife or Nippon Life and Swiss Life. It's that if you look at when these companies were founded, many are 20th century, but many are actually 19th century.

The concentration and the survival the persistence of insurance companies is quite consistent around the globe. They talk about the big five in China, but in any country-- in any country there's a handful of insurance companies. Once you get to about the top 10, you're at 85% to 90 plus percent market share, particularly in life insurance and property and casualty-- a little less so in some other fields.

And there's, of course, health and managed care. More a feature of the US health-care system where it's private insurance. And then big diversified companies across the globe. Diversified simply means that it's both in life and property and casualty and the like. So it's multiline.

But let's not forget there's also reinsurance and then brokers, and the brokerage side is an area where disruptors have started to say, well, maybe we can broker

insurance. And by brokering insurance, it's basically making the sales, making the marketing, but not taking the risk onto your own balance sheet-- benefits administration, software. The only companies that are 21st-century companies on this whole sort of review is in the software and services side of things. So that's kind of my kind of overall point.

US insurance premiums, just to give you a sense of scale the market, about $1 and 1/2 trillion a year. We talk about the finance sector that's about $7 and 1/2 trillion in the US-- I'm sorry, 7 and 1/2%-- 7 and 1/2% of GDP-- overstatement there-- which is about $1 and 1/2 trillion. This is consistent with that size. These are the premiums being paid into direct premiums written.

The health and life side of things, just to give you a little flavor-- and these will all be on Canvas, of course. By and large, a big part of the life and health side is savings products. There's competition between life companies and banks, life companies and investment-management companies on the annuity side.

The disruption, so to speak, has been happening largely in property and casualty. But to the extent that insurtech starts to get into this space, I think you will see more and more disruption in the savings-products side as well. The companies like Betterment and all those companies we talked about in the wealth-management side or in wealthtech I think you will see starting to say, wait. Maybe we can get into the annuity side as well, the annuity and savings side of life-insurance products.

Property and casualty, just a little breakdown here in the US.

And so now we turn to challenges, pain points. What do we have? This is true of any incumbent company. You could be a company that's been in business for a hundred-plus years, and you're sitting there going I'm selling through an agent or broker network. And the agency and brokerage network here in the US takes a big chunk of fees.

I think on the property/casualty side, we're probably in the 10% to 13% of premiums on average. But in some products, it's much larger, some a little smaller. The life side, the premiums I think are in high single digits to 10% on average.

And while I'm not sort of an expert of all the fee, that basically means if you pay

$1,000 for your auto insurance, $100 plus, $120 is being taken by those agents and brokers.

Claims administration, we talked about it. Very paper and human intensive. Litigation risk all abound. Insurance companies are built up around this legacy tech, just like in payments and in credit.

Of every dollar of premium, a big chunk is not only going to the agents and the brokers but a big chunk is going, of course, to the whole claims processing and the whole value chain.

And because it's deeply regulated, in many marketplaces you can't offer a new type of insurance without getting some official sector approval. Going through the product-design phase often has legacy and time delays within it. And, of course, just like the other fields, there's whole sorts of questions about user interface and user experience. All of these present challenges, but they also present opportunities. Romain, any questions?

TEACHING ASSISTANT: Not yet, but let's wait perhaps a few seconds. No, I don't see any hands up.

GARY GENSLER: All right. So insurance and insurance tech-- you can sort of say I want to be involved in the pricing and underwriting, the quotes, the policy administration, the claims management, sort of four different sectors, improving the customer engagement, lowering operating costs. Look, of course it always goes back to can you do something better, quicker, cheaper?

But as we talked about earlier, it could be in product design as well. It could be in not just doing it cheaper in pricing but more availability and, as Metromile has done, really in using metrics to get to a new type of product itself and the quoting and issuing of products.

So what are some of the opportunities more specifically? I think across financial technology, it's about user interface and user experience. So that could be on the sales side. It can be in the account management, digital and mobile phones, but also in the conversational interface. Underwriting, we've talked about it, really not just the machine learning but the alternative data, and then claims processing. I

think these are the big three.

They seem pretty simple once I say it. But it's sort of like thinking about it, and if you have a business model, if you're going into this business or you're at Prudential Life Insurance or Nippon Life, it's sort of saying, how can we use technology to enhance user experience? How can we enhance basically the pricing and the availability of our product underwriting? How do we do the back end?

The first two, user experience and underwriting, very much true in banking tech. Claims processing, somewhat unique here. And it's about data capture. Now, one part of the data capture-- and you can see it here-- drones, the internet of things, smartphones, telematics, wearables.

I'm curious-- Romain, you'll see if anyone will raise their hand. Has anybody actually taken insurance where the insurance company has said for your automobile, we want to have access to your driving record directly through your car's telematics? Telematics is a word that didn't exist 30 and 50 years ago, or if it did exist, it wasn't commonly used. It's about all the information that your car is collecting on driving in the computers on board your car, and it's not just GPS. And it can sort of assess your driving.

Smartphones as well can assess our driving because smartphones are not just locational devices, but they can get all the ups and downs of your driving.

What does that mean? That between smartphones and the computers on our cars, a product can be offered that says we know enough about your driving that we will give you fine-tuned pricing and underwriting.

TEACHING ASSISTANT:	Danielle?
GARY GENSLER:	Romain?
AUDIENCE:	Yeah, I had a question around Google's deal with Ascension to store and analyze the medical records from their hospital network. And I'm curious if you think that kind of entrance, the big tech into the medical world, is going to be more common and if that might be a potential avenue for those kinds of companies getting the insight

into health data that they would need to make them confident to move into insurance?

GARY GENSLER: I think you've landed upon one area that big tech can be very influential, particularly the big AI companies like Google and Baidu in China, to the extent-- and we'll see there are some startups that are entering this field because they're very good at data analytics and machine learning. And to the extent that they can be data aggregators like Google, you're absolutely right.

I don't think it's just health care, by the way, but I think health care is a really important piece of it, that many insurance companies, health-care management companies in the US have a tremendous amount of data, and they want to make more sense of it. And they want to, with that data, provide more fine-tuned insurance products but also help manage our health-care system better.

So I think it is an avenue for certain big tech companies that are at the cutting edge of data analytics and machine learning. Not for every big tech company but for many I agree with that.

Did anybody have an insurance-- did anybody take out an auto insurance?

TEACHING ASSISTANT: I think probably Alessandro. He had his hand up but probably for a question.

AUDIENCE: I had this little chip or a computer on board. And basically, yeah, it traced everything that I did with the car, like where I was, how many miles I drove, everything. And it actually helped me to decrease the cost of insurance.

GARY GENSLER: There you go. There you go. Now, some of the first patents filed on telematics were in the late 1990s. But what we found is it's really changed the field of auto insurance.

This little visualization about insurtech, again from the Department of Treasury study last fall, I think is just a good place to pause for a second. We're not going to go through every box, but whether it's sensors and telematics-- and this is a big piece of having those sensors and telematics there to lower Alexandro's cost of insurance but also for claims management. If the telematics and sensors are there

upon an accident, then you can lower a little bit the cost of claims management, and the insurance companies can have confidence the accident actually happened, potentially figure out who's at fault, see right at that moment what's going on in that automobile.

Visual computing, literally downloading, uploading photographs into the claims management process. We've already talked about machine learning and AI, but blockchain technology I want to touch upon. Of all the fields of blockchain technology that we generally have heard about-- and many of them are hype versus reality. One field is whether with the use of blockchain technology that we can have an append-only log that is tamper resistant whether there would be trust in a field of insurance called parametric insurance. In essence, if we had an automated smart contract that said that if this happens, I get paid.

So what's the this? One field that a group of students studied last year, studying it on behalf of a group in Asia, was parametric insurance for airline delays. If you could embed on a tamper-resistant ledger. On that ledger, you would embed smart contracts that says if the plane takes off more than a half hour late, you automatically get paid. A mobile app. No trying to rely on the airlines whether they're accurately telling you or not that the plane took off late. Put it on a blockchain technology. Now, maybe you could do it with a central database as well, but there are many people looking to whether to use blockchain technology for parametric insurance.

But the sensors and telematics, the visual computing, the machine learning, those are real. The Department of Treasury sort of also put something on the edge in terms of blockchain technology.

Challenges though abound for insurtech. There's still the age-old challenge of funding. And it's particularly true in insurance because if you take an insurance risk onto your balance sheet, that's a liability of an insurance company. That's a liability that in the future they have to pay out a claim on an accident, a loss on your home, or on your life.

So many companies are finding challenges. If they're startups, how can they access capital? Now in the banking sector, you can possibly do it through securitization. You

can basically say I'm not going to build my own balance sheet. I'm going to sort of rent a balance sheet. I'm going to lay it off.

Similarly here, you can lay off some risk in the reinsurance markets, but it's not quite the same for these insurtech startups. Most challenger banks partner with some bank, get a warehouse line of credit, and possibly also then sell their loans after they're initiated.

Here, it's not as robust. It's not as developed. But again, many insurance fintech startups are saying do I partner with a big, dominant insurance company because I can't build my balance sheet as rapidly?

If you choose to be a carrier-- and a carrier is the term to say you actually take the insurance onto your balance sheet. You have the liability. Choose to be a carrier, it's balance-sheet intensive.

Also, just how do you find your startup run-rate loss because all the startups tend to have multiple years of building out a network and building the platform itself. Clearly the competitive landscape, the regulatory frameworks-- the regulatory frameworks, do you get licensed? Again, similar to the challenger banks. Remember we talked about there's neobanks and challenger banks which often people sort of say in the same breath they're the same. But more specifically, a neobank is something doing a lot of banking functions that has not yet gotten a banking license.

Similar here, if you're thinking about starting an insurance fintech firm, what type of licensing will you get? Will it just be a brokerage licensing? In various jurisdictions, you have to register to be a broker or an agent. Are you actually registering to take lines onto your balance sheet and become a carrier?

And then, of course, user adoption and the use of data. And in terms of the use of data, there aren't quite the same laws. We have the same conceptual framework that you have to be fair and unbiased, but there aren't quite the same laws like the Equal Credit Opportunity Act here in the US.

And in terms of the use of data, as we'll see in a minute, if you sign a waiver and say you can use my driving record to give my insurance, is Alexandro did, they can use

that data also on the claims-management side. It's not just to lower the cost. It's also to see, if you call up and say an accident, they look at the telematics and say, did this really happen?

So the insurtech landscape-- we're not going to dive into this slide, but it's just each of these pieces-- each of these pieces, it might be that you're trying to go into the billing and payments, which is sort of rudimentary, sort of. You could be going all the way to another area and say we're going to be the best data analytics on wearables.

And by I mean wearables, how many people have a Fitbit? Does anybody want to talk about whether you've signed up for insurance that your insurance company can get your data off of your Fitbit or off of your Apple watch? What you're using for exercise can lower your cost of insurance. I'm going to pause, Romain.

TEACHING ASSISTANT: I don't see any hands up. Lindsay, go ahead.

AUDIENCE: Well, I didn't have like the agreement with the insurance, but what I did have is that my former employer had a program where we would connect our tracking devices like for steps and stuff with this program that would give you kickbacks if you got so many steps a day. So I'd get tons of gift cards because of all the steps I tracked in. And that data I'm sure was going to the insurance company to lower the insurance rates.

GARY GENSLER: Right. So if you got to your 10,000 steps-- or maybe they gave you a premium for 5,000 steps. You got some rewards.

We all know about rewards programs in credit cards, and that's part of that 2 and 3/4% interchange fees. These rewards by your employer, ultimately the economic incentives is the employer can have lower cost of health insurance. That data through the intermediation of your employment contract was lowering health-insurance costs for some group health insurance.

Now, I think your employer was also doing it because they know if you're a better health that you also have fewer days off. You'll be hopefully a better employee. So they're also lowering some of their costs in terms of their direct costs, but it also relates to health insurance.

So wearables, trackables, telematics, and the internet of thing. The internet of thing is about sensors. And it's about sensors in many items in our home as well.

If you have a home security system, in the last 5 or 10 years, you've been able to tie that into more data. Now, home security systems have for decades somehow had to communicate through a security company to the law enforcement if the alarm went off, but I'm talking about more fine-tune monitoring.

And we all are aware, even though that very few of us might have it, that you can have apps on your phone that you can communicate with your home to turn on your heat or your air conditioning, monitor your home, home-monitoring devices that makes all of us maybe more comfortable that our home is secure or even to have the communication from the home if, for some reason, there is a problem in the home.

And there's sensors on refrigerators. There's sensors on HVAC, heating and ventilation systems. There are sensors throughout houses. The 2020s, we're going to see this just absolutely mushroom in terms of sensors. So what's that data do for the insurance field?

That's why I think insurtech and insurance and fintech is such an exciting and interesting place because we are basically in a transformational time right now in terms of sensor technology and embedding sensors into our economies not because of insurance but because many users want to sort of monitor either their home, their automobile, their wearable, their trackable.

And now with this really challenging time around the coronavirus crisis, we're talking about contact tracing. And all that contact tracing could also be fed in, depending upon the jurisdiction, depending upon the regulation, into health-insurance rates, life-insurance rates, or any form of insurance. Again, largely dependent upon the various jurisdictions' regulatory and legal frameworks.

So what are some of the possibilities? You can become a licensed insurer. That means actually committing balance sheet, becoming licensed, taking claims on as a liability, managing the asset side as well.

You can be a managed general agent. Think broker. This is just a term to say you

could be managing agents or brokerage or sales. Those are kind of the two big divides. But you could just be on the technology side or the data-aggregation side. These are the various models for insurtech.

Some of the startups-- we won't go through each one of them, but you're going to see a common thing in these lists is, by and large, all founded in the 20-teens. So this is 5 or 10 years of dynamic change. You're going to see heavy emphasis on homeowners and autos. So it's in the consumer space, very similar to credit. You see a little bit moving into small business but not large commercial lines, though Bold Penguin is a commercial insurance exchange. A lot is on the front end.

And on the auto side, you also get marketplace comparisons, just like in the credit space. It's basically Expedia for auto insurance, so to speak you could say, or Expedia for fill in the blank insurance. These are the marketplace comparisons like CoverHound and Goji. But throughout, you'll see home and auto, small business is kind of the dominant.

Has anybody used the product Lemonade for renters insurance? Wow.

TEACHING ASSISTANT: I don't see any hands up.

GARY GENSLER: Nobody. So Lemonade got into the field basically to say so many people, particularly in the US, are renting, and we just want some insurance for our objects and our things in our homes in case there's a problem. Or maybe the landlord says you have to have renters insurance.

PolicyBazaar-- PolicyBazaar, about 12 years old, one of the largest marketplace comparison in India. It is a remarkable platform. Again, think, broadly speaking, Expedia for health and life insurance where you can price compare-- PolicyBazaar.

Of these various companies-- just pause a bit on Root. Root uses telematics to price their products. Almost every one of the auto companies on here are using telematics and smartphones. Some of them started on telematics, some started more on the smartphone side, but the merger of those two.

Tractable in the auto field is about claims management, just solely sort of focusing

there. And I said I was going to mention about China, the last on this list, and I probably will mispronounce how to say it. ZhongAn was formed by three very large companies. Online property and casualty in China.

It's gone public since. It's a very significant company in China. It's the only online insurance company that got licensing in China. So it chose to get licensing. It had the backing of three very large companies seven years ago. It got said licensing, and it has a certain advantage. To my knowledge, I don't think anybody else has been there. So it gives you some of the smattering.

I'm going to pause, Romain, to see if there's any questions. Are we good?

TEACHING ASSISTANT: I think we're good, Gary.

GARY GENSLER: Health care-- health-care fintech. I'd still call it insurtech. Some people can call it healthtech. This is the insurance side and how technology is coming in to disrupt.

Again, you could be in any piece of this. I borrowed this chart FT partners, but you could be in any piece of this and say I'm going to do the payments side. I'm going to do the claims side. I'm going to be in benefits management, but any piece of this.

Again, most of these are in the US but not all, just some of what we're seeing. American Well is about telehealth, a very important thing now that we're in a period of time that we can't visit our doctors in person. Again, you'll see most-- not all of these-- are in the last 10 years.

Clover, which is a unicorn-- almost all of these-- not all of these are unicorns, meaning worth over a billion dollars. Clover is about taking our analytics about how we live our lives and trying to underwrite and lower the cost to us.

Probably the largest ones are Bright Health, which is selling Medicare Advantage in the US. On top of Medicare, which is government provided, you can have an augmented program on top called Medicare Advantage. Bright Health, Clover, Gusto.

You'll see also there's a significant number of companies that have got into the benefit administration. This is working with small businesses to administer their

benefits.

Zenefits that was formed in 2013-- by 2015, we actually used Zenefits on an effort I was involved with as CFO of the Hillary Clinton campaign. It was a two-year-old startup, and we decided to go with benefits because we could outsource to this vendor our benefits administration for our startup.

Now, that startup ultimately proved unsuccessful, as you know. But over the course of time, 5,000 employees, all that benefit administration, the health care and so forth, Zenefits.

HealthEquity is in this field through health savings accounts. HealthEquity actually bought in the last two years a company called WageWorks that I was-- when WageWorks was a startup company, I went on their board and managed the hiring of a CFO and helped WageWorks prepare to go public as a private company as a fintech years ago. HealthEquity bought that company, WageWorks.

Gusto is very significant in this field as well. So you have a sense, it's the marrying of finance and health. So it can be through the benefits and payroll-administration side, which is finance, or it can be directly marketplace comparisons like GoHealth, which is similar to PolicyBazaar in India-- all of these little subsectors and slices.

Data related is sort of the last little slice. And this goes to the earlier question about Google and health care. While we haven't seen big tech there, I think that we're bound to because there's so many data analytic. Cambridge Mobile Telematics do not-- please don't confuse with Cambridge Analytica but Cambridge Mobile Telematics. You can see there are data aggregators that are collecting telematic data. They're not alone. And then with that data, commercializing it to insurance companies, big insurance companies as well as startups.

StrongArm Tech, one of my favorites in this field-- they're selling a product that in factories if your factory workers will wear some wearable-- not a Fitbit. Some of it's like around the midchest range. But if they'll wear a sensor, you can lower the cost of workplace insurance. You can also, hopefully, make the workplace safer.

So they're selling a safety device, injury protection, but it's about software and hardware because they're selling the wearables. And it's called StrongArm Tech.

Will it be successful? It's been around nine years.

So what you're seeing in insurance tech, which I think is so fascinating and potentially transformative, is a whole world of sensors and collecting alternative data, whether it's from our cars back to the telematics, whether it's from our watches or our wearables, our Fitbits, from our smartphones, from the sensors in our homes, all that can sort of collect data, a little bit of machine learning-- not always deep machine learning, deep learning, but some machine learning. Lower the costs, broaden the inclusion potentially. And then on the claims-management side as well, sensor technology, collecting the data, lowering the fraud, and the like.

There's one firm that brags that they have the shortest claim-settlement period, that an online app was able to get claims settlement down to less than minutes. And I think there was one claim that was settled in seconds. It was an automobile accident. It was something they could do quite quickly technologically, but I also think that it was a bit of a marketing thing, that they wanted to say you could get claims management down to minutes.

So that sort of is a little bit of review.