

# An Analysis of Impact of the Covid-19 Pandemic on Australian Tertiary Education

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**Abstract:** This article investigates the impacts of the covid-19 pandemic on Australian tertiary education. By focusing on short-run analysis and using demand-driven models, the article studied the reasons behind the negative impacts of the pandemic on the sector from early 2020. Then the article forecasts the short-term situation considering several key factors. Meanwhile, various exogenous factors other than the pandemic were discussed. It is concluded that the closure of the national border and substitution effects led to the significant demand shock of the market, and such impacts are likely to last until the end of 2021. However, the situation is likely to improve significantly from 2022 with the control of the virus and several policies to provide positive incentives.

## 1. Introduction

The covid-19 pandemic that spread globally from early 2020 has changed the patterns of lives for almost everyone in the world. It has brought significant and unprecedented impacts to society in many ways<sup>(1)</sup>. Notably, many economic sectors were severely influenced, and the influence is expected to last for years as the situation has not been well controlled until now. The Australian tertiary education industry, which will be the key focus of this article, has been particularly hit by this pandemic.

The Australian tertiary education industry played an increasingly important role in the national economy before the pandemic. As a type of service export, by attracting numerous international students, tertiary education generated an income of \$AUD 40.4 billion in 2019<sup>(2)</sup>, making it the country's fourth-biggest export after iron ore, coal and gas<sup>(2)</sup>. Mainly, the Chinese market has accounted for one-third of Australia's education exports over the past few years.

However, the growing sector has been severely impacted by the global pandemic from 2020. According to the data released by Australian universities today, compared with 2019, Australian universities have lost at least 17,300 jobs in 2020 and an estimated loss of 1.8 billion Australian dollars in income. In addition, Catriona Jackson, CEO of Australian University, said that compared with the data in 2019, the operating income of Australian universities in 2020 has fallen by 4.9%. By 2021, the industry is expected to lose another 5.5%, which will be US\$2 billion. <sup>(3)</sup> Therefore, these significant influences motivate this research essay, which will serve as an interpretation of the reasons behind the impacts, an economic prediction about the trend of the situation, and an analysis of possible policies to mitigate the negative impacts.

The demand perspective will be the primary method to adopt in this essay based on economic and social factors. In macroeconomic analysis, time plays an essential role in determining which factor to focus on. Usually, the time frame is divided into short-run, medium-run, and long-run. The short-run generally captures economic activities within three to five years, and demand plays the dominant role in this period, as stated by Keynes's effective demand theory. When the time frame extends to around ten years, supply becomes the leading factor in determining the output level, just like Say's Law. If the time horizon is further set to thirty to fifty years, factors such as technology and education that influence productivity would become the most important ones <sup>(4)</sup>. In this essay, our analysis is within three to five years because the likely impacts of the covid-19 pandemic should last less than five years <sup>(5)</sup>.

This essay is structured as follows. This section is written as an introduction to provide the background and motivation of this essay. The next one is to analyse the reasons behind the negative impacts of the pandemic on the Australian tertiary education sector. The third section provides a short-run forecast of the situation. Then the fourth part considers other key factors except for the pandemic. The fifth section concludes the essay and summarises the topic.

## 2. The reasoning behind the impacts

In 2020, a full-blown outbreak of the covid-19 pandemic disrupted many people's lives. For a long time, the world has not faced a storm of business stoppages and school suspensions owing to the lockdown policies to contain the spread of the virus. While the lockdown has saved many's lives and prevented the overwhelming of health system, it brought significant changes to the Australian tertiary education sector.

Initially, the Australian tertiary education market in 2019 was assumed to be stable and reached an equilibrium state in our original model, shown in figure 1 below. The demand curve ( $D_{2019}$ ) and the supply curve ( $S_{2019}$ ) intersect at the equilibrium point  $E$ . The equilibrium point  $E_{2019}$  is the only price in 2019 where the quantity demanded is equal to the quantity supplied. It is also when the total surplus, including the consumer and producer surplus, is maximised. At the same time, it was likely and expected before the pandemic that the increasing trend of the tertiary education sector lasting for years might continue in 2020. However, the covid-19 pandemic hit the world and changed everything.

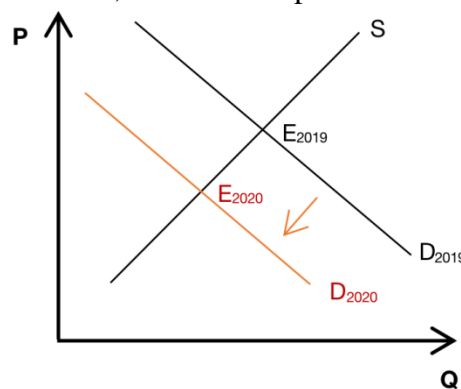


Figure 1: Market from 2019 to 2020

Australia enforced a strict closure of the national border ever since early 2020<sup>(7)</sup>, when the pandemic started to spread globally and threatened the health and safety of the Australian society. While Australia performed efficiently and well in controlling the pandemic until mid-2021<sup>(8)</sup>, the closure of national borders to all international students has catastrophic impacts on the tertiary education sector. As shown in figure 1 above, the demand for Australian tertiary education has dropped significantly in 2020<sup>(6)</sup>, shifting the 2020 demand curve ( $D_{2020}$ ) to the left. It has led to a shift of the sector equilibrium to  $E_{2020}$ , accompanied by a decline in price and quantity. Consequently, 40000 Australian tertiary education staff were laid off in 2020<sup>(9)</sup>. Such dramatic change has generated a loss of income and employment, devastated the sector confidence, and lost societal human capital. Thus, the consequences were significant.

However, from mid-2021, with the spreading of the new variant delta that is highly distinctive from the previous variants and more vaccine availability, the Australian federal government has abandoned the zero-covid strategy<sup>(10)</sup>. The hope is to reopen the border and welcome international students for the tertiary education sector to bounce back. However, it is still expected that the national border will be closed until the end of the year until the vaccination rate reaches 70% or 80%<sup>(11)</sup>. Therefore, considering all these factors, it could be anticipated that the demand drop will likely last until the end of 2021. This is shown in figure 2 below that the sector demand curve in 2021 is still lower than 2020, leading to a further drop in sector price and quantity.

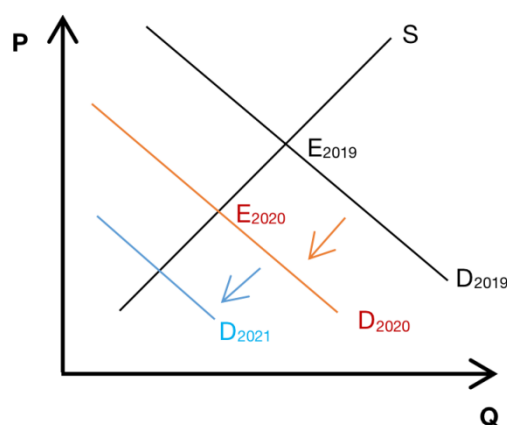


Figure 2: Market from 2019 to 2021

Another major adverse factor to the Australian tertiary education sector is the possible growth of substitutes. The substitutes of Australian tertiary education for international students could be tertiary education in similar OECD countries, including the US, UK, or Canada. The theory is that considering the aggregate global education demand from international students is a constant level. The primary education markets would be divided by Australia, the US, UK, or Canada <sup>(12)</sup>. While Australia will keep its border closed at least until the end of 2021, the other three countries have already opened their borders to welcome back international students <sup>(13)</sup>. Consequently, the demand for substitutes has increased as many international students have chosen to go to the UK, US, or Canada to study, further decreasing Australian tertiary education demand. In other words, Australian tertiary education is further disadvantaged by substitutes in the international market, also captured in figure 2 above.

Meanwhile, Australian premier Scott Morrison has announced that the states that to reach an 80 per cent vaccination rate for people aged 16 and older will resume international travel. The prime minister said a new deal would double Australia's vaccine supplies for September will speed up reopening. However, Health Minister Greg Hunt noted the country is still 2 million doses away from reaching 70 per cent of everyone aged 16 and over to receive one dose only. Hence, there are still months away from Morrison's reopening plan. It is almost impossible to complete this 80 per cent prospect by the end of 2021, even leaving out the enormous economic costs to purchase and manufacture the vaccines. In this case, the demand for education in Australia cannot recover in the next three months, which again demonstrate that the demand for education will decline further in 2021 <sup>(15)</sup>.

With these significant factors above likely to continue in 2021, we would have seen in Figures 1 and 2 that the demand for 2020 and 2021 has been continuously decreasing. In this case, the price and the output quantity of Tertiary Education would fall. The real-world data have shown that the number of international students has decreased from 442,219 in 2019 to just 321,612 in 2021 <sup>(14)</sup>, which corresponds well with our interpretation.

### 3. A short-run forecast

In our analysis above, by looking at the year 2021 in total, it is expected that the demand of the tertiary education sector will continue to decline due to the national border's ongoing closure and substitutes. Then by focusing on the following three remaining months of 2021, as a forecast analysis, when the national border starts to open, and Australia welcomes more and more international students back, the demand level will likely bounce back to increase. However, although it leads to that the demand level in 2022 will increase, the level is not likely to exceed the level in 2019. The factors are based on the epidemic trend, the importance of the Australian education sector, and the Australian government's potential policies to boost more international students' demand.

From the start of 2022, Australia's requirement to open its doors to the outside world is likely to be met, so the demand for tertiary education will increase gradually. The more exciting news is arriving as Israel is actively developing EXO-C24, a specific and efficient drug for COVID-19, which

is currently in Phase I clinical trials (human pharmacological studies). Patients can recover in as short as three to five days. The miracle drug gives people great confidence that the virus can be defeated soon. If such a drug proves usable and could be distributed worldwide, the outbreak will likely end in a considerably shorter amount of time.

Additionally, it is expected that the Australian government or universities could implement several potential policies to boost the demand level further. There are many ways, such as scholarship, to mitigate the decrease of demand. The previous data shows that the Australian government and some well-known universities will set more than ten scholarships for international students. There are three kinds of scholarships for students named Australia Awards Scholarships, Destination Australia Scholarships, and International Postgraduate Research Scholarships. Also, some famous universities provided some research scholarships, such as the University of Sydney, University of New South Wales, University of Melbourne and other universities or colleges. The scholarships typically cover travel fees, establishment allowance, contribution to living expenses, and Overseas Student Health Cover.

The results of providing scholarships reduced the cost of studying abroad, leading to a rise in tertiary education demand quantity<sup>(16)</sup>. It means that there will be a further increase in demand over the year due to the country's opening up and the containment of the epidemic. Also, the increase in demand and total income could cover the costs of scholarships, so it would be a sustainable strategy to provide incentives for international students to come to Australia to study. The Australian government could also cooperate with airline companies such as Qantas or Virgin Australia and the hotel companies to provide discounted flight tickets and quarantine fees for international students. Also, with the vast increase in demand and aggregate income, the costs are likely to be fully covered and even generate a considerable amount of profits.

As for the influences of substitutes to Australian tertiary education, alternatives such as the United States and the United Kingdom will still impact Australia. Additionally, the policies' effects may take a certain amount of time to come into place. Therefore, it is likely that, even though the demand for Australian tertiary education will rise in 2022, it may not be able to recover the same level as it was in 2019. This is shown in figure 3 below. The new equilibrium in 2022 is higher than 2020 and 2020 but still not as optimistic as 2019.

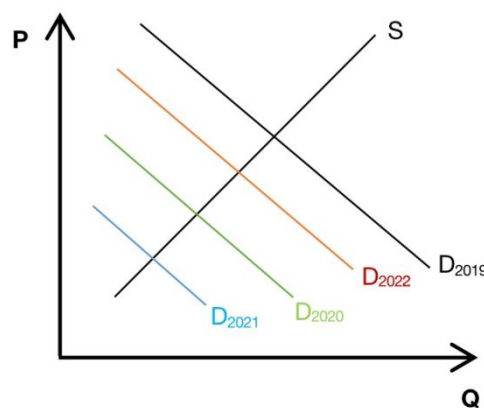


Figure 3: Market from 2019 to 2022

Beyond this point, the likely trend of Australian higher education will be increasingly optimistic a year from now, in 2023. The primary reasons are the successful contain of the virus globally and the technologies such as vaccines and medicines to effectively control the spread and severity. Thus, tertiary education demand in Australia is expected to rise further in 2023, surpassing the 2019 level to reach new historical heights. Figure 4 shows the changes representing the demand and equilibrium changes from 2019 to 2023 in one graph, our primary model.

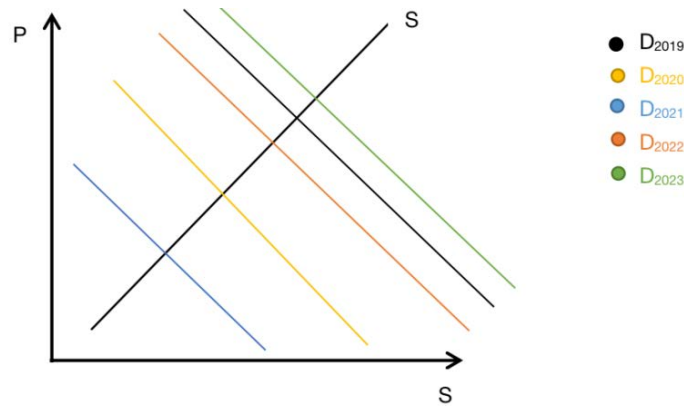


Figure 4: Market from 2019 to 2023

#### 4. Other factors

Some other indicators or factors could impact the Australian tertiary education demand besides the pandemic. One significant factor is the exchange rate. As shown in figure 5, the Australian dollar exchange rate began to plummet from the pandemic. Eventually, it fell to 0.58 USD per AUD on the 22nd of March 2020, which was the lowest in years. It is worth mentioning that on that day, an Australian dollar can be exchanged for 4.11 RMB as a reference to the Chinese market.



Figure 5: Australian dollar exchange rate trend

Nevertheless, it has already increased after experiencing a low point in the exchange rate, and it grew up in the form of fluctuations. The fluctuations of the exchange rate could impact the demand for Australian tertiary education significantly. It is expected that with the continuing bouncing back of the economy and the recovery from the pandemic, the Australian dollar will continue to be relatively stable over the next couple of years. It is because Australia adopts a free-market floating exchange rate system, in which the market demand and market supply essentially determine the value.

With the bouncing back of the national and global economy, the demand and supply of the Australian dollar are likely to be robustly stable.

China is Australia's largest two-way trading partner for goods and services, accounting for nearly a third of the nation's trade with the world. Two-way trade with China fell by 3 per cent to \$245 billion by 2020. Australia's total exports of goods and services to China were \$159 billion in 2020, 6% lower than 2019.

However, the relationship between China and Australia has not been smooth. A series of trade restrictions by China have also affected Australia's merchandise exports, which were down about 7 per cent in the second half of 2020 from the second half of 2019. Though this reflected the decline in service exports caused by the covid-19 pandemic, it also shows the political tensions between Australia and China. Unfortunately, the significant differences between China and Australia in many aspects will last for a while.

In terms of the impacts on the tertiary education sector, last November, a confidential document prepared for senior managers at the University of Technology Sydney examined the impact of a "major disruption" in Australia-China relations. The study found that the drop in student numbers "could result in a drop in international student earnings of up to 50 per cent," the study found. "The escalation of geopolitical tensions will likely make it difficult or impossible for prospective Chinese students to enter Australian institutions, resulting in significant financial loss and damage, including loss of brand recognition," the paper, obtained under freedom of information laws, said<sup>(17)</sup>. Nevertheless, it is to be noted that the interests of both China and Australia should continue to recognise each other's differences and try to maintain a level of cooperation in the future. With the recovery from a pandemic that eases international tensions, it is at least likely that the Australia-China relationship will not be further worsened in the future while it may not be any better.

## 5. Conclusion

This essay has examined the reasons behind the recession in the Australian tertiary education industry from 2019 to now. A demand-side analysis was conducted by focusing on the short-term only. Due to the covid-19 pandemic, the closure of the national border and the availability of substitutes have led to the decline of demand in Australian tertiary education. Then the essay continues to forecast future short-term trends and show them in the primary model. Also, some other factors, including exchange rate and international relations, are considered.

Lastly, this topic could be further studied by using more indicators such as GDP, inflation, and unemployment rate (shown below) to conduct a more comprehensive study, which could also illustrate the negative influences of the pandemic.

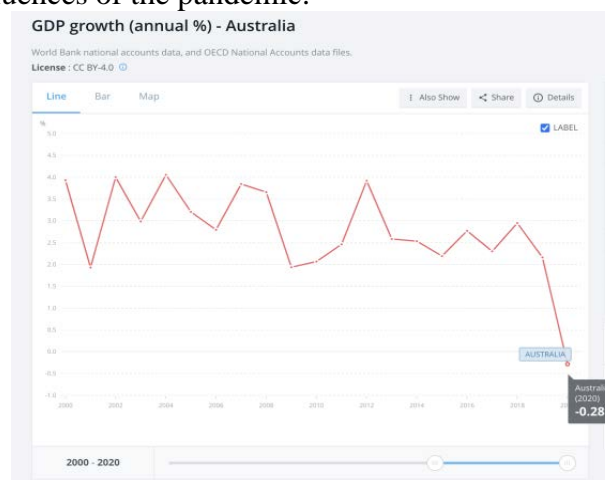






Figure 6: Australian key macroeconomic indicators

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