Name: _____ Index Number: _____ Class: _____

DUNMAN HIGH SCHOOL
Preliminary Examination
Year 6

ECONOMICS
(Higher 2)
Paper 1

9757/1
18 September 2017
2 hours 15 minutes
2:00 pm – 4:15 pm

Additional Materials:
Writing Papers
2 strings

READ THESE INSTRUCTIONS FIRST.

Answer **all** questions.

Write your answers on the separate writing paper provided.

Write your name and class on all pieces of work handed in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Please start on a **fresh** sheet of paper for a new question.

The number of marks is given in brackets [ ] at the end of each question or part question.

At the end of the examination, fasten all your work securely into **two** separate bundles (one for Question 1 and one for Question 2), using the strings provided.

This document consists of **7** printed pages including this cover page.

[Turn over

Answer **all** questions.

Question 1 Issues in Aviation, Travel and Tourism

Table 1: Price Elasticity of Demand Values for Air Travel as a Function of Booking Characteristics

Advance Booking: Days from Departure	Price = $199 (median)
1 – 2 days	-0.57
3 – 7 days	-1.03
8 – 14 days	-1.36
15 – 21 days	-1.58
22 – 28 days	-1.89

Source: www.elsevier.com, Transportation Research Part A (2014)

Table 2: Average Income Elasticity of Demand for Inbound UK Tourism By Nationality of Tourists

European Union (EU) Countries			Non-EU Country
France	**Germany**	**Italy**	**US**
1.37	1.5	1.37	2.01

Source: European Journal of Economic Studies, 2013, Vol. 4, No. 2

Table 3: Annual Growth in GDP Per Capita (%) for Selected Countries, Constant Prices

	France	Germany	Italy	US
2013	0.1	0.2	-2.2	0.9
2014	0.4	1.2	-0.1	1.6
2015	0.6	0.8	0.9	1.8

Source: OECD, accessed 18 August 2017

Extract 1: A Growth Strategy for Inbound Tourism to Britain from 2012 to 2020

Britain has, in general, a strong product offer. Luxury hotels, shopping, heritage, culture and attractions are world-class and are considered to offer good value for money by people who have visited Britain.

In addition, many visitors are attracted to the countryside and to experiences available outside of London, but are unaware of the opportunities as the majority of product on offer through the tour operators is London-focused.

Adapted from: http://www.visitbritain.org, April 2013

Extract 2: Airline Fare Riddle – One Route, Two Prices

Airlines charge different prices for the same trip depending on which direction passengers are flying. International flights had the biggest directional price differences. Between New York and London round-trip, travellers paid $2,507 on average if they started in New York, and $1,672 if they began the trip departing from London, a 50% difference. Between New York and Tel Aviv (major city in Israel), people leaving from the U.S. paid 28% more on average than people in Israel if the round-trip began from New York than if the trip started at Tel Aviv.

In theory, there are just as many passengers traveling back and forth between any pair of cities. And there isn't any cost difference to the airlines for the round-trip no matter which direction is flown first.

"I think the U.S. consumer is being gouged by the airlines, but it's the nature of commerce," said chief executive officer of Da'at Educational Expeditions, which organises group tours in Israel. "There's no way a 28% price difference between New York and Tel Aviv can be attributed to fewer travellers on a round-trip route. Travellers go both ways." Airlines try to get the most revenue out of each flight based on what people are willing to pay, said a former airline-pricing executive.

American Airlines, Delta and United Airlines all say directional differences result from simple supply-and-demand pricing. Some cities have more buyers of last-minute tickets at higher prices, which drives up the average for tickets sold in one direction over another, a Delta spokesman said. A United spokesman said holiday travel periods drive demand directionally, pushing fares higher.

Airlines say their prices vary between countries, which is why airline websites often ask travellers to identify their country when they first begin shopping for fares. A weak economy in a particular country might prompt airlines to offer lower prices to stimulate travel from that location, while not offering those prices on the same route in the opposite direction.

In Israel, travellers headed for New York are willing to make a stop in Europe to get lower fares. U.S. travellers prefer the convenience and perceived safety advantages of nonstop, direct flights. That forces airlines to offer lower prices in Israel to better compete against European airlines on the New York-Tel Aviv route.

Adapted from: The Wall Street Journal, 7 January 2015

Extract 3: London's Airports

London, Europe's financial centre, needs more airport capacity. In 2014, its three main airports (Heathrow, Gatwick and Stansted), with 4 runways between them, handled 130m passengers, 16m more than New York's main three, which have nine. Heathrow is operating at full capacity, and has been for at least five years. This congestion is damaging. As routes become busier, ticket prices go up and other hubs, such as Dubai International, become more attractive to travellers. Dubai has already overtaken Heathrow in terms of international passenger numbers.

Without expansion, both regional and international passengers lose out. As airports become more crowded, fewer domestic flights can be slotted in, potentially hindering business people in places such as Manchester and Newcastle who use Heathrow to transfer to America or Asia. Crowding also leaves less scope for links to emerging markets. Expanding Heathrow is estimated to boost GDP by 0.65-0.75% by 2050.

Although the number of residents affected by aircraft noise has fallen sharply over the past two decades as planes have become quieter, it still affects over 200,000 people. Air pollution, already high in areas near the airport, would increase and could blight up to 47,000 homes, unless a low-emission zone was put into place. However, the expansion is likely to be beneficial if Heathrow provides more generous compensation to those who are affected by noise or have to relocate their homes.

Adapted from: The Economist, 4 July 2015

Extract 4: Airport Expansion – What Happens Next?

The plan involves building a new 3,500m runway at an estimated cost of £18.6bn. The Heathrow scheme is predicted to create the most jobs and make the most money for the country, adding £147bn in economic growth and 70,000 jobs by 2050. Heathrow expansion is seen as the best short-term option to keep Britain competitive with its European rivals. Heathrow is a big employer and supporters cite a knock-on effect on businesses in the area.

A report by economist Sir Howard Davies said that the new runway should come with severe restrictions to reduce the environmental and noise effects. Night flights should be banned and the government should pledge not to build a fourth runway. The report also recommends an aviation noise levy to fund insulation for homes and schools, and says a legal commitment should be made on air quality.

What are the downsides?

Heathrow would become the biggest emitter of carbon dioxide in the country. Noise pollution would become even worse for the 760,000 people already living under the flight path – and nearly 800 homes would have to be demolished to build the new runway due to its location in a heavily built-up area.

No one really knows whether long-term aviation will continue growing as it has so far. Even those who are building the new generation of airports wonder if the trend will hold.

Adapted from: BBC, 29 June 2015 and 1 July 2015

Questions

(a) Explain why the magnitude of the price elasticity of demand for air travel increases the more days in advance of the departure the booking is made. [2]

(b) (i) Explain what a value of 1.5 for the average income elasticity of demand for inbound UK tourism from Germany means. [2]

(ii) Explain whether tour operators can make use of the information in Tables 2 and 3 and Extract 1 to boost total revenue. [4]

(c) Discuss whether the ‘Airline Fare Riddle – One Route, Two Prices’ (Extract 2) is an example of price discrimination. [8]

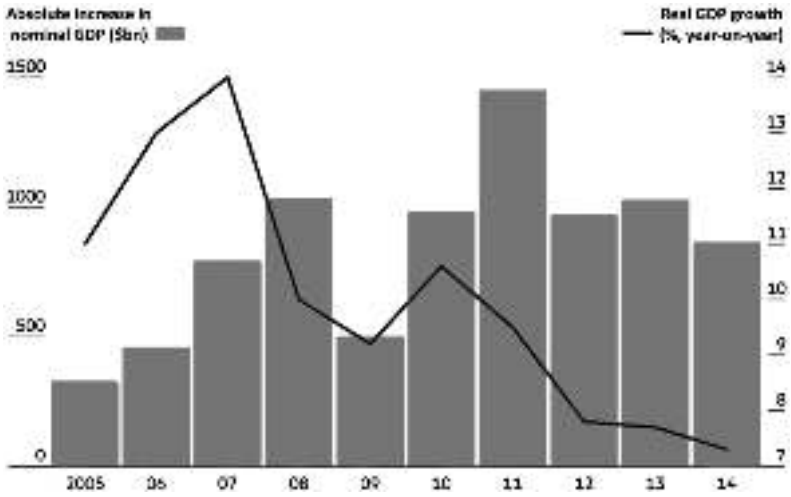
(d) With the aid of a diagram, explain what determines whether consumers or producers would likely bear a greater tax burden when ‘an aviation noise levy’ (Extract 4) is imposed. [4]

(e) In view of the possible economic impact, assess whether the expansion of the Heathrow runway can ever be justified. [10]

[Total: 30 marks]

Question 2 Rebalancing of the Chinese Economy

Figure 1: Absolute Increase in China's Nominal GDP and Real GDP Growth



Source: World Bank

Table 4: Selected Economic Indicators of the Chinese Economy

Year	GDP in USD (Billions)	GDP in PPP (USD) (Billions)	GDP Per Capita PPP (USD)
2012	8 560	15 218	11 146
2013	9 611	16 641	11 951
2014	10 483	18 138	12 759
2015	11 063	19 412	13 570
2016	11 203	21 255	14 401

Table 5: Selected Economic Indicators of the U.S. Economy

Year	GDP in USD (Billions)	GDP in PPP (USD) (Billions)	GDP Per Capita PPP (USD)
2012	16 155	16 155	50 520
2013	16 692	16 692	51 009
2014	17 393	17 393	51 831
2015	18 037	18 037	52 790
2016	18 569	18 569	53 273

Source: various

Extract 5: The Rural-Urban Divide in China

At the outset of the reforms in 1978, China was poor. It had a GDP per capita level similar to Zambia – lower than half of the Asian average. China experienced an average GDP growth of close to 10% per year until 2014, raising per capita GDP almost 49-fold, from 155 current US Dollars (1978) to 7,590 US Dollars in 2014, lifting 800 million people out of poverty.

In urban cities in China, poverty has been virtually eliminated. However, China's development has been driven by the coastal east, while the rural west is lagging behind. This difference in development within China sparked rural-urban migration, where rural dwellers sought jobs and the prospect of better lives in urban cities.

The average take-home pay of migrant workers, who are among China's lowest paid, is often less than half the overall average wage in China's major cities. One veteran employee in Chongqing explained: "The average pay for manual labourers at the enterprise was between 2,000 to 3,000 yuan per month while professionals usually got around 12,000 yuan a month."

Adapted from: World Economic Forum, 23 June 2016
and China Labour Bulletin, 20 July 2016

Extract 6: China is Buying its Way into the U.S. Economy

Chinese investors are increasingly snatching up U.S.-based firms and assets. Until recently, three quarters of Chinese foreign investment was in energy, natural resources, and related transportation infrastructure. Now, with investment returns on commodities low, China has shifted its focus onto industries with higher rates of return, such as entertainment, real estate, insurance, and technology – industries where the U.S. is the dominant market. Since global commodity prices are likely to remain weak for the next two or three years, the table is set for much more Chinese investment in the U.S.

The eclectic pool of U.S. investments and holdings tied to the Chinese – including New York's Waldorf Astoria hotel, the national AMC Theatres cinema chain, Starwood Hotels, California-based tech firm Ingram Micro and Smithfield Foods, America's largest pork producer – also suggest that Chinese firms are attempting to buy up international assets in a less volatile economy like America's. By spreading out Chinese-owned assets, the country can better protect itself from an unexpected domestic crisis and the conservative consumption patterns of Chinese consumers. The shift to focus on outward foreign investment will do much good for China's balance of payments and long run development.

On the other hand, it's important not to overlook the economic benefits foreign investment brings to the U.S. Although there has been evidence in recent years of American job losses related to the rise of China's industrial sector, Chinese foreign direct investment offers an interesting avenue to bring jobs back to the U.S.

"One of the biggest challenges I had was we had a lot of exports. But the exports were our children leaving our community because of the lack of manufacturing jobs, the lack of good jobs for our children," Sheldon Day, mayor of Thomasville, Alabama, said during a National Committee on U.S.-China Relations event in October.

Day's rural Alabama region recently became the site of Golden Dragon Precise Copper Tube Group's first U.S. plant in a move that was expected to bring hundreds of jobs to Americans while cutting down on steep transportation costs Golden Dragon would have faced if it tried to ship Chinese-made products into the U.S. marketplace.

Day said in October that the factory's opening made "a tremendous difference in our community and our economy. Now, we have a Chinese product that was previously made in China that's now being made by Alabamians," he said. "And it's being used here and being shipped to U.S. firms."

Adapted from: US News, 17 May 2016 and Forbes, 10 December 2015

Extract 7: China's Economic Slowdown Promises Fresh Opportunities

China now embraces comprehensively deepened reforms to build a moderately prosperous society with slower, high-quality growth. China has still to substantially narrow the income gap between rural and urban residents, cut overcapacity and speed up industrial restructuring, and arrest environmental deterioration.

First, to reduce income disparity between rural and urban areas, China will press ahead with the ongoing course of urbanisation, not only to reap the productivity gains related to the migration of rural residents to cities, who are among the lowest paid. Booming Chinese cities will continue to drive inclusive growth as the government strives to expand equal access to public resources.

Second, to deal with overcapacity and accelerate the industrial upgrade. On one hand, the central government has reduced administrative approvals required to encourage markets to boost innovation and produce high value added goods. On the other hand, China announced plans to develop the "Internet Plus" plan in March, to upgrade the manufacturing powerhouse by riding the tide of internet-led innovation.

Third, never underestimate China's sense of urgency to address environmental problems or its eagerness to explore opportunities from greener growth. As the world's largest investor in low-carbon energy, with an investment of about $90 billion last year, China aims to cap CO2 emission by 2030. To this end, by 2020 the country plans to install 100 gigawatts of solar power – almost half the current global capacity – and 200 gigawatts of wind power. And as both the world's largest auto market and the largest automaker, one should not be that surprised to see China's attempts to leap ahead of other competitors in the field of electric cars.

Adapted from: The Telegraph, 25 April 2015

Questions

(a) (i) What is the difference between real gross domestic product (GDP) and nominal GDP? [1]

(ii) Describe the trend of China's real GDP between 2005 and 2014. [2]

(b) (i) Explain why China's GDP in PPP (USD) (billions) is higher than China's GDP in USD (billions) from 2012 to 2016. [2]

(ii) Comment on whether the data in Tables 4 and 5 is sufficient to conclude that in 2016, the average U.S. citizen has a higher standard of living than the average Chinese citizen. [3]

(c) With the use of diagrams, explain the effect of rural-urban migration on wage differential between manual labourers and professionals in the urban cities. [4]

(d) Discuss whether China or U.S. has more to gain from the increased inflow of foreign direct investment from China into U.S. [8]

(e) As a consultant to China's largest trade union, All-China Federation of Trade Unions (ACFTU), what options would you present and recommend to the government as possible responses to improve the welfare of Chinese workers? Justify your answer. [10]

[Total: 30 marks]

End of Paper

9757 H2 Economics Prelims Paper 1 Suggested Answers

Question 1 – Issues in Aviation, Travel and Tourism

(a) Explain why the magnitude of the price elasticity of demand for air travel increases the more days in advance of the departure the booking is made. [2]

Question Analysis

'why… PED for air travel increases'	• *asking for PED factor relevant to air travel market*
'more days in advance of departure the booking is made'	• *PED factor of 'time period' → to be explained*

- <P> Consumers have the time to search for alternative substitutes when the number of days is further from the departure date
- <E+E+L> For a 1% rise in airfare tickets, consumers are inclined to switch to other airline companies → leads to a larger than proportionate fall in quantity demanded by 1.89%, implying a price elastic demand

1m identification of reason, 1m explanation of reason (show implicit comparison)

(b) (i) Explain what a value of 1.5 for the average income elasticity of demand for inbound UK tourism from Germany means. [2]

Question Analysis

'what a value of 1.5 … means'	*explain the significance of:* • *a positive value* • *a value of 1.5*
'YED… from Germany'	• *apply to incomes of Germans (refer to Table 3)*

It means that when incomes of Germans rise* (Table 3) by 10%#, the quantity demanded for UK tourism rises* by 15%#, **ceteris paribus**, suggesting a luxury good.

- 1m for explaining direction* of change and 1m for the magnitude# of change
- Max 1m if theoretical answer

(ii) Explain whether tour operators can make use of the information in Tables 2 and 3 and Extract 1 to boost total revenue. [4]

Question Analysis

'explain whether'	• *2-sided analysis*
'can make use of the information'	• *how the information can be used* • *limitations of information (question the data)*
'boost total revenue'	• *<PEEL> answer must address TR → P × Q*

<Define key term>: Total revenue (TR) is the product of price (P) and quantity (Q).

Thesis & Antithesis

- ***T**: How the given info. can be used to ↑TR*
- ***AT**: The given info. is incomplete (missing info. e.g. factors that affect TR but such info. is absent) and/or flawed (question the reliability and accuracy of info. + explain why) → need other pieces of info. (please suggest what info. is needed) to complement the given info. to help tour operators ↑TR*

9757 H2 Economics Prelims Paper 1 Suggested Answers

Thesis: tour operators can make use of the info (Tables 2 & 3 & Ext 1) to ↑ TR

<E & E> Given the fastest GDP per capita growth rate in US (Table 3) and highest income elasticity of demand (Table 2), tour operators should focus on organising tour packages:

(1) to the target audience of Americans

(2) that tends to be more high-end in nature e.g. luxury hotels' accommodation and the itinerary should include luxury shopping spree tours, heritage trails, sightseeing places to cultural sites such as museums, countryside stay-overs as well as visiting places beyond / outside of London (Ext 1)

⇨ <E & L> more than proportionate (largest) ↑ in demand → shortage → exert upward pressure on price → largest ↑ equilibrium P and ↑ equilibrium Q → largest ↑ in TR

Anti-Thesis: tour operators cannot make use of the information to ↑ TR (any ONE)

- <P> The given information in Tables 2 and 3 is incomplete → need other pieces of info. to complement the given info. for the tour operators to make use of to ↑ TR

• <E> Table 2 only provides YED value for 4 selected countries but for an unknown time period of when the YED value is measured (likely before 2013 as stated in the source), i.e. limitations of YED values in terms of: (1) limited number of 4 countries only and tourism to UK only → lack of YED values on other countries that tour operators could also make use of to ↑ TR (2) limited and obsolete data for years 2016 and beyond → YED and EG rate values may change over time, for e.g. tourists from certain countries may perceive overseas travel to UK as more of a necessity in future	• <E> Table 3 only provides EG rate values on (1) 4 selected countries and (2) for a short time period of 2013 to 2015 → limitations of EG rate values in terms of: (1) limited number of 4 countries only and tourism to UK only → lack of income values on other countries that tour operators could also make use of to ↑ TR (2) limited and obsolete data for years 2016 and beyond → EG rate values may change over time, for e.g. Italy's EG rate went from negative to positive within 3 years

- <E & L> Over time, tour operators have to adjust their strategy in terms of their itinerary and tour packages so as to ↑ TR. However, due to the limited info., tour operators may be less able to ↑ TR by the largest extent.

- <P> Ceteris paribus assumption is unlikely to hold true in reality (another limitation of elasticity concept) → changes in other factors such as changes in external environment / conditions also affect TR, for e.g.:
  (1) <E> there could have been an appreciation of UK pounds against currencies of major economies that may make travelling to UK more expensive
  (2) <E> ↑ terrorism may deter consumers from travelling → change in tastes and preferences towards overseas travelling
  ⇨ <L> despite EG of the 4 countries, their citizens ↓ demand for UK tourism → tour operators' TR may not ↑

- Max 1m if theoretical thesis without any reference to case evidence
- If some application to case evidence (Table 2 and 3 OR Ext 1) → 3m for thesis
- Last mark for anti-thesis → with or without reference to case evidence

(c) Discuss whether the 'Airline Fare Riddle – One Route, Two Prices' (Extract 2) is an example of price discrimination. [8]

Question Analysis

'price discrimination'	• *type of price discrimination?* • *conditions for price discrimination?*
'Extract 2' and other data (if relevant to question)	• *to consider the different circumstances as provided in data*

<Define price discrimination (P.D.)>: P.D. is defined as the selling of the same good at different prices for reasons not associated with differences in marginal costs (MC).

Thesis: the airfare riddle is an example of price discrimination P.D. (3rd degree)	**Anti-Thesis: airfare riddle is not an example of P.D.**
For P.D. to be successful, the firm must meet the following 3 conditions (2nd and 3rd conditions are much more important than 1st condition): (1) <P> The firm must have the ability to set price, i.e. it is a price setter, which gives it the ability to charge different prices to different consumers or for different units. • <E & E> Airlines are oligopolists that generally possess high market power due to the high barriers to entry (BTEs – to define) in the form of structural BTEs. Airlines have to purchase costly aircraft fleets that require the spreading of such high costs over a large output to allow the lowering of average costs of production (AC) via the reaping of internal economies of scale (EOS). New entrants that usually start small for an untested product cannot gain significant internal EOS to lower AC, thus are less able to effectively compete with incumbents as they are less price competitive, deterring them from entering the market. • <L> Thus, due to the high market power that airlines have, they are able to set prices. (2) <P> The firm must have the ability to separate / segment the market into separate and identifiable groups at low or no cost, so that the firm can charge different price to different consumers or groups of consumers. Also, there must be no possibility of resale between the different markets. Else, consumers can buy goods in the cheaper market and resell it in the more expensive market, thus restoring price equality, and remove the firm's ability to price discriminate. • <E & E> Airlines can segment the market into those who make advance booking air ticket purchases (early birds) vs. last minute buyers or for different flight routes (New York to London vs. London to New York) etc. based on the different booking characteristics of the different consumers (Table 1 & Ext 2) or different travel origin and destination at the same costs. Once the online airline booking system is properly established, airlines do not need to incur additional costs to identify these different travellers. The system will be able to capture the air ticket purchases of different travellers based on the difference in the number of days between the booking date and the flight departure date, difference in travel origin and destination, and then adjust the airfares accordingly via some pricing formula embedded within the system. • <E & E> There is no possibility of resale between the different markets as	(1) <P> The different airfares could be due to differences in demand → **differences in MC**. • <E & E> The higher the demand, the higher the MC → directional differences in pricing of air tickets. The difference in demand could be due to for e.g. <explain any ONE>: ❖ more holiday travel periods (Ext 2) in New York than London and Israel → more people in New York go to London / Israel than the other way round ❖ smaller ↑ demand in a weak economy e.g. France in 2015 compared to a larger ↑ in demand in a booming economy e.g. USA (Table 3), and also due to a more income elastic demand for USA than for France (Table 2) • <E> More passengers on board likely means

different passengers have different flight departure timings and dates, different flight origin and destination, different luggage requirements, different needs (e.g. wheelchair-bound passengers or those with children). Also, air tickets are non-transferrable and thus resalable, as each air ticket bears the name of the flying passenger.

- <L> Hence, airlines are able to segment the market into separate and identifiable groups at no cost, as well as prevent the resale of air tickets between markets.

(3) <P> The price elasticity of demand (PED) must differ between different consumers and / or groups of consumers so that the firm is able to charge a higher price in the market where demand is more price inelastic and a lower price where the demand is more price elastic. <Explain any ONE>.

Different PED due to differences in proportion of income spent on the good likely because of differing economic conditions between different countries

- <P> Based on the difference in the proportion of income spent on air tickets, the magnitude of PED is much higher for lower-income consumers.
- <E & E> Ext 2 → Travellers pay a difference of up to 50% due to a **higher proportion of income spent on the good** for an average citizen living in London / Israel (lower-income countries relative to New York) compared to an average citizen living in New York. Passengers (New Yorkers) who are relatively higher-income earners than lower-income earners (Londoners and Israelis) spend a small % of income on air tickets. They are likely to be indifferent even if airfares were to rise, hence face a relatively price inelastic demand compared to Londoners and Israelis.
- <E & E> Similarly, from Ext 2, a weak economy in a particular country (e.g. Italy in 2013 and 2014 in Table 3) might prompt airlines to offer lower prices to stimulate travel from that location due to relatively more price elastic demand (higher proportion of income spent on the good), while not offering those prices on the same route in the opposite direction that could have a relatively more price inelastic demand.

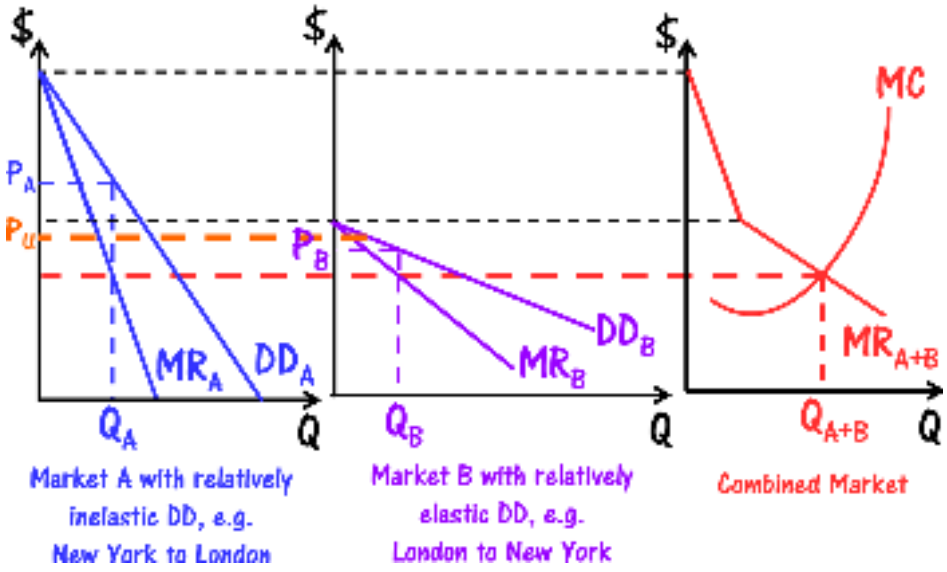


Figure 1: charging different prices in different markets – 3rd degree P.D.

- <E> Airlines are practising third degree P.D. based on the differences in PED. This explains why travellers paid a much higher price of P_A ($2,507) on average if they started in New York, and a lower price of P_B ($1,672) if

a higher MC for airlines, as they need to have more flight attendants to service the passengers, incur higher jet fuel costs etc. → airlines pass on the higher MC to consumers as higher prices <graph + explain>

- Also, there could be differences in airport landing fees in different countries → difference in MC
- <L> Thus, the different airfares is due to different MC, and not a case of P.D.

EV: In theory, there are just as many passengers traveling back and forth between any pair of cities → unlikely to be due to differences in the number of travellers on a round-route trip, i.e. no difference in demand, as 'travellers go both ways' (Ext 2). In reality, even if there is indeed difference in MC, the difference is unlikely to be so vastly different to justify the huge difference of 28% and 50% in airfares.

<P> The air flights could be deemed as **different goods** in the eyes of the consumers → different utility derived by consumers, thus differences in demand → justifies the difference in airfares.

- <E & E> Due to the convenience and perceived safety advantages of

they began the trip departing from London, a 50% difference; and people leaving from the U.S. paid 28% more on average than people in Israel if the round-trip began from New York than if the trip started at Tel Aviv (Ext 2). By charging those with a relatively price inelastic demand a higher price and those with a relatively price elastic demand a lower price, airlines are able to generate higher total revenue (TR), since quantity demanded falls less than proportionately for the former and rises more than proportionately for the latter. In contrast, uniform pricing at P_U does not allow airlines to maximise profits, since TR can be ↑ by shifting output from Market A to Market B as the ↓ TR in Market A (given the lower MR_A) is more than compensated by the ↑ TR in Market B (given the higher MR_B). • <L> Given 'no cost difference to the airlines for the round-trip no matter which direction is flown first' (Ext 2), airlines are able to ↑ profits that is in line with their profit-maximising aim, incentivising them to practise third degree P.D. <u>Different PED due to differing degree of necessity</u> • <P> Based on the different booking characteristics of the different consumers, the magnitude of the PED value increases the more days in advance of the departure the booking is made. • <E & E> Ext 2 → for the same round-trip, **some cities have more last-minute ticket buyers** (usually business travellers who may have to travel urgently / close to departure date) usually have a very price inelastic demand (Table 1) as they may not have sufficient time to search for other alternatives as explained in part (a). Also, due to the high degree of necessity in terms of having to fly on a specific date to clinch business deals overseas unlike leisure travellers who can fly on another date. • <E & L> Thus, last-minute ticket buyers (usually business travellers) face a very price inelastic demand as they are not very responsive to airfare increase, compared to early birds. From Ext 2, airlines usually charge last-minute buyers more expensive airfares due to the higher willingness to pay, and charge early birds lower airfares to 'try to get the most revenue out of each flight based on what people are willing to pay' due to differences in PED.	nonstop direct flights from New-York to Tel-Aviv (Ext 2), the flight experience is smoother than making a stopover In Europe first (different service) from Tel-Aviv to New York. Thus, the utility derived from such nonstop direct flights is higher (different good). Also, the MC could be higher since the airlines may have to offer more frills on board e.g. more food and beverage for direct flights compared to stopover flights. • <L> Thus, the case of non-stop direct flights vs. stopover flights is not an example of P.D. since they are different goods, with higher cost differences that justify the difference in airfares.

Evaluation

- Vested interests of airline companies to account for the difference in airfares by justifying the differences in demand and supply in different countries → need to conduct more research / have accurate information on the MC of round-trips that depart from New York to London / Israel and then compare against the MC of round-trips that depart from London / Israel to New York fly → help to determine if the difference in airfares is largely due to differences in MC or airlines' attempt to gouge consumers because of different PED. If there is indeed MC difference, the airfare riddle may not be an example of P.D. However, even if there is MC difference, it is unlikely to result in a 28% and 50% difference in airfares, thus the airfare riddle is likely to be an example of 3rd degree P.D.
- Depends on the type of air flights → stopover flights vs direct flights could be perceived as different services with different MC → not an example of 3rd degree P.D.

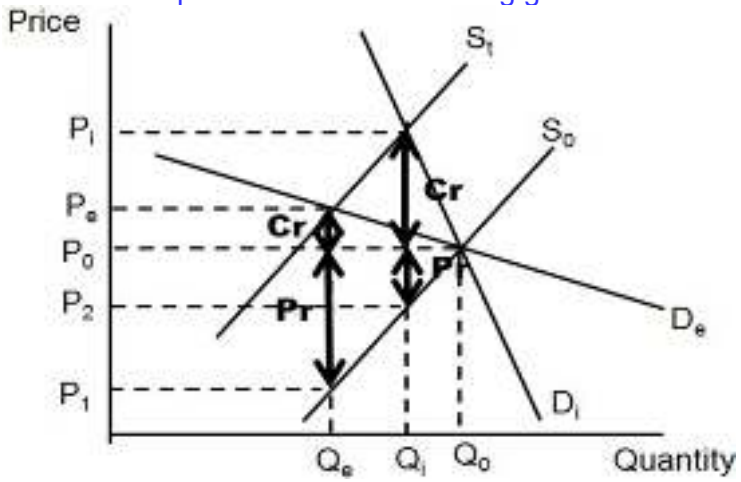
L1	Theoretical answer that fails to address the question with many conceptual errors.	1 – 3
L2	Max 4m for 1-sided answer or 2-sided but underdeveloped arguments. To achieve highest marks, a 2-sided and well-developed analysis (graph) with good referencing to case evidence is required.	4 – 6
E	Able to substantiate with economic reasoning if the airfare riddle is an example of price discrimination, e.g. based on the different types of air flights or the need to	1 – 2

	conduct more research to gather more information.	

(d) With the aid of a diagram, explain what determines whether consumers or producers would likely bear a greater tax burden when 'an aviation noise levy' (Extract 4) is imposed.

[4]

- There is a need to consider the price elasticity of demand (PED) relative to its price elasticity of supply (PES). The economic agent who is more responsive to price changes will bear a lower incidence of the aviation noise levy (indirect tax).
- Supply of air travel is likely to be relatively more price inelastic compared to demand, i.e. absolute value of PED > PES, since the number of seats on an airplane is fixed and for domestic flights, consumers have substitutes of coach and rail to switch to.
- Airline companies are less able to pass on a larger proportion of the aviation noise levy to the passengers as the airline companies are less able to adjust quantity supplied. This is because even if an airplane is half filled with passengers, it will still have to take-off. Similarly, the airline companies cannot allow one additional passenger on board if the flight to a specific destination at a specific timing is already fully booked.
- Thus, the passengers have the greater bargaining power over the airline companies, as they can cut back the quantity demanded for air travel by a much larger extent if the airline companies attempt to pass on the aviation noise levy to them by raising prices.
- As such, for every unit of air travel consumed, passengers bear a smaller tax burden of P_eP_0, whereas the airline companies bear the remaining greater tax burden of P_0P_1.



- 1m for diagram
- Max 3m if no relative elasticity with diagram

(e) In view of the possible economic impact, assess whether the expansion of the Heathrow runway can ever be justified. [10]

Thesis: -ve impact if runway is expanded (not justified)	**Anti-Thesis: +ve impact (justified)**
- Costs to society → allocative inefficiency due to air and noise pollution <graph>; MPC and MPB for consumption of Heathrow runway (airline companies' POV) → at the expense of sustainable EG, non-material SOL Other costs include:	- Benefits to economy → creation of jobs and generates EG via multiplier effect <graph> + rise in competitiveness due to more scope for links to emerging markets EV: however, more benefits enjoyed by workers in tourism sector → may not be inclusive EG Other benefits include: - Benefits to businesses in the airport and beyond

- Costs to residents who reside at where the runway will be constructed → must relocate to a new location → must search for a suitable location to relocate, refurbishing of new home etc. → ↓ utility derived - Increased costs to residents near the airport after the runway is expanded due to more air flights → increased noise pollution	e.g. tourism sector that includes food, retail, hotel accommodation, entertainment, sightseeing / attractions → gain in potential profits <graph> due to more tourists → EG and employment created - Benefits to travellers → reduced congestion → faster time (rise in utility) but more importantly, this raises tourism demand → higher X revenue → EG - Could be better for the residents who relocated as they suffer less from noise pollution. However, this depends on whether the govt compensation is sufficient.

Evaluation

- Ext 3 and 4 → uncertainty / imperfect information in terms of whether aviation industry will continue to expand in future / no one really knows whether long-term aviation will continue growing as it has so far → difficult to assess if the benefits enjoyed will be significant and sustained into the long run
- Difficult to estimate the monetary value of the MEC → difficult to assess the costs
- Based on the above, govt may have to gather accurate, reliable and sufficient information to assess feasibility of expansion as well as ensure that benefits exceed costs, as there are opportunity costs incurred due to the runway expansion (£18.6bn + compensation of residents who must relocate due to runway expansion) → strain on govt budget → less budget on other areas
- Depends on whether govt is able to mitigate the costs → increased tax revenue from aviation noise levy (Ext 4) / EG (from expansion of runway) and then compensate the relevant parties involved

L1	- Theoretical answer with many conceptual errors OR an answer that fails to link to economic impact in terms of economic goals. - Max 4m for lack of scope → micro OR macro impact	1 – 4
L2	- Max 5m for 1-sided answer but covers both micro and macro impact - Max 4m for 1-sided answer or 2-sided but underdeveloped arguments. - Max 5m if no salient arguments on MEC → AiE (costs) AND EG + k effect (benefits) - Max 6m if no salient argument on MEC → AiE (costs) OR EG + k effect (benefits) - To achieve highest marks, a 2-sided and well-developed analysis (explained with graph) on the benefits and costs of the Heathrow runway, with good referencing to case evidence is required.	5 – 7
E	Able to substantiate with economic reasoning whether the Heathrow runway should be expanded e.g. from perspectives of different stakeholders for instance.	1 – 3

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Question 2 – Rebalancing of the Chinese Economy

(a) (i) What is the difference between real gross domestic product (GDP) and nominal GDP? [1]

Define GDP: value of all final goods and services produced in an economy usually in a year.

Real GDP is where the effect of inflation (price increases of G&S) has been eliminated in relation to prices in a selected base year while nominal GDP is GDP recorded at current market prices.

(ii) Describe the trend of China's real gross domestic product between 2005 and 2014. [2]

Increasing at a decreasing rate.

(b) (i) Explain why China's GDP in PPP (USD) (billions) is higher than China's GDP in USD (billions) from 2012-2016. [2]

China's GDP in PPP measures the purchasing power of per dollar USD in China itself, i.e. the value of goods and services 1 USD can purchase in China. If the cost of living is cheaper in China as compared to US, 1 USD should buy more goods in China than is US itself. Thus China's GDP in PPP is higher than China's GDP in USD to reflect the difference in cost of living between the China and US.

(ii) Comment whether the data in Table 1 and 2 is sufficient to conclude that in 2016, the average U.S. citizen has a higher standard of living than the average Chinese citizen. [3]

Define SOL: material (quantity of goods and services) and non-material (quality of life → environment, health, social aspects)

Table 1: Selected economic indicators of the Chinese economy

Year	GDP in USD (billions)	GDP in PPP (USD) (billions)	GDP per capita PPP (USD)
2012	8 560	15 218	11 146
2013	9 611	16 641	11 951
2014	10 483	18 138	12 759
2015	11 063	19 412	13 570
2016	11 203	21 255	14 401

Table 2: Selected economic indicators of the U.S. economy

Year	GDP in USD (billions)	GDP in PPP (USD) (billions)	GDP per capita PPP (USD)
2012	16 155	16 155	50 520
2013	16 692	16 692	51 009
2014	17 393	17 393	51 831
2015	18 037	18 037	52 790
2016	18 569	18 569	53 273

Referring to Table 1 and 2, the GDP per capita PPP (USD) should be selected. These figures have been adjusted for differences in purchasing power and also for differences in the size of population. It reflects the income that each individual has on average to spend.

The average US citizen has 3.7 times the income of the average China citizen, thus he is able to consume 3.7 times goods and services as compared to his Chinese counterpart. This reflects a higher material SOL.

However, the data does not reflect the non-material aspect of SOL, such as the quality of health that the average citizens live in. If the stress level in US is high (due to longer

working hours) and life expectancy lower than China, the data would have overstated the actual overall SOL of the average US citizen.

In conclusion, it is likely that the average US citizen had a higher SOL than the average Chinese citizen after accounting for non-material factors since the average US citizen has a much higher material SOL than the average Chinese.

(c) With the use of diagrams, explain the effect of rural-urban migration on wage differential between manual labourers and professionals in the urban cities. [4]

Diagrams (2 DD-SS diagrams)

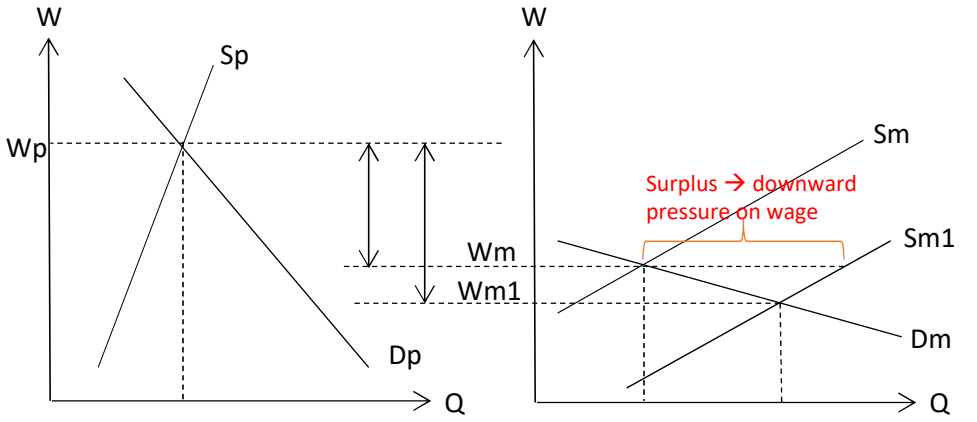

Diagram 1: Market for Professionals

Diagram 2: Market for Manual Labourers

The rural-urban migration resulted in increase in supply of manual labourers as suggested by Extract 1 "The average take-home pay of migrant workers, who are among China's lowest paid…" where they are likely to take on manual work that is of low value.

Referring to the diagram 2, the rural-urban migration resulted in increase in supply of manual labourers, but the demand is low and price elastic relative to professionals due to the low value of output these manual labourers produce. (MAP required) The existing wage differential is widened as a result of the migration.

In diagram 1, the demand for professionals is high due to the high value of output these professionals can produce. The supply is also relatively low and price inelastic as not everyone can work as a professional without long periods of training and aptitude.

Extract 1: average pay for manual labourers at the enterprise was between 2,000 to 3,000 yuan per month while professionals usually got around 12,000 yuan a month

The rural-urban migration had the effect of worsening the existing wage differential between professionals and manual labourers in the urban cities.

(d) Discuss whether China or U.S. has more to gain from the increased inflow of foreign direct investment from China into U.S. [8]

China gains:
- Improvement in current account of BOP as returns from outward FDI flow into China in the future [Extract 2]
- Development for China (potential growth) as China acquires knowledge and technology in industries that it is currently not proficient in as compared to US (explain using AD-AS model on the rightward shift of AS) [Extract 2]
- As a form of divestment as China is not gaining much (X growth) from the

commodities it is currently producing in large quantities [Extract 2]
- Attract future investment as China grows to acquire more technology and ability to produce high value goods (increase in AD and improve BOP)
- Able to produce higher value goods for X in future (increase in AD and improve BOP)

US gains:
- Increase in investment as funds from China move in to expand (assume) the industries (increase in AD from increase in I → k effect and NY increases) + creation of jobs [Extract 2]
- Less imports from China as production is now in US instead of being made in China → improvement in current account of BOP
- Inward FDI → improvement in financial account of BOP

However,
- China suffers in the short run from less local investment as Chinese firms leave the country and divest their funds elsewhere.
- There will be lesser jobs created as a result too.
- There is uncertainty as to whether investing large amounts in US will yield the future potential growth.
- BOP will worsen

Compared to
- US losing out in the LR as returns to investment flow out of the country, worsening current account of BOP
- Hollowing out effect if China exits US once the economy does not provide growth opportunities → drastic effect on BOP and EG

Conclusion
- LR vs. SR considerations
- Other components of AD to grow so as to balance out the effects of investment
- Prioritisation of economic goals
- Decision on China or US gains more

L1 (1-3m)	One-sided answer that considers only the benefits to China or US Lack of economic analysis on the benefits to each country; mere statements without explanation No clear links to macroeconomic objectives
L2 (4-6m)	Analysis of benefits to both countries; clear links to at least two macroeconomic objectives Some aspects of costs to each country from the FDI from China to US
E (1-2m)	Judgment on which country gains more based on certain considerations such as long run vs. long run gains, prioritisation of government objectives.

(e) As a consultant to China's largest trade union, All-China Federation of Trade Unions (ACFTU), what options would you present and recommend to the government as possible responses to improve the welfare of Chinese workers? Justify your answer. [10]

Objective: improve welfare of Chinese workers
Perspective of welfare: workers → tangible benefits (jobs, wages) and intangible benefits (quality of work environment)

Aspect 1
Extract 3: Booming Chinese cities will continue to drive inclusive growth as the government strives to expand equal access to public resources. → reduce the divide

between higher wage and lower wage workers; increasing the tangible/material welfare of the lower income group, as well as the intangible/non-material welfare

The ongoing urbanisation is necessary as this will push workers into higher value-added jobs with higher wage as compared to jobs in the rural areas. However the income disparity within urban cities will be addressed by the government through improving access to public resources such as public safety and law enforcement, clean water, public transport, healthcare or even public housing. This will raise the quality of living in urban cities for Chinese workers.

Suggested options:
(i) construction of utilities, build cheap public housing, cheap public transport
(ii) minimum wage (show on DD/SS model)
(iii) progressive income tax (to explain that the tax collected from higher income is given to lower income group)

Drawbacks:
- strain on government budget and will take a long time for infrastructure to be constructed
- long term projects that will not improve welfare of workers immediately
- workers may not know how to gain access to these resources due to ignorance

Aspect 2
Extract 3: China announced plans to develop the "Internet Plus" plan in March, to upgrade the manufacturing powerhouse by riding the tide of internet-led innovation. → raise productivity of workers to increase wage rate and to create more higher quality jobs

In improving the manufacturing sector where most Chinese workers (lower paid) are placed, it signifies a possible increase in productivity of these workers as they learn to make better use of technology and learn newer, more efficient methods of manufacturing. This will raise their output per hour, thus increase in labour productivity, which will lead to higher wages.

Suggested options:
(i) supply-side measures that will shift AS to the right
(ii) supply-side measures that will shift AS downwards

Drawbacks:
- some jobs lost as productivity increases or that there is now more automation
- exploitation by firms as they make use of the technology but do not pass on the benefits as higher wages to workers

Aspect 3
Extract 3: As the world's largest investor in low-carbon energy, with an investment of about $90 billion last year, China aims to cap CO2 emission by 2030. → move away from high polluting industries that will improve the intangible welfare of Chinese workers

Suggested options:
(i) investment in low-carbon energy will result in increase in AD via I, thus triggering the k effect (AD-AS model)
(ii) tax on polluting manufacturers based on CBA, where tax=MEC at output (MSB=MSC)

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The high levels of pollution as a result of China being the world's manufacturing powerhouse is well known. The efforts by the government to increase investment in solar energy or alternative low-carbon energy will serve to reduce the levels of pollution plaguing China. This has two effects:

(1) The reduction in pollution will improve the non-material welfare of workers as they enjoy a better quality work environment and are less likely to suffer respiratory illnesses that will affect their lives in the future

(2) The investment is an injection for the economy → increase in AD will lead to k effect that generates multiple rounds of jobs for the Chinese. This will help to develop the urban cities further, proving opportunities for Chinese to move from rural areas to urban cities, enjoying higher wages and thus higher material welfare.

Drawbacks:

- Effects felt only in the LR
- Structural rigidities as Chinese workers may not possess skills to fit into jobs that are 'newly' created due to investment in solar energy/alternative energy
- Lack of information on the optimal level of tax
- Imposition of tax will reduce output of manufacturers and in turn reduce jobs in those industries
- Structural unemployment may occur as these displaced workers cannot find work in the 'new' industries

Conclusion

- Recommend at least two options – must improve both tangible (wage) and intangible welfare of Chinese workers
- Explain to government that these policies will require fine-tuning along the way as these policies generally take years to complete – provide suggestions of further government intervention to help ensure that the benefits reach Chinese workers
- Providing information and education/training is an important tool to help Chinese workers
- Negotiations and agreements with firms may be necessary to ensure that the welfare of Chinese workers are truly improved

L1 (1-3m)	Splatter of points that shows little understanding of case material or question Some conceptual errors and underdeveloped explanation of options presented Absence of links to the intent of question Statements that do not contain elaboration and economic analysis Only one option presented, limiting the ability to evaluate No drawbacks to options described
L2 (4-6m)	Analysis of options to improve only material welfare (max. 5m) Analysis of options to improve only non-material welfare (max. 4m) Able to suggest at least two options with drawbacks considered that are effective to improve material and non-material welfare Well referenced to extract information Able to provide well links to the welfare of Chinese workers, instead of just writing the options like any micro/macro policy
E (1-2m)	Judgment on which options suggested will best improve material welfare of Chinese workers Suggestions on ways to reduce the drawbacks of the options raised Able to identify the conditions that will ensure success of these options Conclude that which options are necessary to improve both material and non-material welfare of Chinese workers

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