JURONG JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018

ECONOMICS

Higher 1 **8823/01**

Paper 1 **27 August 2018**

3 hours

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use an HB pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

Begin each case study question on a fresh sheet of writing paper.
Attempt case study questions in ascending order of question sequence and indicate questions attempted clearly on answer sheet.

Fill in the necessary information on the cover sheet.

At the end of the examination, tie all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

This document consists of **7** printed pages.

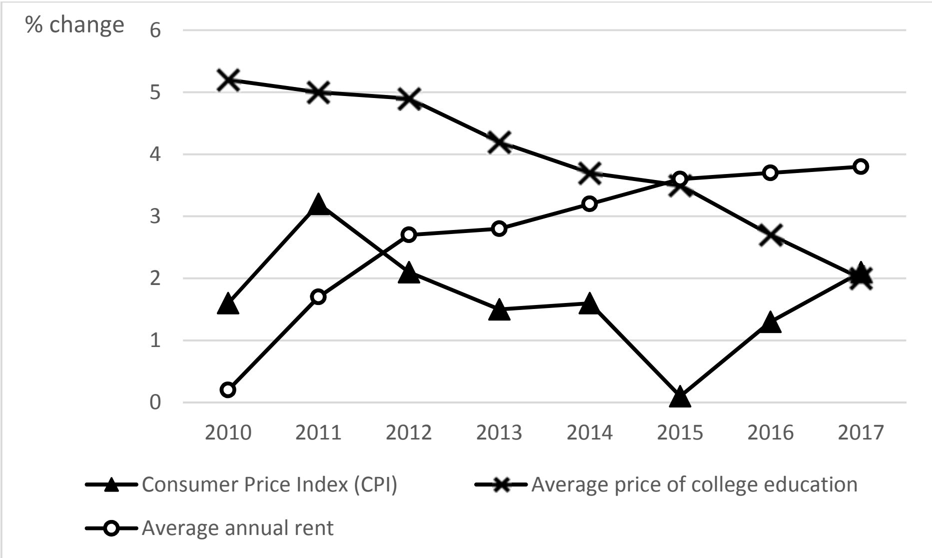
[Turn over

Answer **all** questions.

Question 1

Living and Studying in the United States (US)

Figure 1: Changes in the Prices of Selected Goods and Services in the US



Note: College refers to university in the US
Source: Statista, accessed July 2018

Extract 1: Rising rents make housing unaffordable

California's high housing costs have pushed many tenants to the edge of affordability. Even if they have steady work, the cost of putting a roof over their heads demands a staggering share of income. One reason rents have risen steadily in California is a lack of apartment construction relative to job and population growth. Those who are less well-off have to make tough decisions: move to a cheaper area or cut back on cellphone services, restaurant outings and other basic necessities.

Source: *Los Angeles Times*, December 2017

Extract 2: Rent control does more harm than good

California voters will decide in November whether to give cities new freedom to expand the use of rent control (a maximum price on rental units). The rent control battle comes as California continues to face a housing affordability crisis. Six of the nation's 11 most expensive rental markets are in the state, and rents have increased by 40% in the last three years. These prices affect low-income residents the most: 1.7 million California families pay more than half their income on rent. Rent control, tenants' groups thus argue, is necessary to insulate people from price hikes and allow them to stay in their neighborhoods.

But rent control is not without its woes, causing housing shortages that reduce the number of low-income people who can live in a city. It also disincentivises landlords from upgrading their rental units, resulting in entire neighbourhoods running the risk of becoming decayed and abandoned. Finally, landlords facing lower returns from rental units often convert them into housing units for sale, leading to fewer rental units in the rental market.

Another solution that has been surfaced to tackle the problem of rising rents includes giving households tax rebates or welfare payments to offset rent hikes. The money for the system would come from taxes on landlords, which would effectively spread the cost among all tenants and landowners instead of laying the burden on the vulnerable few.

Source: *Bloomberg*, January 2018 and *Los Angeles Times*, June 2018

Extract 3: Colleges reduce tuition fees while online courses see higher enrolment

US college tuition fees are growing at the slowest pace in decades, following a nearly 400% rise over the past three decades that fueled middle class anxieties and a surge in student debt. In the last three decades, higher education was one of the economy's most unstoppable growth sectors, with the number of two- and four-year colleges increasing by 33% over the period. However, this looks set to change in the next few years. Due to changes in population demographics, the number of new high-school graduates grew 18% in the early 2000s, but only 2% in 2017. The slowing growth in the number of domestic college-ready students has thus far been offset by growth in the number of foreign students seeking to study in US colleges. The number of Chinese college students in the US ballooned from 67 000 in 2006 to more than 350 000 today due to an emerging Chinese middle class willing to pay full price for a foreign education.

Still, college remains a daunting expense for many households. A Federal Reserve survey released in May showed 37% of Americans age 30 and younger who had not attended college said it was too expensive. As a result, some profit-driven colleges have started offering discounts on college tuition fees in a bid to attract students.

With traditional university programs getting more expensive and competitive, there has been a boom in the number of alternative degree programmes that are taking advantage of the internet and more flexible teaching and learning formats to fill the gap in the higher education market. Based on data from more than 4 700 colleges and universities, more than 6.3 million students in the US embarked on an online degree in 2016, a 5.6% increase from the previous year.

Source: *Wall Street Journal*, July 2017 and US News, January 2018

Extract 4: Is college worth it?

A recent list of top colleges in the Chronicle of Higher Education provides vivid evidence that higher education is the ticket to economic mobility – according to the Bureau of Labour Statistics, median annual earnings for Americans without a degree amounts to $35 256 while the unemployment rate for the same population is 8%. In contrast, Americans with a degree have a median annual income of $59 124 and 2.8% unemployment.

However, the full value of college education goes well beyond dollars and cents. College prepares students to succeed with not only the vocational skills to earn a good living but with the curiosity, adaptability and inclination to respond effectively to the changes and challenges they will face throughout their lives. These benefits extend beyond the college graduates themselves – cities with more college graduates offer higher wages to non-college graduates, all else being equal. And better-educated workers create and develop productive industries; that productivity in turn creates more good jobs for the rest. Ultimately, higher education in New York is a driving force – an economic engine of opportunity for businesses, students, employers and graduates who stay and work in the city, with New York's higher education institutions contributing an estimated $7.5 billion to New York in 2012.

Source: *Crain's New York Business*, December 2017

[Turn over

Extract 5: Are higher education subsidies necessary?

The US Department of Education spends tens of billions of dollars a year on subsidies for higher education. The bulk of the spending goes to student aid, with the balance going to educational institutions. Supporters of larger government subsidies to higher education often argue that higher education would be under-provided in the absence of government intervention. But higher education subsidies may not be necessary, and should in fact be reduced. Most people already have a strong incentive to invest in their own higher education even if the government does not subsidise it because it will lead to higher earnings for themselves. As a result, the subsidies disproportionately benefit people who are expected to earn higher future incomes as a result of their advanced educations.

By cutting federal subsidies, tuition fees and related costs would be restrained as students shopped around for the best deals. In turn, that would force schools to reduce their bloated costs. In recent years, while student groups and college officials have criticised supposed funding cuts, colleges and universities have been in the midst of a building boom, while administrative staffing has grown rapidly.

Source: *Downsizing the Federal Government*, November 2015

Questions

(a) Figure 1 shows that the average price of college education is increasing at a decreasing rate. However, the Consumer Price Index does not follow the same pattern. Suggest why this is possible. [2]

(b) Extract 1 states “Those who are less well-off have to make tough decisions: move to a cheaper area or cut back on cellphone services, restaurant outings and other basic necessities.”

Explain the above statement using the concepts of scarcity, choice and opportunity cost. [3]

(c) Discuss whether the imposition of rent control is ultimately beneficial to society. [8]

(d) With reference to Extract 3, explain why “some profit-driven colleges have started offering discounts on college tuition fees”. [2]

(e) Assess whether demand or supply factors account more for why the average price of college education only increased marginally in 2017. [8]

(f) Comment on whether the online courses offered by higher education providers should be considered as public goods. [4]

(g) Using evidence from the data, explain the determinants of a rational prospective student’s decision on whether to participate in college education. [6]

(h) “Supporters of larger government subsidies to higher education often argue that higher education would be under-provided in the absence of government intervention. But higher education subsidies may not be necessary, and should in fact be reduced.”

Using evidence from the case study and/or your own knowledge, discuss whether the US government should increase or decrease subsidies to higher education. [12]

[Total: 45]

Question 2

Economics challenges in the United Kingdom (UK)

Table 1: Selected Macroeconomic Indicators in the UK from 2013 to 2016

	2013	2014	2015	2016
Real GDP growth (annual %)	2.1	3.1	2.3	1.9
GDP per capita at PPP (in USD)	37 398	38 251	38 839	39 309
Unemployment Rate (annual %)	7.5	6.1	5.3	4.8
Inflation rate (annual %)	2.6	1.5	0.1	0.6
Life expectancy (years)	81.0	81.3	80.9	80.9
Gini Coefficient	0.36	0.36	0.36	0.35
Government Deficit (% of GDP)	-5.4	-5.4	-4.3	-2.9

Source: The World Bank Data and OECD Data, accessed 18 July 2018

Extract 6: The productivity challenge to the UK economy

Labour productivity measures the output per man-hour. In all major economies, the low productivity continues to perplex economists and policymakers as the output per hour is significantly lower than it would have been. For the UK, this issue is critical as productivity is no higher now than it was just before the 2008 financial crisis.

Productivity stagnation since the crisis has been concentrated in a large number of industries such as finance, telecommunications, energy and management consulting.

Lack of research and development spending mirrors the low productivity of the UK, compared to France and Germany. According to figures from the World Bank, the UK spent 1.7% of GDP on research and development in 2014. Meanwhile Germany is up at 2.8%, a rise from 2.1% in 1996 and France is at 2.2%. With limited innovation and inefficient methods of production, the UK will not be able to keep pace with the rest of the world. Secondly, companies are facing serious consequences as they have failed to tackle digital skills deficiencies within their workforce that were hampering productivity and increasing staff workloads.

Source: various

Extract 7: UK poor productivity figures show challenge for government

A spokeswoman for the Department for Business, Innovation and Skills said the government was committed to delivering a return to productivity growth which is the route to raising living standards for everyone in the UK. The government developments set out in the productivity plan will deliver a change that will increase both short and long-term investment, capital and innovation.

In July 2015, the Business Secretary, Sajid Javid, announced a mix of deregulation policies involving making state-owned monopolies face up to competition and increased government spending on housing, universities, transport and finance in an effort to address UK's poor productivity performance.

Source: *The Guardian*, 10 July 2017

Extract 8: Income inequality in the UK

For the two years of the recession in 2008 to 2010, inequality fell in the UK. One reason was many top earners saw their incomes slashed as businesses cut costs in difficult economic times. However, more recent evidence suggests income inequality has again started to rise with the UK Gini coefficient increasing to an all-time high of 0.41.

This was not a new phenomenon. The government had spoken for many years about helping particular groups, including those experiencing multiple disadvantages, and some progress has been made. £150 billion was spent on tax credits from 2004 to 2010, much of which was targeted at families with children. These tax credits are tax incentives which allow low income families to subtract the amount of the credit they have accrued from the total they have to pay for the taxes. It may also be a credit granted in recognition of taxes already paid or, as in the UK, a form of state support. However, projections recently published by the Institute for Fiscal Studies suggest that, despite this considerable spending, several of the income targets were likely to be missed.

The Government believed that this reinforced the need to tackle the root causes of poverty and provide support beyond the welfare support system, for example by helping those in work to lift themselves out of poverty. Ensuring the minimum wage will help people not only lift themselves out of poverty but also support them to progress and move away from the poverty line. In March 2015, the government announced that the hourly adult rate of National Minimum Wage would rise by 20 pence, from £6.50 to £6.70 (3%).

Source: BBC Education, *Social inequality in the United Kingdom* and www.gov.uk/government/policies/poverty-and-social-justice, accessed 18 July 2018

Extract 9: Why is the UK inflation at a four-year high?

Inflation hit the highest level in four years during April 2017, beating forecasts and likely ending a two-year period of real wage growth, according to figures published by the Office for National Statistics.

Energy providers increased prices while retailers started to pass along higher import costs. “The contribution of electricity and natural gas prices to inflation rose by 0.07 percentage points as two suppliers hiked prices.” he said.

What does this all mean for interest rates? The month’s rise in price levels underlined the challenge facing the Bank of England, which must decide how to respond to rising inflation. The rate of inflation is now above its 2.65 per cent forecast for the entirety of the second quarter of 2017. The Bank could raise interest rates to head off inflation, but that could mean choking off any meagre income growth.

Source: *Financial Times*, 19 May 2017

Extract 10: UK budget deficit jumps to £6.8b, what now?

UK budget deficit jumped to £6.8b despite austerity measures. It jumped up 43 per cent compared with the same month last year, the Office for National Statistics (ONS) said on Friday. With the deficit widening, there are worries of the accumulation of debts which would have an adverse effect on the UK economy due to the debt repayments in future years to come. So should austerity measures continue?

It has been argued that the cutting of government expenditure and raising taxes in the UK in the recent years to reduce their deficit have made consumers more reluctant to spend and many businesses delaying their investment projects.

Source: *The Independent* and *The Guardian*, 2012

Questions

(a) With reference to Table 1,

(i) explain the meaning of ‘GDP per capita at purchasing power parity’. [3]

(ii) explain whether the data provided are sufficient to assess changes in the standard of living in the UK over the period. [7]

(b) With reference to Extract 6, explain the possible causes of low productivity in the UK. [4]

(c) Using a Production Possibility Curve (PPC) diagram, explain how increased government spending on housing, universities, transport and finance can lead to economic growth in the UK. [5]

(d) Explain and comment on how the policies mentioned in Extract 8 can reduce income inequality in the UK. [6]

(e) Assess whether interest rate policy to reduce inflation in the UK will always be successful. [8]

(f) Using case evidence and/or your own knowledge, discuss the view that the UK government should prioritise achieving higher economic growth rather than to solve fiscal deficit. [12]

[Total: 45]

JURONG JUNIOR COLLEGE

2018 JC2 ECONOMICS 8823 (H1)

PRELIMINARY EXAMINATION

ANSWER BOOKLET

Prelim Answers for Paper 1 CSQ1

Questions

(a) Figure 1 shows that the average price of college education is increasing at a decreasing rate. However, the Consumer Price Index does not follow the same pattern. Suggest why this is possible. [2]

- The Consumer Price Index (CPI) is a measure of the weighted average of prices of a basket of consumer goods and services that **includes more than just the average price of college education.** [1]
- The CPI may not have followed the same pattern as the trend in average price of college education as the **prices of some of the other goods in the basket would have changed at a different rate**. [1]

(b) Extract 2 states "Those who are less well-off have to make tough decisions: move to a cheaper area or cut back on cellphone services, restaurant outings and other basic necessities."

Explain the above statement using the concepts of scarcity, choice and opportunity cost. [3]

- Scarcity arises due to unlimited wants and limited resources.
- Those who are less well-off have more limited resources in the form of a smaller budget constraint. They have multiple wants including continuing to live in the same area, cellphone services, restaurant outings and other more necessary items. [1]
- Given the rise in rent mentioned in Extract 2, those who are less well-off will have to choose between continuing to live in the same area and maintaining their spending on other goods and services. [1]
- Thus, their opportunity cost of choosing to continue living in the same area after rents have gone up is the spending on other goods that is foregone. [1]

(c) Discuss whether the imposition of rent control is ultimately beneficial to society. [8]

Introduction

- Rent control refer to a price ceiling on rents, which is the highest permissible rent that landlords can legally charge.
- In order for rent control to be effective, they must be set below the equilibrium price of rented accommodation.
- The imposition of rent control seeks to ensure affordable accommodation for those belonging to the lower income group.

Explain how rent control (price ceiling) works

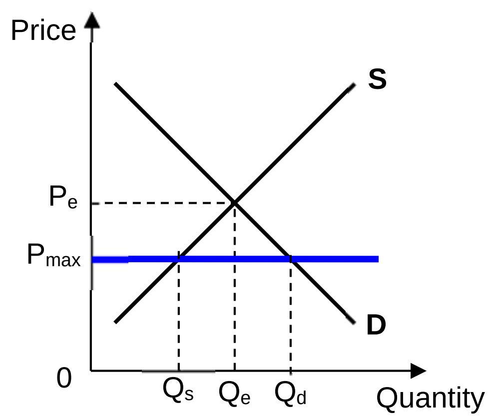


Figure 1: Imposition of rent controls

- Figure 1 illustrates the effects of the imposition of rent control. Without government intervention, the equilibrium price of rented accommodation would be at 0Pe and the equilibrium quantity at 0Qe.
- When the government imposes rent control by fixing the price below the equilibrium level, say at 0Pmax, producers produce at a lower quantity, 0Qs, while consumers are willing and able to purchase a much larger quantity, 0Qd. Due to the excess demand at 0Pmax, a shortage of QsQd results.

Thesis: Rent controls are beneficial to those who benefit from lower rents

- Consumers (0Qs) who are able to enjoy the good at the lower price of 0Pmax are better off.
- May be beneficial for equity reasons, to allow low-income households to have access to a basic necessity such as shelter

Anti-Thesis: Rent controls are harmful to the following agents:

<u>Landlords</u>

- Producers are also worse off, because they now sell less of the good, and at a lower per unit price of 0Pmax, resulting in a fall in revenue from OPeEQe to OPmaxAQs. Assuming ceteris paribus condition (i.e. no change in costs), this results in lower profits.

<u>Consumers</u>

- In addition, some consumers (QsQe) are **worse off** because they are not able to consume the good even if they were both willing and able to pay a higher price of P_e
- **Unintended consequence which poses a cost to consumers**: Furthermore, given the shortage, landlords also lose the incentive to maintain their properties knowing that demand will outstrip supply due to the artificial ceiling on rent. As a result, consumers who rent are ultimately harmed as the houses they rent will be of lower quality, having fallen into disrepair.
- **Unintended consequence**: With lower rental revenue, landlords are incentivised to convert rental units into housing units for sale as this would generate more revenue for them. This would further reduce the supply of rental units and worsen the shortage further. This reduces the availability of rental units, forcing consumers to move elsewhere.

<u>Government</u>

- Furthermore, governments may face a rise in administrative costs due to the need to mediate an increase in conflicts between landlords and tenants arising from rent control disputes.
- They may also incur costs should they need to manage riots and social problems stemming from high rents.

Conclusion

<u>Stand</u>

- Ultimately, rent controls distort the market and cause are deadweight loss to society. Overall, they are harmful to most agents in society.

Criteria of evaluation: Root cause of high rents + use of better alternative policies

- Rent controls do not solve root cause of the high rents, which is due to demand for accommodation outstripping supply. In order to solve the problem in the long term, the government may need to subsidise the construction of more public housing in order to increase the supply of accommodation. This would eliminate the shortage and reduce rents accordingly.

Level	Knowledge, Application, Understanding, and Analysis	Marks
L2	Well-developed analysis of how rent control would be beneficial to some consumers but would pose a cost to other consumers, landlords and the government. Different stakeholders are considered.	4 – 6
L1	Descriptive answer of the benefits and costs that rent control would pose to society.	1 – 3
E	Reasoned conclusion and judgment that critically evaluates whether rent control is able to tackle the root cause of the unaffordability of rental units in California	1 – 2

(d) With reference to Extract 3, explain why “some profit-driven colleges have started offering discounts on tuition”. [2]

- Demand for college education is price elastic (PED > 1) as college tuition constitutes a large proportion of an individual’s income. This causes potential students to be very sensitive to price changes. Thus, some colleges have lowered the price of college education by offering discounts, knowing that there would be a more than proportionate increase in quantity demanded for college education, leading to a rise in revenue [1]
- Assuming costs remain constant, the rise in total revenue would increase profits for the profit-driven colleges. [1]

(e) Assess whether demand or supply factors account more for why the average price of college education only increased marginally in 2017. [8]

Introduction

- Overall, college tuition between 2010 and 2017 increased at a decreasing rate.
- This is due to the rise in demand being greater than the rise in supply of college education.

<u>Demand factors</u>

- **Changes in population demographics**: Due to changing population demographics, the number of new high-school graduates in the US (i.e. potential college students) has only increased by 2% from 2010 to 2017 as compared to an increase of 18% in the early 2000s (Extract 3). Given the slight increase in potential college students domestically, there would be a slight rise in demand for college education.

- **Influx of foreign students**: In addition, as China’s economy continues to grow, income levels rise, thereby increasing the affordability of US college education, which is a normal good, for Chinese families. Thus, there is a rise in demand of Chinese students seeking a US college education (Extract 3). Given that the number of Chinese college students increased by more than 5 times since 2006, it could be argued that there is a significant rise in demand for college education.

- Overall, there would be an increase in demand for college education.

Supply factors

- **Rise in number of colleges**: With more colleges being established, there would naturally be a rise in supply of college education as more courses are offered.

- **Rise in number of online degree courses being offered**: Furthermore, there has been a rise in the number of online degree courses that are being offered by universities (Extract 4). This is because the Internet has lowered the cost of production and provided a new medium for universities seeking to offer cheaper options for potential students.

- Overall, there would be an increase in supply of college education.

Conclusion

Weigh the demand & supply factors

- As college tuition continued to increase, albeit at a decreasing rate, we can expect that the rise in demand outweighed the rise in supply.
- At present, the rise in demand for US college education by Chinese students is significant as China's economic boom in the past few years has significantly increased the purchasing power of Chinese families. Given the competitiveness of China's national examinations and the immense difficulty in entering one of China's few prestigious universities, more students are likely to seek greener pastures in the US. Furthermore, as the world becomes more globalised and English becomes the world's preferred lingua franca for business dealings, Chinese demand for US college education may rise due to the English-speaking opportunities such a college education would present.
- In contrast, the rise in number of universities may be insignificant due to the market already becoming too saturated to the point that some colleges facing steep competition have offered discounts on college tuition in a bid to attract potential students. Furthermore, it would take time before employers and potential students start to accept online degree courses as a viable alternative to a traditional degree since the reputation of these online courses would take some time before becoming established.

Changes over time

- Over time, changing US population demographics could mean that the fall in domestic demand for US college education would eventually outweigh the rise in foreign demand. Once that happens, there would be an overall fall in demand for college education, which, together with the rise in number of universities and growing popularity of online courses as students become more used to learning in a non-traditional setting, would mean falling college tuition prices in the long term.

Level	Knowledge, Application, Understanding, and Analysis	Marks
L2	Well-developed answer that analyses the demand and supply factors that have led to the marginal rise in increase in price of college education in 2017.	4 – 6

L1	Descriptive answer of the demand and supply factors that are responsible for the rise in price of college education in 2017.	1 – 3
E	Reasoned conclusion and judgment that critically evaluates whether demand or supply factors are mainly responsible for the marginal rise in price of college education.	1 – 2

(f) Comment on whether the online courses offered by higher education providers should be considered as public goods. [4]

- Public goods are goods that are BOTH non-rival and non-excludable in nature.
- Online courses offered by higher education providers should NOT be considered public goods. Even though they are non-rival, they are also excludable in nature.

Non-rival

- Online courses are non-rival in nature as one student's participation in the online course (e.g. viewing of lecture materials / attempting of tutorial questions online) **does not diminish the amount available for consumption to another student**.

Excludable

- However, it is possible for higher education providers to exclude others from having access to the online courses if they do not pay for the course.
- This is because the providers could password-protect their materials to restrict access to paying consumers. Furthermore, they would only generate an original diploma for paying consumers as recognition for the qualifications they have attained.

2m for non-rival, 2m for excludable

[Note: No marks if students write: "They are not public goods because they are not provided by the government."]

(g) Using evidence from the data, explain the determinants of a rational prospective student's decision on whether to participate in college education. [6]

A rational prospective student would consider the constraints, benefits, costs, and information available when deciding on whether to participate in college education. After considering the constraints that would hinder her from participating in college education, the prospective student who is rational would maximise her utility by weighing the benefits against the costs. In order to do so, she would have to consider what information she has and whether that information is accurate and reliable.

Constraints

- **Budget constraint**: Prospective students would have to consider whether they and/or their family have sufficient income/savings to pay for college education in the first place. Given the "sharp rise in tuition" in the past few decades (Extract 3), prospective students, especially those from "lower and middle income groups" (Extract 3) may not be able to participate in college education given their budget constraints unless they are able to obtain some form of financial aid such as scholarships. Alternatively, prospective students would have to consider whether they are able to overcome her budget constraint by taking out student loans. This would in turn depend on the ease of borrowing.

- **Ability constraint**: Prospective students would have to consider if they would be constrained by their high school grades. If their high school grades and SAT scores do not meet the requirements of certain colleges, they may choose to avoid applying to those colleges since they do not qualify.

Benefits

- **Tangible benefits**: Prospective students would consider the economic benefits of participating in a college education, which include the present value of higher future earnings as well as higher chances of employability (Extract 5).

- **Intangible benefits**: Furthermore, they would consider the more intangible benefits of participating in a college education such as gaining curiosity, adaptability and a rise in their ability to respond to challenges. They would also gain from having a larger social network of friends.

Costs

- **Tangible costs**: Prospective students would have to consider how much the college education would cost them in actual monetary terms. Aside from college tuition, this amount would include other costs such as the costs of renting accommodation, textbook costs, etc. If prospective students fund their college education by taking out student loans, they would need to include the interest on the loan as part of the costs as well.

- **Intangible costs**: Prospective students would have to consider intangible costs such as long distance separation from their family and loved ones (if they pursue a college education in a different state) as well as higher anxiety that would stem from looming debt repayments if they were to take out student loans to fund their college education.

- **Opportunity costs**: They would also have to consider their opportunity cost, which is the next best alternative foregone. This could include the job experience and extra income they would have earned had they chosen to start working instead of participating in a college education.

Information

- Prospective students will need to consider if they have accurate information on the benefits and costs of participating in college education. If there is great uncertainty as to future earnings as well as future employability, rational prospective students would reconsider if the value they have assigned to the benefits are too high. They may assign a lower value if they believe there is a high probability that future earnings and employability may not be as high as initially believed.

- Prospective students would also need accurate information on the courses that various colleges are able to offer and whether these courses suit their needs. Furthermore, they would need information on the entry requirements of these colleges so that they can anticipate if they would be constrained by their grades.

If the rational prospective student is not held back by constraints, and the sum of the benefits outweighs the sum of the costs, and assuming this student has accurate information, she will proceed to participate in college education.

[2m for each determinant, cap at 5m if students do not mention weighing of benefits and costs]

(h) "Supporters of larger government subsidies to higher education often argue that higher education would be underprovided in the absence of government intervention. But higher education subsidies may not be necessary, and should in fact be reduced."

Using evidence from the case study and/or your own knowledge, discuss whether the US government should increase or decrease subsidies to higher education. [12]

Thesis

<u>The US government should increase subsidies to higher education if it finds that the MEB or extent of imperfect knowledge is larger than initially estimated (i.e. higher education is still underconsumed)</u>

- Higher education is a merit good. This is because it generates positive externalities for society in the form of higher work productivity as well as job creation for others (Extract 5). In addition, individuals often underestimate the private benefits of higher education, thinking that future job earnings are lower than they actually are or failing to consider the intangible benefits that would accrue to them. (Extract 5)
- If the marginal external benefit (MEB) or the extent of imperfect knowledge is larger than was initially estimated, then the US government's subsidies (MPC_0 to MPC_1 to higher education would have reduced market failure to some extent, but not completely. In order to eliminate the deadweight loss and achieve allocative efficiency, the US government would have to increase subsidies to MPC_2. Consumption of higher education would thus be at the quantity where MPC_2 = MPB, i.e. at the socially-optimal level of Q_s. Thus, market failure is corrected.

<u>The US government should increase subsidies to higher education for equity reasons</u>

- Higher education could be viewed by many as a key driver of social and economic mobility. With a college degree, those in the lower and middle income groups could earn higher wages and face better employment prospects (Extract 4), thus allowing them to break out of the poverty cycle. However, Extract 3 mentions that many in the lower to middle income groups have found higher education unaffordable due to rising college tuition in recent decades. As a result, they have been priced out of the market for college education.
- Thus, the government should increase subsidies to higher education in order to lower the price of higher education and make it more affordable for lower to middle income groups.

<u>The US government should increase subsidies to higher education in order to promote economic growth</u>

- With subsidies to higher education, the US government would promote the consumption of higher education, thus increasing the quality of the labour force. This would attract investment (Extract 5), leading to a rise in AD, thus achieving actual growth. Furthermore, the rise in quality of the labour force would increase the country's productive capacity, thus increasing AS in the long run, and achieving potential growth.

Anti-thesis

<u>The US government should reduce subsidies to higher education since the MPB of consuming college education is already high. The MPB is also close to the MSB due to the small MEB.</u>

- According to Extract 6, most individuals already have a strong incentive to spend on higher education as it leads to significant economic benefits for themselves (Extract 5). This suggests that the MPB of consuming higher education is high.
- Furthermore, it could be argued that the extent of MEB is small. Although there are large external benefits for primary and secondary school education, because people who are literate and numerate are able to learn new skills a lot quicker and be more productive for the economy, the extent of external benefits for university education are smaller. For example, the consumption of university courses in which one learns vectors in the 4th dimension does not contribute in a concrete way to the economy; most of the benefits of consuming higher education are thus accrued to the one consuming higher education rather than to third parties.
- Thus the US government should thus avoid over-subsidising higher education by reducing subsidies to higher education since the external benefits associated with consuming higher education are small, with current levels of consumption already close to the socially optimal level.

<u>The US government's subsidies to higher education may in fact worsen income inequity</u>

- Those who undergo university education and who graduate with a college education ultimately benefit from higher wages and greater employability. However, the subsidies to higher education are funded by taxes on the entire working population, including blue collar workers who may not have attended university. As a result, subsidies to higher education redistribute the already lower income from blue collar workers to white collar workers who already earn significantly more.

<u>The US government's subsidies to higher education breed complacency and inefficiency amongst higher education providers</u>

- The US government should reduce subsidies to higher education in order to reduce the extent of certain unintended consequences. With subsidies, the profit margins of higher education providers are protected by the higher education subsidies, leading them to become complacent and inefficient instead of finding ways and means to reduce costs (Extract 6: "bloated costs")
- Providing subsidies to higher education providers would not necessarily have resulted in lower prices for students if universities chose to line the purses of their faculty members instead of passing down the cost savings to their students. This led to many in lower and middle income groups to view university education as too costly (Extract 5).

Conclusion

<u>Falling college tuition in subsequent years</u>

- Based on data from Figure 1, if the trend in average prices of college education continues, we could expect college tuition to fall in the coming years.
- In the long term, as online courses and distance learning proliferate the higher education landscape, the price of college education will fall further.
- This would mean that there is less reason for the US government to increase higher education subsidies on equity grounds.

Selective provision of subsidies to higher education may be necessary if the US intends to undergo restructuring of economy

- However, if the US government intends to spearhead economic restructuring and develop industries that are high value-added and knowledge-intensive, it may choose to selectively subsidise universities that offer courses that would equip future workers with the knowledge and skills needed for the digital revolution. This would increase the supply of such courses, thus allowing future workers to gain the skills for industries on the rise.

Constraints faced by the government

- The above arguments in favour of increasing subsidies would be meaningless if the US government is currently in significant debt. As a result, it may be constrained by its lack of fiscal reserves, which would hinder it from increasing subsidies in the first place. According to Figure 2, the US' debt to GDP ratio is on the rise, which could severely curtail its ability to provide more subsidies to college education.

Level	Knowledge, Application, Understanding, and Analysis	Marks
L3	Well-developed explanation of both the reasons why the US government should increase and decrease subsidies to higher education.	6 – 9
L2	A one-sided explanation of the reasons why the US government should increase and/or decrease subsidies to higher education.	3 – 5
L1	Vague, descriptive or list-like answer of the reasons why the US government should increase or decrease subsidies to higher education.	1 – 2
E	Reasoned conclusion and judgment that evaluates whether the US government should ultimately increase or decrease subsidies to higher education based on relevant evaluation criteria.	1 – 3

[Total: 45]

Prelim Answers for Paper 1 CSQ2

(a) With reference to Table 1,
(i) explain the meaning of 'GDP per capita at purchasing power parity'. [3]

GDP per capita refers to the total money value of all final goods and services produced within a country's geographical boundary during a given period of time, adjusted for changes in population [2].

Purchasing power parity (PPP) compares different countries' currencies through a "basket of goods" approach. According to this concept, two currencies are in equilibrium or at par when a basket of goods (taking into account the exchange rate) is priced the same in both countries. [1]

(ii) explain whether the data provided are sufficient to assess changes in the standard of living in the UK over the period. [7]

Standard of living (SOL) refers to the material and non-material well-being of the people. It comprises of the quantitative and qualitative aspects of living. Changes in quantitative SOL can be assessed by real GDP growth while changes in non-material SOL can be assessed by qualitative indicators such Gini coefficient, number of leisure hours, pollution index, quality and accessibility to healthcare and education etc.

<u>Data provided are sufficient to assess changes in the SOL in the UK</u>

Real GDP growth measures the economic output adjusted for price changes. The data shows that it is positive from 2013 to 2016, showing that there could be an increase in the income levels, causing an increasing in purchasing power in buying goods and services. Unemployment rate is a measure of the prevalence of unemployment and it is calculated as a percentage by dividing the number of unemployed individuals by all individuals currently in the labour force. The data shows that the unemployment rate is decreasing indicating that more people are employed with income, hence giving them the ability to buy more goods and services. Both data provided are sufficient to show that the standard of living in the UK quantitatively has improved over the period.

Life expectancy is defined as the average number of years that a new born could expect to live if he or she were to pass through life subject to the age-specific mortality rates of a given period. From the data provided, life expectancy worsened slightly from 81 to 80.9 years to indicate that the average number of years expected to live declined. This data shows that the qualitatively standard of living might have worsened but only to a small extent. Gini coefficient measures of inequality of a distribution in the UK. The data however remained constant, indicating that standard of living may not have changed.

<u>Data provided are not sufficient to assess changes in the SOL in the UK</u>

With real GDP growth, it indicates that the UK economy is producing more goods and services available to its people. Thus the material well-being of the people has been increasing from 2013 to 2016. However, a better measure would be to take into account the effect of the size of the population and arrive at real GDP per capita.

Other qualitative indicators such as pollution index to measure the air quality of the UK as well as amount of working hours to reflect if people are working more than the spending leisure hours.

Human Development Index (HDI) measures the social and economic development levels of countries. It is a composite statistic of life expectancy, education, and per capita income indicators. A country that scores a higher HDI when the lifespan is higher, the education level is higher, and the GDP per capita is higher. The measurement of economic welfare are needed to make a better gauge as to whether standard of living in the UK has improved over time.

Up to 4 marks for valid explanation of how the data provided in Table 1 are sufficient to show that the UK standard of living has changed. For the full 4 marks, an answer should link both quantitative and qualitative standard of living.

Up to 3 further marks for valid and relevant comment. This should involve in expressing a degree of uncertainty as to whether the data provided is sufficient in assessing standard of living in the UK.

(b) With reference to Extract 6, explain the possible causes of low productivity in the UK. [4]

In Extract 6, it mentioned that the UK government is not spending enough on research and development and it is depressing the UK productivity growth. When investments on research and development falls, it will limit innovation and method of production, resulting in the output per man hour falls. [2]

Digital skills shortage (Extract 6) has led to occupational immobility as there were barriers to the mobility of labour between different sectors of the economy leading to these workers remaining unemployed, or being used in ways that are not efficient. This will lead to a fall in output per man hour falls as the unskilled workers were unable to use the new technology efficiently. [2]

(c) Using a Production Possibility Curve (PPC) diagram, explain how increased government spending on housing, universities, transport and finance can lead to economic growth in the UK. [5]

Production Possibility Curve (PPC) shows the maximum amount of two goods or services which the economy can produce with a given quantity and quality of resources, assuming a particular state of technology.

As the government has contributed to the developments of housing and transport, it will contribute to an increase in production in these sectors, hence increasing employment. This represents a greater utilisation of the country's labour resource. Hence, the UK will move from a point within the PPC (Point A) to a point closer to the PPC (Point B).

In addition, an increase in government expenditure in housing, university skills and transport in the UK will lead to an increase in quantity of capital stock, improvement in the quality of labour as well as improvement in the state of technology. These factors lead to an outward shift of the PPC from PPC1 to PPC2 as shown in Figure 1 below.

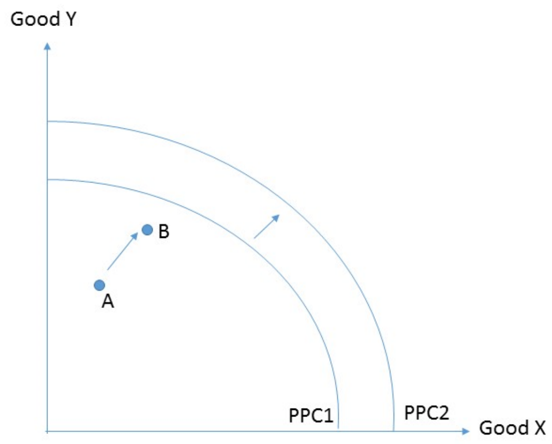


Figure 1

1 mark for the definition of the Production Possibility Curve.

Up to 2 further marks for each explanation of a movement within the PPC and a shift of the PPC outwards, with a diagram.

(d) Explain and comment on how the policies mentioned in Extract 8 can reduce income inequality in the UK. [6]

Tax credits are tax incentives which allow low income families to subtract the amount of the credit they have accrued from the total they have to pay for the taxes. (Extract 8) and these incentives will help them to cope with rising cost of living. They would then be able to increase their affordability on goods such as housing and healthcare. These ensures that that the lower and middle income group will have equal access to both housing and healthcare, reducing income inequality.

The policies require sufficient government budget to support them. The rise in expenditure to achieve inclusive growth may result in opportunity cost of government funds in areas which are essential for economic growth.

When the UK government imposes a price floor in the case of minimum wage legislation by fixing the wage above the equilibrium level, there is a higher quantity of labour supplied because labour is attracted by the higher wages. With low income workers enjoying higher wages, this will increase their purchasing power to consume–goods and hence reducing income inequality.

While firms are only willing and able to demand of the labour services offered it leads to a surplus of labour, leaving some unemployed. Hence, in the case of minimum wage legislation, there are winners and losers as well. The workers who continued to be employed and received the higher wage are better off. However, some of the workers who were previously willing to work at the lower wage, but have now lost their jobs, are hence worse off.

Up to 3 marks each for explain the policies and its limitations as a comment.

(e) Assess whether interest rate policy to reduce inflation in the UK will always be successful. [8]

Interest rate policy to reduce inflation in the UK will always be successful

Bank of England can implement contractionary monetary policy by raising interest rates to head off inflation.

Higher interest rates increase the opportunity cost of consumption and also help keep cost of borrowing high for consumers who purchase durable goods or big-ticketed items, discouraging consumption. At the same time, higher cost of borrowing also causes projects that were previously profitable at the margin to become unprofitable, and this discourages investment by firms. Thus a fall in consumption and investment would reduce AD. This results in production levels to fall as firms employ fewer factor inputs. As AD falls, AD shifts leftwards from AD1 to AD2, resulting in a fall in national income from Y1 to Y2 and lower the general price level from P1 to P2, thus reducing inflation in the country as shown in Figure 2.

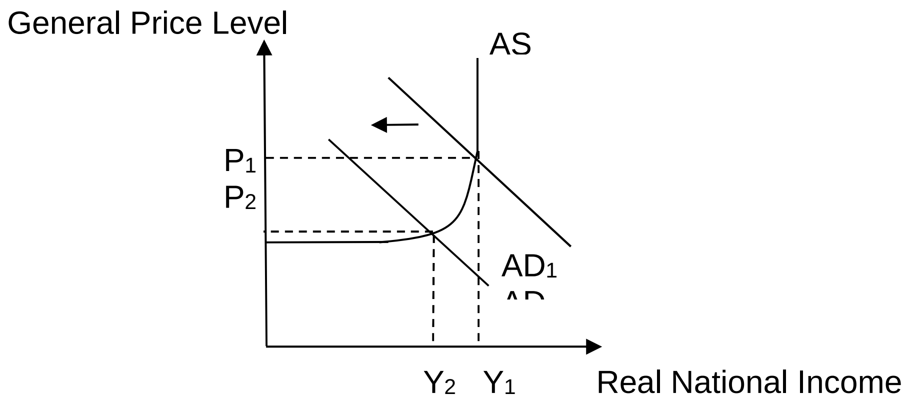


Figure 2

Interest rate policy to reduce inflation in the UK will not always be successful

The current state of the UK economy will affect the effectiveness of the monetary policy. Higher interest rates will not always deter households and firms from spending due to the strong confidence of consumer and businessmen during a boom time and hence AD may not fall.

The effectiveness of monetary policy depends on how responsive investment is to interest rate changes. Monetary policy is more effective if the marginal efficiency of investment (MEI) curve tends to be interest elastic. MEI curve is more interest elastic if interest rate is the main determinant of investment. Therefore, the extent of the decrease in investment in the UK depends on how responsive investment is to interest rate changes.

Evaluation

Whether interest rate policy is always successful for a country depends on the nature and openness of the economy. Usually economies may choose interest rate policy if they have sizeable domestic economy.

However, much also depends on the root cause of inflation in a country. Implementing contractionary monetary policy would not be able to solve the root cause of the inflation as the inflation in the UK is due to cost push factors and demand pull. Therefore, other policies are also needed to help combat cost push inflation. For example, supply-side policy or exchange rate policy may help to reduce the UK reliance on imports or to obtain cheaper alternatives.

Thu, these policies may be used to complement monetary policy in combating inflation successfully.

Mark Scheme		
L2	For a well-developed answer that explains the success of interest rate policy to reduce inflation and its limitations.	4 - 6
L1	For an descriptive answer or that is one-sided.	1 – 3
E	Reasoned assessment (evaluation). Overall judgement that is well supported by application of relevant economic concepts.	1 – 2

(f) Using case evidence and/or your own knowledge, discuss the view that the UK government should prioritise achieving higher economic growth rather than to solve fiscal deficit. [12]

According to Table 1, the UK is suffering from a slowing growth and budget deficit. Slowing growth refers to slowing positive economic growth and public sector deficit refers to government expenditure being higher than tax revenue. It is crucial for the government to prioritise in order for the economy to recover and prevent any possible deterioration in the standard of living.

<u>The UK government should prioritise achieving higher economic growth</u>

Higher economic growth experienced by the UK will increase the confidence of both the UK producers and consumers. While the latter expects higher income and better job prospects, the former would be more optimistic about future demand for their goods and services as consumers raise their spending in anticipation of higher future incomes.

With the benefits reaped by higher economic growth, the UK will be able to stay competitive, by attracting influx of foreign direct investments into their economy. The development of new industries like services and R&D has also created a range of good employment opportunities for the people in the UK.

It will also improve the UK government budget deficit as more tax revenue can be collected from individuals whose rising incomes fall into higher income tax brackets. The UK producers who tend to earn higher profits will have to pay more corporate taxes as well. This allows the UK government to increase budget spending to help lower income inequality. Besides, the UK government can continue to spend on improving infrastructural development that includes improving the country's transportation and communication network to increase its productivity.

<u>The UK government should prioritise reducing a fiscal deficit</u>

This would have an adverse effect on the UK economy due to the debt repayments in future years, which would pose a burden for future generations. In addition, an increased government borrowing may cause a decrease in the size of the private sector. The UK government may borrow by selling bonds to the private sector. Therefore, if the private sector (banks/private individuals) buy government bonds, they have less money to invest in private sector projects. If there is crowding out, government borrowing will not cause higher aggregate demand and this is undesirable to the economy.

Thus the UK government should prioritise reducing her fiscal deficit especially when the fiscal deficits have been persistent in the past. It is supported in Extract 10 that public spending as a share of GDP peaked in 2010 at 45.1 per cent and is forecast to be 39.6 per cent.

The UK government should prioritise achieving higher economic growth rather than reduce a fiscal deficit because

In Extract 10, it mentioned that the UK government's austerity measures has been unsuccessful in solving the widening deficit in the recent years. Moreover, these measures have made consumers more reluctant to spend and many businesses delaying their investment projects, worsening the economic growth in the UK.

Economic growth is beneficial to a larger extent as mentioned earlier that it will improve the UK government budget deficit when more tax revenue are collected from individuals whose rising incomes fall into higher income tax brackets. As seen in Table 1, the budget deficit is improving and the magnitude is less severe.

Furthermore, a budget deficit position itself may imply that that there are lower taxes and increased government spending. This will increase AD and this may cause higher real GDP and inflation in the UK. The UK government may also run a budget deficit to finance infrastructure investment. This could include building new roads, railways, and more housing and improved telecommunications. This public sector investment can help increase long-run productive capacity and enable a higher rate of economic growth. If growth does improve, then the borrowing can pay for itself, hence a government should prioritise higher economic growth rather than a budget deficit.

Mark Scheme		
L3	For a well-developed answer that explains the benefits of higher economic growth and the consequences of a widening budget deficit.	6 – 9
L2	For an under-developed answer that explains the benefits of higher economic growth or the consequences of a widening budget deficit.	3 – 5
L1	A vague, descriptive or list-like answer.	1 – 2
E	Reasoned assessment (evaluation). Overall judgement that is well supported by application of relevant economic concepts.	1 – 3

[Total: 45]