

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education
Advanced Subsidiary Level and Advanced Level

GEOGRAPHY

9696/01

Paper 1 Core Geography

May/June 2005

3 hours

Additional Materials: Answer Booklet/Paper

READ THESE INSTRUCTIONS FIRST

If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet.
Write your Centre number, candidate number and name on all the work you hand 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.

Answer **all** questions in Section A.

Answer **one** question from Section B.

Answer **one** question from Section C.

At the end of the examination, fasten all your work securely together.

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

Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

All the Figures referred to in the questions are contained in the insert.

This document consists of 5 printed pages, 3 blank pages and an insert.



Section A

Answer **all** the questions in this section. All questions carry 10 marks.

Hydrology and fluvial geomorphology

- 1 Fig. 1 shows two hydrographs for the same river in 1994 and 2004.
- (a) What term is used for **X** as shown on the hydrographs? [1]
- (b) Describe the differences between the discharge shown in 2004 and that of 1994. [4]
- (c) Explain how the change in land use has affected the river discharge. [5]

Atmosphere and weather

- 2 Fig. 2 shows land and sea breezes in **2A** daytime and **2B** night- time.
- (a) Describe the differences between the circulation of air in the daytime (2A) and that in the night-time (2B). [2]
- (b) Explain how the daytime and night-time patterns of circulation occur. [6]
- (c) Give **two** effects that land and sea breezes have upon local weather. [2]

Population change

- 3 Table 1 shows the ageing of the world's population between 1960 and 2020.
- (a) Which decade (ten year period) shows,
- (i) the least percentage increase in population aged over 65 in MEDCs,
- (ii) the greatest percentage increase in population aged over 65 in LEDCs? [2]
- (b) For **LEDCs**, compare the trend in average annual rate of growth of total population (r) with the trend in average annual rate of growth of population aged over 65 (r_{65}). [3]
- (c) Identify **two** effects of a country's ageing population and explain the significance of each. [5]

Population change / Settlement dynamics

- 4 Fig. 3 is a map showing rates of urban expansion in China, 1989-2000. Urban expansion is the spread of towns and cities into the surrounding rural-urban fringe and countryside.
- (a) Name the two regions which experienced the lowest rate of urban expansion, 1989-2000. [2]
- (b) Describe the distribution of the areas which experienced rates of urban expansion of 11-20% for the period. [3]
- (c) In 1980 the Chinese Government made many cities Special Economic Zones which stimulated their growth.
- Explain the action of **economic pull** factors in rural-urban migration in LEDCs. [5]

Settlement dynamics

- 5 Fig. 4 is a model of changes in population density over time **within** a city in a MEDC. For each time period, **t1–t6**, a shaded population density gradient is shown.
- (a) Outline how **central** population densities have changed over time, according to this model. [2]
- (b) Compare the city's population density gradient at time **t1** with that at time **t6**. [3]
- (c) Suggest reasons why many city residents in MEDCs choose to live in the city's peripheral areas rather than near the centre. [5]

Section B : The Physical Core

Answer **one** question from this section. All questions carry 25 marks.

Hydrology and fluvial geomorphology

- 6 (a) (i) Define the terms *water-table* and *levée*. [4]
(ii) Briefly describe what is meant by the term *delta*. [3]
(b) With the aid of a labelled diagram, explain how rivers transport their load. [8]
(c) Describe the channels of (i) meandering and (ii) braided streams. Explain how they are produced. [10]

Atmosphere and weather

- 7 (a) (i) Define the term *relative humidity*. [4]
(ii) Give **one** reason why relative humidity is important in the study of weather. [3]
(b) (i) Draw a labelled temperature/height diagram to show instability in the atmosphere. [4]
(ii) Describe a circumstance under which instability may occur. [4]
(c) Explain the factors that influence the global distribution of surface temperatures. [10]

Rocks and weathering

- 8 (a) (i) Define the terms *crystal growth* and *pressure release* as they apply to weathering. [4]
(ii) Describe the effects that crystal growth and pressure release have upon rocks. [3]
(b) Explain how chemical weathering processes act upon **either** granite **or** limestone rocks. [8]
(c) Describe and explain the differences between convergent and divergent plate margins. [10]

Section C : The Human Core

Answer **one** question from this section. All questions carry 25 marks.

Population change

- 9 Fig. 5 is a newspaper report about fertility rates in MEDCs.
- (a) (i) Give the meaning of the term *fertility rate*. [3]
- (ii) Name **two** countries shown on the diagram with fertility rates of less than 1.7. What does the report say is significant about this level? [4]
- (b) Explain why many MEDCs experience low fertility rates. [8]
- (c) To what extent is the changing of traditional attitudes the key to reducing fertility rates in **LEDCs**? [10]

Settlement dynamics

- 10 (a) (i) Give the meaning of the term *primate city*. [3]
- (ii) Draw a diagram of a settlement hierarchy with a primate city. [4]
- (b) Using examples, explain why many countries are dominated by one or two large cities. [8]
- (c) How successful have government attempts been in discouraging the further development of the largest urban centres in one or more countries you have studied? [10]

Settlement dynamics

- 11 (a) (i) Explain the term *bid-rent* in relation to urban land-use. [3]
- (ii) Draw a bid-rent diagram to show the expected location of manufacturing industry **within** an urban area. [4]
- (b) With reference to **one** urban area you have studied, describe the location and character of its manufacturing industry. [8]
- (c) To what extent does changing accessibility explain recent changes in manufacturing location within towns and cities? [10]

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Copyright Acknowledgements:

- Question 2 Fig. 2; © Thompson et al: Processes in Physical Geography (Diagram of Land & Sea Breezes)
- Question 3 Table 1; from *Population, An Introduction to Concepts and Issues* 6th edition by WEEKS. © 1996. Reprinted with permission of Wadsworth, a division of Thomson Learning: www.thomsonrights.com. Fax 800 730-2215.
- Question 4 Fig. 3; © adapted from source: Ji, C.Y., Liu, Q., Sun, D., Wang, S., Lin., P. and Li, X, "Monitoring urban expansion with remote Sensing in China", *International Journal of Remote Sensing*, 22: 1441-55 (2001).
- Question 5 Fig. 4; © copyright Oxford University Press, from *Data Response Exercises in Physical and Human Geography* by D Briggs, H Tolley, and D Riley (OUP, 1979), reprinted by permission of Oxford University Press.
- Question 9 Fig. 5; © Alexandra Frean/The Times, 17 May, 2002.

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INSERT

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READ THESE INSTRUCTIONS FIRST

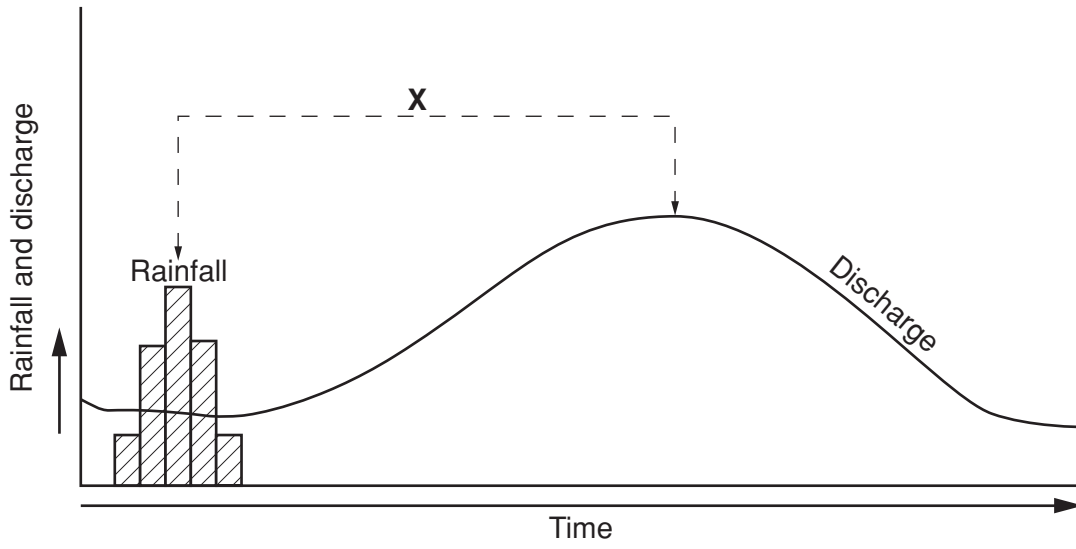
This insert contains all the Figures referred to in the questions.

This document consists of 7 printed pages and 1 blank page.



Fig.1 for Question 1

Hydrograph A (1994)
Land use: Natural Forest



Hydrograph B (2004)
Land use: Pasture Land

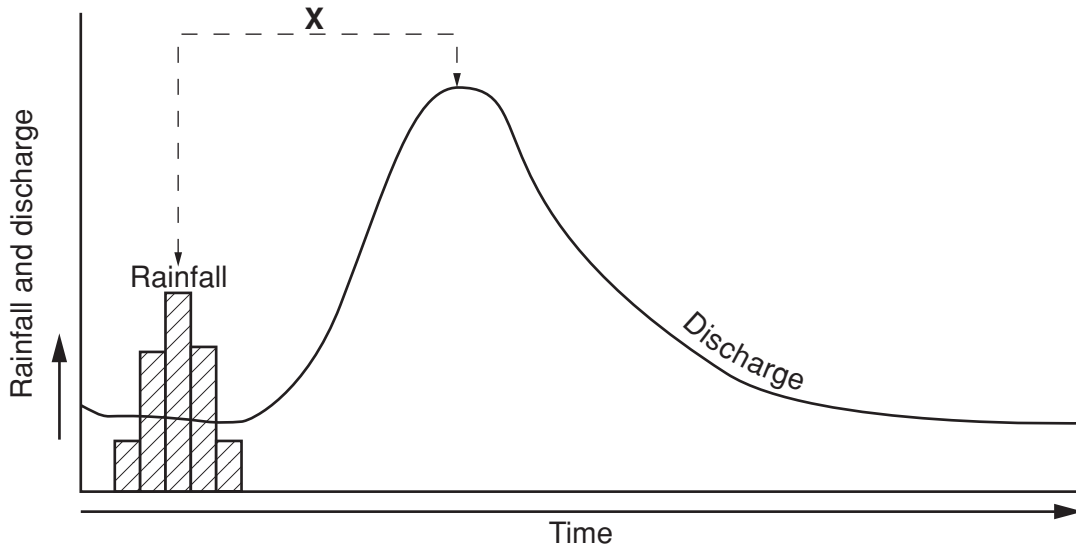


Fig. 2 for Question 2

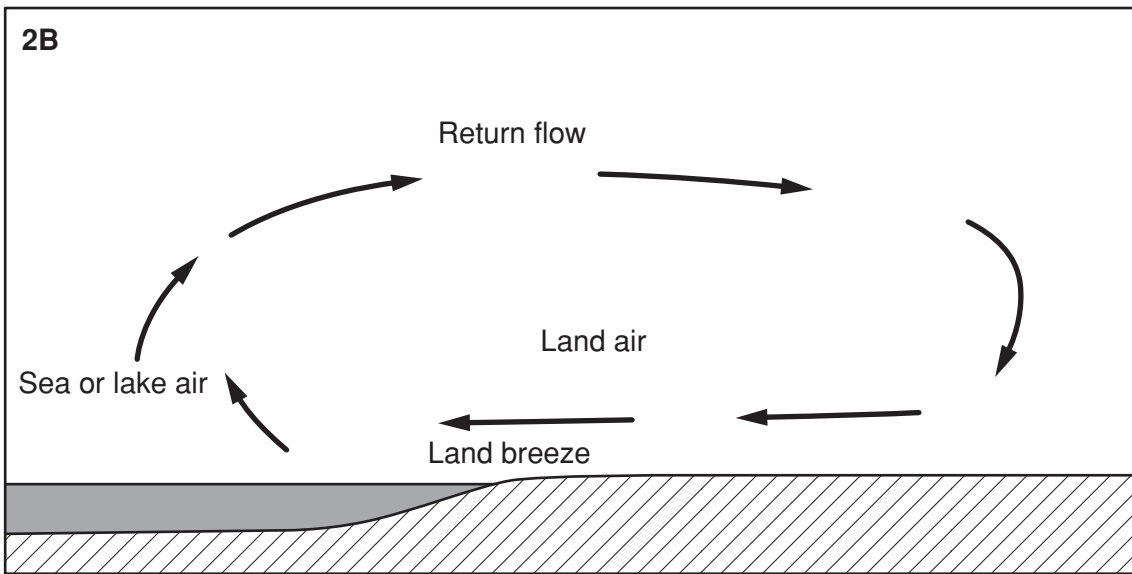
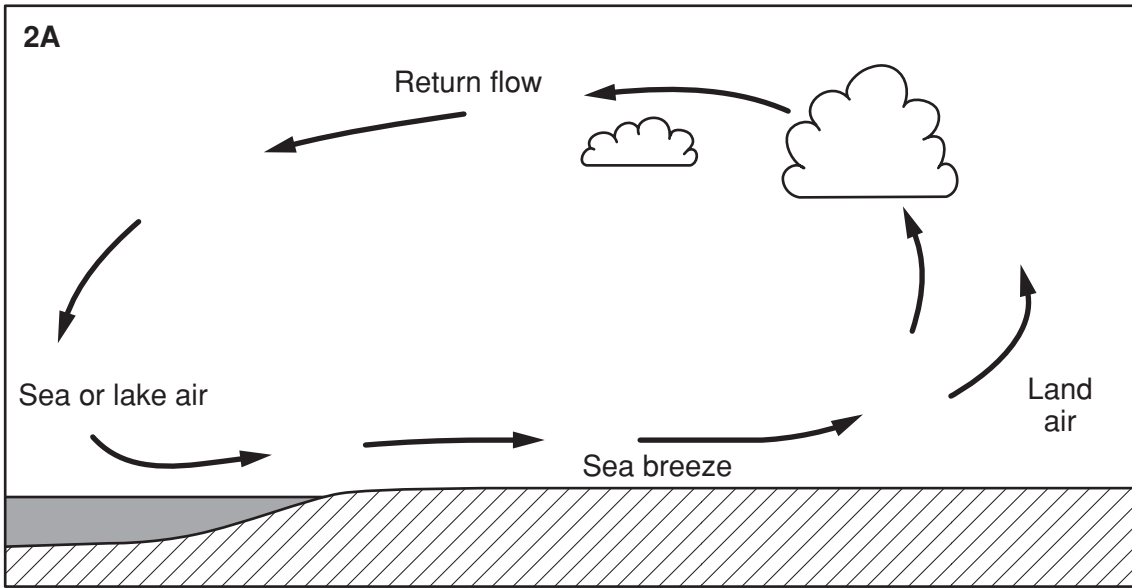


Table 1 for Question 3

The ageing of the world's population, 1960–2020

<i>year</i>	1960	1970	1980	1990	2000	2010	2020
MEDCs							
percentage of population aged over 65	8.5	9.6	11.4	12.0	13.5	14.4	16.8
percentage average annual rate of growth of total population (r)	1.3	1.0	0.8	0.6	0.5	0.5	0.5
percentage average annual rate of growth of population aged over 65 (r65)	2.3	2.3	2.5	1.2	1.7	1.1	1.9
LEDCs							
percentage of population aged over 65	3.9	3.7	4.0	4.5	5.1	5.7	7.1
percentage average annual rate of growth of total population (r)	2.1	2.4	2.2	2.1	1.9	1.6	1.4
percentage average annual rate of growth of population aged over 65 (r65)	2.2	2.2	2.9	3.1	3.2	2.7	3.6

Fig. 3 for Question 4

Urban expansion in China, 1989–2000

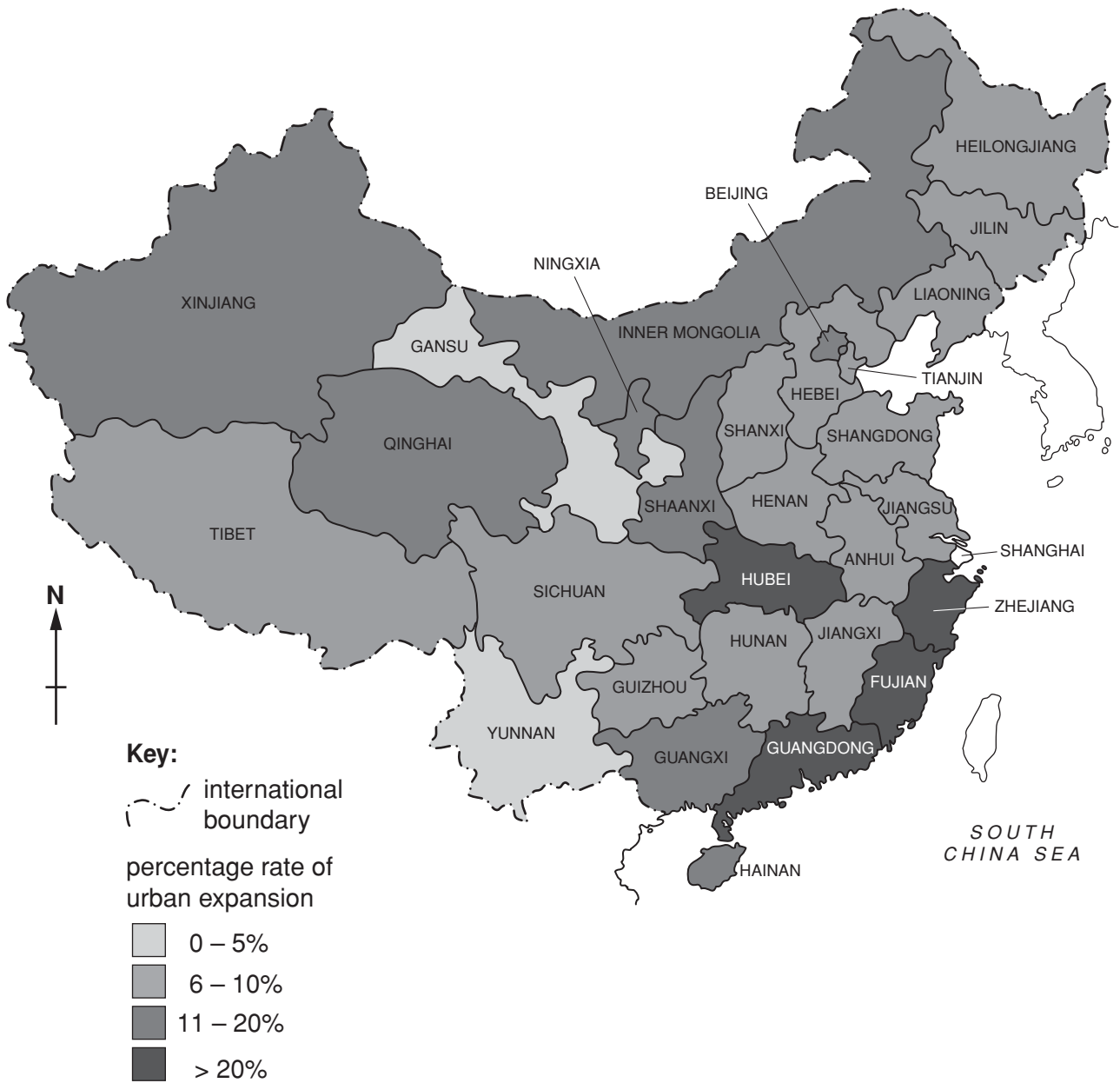


Fig. 4 for Question 5

A model of changes in population density within a city in a MEDC

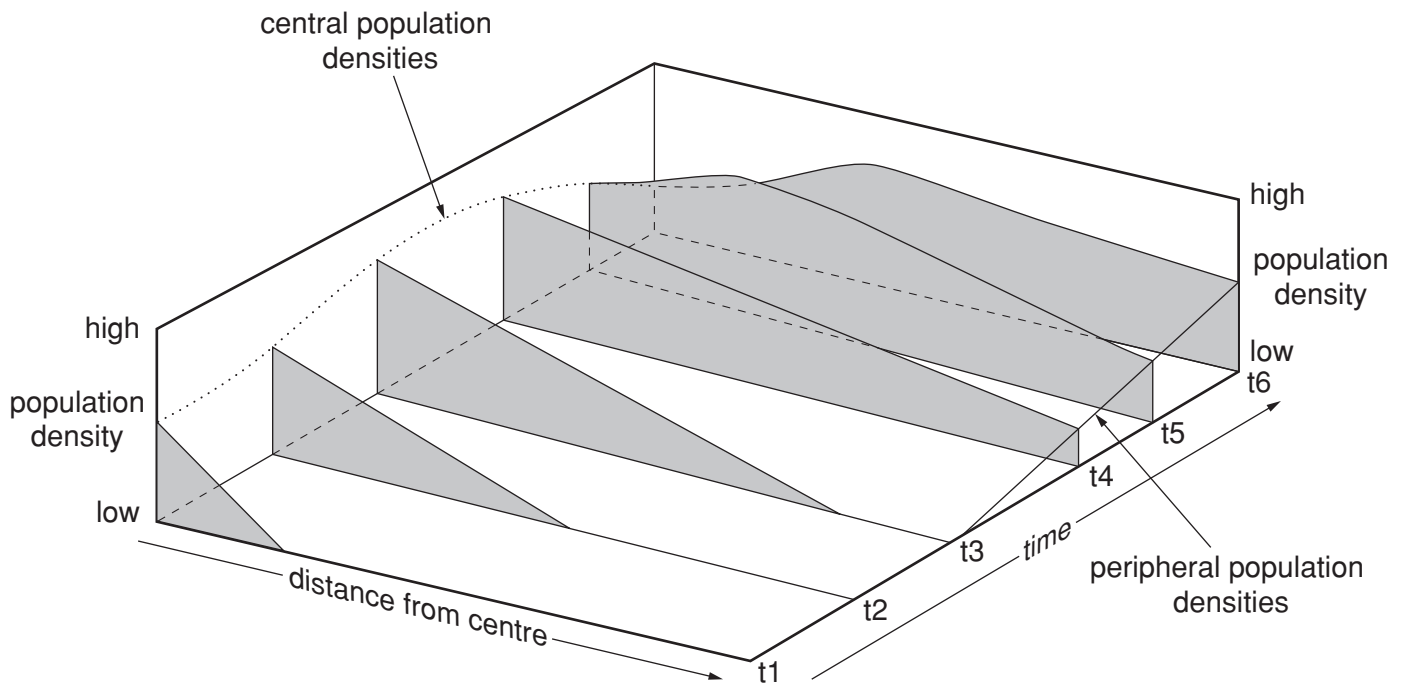


Fig. 5 for Question 9

Newspaper report about fertility rates in MEDCs

Births at record low as women opt for jobs

By Alexandra Frean

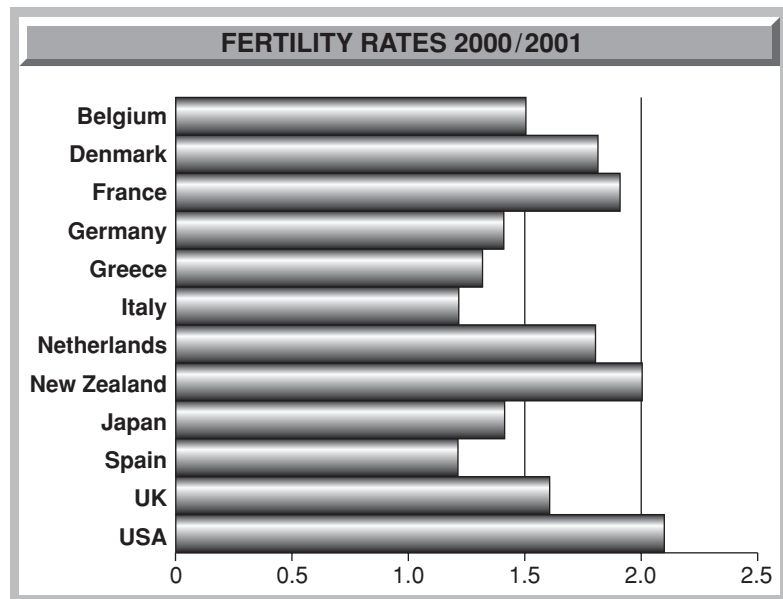
Social Affairs Correspondent

Better career opportunities and greater lifestyle choices for women have helped to push fertility rate down to 1.64 children per woman, the lowest for UK since records began in 1924.

The figure for 2000/2001 published yesterday by the Office for National Statistics, means that the total fertility rate has now fallen below the benchmark rate of 1.7, regarded as crucial in maintaining a sustainable balance between the young and old.

Greater choice in contraception and an increase in women postponing children until later in life or remaining childless are largely responsible for the decline, experts said.

There have been similar



changes in much of Western Europe.

The long-term implications could be grave, with growing strains on the economy as the tax burden rises. At present

there are four people of working age for every pensioner in the European Union. By 2040 it is estimated that there will be only two.

