



JURONG JUNIOR COLLEGE

**2015 JC2 ECONOMICS 9732 (H2)
PAPER 1**

PRELIMINARY EXAMINATION

ANSWER BOOKLET

Suggested Answers for 2015 J2 H2 (9732) Economics Prelim Case Study Questions

Question 1

(a) Compare the changes in the average daily ridership of bus with that of taxi between 2010 and 2014. [2]

- The average daily riderships of bus and taxi have both increased between 2010 and 2014. (1m)
- The average daily ridership of bus increased at a faster rate of 17.3% compared to taxi which increased at a rate of 11.8%. (1m)

(b) With reference to Table 2:

(i) Explain the difference in value of the price elasticity of demand for public transport during peak period compared to off-peak period. [2]

- The demand for public transport during peak period (-0.15 to -0.3) is more price inelastic (1m) than that for off-peak periods (-0.3 to -0.6) as the degree of necessity (1m) of public transport is higher during peak periods as people need to take public transport to get to work or school on time. Hence the quantity demanded for public transport during peak periods is less responsive to prices compared to off-peak periods.

(ii) Explain the value of the cross elasticity of demand between private automobile travel and public transport. [2]

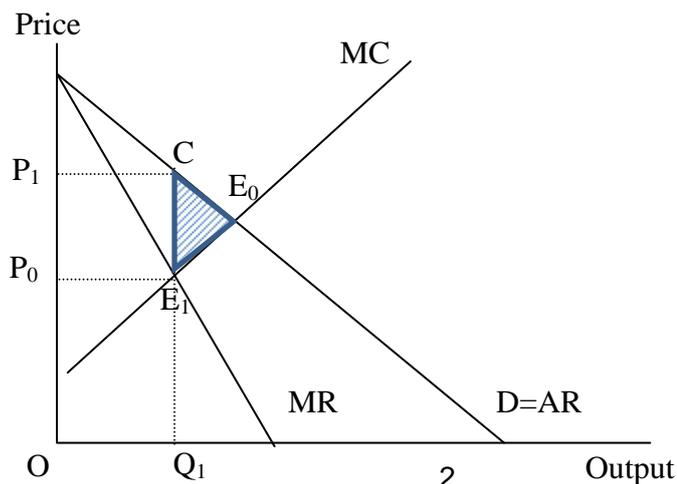
- Private automobile travel and public transport are substitutes as seen by the positive cross elasticity of demand value of 0.03 to 0.1. (1m) They are substitutes as they are both transport options.
- However, they are weak substitutes as the CED value is relatively low. They are weak substitutes as they offer a different level of comfort and convenience. (1m)

(c) Compare the likely barriers to entry facing potential entrants to the taxi industry with those to taxi booking apps like Uber. [2]

- Barriers to entry are potential obstacles that impede the entry of firms into an industry, thereby limiting the amount of competition faced by existing firms. Potential entrants to the taxi industry will face significantly higher barriers to entry (1m) compared with those to taxi booking apps like Uber.
- As seen in Extract 1, potential entrants to the taxi industry face high barriers to entry due to the high initial capital outlay (1m) required to acquire and build up their taxi fleet. Companies like taxi booking apps face lower barriers to entry as they do not need to incur hardware infrastructure costs, making it easier for them to enter the industry once they have developed the relevant technology.

(d) Explain the market structure which the current bus industry operates in Singapore and how it can be a source of market failure. [4]

- As seen from Extract 3, the current bus industry in Singapore operates as an oligopoly as it is dominated by 2 large firms SMRT and SBS Transit.
- As there are only 2 firms in the industry, each firm has high market power. This gives rise to market dominance and the ability of the firms to charge a price above marginal cost. As seen in the diagram below, the firm will produce at output Q_1 , where $MR = MC$. The equilibrium price is at P_1 .



- This gives rise to allocative inefficiency as when price (P_1) is greater than marginal cost (P_0), the value that society places on the last unit of the good is higher than the marginal cost of producing it. Hence there is welfare loss as shown by the shaded triangle.

Correct identification of oligopoly market structure with evidence - 2m

Explanation of how it results in market dominance (market failure) - 2m

(e) Extract 2 states that the taxi companies levy a surcharge of 25 percent of the metered fare during the peak period and 50 per cent during the midnight period.

Discuss whether the different taxi surcharges for the peak hour and midnight period mentioned in Extract 2 is an example of price discrimination, and explain the desirability of such a pricing policy. [8]

Price discrimination is the practice of charging different groups of people different prices for the same product for reasons not associated with differences in costs of production. In Extract 2, it was mentioned that taxi companies levy a surcharge of 25 per cent of the metered fare during the peak period and 50 per cent during the midnight period. Hence taking a taxi during midnight is more costly than during peak hour.

Thesis: Yes, the proposed pricing policy is an example of price discrimination

- This pricing policy seems to fit the description of **third-degree price discrimination** which is the practice of grouping consumers into two or more independent markets, provided each market has a different price elasticity of demand, and charging each market a separate price.
- Next, the conditions for price discrimination are met. Firstly, the taxi industry operates like an oligopoly where the biggest player - ComfortDelGro - holds over 50 per cent of the market share. Hence, the taxi companies do have the market power necessary to influence the pricing.
- Secondly, resale of the taxi ride during peak hour and midnight is impossible since the time period is different and there is no way for a commuter who is paying a lower fare during peak hour to resell it to another commuter taking the ride during midnight.
- Thirdly, the market can be segmented based on the PED of commuters of taxis. The demand of the commuters during midnight is likely to be more price inelastic as there is a lack of substitutes of public transport during midnight, hence they are charged a higher price. The demand of commuters during peak hour is likely to be more price elastic as there are substitutes like MRT and buses available during the period. Hence, they are charged a lower price.

Therefore, based on the above considerations, this is likely to be an example of price discrimination.

Anti-thesis: The proposed pricing policy is not an example of price discrimination

- On the other hand, the proposed pricing policy may not be a case of price discrimination as the costs of providing the taxi service to the 2 groups of commuters could be different. For example, during midnight, it would be harder for the taxi drivers to find commuters wanting a taxi and they might have to spend more on petrol cost driving the taxi around to look for customers, hence they incur a higher cost compared to peak hour where it would be relatively easier to find commuters.

Conclusion and Evaluation:

- In conclusion, it is **likely to be an example of price discrimination** as it fits all the three conditions. Moreover, the additional cost incurred during midnight is unlikely to be significant and might not make up a big proportion of the total cost which includes rental of the taxi.

Explain the desirability of such a policy

- The higher surcharge during midnight creates an incentive for taxi drivers to ply the roads during midnight.
- If they are not able to charge a higher fare during midnight, their earnings may not be able to cover their costs and they might not offer the service.

- Hence the pricing policy is desirable as the higher surcharge during midnight helps to increase the taxi drivers' earnings and ensure that taxis are available during midnight which would benefit commuters who require the service during midnight.

Marking Scheme		
L2	Well-developed two-sided explanation on whether the pricing policy is an example of price discrimination. <u>Maximum 4 marks</u> if answer is 1-sided. <u>6 marks only</u> if answer includes a reasoned assessment (evaluation) on whether the pricing policy is an example of price discrimination.	4-6
	Under-developed two-sided explanation on whether the pricing policy is an example of price discrimination. <u>Maximum 3 marks</u> for answers with no case study evidence.	1-3
2 additional marks for explanation of the desirability of the pricing policy		
	Desirability of the pricing policy well explained.	2
	Explanation of the desirability of the pricing policy is underdeveloped.	1

(f) Assess the impact of introducing competitive bus contracting on consumers, producers and the society. [10]

Impact on consumers

- The increase in competition will lead to higher service levels for commuters over time (Extract 3) as the bus operators will now have to bid to run the service. As such they would have to improve on their quality standards such as frequency of buses and waiting times to increase their chances of winning the bids.
- As the fare revenue is now collected by the government, the firms would not be able to exploit their market power by charging prices above marginal cost. Hence if the government keeps the fares low and affordable, consumer welfare will improve.
- Bus contracting will strengthen the government's ability to respond faster to changes in travel demand and service level expectations compared to the incumbent operators as the government is not driven by profits, hence it would be able to react faster to increase capacity and improve service standards rather than being concerned over whether the capital and operating expenses can be covered by the fare revenue (Extract 3).
- Moreover, the government can choose to run services even if the routes are unprofitable for example in industrial areas or less populated estates as they are not bounded by the need to make profits unlike the private firms. This would improve accessibility for consumers.
- As the government will now take over the bus infrastructure and operating assets, the operators will be able to focus their resources on improving their quality of service and service standards.
- Overall, the impact on consumers is largely positive as service levels and accessibility would improve which would enhance the convenience of traveling and the experience of taking public transport.
- However, as the operators are paid fees by the government, their profits might be curtailed which might limit their ability to engage in R&D to improve their service. The uncertainty over the extension of their contracts might also hinder them from making long term investment in R&D. Hence consumer welfare might be compromised.

Impact on producers

- The introduction of more competition into the industry will likely reduce the market share of SMRT and SBS Transit as the government is likely to award the twelve bus packages to different bidders to increase diversity in the market.
- The firm's ability to reap economics of scale might be reduced as their scale of operation might not be that extensive compared to the current situation as each package has only about 300-500 buses each.

For example, their ability to reap financial EOS might be reduced as larger firms are often able to get bank loans at lower rates of interest and with better conditions due to their credit-worthiness. Hence their average cost might increase which would reduce their profits given that they are paid fees by the government.

- As the operators are paid fees by the government, their supernormal profits might be reduced compared to the current system where they can retain whatever profits they have made.
- New bus operators would benefit as it is now easier for them to enter the industry as they no longer have to incur huge initial capital outlay with the government taking over the infrastructure. Private bus operators for example can now make inroads into the public bus sector.
- Overall, the impact on incumbents would be negative due to the fall in market share while new bus operators would benefit as they can enter a new market.

Impact on society (efficiency, equity)

- As the fare revenue is now collected by the government, the firms would not be able to exploit their market power by charging prices above marginal cost. Hence if the government keeps the fares low and affordable, the extent of allocative inefficiency and welfare loss would be mitigated.
- As the operators are paid fees, their supernormal profits might be curtailed. This may improve income equity as the profits are less concentrated in the hands of a few producers at the expense of the majority consumers.
- The lack of investment on R&D due to the lack of funds might reduce the level of innovation and dynamic efficiency.
- Overall, the introduction of competitive bus contracting is likely to improve equity and efficiency.

Conclusion and Evaluation

Stand + justification

- In conclusion, the impact of introducing competitive bus contracting is likely to be positive on the consumers, new bus operators and society. The incumbent operators are likely to suffer.
- It is expected that the move would greatly increase bus service standards as the increase in competition will spur firms to deliver more efficient and effective services which is crucial for consumers given the increasing ridership of buses over the years.
- The lack of R&D can be mitigated if the government spends resources to engage in R&D to improve the service for example by providing bus arrival times at bus stops.
- Moreover the bus contracting will be implemented in phases over several years to ensure a smooth transition for all involved and that the incumbents have enough time to adjust and adapt.

Marking Scheme		
L2	Well-developed explanation of the impact of introducing competitive bus contracting on consumers, producers and the society. <u>Maximum 4 marks</u> for answers without reference to case study evidence. <u>Maximum 4 marks</u> if only 2 parties are covered.	4 – 6
L1	Under-developed explanation of the impact of introducing competitive bus contracting on consumers, producers and the society.	1 – 3
E1	Underdeveloped analysis of the extent or types (positive or negative) of impact.	1 – 2
E2	Overall judgement that is well supported by case study evidence and well-developed analysis of the extent or types (positive or negative) of impact.	3 – 4

CSQ2

a) Using Figures 2 and 3, compare the change in the balance of trade of US with that of UK between 2006 and 2014. [2]

- Similarity: Both balance of trade accounts are in a deficit throughout. (1m)
- Difference: The balance of trade deficit in US is improving while the deficit in UK is worsening. (1m)

b) Using AD/AS analysis, explain how 'the inevitable rise in interest rates over the next few years could weaken the economy' (Extract 4). [4]

- An increase in interest rate will increase the cost of borrowing. Marginal projects which were profitable at lower interest rates become unprofitable, thus investment decreases. At the same time, the increase in cost of borrowing will cause consumers to reduce their spending, especially on big ticket items as they borrow less. Households will also increase their savings and reduce consumption as the opportunity cost of consumption increases.
- When consumption and investment falls, aggregate demand decreases, shifting AD curve from AD_0 to AD_1 to the left as shown in Figure 1. This will reduce national income by the multiple, through the multiplier process as real GDP falls from Y_f to Y_1 , thus weakening the economy.

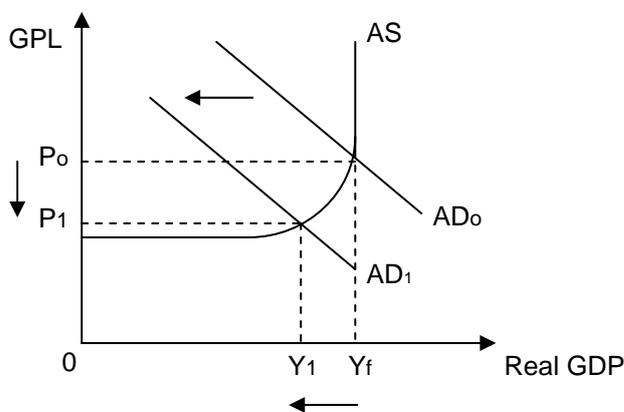


Figure 1

3m for explanation of how C and I lead to the weakening of economy
1m for the diagram and explanation

c) Compare the causes of the trade deficit in US and UK. [6]

Similarities:

1) Strong Currency (USD/Pound) (Extracts 5, 6 and 7)

- Appreciation of the USD/Pound has eroded the export competitiveness of the US/UK products in the international market. It will cause the prices of exports to become relatively more expensive in foreign currencies. At the same time, a stronger USD/Pound will make the price of imports cheaper in terms of domestic currency. Assuming that Marshall-Lerner condition holds where the sum of the price elasticity of demand for exports and imports is greater than one, net exports will fall, hence leading to a trade deficit.

2) Strong growth in consumer spending (Extracts 6 and 7)

- There is an increase in consumption in both US and UK. The increase in consumption will lead to an increase in demand for imports and thus import expenditure. Assuming that export earnings remained unchanged, this may contribute to a trade deficit.

Difference (Extracts 6 and 7):

- The weak Eurozone will lead to a fall in national income in EU. This reduces their purchasing power and consumption, leading to a fall in demand for imports. They will now thus demand less of UK's exports leading to fall in export revenue. Ceteris paribus, this might lead to a trade deficit. US

on the other hand experiences a fall in export demand probably due to the lack of export competitiveness of its manufactured goods in terms of quality for example. The corresponding fall in export revenue will lead to a trade deficit assuming ceteris paribus.

2m for each factor explained.

- d) **Extract 7 says that UK's widening trade deficit would be a big challenge facing the government over the next five years. Discuss the impact of a worsening trade balance on the UK economy and its living standards. [8]**

Explain how a worsening trade deficit affects external stability (BOP and ER)

BOP

- From Extract 7, a worsening trade deficit may contribute to a huge and persistent balance of payments deficit and can be a cause of concern for the UK government. It may lead to falling foreign reserves or borrowing which will lead to external debt. Figure 1 shows that UK is ranked second with the largest external debt in the world.
- There will be an opportunity cost incurred as the funds used to repay the debt could be used for infrastructural development which helps to create growth.

ER

- There is also a risk that the Pound will depreciate due to the worsening trade deficit. The fall in export revenue will lead to a fall in demand for Pound while the increase in import expenditure will lead to an increase in supply for Pound, leading to the depreciation. With the weakening of the Pound, it will also encourage capital flight and discourage short term capital inflow to the UK as speculators anticipate the Pound to depreciate further. This will worsen the capital account.

Extent of impact

- The impact is large as a worsening trade deficit will hinder UK's attempt in rebalancing the economy from consumption towards exports.
- The huge external debt accumulated will also lead to adverse consequences in the long run.

Explain how a worsening trade deficit affects internal stability (EG, N and inflation)

EG, N

- Net exports is a component of the aggregate demand (AD). A worsening trade deficit or fall in net exports will reduce aggregate demand and decrease national income by the multiple, through the multiplier effect. Actual growth will fall.
- Firms will then adjust to this fall in demand by decreasing the level of production and hire less factors of production which include labour. Cyclical unemployment will rise.

Extent of impact

- The extent of impact on growth and employment depends on UK's multiplier size. If UK's multiplier size is large, the impact might be large.
- The extent also depends on the state of the economy. If UK is near or at full employment, a fall in AD may lead to a fall in GPL instead of a fall in real income, thus mitigating the impact.

Inflation

- With a weakening Pound, imports will be relatively more expensive in terms of domestic currency. This will lead to imported inflation. If imported raw materials become more expensive, cost of production will rise which leads to cost push inflation.

Extent of impact

- The extent of impact might not be that severe as UK is not heavily dependent on imports as being a large country, it is likely to have an abundance of raw materials.

Explain how a worsening trade deficit affects living standards.

- If the population remains unchanged, the fall in national income will lead to a fall in real per capita income. This will cause a fall in purchasing power and consumption of goods and services. Quantitative standard of living will worsen.
- However if the worsening trade deficit is mainly due to the rising import expenditure, qualitative SOL might have risen as consumers consume better quality imports.

Conclusion and Evaluation

- A worsening trade deficit poses a challenge for the government as it can impact UK's macroeconomic goals and standard of living adversely.
- Overall, the impact might not be that severe as Extract 7 mentioned that the trade deficit only worsened slightly. However, the large amount of external debt is a huge concern and the government does need to prevent the trade deficit from worsening.
- The overall impact of a worsening trade deficit also depends if the trade deficit can be offset by a surplus in the invisible trade or/and capital account. If the trade deficit can be offset by such surpluses, it may not be a concern to the UK government as the impact on the UK economy might not be that serious.

Marking Scheme		
L2	Well-developed analysis of the impact of a worsening trade deficit on the UK economy and its living standards.	7-8
	AND Reasoned assessment (evaluation) on the overall impact.	
	Under-developed explanation of the impact of a worsening trade deficit on the UK economy and its living standards.	4-6
	<u>Maximum 4 marks</u> for answers with no case study evidence.	
L1	Smattering of valid points.	1-3

e) Assess the view that signing free trade agreements is the most effective policy to correct the trade deficit in the US. [10]

- A large and persistent trade deficit in the US can bring about negative impacts on both the internal and external stability of the economy. The US government can sign free trade agreements to correct the surging trade deficit. Extract 6 mentioned that President Barack Obama needs to complete a trade agreement with 11 other nations, an agreement known as the Trans-Pacific Partnership to help correct the trade deficit.

Thesis: Signing free trade agreements is the most effective policy to correct the trade deficit in the US.

Signing Free trade agreements

- Signing free trade agreements (FTAs) is the most effective policy to correct a trade deficit in the US because she will benefit greatly from the lowering or removal of tariffs by other countries as it means that US exports will now be cheaper. This will improve the price competitiveness of the exports. Assuming that the demand for US exports is price elastic due to the availability of substitutes, a fall in the price of exports will lead to a more than proportionate increase in the quantity demanded of exports, increasing US export revenue, correcting the trade deficit, ceteris paribus.

Anti-thesis: Signing free trade agreements is not the most effective policy to correct the trade deficit in the US.

Limitations

- With FTAs, it becomes easier for foreign firms to compete with US firms. This may hurt the local firms and force them out of the industries if they are unable to compete with the foreign firms. This

will result in unemployment in the US. Strong foreign competition may also deter potential local investment from taking place if the business sentiment is not optimistic.

Supply side policy

- Besides signing FTAs, US can look at other policies to correct the trade deficit. Extract 6 states that the best way to maintain the quality of exports in an increasingly competitive global economy is through innovation in products, processes, and services. Supply-side policies could be used to retrain workers and subsidise research and development to further improve the efficiency of the production process as well as the quality of products. This will enhance US export competitiveness and help her expand the reach of her exports.
- The US government could also develop research facilities to make US exports more competitive while moving towards an innovative economy in the era of globalisation. The introduction of new products or the increase in quality can lead to an increase in the demand for exports, thus increasing export revenue and correcting the trade deficit, ceteris paribus.

Limitations

- However, huge funding is required and it depends on the ability of the US government to fund such R&D initiatives. The use of the government funds also incurs an opportunity cost as these funds could be spent on other areas like healthcare.

Depreciation of the USD

- From Extracts 5 and 6, one of the root causes of the trade deficit is the strong dollar. Thus, to effectively correct the trade deficit, the US government can allow the US dollar to weaken since the USD has been strong as mentioned in the data. As the USD depreciates, exports will become relatively cheaper in foreign currencies and imports will become relatively more expensive in USD. Assuming that Marshall-Lerner condition holds where the sum of the price elasticity of demand for exports and imports is greater than one, net exports will increase, hence correcting the trade deficit.

Limitations

- The adversely affected trading partners might eventually retaliate by lowering the value of their currencies too, which will cancel out the favourable effects of the depreciation by US. It will also result in hot money outflow as speculators expect the currency to depreciate further in the future, leading to a worsening of the capital account. US is an international financial hub and the USD is heavily traded hence the extent of the capital flight would be large.
- Depreciation of the USD might also lead to imported inflation as imports are now relatively more expensive in terms of domestic currency. Domestic firms that use imported raw materials might pass the higher cost to their consumers in the form of higher prices, increasing the cost of living.

Conclusion and Evaluation

- Overall, signing free trade agreements is not the most effective policy to correct a trade deficit because it takes time for countries to agree to the terms and sign the agreement and it does not solve the root causes of the problem. The trade deficit in the US is largely due to the strong USD and the lack of export competitiveness in terms of quality.
- To correct the trade deficit more effectively, it is important that the US government introduces a combination of policies to tackle her worsening trade deficit. For example, in the long run, the US government can continue provide funds for research and development to develop new comparative advantages to address the problem of the lack of export competitiveness. Meanwhile in the short run, the government can allow the USD to depreciate to prevent the trade deficit from worsening further.

**Protectionism and CMP/CFP not accepted.*

Level	Mark Scheme	Marks
L2	<p>Well-developed explanation of how FTAs and two alternative policies can correct the trade deficit with strong use of case study evidence.</p> <p><u>Maximum 4 marks</u> for answers without reference to case study evidence.</p> <p><u>Maximum 4 marks</u> for well-developed explanation of FTAs and one other policy.</p>	4 – 6
L1	<p>Under-developed explanation of how FTAs and alternative policy/policies can correct the trade deficit, with some use of case study evidence.</p> <p>Or</p> <p>Well-developed explanation of how FTAs can correct the trade deficit without alternative policies, with use of case study evidence.</p>	1 – 3
E1	Underdeveloped analysis of the effectiveness of FTAs and the limitations of the other policies.	1 – 2
E2	Overall judgement that is well supported by case study evidence and well-developed analysis of the effectiveness of FTAs and other policies.	3 – 4