

Hiscox University Challenge

Problem Statement



Introduction to our world

Every year billions of dollars exchange hands to help people have peace of mind against the weather. Insurance is built on the idea that the premiums of the many pay the losses of the few but what happens when the many all have losses at the same time? Insurance companies buy their own insurance known as reinsurance.

Hiscox Re & ILS is the reinsurance arm of Hiscox. We underwrite through Lloyds of London and Bermuda. We write risks across the globe varying from Japanese typhoons to nuclear power plants and US hurricanes to super yachts. A huge driver of our business is based on reinsuring US insurance companies, of these there is a huge demand for reinsurance in the 'sunshine' state of Florida.

Florida is the most prone part of the United States for hurricanes. Between the months of June and November, a hurricane could hit at any time. This means that all insurance companies underwriting in Florida have to have a reinsurance strategy as it is a case of when a hurricane comes, not if. In the state of Florida alone there is around \$50 billion dollars of Property and Casualty Insurance Premiums alone and there are around 2100 companies registered to provide insurance in the state! How do you pick which of these 2100 to work with?



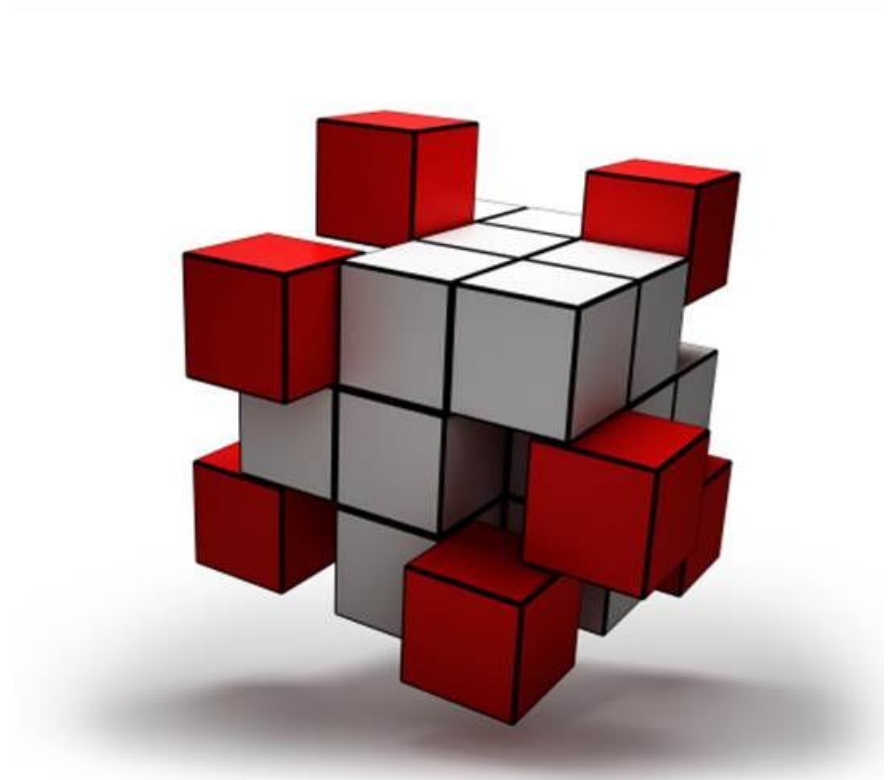
The challenge

We want you to create some key performance indicators (KPI's) for Floridian insurance companies based off of historical claims and geospatial and accounts data.

Here are a few examples of what could make interesting and informative KPI's:

- Strategy: What do they underwrite? Where do they underwrite? How much do they charge?
- Claims: Claims history? Do they often reopen claims? Size of claims? Frequency?
- History: How they have performed in past events? How have they reacted post event?
- Extra expenses: Do they suffer badly from litigation? What are their loss adjuster expenses?
- Business factors: Share price fluctuation, fraud score, reputation, social media presence.

These are just a few ideas of things we think about when trying to compare companies between each other. Your challenge is to come up with KPI's that will provide a reinsurer a competitive edge as well as insight into companies.



FLOIR: Excel sheet

This is a public dataset provided by the Florida Office of Insurance Regulation. It has claims data broken down by company, region and event. This is a treasure trove of information regarding to how companies have performed in historical events. It should form the basis of your study.

HURDAT : <http://www.aoml.noaa.gov/hrd/hurdat/hurdat2.html>

This is a database of all historical hurricanes to have hit the US. It will allow you to look into the physical features of specific hurricanes. (It is also in an R package for easier use). This dataset will allow you to think of spatial indicators for performance and look at what the storm was like which caused claims from your FLOIR data. Another interesting idea with this is to look into AMO and ENSO, these are measures of climate factors and people have theories on how they influence hurricanes.

NAICS report card – https://www.naic.org/state_report_cards/report_card_fl.pdf

This provides a high level look at insurance across the US as well as some key facts and figures around premium numbers.

FLOIR annual report - <https://www.floir.com/siteDocuments/2017AnnualReport.pdf>

In this report, which is again published by FLOIR, you can see companies premium numbers and potential market shares. One key thing to note here is we are predominantly focused on the property insurance companies. It has a huge amount of data on complaints and other factors too.

Other ideas: You could also consider share price changes, social media interaction, legal history, building a proxy for fraud, company strategies (you can find many online). Overall, it doesn't matter where you find your data sources, just as long as you reference them.

What do we expect from you?

Your final report/presentation:

Your final report/presentation should be in PDF format and a maximum 6 A4 pages. It should detail your approach to the problem and your final recommendations

We suggest that you include the following sections:

- Introduction
- Your top 3 key performance indicators
- Your top 5 insurance businesses based on your indicators
- Provide a deep dive into 1 insurance business. For example, how the organisation performs in relation to your KPI and why
- A key insight into the Florida market as a whole: e.g. Irma loss creep or rising litigation costs.
- Challenges you came across
- Conclusion

Please send through any spreadsheets/code of your solution, either attached to your email or alternatively a link to your online repository (GitHub etc.)



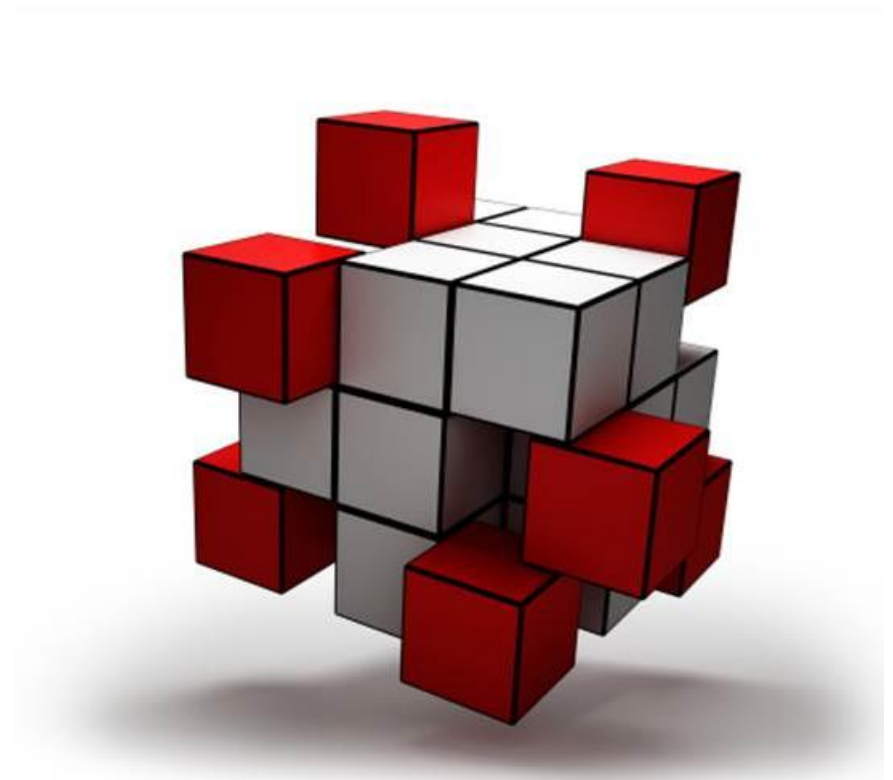
The judging criteria

The judging criteria:

- Most useful KPI and recommended businesses
- Best visualisation and presentation of work
- Most innovative KPI

We really want this challenge to be a great opportunity for you to learn about reinsurance and the impact it has on the world. We are not challenging you to reinvent the wheel, sometimes the most simple ideas can have the biggest impact.

We want to help you make the most of this challenge and the best way to do this is to ask us questions!



Key dates

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|---------------------------------------|--------------------|
| • Launch conference call | 16 January |
| • Team event | 29 January |
| • Presentation skills workshop | 27 February |
| • Submission deadline | 4 March |
| • Presentation day | 20 March |

All the events will be held at Hiscox London office. If you are unable to travel to London, you can join us via video conference.

Conference calls

Weekly audio conference calls every Wednesday at 3pm. It is a great opportunity for you to ask questions and discuss ideas.

Dial 08003768216 (free of charge)
PIN code: 762127

The launch conference call with all the teams will happen on 16th January. We would recommend for everyone to dial in as we will be introducing ourselves and explaining how the challenge will work.

All the dates are subject to final confirmation.



Meet the Team



Saniya Khayrova
Financial Planning Analyst

Saniya joined Hiscox in 2016 and spent 9 months in the Strategy team and has since moved to Financial Planning and Analytics. As part of the team she helps with forecasting and financial planning activities across the Group and the provision of insight and data to the ExCo. Outside of work she enjoys traveling and spending time with family and friends.



Jonathan Turner
Underwriting Analyst

Jonathan began his career at Hiscox as an intern in the group catastrophe modelling team. He has since moved into the reinsurance team. He works with the portfolio manager to analyse the reinsurance portfolio. He enjoys his day to day work and it allows him to make the most of living in London. He can often be found out and about exploring and eating some amazing food!



Laura Pemberton
Marketing and Communications Manager

Laura works on everything comms including, content creation, developing marketing material, public relations, digital and website, internal comms and more. Originally from New Zealand, she spent 6 years working in the government and insurance sectors before moving to London in early 2017. In her free time, she likes to explore London's most historic hotspots, play netball and tag rugby, and spend time with friends.



Emma Bradley
Catastrophe Modelling Analyst

Emma joined Hiscox in 2017 on the graduate scheme, in the retail side of the business. She spent over a year setting up new products and underwriting individual risks before moving to the Reinsurance department where she is now a Catastrophe Modeller. She enjoys yoga, cycling and gin, and loves to jet off to south-east Asia whenever possible!