# Department of Economics

## December 2019 Newsletter

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GIC is a sovereign wealth fund with the mandate “to preserve and enhance the international purchasing power of the reserves” managed. Could you please tell us about your roles at GIC?

Kwee Chin (KC): I’m in the Futures Unit within the Economics and Investment Strategy (EIS) department. We look at short-, medium-, and long-term macroeconomic trends across all asset classes.

I’m the main economist for China and India, and my job involves developing a thorough understanding of these countries, including politics and economics. We have to know the strengths and vulnerabilities of each economy.

Su Ling (SL): I’m in the Total Portfolio Strategy team within EIS. My team provides recommendations to GIC’s senior management, the GIC Board, and GIC’s client on the construction and management of the GIC Portfolio. Within the team, I focus on private equity and infrastructure strategies, and total portfolio implementation issues.

Did you start your career at GIC?

KC: This is not my first job. Previously, I was an economist at a bank. Along the way, I realised I wasn’t learning enough, hence the move to GIC.

SL: This is not my first job either. After graduating from NUS with an honours degree in Statistics (Economics and Statistics used to be a single department), I joined DBS Bank’s Credit Risk Management Department. It was in the late 1990s when risk management functions were set up in banks. I subsequently joined GIC’s Risk Management Department, before moving on to my current role in EIS.

What was one challenging situation that you have faced during your career?

KC: Every day is a challenge! We need to have conviction in our longer-term projections, stay the course regardless of the high volatility, and not be distracted. The key is to be confident enough to be contrarian to the market, and to be able to see through the noise. But we also need to have the courage to acknowledge that we can be wrong. It’s a constant challenge to balance between the two.

Also, we need to respect the market. There are people who are smarter than us so we should learn from them.

How is GIC different from Temasek?

SL: Temasek, GIC, and MAS have different mandates from the Ministry of Finance (MOF). Relative to Temasek, GIC’s portfolio is more diversified; we are more balanced in our risk appetite. MAS is the most conservative. Temasek, GIC, and MAS pursue different kinds of investments because our risk tolerance is different.

GIC is a fund manager for the government while Temasek is a holding company and owns the assets it manages. For example, Temasek has part ownership of SIA, SingTel, and DBS. Also, Temasek invests in Singapore and GIC does not.
So do you cooperate with Temasek?
SL: We operate independently from Temasek. We don’t have a special arrangement or relationship with Temasek.

GIC’s assets are managed by both in-house investment teams as well as external fund management firms. Does GIC expect higher returns from its external managers since they may be more specialised in active asset management?
SL: Both internal and external managers are assessed based on the same performance benchmark. Most of the portfolio is managed in-house. When we do use external managers, we need to ensure that we are getting value for the fees we pay. For more information, do read this feature article: https://www.gic.com.sg/wp-content/uploads/2014/07/external_fund_manager.pdf.

How does GIC assess its relationships with external fund managers?
SL: The bottom-up teams select the external managers. They perform investment due diligence and operational due diligence, and conduct reference checks. Our colleagues in the Risk and Performance Management Department constantly monitor the risks of our investments to ensure that risk parameters are not breached, and that limits are adhered to.

My team determines the top-down capital allocation to various active strategies in GIC through a process that optimises the value-add of strategies within risk constraints set by GIC’s client.

All our external managers are involved in active management. Our in-house portfolio teams are responsible for both passive management and active management.

GIC invests in private markets. What is the bidding process like?
SL: For private equity and real estate investments, we usually take a direct investment with leading market or sector partners.

If there is a bidding process, we have to ensure that we do not overpay for an asset. We will walk away if we believe the price to be too high.

KC: For private equity investments, we usually work with a general partner and a few limited partners. GIC is a limited partner and a general partner would be, say, Blackstone or KKR. Such co-investments are possible because we have a good reputation, so we are invited to consider many deals. Since we take a long-term investment approach, we don’t have a set fund life, and we don’t have to sell our stakes.

Do you think low central bank interest rates are the new norm?
KC: Negative interest rates are very different from low interest rates. Negative interest rates do not make much sense. This is still a very new phenomenon.

Many things could happen in the future that could affect interest rates, for example, wars, oil shocks, inflation, changes in fiscal and monetary policy. It’s hard to predict these events.

SL: With the low interest rates, investors are allocating more capital to alternative investments like private equity and infrastructure, leading to more competition for private investments and private credit.

What economics classes did you take that are relevant to the work you do today?
KC: Money and Banking is extremely important. So is Financial Economics. I also learned option theory and derivatives. Also, statistics is very important.

What does a typical work day look like for you?
KC: Every day is different! We have to know what’s going on in the markets and keep up with any breaking news. We have to be aware of market sentiments. We monitor the closing numbers of markets in Asia, Europe, and the U.S. We try to form a complete picture of all the major markets.

We also look into research topics, which forms the bulk of our work. We read reports by security houses.

We host visitors, who are often strategists and experts in market issues. We also attend external conferences.
SL: We update ourselves with research on the different asset classes. In my team, each member specialises in a different asset class.

We look at what our peers — other sovereign wealth funds and long-term investors — are doing.

We also have ongoing projects such as reviewing our private equity benchmark.

What do you enjoy most about working at GIC? How would you describe the culture?
SL: We are a very collaborative organisation. I can reach out to colleagues from other departments if I need any information.

KC: GIC is a flat organisation. I can send an email to the CEO at any time. We work across departments easily. If I want to know something, I can just email the relevant people, and they will respond.

What advice would you give someone who wants to pursue a career with GIC?
SL: GIC attracts high-quality talent and we have very bright people here. But we must also learn to accept failure.

Be willing to consider different career options. Some people can be quite fixated on just one career path but it’s good to consider different paths.

Read widely. Be open-minded and humble. There is always knowledge to pursue.
What are your best memories from your time at NUS?
Campus life. Playing floorball into the late night and ordering supper at 3:00 a.m. Then waking up for classes at 9:00 a.m.

Were there professors at NUS who inspired you?
I have two professors whom I am particularly close to. One is Dr Ong. I took Public Economics then Economics of Inequality. She has high expectations and her classes are slightly more demanding but she really teaches you to be very succinct and precise. A lot of economists tend to be very long-winded. We had to write papers and make arguments in 400 words, which pushed me to think of the most important evidence and statistics to support my claim.

Another is Prof Jessica Pan who does labor economics. I was her research assistant. Then I did an independent study module with her and then my thesis. She shaped many of my research experiences at NUS.

Tell us about the Economist Service.
Fresh graduates in the Economist Service usually start at the Economics Division of the Ministry of Trade and Industry (MTI), which is where I'm currently at. After a few years, we are posted out to other ministries and statutory boards.

What does the Economics Division at MTI do?
There are four teams in the Economics Division. I am in the Growth, Income and Productivity Unit; we look at labour, productivity, and population-related issues, as well as medium-term economic growth. The Macroeconomic Analysis Unit focuses on macroeconomics indicator such as GDP, inflation, business costs, and international trade. The Sectoral Analysis Unit does sectoral growth forecasting and surveys industrial trends.

The Data Analytics Unit studies a wide range of subjects. What sets them apart from the other teams is that they use less-conventional econometric methods — machine learning, predictive analytics, and network analytics.

Within teams, our focus is quite defined. But we have quite a bit of collaboration across teams.

What are some of your main responsibilities?
In general, our work revolves around surveillance, research, and policy. In terms of surveillance, we look at macroeconomics indicators such as GDP, productivity, and employment. We also conduct surveillance of neighbouring countries and our key trading partners.

What about research and policy work?
We support both inter-division and inter-agency workstreams. We routinely assess various government programmes and policies. The non-confidential reports are published in the Economic Survey of Singapore, which is published quarterly. For example, my colleague and I wrote a Feature Article on the SkillsFuture Earn and Learn Programme (ELP) in the August 2019 report.

Can you share more about the SkillsFuture Earn and Learn Programme (ELP)?
The programme was introduced in 2015 to give fresh graduates from polytechnics and ITEs a headstart in their careers by placing them in a work-study programme with participating employers. Individuals work full-time and receive on-the-job training but at the same time, they take part-time courses leading to an Advanced or Specialist Diploma. We then examined the wage returns to polytechnic graduates in the ELP, relative to their peers who worked immediately upon graduation, and relative to their peers who went on to obtain a full-time degree at a private education institution.

Our early results from the study on the first few cohorts are encouraging. But we need to continue monitoring the outcomes of ELP graduates.

What is the most challenging thing about your work?
There is always something to be done! I find it challenging trying to prioritise across various projects.

What do you enjoy most about working at MTI?
I can actually do research work, and I get to work with actual data. As an economist, it is fun learning and even more fun practising. We get excited when we get new datasets to play with.

What do you think is the most important skill in the civil service?
Working well with other people. We collaborate across teams, and with other ministries and divisions.

What advice would you give to juniors who want to pursue a career in the Economist Service?
In the Economist Service, we will often ask if you have any experience in some sort of programming language, e.g., STATA, R, Python. Knowing one language makes it easier to pick up another.

We also need to have a good understanding of econometric methods like difference-in-differences and instrumental variables. So take your econometrics classes seriously.

Try to get the opportunity to work with actual data. I think you only understand the challenges when you work with raw data — finding the best way to clean it, merge it, etc.

How do you think students can prepare themselves for the workplace?
Just have fun and enjoy your time in school. Some of the things you learn in school might be useful, e.g., econometrics for the Economist Service. But how you relate with others and collaborate in terms of teamwork — these are things that school may not teach you explicitly. But really just have fun first.
You started your digital marketing firm, Digimau, this year. Suppose I am setting up a business selling, say, acai. How would you go about helping me in my business?

As digital marketers, we help to grow your business. We set up a website for your company. We direct business to your website through Instagram, Facebook, etc. We make your website SEO-friendly so that you can be easily found on Google.

Social media presence is not enough to generate sales. You need a website to differentiate yourself from your competitors.

Who are your clients?
Digimau focuses primarily on tech startups and F&B outlets but we also have clients in other industries. Our major clients include Lazada, AlA, Moovaz (a relocation start-up co-founded by NUS alumni), and StaffAny (an HR start-up founded by NUS alumni).

How did the name Digimau come about?
I wanted a name that symbolizes good fortune and showcases Chinese roots. The inspiration came when I walked by an old provision shop in Chinatown. The shop had a Fortune Cat (招财猫) sitting by the entrance. Fortune Cats are believed to bring good luck all year long.

These days, businesses that still have a Fortune Cat sitting outside have probably been around for decades. I want to help businesses achieve the same longevity in the online space, so I decided on Digimau — where businesses can come and seek good fortune and prosperity through the services that we offer.

How did you go from majoring in economics to starting a digital marketing firm?
While I was an undergrad at NUS, I did a part-time internship with SurveyMonkey for a year and a half. SurveyMonkey was looking to expand in Southeast Asia, and I was fortunate to be the only intern during that period. I really enjoyed the experience, and I had a great mentor.

After I graduated in 2017, I didn’t know what I wanted to do, e.g., whether I should go into banking. To be honest, I couldn’t get a job at a bank anyway! So I did business development for a few months. I finally accumulated enough funds to start up my own business, and that’s how Digimau was born.

Are the economics modules you have taken at NUS relevant in any way to your job today?
Definitely! I am very interested in game theory and behavioural economics. Digital marketing draws a lot from behavioural economics. How do you set up a website to make it optimal for users, e.g., through message framing? How do you price your products — do you set a high price and then give a large discount?

What about game theory?
Every proposal and negotiation is essentially a game. On my end, it is in my best interest to put forward a proposal that has a very high contract value and requires minimal work. On the client’s end however, it is in their best interest to get as much work done as possible at the lowest cost. Naturally, if we both pursue our best interests, no deals will be made. In fact, both of us lose out due to the opportunity cost of the time spent on meetings.

The best outcome is often somewhere in the middle. Both of us give up something but we ultimately gain from our partnership. We’re playing a cooperative game — finding middle ground and making sure it’s a win-win situation.

What is one challenge you have faced since launching your business?
Learning to overcome rejection. Meeting the CEOs and marketing directors of big companies can be very intimidating, and as a small company, I’m always compared to the big boys in the digital marketing space. It took me quite a while to get used to the fact that not every company is going to accept my proposals, and that’s the norm.

After all, every company looking to engage an agency will compare many options, and pick the agency that best fits its needs.

What advice would you give to undergraduates who are considering starting their own businesses?
Be sure that you have the right motivations. If you’re doing it for the money, you’re better off working in a large MNC and drawing a stable salary.

Starting your own company sounds very novel but what most articles leave out is the midnight oil you have to burn, the weekends you spend worrying, and the uncertainty of your next paycheck. If you’re okay with all of these, go for it and give it your very best.

What about advice for everyone else?
Always take the path less travelled. If you follow the path taken by everyone, you must be the best of the best to succeed. For instance, if you want to apply to an investment bank, there are 500 other people applying for the same job, and you have to be the best to get the job. However, if you are an economics major and you apply for a job in the hospitality industry, you are unique.
Tell us about your role as a Senior Associate at Changi Airport Group.
Currently I am in the division that is taking care of the airlines. I am like an airline accounts manager.
Our work requires a fair bit of overseas travel. We meet different airlines and visit different airports; we work with tourism boards and other civil aviation authorities; we attend aviation events like roadshows.

What do you do when you are in the office?
In the office, I manage different partners. In airport operations, we have various partners with different job scopes. For example, we work with firms that cover the ground operations, and firms that are in charge of our security services. We also work with the Immigration and Checkpoints Authority (ICA).
Other than that, we meet with airlines to hear what they want from us. We try to accommodate their requests.

What kind of requests does an airport receive from airlines?
Airlines require a few things. My team does system integration. We look a lot into automation and new technology. The airlines will want to know what we are developing, and whether it will be easy for them to implement new technology or to adopt a new way of doing things.

In your opinion, what is Changi currently focusing on?
I would say that Changi is focusing on expansion. Airport operations is an infrastructure business so we face a lot of capacity constraints.
The biggest project right now is Terminal 5, which is expected to be completed in 2030. This project is going to occupy us for a while.

What is the most exciting part of your job?
There are always new projects. It is so dynamic!
At the beginning of the year, we opened Jewel. So the whole team was involved in projects related to Jewel.

Then we had new airlines on board, such as Jeju Air and Juneyao Airlines. We had to familiarise with airlines with all the operational matters at Changi, e.g., security, immigration, check-in, boarding, baggage handling.
And recently we had the Scoot relocation from Terminal 2 to Terminal 1.

Oh, so when Scoot says that they are moving to Terminal 1, it does not just happen?
It’s not like magic. The problem is mainly the hardware. Things like check-in kiosks, check-in rows, parking stands, immigration, security, and manpower resources planning have to be managed.
Also, we want to be prepared for whatever happens. For example, suppose I’m a frequent flyer. I know that Scoot is at Terminal 2. Then one peaceful Tuesday morning, I show up at Changi airport at 9:00 a.m. for a 10:00 a.m. flight because I know that one hour is probably sufficient for Changi. But on this day, I realise that Scoot is not at Terminal 2 anymore. What do I do?
As an Airport Operator, what do we have in place to protect the interests of these passengers? We want to make sure that there is minimal disruption. Passengers see just a one-liner that says “Scoot has moved to Terminal 1”. But we have to do a lot behind the scenes to ensure a smooth transition.

This is your first job after graduating from NUS. What motivated you to join Changi?
As a kid, I liked aviation. Also I interned with the business development team at Changi in 2015. The internship helped me to get to know the organisation and the people. I learned how the company works. So I went back to Changi after graduation.

How do you like the work culture?
The culture is really great. Everybody is young and full of energy. Working hours are very flexible. That is why I’m here at a café near Orchard on a Friday afternoon doing my work. I can work anywhere; I don’t have to be in the office.

What would you say is the most important skill that your department is looking for?
Different projects require different skills.
In general, we require good people skills. We have a lot of interactions with our partners and clients.
There are some very specific data-driven roles as well. You make sense of the data, create nice-looking dashboards, and uncover insights. This role would require you to be good at econometrics and programming.
If you are good at something, you can always find projects that require your skillset.

Which economics module has been the most helpful in your work?
Economic and Financial Forecasting by Dr Denis Tkachenko. I do some forecasting in my work.

What advice would you give your juniors?
Don’t be too stressed. If you have tried hard, don’t be so harsh on yourself.
On the other hand, if you haven’t really tried, stop making excuses and start taking responsibility.
It is important to have fun in university. Treasure the last bit of freedom. Go and explore your hobbies, and do what you want to do.
Daniel Teo Zhe Yong
Lim Chong Yah
Gold Medal

Tell us about your most memorable classes.
Two of the most memorable classes I’ve taken at NUS are *Topics in Applied Economics* by Dr Vu Thanh Hai and *The Singapore Economy* by A/P Chia Ngee Choon.

Dr Vu’s *Topics in Applied Economics* introduced me to the world of R and data analytics. The class taught me the basics of programming, and exposed me to powerful packages with many useful applications in real life. We coded along with the lecturer and deep dived into the fundamentals behind each line of code.

As for A/P Chia’s *The Singapore Economy*, on the surface, the class seemed to be a repeat of everything Singaporeans learn in school and read in the papers. In reality, the class taught me much more. She explained the evolution of policies such as CPF and Medisave, gave us a greater appreciation of their peculiarities, and allowed us to view these policies through the lenses of policymakers.

She taught us to be critical in our analysis and thorough in our research.

What non-academic pursuits do you enjoy?
I enjoy playing the piano, riding motorcycles, and wakeboarding.

What learning strategy have you found to be most effective?
I learn best through teaching others and having group discussions.

If you could go back in time, what advice would you give yourself?
I would tell myself to be more courageous in choosing courses that I was more genuinely interested in.

What are you currently doing?
I’m a policy analyst at MAS’ Prudential Policy Department. I design and implement macroprudential policies such as Deposit Insurance and Basel banking standards.

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What is the most memorable class you’ve taken?
Microeconomics by Dr Zhang Yang. Dr Zhang used lots of fun stories and real-life examples to illustrate theoretical concepts. I really enjoyed learning with her.

What non-academic pursuits do you enjoy?
I like playing poker. Poker is not just fun and relaxing, it is also challenging, and requires many skills such as counting cards, responding quickly, managing emotions, etc.

What learning strategy have you found to be most effective?
Reviewing my studies on a timely basis. I list out what I have learned during the week, what problems or challenges I have encountered, how I have addressed them, etc.

Regular reviews give me a thorough understanding of my learning status, which helps me set my targets for the following week.

If you could go back in time, what advice would you give yourself?
I would tell my undergraduate self to read more. In college, I thought that what the professors taught was more than sufficient. But when I started working, I found that there is so much more that I need to learn and to discover.

What are you currently doing?
I’m a research analyst at the Investment Company of the People’s Republic of China. I do global market research, and write research reports analyzing markets.

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Ni Jingchen
Lim Chong Yah
Gold Medal
Undergraduate Academic Prizes
Academic Year 2018/19

Valedictorian
Lim Zhi Hao*

Economic Society of Singapore Medal
Chong Si Li*

Ho Family Prize
Lim Zhi Hao*

Lim Tay Boh Memorial Medal
Khoo Xuan Jie Jonathan*

LSA-AT Nuevo Economics Medal & Prize
Joanne Ng Xin Yi*
Khoo Xuan Jie Jonathan*
Lim Xing Kang, Nicholas
Tan Rayen

MAS Academic Excellence Prize
Khiew Zhi Kai

Ministry of Trade and Industry (Economist Service) Prize
Chen Zihua

Ministry of Trade and Industry (Economist Service) Best Thesis Prize
Khoo Xuan Jie Jonathan*

NTUC Income Prize
Dong Yunfan

Paul Sherwood Memorial Medal
Mimani Tanvi*

Thomas H. Silcock – NUS Department of Economics Medal & Prize
Lim Zhi Hao*

You Poh Seng Prize in Econometrics
Chong Si Li*

* Class of 2019

What is the most memorable class you’ve taken?
There are plenty of memorable classes but if I have to pick one, I will go with GET1023: Thinking Like an Economist by Dr Georgios Georgiou. His level of enthusiasm in lectures was off the charts! I like how the module was structured and it certainly piqued my interest in learning during my early years in NUS.

What non-academic pursuits do you enjoy?
I like to maintain an active lifestyle by running and dancing. Occasionally I embark on overseas trekking trips.

What learning strategy have you found to be most effective?
I make it a point to relate the concepts that I have learned in class to real-world contexts. It makes learning more intuitive and enjoyable for me. It’s also important to be consistent; doing a little each day beats last-minute cramming!

What advice would you give your Year 1 self?
Don’t be afraid to explore your academic and non-academic interests in college. Keep an open mind and make a foray into other disciplines within and outside of FASS. If you are remotely interested in post-graduate studies in economics, take more math and statistics classes right away.

Be pro-active about attending recreational programmes in NUS. There are plenty of opportunities to attend trials and welcome sessions at the start of the semester. You could pick up a new hobby and build a strong support network along the way. It will make your college experience especially meaningful.

Lim Zhi Hao
**What is the most memorable class you've taken?**

*EC4313: Search Theory and Applications* by Prof Serene Tan. The module introduced a dose of realism into classical economic models, which often assume that markets are frictionless and always clear in equilibrium. Furthermore, she covered numerous interesting applications, e.g., frictions in marriage markets and speed dating, as well as search frictions in the market for housing.

Prof Serene always tries to convey the course content in an interesting way. When she taught us about the “urn-ball” model in the context of a directed search framework, she implemented the model in class by having different project groups draw a ball from an urn. The number on the ball then decided the order in which we chose the research paper that we had to present. There were certainly coordination frictions as we did not know which topics other groups were going to choose. Thus we had to prioritise our choices carefully. Alas, my group was the third-last group to choose our paper. However, it turned out to be a blessing in disguise as that paper inspired my Honours Thesis.

**What non-academic pursuits do you enjoy?**

I enjoy playing badminton. Badminton sessions and post-badminton meals are great opportunities for bonding with friends.

**What advice would you give your Year 1 self?**

Go for an overseas Student Exchange Programme (SEP). It would have been an eye-opening experience to study in a different university, immerse myself in a different culture, and visit many different cities.

**You graduated in July. What are you currently doing?**

I am currently working as an economist in the Ministry of Trade and Industry’s Economics Division. I am responsible for the surveillance of the labour market, and I often work with colleagues from the Ministry of Manpower to monitor the trends in various labour market indicators across different industries. In addition, I am involved in the evaluation of a scheme that provides funding to incentivise mid-career individuals to participate in sector-specific training. I am also working on a study profiling startups and identifying their contributions to the economy.
Lim Xing Kang, Nicholas

What is the most memorable class you’ve taken?
GET1023: Thinking Like An Economist with Dr Georgios Georgiou. I particularly enjoyed this class because it exposed me to the diverse applications of economic thinking, even into topics such as love. The variety of the readings provided by the professor allowed me to experience different perspectives. I gained a better appreciation for economics because of the class.

What non-academic pursuits do you enjoy?
I enjoy experiencing and learning about different cultures. Currently, I am trying to learn Korean and Japanese on my own. My interest in East Asian languages stemmed from my summer school experience in Korea University where I took basic Korean language classes.

What learning strategy have you found to be most effective?
Putting in consistent effort, keeping up with lecture content, and completing tutorials. What I have found to be especially important is addressing any gaps in understanding as soon as possible before they accumulate. Doing so facilitates my understanding of subsequent content in the module.

What advice would you give your Year 1 self?
Strive to understand the concepts beyond a superficial level, and attempt to appreciate the reasoning and rationale behind the ideas. I find that these practices make the module more interesting and fulfilling. An added bonus is that these practices reduce the need to simply memorise concepts for exams.

Chen Zihua

What is the most memorable class you’ve taken?
EC3102: Macroeconomic Analysis II. Dr Mun Lai Yoke would explain concepts with gusto, and we could all feel her enjoyment in teaching us. This translated to my heightened interest in the subject matter, and helped me learn the concepts better, even though some of the content in economics can be mundane.

What non-academic pursuits do you enjoy?
I enjoy playing and listening to music. I frequently play as a violist in symphony orchestras both in and outside NUS. My favourite genre is classical music; I especially like music from the Romantic Period because these pieces have rich textures and beautiful melodies. I find that listening to classical music soothes the soul and enables me to concentrate better when studying.

What learning strategy have you found to be most effective?
In order to learn efficiently and perform to the best of my ability, the most important thing I have to do is manage my stress levels. I listen to music, particularly classical and jazz.

In addition, I often remind myself that test results will not make it or break it for me. Every test/project/presentation is only a small stepping stone towards graduation. While the sum of these matters, doing badly for a single one does not matter.

What advice would you give your Year 1 self?
Pursue more non-academic activities, e.g., join a CCA, participate in a case competition, or go on NOC. University life offers a wide variety of experiences, and it is a waste not to experience as much as possible. Academic results do not really matter a few years after graduating, but the experiences, the fun, and the friends will stay for life.
Teaching Excellence Awards for Undergraduate Teaching Assistants
Academic Year 2018/19

Semester I
Austin Cheung Cooper (EC1101E)
Bernardus Christiananto (GET1023)
Jovi Loo Lek Yang (EC1101E)
Lim Zhi Hao (EC1101E)
Ong Kuan Yuan (EC1101E)
Toh Yong Hui Desmond (EC2101)
Toh Yue Fong (EC1101E)

Semester II
Ching Wensie (EC1301)
Glenvicia Sim Hui Xian (EC2101)
Lau Zheng Fong (EC1301)

What is the most challenging part about teaching?
Trying to ensure that the learning objectives are accurately and adequately met for all students. Each individual learns at their own pace and with their own preferred methods, so it is often quite a tall order to instruct in a style that caters to all.

How has your experience as a tutor changed your attitude as a student?
I am certainly more appreciative of the effort that goes into running a class. As a student, I feel more motivated to exploit the resources given to us to maximize learning.

What learning strategy have you found to be most effective?
I make it a point to list three key takeaways for every lecture. This practice helps tremendously in structuring my understanding and subsequently drawing links to sub-topics and examples.

What advice would you give your Year 1 self?
Never be afraid to ask questions! Sometimes, all it takes is a second explanation to clear up a misconception.
It is also never too early to start exploring your options in relation to a career in economics. Take classes in areas that you might be interested in, establish networks, and start setting yourself up for success.
What is the most challenging part about teaching?
I am often tempted to oversimplify concepts for the sake of making learning faster and easier. However, if I do so, I would be compromising accuracy and encouraging counterproductive learning habits such as rote learning. How I try to overcome this challenge is to practise explaining concepts (in front of my mirror) until I become almost fully comfortable and articulate when presenting said concepts.

Another challenge is answering questions beyond the scope of the content. Dr Zhang Yang has been very approachable when we tutors seek help in these situations. A bonus from this experience is that I get to learn as well!

How has your experience as a tutor changed your attitude as a student?
I used to obsess over getting my answers right, because it was my very naive metric for intelligence. However, being a tutor instilled in me the habit of prioritising learning over getting my final answers right. As I paid more attention to logical reasoning as a tutor (mine and my students’), I realised that investing more time into understanding goes a long way. I now ask my lecturers more meaningful questions about concepts, and not questions about whether an answer is acceptable.

This mindset has motivated me to take up some classes beyond my graduation requirements, such as Bahasa Indonesia. Instead of wanting to score well, I have shifted my focus to learning as much as I can before I graduate.

What learning strategy have you found to be most effective?
Personally, I find that I learn best when I verbalise concepts. I organise study groups with classmates where we “teach” one another concepts as though we were tutors. In cases where organising study groups is difficult, I just talk to myself. Through verbalising concepts, I iron out logical leaps or misconceptions.

What advice would you give your Year 1 self?
Share! Learning, and university experiences in general, should be collaborative. Save yourself the agony of thinking that you have to be at the top of the bell curve at the expense of your friends; you gain close to nothing by being stingy.

What was your most memorable incident as a TA?
Some time during the semester, Dr Zhang attended my EC2101 tutorial unannounced. Although she was present throughout the tutorial, I did not realise that she was there until she sent me an email with some feedback the next day. The following week, I mentioned to my students that I would be incorporating feedback provided by Dr Zhang during her visit the week before. My comment took them by surprise, because not a single one of them realised that she was present the previous week! This incident made me think that perhaps Dr Zhang has the potential to be a ninja.
What is the most challenging part about teaching?
Catering to the needs of students with different abilities. Everyone comes to class with different levels of proficiency and preparation. It’s not easy to keep everyone interested.

How has your experience as a tutor changed your attitude as a student?
Being a tutor motivated me to learn more beyond the theoretical aspects of economics. I like to share real-world economic applications in my tutorials to show my students that economics is very much alive. As a student, I became much more thoughtful about the relevance of what I am learning. Trying to make my tutorials more interesting made me appreciate the discipline more.

What advice would you give your Year 1 self?
Step out of your comfort zone. Talk to your professors and classmates, especially exchange students.

What learning strategy have you found to be most effective?
I learn best by working alone, framing and breaking down economic models, deriving equations on a piece of paper, deep diving into textbooks in search of answers. The textbook is under-rated.

I find it unproductive to discuss concepts with my peers or to attend consultations if I don’t even know what I don’t know.

You graduated in July. What are you currently doing?
I am a Quantitative Analyst in GovTech. Even though there is a perception that data science is the sexiest job in the 21st century, a lot of my work is actually not that glamorous. Apart from actual analysis, I spend a lot of time working with agencies to scope problem statements, and to identify how data can be used to solve these problems. We are mostly interested in how our analysis can lead to actionable insights.

**Jovi Loo Lek Yang**

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What is the most challenging part about teaching?
Trying to teach my peers when I myself am a student. This made it harder for me to be confident when answering my students’ questions — I may not actually be the best person to give them an answer. As a student, it is okay if what I think is incorrect. But as a teacher, I cannot give my students incorrect answers.

How has your experience as a tutor changed your attitude as a student?
As a student, I used to dislike class participation. But as a tutor, I finally realised how difficult it is if none of my students speak up — I wouldn’t know if they actually understand what we have been covering in class.

Additionally, having to talk to my class for an hour straight trained me to become more confident when speaking in front of an audience.

What learning strategy have you found to be most effective?
I prefer making my own notes, instead of relying only on lecture notes. The process of writing down key points in my own words makes it easier for me to remember them.

You graduated in July. What are you currently doing?
I’m currently working as a tax associate in KPMG, one of the Big Four accounting firms. (I have a double degree in Accountancy and Economics.) I basically help clients to file their tax returns.

Even though I’m working in a job that does not require economics, I never regretted picking it up as my second degree. I really enjoyed economics modules, as they changed the way I think and see the world. It’s pretty fun to try and explain real-world phenomena by applying the various concepts that I have learned.

**Lau Zheng Fong**
**What is the most challenging part about teaching?**
Trying to help students see value in what they were learning. This was difficult for some concepts — sometimes students asked me: “What is the point of learning certain models given how unrealistic they appeared to be?” I tried to draw links between concepts covered in class and real life, and to share relevant facts or articles outside of class material.

**How has your experience as a tutor changed your attitude as a student?**
I had always been a quiet student, and was often unwilling to speak up in class because I was scared of looking stupid in front of others should I give an incorrect answer.

After becoming a tutor, I realised that there was absolutely nothing wrong with giving incorrect answers. In fact, I preferred it when my students made mistakes because then the class could learn from their mistakes.

I also felt that classes were often made so much more fruitful when my students shared their thoughts and ideas. I definitely have tried to be more active in class discussions after my experience as a tutor.

**What learning strategy have you found to be most effective?**
I try to identify the concept in each tutorial question. When revising, I would study each concept along with the relevant tutorial questions.

**What advice would you give your Year 1 self?**
Be more pro-active in approaching your lecturers/tutors for help. Don’t be afraid of asking questions!

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**What is the most challenging part about teaching?**
Articulating complex concepts in a simple manner. Especially when students taking EC1101E come in with varying levels of exposure to economics, it is important to explain concepts without too much mathematics or presumed knowledge.

**How has your experience as a tutor changed your attitude as a student?**
In the past, I always felt that questions raised in class should be well thought of and “intelligent” so that I do not waste everybody’s time.

However, as a tutor, I realise that every question is valuable. Questions help to clarify the concepts for everyone in the class. Asking questions in class is really a public good with positive externalities that is often under-consumed!

**What learning strategy have you found to be most effective?**
Forming study groups with classmates. This is lacking in economics classes as the lecture and tutorial system mandates very little interaction among students. Peer discussions (asking and answering questions) help me to identify gaps in my understanding of the material — even when I think I have fully understood the material!

Study groups have helped me form closer bonds with my classmates, which make classes much more enjoyable.

**What advice would you give your Year 1 self?**
University offers much more than just academic modules. This is the best time to try new things and discover what you want or don’t want to do in the future. Seize opportunities and step out of your comfort zone.
Graduation Party
Chilli Padi Nonya Café
May 9, 2019
Commencement
July 12, 2019
Graduation Party
The Scholar Chinese Restaurant
July 11, 2019

Graduate Welcome Dinner
Kent Ridge Guild House
September 21, 2019
Freshman Orientation Camp
June 19–22, 2019

In this camp, freshmen who are interested in majoring in Economics interact with their peers and senior Economics majors.

National Economics and Financial Management Challenge
July 20 and 27, 2019

The NEFMC is an annual competition organized by the Economics Society for pre-university students. The competition features quizzes, debates, and themed station games. In 2019, 228 students from 11 schools participated.

Champion: Memeteam, Raffles Institution
1st Runner-Up: The Hybrid Economy, Raffles Institution
2nd Runner-Up: Business Bros, NUS High School of Math and Science
3rd Runner-Up: Kweeconomics, NUS High School of Math and Science
4th Runner-Up: TWICEECONOMICS, NUS High School of Math and Science
What impressed you most about South Korea?
Our seniors had advised us to set up a bank account and get a bank card. With that one card, we were able to pay for almost everything that we came across. Some of the locals whom I made friends with have stopped carrying cash. In fact, some who have linked their cards to their phones have stopped carrying wallets altogether! The homogeneity in the payment systems made transactions very quick and easy even if you don’t speak Korean.

What was something you did in South Korea that you could not have done in Singapore?
I took the opportunity to climb some of the many mountains around Seoul, such as Bukhansan and Gwanaksan.

Sometimes we would talk to complete strangers who were also hiking. It felt rather weird at first because usually I would have no reason to speak to strangers. But many of the locals, usually middle-aged women whom we refer to as ahjumma, would ask us questions about our life in South Korea. The friendliness and warmth coming from strangers was an unusual experience, and I really enjoyed the conversations that we had.

What was the most memorable thing you did?
I took an impromptu trip to Gangneung, a quiet seaside town on the east coast. I took a train on Friday after class, and spent two nights there. I did not have much of a plan. After I dropped off my bags at the Airbnb, I took a bus that followed the coastline for about 90 minutes before getting off. I walked along the coast for most of the morning and almost the whole afternoon. The ocean view was fantastic and walking along the coastline was therapeutic.

Along the way, I stopped at a convenience store for lunch. An old ahjumma who ran the store shared some of her spicy rice cakes with me and chatted with me about the sights of Gangneung.

The rest of the day was spent walking along the coastline back to the main town. I took some detours and talked to some locals. As someone who is not usually adventurous or talkative, the experience was exhilarating.

Tell us about your classes at Boston University.
One thing that stood out for me was the emphasis that the economics professors placed on working with real data. For my Econometrics as well as my Law and Economics modules, we had to use data to run regressions to support our assertions.

In addition, I took an ice-skating class that counted towards my credits at Boston University. The class met every week and we were gradually taught moves of increasing difficulty. I can skate backwards in a circle now!

What did you learn or realise in your semester abroad?
As trite as this sounds, I learned that the world is a huge place. It is often easy to assume that Singapore is the “world”, because our family and friends are here, and our ambitions are often tied to local jobs and specific prospects. The semester in Boston reminded me that there are many paths that we can take, and that these paths extend far beyond our local shores.

What was your most memorable experience?
Playing with the ultimate frisbee women’s college team at Boston University. I play ultimate frisbee in Singapore as well, but playing in the U.S. college scene was an entirely different experience due to differing playstyles.

I really loved my teammates as everyone was extremely warm and welcoming, and I enjoyed every moment I spent with them travelling across America to play in different tournaments.
Tell us about your experience living in Waterloo.
The city of Waterloo is a 2-hour drive from the better-known city of Toronto. Within the city, bus rides are free for university students and the physically handicapped. However, the bus frequencies are not ideal. Buses come every 20–45 minutes, and follow strict daily schedules.

I freed myself from the constraints of infrequent buses by buying myself a pre-owned bicycle. Waterloo is well-equipped with beautiful cycling roads, although cycling against the burly, wintry drafts of Ontario proved to be challenging. Nonetheless, I was rewarded with the sight of falling maple leaves in autumn and frost on coniferous trees in winter.

What impressed you most about Waterloo?
Compared to Singapore, Waterloo’s people and infrastructure seem more inclusive. Amenities are highly accessible to people with special needs. Organisers of social events also usually cater for the vegan, gluten intolerant, and lactose intolerant, as well as those with allergies. Whereas such people are usually singled out in Singapore, in Canada these groups are normalised.

Further, due to the highly multicultural demographic (even more than Singapore), the Canadians whom I met were more receptive towards cultural differences than most Singaporeans I know. Still, people from the same ethnic groups tend to cluster together, which is probably not surprising.

What was something you did in Waterloo that you could not have done in Singapore?
I picked up figure skating. Ice skating is an expensive activity in Singapore, but not in Waterloo. The campus has a skating rink that is open to all students for an hour every day. Admission to the rink was free; all I had to do was buy a pair of pre-owned skates and practise. I made friends with some local figure skaters at the rink. They taught me how to skate and do spins and jumps. One time, we organised a party at the rink where everyone wore onesies to skate!

How were classes at the University of Waterloo different from classes at NUS?
At UW, students asked questions and commented on the learning material during class. Lessons were more conversational than the one-sided lectures at NUS.

UW lecturers often wrote on the blackboard, and hardly disseminated slides even if they used them. Students therefore make their own handwritten notes. The benefits are that students were more attentive in class, and classes were conducted at a pace that promotes understanding. The downside is that much of class time is spent writing, which makes it difficult to focus on what the lecturer is saying.

Instead of the 2-hour or 3-hour lectures once a week at NUS, we had 1-hour lectures three times a week at UW. Although planning my timetable was more difficult, I found myself to be more engaged during lessons. I personally prefer UW’s manner of scheduling because the shorter time intervals between successive lectures reduce the amount of time and mental effort expended on recapping previous lectures.

Tell us about your favourite class.
I enjoyed most of the classes in UW but my favourite was the welding class in the mechanical engineering department.

In the first half of the semester, we studied the science behind the different types of welds. This part would have been dull, but the lecturer was passionate about his work and his enthusiasm was contagious.

Then, we got to do actual welding in the second half of the semester. Welding was a lot harder than I had expected; it required stable hands and a good grasp of welding knowledge to control the quality of the weld. I was given access to large welding machines to experiment with, and I also got to operate a gas torch to cut metal. It was exciting to witness welding theory come to life!

What did you learn or realise in your semester abroad?
Before my exchange, I was unaware of the traits that made me “Singaporean” or “Asian” since I belong to the majority group in Singapore, and have been surrounded by people like myself since young. One characteristic about the multicultural community in Waterloo is that people treat their ethnic origin as a key part of their identity. The experience made me more conscious of my ethnic and national identity, which is not something I would have understood if I had travelled to Canada as a tourist.

What advice would you give to students who are going on exchange?
Try to break out of your comfort zone — join clubs, make friends with the locals, or pick up new hobbies. In Singapore, we often expect ourselves to be good at things, even hobbies and leisure activities. I like to think that the SEP is a four-month period where we are free from that expectation; we are allowed to try many new things and be bad at them.
What was something you did in Sweden that you could not have done in Singapore?
Experiencing winter! Prior to my exchange, I had never experienced winter, so you can imagine how excited I was to be in Sweden during the coldest part of winter.

Little did I know, it took me only a few days to get sick of the gloomy winter in Sweden — the days were so short, the wind was blistering cold, and it was pretty troublesome to have to wear so many layers before heading out. The heating in my room did not work properly, so on most mornings I woke up shivering!

Tell us about Lund.
In winter, Lund was extremely quiet and almost deserted at times — to the extent where I started wondering if people actually lived in this town. I initially liked the serenity, because it was a refreshing contrast to the hustle and bustle of city life in Singapore. After a while, it felt a little depressing — the bleak weather together with the empty streets felt more and more like the setting for a dystopian film.

Then spring came around, the weather got warmer, the days got longer, and the cherry blossoms were in full bloom. The city became a lot more lively — but not to the extent where the crowds felt overwhelming (which is very often the situation in Singapore). I found myself taking long walks around the city all the time. I could walk 5 km without complaining — something that is quite challenging in Singapore's humid weather!

What was your most memorable experience?
Taking a solo trip to Dublin during one of my spring breaks. I meticulously planned my itinerary, and read up on Dublin’s transportation system and the dangers to take note of.

The trip went really smoothly, and I unexpectedly made a few friends along the way as well. Travelling solo was an extremely empowering experience, but there were moments where I had good food and witnessed beautiful scenery, and couldn’t help but wish that I had someone to share the experience with.

How were classes at Lund University?
Class sizes are small (around 20 to 40 students per class), which allowed for more interaction between the lecturer and students. Also, we addressed our lecturers by their first names, which helped to create a flat hierarchy in the classroom.

What was the most unusual thing you encountered in the Swedish academic system?
Exams are 5 hours long! I really thought that my eyes were playing tricks on me when I first saw the exam schedule.

Although a 5-hour exam sounds quite scary, an exam can usually be completed in 2–3 hours. The additional time is given to reduce stress; students can bring in food, take breaks, and ponder over the test questions.

For my first exam, I thought I would take less than 2 hours — I ended up staying over 4 hours!

Tell us about your favourite classes.
I had two favourite classes at Lund: Labour Economics and Business Analytics.

Labour Economics had a breadth of topics ranging from human capital to inequality to labour market discrimination. Empirical assignments were incorporated into the module, e.g., we had to use STATA to find the returns to schooling and intergenerational elasticities. The most memorable moment was when I opened STATA in the computer laboratory only to find a Swedish interface staring back at me. Business Analytics was pretty challenging because it involved a lot of R programming, which was completely new to me. I learned a lot both in terms of R programming knowledge and data analysis skills.

What impressed you most about the Swedes?
There is a strong emphasis on protecting the environment in Sweden. Trash is always segregated, and in supermarkets, plastic bags are chargeable. This society-wide “green” culture is something that Singapore is still quite lacking today.

What do you appreciate most about Singapore after your six months in Lund?
The efficient and affordable public transport system in Singapore!

In Lund, we often had to wait around 15 minutes for a bus. The wait felt exceptionally unbearable in winter when strong winds were blowing in your face. Each bus ride in the city (regardless of the distance travelled) usually costs around SGD 2.50. This is probably why most students own a bike, even though the cobblestone streets and steep slopes tend to make cycling around the city a challenge.

What did you learn or realise in your semester abroad?
I realised that I am capable of “adulting”. It was expensive to eat outside; as expected, there are no hawker centres in Sweden. I had to learn how to cook — something that I previously had no knowledge of. Surprisingly, I managed to prepare meals without setting fire to the kitchen or giving myself diarrhoea.
Summarize your semester abroad in one sentence.
“Schön ist eigentlich alles, was man mit Liebe betrachtet.” Which translates to: “Beautiful is everything one looks at with love.”

Tell us about Tübingen.
Tübingen is a very small town in Southern Germany with only 80,000 people, a third of whom are students. I loved the slower pace of living where people seemed to be more in touch with one another, and with nature.

However, it was quite hard for me to satisfy any late-night food cravings as most shops are closed after 9:00 p.m., and a supper culture is almost non-existent. I turned to fruits and alcoholic beverages, which are half the price they are in Singapore.

What was your most memorable experience?
Driving on mountain roads up ski resorts in Germany, Austria, and Switzerland in the summer. The views are simply breathtaking and there are no tourist hordes. Having grown up in a concrete and steel jungle for over 20 years, being close to nature and taking in the scenery and fresh air was simply unforgettable.

What was the best decision you made during your semester abroad?
Buying a second-hand bike! Bicycles are a very common mode of transport. There are designated bicycle lanes and parking spots in most of the pedestrian pathways. The campus is filled with bicycles as there are no shuttle buses on campus and walking from one end of campus to the other end takes at least 20 minutes.

What did you find most striking about Taiwan?
The Taiwanese are very environmentally-conscious. Most people bring their own recyclable bags to supermarkets and shops, and they sort their trash very conscientiously. This could be due to policies such as paying to dump your trash, and being charged for plastic bags at most supermarkets and shops (which I think Singapore should do as well!).

There are very few rubbish bins along the streets to prevent residents from dumping their trash in public bins. Even so, the streets are very clean. I found that surprising because litter is commonly seen in Singapore even though there are plenty of rubbish bins on our streets.

What was something you did in Taiwan that you could not have done in Singapore?
Travelling! Travelling in Taiwan is really convenient as most places are connected by high-speed rail and bus networks, Taiwan has a lot to offer from beautiful beaches to mountains, and an endless variety of food.

What was your most memorable experience?
The homestay with a stranger whom we met on the train on the way to Taitung. We were casually chatting on the train when she very generously offered to host us at her house, which was just beside her rice farm. We got to live like a local and toured the farm and factory. The family also prepared dinner and brought us to stargaze at night. It was really an amazing experience.

Tell us about your classes at the University of Tübingen.
In Germany, learning is much more individual-focused with less emphasis on content, and more emphasis on analysis and practical applications, which I think should be encouraged in Singapore.

My favourite class was Nationalism and Social Welfare States. We learned how nation-states used the social welfare system as a common ground to rebuild after World War II, and how the system has evolved and expanded over the years. The class comprised students from the U.S., Mexico, Britain, and other parts of Europe; class discussions were engaging and my classmates’ hunger for knowledge was inspiring.

What did you learn or realise in your semester abroad?
I learned to step out of my comfort zone, to be comfortable with myself, and to know my physical and mental limits. Case in point: after climbing for hours, I had to scramble down a mountaintop in Slovenia before a huge storm rolled in within the hour, and I had to first text my friends my location in case I got lost or injured.
Tell us about your NOC experience.
I had a very unique experience as I worked in two different startups in two vastly different industries.

The first startup was Pilotworks, a commercial kitchen incubator in Brooklyn, with three other locations across the U.S. I helped with business operations, marketing, and finance. The industry was very much in line with my interest in food, and I was also able to apply concepts from economics in my projects at work. For example, I analyzed demand potential and the pricing structure of their product across different cities.

Pilotworks was pretty big (more than 200 employees). My supervisors were very willing to share their knowledge, and they entrusted me with responsibilities that pushed me to learn as much as possible on the job. Some tricky projects included projecting cash flow and managing the accounts for one of their business units.

Three months in, Pilotworks closed down unexpectedly and suddenly. It was very eye-opening to witness the failure of a startup.

What happened after Pilotworks closed down and you were out of a job?
I then moved on to a second startup, Datawallet, which is focused on data privacy. Datawallet is co-headquartered in New York and Berlin. I was under the business development team. I prepared strategy analyses (pivoting from business-to-consumer to business-to-business), pitch decks, and financial statements for investors and clients. I also led my own project to implement the company’s internal travel and expense policy.

Datawallet was much smaller (fewer than 20 employees), which gave me the opportunity to work very closely with the COO and VP, who had vast amounts of experience. I was very fortunate to join in their discussions and learn from their insights. The exposure to data privacy regulations and solutions was also very exciting, and taught me a lot more than I would have learned on my own.

What was the working culture like?
There was no hierarchy in the startups I worked at, and no clear distinction of job scope. This gave me versatility over the projects I could work on, and freedom to take the initiative to explore different roles within the company. My supervisors in both companies gave me a lot of autonomy over my work. I really appreciate how they trusted me to handle my own projects and valued my inputs even though I had little to no experience.

The people I worked with in New York came from vastly different backgrounds, and had very interesting passions outside of work. For example, one of my co-workers ran a blog where she interviewed women from different walks of life, and shared their success stories. Another co-worker created his own board games and sold them. I could really sense the passion of my co-workers in whatever they worked on; that motivated me to do more not only at work but in all other aspects of my life.

How did you find New York?
I greatly enjoyed my year in New York. New York is similar to Singapore in that everything moves very quickly. While the public transport in New York is not as reliable as it is in Singapore, the subway platforms were very lively because there was always someone busking, and the trains ran 24/7.

I enjoyed walking about the city a lot as each neighborhood has a very distinct character to it. There were many opportunities to meet people from diverse backgrounds who were passionate about what they were doing despite it not being a traditionally “safe” or “practical” career path, which changed my perception on how I determined success and happiness.

What was your most memorable experience?
My co-workers invited me to celebrate Thanksgiving and Independence Day with them, which allowed me to experience these holidays “the American way”. I fondly remember celebrating Thanksgiving with my co-worker’s family — listening to them sharing about what they were thankful for that year, and indulging in delicious homemade food like pumpkin pie, stuffing, and cornbread. On Independence Day, we had a barbecue and watched a spectacular 30-minute fireworks show near the Brooklyn Bridge.

You were on living on your own in New York for a year. How did that experience change you?
Living overseas taught me a lot about independence because it meant learning how to cope with other responsibilities like hunting for an apartment, paying rent, and filing taxes.

What was one thing that you learned during NOC that you probably would not have learned if you stayed at NUS?
How to be resilient in the face of adversity. When the first startup shut down over the weekend, I was very shocked because I had not experienced anything like that before. The experience, while terrifying at the time, helped me to be more comfortable with unexpected changes, and to be more flexible, which is something that is not taught in school.

Overall I think the year abroad challenged me to step out of my comfort zone, and it was a really good experience in terms of personal growth and learning on the job.
What was your NOC experience like?
I interned under the fraud division of Go-Jek in Jakarta, Indonesia. I chose Go-Jek because I wanted to discover if it has something unique that has led to its success. How has Go-Jek emerged as the first unicorn of Indonesia within less than a decade since its inception, while over 95% of start-ups never make it?

Tell us about your work in the fraud division.
The quantitative nature of the work in the fraud team aligned nicely with my skillset and interests, as I’m doing a double degree in Economics and Actuarial Science. I was tasked with rebuilding a parametric risk model that Go-Jek had been using to assess the creditworthiness of its users. The model incorporated both metadata and real-time transactional data. Additionally, I was responsible for “on-call” duties such as analysing anomalous behaviour and fine-tuning fraud detection queries to capture the latest trends.

What is your biggest takeaway from your experience at Go-Jek?
The one thing at Go-Jek that left the deepest impression on me is the mutual trust that everyone would perform to the best of his or her abilities. In the fraud team, although we interned had never been officially “trained” in fraud detection per se, we were given considerable autonomy from the very beginning. If anyone felt that certain rules were inaccurate, he or she simply needed to submit a brief analysis report before changing the codes, and the updated rules would be live immediately.

Given that our inputs would have immediate impact on Go-Jek’s customers and drivers, I felt that such trust from everyone was simply remarkable. The system not only provided interns like me with exposure to the team’s core operations, but also ensured the team’s overall agility and adaptability, which are vital given the fast-paced nature of the ride-sharing industry.

Go-Jek is now valued at billions of dollars. Did you feel like you were working at a start-up?
Although we were told on day 1 by the fraud team’s director that “Go-Jek has become a multinational corporation”, I felt like the start-up culture has not left Go-Jek despite its tremendous growth over the years. The fraud team itself functioned like a tiny tech start-up, complete with its UI/UX designers, engineers, data analysts, business development managers, etc. Daily stand-up meetings, debriefs while holding plank positions, team exercise sessions — these things continue to be part of the “Go-Life”.
Perhaps it is this dedication to remaining vibrant, agile, and creative as well as the constant reminder of the teams’ impact on customers that have allowed Go-Jek to be even closer to its goal of becoming the “Super App” of Southeast Asia.

How did you find Jakarta?
Given the various haze incidents in recent years, one may be tempted to associate Jakarta with traffic congestion and high levels of pollution. However, the city’s air quality certainly wasn’t as bad as we thought it might be.
While traffic jams were indeed frequent during peak hours, sometimes getting around Jakarta felt more convenient than travelling in Singapore. For instance, I would book a ride right before leaving my room, and the driver could already be waiting when I walk out of the apartment gates. Occasional language issues aside, most Jakartans are very helpful and friendly.
The ubiquity of motorbikes coupled with heavy traffic cause Jakarta’s streets to feel quite different from Singapore’s. Sometimes hawkers would go around selling street food to hungry drivers caught in traffic jams. My favourite food was ayam bakar (grilled chicken).

What is your impression of the start-up culture in Indonesia? Do you think there is a difference between start-ups in Indonesia and start-ups in Singapore?
I could still recall the first time that I visited Jakarta in December 2017, when the number of motorbikes on the roads seemed pretty normal. Six months later, I was greeted by a sea of green — Go-Jek and Grab motorcyclists — from the moment I entered the same city. The speed at which ride-hailing has influenced the lives of Indonesians reflects the country’s development as a whole: messy, scrappy, yet extremely fast-paced and ingenious. While such descriptions may be rare in Singapore, NOC has made me realise that these are the norms while Singapore is likely to be an “anomaly”.
With a significant portion of the population being unbanked and internet coverage yet to reach some areas, start-ups in Indonesia have to generate significantly different value propositions and distribution channels compared to those in Singapore. However, these conditions also present tremendous opportunities for businesses to fill the gaps, some of which would not be possible in Singapore’s context.
Tell us about your NOC experience.
I interned at two start-ups in Shanghai. In addition, I took technology modules, including one at Fudan University. I also participated in entrepreneurship-related activities such as hackathons, conferences, and pitching sessions.

How was your internship experience?
The first start-up, Little Bugz International Kids’ Clubhouse, is in the early-childhood education and services industry. They do early-childhood classes, summer camps, events, daycare services, and even F&B. My job title was “Business Analyst” but since it was a start-up, I had to handle literally everything the General Manager (GM) needed me to do. Minor roles included graphic design and marketing, translation, events management, and negotiations with business partners and suppliers.

My major roles were working on the Venture Project — a new daycare centre at Lu Jiazui (Shanghai’s CBD). I worked alongside the GM on investment pooling, budgeting and financial modelling, location sourcing, supplier sourcing, recruitment of the operations team, market validation, training, construction project management, and finally the opening of the new daycare centre.

What about the second start-up?
The GM of Little Bugz is also the founder of the second start-up, and that’s how I was roped in. A*Star Technology provides AI software and hardware systems to be implemented in tourist attractions to manage human traffic hot-spots.

I joined A*Star before they even obtained funding. All they had was an idea, some market validation, and a potential investor. I witnessed how a start-up is founded and what it takes to raise capital. I was in charge of creating the pitch deck. We obtained one million yuan of seed funding from AGA International Group in Guangzhou.

A*Star has since officially registered as a company in Guangzhou, and is now expanding to Sydney, Australia.

What was the working culture like?
At start-ups, things at really fast and volatile. Hence my boss always expected us to adapt quickly to any changes, and to find solutions.

Working hours were very flexible. We worked at different places outside the office — cafes, beer bars, and even home. We could work at any time as long as we coordinated and kept things done. The GM did not care about our presence in the office, but was very particular about the quality of assignments completed.

What was one interesting thing you learned about working in China?
One unique thing about Chinese companies is how business agreements and contracts are interpreted. In China, everything that cannot be done has to be spelled out in the contract. If the contract does not explicitly state that a party cannot do X, then the party can indeed do X. This means that we had to be extra meticulous to ensure that all possible undesired actions of the other party are clearly stated in the contract.

What is Shanghai like?
Shanghai is amazing. It is a modern, high-tech, and vibrant city that is very globalised and developing so rapidly.

Life in Shanghai is really convenient in general. The Shanghai Metro has more than 20 lines, and I could locate a station within approximately 800 meters of wherever I was. High-speed trains make quick weekend trips possible.

What impressed you most about Shanghai?
I like Shanghai’s widespread use of technology. I particularly miss going truly cashless. I only needed my phone with me wherever I went, and all payments are settled on standardized payment platforms like WeChat Pay and Alipay. This also applies to rural areas and street-side hawkers.

I was also amazed with the widespread knowledge of technological trends. Even taxi drivers discussed with me the possibilities of and future trends in automated driving, AI, cryptocurrencies, and blockchain technologies.

Was there anything you did not like about Shanghai?
The restrictions placed on foreigners. Foreigners can only book certain types of hotels and rent certain types of apartments. We had to register our residences with the local neighbourhood police station whenever we moved for an overnight stay. Hence there was some restriction of freedom.

Fortunately, some of these restrictions have since been automated or eased.

Tell us about something new that you experienced at NOC.
NOC exposed me to hackathons. We imagine how a particular technology can be used to solve real-life pain points, and our teammates from the technical side may even be able to develop our imagined product prototype.

What was one thing that you learned during NOC that you probably would not have learned if you had stayed at NUS?
Entrepreneurship. Learning about entrepreneurship requires hands-on experience as it is very different in real life versus in theory. In real life, one could face any challenge, be it a dishonest business partner or sudden changes in the market. The problem-solving skills required are very different from what we can learn in school.
Severe Air Pollution and Labor Productivity: Evidence from Industrial Towns in China
Jiaxiu He, Haoming Liu, Alberto Salvo
We examine day-to-day fluctuations in worker-level output at two manufacturing sites in China. Ambient fine-particle (PM2.5) pollution is severe but significantly variable, largely due to exogenous atmospheric ventilation. We obtain an insignificant immediate output response from concurrent (same-shift) variation in particle pollution. We then allow worker outcomes to respond to day-to-day variation in pollution with up to 30 days of delay. We uncover statistically significant adverse output effects from more prolonged exposure, but effects are not large. A substantial +10 µg/m³ PM2.5 variation sustained over 25 days reduces daily output by 1%.

Rhetoric Matters: A Social Norms Explanation for the Anomaly of Framing
Daphne Chang, Roy Chen, Erin Krupka
Games and Economic Behavior, Vol. 116, July 2019
Ample evidence shows that certain words or ways of phrasing things can cause us to change our preferences. We demonstrate one mechanism for why this happens — “framing” evokes norms which then influence choice. We use a laboratory study to test the impact of describing a series of dictator games with either politically charged tax- or neutrally-framed language. Subjects’ political identities interact with these frames, causing changes in both norms and choices. Framing makes Democrats prefer equalized outcomes, and Republicans reluctant to redistribute payments even when it leaves them disadvantaged.

Randomizing Endowments: An Experimental Study of Rational Expectations and Reference-Dependent Preferences
Annette Cerulli-Harms, Lorenz Goette, Charles Sprenger
American Economic Journal: Microeconomics, Vol. 11, No. 1, Feb 2019
We test expectations-based reference dependence in market experiments with probabilistic forced exchange. Koszegi and Rabin (2006) predict that when the probability of forced exchange increases, individuals cannot expect to stick with the status quo, and should grow more willing to exchange. This mechanism may eliminate and even reverse the “endowment effect” (Knetsch and Sinden, 1984; Kahneman, Knetsch, and Thaler, 1990). In a series of experiments with overall 930 subjects, we show some tentative support for the notion that attitudes toward exchange are influenced by the probability of forced exchange. However, the results are sensitive to small changes in experimental design.

When Time Binds: Substitutes for Household Production, Returns to Working Long Hours, and the Skilled Gender Wage Gap
Patricia Cortès, Jessica Pan
Journal of Labor Economics, Vol. 37, No. 2, April 2019
We provide evidence that constraints that prevent highly skilled women from working long hours hinder gender pay equality. We show that relaxing one such constraint by increasing the supply of substitutes for household production — proxied by intercity variation in predicted low-skilled immigration — increases the relative earnings of women in occupations that disproportionately reward overwork. Low-skilled immigration inflows induce young women to enter occupations with higher returns to overwork and shift women toward higher quantiles of the male wage distribution. The share of women in the top decile remains unaffected, suggesting that other barriers prevent women from reaching the very top.

Endogenous Altruism: Theory and Evidence from Chinese Twins
Junjian Yi
Journal of Labor Economics, Vol. 37, No. 1, Jan 2019
This paper studies the endogenous formation of intersibling altruism. The theory suggests that parental incentive to foster children’s fraternal love is positively related to efficiency gains from more human capital investment in the more gifted child. The empirical analyses explore the plausibly exogenous within-twin difference in birth weight, a proxy for prenatal endowment. Consistent with the theory, the estimation results show that a larger difference in children’s birth weight leads to more intensive parenting practice to foster children’s fraternal love and that when such practice is more intensive, the heavier child obtains more investment relative to the other child.

Controlling vs. Enabling
Andrei Hagiu, Julian Wright
Management Science, Vol. 65, No. 2, Feb 2019
How does a firm decide whether to employ professionals and control how they deliver services to clients, or to operate as a platform enabling independent professionals to provide services directly to clients? Similarly, how does a manufacturer decide whether to allow sales agents to choose certain costly actions (e.g., kickbacks to clients) or to take control of these actions itself? We answer this question using a principal–agent framework in which both the principal and the agent must be incentivized to carry out investments (or effort) that increase the revenue they jointly create. Our theory explains when the principal should take control over a particular decision (“control”) or should instead allow the agent to make the decision (“enable”). It does so both for the case when there are multiple such transferable decisions for a single agent, and for the case when there are many agents and one transferable decision for each. We also consider the possibility of cost asymmetries between the principal and the agent, spillovers across agents, and the misclassification of the principal as an employer even though agents are allocated the relevant control rights. Finally, we explain how the “control versus enable” choice and its associated trade-offs differ from the classic “make versus buy” choice.
Dr Gregory Fletcher Cox (Ph.D., Yale University) joined the department as Assistant Professor (Presidential Young Professor) in June 2019. Previously he was Assistant Professor of Economics at Columbia University from 2017 to 2019. His research in econometrics is on relaxing and simplifying the assumptions required for estimation and inference in common models, especially identification assumptions. Recently, he has proposed identification-robust inference for factor models, and a simple inference method for moment inequality models. He has a forthcoming publication in The Annals of Statistics. He teaches economic and financial forecasting and econometric modelling and applications.

Dr Feng Ying (Ph.D., University of California, San Diego) joined the department as Assistant Professor in July 2019. Her research interests are in macroeconomics and growth and development. She studies why some countries are richer than others, and how a country’s income level impacts the behaviours of heterogenous households and firms, or vice versa. She uses microdata and quantitative methods to study heterogeneous firm production, as well as selection and allocation in labor markets. She teaches introductory macroeconomics.

Dr Liu Chen (Ph.D., University of California, San Diego) joined the department as Assistant Professor in July 2019. His research blends theoretical, computational, and empirical work to study the causes and consequences of globalisation. In particular, he studies immigration and international trade. He teaches international trade and econometrics.

Dr Tan Hui Ren (Ph.D., Boston University) joined the department as Assistant Professor (Presidential Young Professor) in July 2019. His research interests are in economic history and labour economics. His current work focuses on how and why the geography of intergenerational mobility in the U.S. has changed over time. He has published in the Journal of Human Resources, and has a forthcoming paper in Explorations in Economic History. He teaches immigration economics and labour economics.

Dr Tsai Hsin-Tien, Tiffany (Ph.D., University of California, Berkeley) joined the department as Assistant Professor in July 2019. Her research in industrial organisation focuses on the impact of pricing and market structure in consumer financial markets and e-commerce markets. She teaches applied econometrics.
Associate Professor Alberto E Brugarolas Salvo was awarded tenure. His research interests are in energy and environmental economics and industrial organisation. He studies how the behaviour and incentives of economic agents, such as households, workers, and firms, interact with scarce environmental resources, such as air and water. His recent work focuses on Asia’s under-studied and globally critical environment and society. He has published in the *American Economic Journal: Applied Economics*, *Journal of the European Economic Association, Nature Communications*, and *Nature Geoscience*. He teaches environmental economics and industrial organisation.

Dr Sng Tuan Hwee was promoted to Associate Professor with tenure. His research interests are in economic history and political economy. He applies economic theories and empirical methods to understand long-term development issues in East Asia, with a special focus on China. He has published in the *International Economic Review, Journal of Economic Growth, Explorations in Economic History*, and *Applied Geography*. He teaches global economic history and intermediate microeconomics.

Dr Zhou Junjie was promoted to Associate Professor with tenure. His research interests are in the economics of networks, industrial organisation, and game theory. He studies the economic consequences of social networks in a wide range of settings such as information diffusion, pricing of social products, and geographic conflicts. His recent work focuses on network-based targeting policy, and on price competition in multi-sided markets. He has published in the *RAND Journal of Economics, Journal of Economic Theory*, and *American Economic Journal: Microeconomics*. He teaches mathematical economics and industrial organisation.

Professor Satoru Takahashi assumed headship of the department in July 2019. He works on game theory, in particular, repeated games and games with incomplete information. He was elected as an Economic Theory Fellow by the Society for the Advancement of Economic Theory this year, and is the third NUS professor to be elected, after Professor Sun Yeneng in 2011 and Professor John Quah in 2016. He has published in *Econometrica, Journal of Economic Theory*, and *Theoretical Economics*, and has a forthcoming publication with his PhD student, Pei Ting, in *Games and Economic Behavior*. He teaches game theory and mathematical economics.

Associate Professor Jessica Pan was appointed Associate Editor of the *Journal of the European Economic Association*, Asia Regional Standing Committee Member of the Econometric Society, and Secretary of the Asian and Australasian Society of Labor Economics in January 2019.

Associate Professor Serene Tan was one of only three recipients of the inaugural 2019 FASS Inspiring Mentor Award.

Dr Ong EeCheng and Mr Chua Yeow Hwee received the Faculty Teaching Excellence Award for Academic Year 2018/19.

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**Staff News**

Ms Wei Qing joined the department as a Manager in October 2019.

Ms Tan Pei Ying joined the department as an Executive in November 2019.

Ms Woon Swee Yoke was a recipient of the 2019 FASS Service Award.