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Oxford Cambridge and RSA

Tuesday 13 June 2017 – Afternoon

A2 GCE ECONOMICS

F584/01 Transport Economics

Candidates answer on the Question Paper.

OCR supplied materials:
None

Other materials required:
- Calculators may be used

Duration: 2 hours

Candidate forename		Candidate surname	

Centre number						Candidate number				

INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer Section A and **one** question from Section B.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. If additional space is required, you should use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.
- Do **not** write in the barcodes.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets **[ ]** at the end of each question or part question.
- The total number of marks for this paper is **60**.
- The quality of your written communication will be taken into account in the marking of your answer to Section B.
- This document consists of **20** pages. Any blank pages are indicated.

A calculator may be used for this paper

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Eroding air transport's market share: High Speed Trains (HST) in Europe

In 2013 the World Bank issued a report on the modal shift between air transport and rail transport and the impact this is having on Greenhouse Gas (GHG) emissions in the European Union (EU) and other countries. Carbon dioxide emitted from burning fuel is one of the main greenhouse gases causing global warming and climate change.

One of the success stories in Europe over the last 20 years has been the development of high speed trains (HST). According to 2011 data, there were over 6400 km of high speed train lines in operation largely concentrated in four countries: Spain, France, Germany and Italy (Fig. 1). Meanwhile, there were nearly 3000 km of high speed train lines under construction, over half in Spain (Fig. 2).

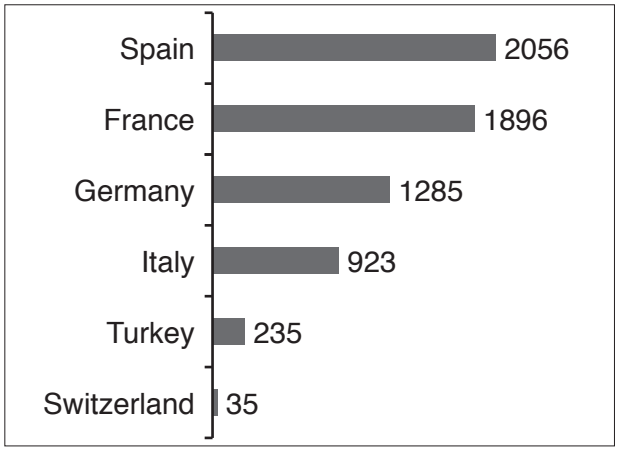

Fig. 1 High Speed Lines In Europe In Operation, 2011 (in km)

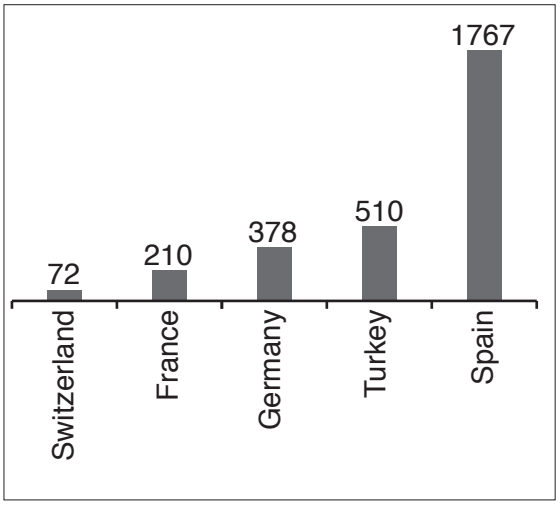

Fig. 2 High Speed Lines In Europe Under Construction, 2011 (in km)

HST can compete effectively with air transport over average distances as rail transport is often more comfortable and also faster overall. Travel time to the airport, check in and check-out times must also be considered in the total amount of time for air transport. Unlike air transport, rail transport is less strict on security measures. This difference can be seen as making rail transport more convenient. In addition, airports tend to be located on the outskirts of cities. As a result, a significant amount of time may be spent getting to and from them. In contrast, train stations tend to be located in city centres.

Rail transport is becoming more popular than air transport on a number of routes. For example, the new high speed rail line between Madrid and Seville changed the modal split between air transport and rail transport. Air transport's market share fell from 67 percent to 16.4 percent between 1991 and 2000 while the market share of rail transport increased from 33 percent to 83.6 percent. The 7 airlines which fly the route are facing not only increased competition from rail transport but also pressure from environmental groups to improve their energy efficiency. Some environmentalists argue that aviation fuel should be taxed. It has been estimated that fuel accounts for approximately 30% of airlines' operating costs.

There is some debate on the relative GHG emissions created by the two modes of transport. According to a report from Eurostar, which holds a market share of 60 percent of the London to Paris route, London to Paris and London to Brussels flights generate ten times more CO2 emissions than Eurostar does.

High speed rail transport's carbon performance in all countries in Europe is likely to improve over the long-run, as it uses electricity to power its trains. To meet carbon reduction targets in countries in the EU, however, HST will have to reduce the carbon intensity of their electricity supply.

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SECTION A

Answer **all** parts of the question in this section.

1 **(a)** **(i)** Identify the relationship between the demand for air transport and HST transport.

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(ii) Using information from the extract, explain what effect a switch from air transport to train transport may have on road transport.

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(b) Identify, using Fig. 1 and Fig. 2, which country is expected to experience the greatest percentage increase, and which the smallest percentage increase, in HST lines.

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(c) Using the information from the extract, analyse the extent to which the imposition of a tax on aviation fuel would be likely to increase air fares.

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(d) Comment on whether a switch from air transport to HST will reduce environmental damage.

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(e) **(i)** Using information in the extract, explain why Eurostar may be considered to be a monopolist.

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(ii) Discuss whether passengers would benefit from an increase in Eurostar's market share of the London to Paris route.

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TURN OVER FOR SECTION B

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SECTION B

Answer **one** question.

2 **(a)** Analyse the main factors determining a passenger's choice between different modes of transport. **[15]**

(b) Discuss the usefulness of a cost-benefit analysis in deciding whether to undertake a major airport infrastructure development project. **[20]**

3 **(a)** Analyse, using a diagram, why a firm in monopolistic competition is unlikely to achieve efficiency. **[15]**

(b) Discuss whether increased subsidies would make the UK transport system more sustainable. **[20]**

4 **(a)** Analyse why there is market failure in road travel. **[15]**

(b) Discuss whether building more roads is likely to be effective in reducing traffic congestion. **[20]**

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SECTION B

Question No. .....

Start your answer to part **(a)** here.

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Start your answer to part **(b)** here.

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END OF QUESTION PAPER

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ADDITIONAL ANSWER SPACE

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).

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