

Insurance 2.0: Insuring the Sharing Economy & Sharing the Insurance Economy

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Abstract: The rise of the sharing economy (including firms such as Uber, Airbnb and TaskRabbit) has created new insurance challenges as assets traditionally insured under personal lines policies are being used by micropreneurs to generate income on a part-time, and often full-time, basis. The peer-to-peer nature of these unique risks is unprecedented as they have only recently been enabled by advances in mobile technology. The insurance industry has been extremely cautious about entering this space, even as regulators have increased calls for a solution bridging the insurance gaps between personal and commercial coverage. We believe this peer-to-peer trend will continue and could culminate in true peer-to-peer insurance, or risk transfer between individuals, with regulators constantly playing catch up and insurers either adapting or being displaced. In preparing this paper we interviewed executives from major players in the sharing economy and the insurance industry.

Keywords: sharing; collaborative consumption; ridesharing; homesharing; carsharing; peer-to-peer; peers; Uber; Lyft; Airbnb; Getaround; RelayRides; Lending Club; Farmers Insurance Group; Greenlight Re; James River Insurance Company

INTERVIEWEES

In preparing this paper we interviewed the following people.

- ❖ Joel Laucher, Deputy Commissioner, California Department of Insurance (CDI)
- ❖ Frank Chang, Lead Actuary, Uber
- ❖ John Clarke, Senior VP Marketing, James River Insurance Company
- ❖ Sam Zaid, CEO and Founder, Getaround
- ❖ Shelby Clark, Executive Director, peers.org, (also Founder and ex-CEO of RelayRides)
- ❖ Dave Cummings, Senior VP Personal Lines, ISO
- ❖ Mariel Devesa, Head of Innovation, Farmers Insurance Group
- ❖ Robert Passmore, Senior Director of Personal Lines Policy, Property Casualty Insurers Association of America (PCI)
- ❖ Jim McNichols, Chief Actuarial Officer, Greenlight Re
- ❖ Laura Maxwell, Consultant, Pinnacle Actuarial Resources
- ❖ Graeme Adams, Principal, Finity Consulting, Australia (and ex-Head of Product & Underwriting at IAG)
- ❖ Dr. Amy Gibbs, Digital Communications Manager, ANZIIF

The quotes attributed to each interviewee throughout this paper were spoken extemporaneously and do not necessarily represent the views of the organization they work for. We thank them immensely for their time, input and expertise.

PRESENTATION

There is a supplementary presentation that will be presented at the CAS Ratemaking & Product Management Seminar on March 10, 2015 and can be accessed at the following:

https://prezi.com/tktcfvgex_fb/insurance-20/

INSURING THE SHARING ECONOMY

Uberrima fides means “utmost good faith” or, more simply, “trust”. Two-way trust lies at the heart of the business models of both the insurance industry and the sharing economy. ‘Trust’ uniquely binds the two. When policyholders pay a premium they trust that insurers will honor their promise to pay at claim time. Insurers trust that policyholders will truthfully disclose relevant information at the time of both underwriting and claim submission. When somebody rents out their home for a few days to a stranger using Airbnb, they trust that this stranger will look after their property. When somebody takes a ride downtown courtesy of Uber they trust that the driver will get them there safely and hassle-free. Both those providing and receiving the peer-to-peer service trust that the tech-based intermediary that matched them up has policies in place to effectively deal with things going wrong. Whether such events are tragic accidents or malicious, everyone trusts that the relevant party within the transaction has adequate insurance coverage and that lawmakers have adequately anticipated these risks and mandated beforehand which party should carry what kinds of coverage. Most of the time, this trust is well-placed and this new economy functions seamlessly. But when it does break down, it does so with unfortunate consequences.

The “move fast and break things” mantra of Silicon Valley is at odds with the slow and cautious approach of the insurance industry. With traditional insurance you know what you’re insuring, who is using it and why. For auto coverage you know the insured’s age, address, vehicle and driving record, and you know if they will be using it for weekend drives or commuting to work. For homeowners coverage you know location, construction type, characteristics of the residents and that they will be living in the property most of the year. The fine rating details may vary from policy to policy, but the broad risk profile is consistent both over time and between policies. Even in commercial auto policies you know the fleet of vehicles being insured and possibly the pool of drivers, even if you can’t know who will be driving at any point in time.

Those assumptions break down in the sharing economy, where individuals act as micropreneurs, switching their assets seamlessly between personal and commercial use. Risk in the sharing economy is somewhat similar to a landlord’s policy or a home business endorsement on a homeowner’s policy, where a traditionally personal lines asset is used for income generation. But even these personal-

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commercial hybrid risk profiles tend to be both standardized in their own right and constant over time. A rental property remains so throughout the year, with tenants changing at most once or twice a year and with standard risk mitigation measures in place, like reference checking and bond requirements. The same properties (or vehicles) entering the sharing economy can see personal and commercial uses being juggled day in, day out. This new breed of mixed use asset is being facilitated through the recent rise of the smartphone app and tech juggernauts acting as brokers that instantly match service seekers with service providers.

Hundreds of sharing economy startups have launched online in the past six years. The following are some of the better-known firms:

- ❖ **Homesharing:** Airbnb; VRBO, HomeAway, Wimdu
- ❖ **Transportation Network Companies (TNCs), aka Ridesharing:** Uber, Lyft, Sidecar, Hailo
- ❖ **Carsharing:** RelayRides, Getaround, FlightCar
- ❖ **Care:** DogVacay.com (dog care), care.com (child care, home care, senior care, pet care)
- ❖ **Other:** Taskrabbit (odd jobs and errands), SnapGoods (possession sharing), EatWith (dining with strangers)

Businesses like ZipCar and car2go offer essentially by-the-hour rental cars leased from a dedicated corporate entity and do not offer truly peer-to-peer services, so aren't included above.

Insuring the sharing (or peer-to-peer) economy requires a unique insurance product design that bridges personal and commercial insurance, as well as a pricing methodology that is responsive to the mix of personal and commercial exposure varying day-to-day or minute-to-minute. The unique risk profile of using personal assets for peer-to-peer income generation on a large scale, facilitated by a technological intermediary, gives rise to two different issues. Firstly, an insurance gap arises because personal lines policies generally won't pay claims if the asset was being used for income generation at the time a claim is incurred. A separate policy, probably a commercial lines one, would be required, which can be an expensive and onerous requirement for a micropreneur. Secondly, even where insurers are prepared to cover these periods of exposure, the question of how to price this coverage is tricky. Historical experience is little help as a pricing guide for the new and unique risks presented by the sharing economy.

Unique Risk Profiles

It is important to isolate the underlying reasons for why the risk exposure for each type of peer-to-peer business is different from that of a standard personal lines policy covering the same asset.

Homesharing

Homesharing services like Airbnb generally create a greater property risk than is priced into a

traditional homeowner's policy, resulting in denial of claims arising from or because of a 'guest'. The increased risk mainly arises from having strangers occupy and use the property without the owner's supervision. The exact accommodation a guest may rent varies from the entire property to just a couch for the night. Guests may intentionally steal or destroy the property or simply act more carelessly than they would with their own property.

A 2011 incident¹ referred to as 'Ransackgate' involved a woman renting out her apartment in San Francisco's Mission district on Airbnb. The guests vandalized the property, burning much of her possessions to ash, as well as stealing birth certificates, social security numbers and credit cards that were kept in a safe on the premises. This prompted Airbnb to create its \$50k (now \$1m) Host Guarantee and offer it free of charge to hosts in the United States and now several other countries².

Transportation Network Companies (TNCs)

TNCs (or ridesharing companies) involve a taxi-like, or limousine-like, service where drivers respond to requests on their smartphone and transport passengers from one destination to another. The TNCs (such as Uber, Lyft or SideCar) sign on drivers as independent contractors and not employees of the TNC. The TNC provides the connection infrastructure, payment processing and branding that drivers rely on to attract passengers.

The increased risk for TNC drivers working for companies like Uber, Lyft and Sidecar arises for quite a different reason to that of homesharing. The guests in a TNC service are chauffeured rather than left unsupervised, so malicious damage to, or theft from, the vehicle is unlikely to be a problem. The increased auto risk simply arises from being on the road for a longer period of time (and proportional increase in liability and collision risk) when your job involves driving for much longer periods than would be the case under an equivalent purely personal use vehicle. There is also an increased risk from travelling through a greater variety of neighborhoods that the driver may not be familiar with.

There are many types of TNC drivers, from those who drive a 40-50 hour-per-week full-time job, to those who opportunistically offer rides occasionally when they happen to be travelling for personal reasons and check their app to see if they can pick up someone travelling in the same direction. The nature of risk exposure from TNC risks is not qualitatively different from that of a personal lines policy, only the duration (or distance travelled) for which they are exposed.

Carsharing

Carsharing services like Getaround and RelayRides involve an individual advertising their car on a

¹ <http://mashable.com/2011/08/01/airbnb-ransackgate/>

² <https://www.Airbnb.com/guarantee>

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smartphone service, which can then be rented by other individuals on a short term basis. As a cross between Transportation Network Companies (without the chauffeur component) and homesharing services, carsharing services suffer from the problems of both groups. These vehicles are on the road for longer than pure personal vehicles are, and they are also in the possession of strangers, who may act maliciously or more carelessly than the owner would. A high demand vehicle in a city center location could have six different drivers per day...

When you rent out your vehicle under RelayRides and Getaround, your personal lines policy ceases to be exposed, with the RelayRides and Getaround commercial policy becoming primary with a Combined Single Limit of \$1m. The insurance market had never seen this type of exposure before (outside of traditional rental car businesses), so even when insurance is offered it tends to be priced somewhat conservatively as if it were a commercial livery policy. More commonly, insurance is not obtainable at all.

Errands

The business model behind TaskRabbit is that when someone needs a quick errand run (such as picking up dry cleaning), they will advertise it on the app, with an individual (known as a Tasker) in the area bidding on it, such as offering to pick up your clothes and deliver them to your house for a \$5 fee, while another person/Tasker beats that offer with a \$4 bid. On the surface, an errand running service seems to have a less problematic business model than Airbnb or Uber. After all, they aren't leasing property, nor are they transporting people on public roads. However, if the Tasker is driving while running an errand, say to pick up your dry cleaning, then the personal lines auto insurer usually won't pay, since their vehicle is being used for income generation. Knowing this, it's much easier for a TaskRabbit courier to equivocate at claim time, saying they happened to be driving for personal use at just that time rather than running someone else's errand, than it is for an Uber driver or Airbnb host to similarly claim that damage arose purely from personal use. A larger risk exists for liability and vicarious liability if people/property are damaged during the course of a Tasker performing an errand.

Other

Peer-to-peer possession sharing, like that offered by SnapGoods, is probably the most problematic offering in the peer-to-peer economy from a risk pricing perspective. If one person lends another person a ladder for a fee and the ladder breaks, who is liable for the resulting damage? How can such a liability be priced in advance? When faced with the liability risk of one stranger lending another stranger any variety of household tools like a ladder, a drill, a corkscrew or a chainsaw in any possible state of repair or disrepair, other peer-to-peer arrangements like Airbnb and RelayRides start to look extremely standardized and predictable by comparison.

Current Insurance Arrangements

In one sense, many of the risks presented by the sharing economy have always existed. They have just been unknown and absorbed into the general risk pool. Joel Laucher (CDI) commented:

“It seems so new, and yet we know it has probably been going on for some time, so it’s not brand new. I think it’s just that size of the enterprise has grown to a point where it has vaulted into view. The exposure’s been there and it has been absorbed without anyone noticing. There haven’t been any awful consequences that we’ve heard about before the TNC activities hit the news as a result of accidents involving fatalities and injuries.”

Robert Passmore (PCI) expressed similar sentiments:

People have had vacation homes forever and rented them out part of the season and used them part of the season. Insurance products have been adapted to them.....Like being a handyman; TaskRabbit is providing a more formal marketplace for something that has always been available informally. The risk has always been there. If you’re working as a handyman there’s a possibility you could make a mistake and something bad could happen. I don’t think that’s changed. I think they could grow a lot more because of the ease of use of the marketplace. The smartphone is just a boon for this kind of stuff. Before you had to hear about a handyman by word of mouth.

In many of these instances, the admitted market won’t even accept the risk, and coverage needs to be sought from the Excess and Surplus (E&S) market. In most states even accessing the E&S market first requires a licensed agent to conduct a due diligence search from admitted carriers in the state to try and accept the risks. Upon three rejections³, the agent is allowed to access the E&S market via a surplus lines broker licensed in the state. John Clarke (James River) explains how critical the E&S market was to the fledgling sharing economy:

The creation of coverage for the TNC industry (ridesharing coverage) is a great example of the surplus lines market at work. Last year, as the new industry saw a large amount of growth, they (the ridesharing companies) were deciding to buy, add or endorse coverage related to UM, UIM, expanding limits, changing from contingent to primary coverage and making all kinds of the other coverage changes. Frankly, you have to have the flexibility of surplus lines to keep up with something that’s evolving this fast. We could make changes for them rapidly. The admitted market just doesn’t have that flexibility, even if they wanted to do so.

These exposure types do have precedents from the old economy though. A pizza delivery driver using their own vehicle wouldn’t be covered by their personal lines policy during work periods, so the pizza chain’s commercial auto policy could cover these non-owned autos for the specific times

³ Unless the type of insurance being sought is classified as an exportable item by the state. This does not require the due diligence search to be fulfilled before seeking coverage from the E&S market.

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they are being used commercially. A landlord's policy or home business endorsements are other existing examples of personal/commercial lines hybrids.

Some of the ridesharing companies have an E&S policy covering their drivers whilst they are operating in a ridesharing capacity with a commercial liability limit typically of \$1m. However, up until recently they were engaged in a disagreement with admitted insurers in most states on the risk profiles of their drivers and hence the price of the commercial coverage. TNCs argued that their full-time and part-time drivers have risk profiles more similar to that of a personal lines risk or a less active livery service. Insurers, however, argued that the ridesharing companies' drivers are more similar to taxis, requiring higher premiums than other types of livery, and much, much higher than a personal auto policy.

There have been reports in the news that TNC-related claims are probably still being reported as personal auto claims. Joel Laucher (CDI) commented:

The personal auto carriers are probably paying some costs that they didn't account for in their pricing and are paying for coverage that they think they've excluded.

Personal auto insurers don't seem too concerned by the rise of ridesharing, with Joel Laucher further referring to conversations with carriers:

I was surprised on the ridesharing part, that companies didn't come in and immediately strengthen their exclusions on the livery....No one's really told us, well our first question now during a claims investigation is "Are you driving for a TNC?" They have kind of said that they haven't really changed their practices. It doesn't really seem prudent, at least in these areas where you know there is a lot of activity.

Laura Maxwell (Pinnacle) reiterated this view:

Insurance companies need to start working on their underwriting rules and policy exclusions. I don't see that happening.

The lack of proactivity, initiative or innovation by the insurance industry was a consistent theme that resonated through each interview. Dave Cummings (ISO) elaborates:

From my point of view, [the insurance industry] has historically not been at the forefront of emerging technologies and changing conditions. Many new exposures are initially excluded and the sense of urgency is not immediately recognized. However, over the past few years, we are seeing some insurers addressing these issues differently and embracing change and innovation. This is a very encouraging trend for the entire industry.

The reluctance of carriers to take decisive action can probably be attributed to two things:

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Firstly, lack of a clear opportunity, with both the small size of the potential premium pool and the high uncertainty around its size. Joel Laucher (CDI) elaborated on this:

TNCs themselves play it pretty close to the vest in terms of how many drivers they have and so there's kind of a lack of information about how many exposures are out there. Insurers don't know how many TNC drivers they have on their books now. And they don't know if there are enough TNC drivers to make it a market that they want to get active in. I guess they don't know how much it might grow and if they are going to miss the boat if they don't get out there. Insurers really want to see something worth their time before they spend much energy on it.

Laura Maxwell (Pinnacle) made a similar observation about the observed to-date small size of the ridesharing opportunity, and by extension the additional risk, in a report for the Colorado DOI:

[The report] looked at how many extra miles rideshare drivers are going to drive compared to how many miles are already in the personal auto system. And they came up with pretty much none. It is such a small percentage at this time.

Secondly, the elephant in the room is simply the difference in culture between the insurance industry and the tech startup industry, with Sam Zaid (Getaround) elaborating:

I think insurance [culture] is very entrenched and slow moving. That's sort of the nature of something where you have a lot of risk. If something is risky and you iterate very quickly, odds are you are going to lose that game. If you have something that really works and covers all the risk, it can be scary to go in a new direction. Historically the rate at which industries formed and shaped has been a lot slower than it is today. Insurance companies are iterating at that previous pace.

In mitigating the risk of stepping into the unknown, the actuarial profession's default approach is to first amass data. The more data the better, and don't come back until you've got it. Dave Cummings (ISO) commented on ridesharing data collection:

Personally, I'd love to have as much of the data as possible. The more data we have on the risk the more accurately we can price. There are opportunities in data here which could enable some very interesting pricing and could respond well to the types of exposures and risks. This data would be different than the data we traditionally collect. However, it may be data ridesharing companies are reluctant to share. The fundamental questions we want to answer regarding risk are; how often a driver is using their vehicle for personal use vs. ridesharing, how many miles are they driving, where are they driving when working and when are they driving for the ridesharing company? Understanding if a driver is operating in an urban environment at night versus daytime in a rural setting, gives us an opportunity to think about and analyze the risk holistically.

And on homesharing data collection:

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I'd like to see more data collection that speaks to the exposure, seeing as how the exposure is a little different than a traditional homeowner or renter exposure. A lot of data is being collected by other sources and relates to the home's usage and exposure. One useful piece of information would be a better understanding of the owner or renter to relate that to other aspects of the risk. Knowing who is hosting and who is occupying the space during could better define the aspects of risk, specifically to the individuals involved.

And touching on setting up a sharing economy central database:

A central repository to identify those who are drivers for ridesharing, leasers of homesharing, or participants of carsharing could be beneficial across the entire industry. The individuals will benefit from receiving proper coverage and ensuring there are no gaps in the coverage. Insurers will benefit by better pricing and classifying the risks they choose to write. Creating a mechanism where insured and insurers are able to communicate openly about coverage would help ensure coverage exists from the insurer's side and adequate coverage is received by the insured.

Mariel Devesa (Farmers Insurance Group) also spoke on the challenges of pricing ridesharing in the absence of good quality data:

Data is key for us to price appropriately. As this is a very new industry, we used available data to price. As we learn more, by gathering actual data about our specific drivers and start understanding our drivers' behaviors better, we'll be able to improve. With more data, everything will get better.

A catch-22 arises from the insurance industry's desire for data as a prerequisite to offering dedicated insurance products for the sharing economy. This has led to much frustration from entrepreneurs unable to launch their sharing economy ventures. Shelby Clark (peers.org) recounts his experience in launching RelayRides:

When we were trying to launch RelayRides, [one carrier] strung us along for six months and then they said, 'We really want to write this policy but we just need some data so why don't you come back after six months of operations and we'd be happy to take a look at this.' For us, that was really not helpful at all and they should have told us this six months ago. How are we supposed to get the data if we can't operate without insurance? We didn't go back to them. If you don't take a chance you lose the business.

The RelayRides experience was far from unique. Sam Zaid (Getaround) also detailed the difficulties he faced securing an insurance arrangement before being able to launch his company's carsharing business:

We talked to agents and brokers. Many of them told us they could help but all they offered us were off-the-shelf products. We resorted to calling VPs from different insurance companies directly—we probably reached out to between 50 and 100 different contacts,

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either through warm introductions or cold calls. One or two insurers came to the table but, still, we did not get a deal done. That process was probably about 12 months. I guess you could argue that a car owner's insurance would apply but that wasn't proven. Since the car owners themselves weren't driving, we felt we needed a group insurance solution to protect our community. Once we finally secured insurance, we launched.

Other startups haven't been so cautious, instead preferring to launch anyway, expecting (or hoping) their personal insurance policies would simply cover claims due to ambiguities in policy wording that meant, in many cases, sharing economy activities weren't explicitly excluded. With an industry that has been very slow to offer specialist coverage, or even tighten up exclusion ambiguities in existing personal lines coverage. The only real option for such startups has just been to launch and hope for the best, with the expectation that once enough data is collected, proper insurance solutions will be developed.

In October 2014, five and a half years after Uber was founded, Erie Insurance launched what they touted to be a first-of-its kind coverage specifically designed to protect TNC drivers⁴. As best we can tell from examining the publicly available filings, Erie have taken their personal auto business use endorsement, like that used by pizza delivery drivers, and removed the livery exclusion, while keeping the existing pricing structure in place. Their flat business use endorsement remains at 12% or 20%, depending on whether the annual number of miles driven is less than or greater than 12,500, but is not sensitive to the proportion of the driver's time that is split between personal driving and driving for hire.

Erie's effort was followed by Farmers Insurance Group launching a ridesharing specific endorsement to their personal auto policy in Colorado⁵. Available from February 2015, the Farmers endorsement extends personal lines coverage to Colorado's legally required limits when a ridesharing app is turned on but no passengers have yet been accepted (commonly referred to as Period 1). The endorsement ceases when a ride has been accepted, as the TNC's group commercial policy should then become primary. Press releases suggested the endorsement was priced at an average of 25% loading.

In early 2012, in response to 'Ransackgate', Airbnb started offering a Host Guarantee Policy to hosts living in qualified countries. The Host Guarantee Policy, underwritten by a Lloyds of London syndicate, provides a \$1m limit. This only covers deliberate property damage by a guest and does not cover accidental property damage nor liability, applies in excess of any primary policy, applies only after seeking and failing to recover from the malicious guest himself and needs to be reported the

⁴ <http://www.propertycasualty360.com/2014/11/19/erie-insurance-offers-ridesharing-protection>

⁵ <http://www.prnewswire.com/news-releases/farmers-insurance-one-of-colorados-top-insurers-enters-rideshare-insurance-market-with-introduction-of-new-option-for-colorado-drivers-300021370.html>

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sooner of 14 days after check out or at the start of the next rental⁶. This coverage could be considered pretty restrictive and possibly lead to an insurance gap problem. New York lawmakers have picked up on this, urging the State Superintendent in September 2014 to investigate⁷.

In response to this gap in liability coverage, on 20th November 2014 Airbnb announced the introduction of Host Protection Insurance⁸. Effective 15th January 2015, it will automatically provide \$1m liability coverage to hosts within the U.S. in excess of their primary coverage.

HomeAway (another homesharing service) offers primary commercial coverage to their members through a program called Assure that they write in partnership with P&C broker CBIZ Insurance Services.

Like Airbnb's Host Guarantee and Host Protection Insurance, most homesharing coverage developments have been initiated by the homesharing websites themselves. Insurers have been slower to address homesharing coverage gaps than they have been for ridesharing. Joel Laucher (CDI) commented:

There's a big difference between homesharing and ridesharing. I think it's fair to assume that the insurers' intent was to not cover ridesharing exposure at all. On the homesharing side it's not that definitive that companies didn't want to write that coverage. There's an exclusion in the liability section that indicates 'We don't cover any rental of the home except on an occasional basis'. Because it is not an absolute exclusion, there's clearly some level of this exposure permitted, so the coverage issues will probably evolve a little more slowly.

This sentiment was mirrored by Dave Cummings (ISO):

We are devoting more attention ourselves to the homesharing side of the issue. I think there's more to come there. The insurance side hasn't bubbled up in the same way as media or public awareness has when compared to ridesharing in the last year and a half. To some degree I think that might simply be driven by where public attention is going and where regulatory attention is going. Certainly ridesharing has been increasingly active. Homesharing hasn't been receiving that level of activity, at least not yet.

And by Robert Passmore (PCI):

We haven't seen much regulation or legislation on the Airbnb's of the world. Most of the discussion about Airbnb has been around zoning and taxes, things like that that don't come so much into the insurance realm. Airbnb has taken a different approach. They've come along a little bit quicker, perhaps taking what's happened with the TNCs as a cautionary tale.

⁶ https://www.Airbnb.com/terms/host_guarantee

⁷ [Lawmakers call for Airbnb investigation over misleading insurance claim](#)

⁸ <http://blog.Airbnb.com/Airbnb-host-protection-insurance/>

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Joel Laucher (CDI) also elaborated on the greater difficulties home insurers have than auto insurers in even identifying that insured's assets are being used in the sharing economy:

Auto of course has a high frequency of accidents so an insurer is more likely to find something out about its risk. Home insurance, unless something pretty bad goes wrong and there is an injury, nobody knows about the sharing activity. You're not going to have enough of the frequency to give you much of a signal to tell you something is going wrong. I think sharing-specific coverages or exclusions will be slower in developing – it may still be some time before insurers really get concerned or even figure out how to monitor exposure on the homesharing side. There's got to be enough frequency for them to catch on to the exposure. Until that happens, everything is just absorbed into the regular loss pool.

As of late 2014, four insurers offered a business owners policy (BOP) specifically for people offering their homes for short term rental on sites like Airbnb and HomeAway. Officially structured as a BOP, they are designed to replace the homeowners or renters policy that an occupant would normally have. To take one of these four as an example, Proper Insurance Services⁹ offers \$1m in commercial general liability, \$1m in personal liability, building damage coverage, personal property coverage and lost income. One key difference between this coverage type and that of HomeAway's is that this coverage is offered at a flat premium (many multiples that of a pure personal lines policy) regardless of how often the property is rented, rendering it uneconomical for the very occasional host.

RelayRides and Getaround sought insurance on behalf of their pool of available vehicles from more traditional admitted carriers.

Ridesharing companies don't generally provide blanket commercial insurance coverage. Their business model becomes much simpler, and their liability much reduced, if they are facilitators or matchers of service seekers to service providers, not as providers themselves. If each micropreneur were responsible for their own insurance coverage, sharing companies would fall back to the much less risky position of being a tech company simply providing an online matching service. Insurance is a very complicated and compliance-driven area that falls outside their prime competency.

As described earlier, the first problem is disagreement between the peer-to-peer companies and insurers on whether the true risk profiles are more similar to that of personal lines policies or commercial policies. There isn't enough data to determine which view is closer to the truth. The second problem is that the part-time personal / part-time commercial nature of these risks makes it problematic to even determine when the asset has moved between these two states.

The ultimate solution may be a hybrid personal and commercial policy, switching between these

⁹ <https://www.properinsurance.co/>

coverage types as appropriate. Determining where and when the pendulum should swing between these two bounds, and pricing it accordingly, is the challenge facing peer-to-peer networks, insurers and regulators.

Regulatory Response

Regulators have been more proactive in addressing sharing economy coverage gaps than insurers themselves have been. The California Commissioner, Dave Jones, has been active writing letters to the public utilities commission, holding hearings, moderating an educational event at a recent NAIC meeting and chairing a sharing economy working group. Joel Laucher (CDI) commented:

Commissioner Jones is very interested because he sees a huge exposure, a chance for people to be injured and not compensated, when clearly these are exposures that should be covered. He wants to exert his influence as much as he can to see that the sharing economy industry is taking appropriate responsibility and that the insurance market is responding with relevant products. That's what insurance is all about. But I think we found that much of the industry is kind of sitting back and watching to see where this will go.

Amy Gibbs (ANZIIF) was more critical of this 'wait and see' approach:

Sitting back and waiting to see what happens has not worked for other industries, neither has dismissing the technology as fad. Those that do embrace digital early will stand a good chance of becoming market leaders, so the potential benefit may outweigh the risk.

In October 2014, San Francisco passed a law, becoming effective February 2015, legalizing property rentals for less than 90 days for city residents renting out their property, but requiring the collection of hotel taxes and a minimum \$500k liability insurance coverage. This law has been dubbed the 'Airbnb law' by competitors like HomeAway¹⁰ because legalizing only rentals for resident hosts in the city disadvantages HomeAway's customer base that is weighted more toward out of town owners that list their San Francisco properties for short term rentals on a full-time basis.

In September 2013 the California Public Utilities Commission (CPUC) passed a law labelling ridesharing companies as 'Transportation Network Companies' (TNC) and that all drivers operating in California must carry \$1m commercial liability insurance effective when the vehicle is operating as a livery vehicle. At that time, no guidance was given on when the personal lines coverage should give way to the commercial coverage or vice versa.

The ambiguity of coverage came to a head on 31st December 2013 when Syed Muzaffer, a 57 year old Uber driver, tragically hit and killed six year old Sophia Liu, as well as injuring her mother and brother in the Tenderloin neighborhood of San Francisco.

¹⁰ <http://techcrunch.com/2014/11/03/homeaway-sf-lawsuit/>

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The driver was not carrying a passenger, nor responding to a passenger request, but did have the Uber app turned on. The driver's personal lines insurer denied liability, arguing that the app being turned on was enough to classify the vehicle as being used for a commercial purpose at that time. Uber also denied liability, arguing that with the driver not carrying a passenger, nor responding to one, the fact that the app happened to be turned on was not enough for it to be classed as commercial use.

This insurance gap was picked up in the media and political discourse, with the CPUC mandated to devise a solution. The public dialogue of liability in the wake of Sophia Liu's death led to the formulation of a three period system promulgated by assembly bill AB 2293¹¹, which goes into effect July 2015:

- ❖ Period 1 - driver turns app on waiting for a passenger match;
- ❖ Period 2 - match accepted, driver en route but passenger not yet picked up; and
- ❖ Period 3 - passenger in the vehicle until passenger exits the vehicle.

The Sophia Liu incident occurred under a period 1 exposure, but the bill passed in September 2013 did not explicitly specify if the commercial insurance requirement was to apply under period 1 (or any other period). TNCs are generally in agreement that the commercial liability requirement applies for periods 2 and 3. Dave Jones, Insurance Commissioner for California, and Benjamin Lawsky, Superintendent for New York Department of Financial Services, told the press in January/February 2014 that they had concerns about the insurance gap in period 1.

Robert Passmore (PCI) observed that this incident led to a rapid closing of insurance gaps:

The TNCs themselves went from offering little or nothing in the way of insurance coverage, and they've incrementally increased that over the last year and a half or so. The discussion has become more about a couple of narrow periods of time where there are gaps rather than no coverage whatsoever.

Robert Passmore (PCI) also opined that rather than overly prescriptive regulation, the best approach to further close insurance gaps is legislating simple, clearly defined requirements but leaving the 'how' up to industry innovation, combined with adequate disclosures to drivers:

Our position is pretty simple. The best way to support innovation is to have some clear, very basic insurance rules that say when you're making yourselves available you need to have specific insurance coverage that applies. We want to leave the door open for insurance companies to innovate and offer a personal lines product with an endorsement to cover those kinds of exposures. You can leave the door open to all sorts of things, coverage purchased by the driver, coverage purchased by the TNC company or combinations thereof. ...People that sign up for the program need to get some information about here's the insurance that you

¹¹ http://www.leginfo.ca.gov/pub/13-14/bill/asm/ab_2251-2300/ab_2293_cfa_20140616_104829_sen_comm.html

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need to get or here's what we provide for you and here's some information about the personal lines policy as it is unlikely to provide coverage for you. We think some basic disclosure when you sign up is very important. That's when you need the information, when you're deciding to enter into this activity.

When we asked Frank Chang (Uber) what he wishes the insurance industry would do to make ridesharing more accessible, he responded:

There's a huge opportunity for premium for the companies who can construct a seamless product for period 1.

On 14th March 2014 Uber announced that effective immediately they would provide \$50k/\$100k/\$25k¹² of coverage during period 1. When it becomes effective in July 2015, AB 2293¹³ will require a minimum \$50k/\$100k/\$30k¹⁴ of insurance coverage in period 1, while periods 2 and 3 remain at the \$1m limit requirement. Further, the TNC coverage is to be primary.

For context, other CPUC mandated minimums include¹⁵:

- ❖ \$15k/\$30k/\$5k for personal auto
- ❖ \$750k commercial liability for up to seven passengers (charter-party)
- ❖ \$1.5m liability for up to 15 passengers (charter-party)
- ❖ \$5m liability for 16 or more passengers (charter-party)
- ❖ The California state minimums for taxicabs mirror that of personal auto (15/30/5). However, in California, cities and counties regulate taxis, not the CPUC, and each typically imposes their own higher minimums. San Francisco, for instance, imposes a \$1m minimum.

Although California is leading the way on TNC regulation, and therefore has the most relevance for framing insurance product development, other states are making similar strides. Colorado has passed SB 14-125¹⁶ and other municipalities are following Colorado's lead. These cities & states are likely to adopt regulation similar to, if not identical to, AB 2293 in California, with period 1 requiring a limit greater than normal personal lines coverage but not quite as onerous as that required for periods 2 and 3. It will be up to personal lines insurers whether they want to cover or exclude that period 1 exposure.

Robert Passmore (PCI) said that the city-by-city patchwork of insurance requirements is a

¹² \$50,000 for death and personal injury, \$100,000 for death or injury of two or more persons, and \$25,000 for property damage (50/100/25), all per incident. <https://blog.uber.com/uberXridesharinginsurance>

¹³ http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140AB2293

¹⁴ \$50,000 for death and personal injury, \$100,000 for death or injury of two or more persons, and \$30,000 for property damage (50/100/30), all per incident. (Vehicle Code § 16500).

¹⁵ Public Utilities Code § 1040, General Order 115-F

¹⁶ http://www.naic.org/documents/cipr_events_140819_colorado_sb.pdf

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challenge for the industry, but is ultimately a public policy issue:

The TNCs say they are not a taxi service, but what they do very closely resembles what taxis and limos do. If you look at insurance requirements for those kinds of services, they are all over the map, partially because they are set sometimes to the local level. Some places you don't have to have limits that are any higher than personal auto has. Other places it is as high as \$5m. The consensus in the industry is that that's a public policy issue for the individual states to decide how much they want to require. We don't take a position on how much. We take a position on what is primary and specific so it doesn't leave any gaps between what the driver would have on their personal policy and what the TNC-specific insurance is providing.

In the next 18 months the National Association of Insurance Commissioners (NAIC) is likely to adopt model laws for all the states to subscribe to, making the TNC category a described line of insurance alongside taxis, livery and charter parties.

This period-based approach, where each of the TNCs hold their own excess policies, is complicated by the fact that drivers can have multiple apps turned on at once (e.g. Uber, Lyft and SideCar apps all active on the smartphone), with drivers wanting to access the largest pool of potential passengers they can, rather than limiting themselves to one brand. Which TNC's coverage would apply in this case, with multiple apps active but no specific passenger having been accepted? The more entities that are potentially liable, the more likely that none will ultimately be held liable because each can convincingly argue that 'someone else' is. This is the 'diffusion of responsibility' principle at play.

Cities in the U.S. and around the world such as Omaha and Berlin are trying to make it illegal for TNCs to operate. This is partly due to the insurance gap problem, and partly successful lobbying from the taxi industries trying to address a competitive threat.

The NAIC has formed a sharing economy working group. Some of the aims of the group are to create a common language around the TNC exposure, for example about what the periods are, and share developments in terms of the coverage requirements that the states have developed. Joel Laucher (CDI) commented about the objectives of the working group:

I think a lot of it will be about the sharing of information about what is going on in the states on the legislative or regulatory fronts, identifying and clarifying the exposures involved and the coverage gaps, communicating with the industry and consumer representatives that are there about these new exposures and getting input about how to address them. Our commissioner really wanted there to be a forum to address these issues in a more orderly and comprehensive way.

The TNCs themselves have a very strong incentive to work with the regulatory and legislative

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process, if only to achieve uniformity of coverage across jurisdictions. Joel Laucher (CDI) commented:

I'm pretty sure the TNCs will want to have some level of consistency across the country so that they don't have 40 different policies at different underlying limits in different states. They would probably like to have a national coverage policy that has the same underlying coverage by period. They were very engaged here in California and Colorado, and the period 1 underlying limits are the same in both states.

Crafting regulation pertaining to how insurers can act towards policyholders and members of the public who choose to participate in the sharing economy is a good first step, but then education and enforcement is required. Sam Zaid (Getaround) said:

We continue to see a few cases where a car owner's insurance company refuses to renew their personal auto policy. This is usually pretty straight-forward to resolve although we often have to contact their insurance provider and educate them. The consistent response we receive is that they are unclear on policy and regulation. A lot of it is just an education process. Insurance is such a distributed and decentralized industry that you always have agents that are unclear on their own carrier's official policies.

Often overlooked, operational growing pains rarely grab headlines the way regulatory and product design challenges do, but they are no less real, as explained by John Clarke (James River):

The TNC auto coverage has been a challenge simply because of the sheer amount of industry growth. We have people 24 hours-a-day setting up new ridesharing claims. We've established large teams in Scottsdale, Arizona as well as our home base in Richmond, Virginia to deal with the claim volume. The growth in those teams is not stopping any time soon. The growth of these businesses and the numbers of rides, the number of drivers and the number of miles these firms are rolling every day far exceeds what they could have guessed what they were going to do a year ago and certainly two years ago. This is a frequency driven business. There are the occasional large losses that generate headlines but the quiet headline is the sheer volume of very small claims as you would expect in an urban environment. Most may be small claims but there are a lot of them, and we have to be able to meet the service demands of these clients.

Solutions

These new types of risks will necessitate a new type of insurance coverage. Tweaking some policy wording or trying to retrofit an existing insurance product just won't be enough. In insurance, as in everything, necessity is the mother of invention. Sam Zaid (Getaround) opined on this:

Insurance is typically supporting the business so it subtends many other industries. Insurance usually follows something—there's this new risk so insurance fills a gap. All this innovation is being driven by disruption of industries that have said, 'We have a new risk profile and the insurance products that exist don't cut the mustard.'

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The industry has not reached a consensus on TNC insurance product design. Some are advocating modeling it on personal auto, whilst others are advocating a commercial auto approach. Laura Maxwell (Pinnacle) explains:

I think personal auto can rate so much better than if you rate it as commercial auto. You can just get so much more detail from personal auto.

Mariel Devesa (Farmers Insurance Group) also argues that personal auto provides a better template for ridesharing coverage:

We looked at the underlying usage of the vehicle, what it is being used for, and how consumers are interacting with the TNCs. What we are seeing is that the majority of the time drivers are using their personal vehicles for personal use. Our position, currently, is that period 1 is an extension of that personal use and therefore would fall under a personal use policy.

Dave Cummings (ISO) agrees that the sharing economy isn't going away, nor the insurance gaps that attend it:

I believe the sharing economy will continue to grow. It's a new business model that, to some degree, blurs the distinction between personal and commercial exposures. As a result, there's a big insurance coverage issue that needs to be handled and addressed. Personal lines insurers will need to be part of the solution and need to accommodate in some way. I believe that we're only seeing the tip of the iceberg of what these issues may become. What we are seeing is a pattern where technology and connectedness are enabling an entrepreneurial model that wasn't previously possible. Other innovations are likely beyond the sharing economy. There's likely to be additional innovations where you see interactions and people thinking of ways they can commercialize their assets, their belongings, and their time in ways that are going to create a different type of business model again. This could produce different types of insurance exposures that we need to be ready to adapt to. We are currently writing coverage so that the industry as a whole continues to grow and address and enable these economic developments quickly and effectively.

Our view is that the distinction between personal auto and commercial auto is artificial and unnecessary. While it has been historically convenient to treat them separately, that notion is becoming outdated with the sudden ubiquity of peer-to-peer services that blur the line between commercial and personal. With separate customer bases and different drivers of claim experience, it has historically been convenient for carriers to separate product management, pricing and distribution networks into personal and commercial streams. Any middle ground between the two streams, such as personal vehicles being used for occasional commercial use (e.g. evening pizza delivery), has carried such little exposure that it wasn't worth deviating from the binary personal/commercial structural split. It was easier to just add an endorsement to either the personal

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or commercial policy templates to cater for these infrequent edge cases. With TNCs now a growing segment firmly occupying that middle ground between personal and commercial, it makes sense to break free of the binary product template that has been a convenient way to segment the auto insurance market for so long. After all, there's no inherent reason why you can't segment commercial auto as granularly as personal auto. It just hasn't historically been convenient to do so. Those edge cases are now becoming so common that the old binary split is now best thought of as a continuum.

We believe one of the simpler solutions to insuring TNC drivers is to adopt a usage-based insurance (UBI) philosophy priced with a personal lines rate plan and then applied to commercial or hybrid usage. First, the characteristics of the driver and the vehicle (age, sex, zip code, credit score etc.) would be used to compute the premium as if it were a plain vanilla personal lines auto policy and then broken down to cost per-mile. In addition to the standard personal auto premium, this cost per-mile is charged to each driver on a quarterly basis based on the number of miles they are actually driving in their capacity as a TNC driver over and above their personal driving. Depending on the jurisdiction, and the resulting limit requirements, this cost per-mile can be scaled up by the increased limit factors appropriate to the limit that applies to the period in which that 'TNC mile' falls, all automatically recorded by the app and reported by the TNC to the insurer. This places the cost of insurance back on the driver, while ensuring the TNC itself is complicit in accurately recording and reporting each driver's risk exposure.

As a simple example, if based on driver and vehicle characteristics the personal auto premium is \$500, assuming an average of 10,000 miles and minimum personal auto limits, then the effective cost per 'personal mile' is 5 cents. If the increased limit factor to meet mandated limits when driving in a TNC capacity (defined as being when the app is turned on, say) is 2.0, then the cost per 'TNC mile' is 10 cents. The total premium for that driver then becomes \$500 plus 10 cents times the number of miles driven while the app is turned on, the mile count being automatically reported by the TNC to the insurer.

This per-mile pricing would require the insurer to have a relationship with the TNC. It would be very difficult for an insurer to unilaterally insure a TNC driver, hoping to differentiate pricing periods between TNC miles and personal use miles and identify if a particular claim occurred on TNC time or personal time. It would, however, also directly address the 'insurance fraud' argument made by the taxi industry against TNCs that drivers have an incentive to leave their apps turned on even when having no intention of picking up passengers because of the benefit from increased insurance coverage. Paying per-mile for the increased coverage would disincentivize drivers from triggering the app unnecessarily.

We would also expect such product innovations to incorporate other developments like Pay How

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You Drive (PHYD) telematics, social media-based rating and transitioning from agent-based distribution to the pure-play online distribution increasingly expected by the millennial generation, but we won't dwell on these developments in this paper as they are not specific to insuring the sharing economy.

On January 28, 2015 Dave Jones, the California Insurance Commissioner, announced approval of a new insurance endorsement for UberX drivers that have their vehicles insured by Metromile (a per-mile personal auto insurance MGA) to obtain period 1 coverage.¹⁷

Metromile is leading the way to expand the insurance coverage available to UberX drivers and passengers... We encourage other insurance companies to offer insurance coverage to California drivers who drive for UberX and other transportation network companies.

Frank Chang (Uber) had this to say on the proactivity of personal lines insurance carriers and UBI:

There has been response from a limited number of players who are set up to build ridesharing insurance products. In the news, Metromile, U.S.AA and Farmers have products for period 1. There is a Virginia filing from GEICO that covers all three periods. Definitely UBI is the best solution, so we're glad for the partnership with Metromile.

Dave Cummings (ISO) framed the opportunities around using apps for data capture:

Due to the advances in the technology, the apps on our phone that we are already using, provides an opportunity for us to leverage new data that wasn't available even five years ago. This will further help us seek risk based pricing by getting more and better data about the true exposure and risk.

There are many opportunities like determining how many miles are being driven, where ridesharing drivers are operating their vehicle. Again, this will shed light not only on how they are driving, but what driving conditions they are operating. Are they in rush hour traffic? Are they driving in a snow storm? These are just some questions we can seek to answer with technology advances.”

Mandating the capture of detailed usage data like this will facilitate, in the long term, better pricing models specifically for TNC usage, ending the debate over whether TNC miles are closer in risk to personal use, limousine use or taxi use.

This approach also solves the problem of coverage questions when drivers have multiple apps turned on at once. By passing the responsibility of coverage back from TNCs to the driver, the

¹⁷ <http://www.insurance.ca.gov/0400-news/0100-press-releases/2015/release009-15.cfm>

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driver's own insurer will be liable regardless of how many apps happen to be turned on at the time of an incident. To avoid being double or triple charged this 'per-mile' premium for each 'TNC mile' driven with multiple apps turned on, the TNCs will just need to ensure that they report the exact time periods the app was on so that the insurer can identify and remove any potential double counting across TNCs. TNCs operating in California are already required to maintain "waybills", which are records of all trips taken by each driver, which can be inspected by the CPUC on demand.

While usage-based insurance may be an ideal structure for ridesharing, for other sharing economy business models like carsharing, it is a virtual necessity. Sam Zaid (Getaround) relates his experience in finding a workable insurance solution at the dawn of the carsharing economy:

We need usage-based insurance for our model as we can't control when an owner makes their car available for rent. We also require a group policy format so that one policy could cover two different sets of parties; drivers and owners. It's kind of a hybrid commercial/personal model. Because we were creating this novel thing that is also priced in a different way, folks had to get their heads around a lot of different things. If you didn't have the right senior people at the table, it was just never going to happen. You need to rate things differently and think about things a little differently. Once you've made the initial investment to figure it out, it's not so bad. You've got that foundation and you can start to really explore new things. But you have to find a carrier willing to innovate—not many carriers are willing to do that.

Sam Zaid (Getaround) also elaborated on another insurance model that would structurally align with the carsharing model perfectly, where coverage is purchased by and follows the driver, not the vehicle:

It would make a lot of sense if insurance followed the driver and was all usage-based because, structurally, that aligns with our business and probably all the new TNCs. Any person with a driver's license should have an insurance rating factor and when they hop in a car, you combine the car's rating factor to compute the base insurance rate they pay. If you're a risky driver then it's higher. If you're driving in San Francisco vs New York then the rate changes.

The difficulty of pricing for homesharing within the framework of existing homeowners policy endorsements is quite problematic, with Joel Laucher (CDI) commenting:

In auto there's a structure to get separate charges for this type of activity through a class plan. Homeowners isn't really set up pricing-wise generally to allow for special events or circumstances like occasional renting. But there are always answers or similar situations out there once you start looking around. Vacation rentals and special events aren't new concepts.

Airbnb's Host Guarantee and Host Protection Insurance aren't without their critics, but we believe these are significant steps in the right direction. Including this coverage automatically, and

embedding the cost in Airbnb's listing fee, ensures that even occasional hosts can be covered at a reasonable cost. Contrast this against the Proper Insurance approach, and those like it, which are sold direct to hosts and have a fixed annual rate that is insensitive to how much time the property is rented as opposed to occupied by the primary resident. The Proper Insurance pricing structure is understandable since the alternative would be to somehow price a usage-based insurance product with commensurate administrative overhead, but can be cost-prohibitive for part-time hosts.

The Global Sharing Economy

Much of the discussion about the sharing economy to date has been very U.S.-focused. Some of the major sharing economy players such as Uber and Airbnb have expanded globally, offering much the same service model, and met with as varied a reaction as they have in the U.S.. Some countries have outright banned them, while some have accepted them and regulated them. But the common problem in every country faced with sharing economy entrants is dealing with newly created gaps in insurance coverage.

An international view on insuring the sharing economy provides a fresh perspective on how possible solutions could be approached in the U.S.. Graeme Adams (Finity Australia) commented on how Australia has embraced carsharing:

Here we've got GoGet, which is renting a car by the hour [similar to ZipCar]. It's been embraced by local councils. Local councils now are providing locations on street corners for shared cars. Developers are now doing deals with councils so that the design of a block of units would include spaces for shared cars. Clearly it's in the interests for the developer because one developer that's developing a development here called Central Park, they've allowed 44 spaces for GoGet. That means they don't have to provide one or two car spaces per unit, so it's actually good for the developer. We've even got the state government using GoGet or shared cars rather than having their own state fleet.

The insurance regulatory regime in countries like the UK and Australia is quite different from that of U.S. states. Insurance product design and pricing in these countries can be modified and iterated with the same freedom as most other industries, with mainly reserving and solvency requirements of insurers being heavily regulated. For most classes; product design, forms and pricing changes don't need to be filed and approved. The ability for insurers to change their products and pricing structures in response to external stimuli such as the rise of ridesharing and homesharing means that, as long as the sharing service itself abides by applicable regulations, the idea that there could be any systemic coverage gap in a competitive and responsive insurance market is seen as a quaint notion. Graeme Adams (Finity Australia) explains:

Have you given the insurance company what they need to understand the risk they want to take on? Have you declared that you are a ridersharer? When you take out insurance you

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need to declare if it's going to be for a business purpose or private use. If you say business purpose then they'll say, 'Well what's your business, plumber or electrician?' 'Well, no I do rideshare'. Then they should say 'well how many times a week?', 'how many kilometres?' etc and they should have a premium for it. Now in some cases they may not. They may just have a standard uplift of 20% because it's business use. It depends on how sophisticated they are. If you have said 'yep, that's fine' and paid your additional premium I don't see what the problem is because the insurer has properly assessed the risk and there's been an appropriate premium struck between the insurer and the insured. So it's not a problem.

The same goes with homesharing. Have you advised your insurer that you want to have others that you don't know living in your house for a time? The insurer might say 'that's fine we'll hit you with another premium'. They might say, 'Look, we're going to offer you a landlord's policy for three months while you have Airbnb clients staying'. Again I don't see a problem with that because the insured and insurer have discussed the appropriate risk and they've struck an appropriate premium and they have an opportunity to buy an appropriate product for the insured or landlord."

Jim McNichols (Greenlight Re) provided a forward-looking insight into the direction insurance is taking and the cultural challenges it poses:

I firmly believe, no, I know, that bitcoin, driverless cars, electric cars, drones, they're coming! We will have synthetic currency. We will have driverless cars. I can tell you that, as a certainty it will happen. The ultimate question is when will the regulatory environment allow it and when will society and insurance catch up with them?

I am from the baby boom generation and we own our cars, homes, albums, CD's and highend electronics. If you contrast the way that I approach my work and view the economic landscape with how millennials do, it may as well be medieval versus modern. Millennials avoid ownership but do require efficient access (to cars, homes, music, equipment, etc...). Much of this change is going to be forced by the new generation of consumers by not only expecting it to be this way but rather demanding it be this way. As a baby boomer, my mindset is that the efficiencies of the sharing economy may not make much difference on the margins, whereas a millennial is going to think 'Look, this is the only way it should be done.' There are four generations currently obtaining homeowners and auto insurance with very different perspectives as to what it is and how it is supposed to perform.

Many of the innovations and cultural clashes touched on by Jim McNichols will inevitably have to be addressed by the insurance industry as new risk exposures and business models that are today inconceivable eventually become commonplace. In the next section we explore how the insurance business model itself becomes one such arena, with well-funded disruptors clashing with incumbents on the battleground of peer-to-peer insurance.

SHARING THE INSURANCE ECONOMY

So far we've discussed the rise of new peer-to-peer micro-commercial insurance risks. These may disrupt the industries they are attempting to displace (like taxis or hotels) but, apart from necessitating rewording of some policy documents, they don't impact the insurance business model itself. Since insurers are free to accept or reject these risks depending on their confidence in being able to price or underwrite them there isn't any existential risk to insurers. However, true peer-to-peer insurance, which we have not yet seen, could disrupt the insurance industry as forcefully as TNCs have disrupted the taxi industry. But is peer-to-peer insurance even possible?

Many startups are styling themselves as "peer-to-peer insurance". Friendsurance¹⁸, was founded in Germany in 2010. Similar models launched in the UK include Bought By Many¹⁹ launched in 2012 and Guevera²⁰ launched in 2014. These models are more a form of insurance 'group buying', like Groupon in the U.S., or One Big Switch in Australia, than a true peer-to-peer business. In these models the risks arising from groups of 'friends' are transferred to insurance carriers with whom Friendsurance, Guevara or Bought By Many have partnered on favorable terms. These models differ from traditional insurance in that customers are placed into risk pools of 'like' customers, with 'No Claim Discounts' or rebates then earned at the pool level, rather than the individual policy level. The defining characteristic of peer-to-peer models like ridesharing or homesharing is that there are micropreneurs earning an income by providing a service (such as livery or accommodation) to customers. There are no micropreneurs in the Friendsurance, Guevara and Bought By Many business models. There are only passive pools of customers who are somewhat affected by the claims experience of other customers in their pool. Hence we would argue that the 'peer-to-peer insurance' label attributed to these companies is a misnomer.

The closest we have come to seeing a genuine large scale peer-to-peer risk transfer arrangement isn't insurance related at all, but is actually peer-to-peer lending, pioneered by Zopa in the UK and today dominated by Lending Club in the U.S.. Lending Club listed on the NYSE to much fanfare on 11th December 2014 with a valuation of \$9 billion. The service connects 'investors' or lenders with borrowers directly, effectively disintermediating banks²¹. At the date of its IPO, Lending Club was licensed to lend to individuals in 45 states and accept investors in 27 states²². The listing was a major milestone in the maturation of peer-to-peer lending, having previously been dominated by

¹⁸ <http://www.friendsurance.com/>

¹⁹ <http://www.boughtbymany.com>

²⁰ <http://www.heyguevara.com>

²¹ Lending Club uses WebBank, a Utah-chartered Industrial Bank, to facilitate the transactions, so while the bank's balance sheet has been (mostly) disintermediated, the bank is still required operationally

²² <http://www.lendingclub.com/>

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startups, in the same way that Facebook's IPO in 2012 legitimized the social media business model. Lending Club's growth has validated its inherent advantage over the "legacy infrastructure" and "incumbent inertia" of large banks. Marc Jacobs, the founder of OnDeck, a competitor to Lending Club, summed up the opportunity quite succinctly²³:

It sounds retro to say the Internet has arrived. But financial services are really the last massive market that is technology-based but remains rooted in systems from the 1980s and 1990s, before the Internet disrupted everything.

In many ways, peer-to-peer insurance is a natural extension of peer-to-peer lending. Let's now speculate how a genuine peer-to-peer insurance arrangement might work, where one individual directly insures another individual (or more likely a group of individuals insures another individual) without using the traditional insurance corporation as the intermediary. In the following discussion we make very little reference to specific federal and state laws, for two reasons. Firstly, laws affecting the sharing economy are malleable and constantly in flux. Secondly, we don't want this document to be construed in any way as legal advice. It is far more useful and readable to stick to a general discussion of the business model than to delve into such specifics as how the Gramm-Leach-Bliley Act (as currently applied) impacts privacy policy or how registration requirements of the Securities Act would impact the process of securitizing insurance-backed notes.

So in that spirit, in the middle you would have an entity (the 'central entity') that provides the electronic infrastructure in the form of apps, a large database, an online interface and a payment clearing house. As with other brokering models, like Uber or Airbnb, it doesn't directly provide the service it advertises but is a facilitator of this service, matching an individual service provider with an individual service seeker. The central entity (probably) takes no risk onto its own balance sheet, but takes a fee on each transaction it facilitates. Joel Laucher (CDI) agreed with this view, stating:

"The first thing we would be concerned about is who is controlling the funds? Maybe you would need a licensed administrator. Maybe the peers are just signing a pledge or a surety to offer up the funds when a participant has a loss. Is that money really readily available? It's all about their fiduciary responsibilities. And you'd have to have a group big enough or fund large enough to pay out a major claim and still exist after it had one loss."

On one side of this central entity are the risks to be insured. Similar to online insurance quoting today, customers would enter their details into an online interface provided by the central entity and receive a quoted premium. In a reverse auction arrangement, the individual might bid the premium they are prepared to pay, which can be accepted or rejected by individual underwriters on the other

²³ <http://www.latimes.com/business/la-fi-lending-club-ipo-20141212-story.html>

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side of the transaction. It is these individual underwriters who are the micropreneurs, the insurance equivalent of an Uber driver. Although Lending Club's pricing model involves setting interest rates for particular credit tranches in advance, its competitor Prosper, started with an auction pricing approach, where an applicant's interest rate falls as lenders bid to invest in that loan. This, like other aspects of their business model, subsequently evolved into one more closely resembling Lending Club's. A reverse auction pricing model would be impossible under all U.S. states' pricing regulation, but could be a viable model overseas.

Like Lending Club's lenders, these underwriters would be akin to amateur or semi-professional financial derivatives traders. They would lodge capital with the central entity, like an initial margin, and then determine what risks they are prepared to take onto their personal 'balance sheet'. Like amateur derivatives traders moving into and out of positions based on technical or fundamental indicators, they would monitor their portfolio of auto, home and other P&C risks, growing in desired market segments and running off others. Like current day employed insurance portfolio managers, these underwriters would earn premium in proportion to the risks they are exposed to and suffer claim losses accordingly. They would decide what lines of business they want to 'dabble' in and how best to structure their own portfolio to achieve suitable diversification. The key difference is that their personal capital is at risk.

To achieve sufficient diversification, each of these underwriters would only ever be able to take small slivers of any individual risk (like 0.01% of a home insurance risk). Due to this small exposure an underwriter would have to any individual risk, it probably wouldn't be possible for each underwriter to manually inspect the profile of all risks they absorb onto their balance sheet. Maintaining the privacy of the insureds could prevent this from ever happening.

The underwriters would probably address this information limitation in one of two ways: rule based acceptance; or syndicate based acceptance. Under rule based acceptance the underwriter specifies some predetermined risk acceptance rules, with acceptance/rejection then being automatic. For instance, they might specify that they will accept 0.01% of any auto risk from people with clean driving records, capped at 100,000 policies per city, say, to achieve geographic diversification.

Syndicate based underwriting would follow the Lloyds of London model, where a group of individual underwriters follow (or appoint) a lead underwriter. The lead underwriter spends more time manually inspecting each risk and then has the power to bind all the individual underwriters in that syndicate to those risks they deem acceptable. In return for the extra effort selecting and managing the portfolio, they take a larger, but pre-specified, cut of the profit from that syndicate.

Underwriters would need to be able to sell their risk portfolios to other underwriters, either to withdraw their capital, to limit their own risk exposure or for regulatory and solvency reasons.

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Underwriters' positions would need to be valued as frequently as possible (at least daily), both for the purpose of determining a fair transfer price between underwriters (even if only advisory) and for determining individual solvency. With traditional financial traders, determining a P&L, solvency and hence margin requirements at any point in time is relatively easy through marking to market, however, for peer-to-peer insurance a very sophisticated, and largely automated, valuation and capital model would be necessary. Conceivably, this could use existing actuarial reserving and DFA models but be much more automated with the use of sophisticated machine learning. New techniques would inevitably need to be developed to cope with both the new business model and the extremely short time frames required, i.e. even just moving from a quarterly reserving basis to a daily one would be problematic for most actuarial reserving techniques. One could imagine requiring a very large correlation matrix, capturing every risk in the system to determine and allocate appropriate diversification benefits to each underwriter. The diversification benefit would be different for each underwriter based on their own mix of risks by geography, line of business and other factors.

Just like present day insurers, individual underwriters would also need to select the asset mix in which capital, lodged to back their liabilities, is to be invested. This need be no more complex than the process employees go through today with their 401(k) plans, allocating their fund mix between cash, domestic equities, international equities, listed property etc. In the interests of simplicity, to ensure that underwriters focus more on the liability side than playing the asset side, let's assume that the platform offers only two options, a risk free cash account and an S&P 500 index fund, where the allocation between these two must sum to 100%. Any fluctuations in the S&P 500 fund should be marked to market in real time and reflected in the underwriter's P&L. Similarly, asset volatility would need to form part of the capital requirements model.

Although we would expect these micropreneur underwriters to be more technically savvy than the average person, understanding the complex relationships between their underwriting decisions, asset allocation, diversification measures and their capital requirements will be challenging. How many professional underwriters today have a thorough understanding of how each decision they make impacts their carrier's capital requirements? Communicated effectively, the capital model would convey to each underwriter what their 'risk budget' is and allow them to 'allocate' that budget accordingly. Taking risk in one area (say underwriting risk) eats into their risk budget, limiting their capacity to take risk in another area (say asset risk). Derivative traders today face a slightly simpler version of this mechanism where their margin requirements change dynamically as they open and close positions and as market prices shift.

Anyone following along with this description of what is effectively an online trading platform

provided by a central entity might see similarities with the defunct Enron Online (EOL)²⁴, an online energy trading platform provided by the Enron Corporation. In brief, EOL allowed commodity traders (particularly natural gas traders) to trade directly with Enron as the market maker. This utilized a one-to-many trading model, as opposed to the many-to-many model used by the NYSE for instance. This first-of-its-kind platform quickly dominated the commodity trading market with its ease of use, with the EOL platform claiming a 60% share of the world's natural gas trading volumes. This model was riddled with problems. The FERC investigation into Enron after its collapse concluded²⁵ that 'like a casino, Enron had the "house" advantage by trading on EOL in energy markets', that 'Simply put, the use of EOL enabled Enron to post any price it wanted', 'The overall evidence supports the conclusion that trading abuses and manipulation occurred on EOL'.

There are a lot of learnings from Enron Online that should to be applied to any web based peer-to-peer insurance platform. Some of these are of the 'What did they do right?' variety but many more are 'What did they do wrong?' Some learnings include:

- ❖ **Don't allow the exchange to trade on its own account.** Uber and Airbnb don't compete with their own partners (drivers or hosts) by operating ridesharing cars or buying properties to rent out. They act purely as a many-to-many exchange, which limits conflicts of interest. This doesn't mean that the platform can't participate in the risks and profits too. In fact the originate-to-distribute mortgage securitization model, where originators have 'no skin in the game', disincentivizes prudent risk selection (to the extent that the platform manages or influences this). The separation of writer and ultimate financial bearer of risk leads to its own conflict and in fact was one of the leading causes of the '07-'08 financial crisis. Some form of risk retention or risk sharing by the platform would probably be desirable. However this is structured, the key philosophy is that the peer-to-peer platform be a partner to its micropreneur underwriters, not counterparty to them.
- ❖ **Disincentivize trading and speculation.** Since the purpose of the platform is to allow individuals with capital to absorb real world auto and home risks of other individuals, there shouldn't be any need to trade or speculate. Trading should really only be necessary to manage or withdraw capital. Uber and Airbnb don't allow individuals to buy up large blocks of ridesharing or homesharing time in the hope of reselling it later for a profit (like the business model of hotels.com for example).
- ❖ **Ensure only simple, liquid, well known asset classes are allowed.** Part of Enron's dubious accounting practices involved marking to market 'washed' illiquid assets to manipulate paper profit²⁶. Allowing only very simple, liquid and transparent asset classes (like a cash account

²⁴ <http://www.lieffcabraser.com/Media-Center/Articles/The-Rise-and-Fall-of-Enron-s-One-to-Many-Trading-Platform.pdf>

²⁵ The Federal Energy Regulatory Commission ("FERC") Final Report on EnronOnline p.VII-14

²⁶ 'Washing' is simultaneously buying and selling an exchange traded asset at the same price. No financial risk is taken, but a new 'market price' is established. When combined with mark to market accounting, washing helps manipulate reported profits.

and an S&P 500 index fund) for underwriters to park their capital limits the ability for any party to manipulate their financial position through trading and washing.

- ❖ **The valuation and capital requirements models should be as transparent as possible.** Ideally the regulator would have full view of the inner workings of the model, but the parameters and capital requirement formula should also be transparent enough to the public for a knowledgeable individual underwriter to approximately reproduce their imposed liability valuation and capital requirement from information they know about their own portfolio.
- ❖ **Strong whistleblower protections.** Whistleblowing was critical in uncovering the Enron fraud. In practice, protections for whistleblowers are often inconsistently applied²⁷. If you're going to encourage whistleblowing (a la "If you see something, say something"), don't send mixed messages by vilifying whistleblowers.

The rise of peer-to-peer insurance would see a reversal of industry consolidation taking place over the past couple of decades. Dave Cummings (ISO) suggested:

The trend in the industry over the past 20 years, particularly in personal lines insurance, has been to consolidate. In personal auto there are far fewer insurers in the market today than there were even 10 years back. Companies have continued to grow organically in addition to the consolidation. If peer-to-peer insurance really breaks into the market, there is potential to reversing of that trend. If this market were to grow, it could take back some of the market share the largest insurers have been able to consolidate. If so, it would be a change to the balance and competitiveness of the market.

Hurdles to Implementation

We believe there are five main obstacles to the above business model becoming a reality: technical; consumer acceptance; privacy; regulation; and industry inertia.

Technical

Current peer-to-peer arrangements are technologically quite simple (compared to an insurance operation). Airbnb, Uber and eBay are just sophisticated online bulletin boards, with payment processing and a feedback rating system to keep participants (mostly) honest when dealing with strangers.

Lending Club's platform provides a good starting point for thinking about the peer-to-peer insurance platform. Lending Club pulls credit reports, summarizes information about prospective borrowers for investors to review and has a messaging capability to enable investors to ask borrowers specific questions about their financial position. Once loans are issued, each investor is able to track

²⁷ At one extreme, whistleblowing that embarrasses the government tends to result in persecution, vilification and self-imposed exile for the whistleblower (i.e. Edward Snowden, Chelsea Manning and Julian Assange). At the other extreme, whistleblowing beneficial to the government tends to be well protected and even lucrative, such as the \$104 million payout by the IRS in September 2012 to one whistleblower for revealing instances of large scale tax evasion.

payments and defaults from borrowers in their portfolio.

The technical hurdles for true peer-to-peer insurance are much, much greater than other peer-to-peer services, even that of peer-to-peer lending. Any large scale external event, from hurricanes to terrorist attacks, needs to be reflected in claim valuations in real time. Just automatically valuing each insurance risk each moment, determining diversification benefits and capital requirements would necessitate automating reserving, catastrophe and capital models while maintaining at least as much accuracy as their currently labour intensive versions today.

From this point of view, you could almost say that automating away the entire actuarial services industry is a prerequisite for the viability of true peer-to-peer insurance. However, you'd still need actuaries to build and review the models being used and explain their workings to regulators. The fact that they would operate automatically day to day, or minute to minute, isn't too far removed from current practice where reserving spreadsheets are automatically updated each quarter with new input data. This update cycle would just need to be shrunk from quarters to seconds. Even if large scale machine learning infrastructure that is able to accommodate processing this volume of information in such tight timeframes isn't quite there today, it certainly will be in the near future.

Pricing without any experience to draw on presents a technical hurdle, albeit one not at all unique to the peer-to-peer business model. Dave Cummings (ISO) suggests:

“Pricing without prior experience is a significant hurdle. New carriers will need to acquire data and insurance knowledge related to the risks they plan to take on. However, without older legacy systems holding them back, they get the opportunity to start with more sophisticated pricing models and more granular, data driven underwriting. Additionally, they have the opportunity to embrace technology and enable them to do more with fundamental pricing, underwriting and claims handling. A significant portion of the segment invasion comes from this flexibility.”

Consumer acceptance

Dave Cummings (ISO) suggested that financial stability would weigh foremost when prospective policyholders consider peer-to-peer insurance:

I would expect many people would first want to ensure that the peer-to-peer insurance has the financial backing it needs to cover policies. It's hard to know how much that enters into people's minds. I do wonder how many tech-savvy consumers are aware of or concerned with the financial stability of their insurer. I'm guessing that they may not place as much emphasis, so it's something that may or may not be an issue that consumers think about. If they are comfortable with the financial stability and claims handling process, then I would expect that there would be many who would embrace this concept. It's an attractive business model in many ways. It is something that seems to speak to some of the sentiments in the consumer base about insurance companies, and it does have a startup entrepreneurial feel to

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it that many consumers would look on positively as long as that basic threshold of meeting the expectation of financial and claims handling is going to be met.

Amy Gibbs (ANZIIF) further opined:

We know from the digital disruption of other industries, such as with the entertainment industry, that the underlying technology is attractive to consumers who want to take more control and circumvent systems they see as being unfair or overly costly. Once the systems have been worked out in a technical sense, such as with Friendsurance or Peercovers, the conversation changes, not to whether customers will use the new technology, but which provider of the new technology to use, and then more traditional evaluation comes into play - which provider is trustworthy, works the best or simply survives or outperforms the others. While Napster might have been shut down, its closure did not protect the music industry from countless other groups providing the same technology to consumers. When it comes to insurance, the idea of avoiding traditional insurance companies with their less than positive reputation (whether fairly or unfairly earned) is going to remain attractive to consumers.

While there are definitely technical hurdles for peer-to-peer insurance to cross, I think that it will be the social and cultural ones that will prove more difficult. With many insurers hesitating to even dip a toe in the water, it will be entrepreneurs from outside the industry that pave the way technologically speaking, and these groups won't have the wealth of knowledge - and safeguards - that the established insurance industry has.

Peer-to-peer lending and crowd sourcing technology already show that people are willing to take on the risk of trusting relatively new technology when it comes to their finances. Removing the alleged bad guy from an equation - be that big business, banks or insurers - is a powerful incentive for people and small business who want a fair go. For smaller insurance needs I think people will be very interested, particularly if it means they can afford to insure things they would not normally insure, or would deliberately underinsure for financial reasons. Equally, peer-to-peer insurance will open the door to niche insurance possibilities that consumers simply cannot get access to or afford, such as 'Bought by Many'."

Privacy

The privacy implications are very different between using a peer-to-peer service for transport, accommodation or errands as opposed to using one for insurance. When you use Uber, Airbnb or Taskrabbit you provide your name, address, email, phone number and pay with a credit card. You are revealing about as much about yourself as you do when you buy a book off Amazon, so privacy isn't a prime consideration. But when you buy insurance you need to reveal a raft of personal information including criminal history, credit score and even biometric information in the case of health insurance. We may accept giving this information to a large faceless corporation with no personal agenda beyond taking our money and making a profit, but when the person on the other

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side of the transaction is a micropreneur underwriter (or many, many micropreneurs if each takes only 0.01% of your risk), then privacy becomes much more of an issue. Although de-identified, the micropreneur reviewing your insurance application might be your neighbor, your boss, your mother-in-law or your parole officer.

The peer-to-peer lending model has already tackled this privacy issue. Individuals apply for loans on the online platform, where they input their credit score, income, financial position and intended use of the borrowed funds. The platform assigns a risk profile, which investors can review and then either lend or not based on criteria the investor chooses to screen for or against. Lenders and borrowers converse with each other to discuss financial position, but personally identifiable information is not (or should not) be shared.

Alternatively, if privacy concerns become such that amateur underwriters can't view and analyze insured's information at all how can they underwrite the risk?

The two broad answers, mentioned earlier, involve:

- ❖ De-identifying and aggregating the information to allow underwriters to analyze the aggregated data and then formulate their own rule based approach to underwriting, such as accepting no one with a credit score below 600; and/or
- ❖ Joining a syndicate and allowing a lead underwriter to manage the risk selection for you. The lead underwriter would act like underwriters today, being similarly licensed and bound by privacy requirements, so that they would have access to enough personal information to evaluate the risk of each applicant, but no more.

With appropriate limitations and licensing in place, we don't think this privacy hurdle, even today, is a showstopper for this peer-to-peer insurance model.

Regulation

Like all new forms of peer-to-peer business models, industry-specific regulation would need to be rewritten to accommodate this new business model. It's impossible to determine in advance how this regulation would apply, especially considering the process of writing regulations is itself the result of industry consultation, political compromise and a hearty dose of lobbying. The evolution of regulation in the face of similar business models, however, provides a good guide to how regulation of peer-to-peer insurance would evolve.

Dave Cummings (ISO) suggests that startup entrepreneurs considering entering this space shouldn't underestimate the regulatory hurdles:

I would expect that they need to go through similar regulatory and licensing processes, which are significant. That's going to be a challenge and far from trivial. More generally, it seems there are a few things this sharing economy has highlighted. The companies going forward based on an interesting technology or business model may be slower to recognize the impact

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of regulation on insurance. It's something that they need to be aware of and they need to address early. I'd say generally regulators are supportive of new companies entering the market. [Startups] have that on their side as long as they have the right structure in place like financial stability, as well as understanding rate and market conduct regulation.

The two main groups of parties to the peer-to-peer insurance transaction are the underwriters and the insureds. Relationships with underwriters, essentially being individual investors, would most likely be regulated by the SEC, while relationships with insureds would likely be governed by each state's existing Insurance Departments. Like lenders and borrowers in the Lending Club model, the pool of underwriters and insureds would likely span many states on both sides of the transaction. In fact the principle of geographic risk diversification would make this many-to-many relationship by state desirable even as it makes it much more complex to regulate.

The underwriters would be in a very similar position to the lenders in the Lending Club model. In fact Lending Club investors can inspect individual applications for loans, ask each prospective borrower questions about their financial position and then decide on a case by case basis which loans to invest in. Lending Club CEO Randolph Laplanche described their regulatory framework:

In our case we are selling an investment to an investor, so it's regulated by the SEC [Securities and Exchange Commission]. The investment isn't guaranteed. The investors can ask Lending Club for their money back and get it on the normal monetization schedule of the loan. There's no risk of a run on Lending Club like there is risk of a run on a bank. For that reason there is not FDIC [Federal Deposit Insurance Corporation]-imposed reserve requirements.

Assuming the underwriter's funds also would not be 'at call' we speculate a similar regulatory framework to that governing Lending Club's investors would apply²⁸. Underwriters would only be able to withdraw funds once their claims backed by their funds had sufficiently run off or their liabilities were sold to another party.

We see no reason why the regulation governing the insured's interest in peer-to-peer risk transfer be different to that governing their relationship with insurance carriers today. First and foremost, reserves sufficient to pay claims need to be held. It goes without saying that the threat of a bad review on an eBay-style feedback rating system won't be enough to entice micropreneurs to turn over all their worldly assets in the event that their initial 'margin' proves insufficient.

You would need to have fairly stringent up-front capital requirements equal to, say, the 99th percentile of the expected claims distribution after an allocated diversification benefit (analogous to

²⁸ One of the most comprehensive summaries of the regulatory framework for peer-to-peer lending services that we could find freely available online is: http://www.aba.com/Tools/Offer/Document/Chapman_Regulation_of_Peer-to-Peer_Lending_0414.pdf

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margin requirements in derivatives trading, say) to mitigate default risk, combined with mandatory catastrophe reinsurance. As long as these parameters were set appropriately, there is no reason the risk of default need be greater under a peer-to-peer arrangement than under a traditional insurance arrangement.

Dave Cummings (ISO) suggests:

I think there are obviously some issues that need to be addressed. Starting an insurance company in your basement is a very different thing. We need to ensure that as the company or program develops that they have the financial resources necessary, which is different from being able to develop a cool app. We need to make sure, as they grow, they've got the right expertise and information to make sure they are prepared to bear the risk that they are going to take on.

Amy Gibbs (ANZIIF) commented on the evolution of consumer protection legislation in peer-to-peer insurance:

It will also be hard for regulatory bodies and national law to accommodate new technology. Consumer protection under these circumstances will prove hard. It's one thing to peer network your music downloads, but quite another when both your money and assets are at risk. That said, regulation will (eventually) have to keep up with the use of the people. Whether it will do that in time to avoid a potential financial disaster remains to be seen.

The second area for regulators interested in consumer protection to consider would be pricing. To be viable, consumers would need to, on average at least, pay less for insurance under a peer-to-peer arrangement than under traditional channels. Cost savings are a common theme in peer-to-peer business models. Just compare TNC vs taxi pricing and Airbnb vs hotel pricing. The best indicator for the cost savings that would likely arise from peer-to-peer insurance again stems from Lending Club's experience. Their ratio of expenses to loan value is less than 2 percent compared to banks' ratio of between 5 to 7 percent²⁹, largely due to Lending Club having more automated and streamlined processes than banks and not needing to maintain a branch network. We strongly believe a similar efficiency dividend would be realized in the insurance market, particularly when comparing agent-based distribution to a pure-play online distribution.

Industry Inertia

As a broad generalization, technological innovations originate (or are at least first commercialized) in the U.S. and are subsequently exported to other countries, eg Uber, Airbnb, Apple, Google and Microsoft. The opposite usually occurs in financial services, with U.S. innovation generally lagging

²⁹ <http://www.cnet.com/news/with-rising-revenues-lending-club-ceo-plans-expansion-q-a/>

that of other countries³⁰.

In the U.S., tech companies tend to be fast moving and agile, while insurance companies tend to be risk averse and compliance driven. What happens when you have a new world tech-based solution encroaching into an old world industry? It's a case of an unstoppable force meeting an immovable object.

The insurance industry's default course of action of sitting back and waiting to see what happens has not worked well for other industries disrupted by peer-to-peer technology, such as the music and entertainment industry. We believe this could go one of two ways. Just as the hotel industry, through the Hotel Trades Council, has preferred to let regulators wage war on Airbnb rather than expending energy doing so itself, so too would the insurance industry find this an effective first line of defense. As peer-to-peer insurance would represent a true existential threat to the insurance industry, lobbying of regulators by the industry to maintain the status quo could easily kill peer-to-peer insurance in the U.S. before it can even start.

The second possibility, which would become increasingly likely if the default response to neutralize the threat fails, is that the industry pivots, embracing the peer-to-peer model, positioning itself for lead underwriter roles in 'peer-to-peer' insurance syndicates (as described earlier) and hence taking on members of the public merely as passive investors. The composition of Lending Club's 'investors' followed this trajectory. Initially the funding base consisted of individuals lending as little as \$25, but now only one third of funds are from individuals investors, with the rest coming from mutual funds and institutional investors who don't micromanage every loan application.

Many other peer-to-peer businesses have become dominated by large established players once the opportunity (or threat to their legacy business model) was recognized³¹. Avis acquired ZipCar in 2010, effectively a by-the-hour self-serve rental car service using cars conveniently scattered throughout participating cities. Mercedes-owned Daimler expanded its car2go service in 2009 which allows users to hop very short distances in a car without needing to return the car to its original location, effectively being a cross between Zipcar and the bike share infrastructure appearing around the world. In 2011 General Motors even invested \$3 million in RelayRides. This model is analogous

³⁰ Examples of overseas innovations that were slow to be adopted, or haven't yet been adopted, in the U.S. in insurance include property level homeowners pricing, common use of GLMs, demand modeling, price optimization and the widespread transition from agent-based to direct online transactions. Similar examples of the U.S. being a late adopter in banking include free overnight peer-to-peer fund transfers between any bank, chips in credit and debit cards to prevent fraud, contactless payment and the abolition of paper checks. Even U.S. payment innovations like PayPal and the contactless 'Apple Pay' were essentially non-banking workarounds developed to provide the same payment functionality that had already existed for over a decade in personal banking in many countries outside the U.S., such as direct transfer and PayPass.

³¹ <http://www.forbes.com/sites/tomiogeron/2013/01/23/Airbnb-and-the-unstoppable-rise-of-the-share-economy>

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to creating a platform for crowd funded startup insurance trusts to operate, with the role of traditional insurance carriers morphing into that of managing these startup trusts.

So, is peer-to-peer risk transfer feasible? Could “insuring the sharing economy” really give way to “sharing the insurance economy”? We suspect asking the insurance industry this question would be like asking the Taxi Federation five years ago if they thought app-based ridesharing was feasible. The safest prediction we can make is that any entrants into this market will be following in the footsteps of other disruptors, possibly asking forgiveness, but never asking permission.

Global Perspectives on Peer-to-Peer Insurance

Taking an international perspective on peer-to-peer insurance can be useful in understanding if, or how, it could be implemented in the U.S.. The entire value proposition of peer-to-peer is that price savings can be achieved by disintermediating an inefficient, legacy-driven middleman. Ironically, the biggest force that could see peer-to-peer insurance thrive in the U.S., could be the very force keeping it out of overseas markets. We are referring to relaxing regulation and letting competitive forces drive product design and pricing. While U.S. auto expense ratios are typically around 25%-30%, competitive forces in Australia, for instance, had driven expense ratios down to 10% decades ago. This has been achieved by significant automation and the dominance of online direct sales. In an already lean environment it is hard to see how a peer-to-peer platform could gain a cost advantage over existing players. Graeme Adams (Finity Australia) explains:

The industry in Australia has been direct for a long, long time. They switched into internet channels and electronic commerce. Branches and even telephone centres are a thing of the past. The leading car insurer has an expense ratio on their car insurance of around 10% but they also have massive buying power so they can get cars fixed cheaper than most other insurers, let alone an individual. So if you have peer-to-peer insurance on car insurance, how could that beat an expense ratio of 10%? What is the real saving they get in terms of the premium they pay? There is a cost to manage the enormous complexity when 200-300 people are effectively paying the claim.

There has, however, been somewhat of a resurgence in mutuals and buying groups overseas. Graeme Adams (Finity Australia) explains:

Buying groups are getting quite a leg up here. One Big Switch has got 630,000 members now from a standing start three years ago. That's a lot. Another, Capricorn, is a discretionary mutual. They don't provide insurance, they provide what they call 'protection'. The thing with a discretionary mutual is they are not obligated to pay out a claim under a policy. It's at their discretion that they pay a claim. Maybe there could well be a resurgence in mutuals because they have cheaper capital and don't have to make a commercial profit. It's particularly an issue as insurance becomes more expensive here. It's becoming more expensive for a whole host of reasons. It's on more of a sustainable footing now. Also we

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understand the risk better. We understand flood particularly, earthquake, other natural peril risks are well reflected in premiums down to individual properties.

Dave Cummings (ISO) agrees with this comparison:

In many ways it's a reinvention or an older concept. This could be analogous to mutual insurance, as it started years ago. The idea of groups coming together to self-identify and to start to provide means for insurance. It's interesting to see how we are resurrecting an idea that originated over 100 years ago due to modern circumstances.

From this perspective, peer-to-peer insurance isn't anything new. It's really just a resurgence of mutuals that have been with us since the dawn of the insurance industry, only this time with a flashy new app.