The Demography of the Labor Force in Sub-Saharan Africa

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Evidence and Policy Lessons
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Some numbers to begin with

- The world has added 4.6 billion people since hitting 3 billion in 1960
  - About 3 billion were added to the working-age population since 1960
- The world will add another 4 billion people this century, reaching 11 billion in 2011
  - 3 billion will be in Sub-Saharan Africa
  - 2 billion will be working-age, all in Africa
  - 2 billion will be over age 65
  - Africa will need 2 million jobs per month by 2040 to keep up with the growth of working-age population

Goals of this talk

- Understand what drives these big demographic changes
- Look at the difference between 21st century population growth and 20th century population growth
- Look at the dynamics of demographic change in Africa
- Focus on implications for the labor force, employment, and economic growth

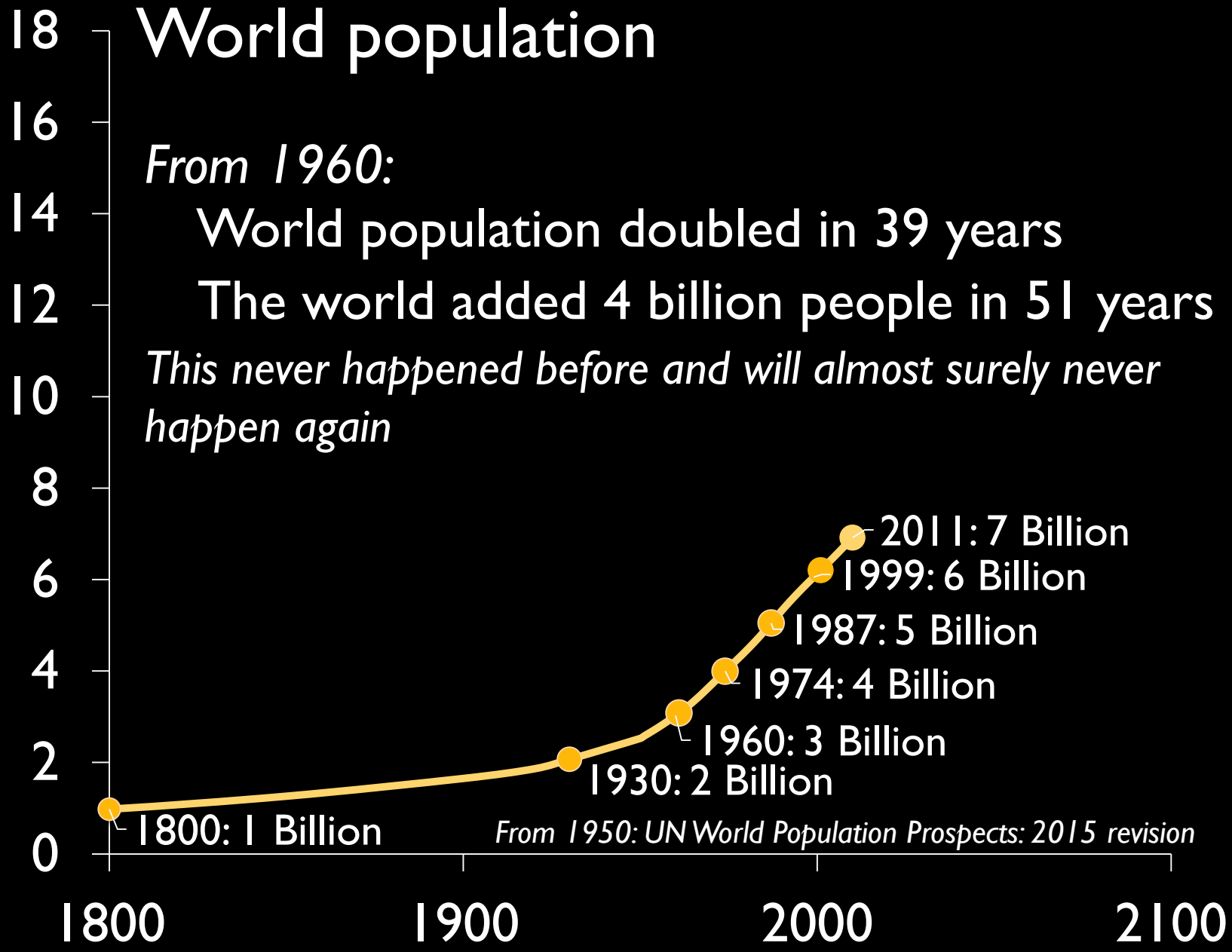
World population

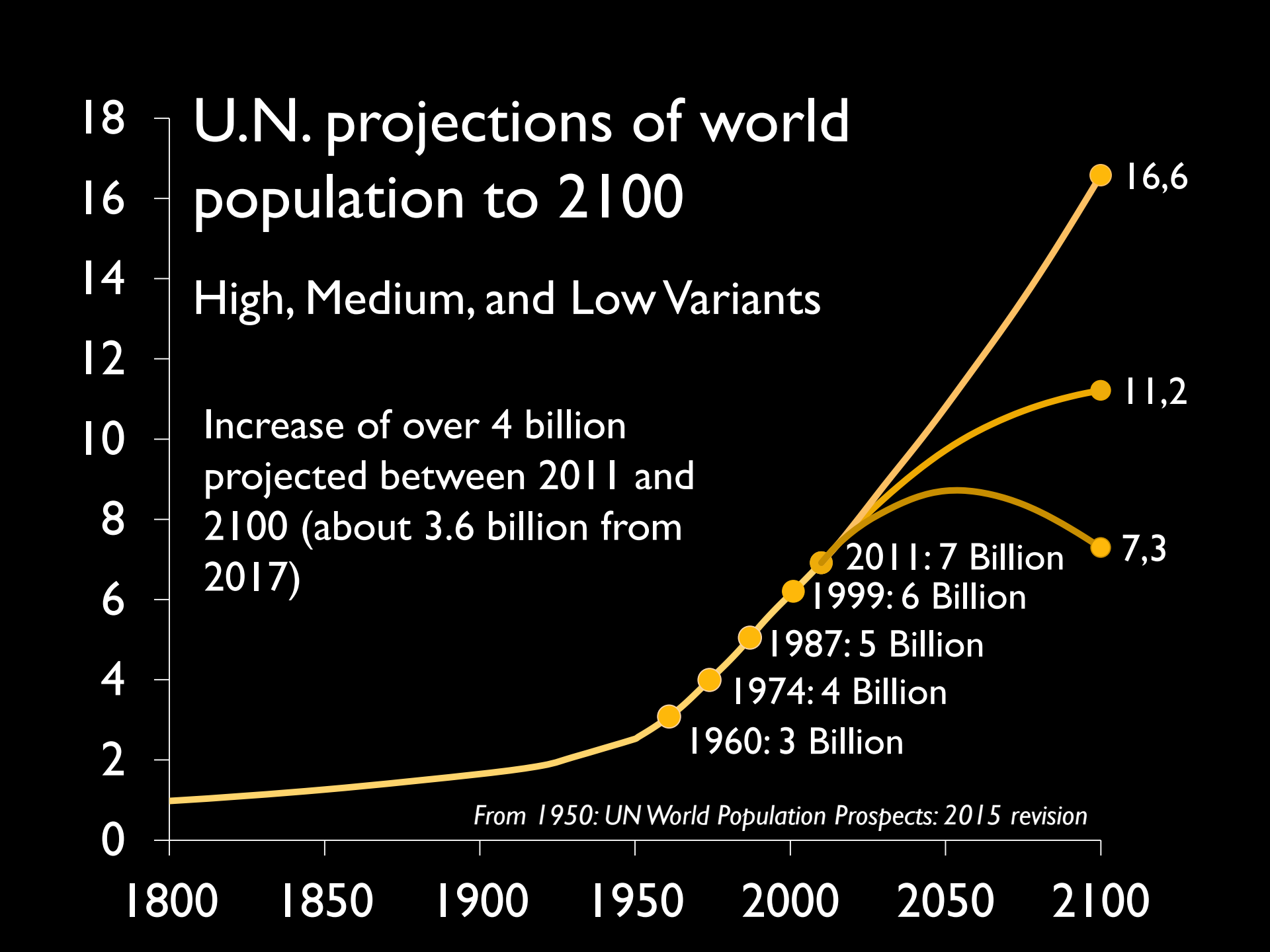
From 1960:

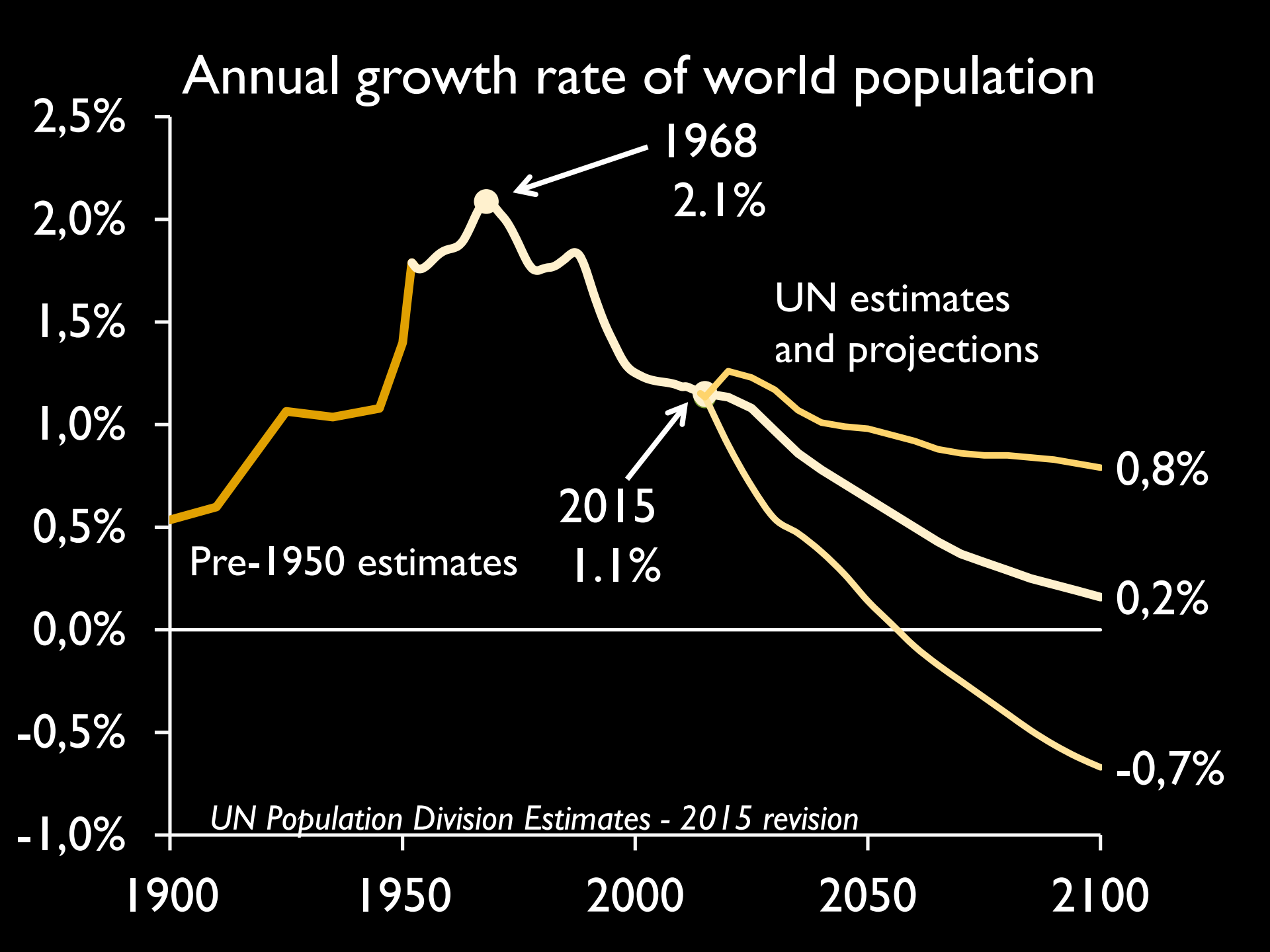
World population doubled in 39 years

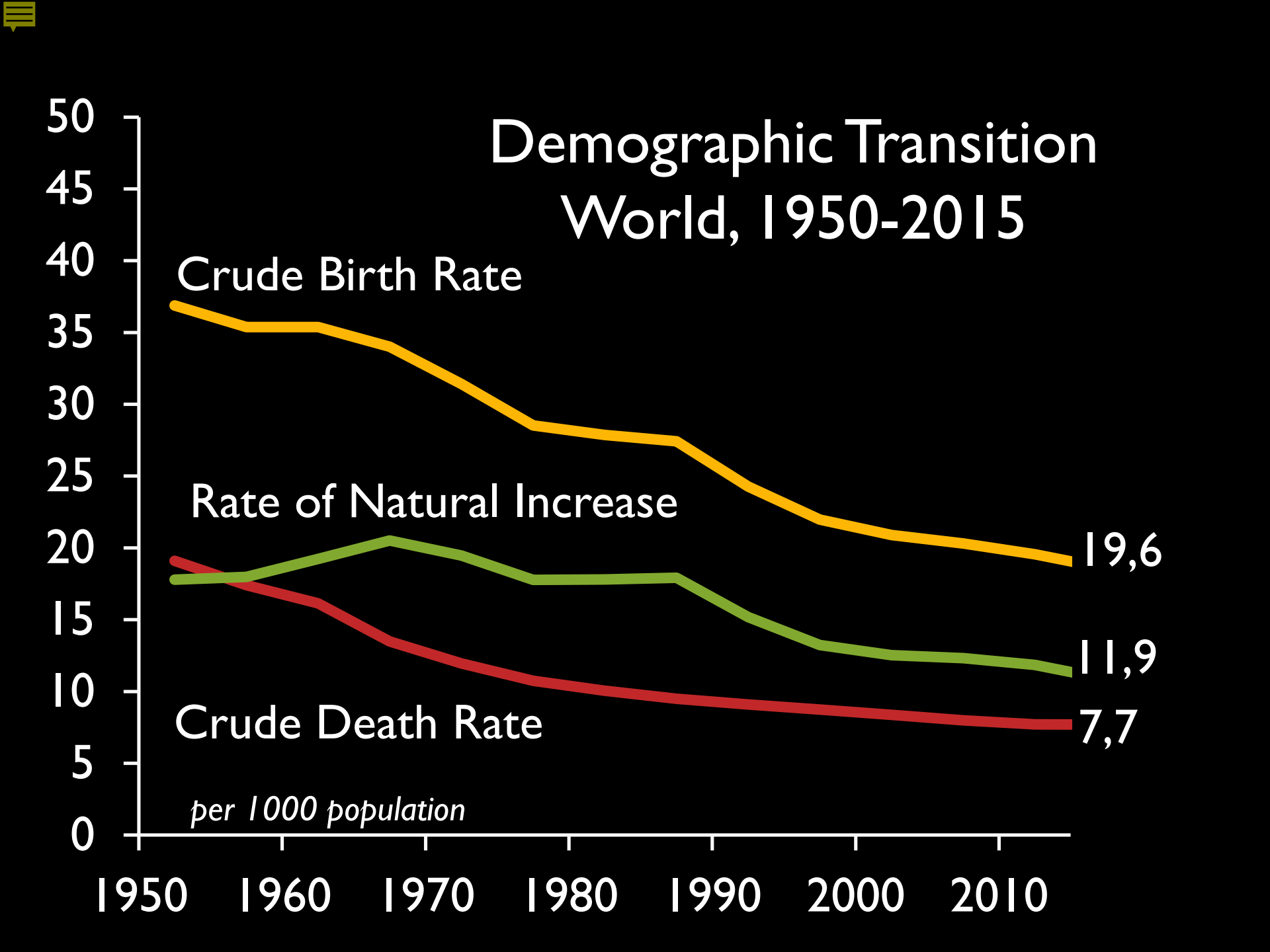
The world added 4 billion people in 51 years

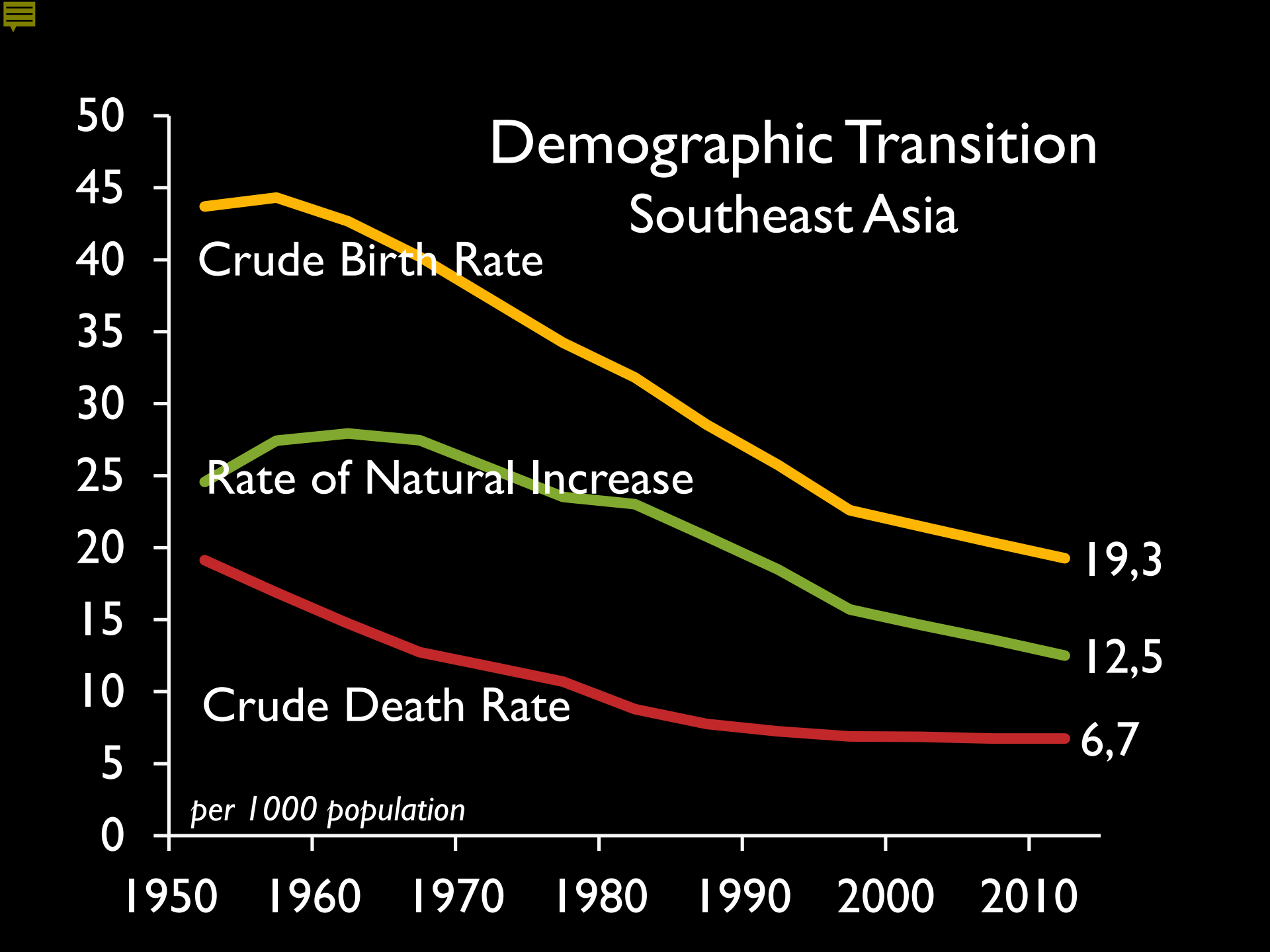
This never happened before and will almost surely never happen again

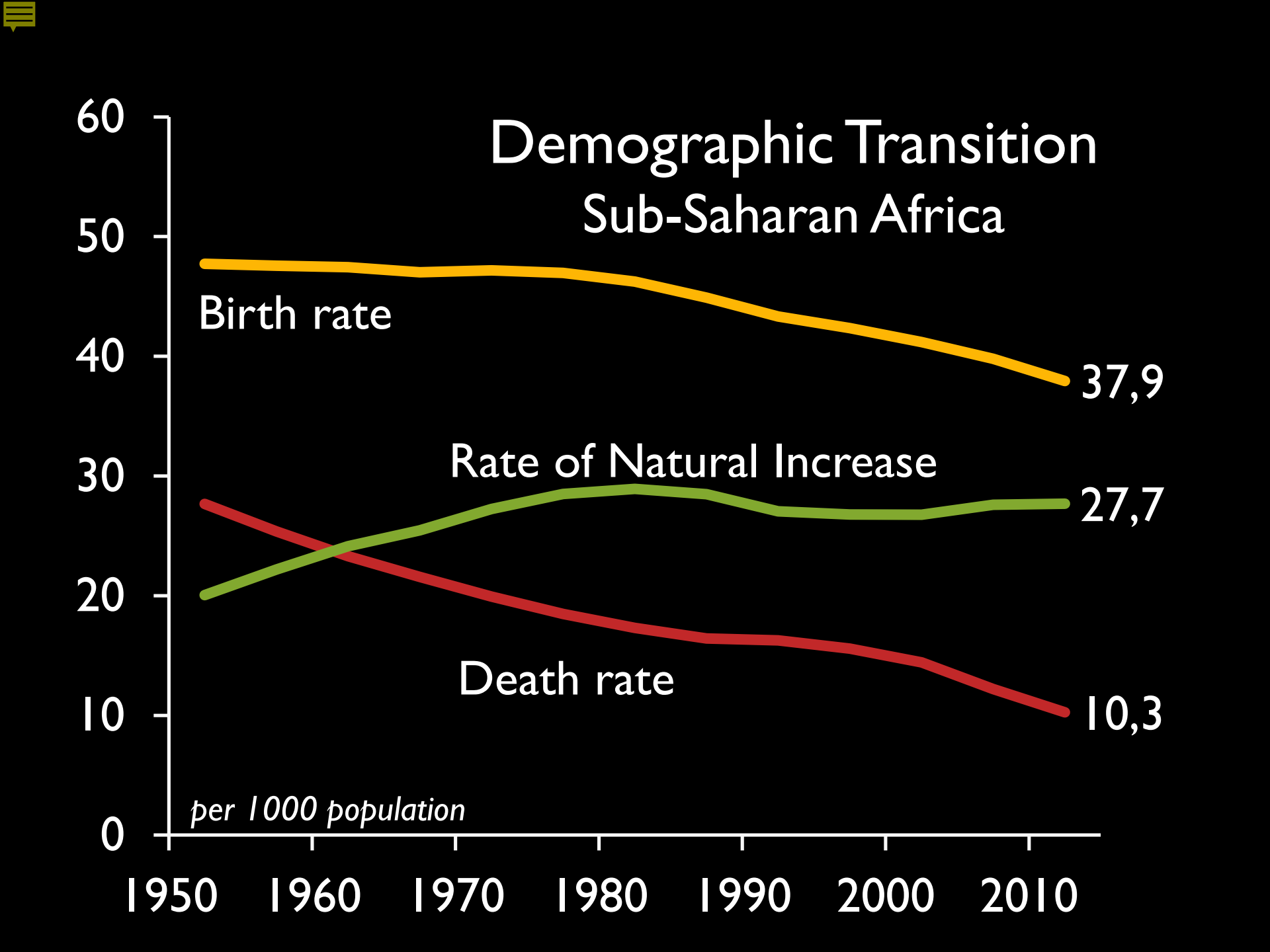


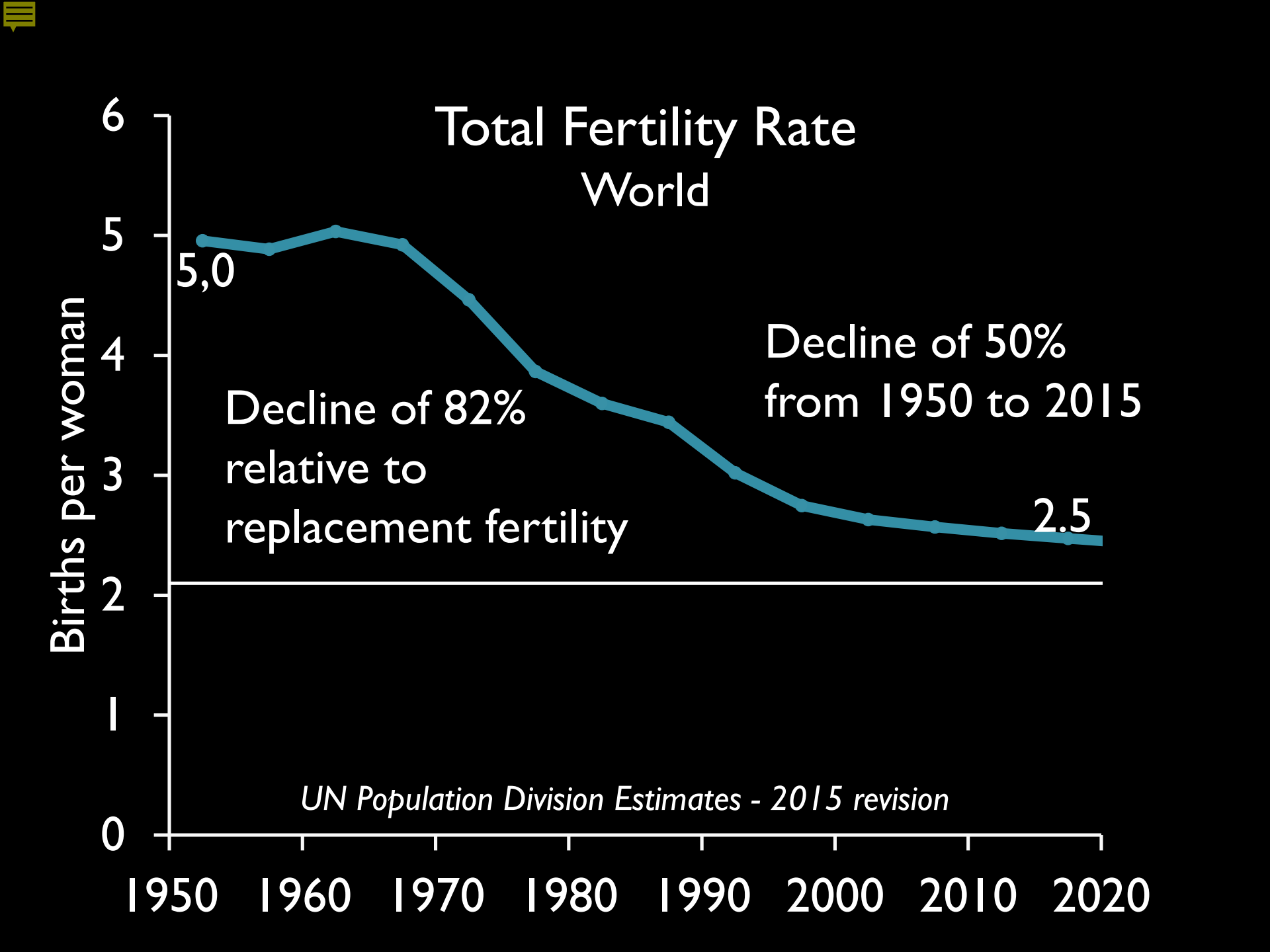

U.N. projections of world population to 2100
High, Medium, and Low Variants
Increase of over 4 billion projected between 2011 and 2100 (about 3.6 billion from 2017)
16,6
11,2
7,3
2011: 7 Billion
1999: 6 Billion
1987: 5 Billion
1974: 4 Billion
1960: 3 Billion
From 1950: UN World Population Prospects: 2015 revision
0
2
4
6
8
10
12
14
16
18
1800
1850
1900
1950
2000
2050
2100

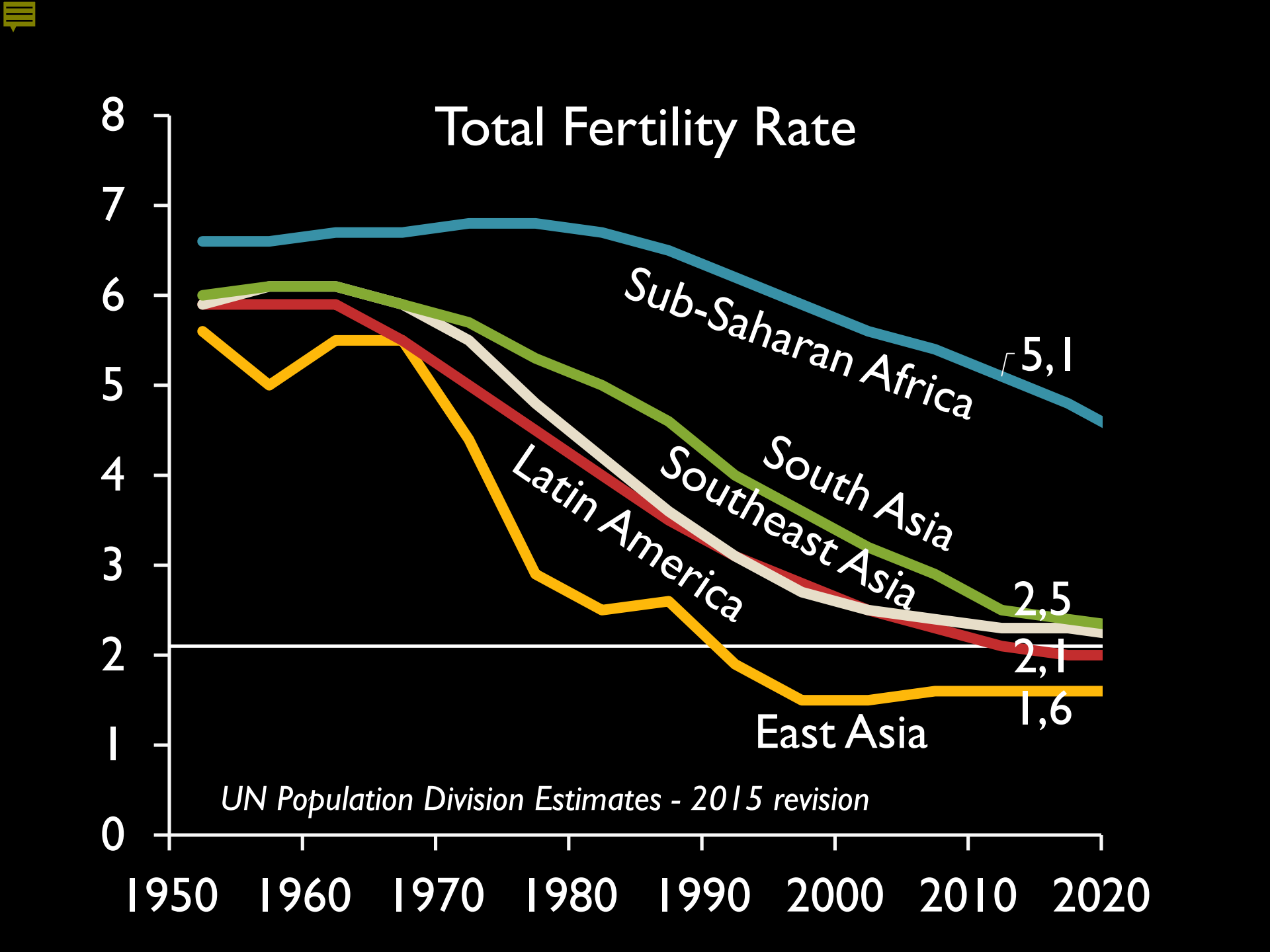

Annual growth rate of world population
2,5%
2,0%
1,5%
1,0%
0,5%
0,0%
-0,5%
-1,0%
1968
2.1%
UN estimates
and projections
0,8%
0,2%
-0,7%
2015
1.1%
Pre-1950 estimates
UN Population Division Estimates - 2015 revision
1900
1950
2000
2050
2100

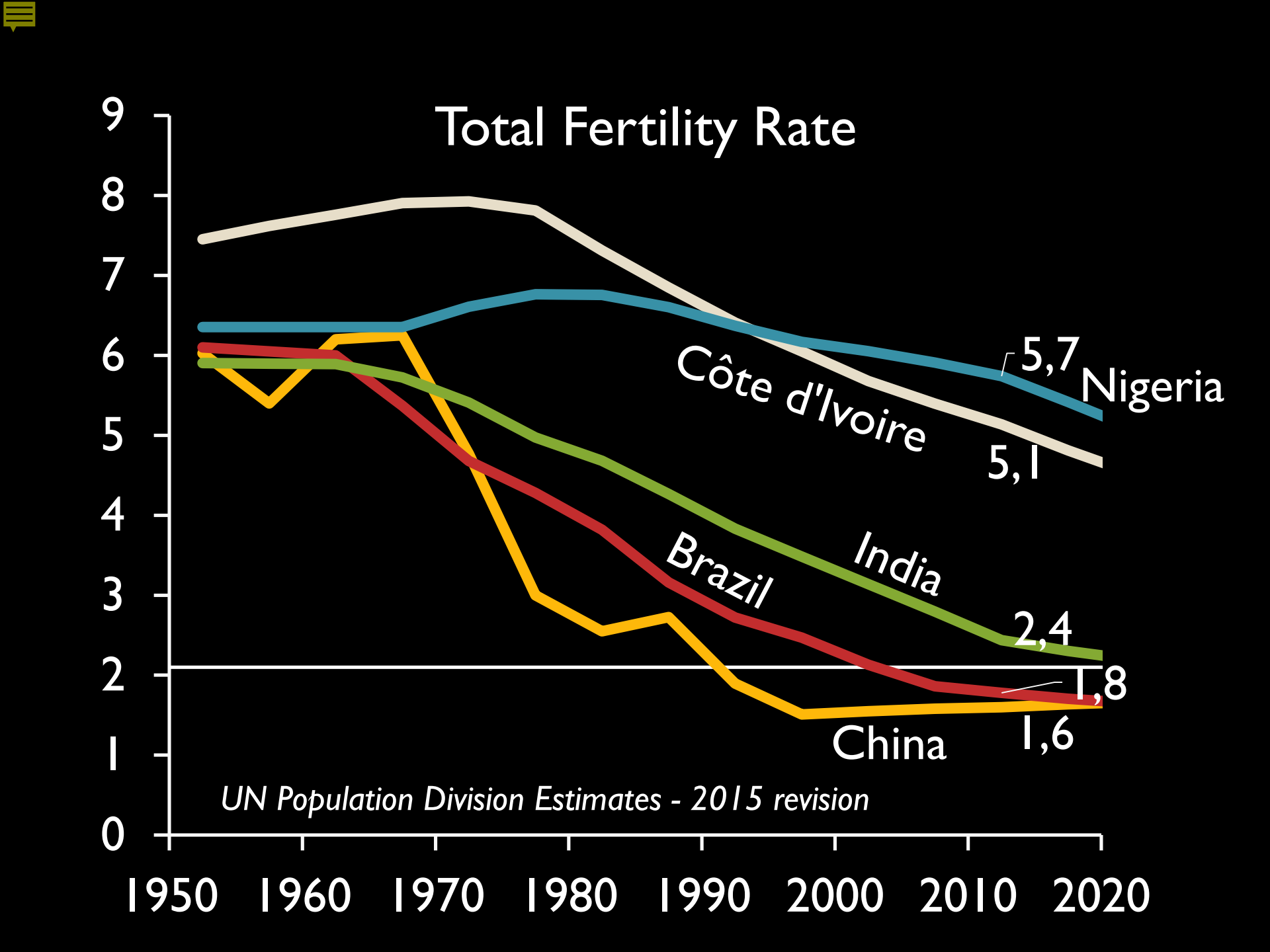

Demographic Transition
World, 1950-2015
Crude Birth Rate
Rate of Natural Increase
Crude Death Rate
19,6
11,9
7,7
per 1000 population
50
45
40
35
30
25
20
15
10
5
0
1950
1960
1970
1980
1990
2000
2010

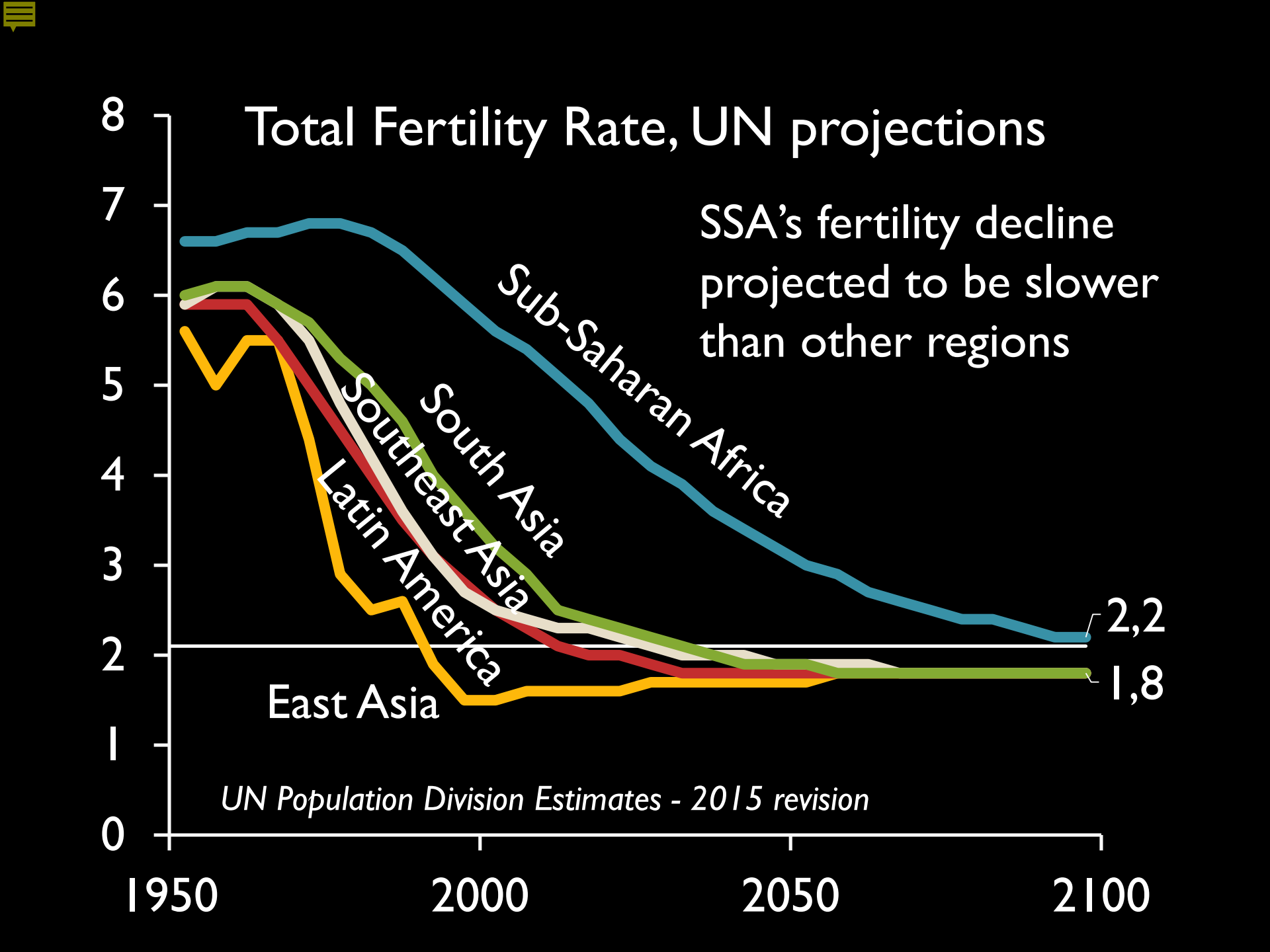

Demographic Transition
Southeast Asia
Crude Birth Rate
Rate of Natural Increase
Crude Death Rate
19,3
12,5
6,7
per 1000 population
50
45
40
35
30
25
20
15
10
5
0
1950
1960
1970
1980
1990
2000
2010


Demographic Transition
Sub-Saharan Africa
Birth rate
37,9
Rate of Natural Increase
27,7
Death rate
10,3
per 1000 population
60
50
40
30
20
10
0
1950
1960
1970
1980
1990
2000
2010


Total Fertility Rate
World
Births per woman
6
5
4
3
2
1
0
5,0
Decline of 82%
relative to
replacement fertility
Decline of 50%
from 1950 to 2015
2.5
UN Population Division Estimates - 2015 revision
1950
1960
1970
1980
1990
2000
2010
2020


Total Fertility Rate
8
7
6
5
4
3
2
1
0
1950
1960
1970
1980
1990
2000
2010
2020
Sub-Saharan Africa
5,1
South Asia
2,5
Southeast Asia
2,1
Latin America
1,6
East Asia
UN Population Division Estimates - 2015 revision

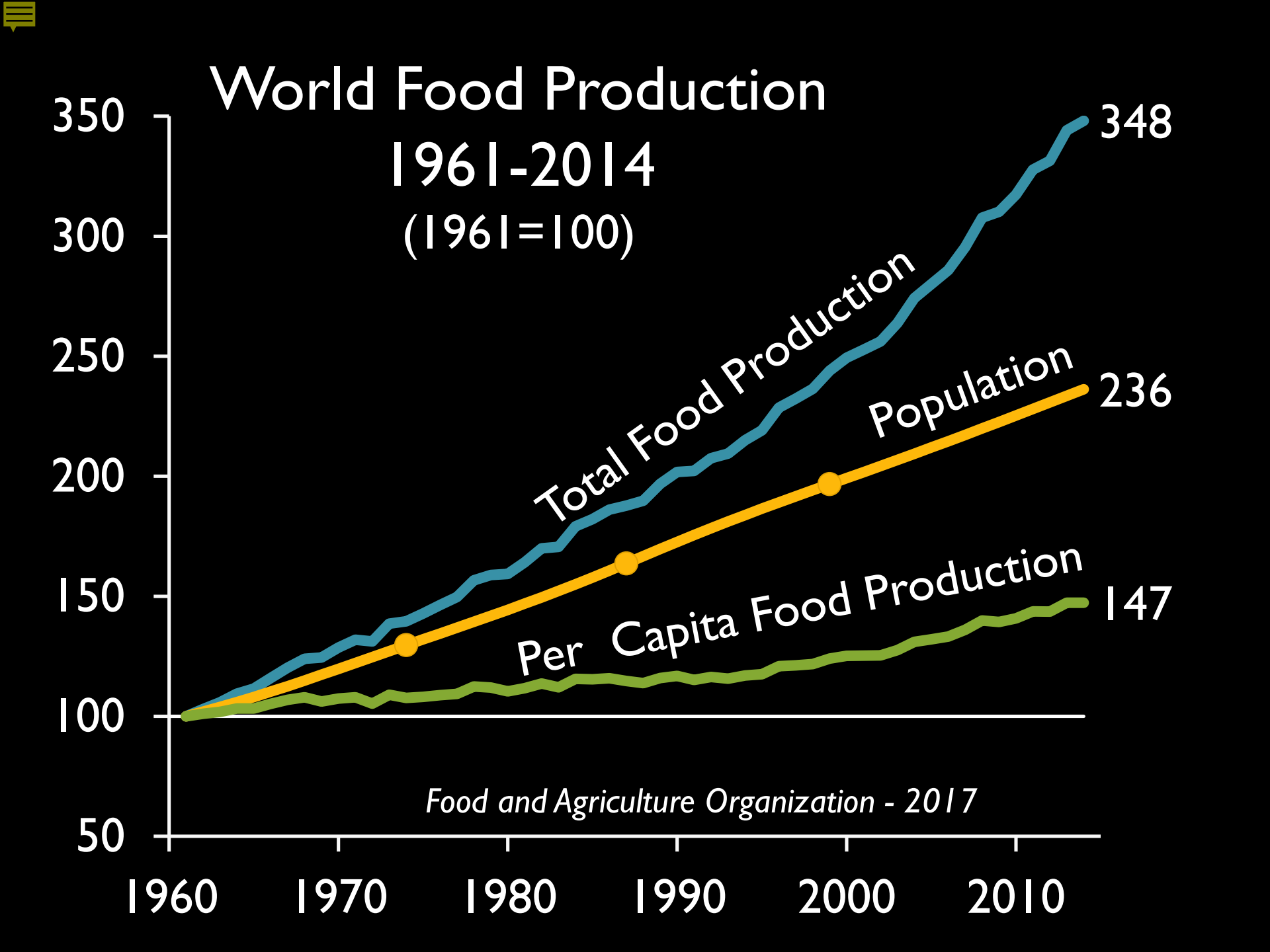

Total Fertility Rate
9
8
7
6
5
4
3
2
1
0
1950
1960
1970
1980
1990
2000
2010
2020
Côte d'Ivoire
5,7
Nigeria
5,1
Brazil
India
2,4
1,8
China
1,6
UN Population Division Estimates - 2015 revision

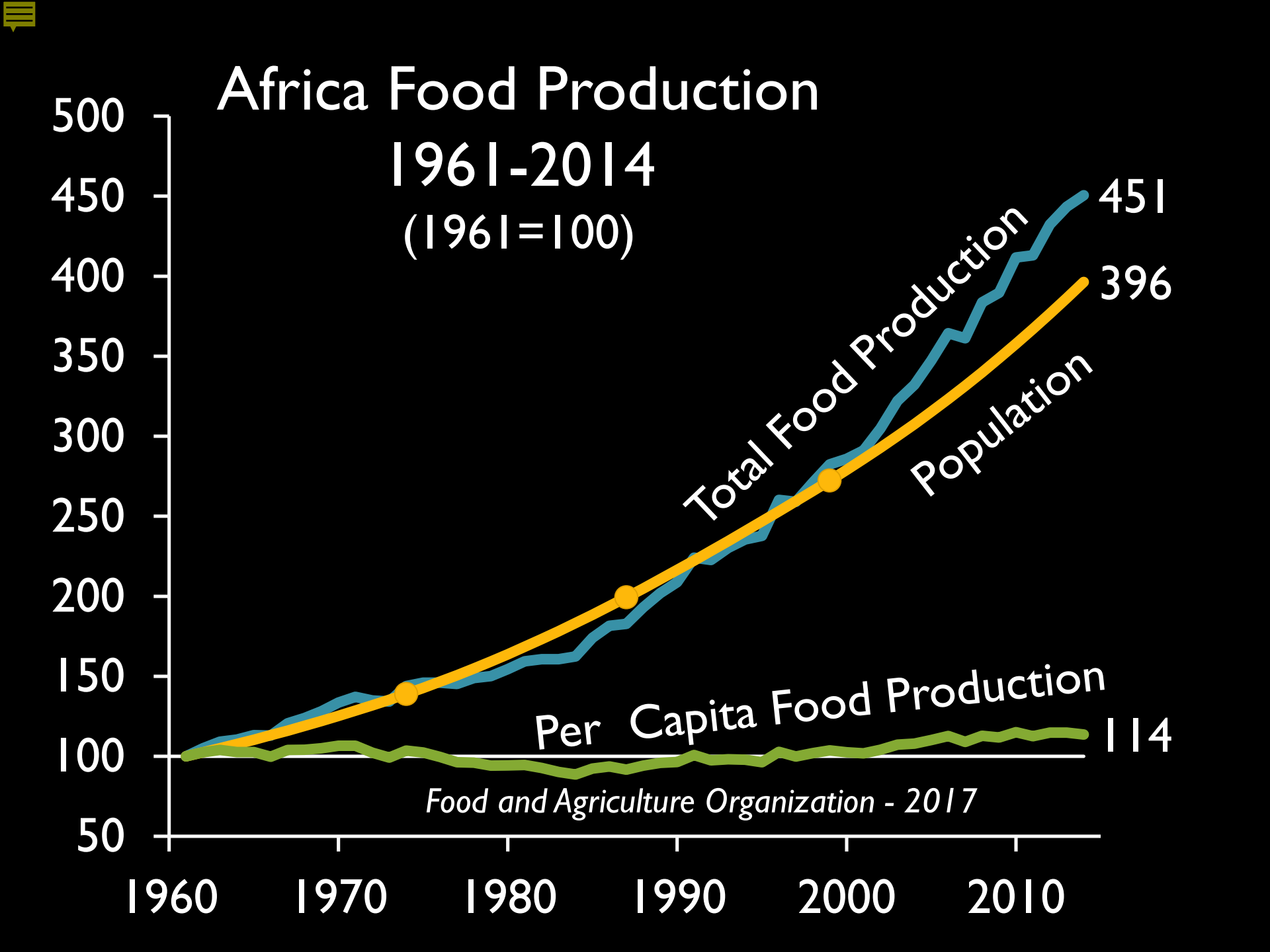

Total Fertility Rate, UN projections
SSA's fertility decline projected to be slower than other regions
Sub-Saharan Africa
South Asia
Southeast Asia
Latin America
East Asia
2,2
1,8
UN Population Division Estimates - 2015 revision
8
7
6
5
4
3
2
1
0
1950
2000
2050
2100

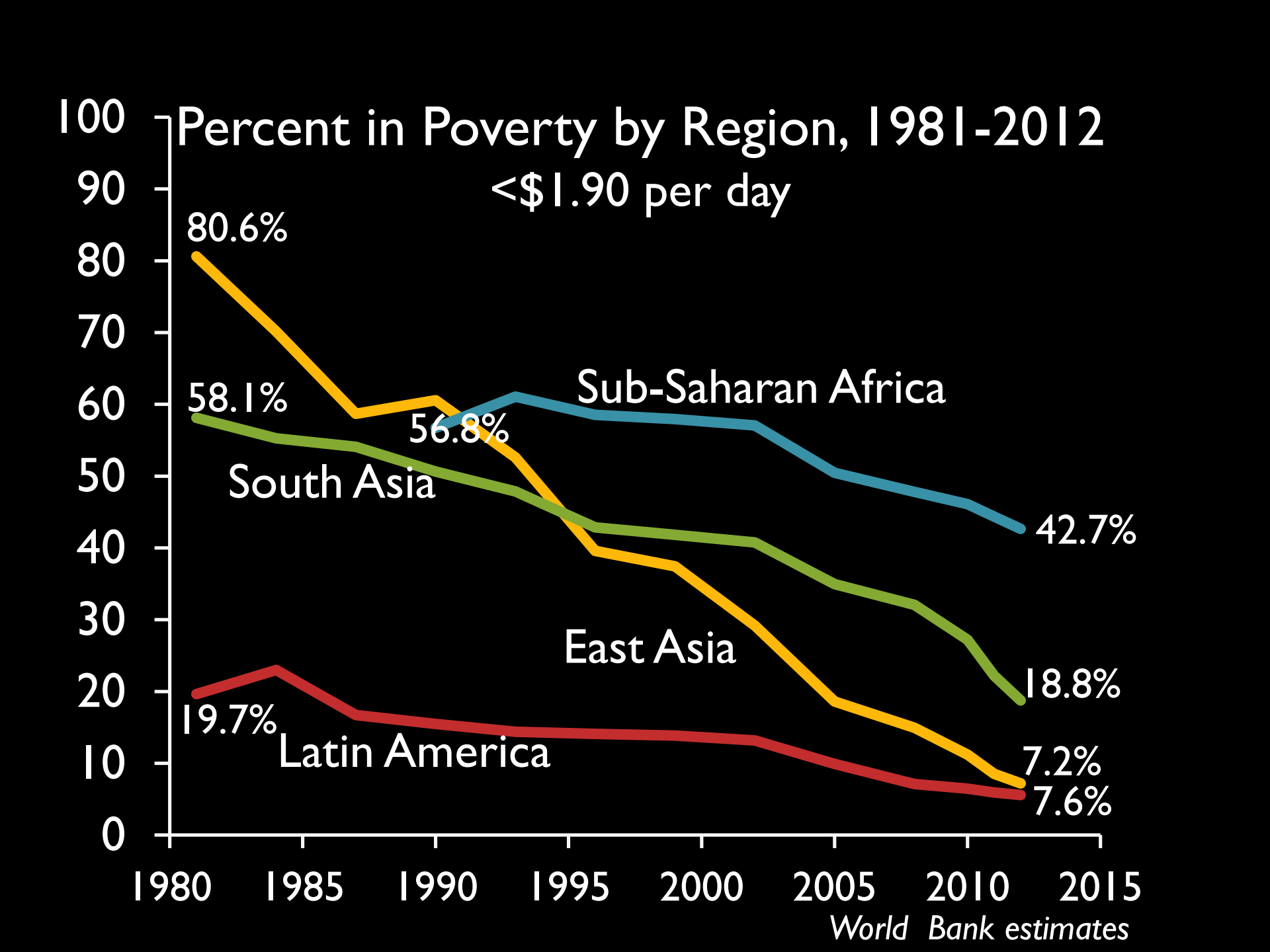
Overview of last 50 years

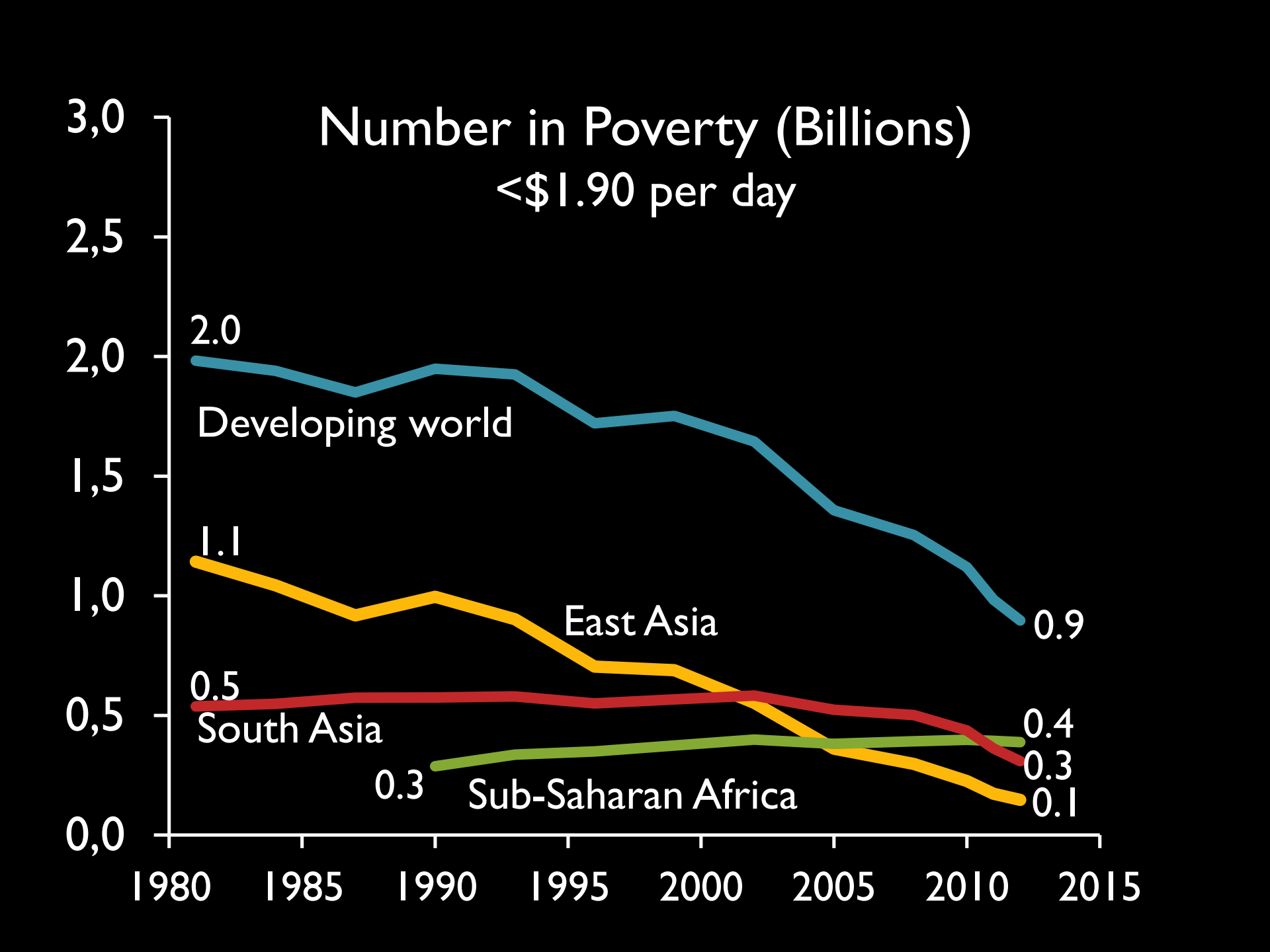
- World population grew faster than it has ever grown before or ever will grow again.
- Broadly similar patterns of population change across developing countries.
  - Key exception is slower fertility decline in Sub-Saharan Africa
- This period should be important in understanding links between population and development.

What happened to food availability and poverty during this period of unprecedented population growth?


World Food Production
1961-2014
(1961=100)
350
300
250
200
150
100
50
1960
1970
1980
1990
2000
2010
Total Food Production
348
Population
236
Per Capita Food Production
147
Food and Agriculture Organization - 2017


Africa Food Production
1961-2014
(1961=100)
500
450
400
350
300
250
200
150
100
50
1960
1970
1980
1990
2000
2010
Total Food Production
451
Population
396
Per Capita Food Production
114
Food and Agriculture Organization - 2017


Percent in Poverty by Region, 1981-2012
<$1.90 per day
100
90
80
70
60
50
40
30
20
10
0
1980
1985
1990
1995
2000
2005
2010
2015
80.6%
58.1%
56.8%
Sub-Saharan Africa
South Asia
42.7%
East Asia
18.8%
19.7%
Latin America
7.2%
7.6%
World Bank estimates


Number in Poverty (Billions)
<$1.90 per day
3,0
2,5
2,0
1,5
1,0
0,5
0,0
2.0
Developing world
0.9
1.1
East Asia
0.1
0.5
South Asia
0.4
0.3
0.3
Sub-Saharan Africa
1980
1985
1990
1995
2000
2005
2010
2015

Lessons of last 50 years

- Unprecedented population growth did not lead to increases in starvation or poverty or stagnation in education
- Reasons
  - Major technological advances
  - Market responses
  - Globalization
  - Declines in fertility, increases in education
- Many caveats:
  - Unequal outcomes across countries and within countries
  - Environmental problems, climate change

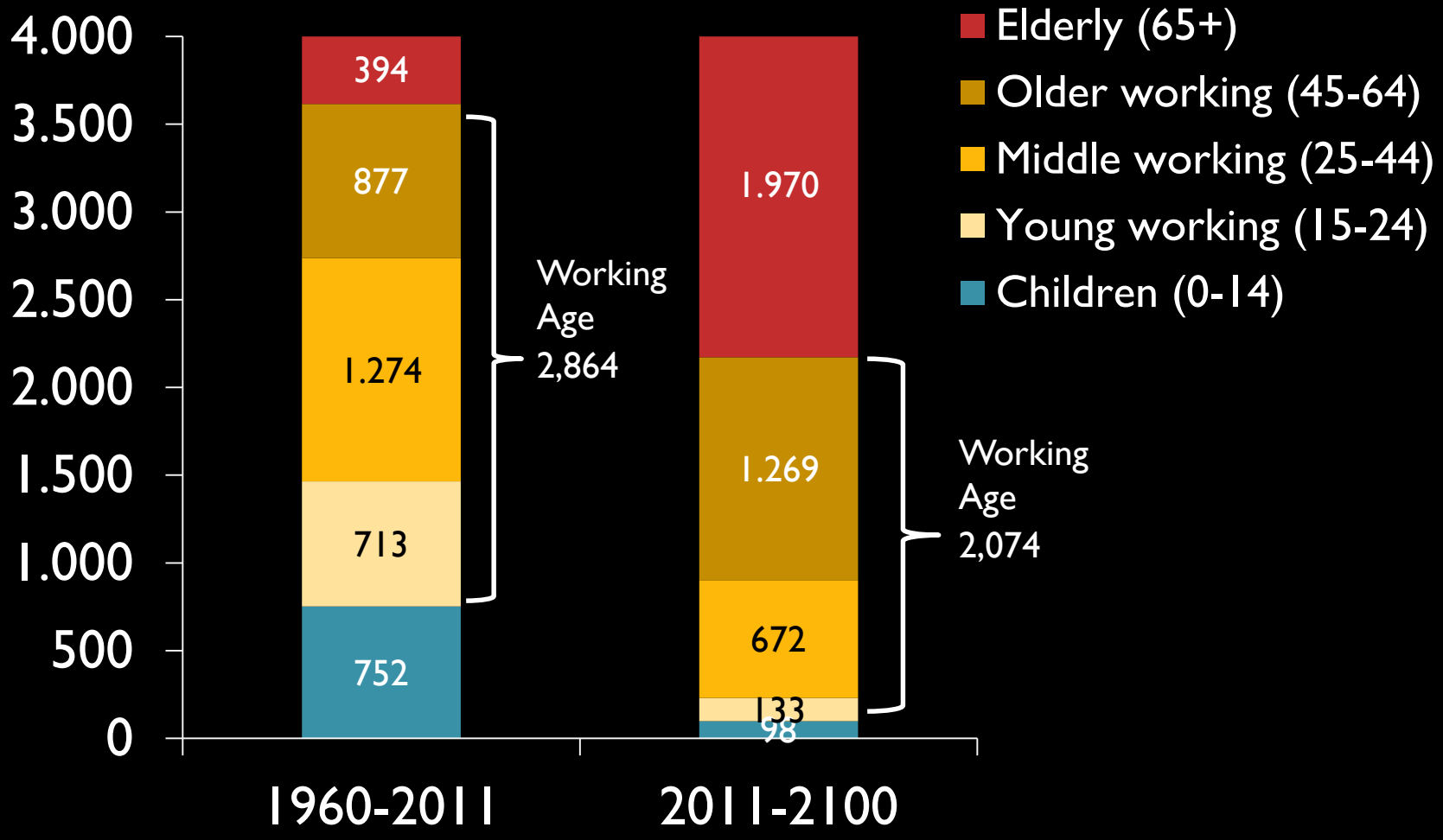
21st Century Demographic Change

- Comparison to 20th Century Demographic Change
- Demography of Working-Age Population
- Implications for Employment and Development

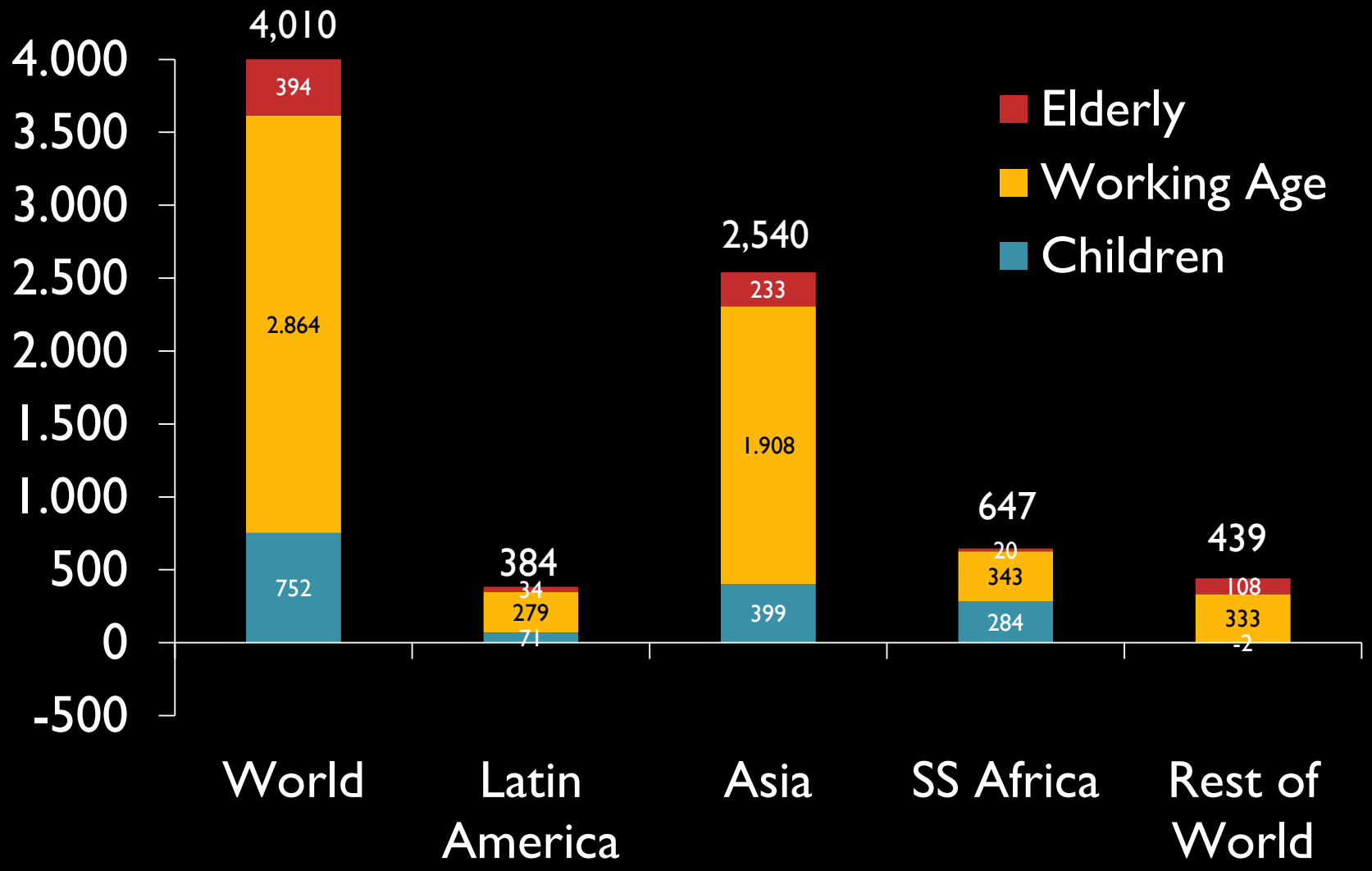
Components of Population Growth

- Most current population growth is inertial growth from the population growth of the 1960s and 1970s
- Many countries already have replacement fertility, but they continue to grow
- The dynamics of the Demographic Transition mean that the components of growth will be very different in the 21st century

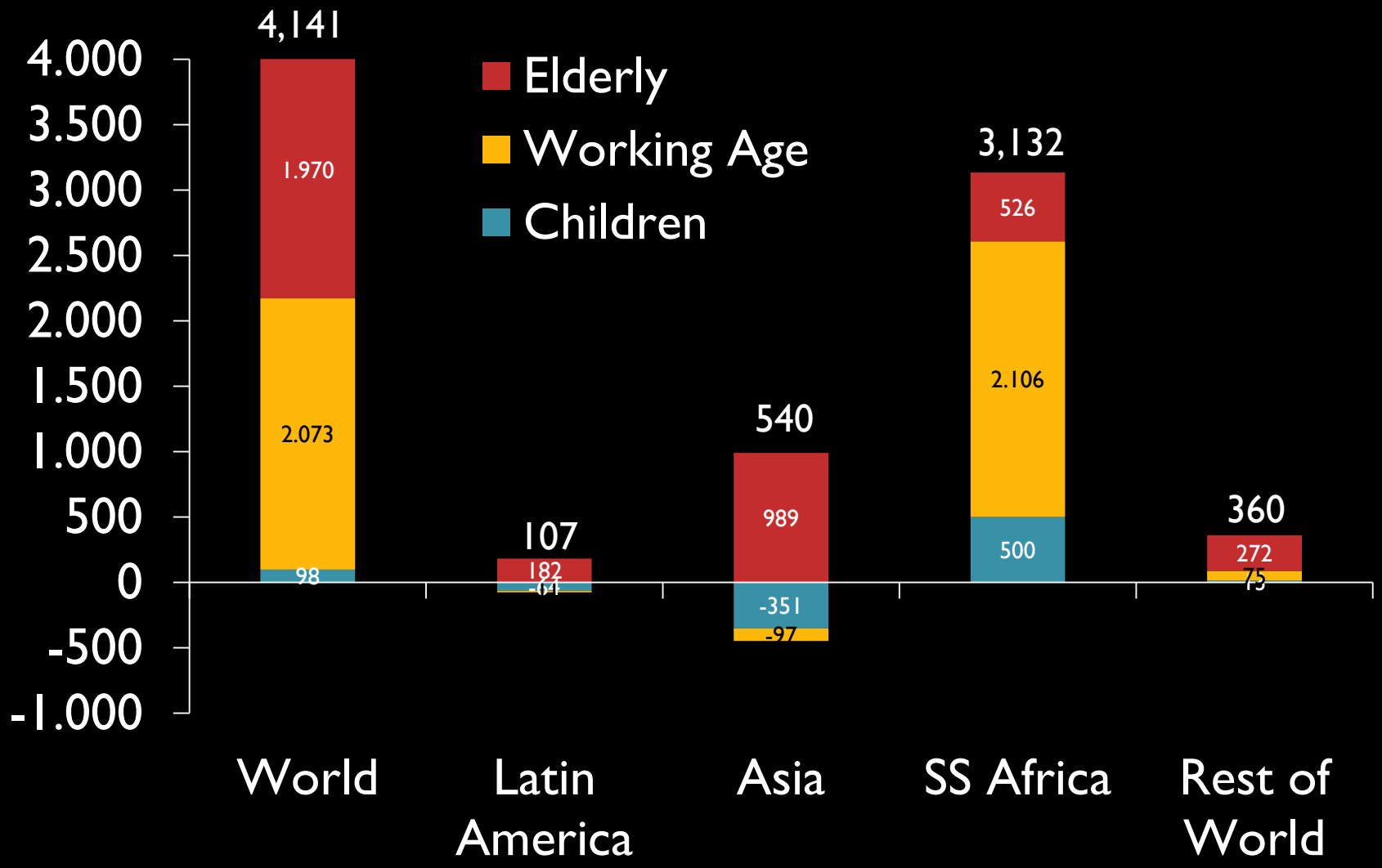
Increase in world population 1960-2100 (Millions)



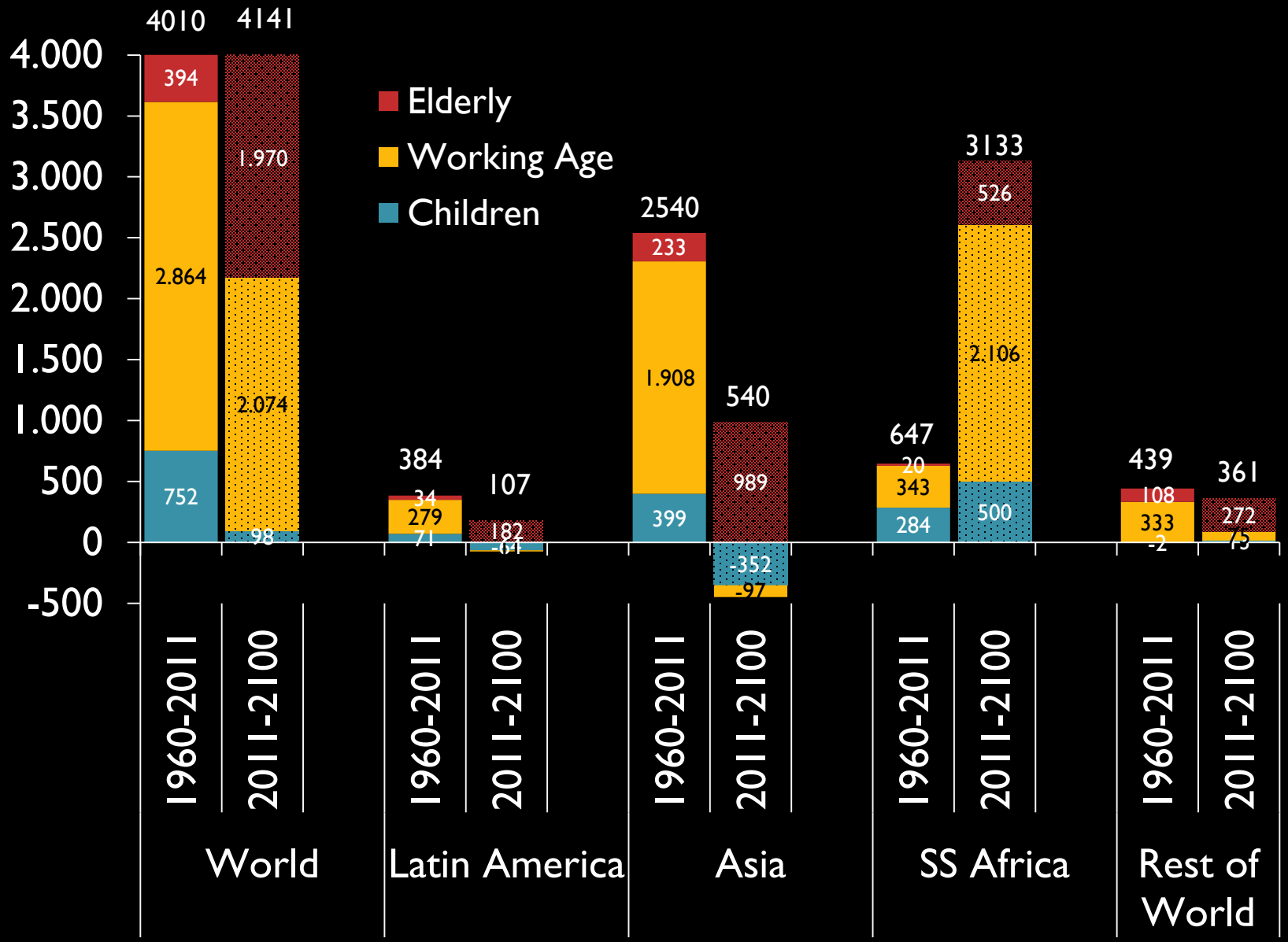
Increase in population 1960-2011 (Millions)



Increase in population 2011-2100 (Millions)

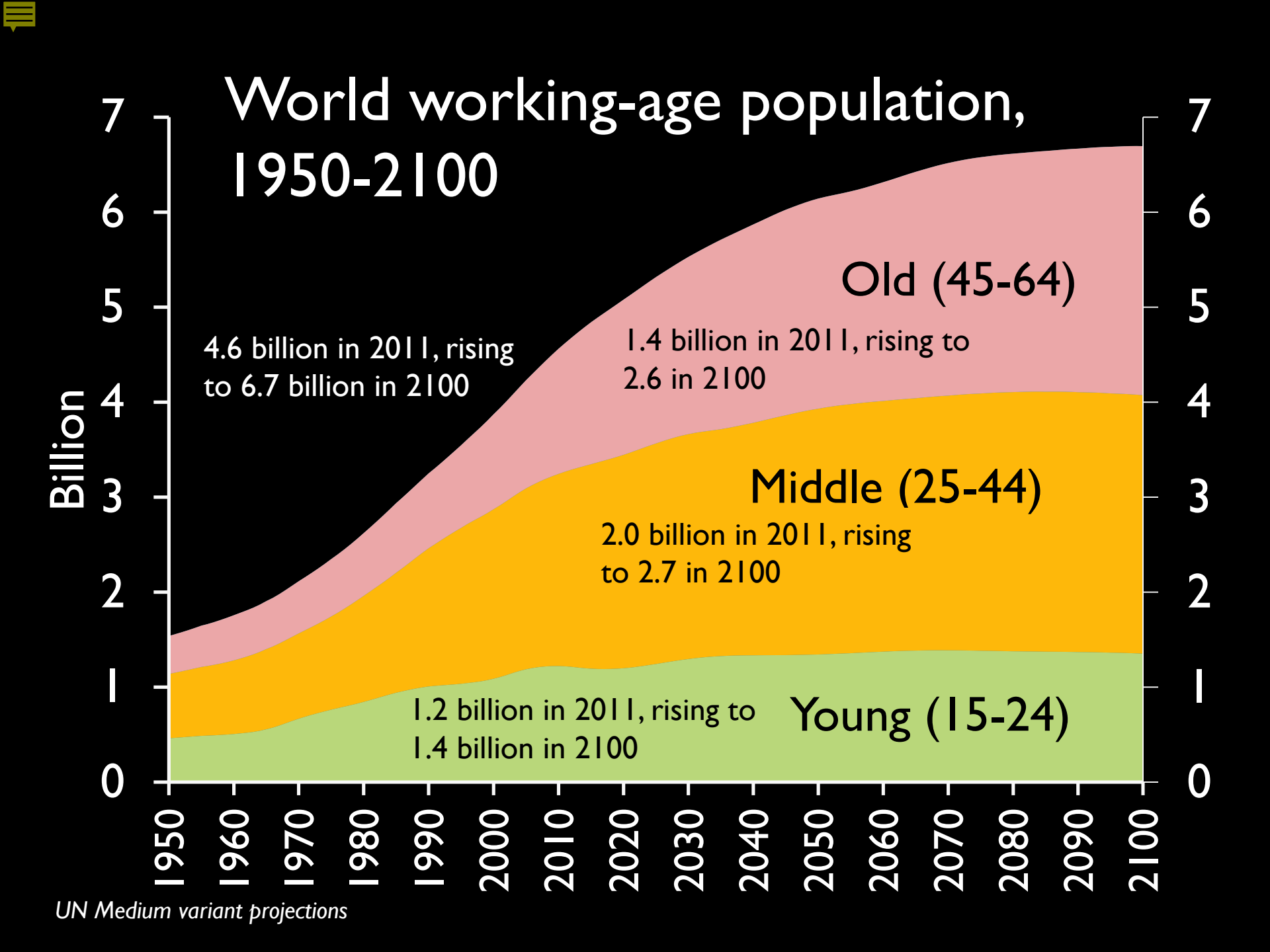


Increase in population 1960-2100 (Millions)

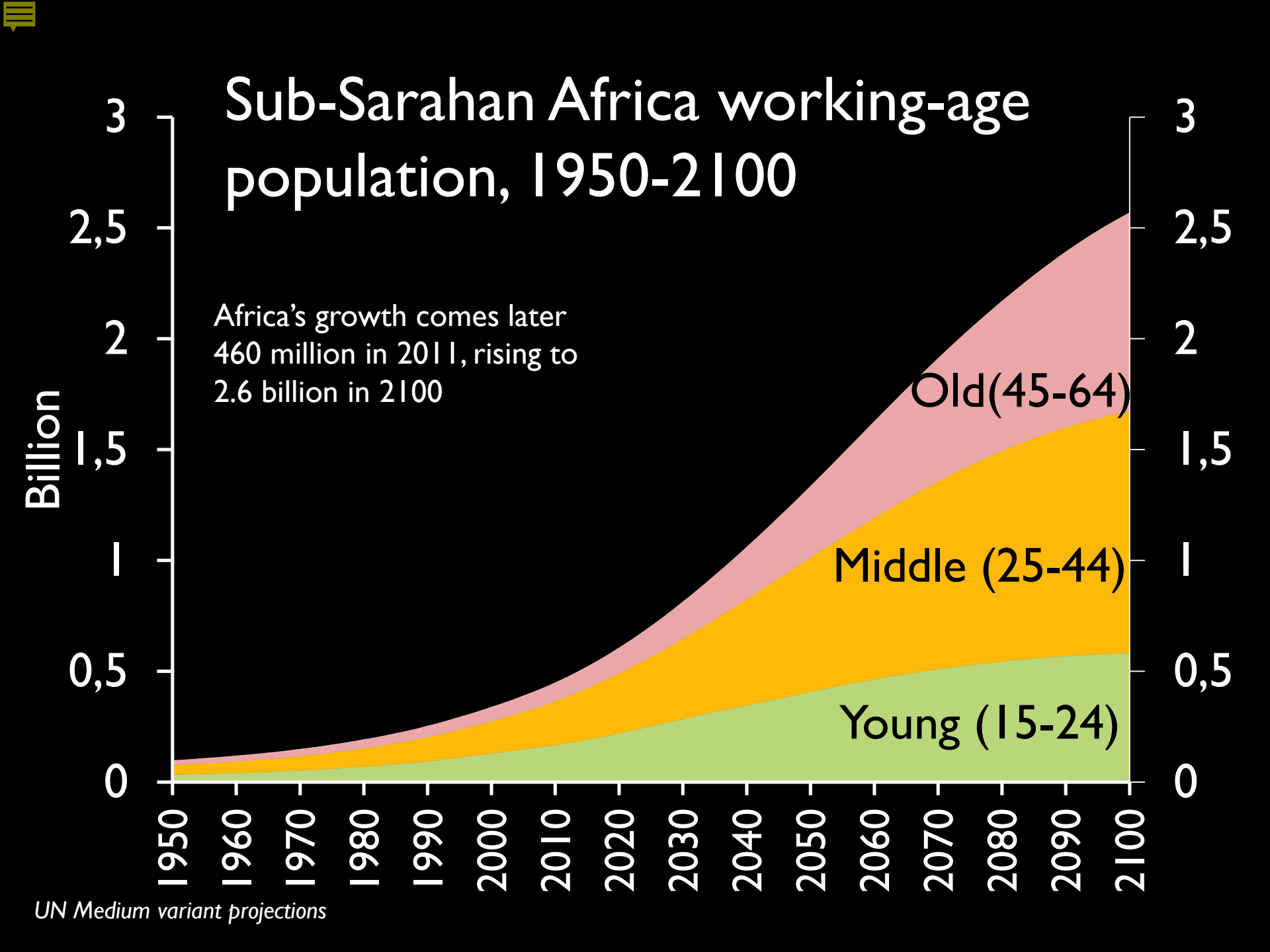


Implications for the Labor Market

- 20th century population growth was characterized by rapid growth in children and youth
- This put pressure on schools and the youth labor market
- The global labor market in the 1970s and 1980s saw rapid increases in the number or young unskilled workers in developing countries
- Labor market dynamics are very different in the 21st century


World working-age population, 1950-2100
Billion
0
1
2
3
4
5
6
7
1950
1960
1970
1980
1990
2000
2010
2020
2030
2040
2050
2060
2070
2080
2090
2100
Old (45-64)
1.4 billion in 2011, rising to 2.6 in 2100
Middle (25-44)
2.0 billion in 2011, rising to 2.7 in 2100
Young (15-24)
1.2 billion in 2011, rising to 1.4 billion in 2100
4.6 billion in 2011, rising to 6.7 billion in 2100
UN Medium variant projections

Sub-Sarahan Africa working-age population, 1950-2100

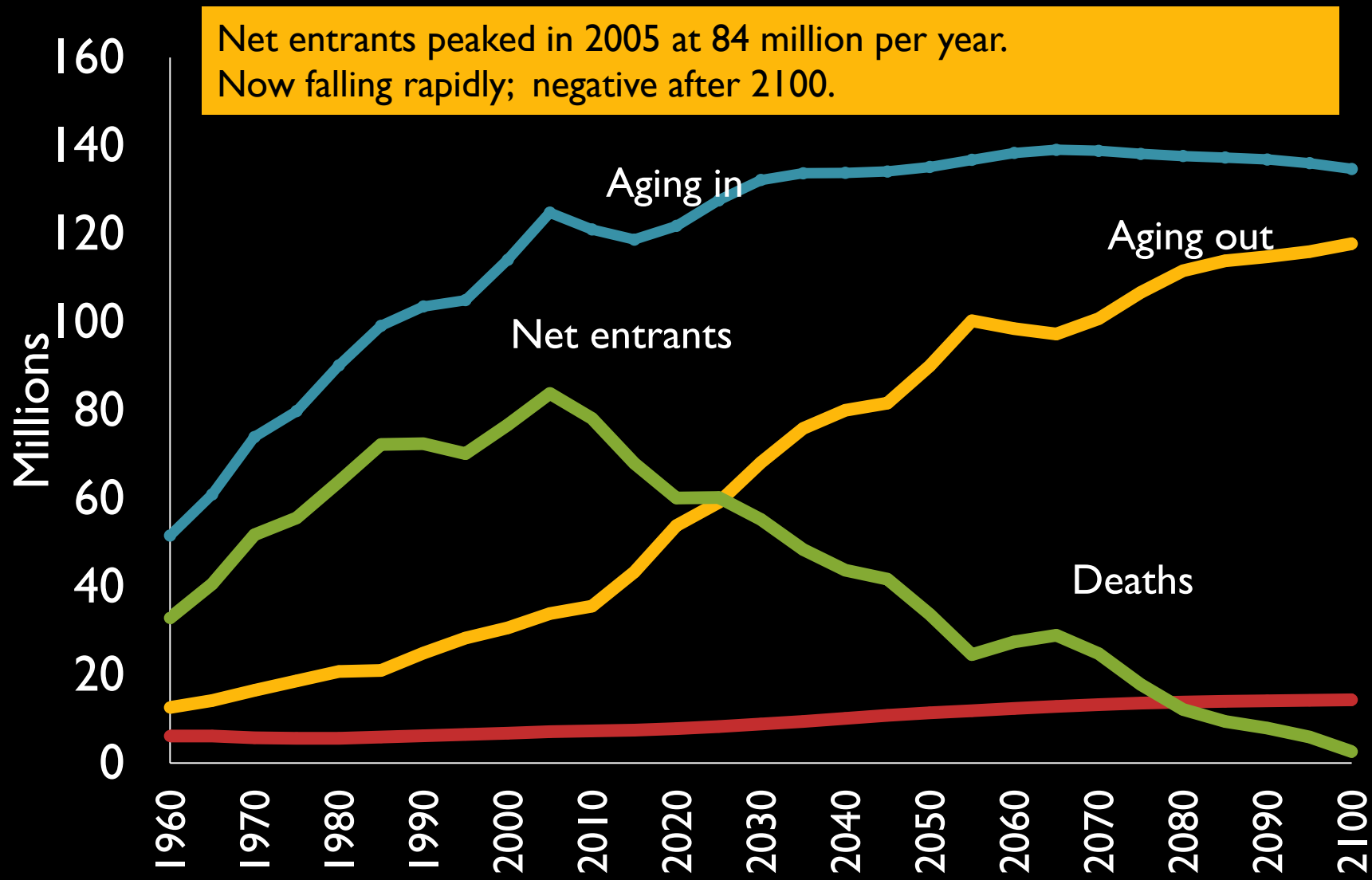


UN Medium variant projections

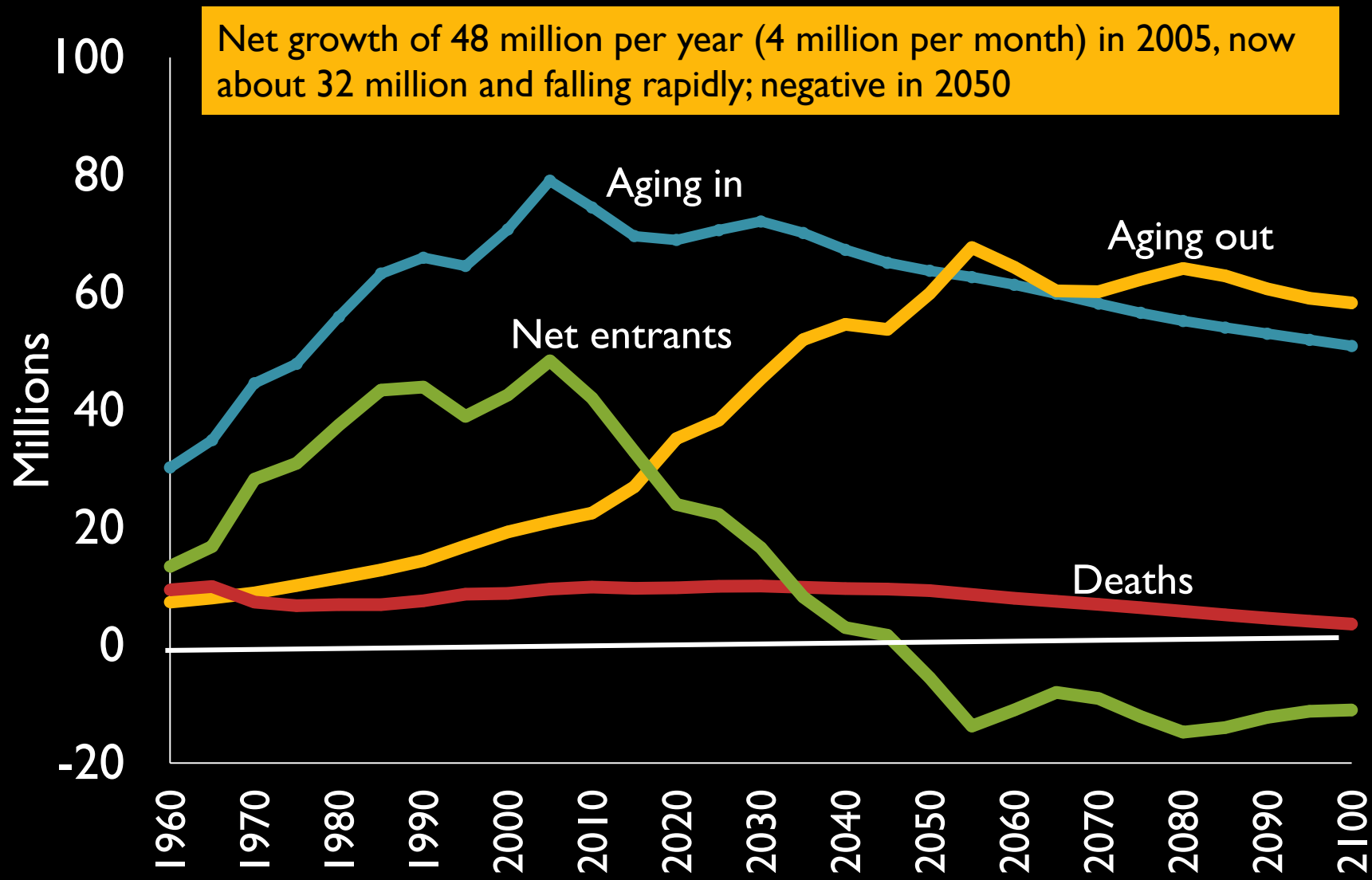
Components of Growth in the Working-Age Population

- Consider a simple accounting of the 15-64 age group
- New entrants in a year are those who turn age 15
- People age out if they turn age 65
- Some 15-64 year-olds also die, another source of exit
- These components determine the growth of the working-age population

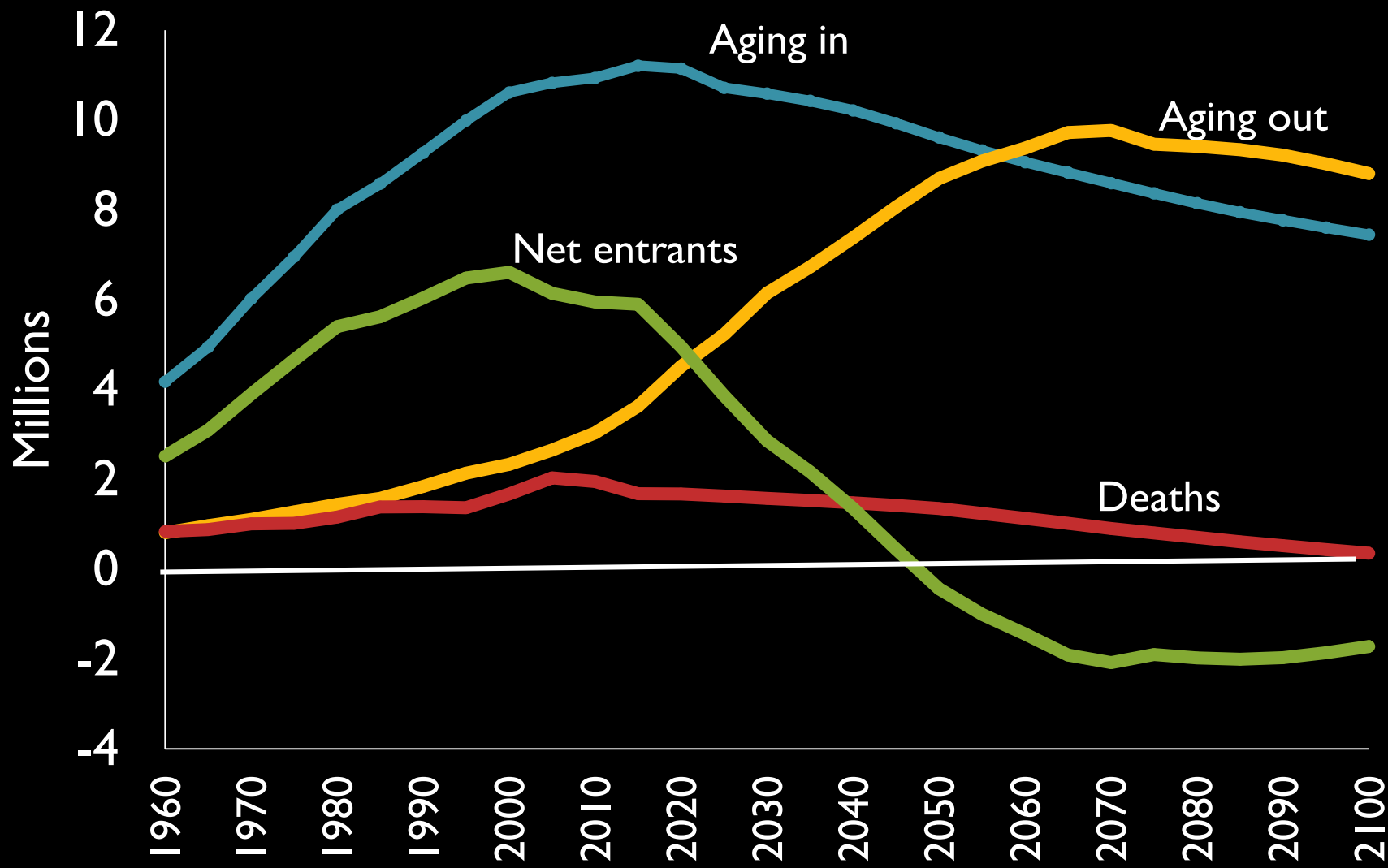
Growth of working-age population, World



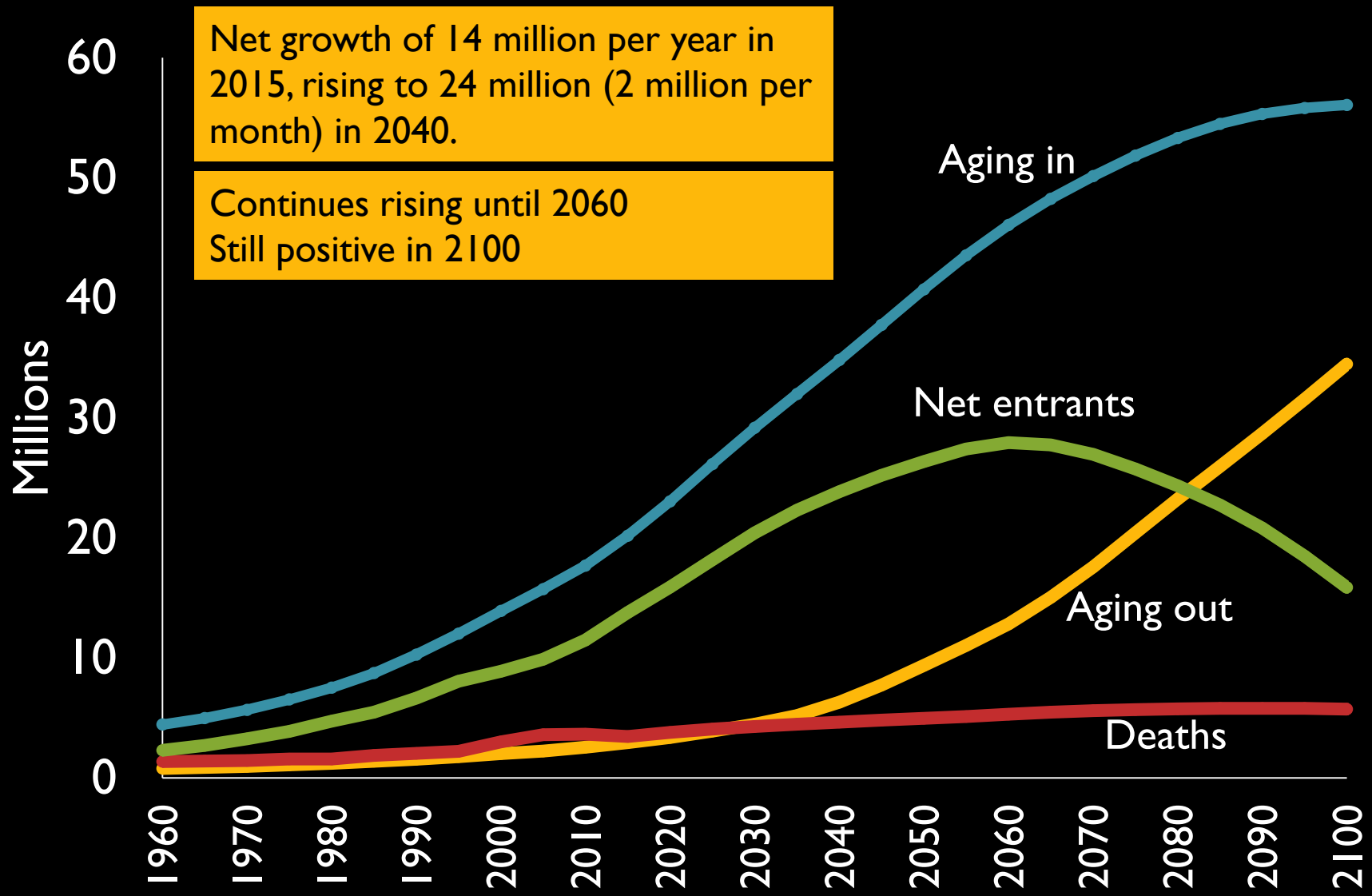
Growth of working-age population, Asia



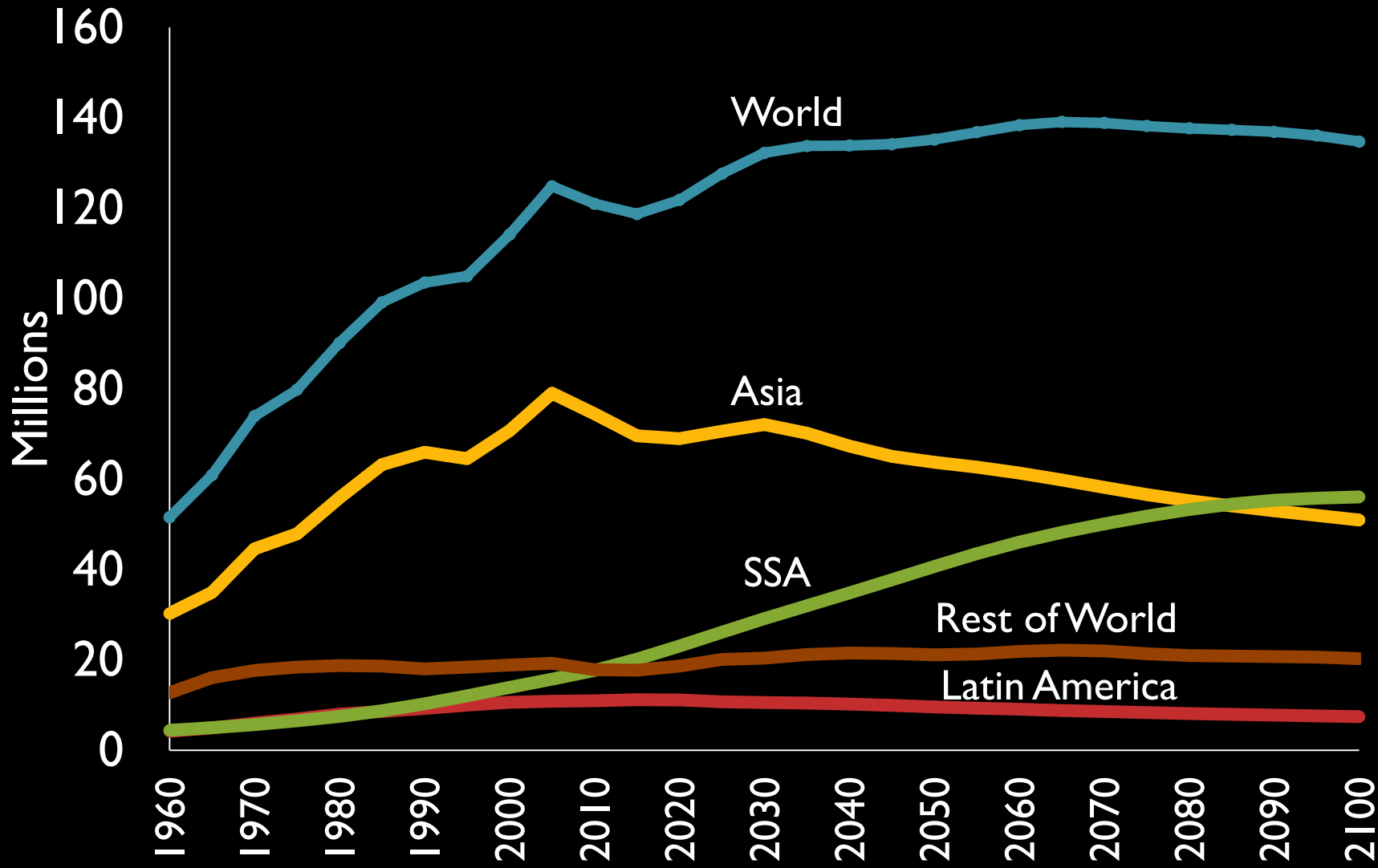
Growth of working-age population, Latin America



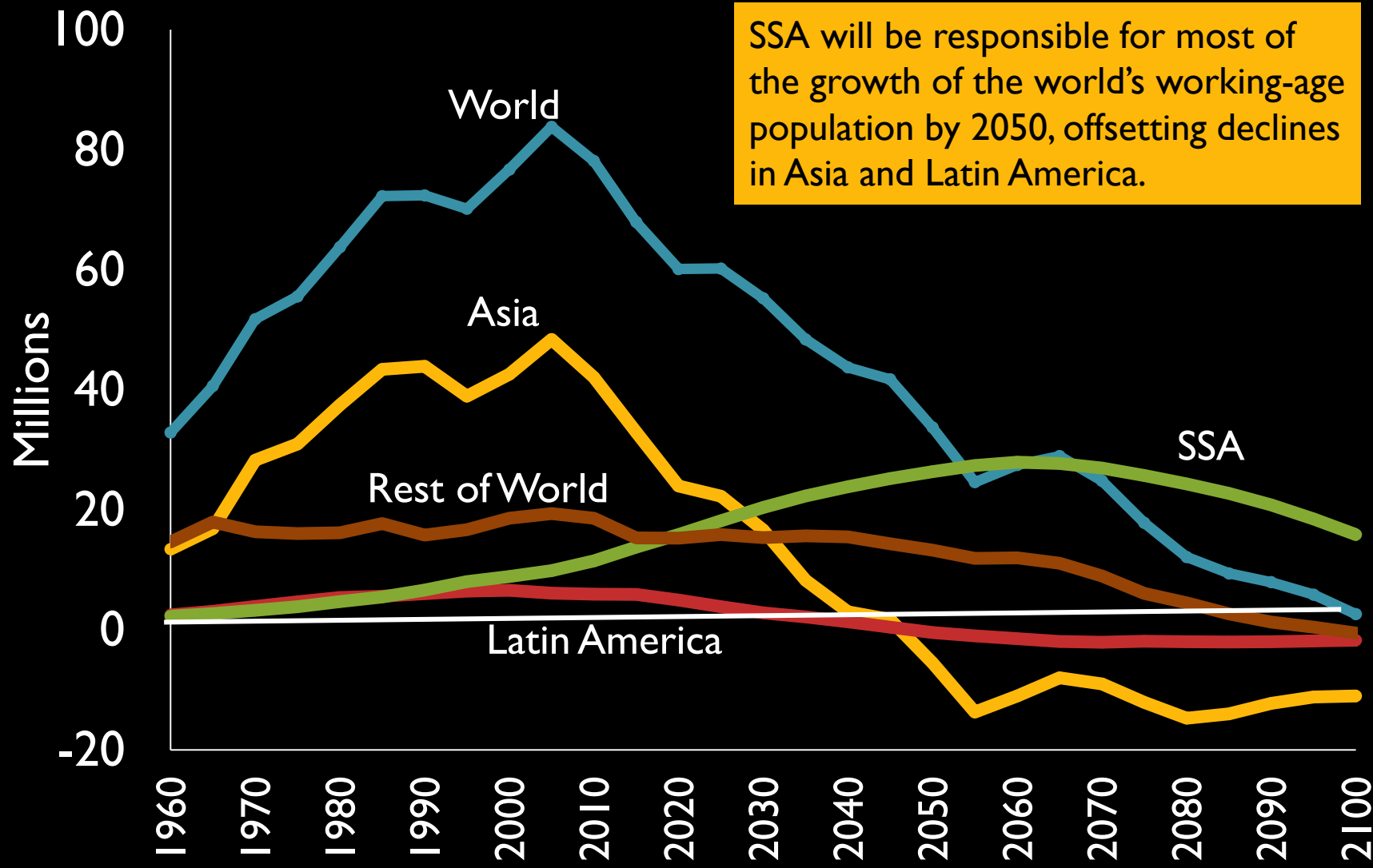
Growth of working-age population, Sub-Saharan Africa



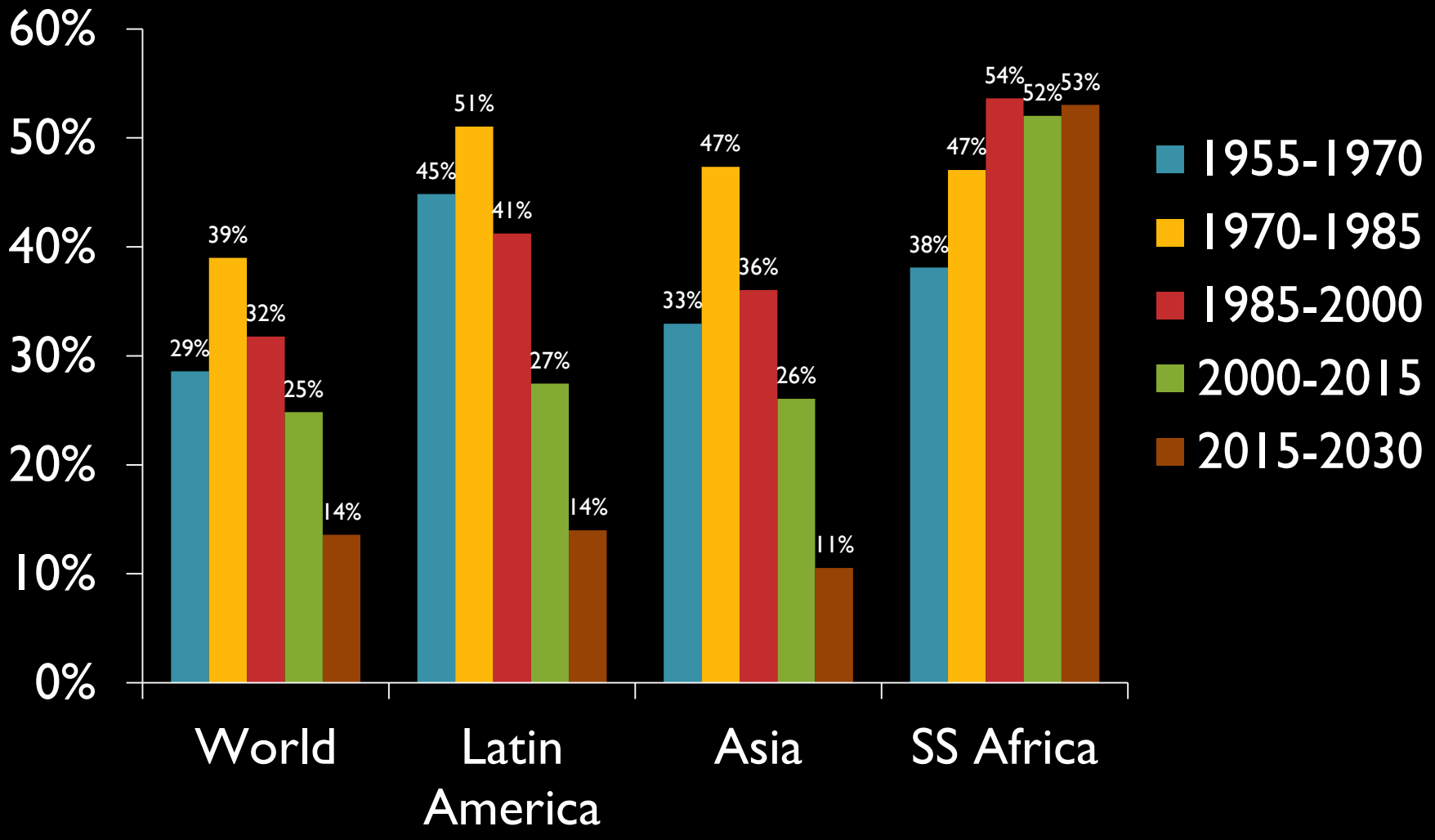
Number aging into working-age population, by region



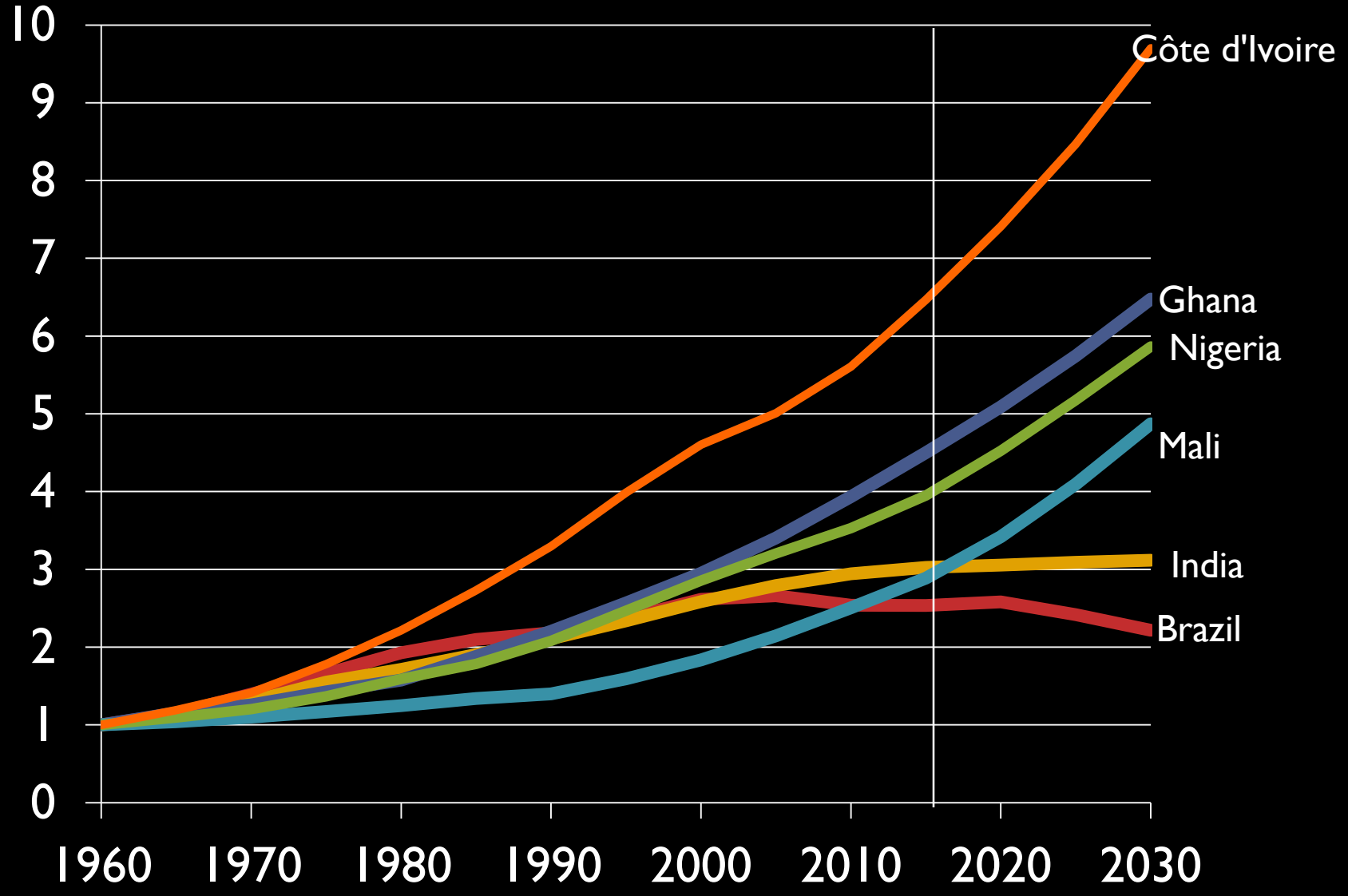
Net Entrant Population, by Region



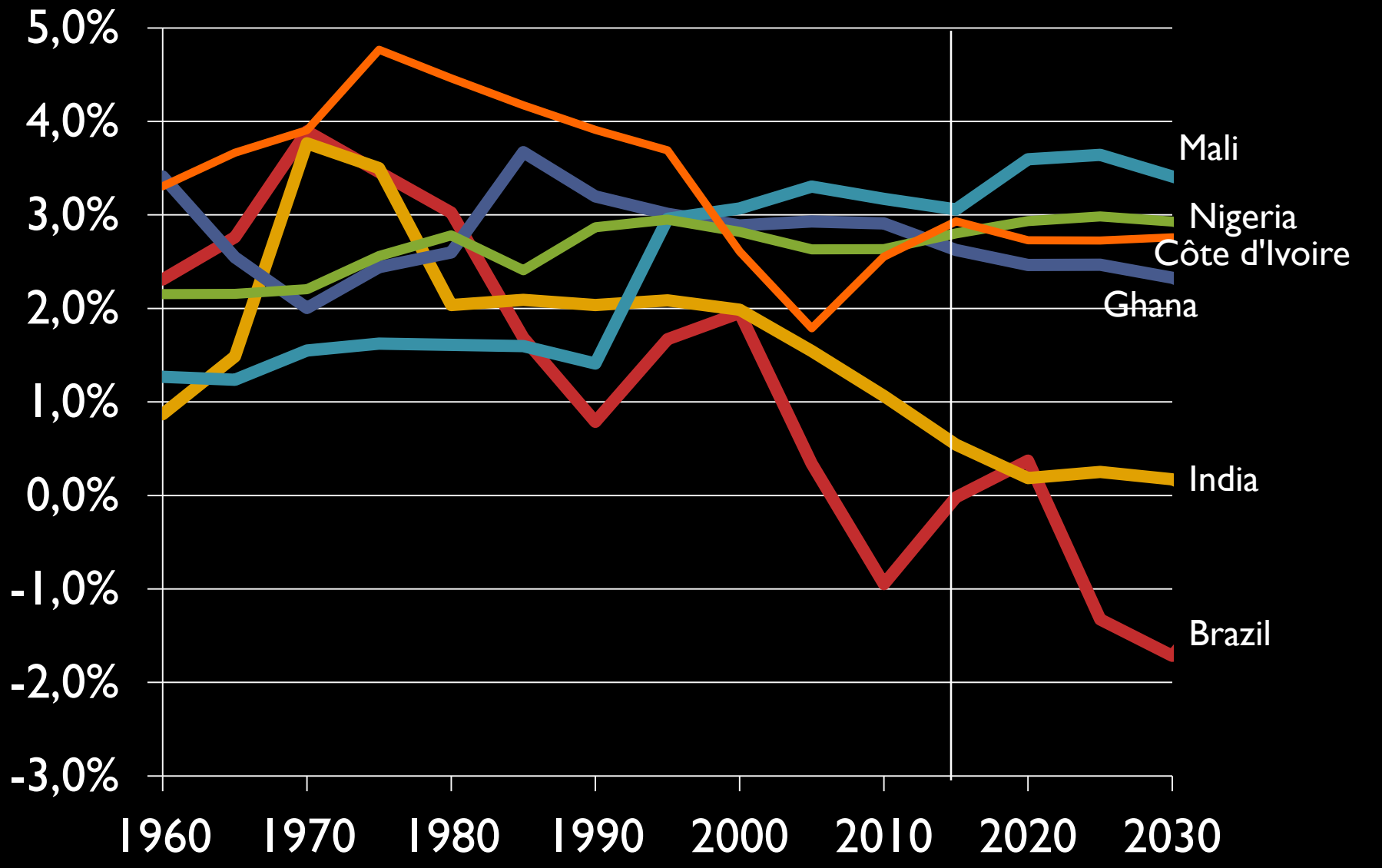
Increase in working-age population (15-64) over 15 year periods



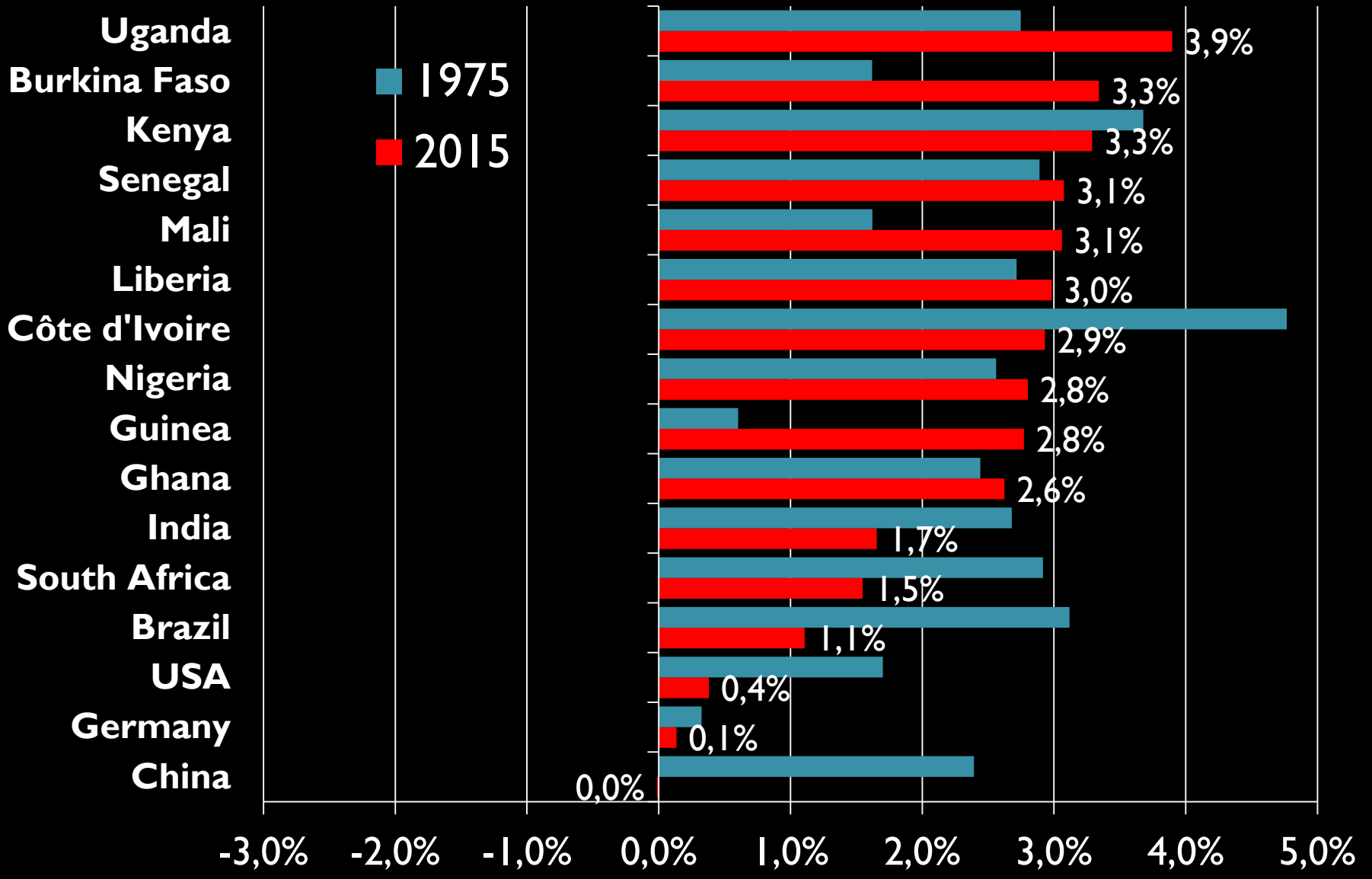
Size of working-age population (Age 15-64, 1960=1)



Annual growth rate of working-age population (Age 15-64)



Working-age 15-64 – Annual growth rate

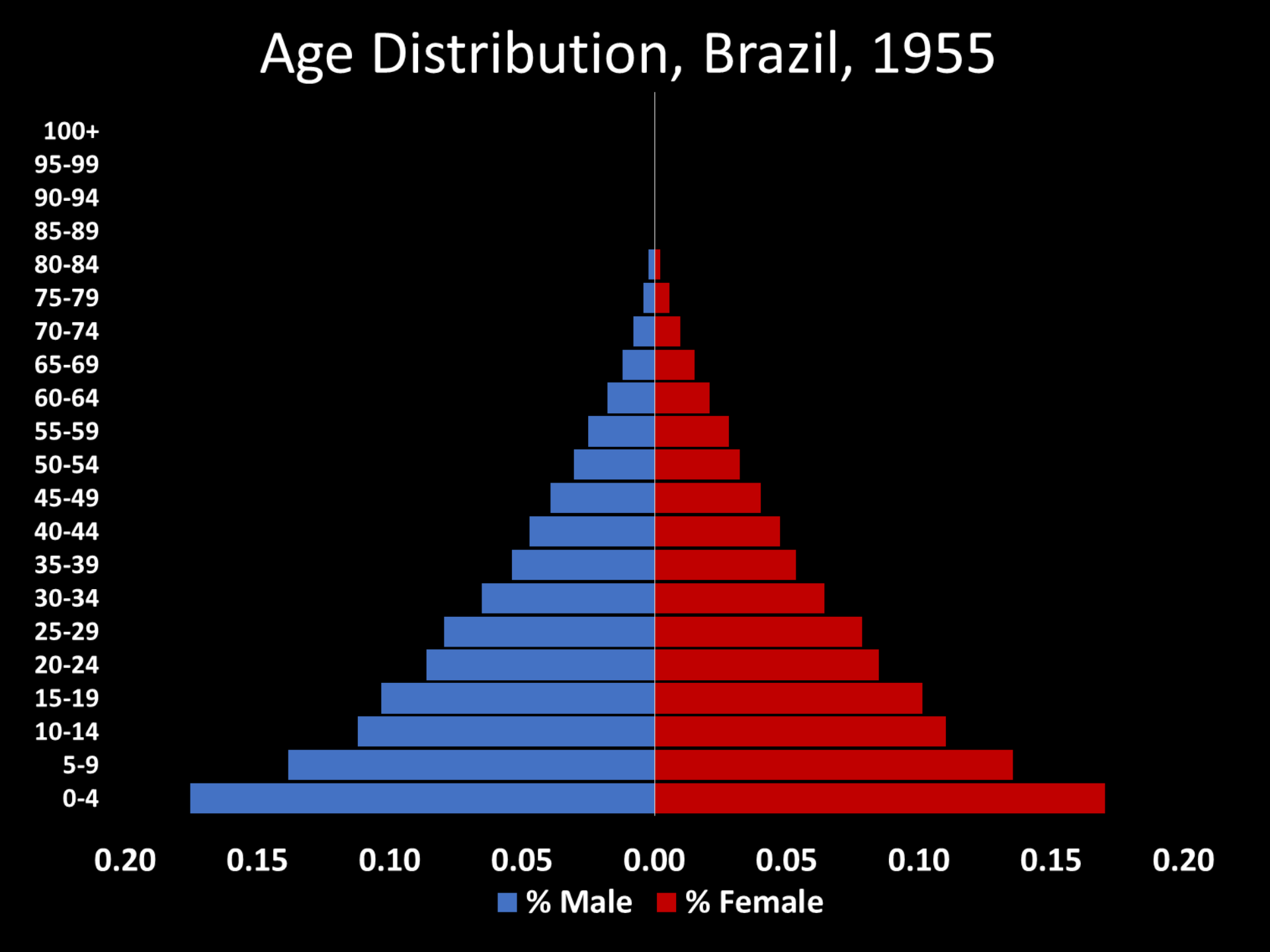


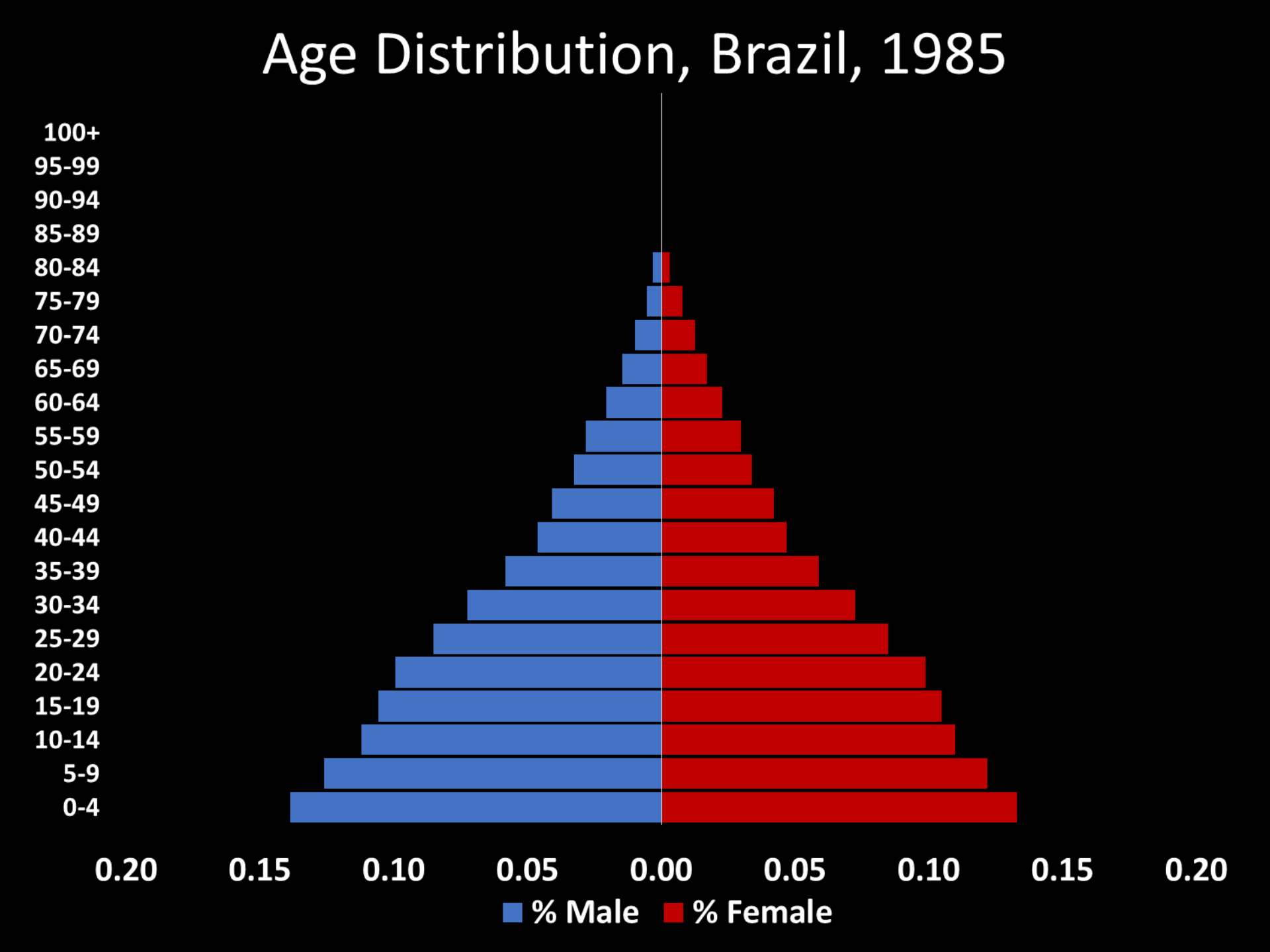
Growth of working-age population

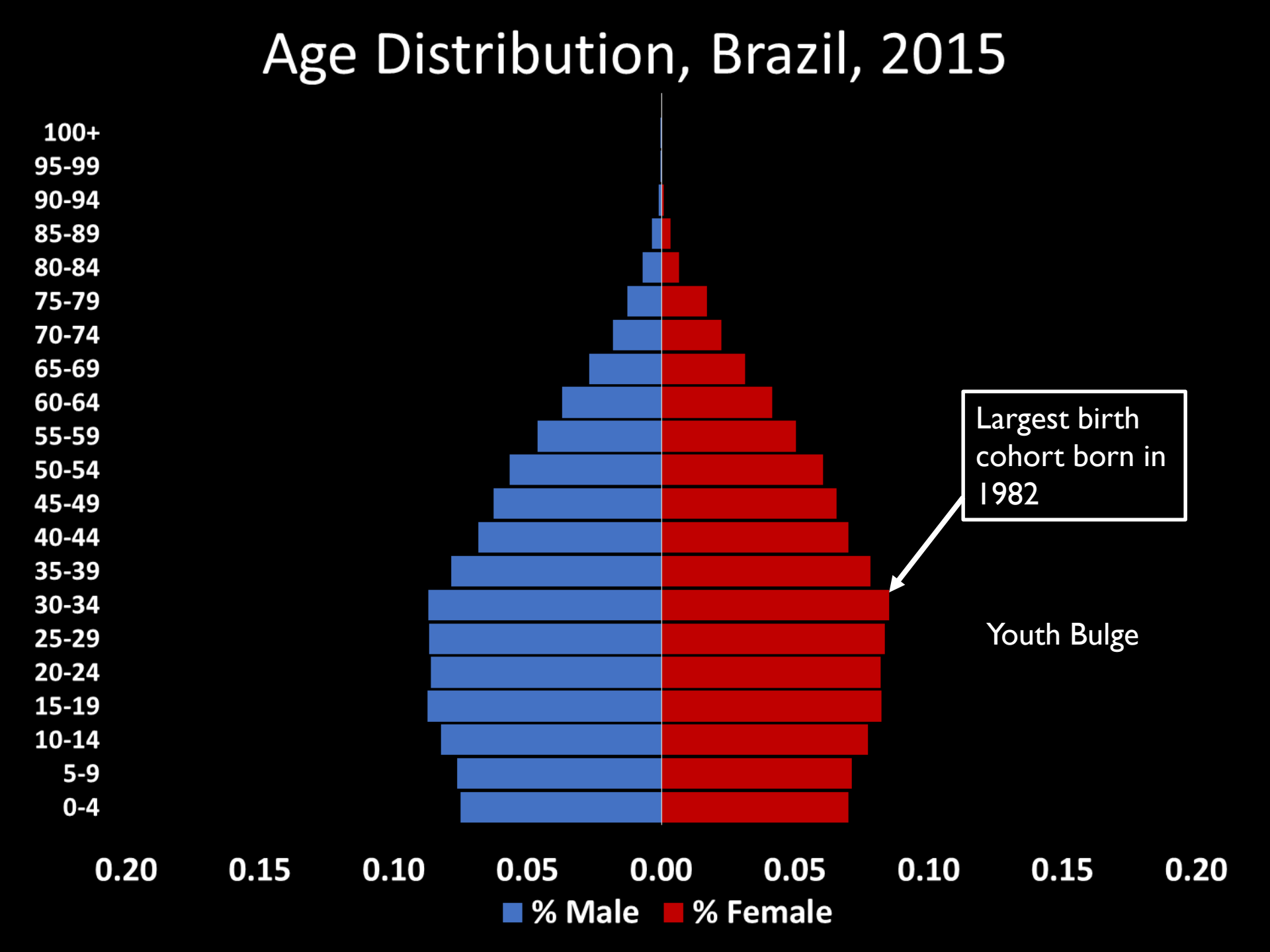
- The world's working-age population will increase by 670 million (14%) between 2015 and 2030
  - We will need about 45 million jobs per year to maintain current employment rates
  - Sub-Saharan Africa will need 1.7 million new jobs per month by 2030
- This is a challenge, but:
  - Working-age population increased by 960 million between 2000 and 2015, an increase of 25%
  - Africa's working-age population growth of 53% in next 15 years is similar to growth in Latin America and Asia from 1970-85.
  - Africa will be the only major region in the world with a growing working-age population by 2050

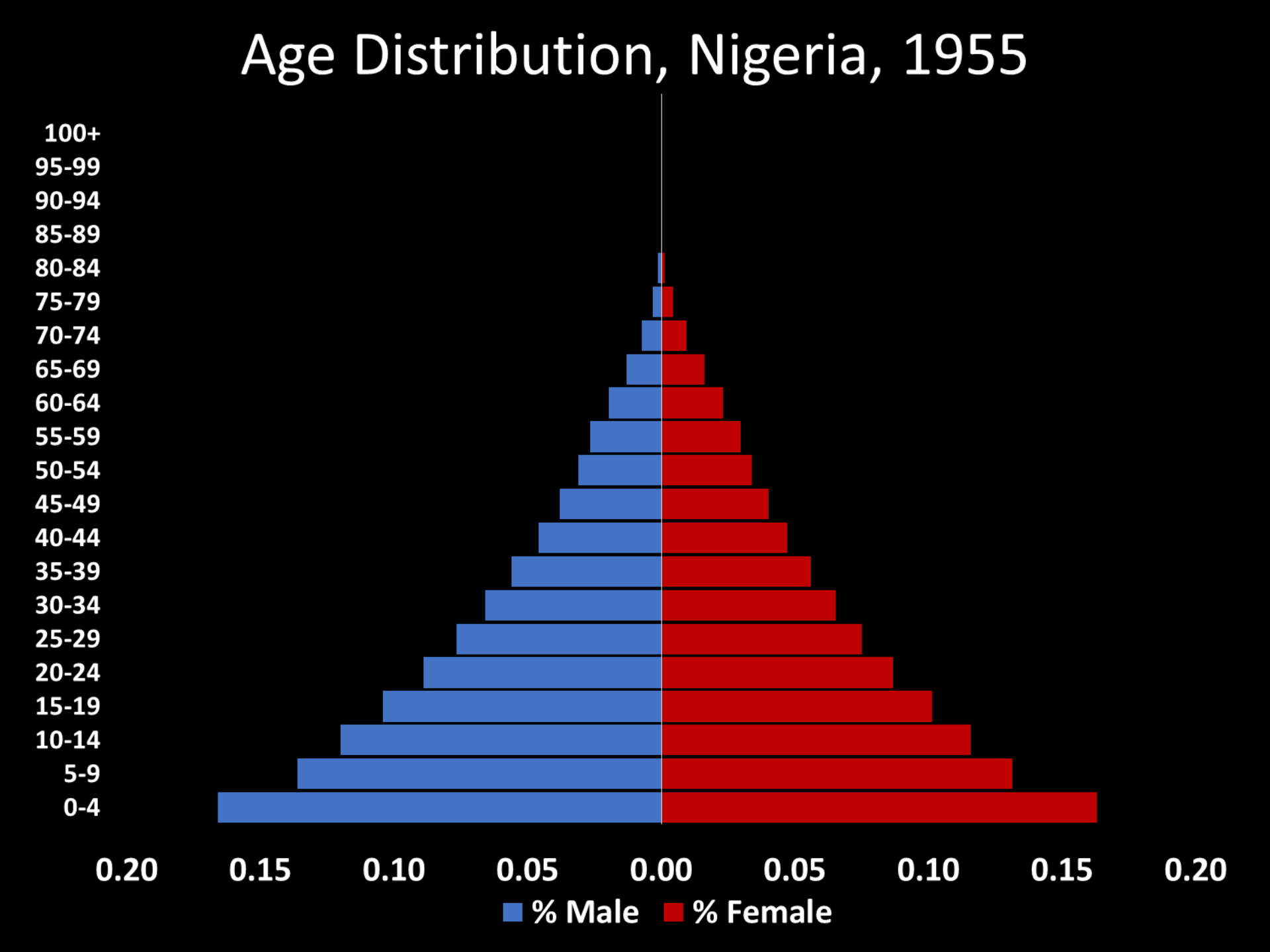
Age structure and the youth bulge

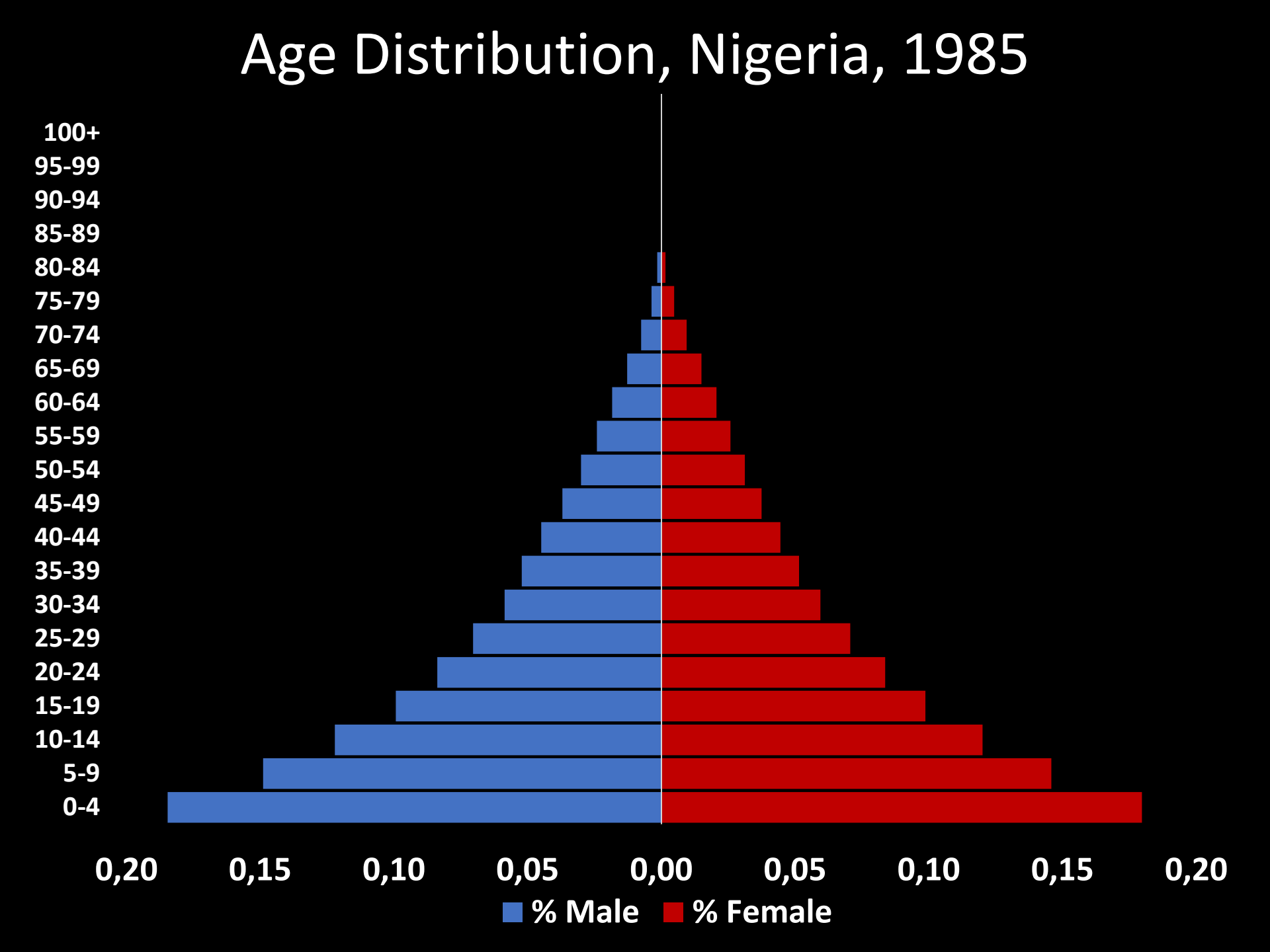
- Countries going through demographic transition go through a regular pattern of changes in age structure.
  - They get young
  - They get less young
  - They get old
- Along the way there is a period with a high fraction in labor force (demographic dividend)
- The path to the demographic dividend must go through the "youth bulge"
  - Potential impacts on youth unemployment and social unrest (Arab Spring, etc.)

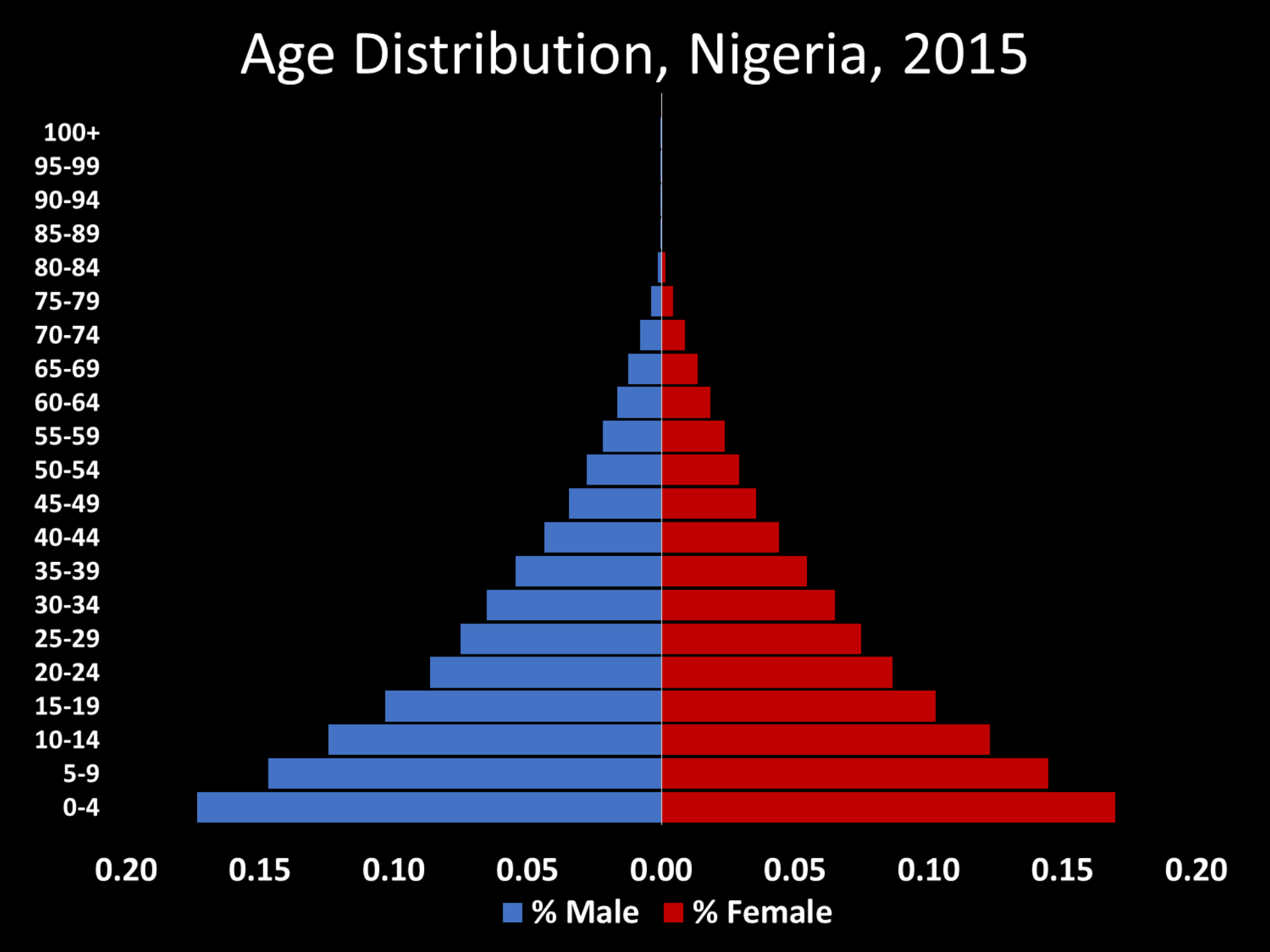

Age Distribution, Brazil, 1955
100+
95-99
90-94
85-89
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4
0.20
0.15
0.10
0.05
0.00
0.05
0.10
0.15
0.20
% Male
% Female


Age Distribution, Brazil, 1985
100+
95-99
90-94
85-89
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4
0.20
0.15
0.10
0.05
0.00
0.05
0.10
0.15
0.20
% Male
% Female

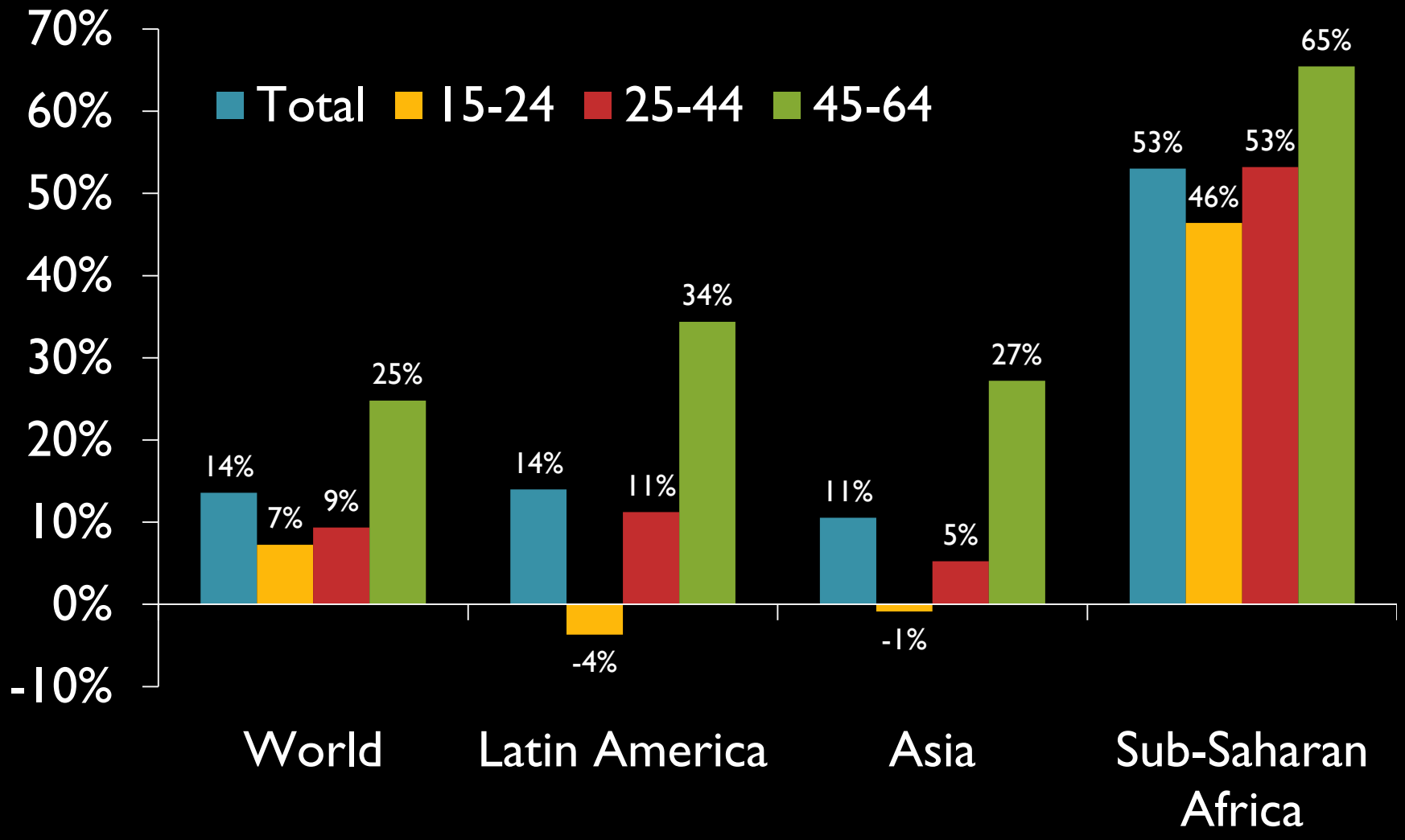

Age Distribution, Brazil, 2015
100+
95-99
90-94
85-89
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4
0.20
0.15
0.10
0.05
0.00
0.05
0.10
0.15
0.20
% Male
% Female
Largest birth cohort born in 1982
Youth Bulge


Age Distribution, Nigeria, 1955
100+
95-99
90-94
85-89
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4
0.20
0.15
0.10
0.05
0.00
0.05
0.10
0.15
0.20
% Male
% Female


Age Distribution, Nigeria, 1985
100+
95-99
90-94
85-89
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4
0,20
0,15
0,10
0,05
0,00
0,05
0,10
0,15
0,20
% Male
% Female


Age Distribution, Nigeria, 2015
100+
95-99
90-94
85-89
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4
0.20
0.15
0.10
0.05
0.00
0.05
0.10
0.15
0.20
% Male
% Female

Growth of working-age population, 2015-2030

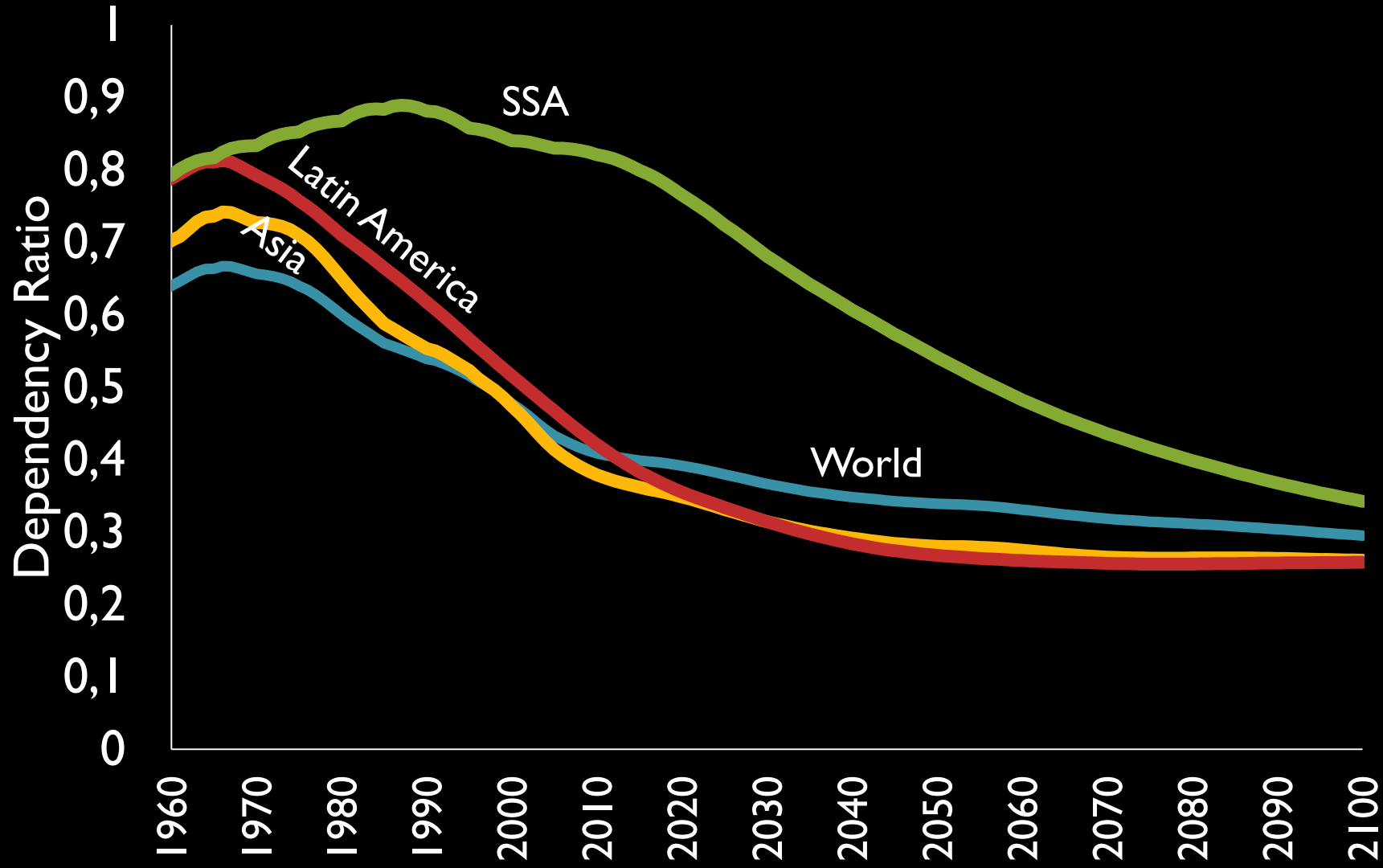


Dependency Ratio (DR)

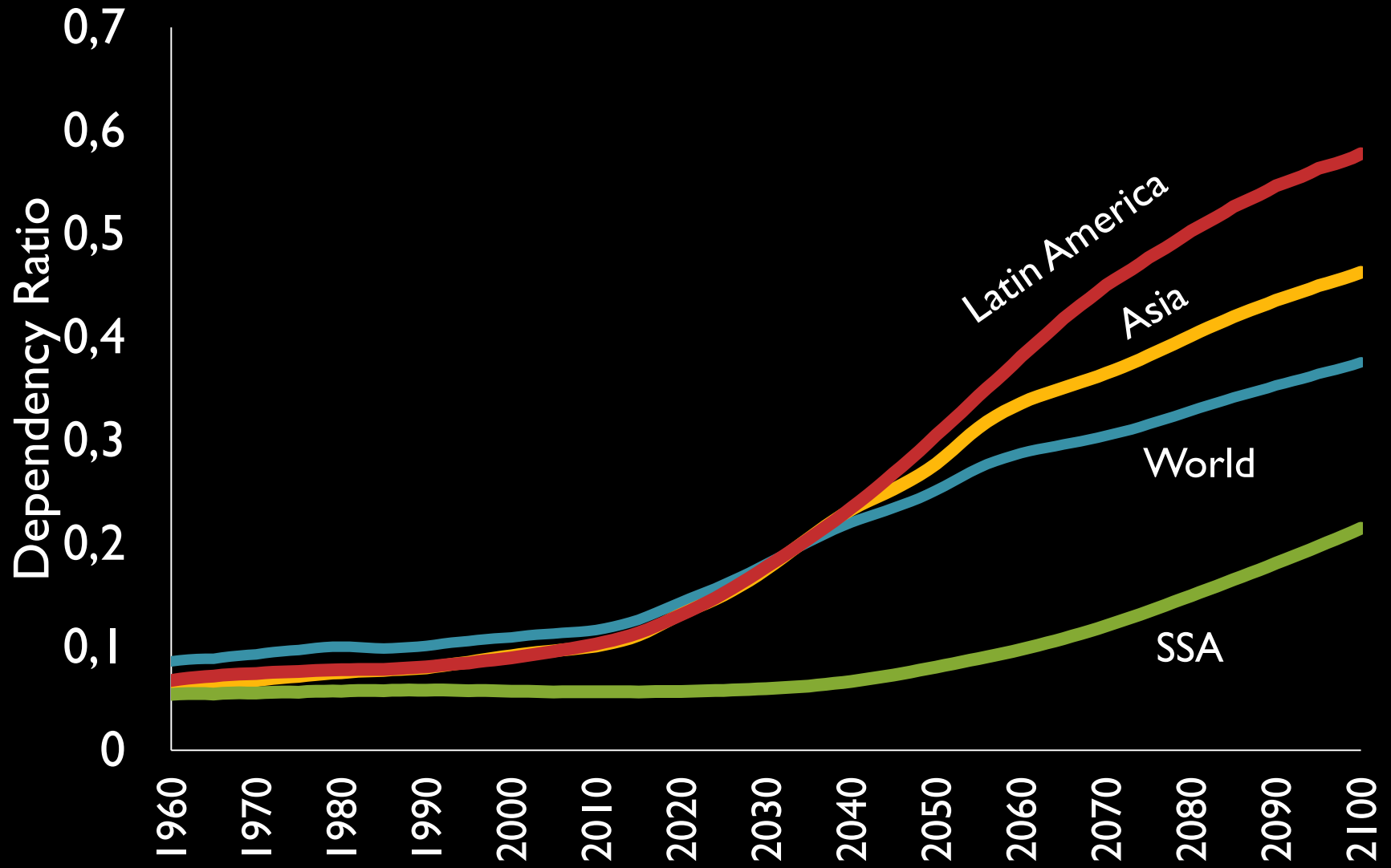
- Key component of Demographic Dividend
- Changes to the working-age cohort must be seen relative to dependent-age population

- Youth DR = Age 0-14 / Age 15-64
- Elderly DR = Age 65+ / Age 15-64
- Total DR = (Age 0-14 + Age 65+) / Age15-64

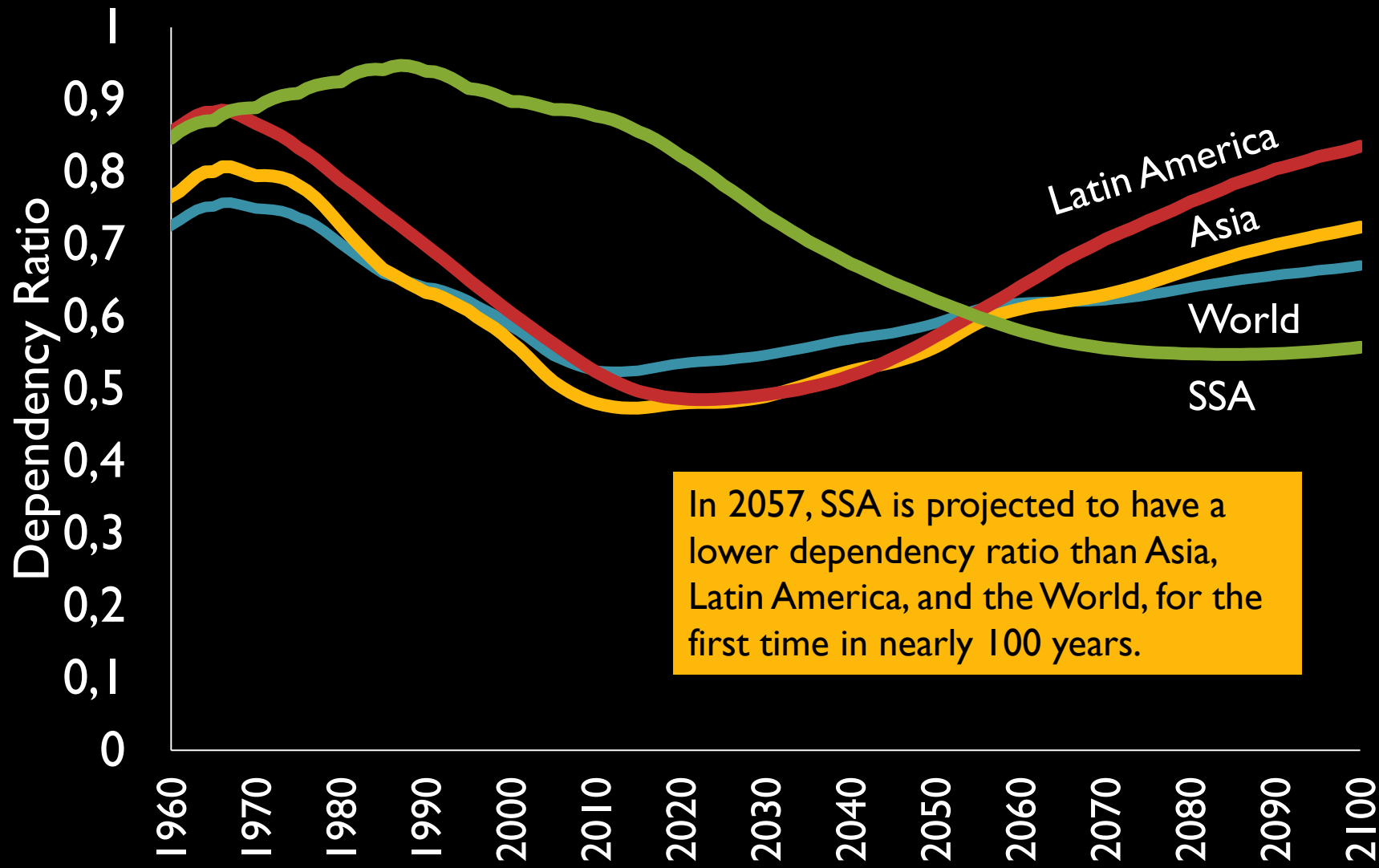
Youth Dependency Ratio = Age 0-14 / Age 15-64



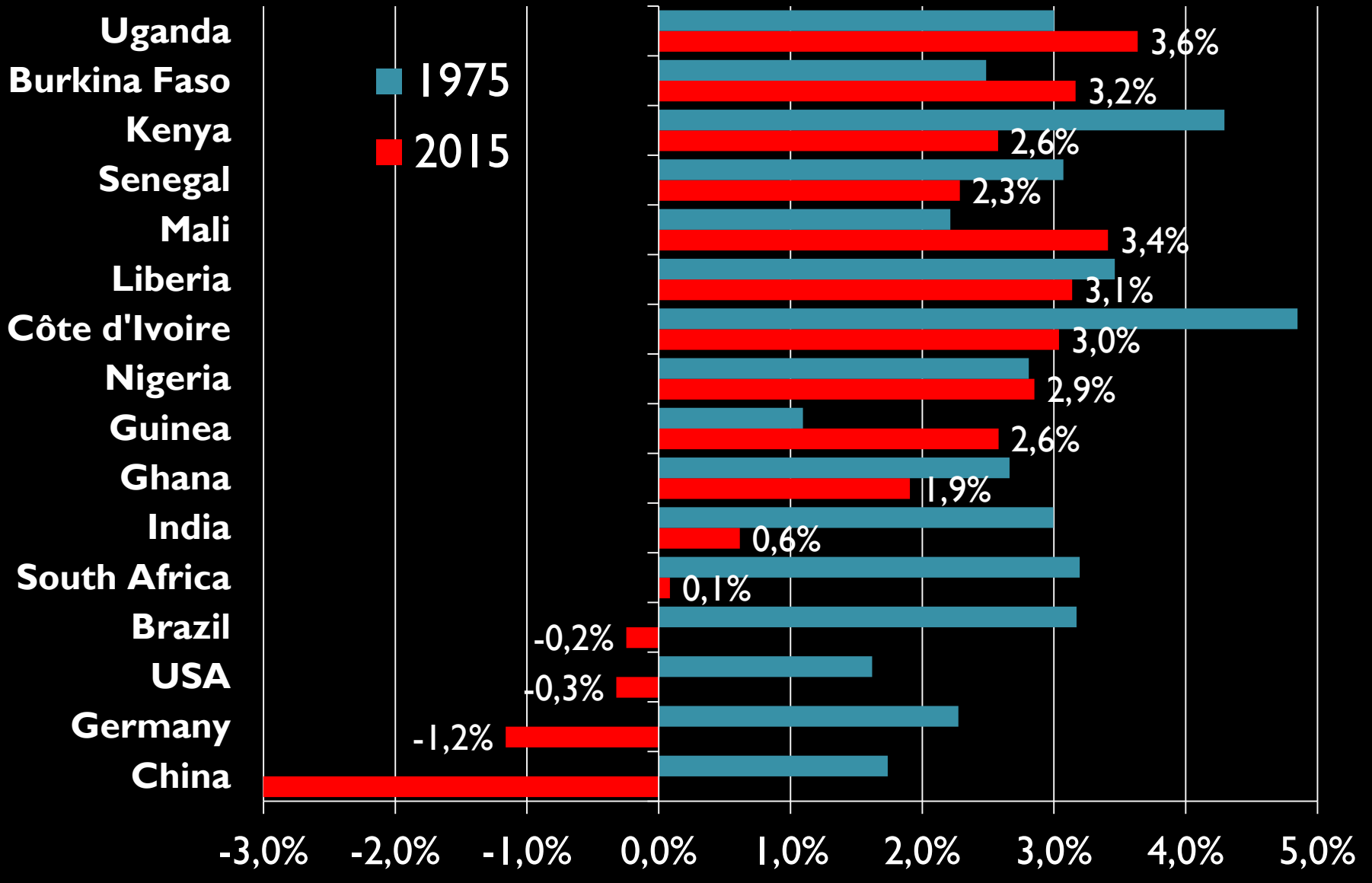
Elderly Dependency Ratio = Age 65+ / Age 15-64



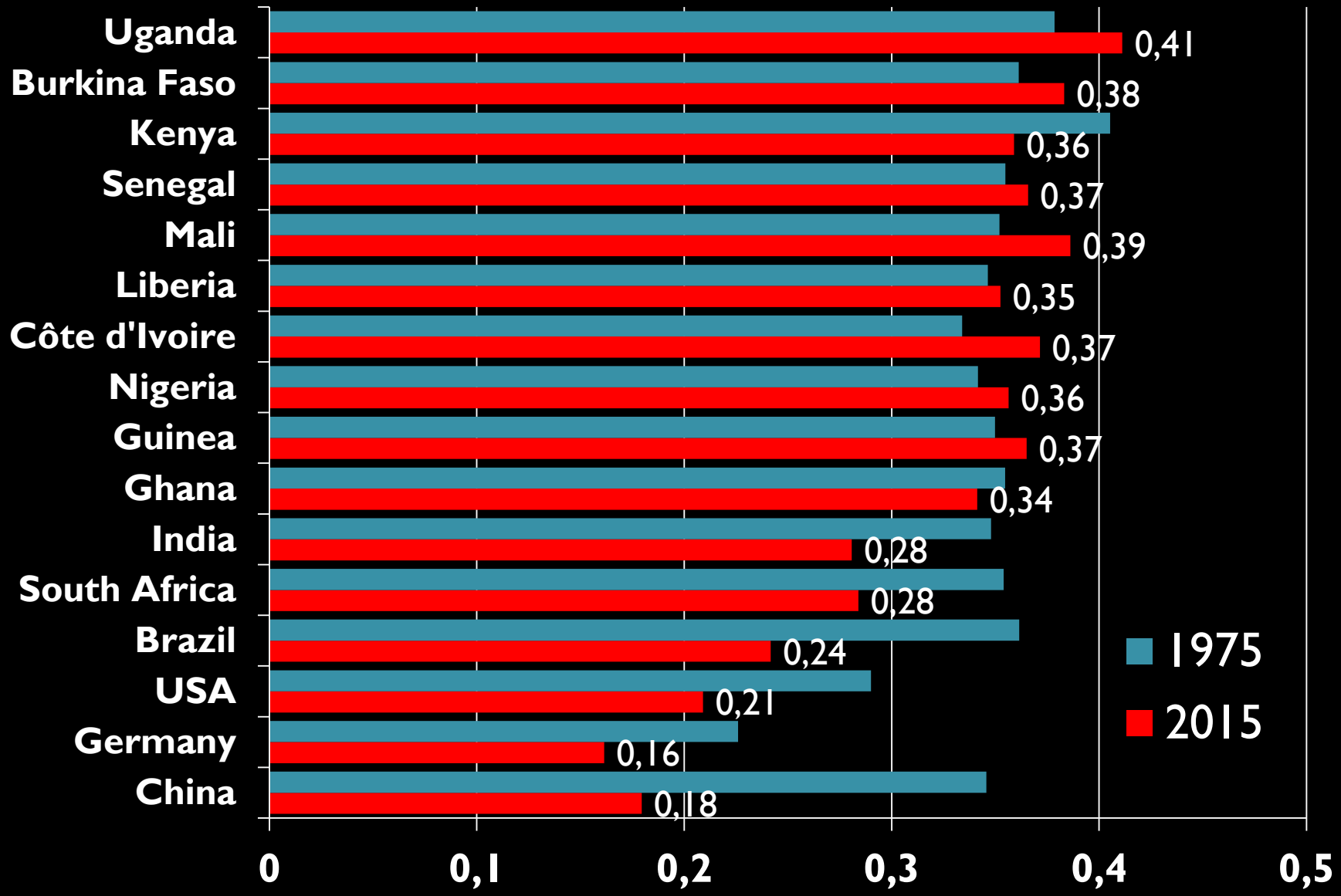
Total Dependency Ratio = (Age0-14 & 65+) / Age15-64



Youth Pop 15-24 – Annual growth rate



Youth Ratio = Age 15-24 / Age 15-64



Growth of youth labor force

- Many African countries have growth rates of over 3% per year in youth labor force – this implies a doubling in less than 25 years
- These growth rates are not unprecedented, however. Similar growth rates were experienced by other developing countries in 1970s and 1980s
- Growth rates declined in other countries, however, but will remain high in Africa for several decades.

Major points

- Africa's demographic transition follows that of other regions, but fertility decline has been later and slower
- Youth populations have stopped growing in other regions, but continue to grow in Africa
- Africa will be the only region in the world with a growing working-age population and a falling dependency ratio by mid-century
- Africa will need 2 million jobs per month to keep up the growth of the working-age population by 2040
- This is big challenge, but is similar to the challenges met in other regions in previous decades