

GBA IMPACT FOUNDATION



Newsletter | July 2020



Youth and Education Committee: Online Summer Camp on Sciences for Senior Secondary School Students	3
As COVID-19 Pandemic Accelerates, GBA Leads the Way in Response	4
Natural Peril Risk in the Greater Bay Area	5

EDITORIAL

It has been a chaotic start to 2020 as the world is still in the grip of a pandemic and Hong Kong with its third wave seems to have fared worse than the other cities in the Greater Bay Area. Globally the real social impact of this event is still to be felt as weakening economies later in the year could lead to a perfect storm of social unrest, cumulative cyber-attacks fed by chaos plus a potential, rampant hurricane / typhoon season all parenthesised by growing tensions in the geopolitical landscape. If ever there was a need for a sustainability hedge this is the moment. As all sections of the supply chain are currently affected by pandemic lockdowns, consumer spending may not be the panacea of economic recovery in the short term. We expect to see shifts as predicted in our March edition of more social impact hedging solutions around well-defined perils in conjunction with capital markets and insurance. Already new investments in a parametric pandemic bond protection have emerged this month based on WHO announcements in conjunction with lockdowns to trigger a payment for financial relief and more preparedness. Such hedging of perils especially around future water events (drought and flooding) will be a key topic in our student mentorship program under the climate change topic which needs to be better defined so our leaders of tomorrow can take this forward.

This edition welcomes articles on natural peril risk in Greater Bay by Peak RE, an update of the April research on pandemic benchmarking plus an article from the GBAIF youth committee on the online summer camp in conjunction with the Hong Kong STEM Education Alliance. Our appreciative thanks to the contributors.

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Online Summer Camp on Sciences for Senior Secondary School Students

Rosana Wong and Carrie Law

Education in mathematics and sciences is critically important for preparing our young minds to effectively deal with the complexity of today's world. Untamed sense of curiosity, ability to collect and analyze facts, to reason logically, to think imaginatively, to formulate hypothesis and to test them systematically, these are essential skills and characters that our education system must help our students to acquire and develop.

In the midst of the COVID-19 pandemic, we are honored to have the support of the Hong Kong STEM Education Alliance, the College of Sciences of the City University of Hong Kong, the Hong Kong Association for Science and Mathematics Education and the Quest Institute of California in organizing this Online Summer Camp for high school students.

Through a series of online lectures given by leading professors and the interactive tutorial sessions led by experts in different fields, we hope to inspire our young students to pursue further studies in mathematics, science and engineering disciplines.

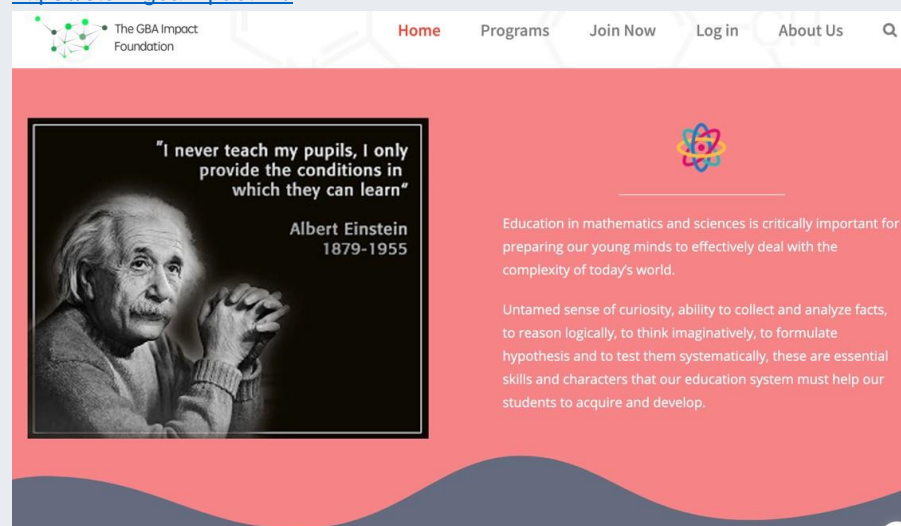
There are three parts in this Online Summer Camp for Sciences. They are:

1. Online lectures given by professors of the College of Sciences, City University of Hong Kong on mathematics, physics, chemistry and life sciences.
2. Three tracks of online lectures on (i) Oceanography, (ii) Robotics and (iii) Data Science given by leading scientists and engineers of the Quest Institute of California.
3. Online tutorial sessions led by professors, teachers and graduate student to discuss the topics given in the above two programs.

The Online Summer Camp are offered free of charge to the Hong Kong students. The target groups are students in the senior secondary schools.

To understand more about our program, please feel free to visit our website:

<https://stem.gbaimpact.hk/>



Ms Rosana Wong



Ms Carrie Law

Co-chairs of Youth and Education Committee

As COVID-19 Pandemic Accelerates, GBA Leads the Way in Response

G.T. Shea and Kelly Yip



G.T. Shea



Kelly Yip

Hong Kong and the GBA are amongst the world's leading centers in the control of the COVID-19, as well as the development and deployment of effective solutions, policies and products to ensure public health and return to full economic activity.

Since our March Publication on the Greater Bay Area COVID-19 research study, the spread of the virus has accelerated, sweeping the globe. As predicted, countries such as Brazil and India have been heavily hit, now ranking #2 and #3 worldwide in the number of COVID-19 cases. The wave is now deeply impacting these and other developing countries across the Americas, Africa and Asia.

Whilst a number of promising vaccines are progressing to advanced human trials, we are still far away from proven sustained efficacy, especially for older and more immunocompromised populations. Broad distribution and access to effective vaccines once identified will take at least another year to be put in place. Thus, more than ever, each country must focus on limiting the spread through testing and best public health practices. Specifically, early detection through reliable and quick result testing together with effective track and trace protocols, in combination with masking, cleansing, distancing and restriction on crowded venues or activities.

Around half a year since the virus emerged as a threat to the world, the Greater Bay Area has still managed to keep the pandemic under control, with life mostly resumed back to normal. We are actively discussing potential cooperation with several international organizations to share the GBA experience with some of the hardest hit countries, including Brazil and South Africa. We look forward to positive results emerging from these collaborations.

Natural Peril Risk in the Greater Bay Area

Franz Hahn and Iain Reynolds

When discussing the development potential of the GBA it is common to compare the combined view with other developed Bay Areas such as New York, San Francisco or Tokyo. It is typical to see various economic metrics summarized such as those in the following table:

	GBA	Tokyo	New York	San Francisco
Population	70m	44m	20m	7.7m
GDP (USD)	1.6tn	1.9tn	1.7tn	0.8tn
TEU Cargo throughput	7,500k	770k	630k	240k
Airport passengers	200m	120m	130m	80m
Natural Peril Exposure	Typhoon	Earthquake; Typhoon	Hurricane	Earthquake

Key economic metrics (Sources: CBRE; Peak Re)

Each of these Bay Areas is exposed to natural perils such as typhoon (hurricane) and earthquake. Insurers of catastrophic risks typically measure exposure to extreme losses in terms of probable maximum loss (PML); usually expressed in terms of an annual probability threshold. For example, the annual probability of exceeding, say, the 1-in-200 PML would be less than 0.5% (or 1-in-200).

Independent vendors of the models used to estimate these PMLs put the 1-in-200 PMLs for property in New York, San Francisco and Tokyo all in excess of USD 50bn. That is, the losses to the insurance industry from these perils, rather than to the wider economy. These same model vendors put the 1-in-200 PML for the GBA at less than USD 5bn.

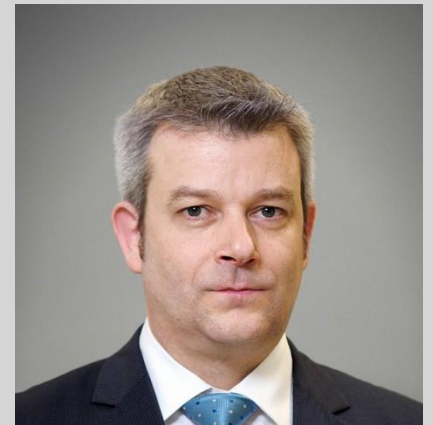
While there are differences in the geography and building stock in each of these Bay Areas, the huge difference between the insured loss potential in the GBA and comparable bays elsewhere in the world speak more to the relative lack of insurance cover that has been purchased in the GBA. In no way does this imply any difference in the vulnerability of the local economy to natural perils. While we have experienced severe typhoons in recent history (Hato in 2017, Mangkhut in 2018) it is important to remember that these were nothing like PML events: neither typhoon was extraordinarily intense; nor did they make a direct hit on any of the 11 cities of the GBA.

There is a clear need to develop catastrophe insurance solutions to protect the economies of the GBA. Insurance Linked Securities (ILS) are collateralized investment instruments that can act as insurance policies against low frequency high severity events such as typhoons. These would be an obvious choice of instrument to protect the economy of the GBA.

On 17 July 2020, the Insurance (Amendment) Bill 2020 passed its second and third readings by the Hong Kong government. This paves the way for ILS issuance in Hong Kong. Therefore, it can now be said that all the necessary legislation, along with the technology, infrastructure and expertise needed, are finally in place to develop these solutions locally.



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