Demography-III

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Population growth

❑The population of the world or any country grows according to two factors; **birth rate and death rate.**

❑The difference between them is called the **Rate Of Natural Increase (RNI)** which is always expressed as a percent (%) and is calculated

as: <u>**CBR – CDR**</u>   **or:**

                10

= <u>**No. of births – No. of deaths in a year in a locality**</u> **X 100**
  Estimated mid year pop. of same year and locality

Population growth

Growth rate (GR)

❑ It takes into consideration not only births and deaths but also migration

❑ **GR = RNI + Net Migration Rate** (**Immigration – Emigration**)

❑ It is used to calculate how long at the current growth rate a population would take to double in size.

❑ **Jordan growth rate** in 2010 = **2.2**

Demographic transition model

Demographic transition model

- The **relationship** between birth rate and death rate has been used to create a **Five Stage Model** of a country's population change called **Demographic Transition Model** or population change model
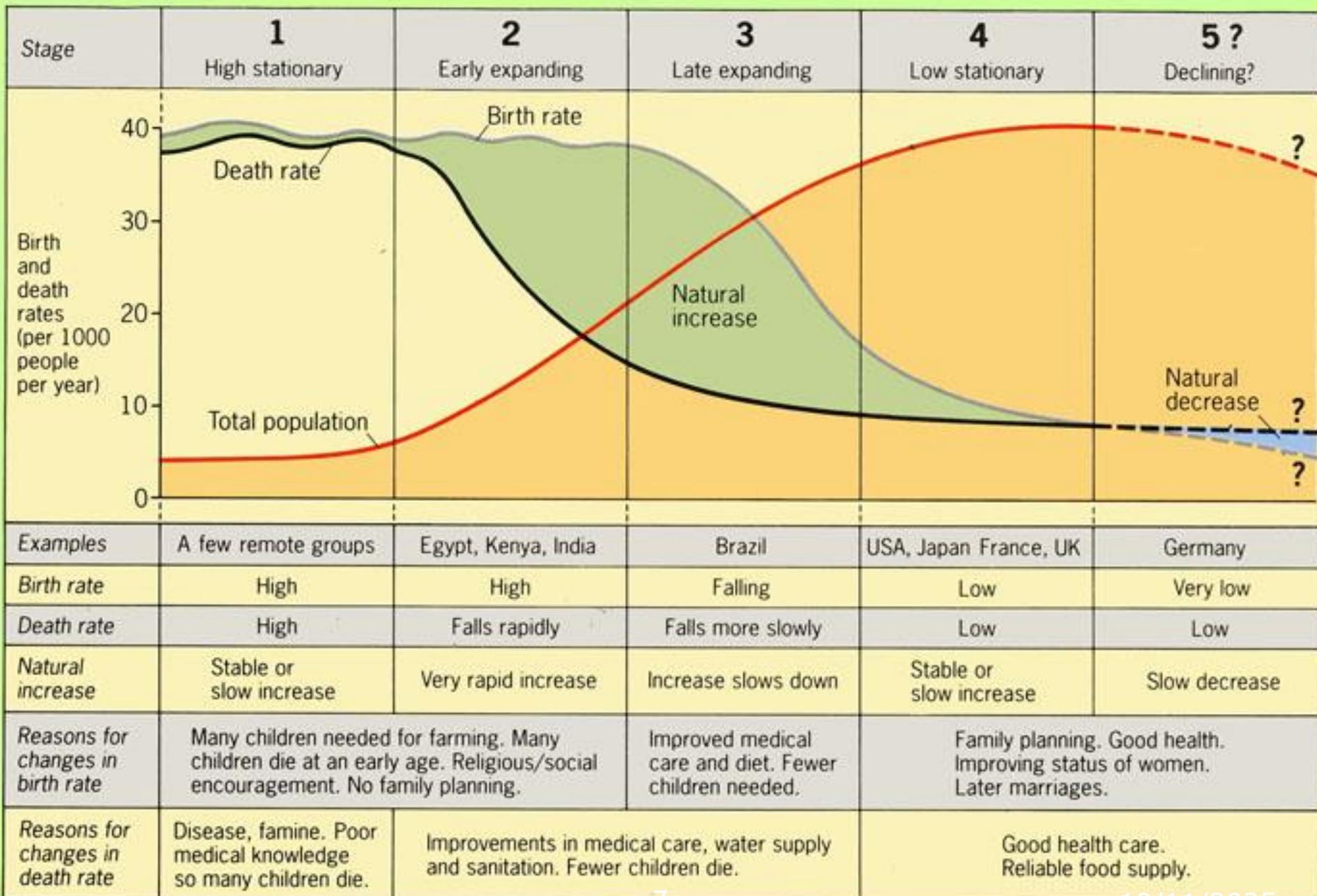
Stages of the demographic transition model

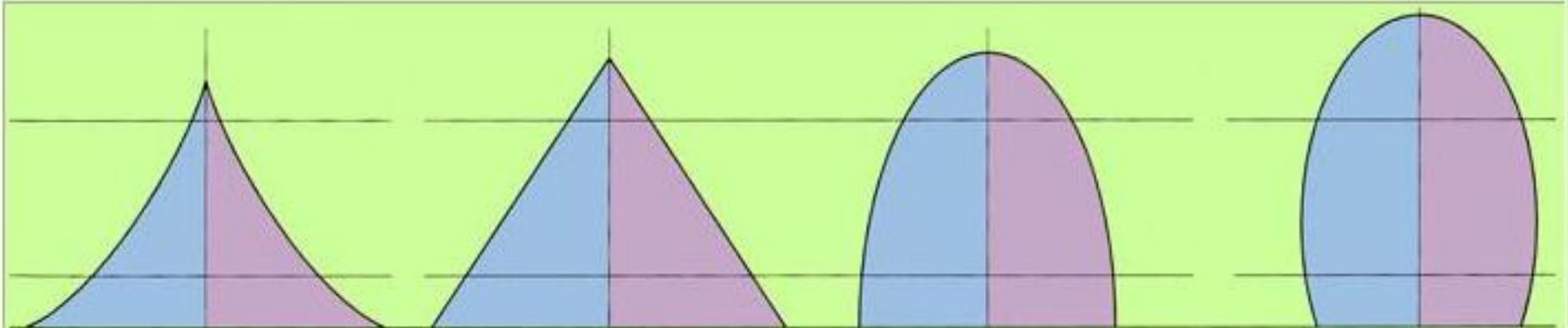**Stage 1 (High Fluctuation)**

Stage 2 (Early Expanding)

Stage 3 (Late Expanding)

Stage 4 (Low Stationary)

Stage 5 (Declining)

Stage	1 High stationary	2 Early expanding	3 Late expanding	4 Low stationary	5 ? Declining?

Examples	A few remote groups	Egypt, Kenya, India	Brazil	USA, Japan France, UK	Germany
Birth rate	High	High	Falling	Low	Very low
Death rate	High	Falls rapidly	Falls more slowly	Low	Low
Natural increase	Stable or slow increase	Very rapid increase	Increase slows down	Stable or slow increase	Slow decrease
Reasons for changes in birth rate	Many children needed for farming. Many children die at an early age. Religious/social encouragement. No family planning.		Improved medical care and diet. Fewer children needed.	Family planning. Good health. Improving status of women. Later marriages.	
Reasons for changes in death rate	Disease, famine. Poor medical knowledge so many children die.	Improvements in medical care, water supply and sanitation. Fewer children die.		Good health care. Reliable food supply.	

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Link to Population Pyramids?

Stage 1	Stage 2	Stage 3	Stage 4
Expansive.	Expansive.	Stationary.	Contractive.
Concave sides.	Straight sides.	Convex sides.	Convex sides.
High birth rate.	Still high birth rate.	Declining birth rate.	Low birth rate.
High death rate.	Falling death rate.	Low death rate.	Low death rate.
Short life expectancy.	Slightly longer life expectancy.	Long life expectancy.	Longer life expeactancy.
Rapid fall in each upward age group due to high DR.	Fall in DR so more people living into middle age.	An increasing proportion of the population is in the 65+ age group.	Higher dependency ratio.

1. **High Birth Rates**
2. **High Death Rates**
3. **Population Growth Is Slow And Fluctuating.**
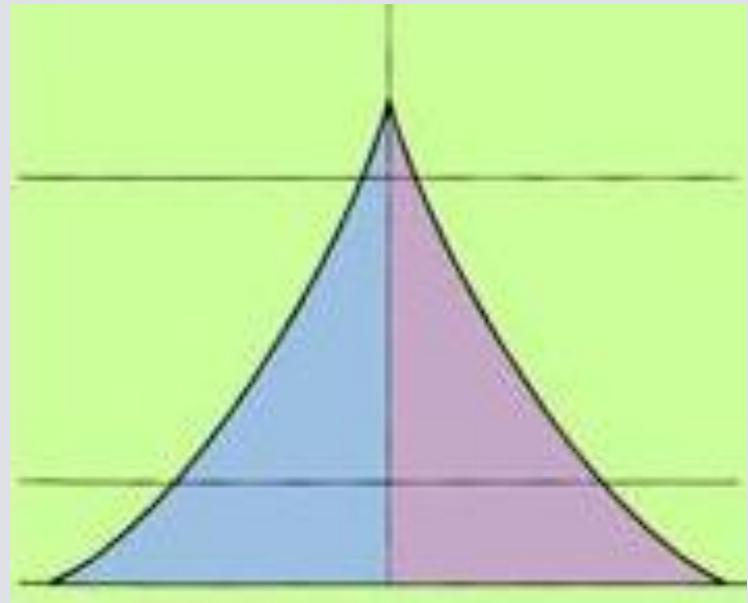
Reason?

1. **Need for workers in agriculture**
2. **Lack of clean water, sanitation, medical care, education**
3. **Religious beliefs and culture**
4. **Lack of family planning (use, access or need)**
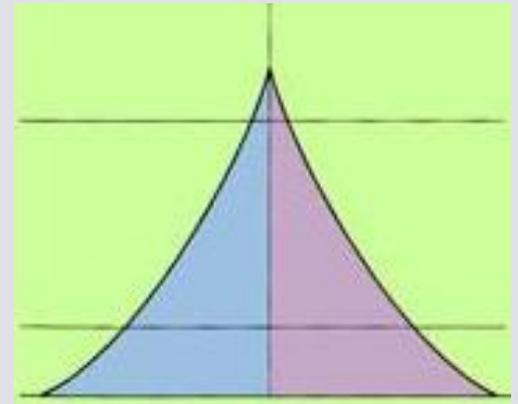
Where?

❑**Typical of Britain in the 18th century,**

❑**Although NO country is currently in stage one**.
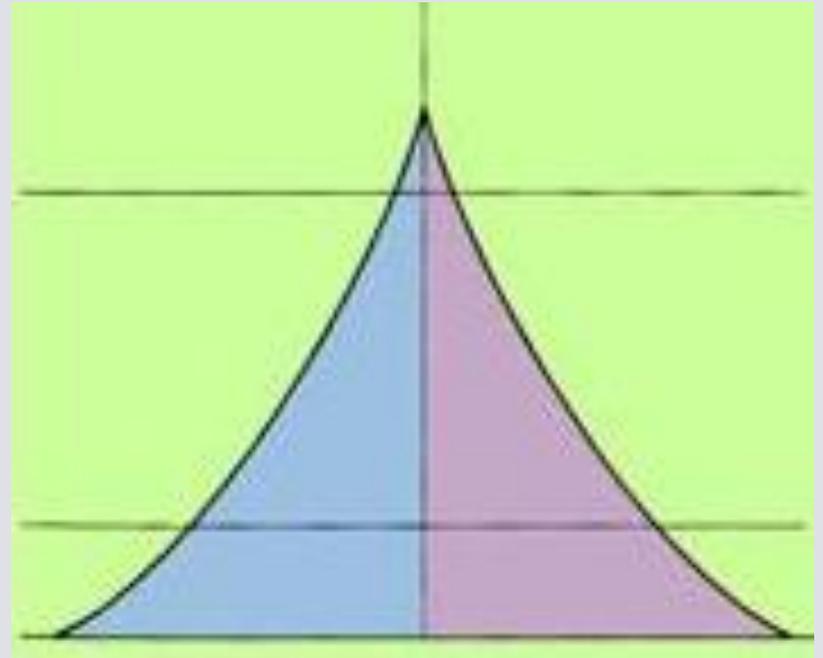
1. **Birth rate remains high**
2. **Death rate is falling**
3. **Population begins to rise steadily.**
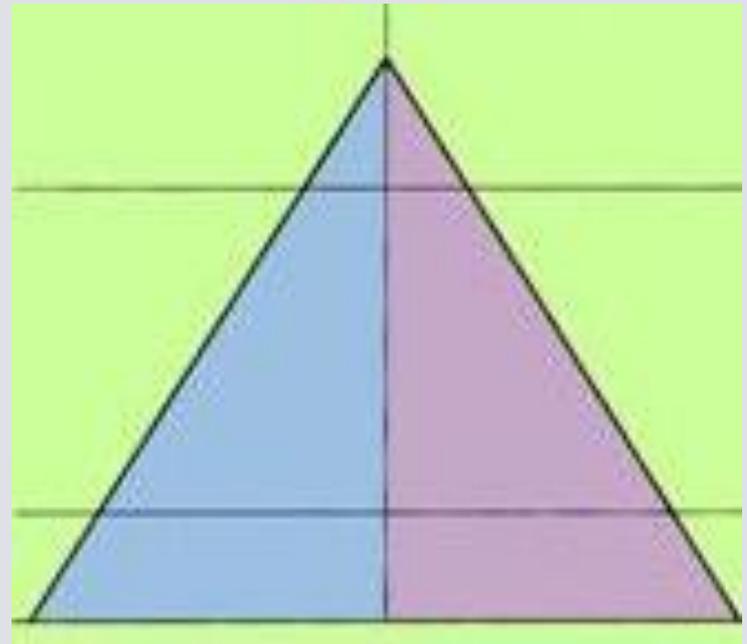
Reason?

- **Beginnings of industrialization**
- **Improvements in food supply**
- **Improvements in medical care (smallpox vaccine) and sanitation**
- **Cultural lag – attitudes about large families not changing**
- **Family planning still not widely used**
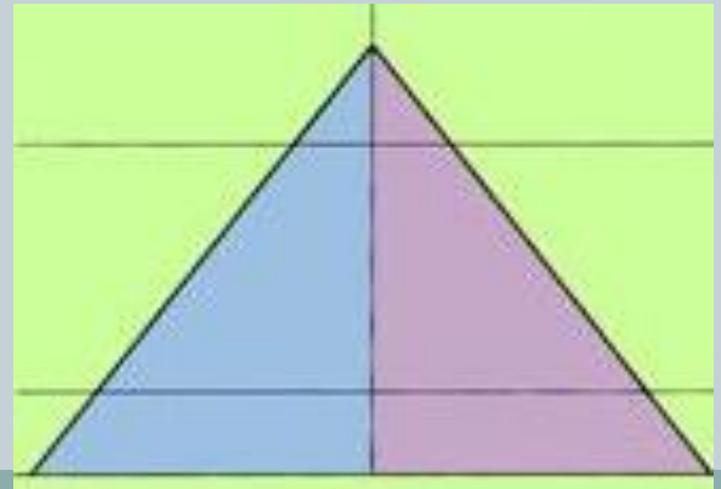
Where?
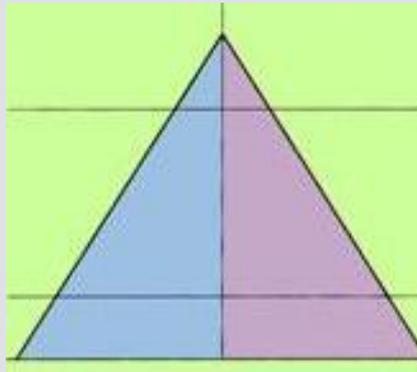
❑**Countries in this stage include Bangladesh, Yemen, Afghanistan and much of Sub-Saharan African**

❑ Do not include South Africa, Zimbabwe, Botswana, Swaziland, Lesotho, Namibia, Kenya and Ghana, which have begun to move into stage 3.

Stage 3 – Late Expanding

- ❑ **Birth rate starts to fall**
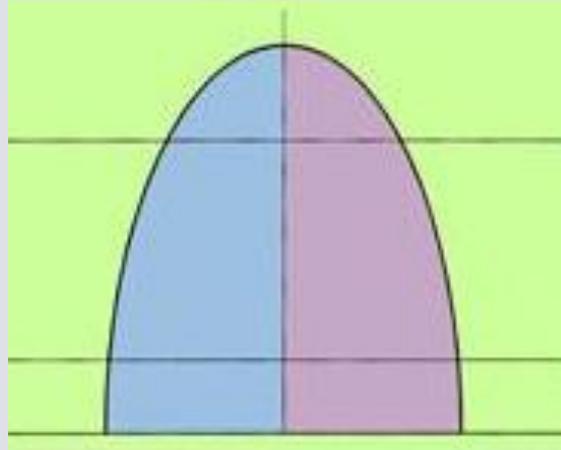- ❑ **Death rate continues to fall**
- ❑ **Population is rising.**
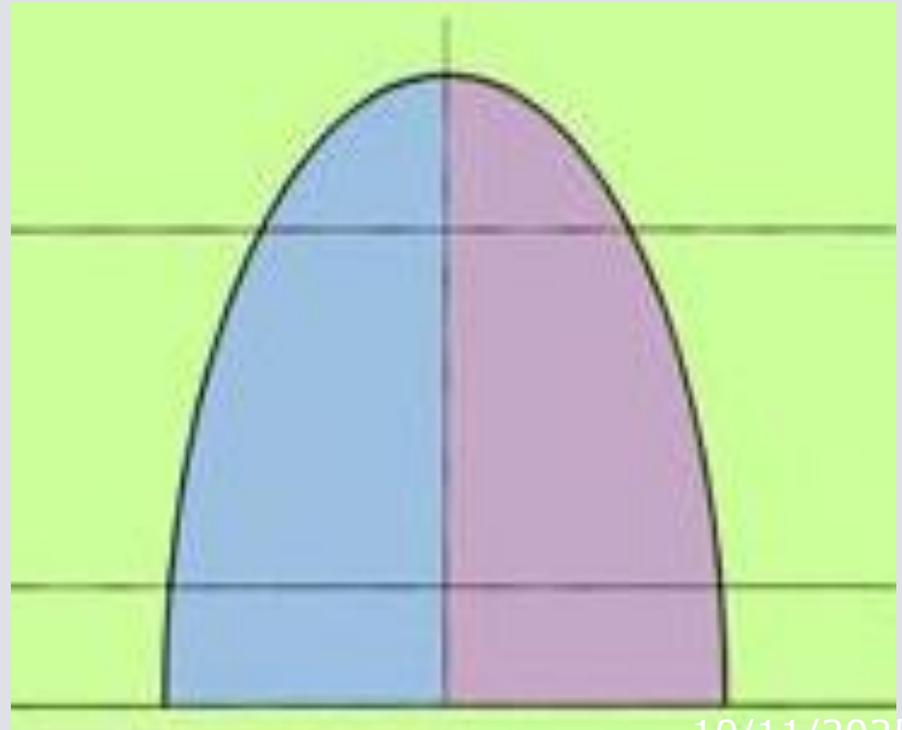
Reason?

- ❏ **Industrialization continues**
- ❏ **Increase in urbanization**
- ❏ **Cultural attitudes favoring small families take hold**
- ❏ **Family planning available**
- ❏ **Health care and sanitation continue to improve (lower Infant Mortality Rate)**
- ❏ **Increased standard of living**
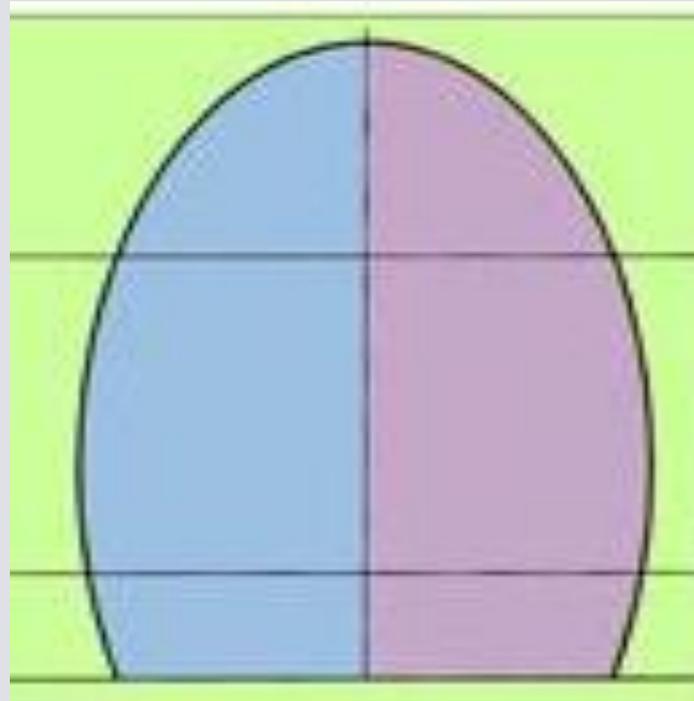- ❏ **Changing status of women**
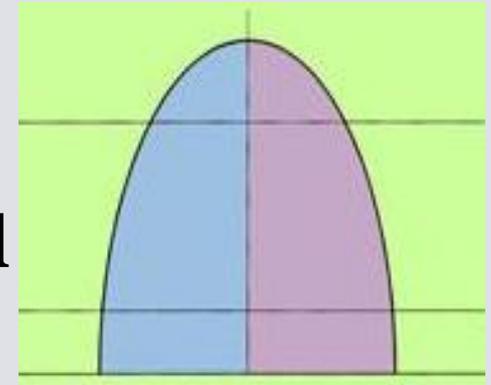
Where?

❑**China, Brazil and Egypt**

❑ REMEMBER - South Africa, Zimbabwe, Botswana, Swaziland, Lesotho, Namibia, Kenya and Ghana, which have begun to move into stage 3.
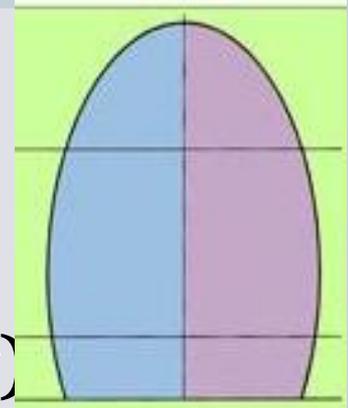
- **Birth rate and death rate are both low.**
- **Population remains steady.**

Reason?

❑**Excellent standard of living**

❑**Universal access to healthcare and sanitation (long life expectancy)**

❑**High percentage of individuals accessing birth control**

❑**More women in the labor force = fewer children**

❑**Cultural attitudes favor smaller families**
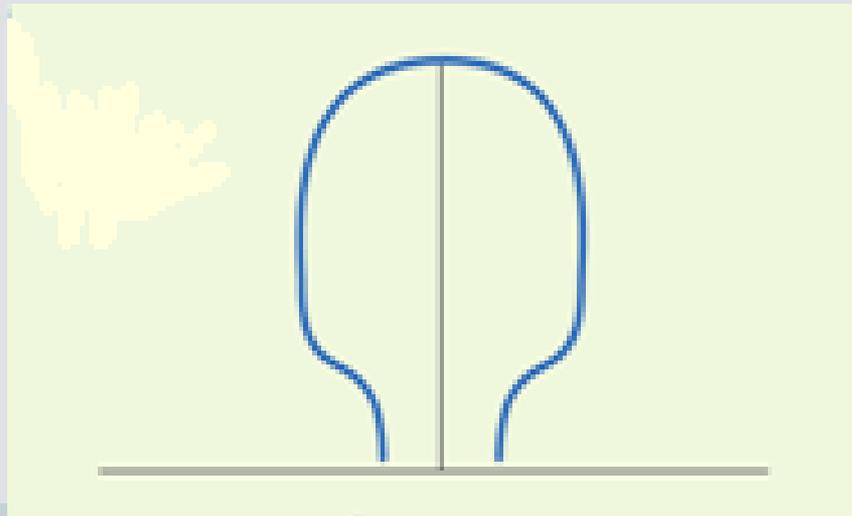
❑**Education more readily accessible**

Where?

- ❏ **Canada**
- ❏ **United States**
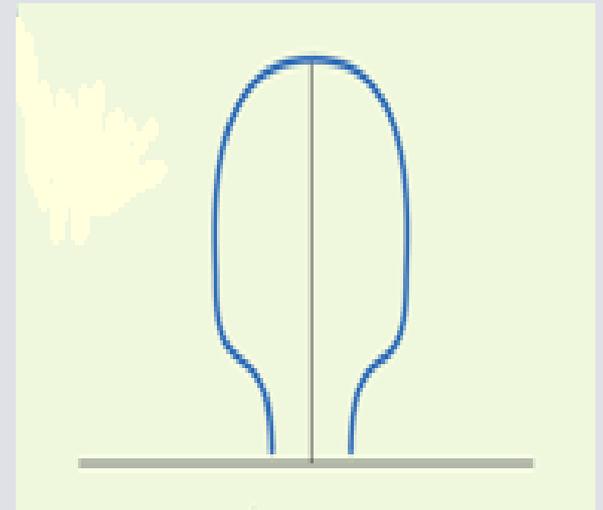- ❏ **Japan**
- ❏ **Most of Europe**
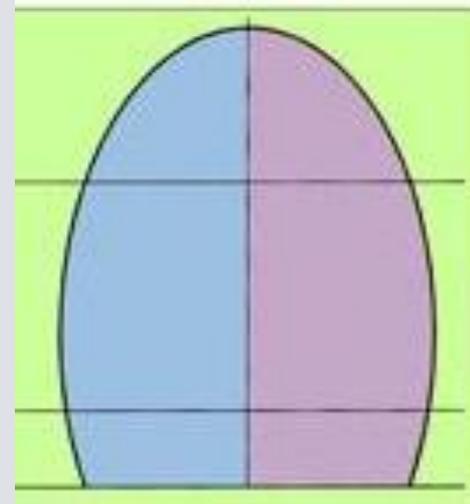
Stage 5? Declining

❑ **Currently entering into the negative growth rate meaning that there are:**

❑ **less births than deaths = country's population size is decreasing**

Where?

1. **Germany**
2. **Italy**
3. **Spain**
4. **Portugal**
5. **Greece**
6. **United Kingdom**

Selected demographic indicators of Jordan

DEMOGRAPHIC INDICATORS, 2006 - 2010

Indicators	2006	2008	2010
Total population	5600000	5850000	6113000
Crude Birth Rate:	29.1	29.1	30.1
Crude Death Rate:	7.0	7.0	7.0
Population Growth Rate:	2.3	2.2	2.2
Dependency Ratio:	68.0	68.1	68.2
%population <15 years	37.3	36.9	37.3
Total Fertility Rate:	3.7	3.6	3.8

Sources: http://www.dos.gov.jo
DOS. Jordan in Figures (2006, 2008, 2010)
(DOS).Jordan Population and Family Health Survey 2009.Amman, May 2010

Main demographic challenges in Jordan

1. **High growth rate due to high fertility rates and forced migration waves.**

2. **Increasing population that is aging.**

3. **Unplanned organization (about 50% of population live in greater Amman area)**

4. **Scarcity of water resources and Limited natural resources**

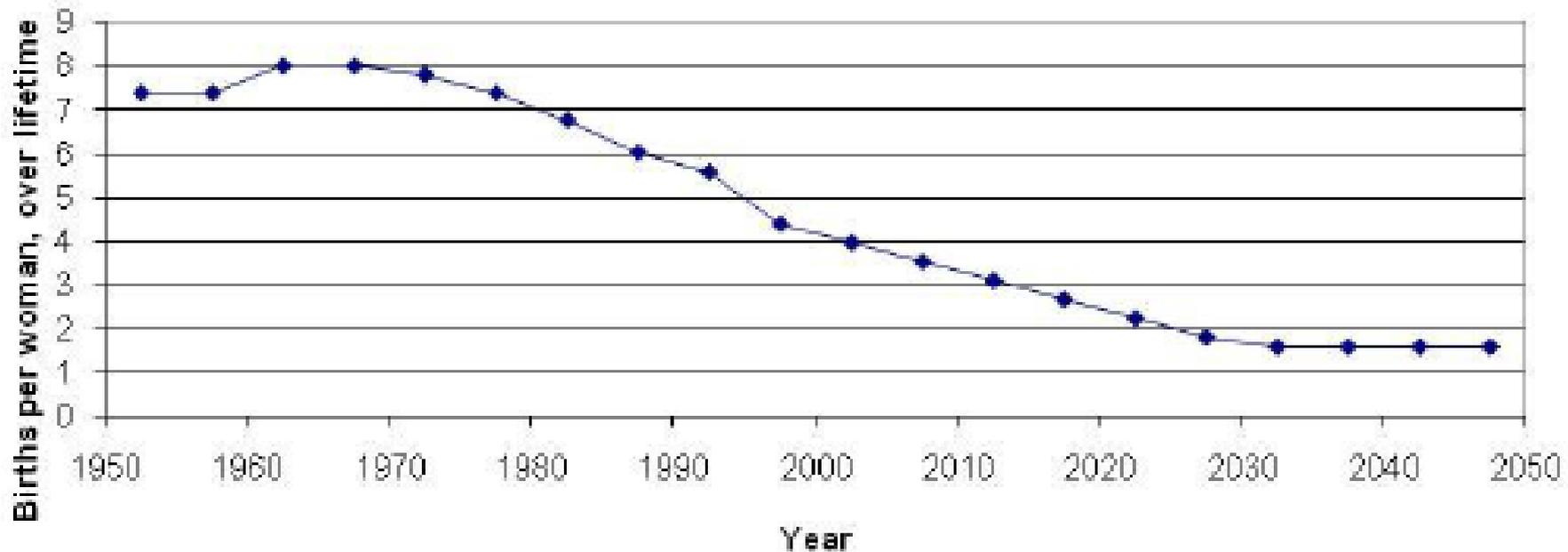# Population by age groups, Jordan, 1975-2025
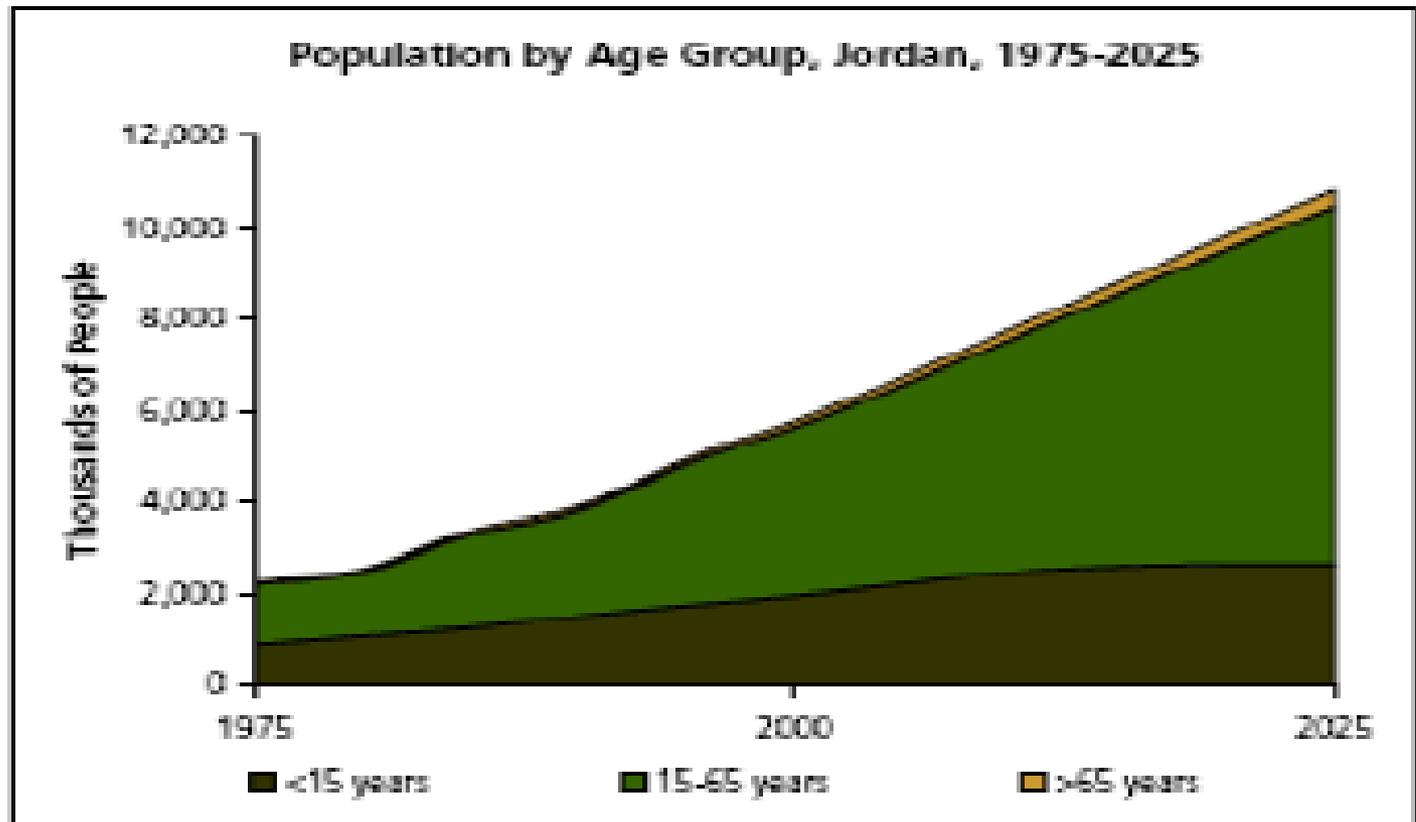
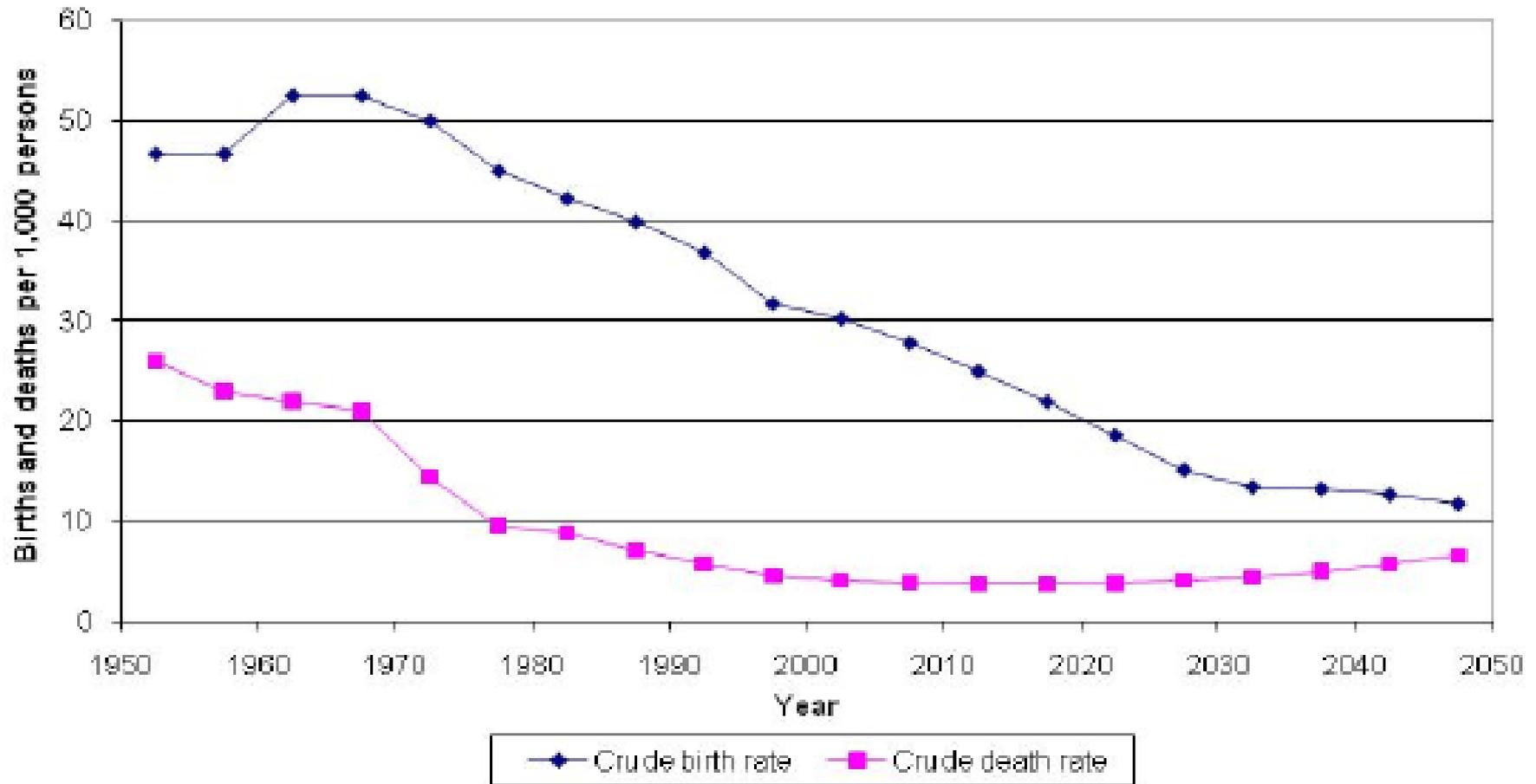Source: Earth trends: http://earthtrends.wri.org

Total fertility rates Jordan

Source: United Nations Population Division, 1998 World Population Prospects

Crude birth and death rates, Jordan

Source: United Nations Population Division, 1998 World Population Prospects

- **The total deaths in a village in 1990 were 200. Of these 20 were due to pneumonia. If the total population is 10, 000, then the proportionate mortality rate from pneumonia equals to:**
- A.　　180
- B.　　10
- C.　　1
- D.　　1.6

- **In a city, in year 2013, the Crude Birth Rate is 30/1000, Crude Death Rate is 7/1000, and the estimated midyear population is 4 million, and net migration rate is (-0.3%). The rate of natural increase is:**
- A.　　3.2%
- B.　　23 %
- C.　　2.3%
- D.　　37/5000

- **In a city XX, in year 1999, the Crude Birth Rate is 44.5, and a Crude Death Rate is 9.8, and the estimated midyear population is 6 millions, and net migration rate is (-0.6%). The growth rate is?**
- 4.5%
- 5.47%
- 3.92 %
- 24%
- 2.87%