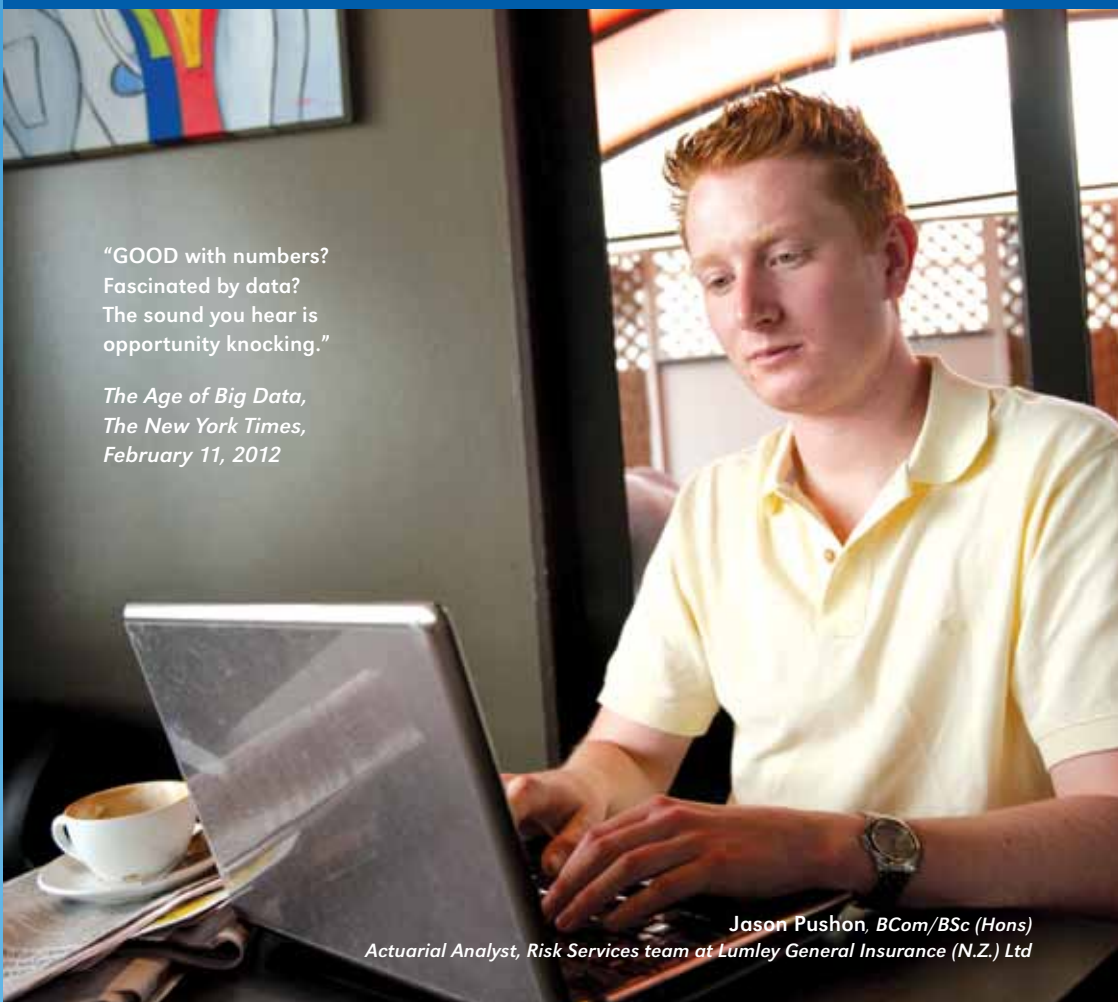# Statistics
The perfect partner for commerce students

"GOOD with numbers?
Fascinated by data?
The sound you hear is
opportunity knocking."

*The Age of Big Data,
The New York Times,
February 11, 2012*

Jason Pushon, *BCom/BSc (Hons)*
Actuarial Analyst, Risk Services team at Lumley General Insurance (N.Z.) Ltd

Predicted worldwide shortage of statistical expertise

"By 2018, the United States alone could face a shortage of 140,000 to 190,000 people with deep analytical skills as well as 1.5 million managers and analysts with the know-how to use the analysis of big data to make effective decisions."

McKinsey Global Institute, May 2011, from their report *"Big data: The next frontier for innovation, competition, and productivity"*

Statistics is the human side of the computer revolution – the art and science of extracting meaning from data – a tool that enables us to understand the increasingly complex world we live in.

Statistics – your path to business success

The amount of data collected by organisations grows daily. Yet data is of little value unless it is turned into information that can be used to make better decisions, improve our performance and achieve better outcomes. Using statistics to turn data into information that can be used to improve our future is essential for New Zealand – and for the world.

Not surprisingly, good graduates who have training in statistics are in demand. This is true locally, as well as internationally, as confirmed by a study conducted in 2011 by the Department of Statistics at The University of Auckland. 43 local employers of statistics graduates were interviewed from organisations as diverse as Mighty River Power, Westpac, local government, Fisher & Paykel and Inland Revenue. Many of the statistics graduates working in these organisations have a conjoint or double degree in Commerce. For a copy of the full report, which includes descriptions of graduate entry roles and career progression pathways, as well as lists of appropriate statistics courses, see **www.stat.auckland.ac.nz/pathways**

"I'm an associate in Sydney for Bain & Company, one of the top three management consulting firms in the world. I couldn't have possibly asked for a better company or a better industry to start my career in.

Statistics is everywhere. We're in the era of big data, where there is an abundance of information. But most of the time no one really knows how to even begin to interpret all the data that's freely available. A major in statistics allows you to be able to dissect all the data that's around us and turn it into a form that's useful and easy to understand. It's a really valuable skill to have."

Jessie Lin, *Associate, Bain & Company*

Actuarial Work

Actuaries use statistics to assess the predictors, likelihood and consequences of certain events occurring. This information enables companies to minimise the losses they incur in relation to these events. For this reason, many actuaries are employed by the insurance industry. Others work as quantitative analysts, risk managers, investment specialists and financial managers.

The University of Auckland – the best in teaching and innovation

The Statistics Department at The University of Auckland has won two national awards for teaching excellence.

"The quality of the lecturers in the Statistics department was phenomenal."

Mark Emmett, *Senior Insights Analyst, Twenty Limited, Auckland*

Who to talk with

To take this further, please contact:

Christine Miller
Phone: 09 373 7599 ext 84275
Email: c.miller@auckland.ac.nz

David Smith
Phone: 09 373 7599 ext 85390
Email: dp.smith@auckland.ac.nz

"Part of my job as an Insights Analyst at Fonterra is to use statistics to identify ways we can be more innovative with our products. I work in Global Ingredients and Foodservices. I also look at opportunities and threats, and create a lot of presentations that offer other staff insights into the whole picture about the market, customers and competitors. One of my presentations will be viewed by Coca Cola, USA, one of the biggest companies in the world.

Fonterra puts huge effort into hiring the right people with the right background. Everyone in an analytical role in my team has a statistics background – that says it all."

Eun-Hee Park,
Insights Analyst, Fonterra

"Statistics was a natural choice for me. I'm fascinated by the magic of numbers and working with them is like a game.

My job is as an actuarial analyst for insurance company, Sovereign, working with both the financial reporting and reinsurance teams. The latter involves dealing with large overseas insurance companies to ensure that Sovereign has enough protection against large losses and can always provide cover to its customers."

Marina Ivanova, *Actuarial Analyst, Sovereign*

"I chose to study at The University of Auckland because it is the most prominent and highest rated University in New Zealand.

I decided to major in Statistics as it is a very useful accompaniment to my Economics major. My Statistics Summer Scholarship working with COMPASS (Centre of Methods and Policy Application in the Social Sciences) gave me the opportunity to work with a great group of people and apply my statistical knowledge in a real world application."

Alex Marks, *Financial Analyst*

"I may be a little bit biased, but it would be hard to find another subject that is so widely applicable and useful to employers across the globe as statistics."

Nick Gray, *Long Term Interest Rate Trader, Deutsche Bank*

"I started off in a graduate role within Risk Management at Westpac. Currently I work as an Actuarial Analyst for Lumley General Insurance. We use statistical models built from insurance experience and other external information to provide the business with advice on pricing, performance and risk exposure."

Jason Pushon, *Acturial Analyst, Risk Services team at Lumley General Insurance (N.Z.) Ltd*

Designing statistics into your BCom course plan

Statistics can be combined with a single major in Commerce to effectively (but not officially) give you a second major. If you plan your programme well, this can include as few as five statistics courses, three at stage III. It can also effectively (but not officially) be taken as a minor, if your programme includes six statistics courses at stage I, II or III.

The best way for students who are serious about combining commerce with statistics is to take a conjoint BA/BCom or BCom/BSc degree. These fulfil the requirements for a major in commerce and statistics, and prepare you for a Masters (or Honours) in either discipline.

Whatever you choose, statistics can lead to some of the most interesting and exciting roles in:

• finance and banking

• marketing and market research

• actuarial work.

"An in-depth understanding of statistics is highly sought after in the banking and financial sectors, and vital to my role at Westpac."

Bonnie Law, *Senior Manager, Customer Intelligence, Westpac*

Finance and banking

Adding statistics to your finance degree can lead to roles in financial and investment analysis. These are highly valued – and very well paid – roles. As a financial analyst, you take a key role helping banks and other organisations minimise their risk and maximise their profits. As an investment analyst, you optimise the returns achieved on funds invested. Once you prove yourself, your skills are likely to be in demand, both in New Zealand and overseas, in places like Melbourne, Sydney, London, and New York.

Marketing and market research

With statistics, you can work as a consumer insights analyst, helping companies better understand customer needs and behaviour. This is a strategic role that enables companies to identify which markets to enter or exit and how to better promote their products or services.

In market research, your analytical skills will be used to identify what people want, need, or believe. This information is used to determine what policies to implement (government), how to increase sales (business) and how to better meet client needs (not-for-profit organisations).

"One of my primary responsibilities is the pricing of interest rate products. This involves understanding both the mathematics behind the pricing models we use and the economics that drive financial markets. Interlinked with pricing is the management of risk. This means understanding how movements in interest rates influence our profit, both for our current risk exposure and whether to take the risk on a particular trade.

The material across all of the statistics papers that I studied is very relevant and practical to my job. Each area, theoretical and computational statistics and data analysis, is quite different and yet extremely powerful when combined".

Nick Gray, *Long Term Interest Rate Trader, Deutsche Bank*

Contact

Faculty of Science
The University of Auckland
Private Bag 92019
Auckland
New Zealand

Phone: +64 9 373 7599
ext 86893 or 87510
Fax: +64 9 373 7018
Email: office@stat.auckland.ac.nz
Web: www.stat.auckland.ac.nz

THE UNIVERSITY OF AUCKLAND
FACULTY OF SCIENCE
Department of Statistics

"I've always enjoyed telling a story with numbers and liked the idea of analysing data to make it useful for business. I'm now an associate with PWC in a team where we help our clients manage and understand business data. Our analysis helps them make strategic decisions so they can be more efficient.

With increased use of technology and computers, it's easy for any company to collect data. Having statistics means you have the skills to analyse data, but it doesn't mean you'll always get the result you're looking for with your first attempt. By being curious, you start to explore the endless possibilities with how the data can be used. There are no limits to what you can do with statistics, it's applicable to any field."

Alice Sung, *Associate, PWC*

"My role as a Senior Modelling Analyst in the Modelling Team within the Credit Risk Management department, is very heavily involved with statistics, mainly building advanced statistical models.

Prior to this role, I was working as a Segmentation and Modelling Analyst for Yellow™ Pages. My key responsibilities were to develop statistical models and segmentation that supported the marketing initiatives as well as providing relevant internal customer information – customer and product analysis, market sizing and customer profiling."

Chit Hock Choo, *Senior Modelling Analyst, ASB Bank*