



Factors Influencing Chinese Accounting Students' Academic Success in an Australian University's Pathway Program: An Empirical Test

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Overview

- Implications and Contributions
- Research Questions
- Research Design
- Data Analysis and Discussion

Implications and Contributions

- The first empirical findings on the equivalence of the predictive power of Chinese Gaokao and Australian ATAR in predicting student performance in Australian accounting degree study.
- Inform the admission policy of Australian universities' international pathway programs for Chinese students.

Implications and Contributions (Cont.)

- The study will recommend practical and effective solutions to the successful transition of Chinese students between Chinese secondary study and first year accounting study in Australian universities; and the transition between Chinese universities and Australian universities.
- The study will inform Australian universities' accounting course coordinators, first year and second year subject coordinators and academics, student learning support (e.g. English language program), to review their extant academic programs, and take actions to customise their undergraduate programs to better meet the existing and potential international Chinese students' learning needs.

Research Questions

- **Research Question 1:** How does Chinese students' performance in the Gaokao predict their performance in Australian first year study relative to the ability of the Australian tertiary admission ranking result (ATAR) to predict Australian students' performance in the first year of the degree?
- **Research Question 2:** How does China's national college English program predict performance in an Australian University's degree program?
- **Research Question 3:** Does the location (ie in China or in Australia) of completing a degree after completing the first year of an Australian degree study in China, influence how Chinese students perform in the second year study of an Australian university program?
- **Research Question 4:** What are the equivalent levels of the Gaokao and ATAR as a measure of academic ability and prediction of success in Australian degree study?

Research Design

- Data collection
 - International Chinese students commencing the pathway program between 2007 and 2010
 - Local Australian students commencing the degree program between 2009 and 2013
 - Match data from VU SMS (ATAR, results in VU Diploma, VU ESL, and VU degree programs), VTAC Masterfile (ATAR and VCE subject results, and Chinese partner institution's SMS system (Gaokao, Chinese College English results, first year Chinese degree program)

Data collection

- Gaokao and first year degree results of 452 international Chinese students commenced in an Australian university's pathway program in China between 2007 and 2010
- ATAR and first year degree results of 1593 local Australian students enrolled in business degree program between 2007 and 2010

Data Analysis

- High proportion of Gaokao results from one province in China, hence, sample will be limited to students from that province
- Gaokao score ranged between 435-568 (out of 750)
- ATAR results ranged from .65 to 99.3 (but excluded all below 30)

How Do the Diploma and First Year of the Degree Compare?

- Compare ability to predict average performance in second year Accounting subjects
 - Diploma – R^2 of 57%, β of 1.24
 - First Year – R^2 of 64%, β of 1.05

Prediction of Average Performance in First Year Program

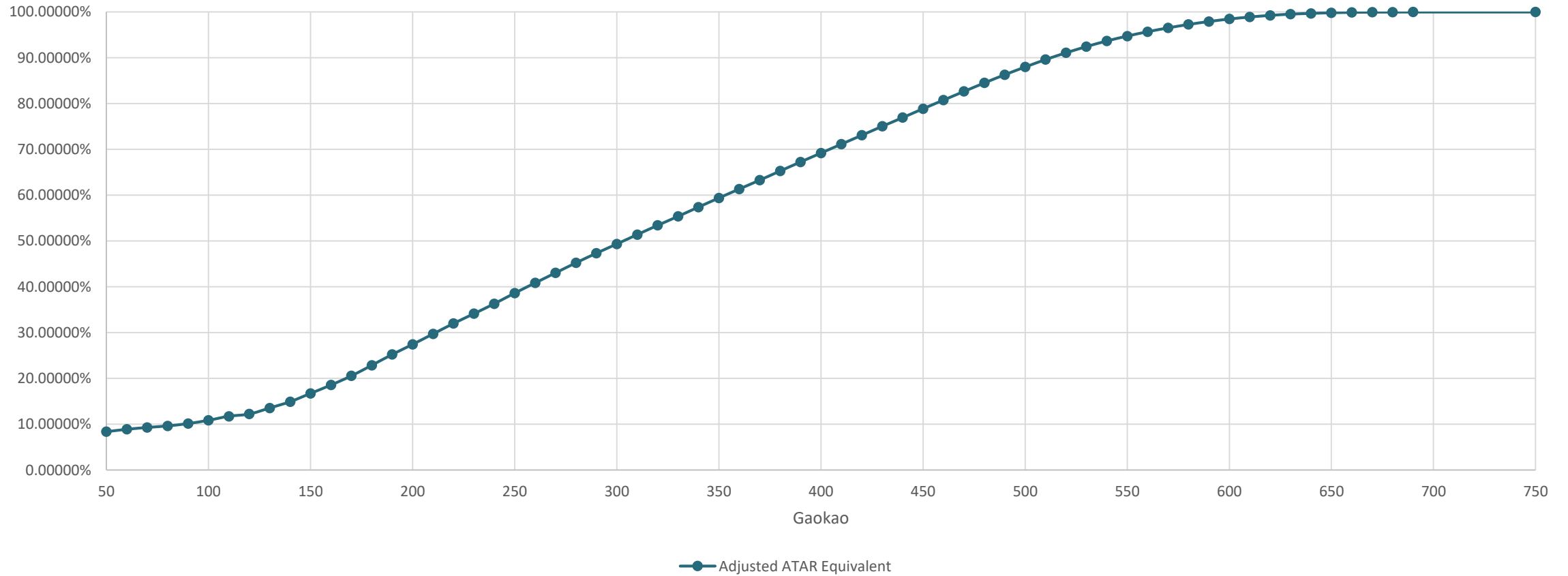
- ATAR predicting first year of degree
 - R^2 of 21%
- Gaokao predicting Diploma
 - R^2 of 2.4%
- This highlighted an immediate problem for addressing Research Q4

Could the Difference Be Due to Type of Scale?

- ATAR is a percentile distribution
- Gaokao is a raw aggregate score
- Redid analysis replacing ATAR with equivalent raw aggregate score and Gaokao with its equivalent percentile distribution
- No matter how the comparison was done the results were almost identical

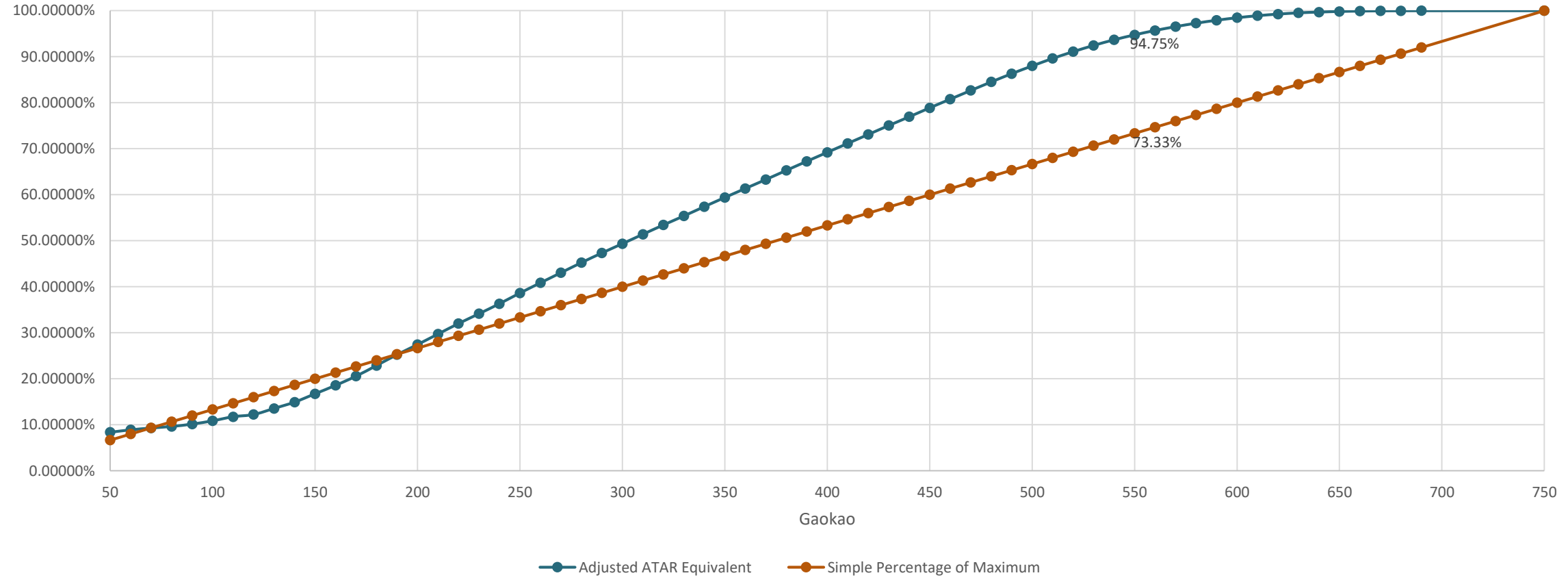
Side Issue on Gaokao as a Percentile Distribution

Liaoning Province Gaokao vs Adjusted ATAR Equivalent



Side Issue on Gaokao as a Percentile Distribution

Liaoning Province Gaokao vs Adjusted ATAR Equivalent vs Simple Ratio



Can The Predictive Power of Gaokao Be Improved?

- Add Gender and Year Variables
 - R^2 of 22.5% (vs 2.4% Gaokao only)
 - Gender is highly significant with females performing 6.5 marks better on average for the same aggregate Gaokao
 - Years are significantly different, with same Gaokao leading to higher Diploma results each year (up 3.7 marks 2008 to 2010)

Is There a Similar Result for ATAR?

- Add Gender and Year Variables
 - R^2 of 24.3% (vs 21% ATAR only)
 - There is no difference due to gender
 - Years are significantly different, with same ATAR leading to lower First Year degree results each year (down 4.6 marks 2009 to 2013)

Can The Predictive Power of Gaokao Be Improved Even Further?

- Add Gaokao individual English subject result
 - R^2 of 27.9% (vs 22.5% without English result)
 - Aggregate Gaokao is now insignificant (ie no incremental predictive power)
 - Gender is highly significant with females performing 7.7 marks better on average for the same aggregate Gaokao and English subject result
 - Gaokao English is highly significant
- Still to test Gaokao Mathematics as a separate subject

How Does Chinese College English Compare To The VU English Program?

- Prediction of average Diploma results
 - Chinese College English – R^2 of 51%
 - VU English Course – R^2 of 45%
- Relationship Between the Two English Programs
 - R^2 of 53%
- The national Chinese College English program is at least as good a predictor as the VU English program

How Useful Are the English Programs At Predicting Degree Performance?

- Prediction of Average Result in Second Year Accounting Units Using Just English
 - College English – R^2 of 29%
 - VU English Course – R^2 of 12%
- Prediction of Average Result in Second Year Accounting Units Using Diploma and English
 - R^2 of 57% (same as Diploma alone)
 - Diploma – Highly Significant
 - College English – Not Significant
 - VU English Course – Not Significant
- Conclusion : English programs add nothing to predicting performance in the degree above and beyond what the Diploma alone predicts

Performance of the Students Who Failed an IELTS Type English Language Hurdle Test But Passed the Diploma and Both On-Going English Programs

All (22) students passed the degree program with the following grade distribution

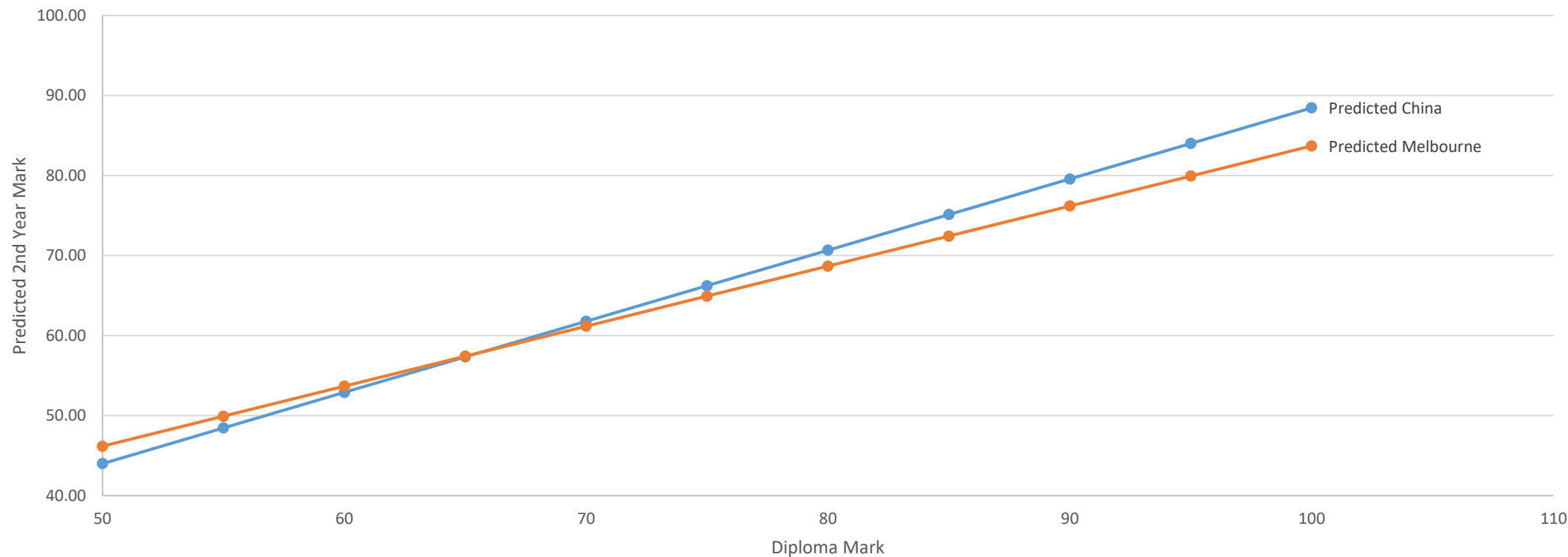
Grade	Failed English Test	All Business Students
HD	7%	9%
D	23%	17%
C	25%	22%
P	25%	20%
N	5%	13%
WD	15%	20%

Prior Research on Performance of Students Who Fail an IELTS Type English Language Hurdle Test

“The analysis of the semester weighted averages showed that there was ‘no meaningful difference’ in the correlation between PPIs (*semester weighted averages*) and IELTS scores between those who had met the university’s English language requirements, and those who had not.” Fiocco, 1992 in a study at Curtin University. Also see Dooley and Oliver (2002); Garinger & Schoepp (2013); and Yixin and Daller (2014)

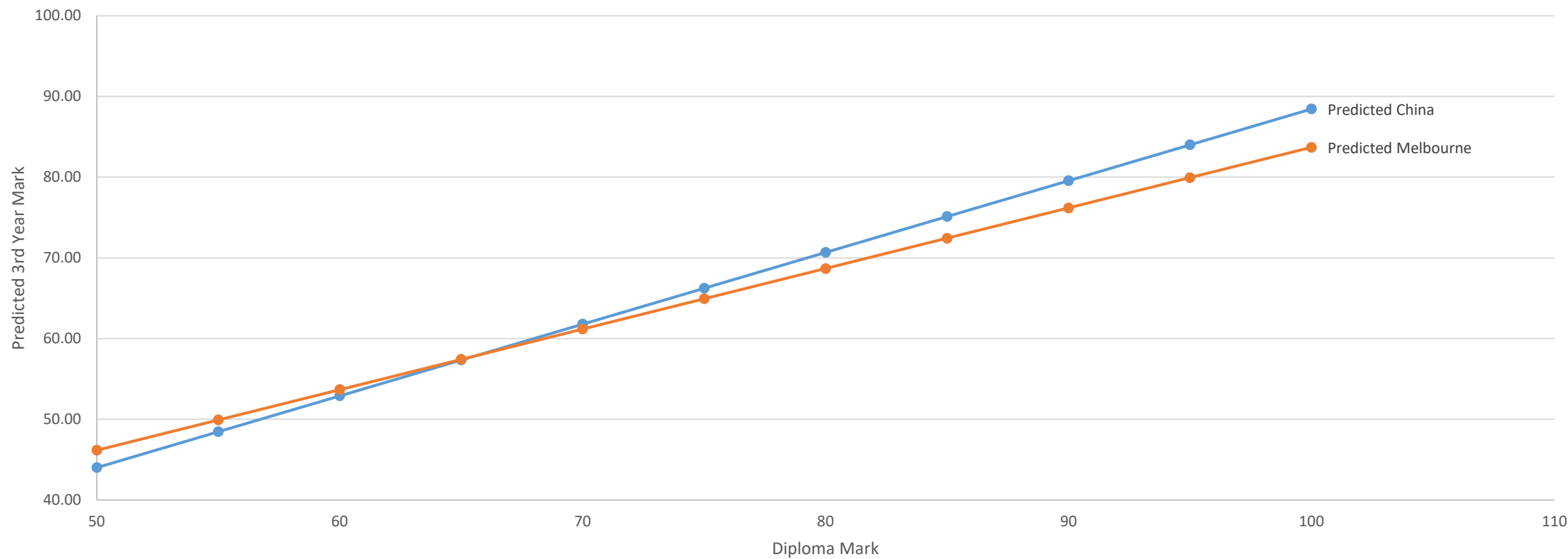
Is There Any Difference Between Staying in China and Coming to Melbourne – Second Year?

Comparison of Completing Second Year in China or Melbourne

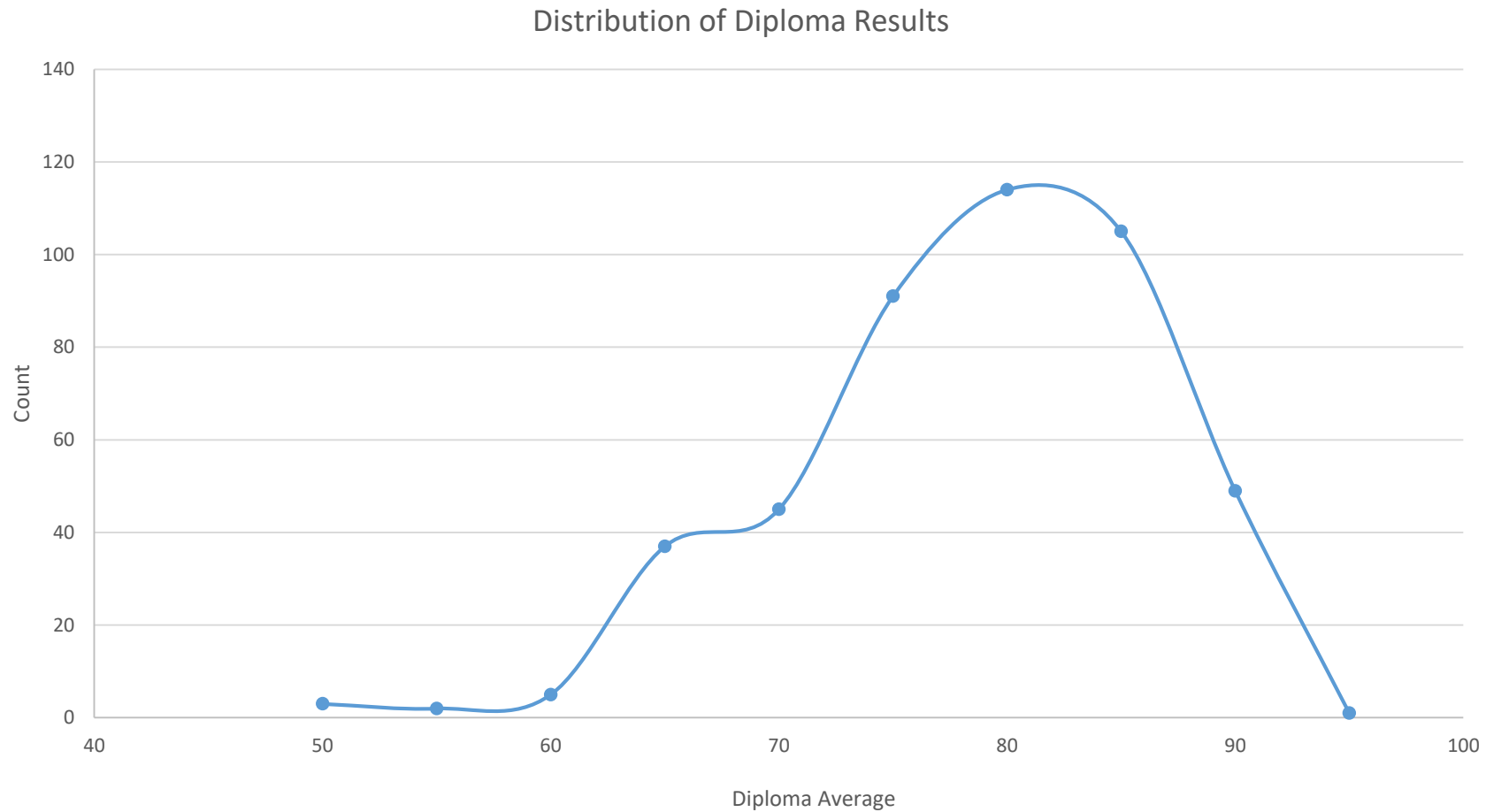


Is There Any Difference Between Staying in China and Coming to Melbourne – Third Year?

Comparison of Completing Third Year in China or Melbourne



Distribution of Diploma Results



Possible Explanations For Better Performance if Staying in China

- Less disruption to non-academic life
- Additional teaching hours
- Bilingual teaching



Questions and Thank you

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