The Demographic Transition

The Demographic Transition describes the process through which countries move from having high mortality and high fertility rates to low mortality and low fertility rates. A demographic transition is conceptualized as having four phases: 1) pre-industrial - fertility and mortality rates are both high; 2) transitional - mortality rates decline and fertility rates remain high; 3) industrial - both fertility and mortality rates decline; and 4) post-industrial - fertility and mortality rates are both low. During the transition, populations can grow rapidly as births outnumber deaths. As birth rates converge to low levels, these populations stabilize.

**Crude birth rates** (CBRs) are defined as the total number of births in a population in a given period of time (usually one year) divided by the total population at the mid-point of the time period multiplied by a constant of 1000. Current crude birth rates can range as high as 48 births per 1000 population as in Niger and as low as 7 births per 1000 in the Netherlands.

**Crude death rates** (CDRs) are defined similarly with the numerator instead being the total number of deaths. For example, current CDRs range from 17 deaths per 1000 population in the Democratic Republic of Congo to 1 per 1000 in Qatar.

The **Crude Rate of Natural Increase** (CRNI) is the difference between the CBR and CDR and is the annual rate of population increase exclusive of net migration. A high CRNI of 3.6% is seen for Niger and low (negative) growth rate of -0.5% is found for both Serbia and Bulgaria.

The Demographic Transition and its phases are depicted in the graph below for Sweden over the period 1749 to 2010.

**The Demographic Transition in Sweden**

![Graph depicting the Demographic Transition in Sweden from 1749 to 2010](image)
In Sweden, as was the case in most of Europe, the demographic transition took place over two or more centuries. In contrast, contemporary transitions for much of the developing world take place over a few decades as a result of the rapid rate of socio-economic development and availability of modern child survival interventions and birth control methods.

As illustrated by China’s recent demographic history, its crude birth and death rates are expected to converge around 10 births (deaths) per 1000 persons in 2020, after which time its population will stabilize.\(^2\)

**Sources**