

## E. How do Populations Grow?

### Factors for Population Growth

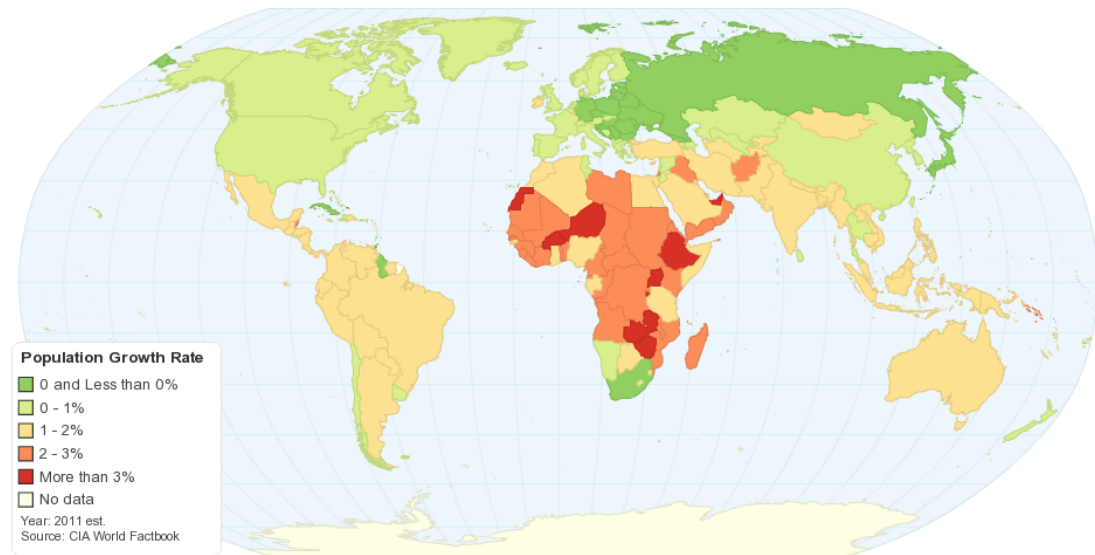
In a world that is rapidly expanding to 8 billion people, it is critical to understand the forces driving population growth. Because most population growth in the world is taking place in the Least Developed Countries (LDC), the next section assumes each situation takes place in the periphery, unless otherwise stated.

### High Fertility Rates

Regions with rapid population growth have a fertility rate - a high number of births per woman between 15 and 45. When a generation's fertility rate exceeds the zero growth rate of 2.1 children per woman, a society experiences population growth because of demographic momentum for the at least the next 70 years. High fertility rates can be attributed to the following causes:

- **Large Primary Sector.** Periphery regions are economically driven by a large number (high percentage) of workers in primary sector jobs. Families in preindustrial or early industrializing regions primarily perform intensive subsistent agriculture, which requires an enormous amount of physical time and effort in return for a meager harvest. A fortunate family will have enough food from the harvest to feed all the members of the household for 12 months, with a surplus to sell at the local market. Less fortunate families will reap enough food to feed their families for 9-10 months, despite their best efforts.

Primary sector work provides an economic incentive for families to have a high fertility rate. The more children a family has equates to more labor on the farms. The more workers on the farm, the more productive the farm can become. The need for more farm workers leads towards a favoring of male children because they stereotypically are physically stronger and can handle more intense farming labor. Sons are considered the "retirement policy" for the parents as the son's work will be expected to provide food for the parents when they are no longer capable of working for themselves. Conversely, they see girls as weak and incapable of intense farm work. Instead, girls become financial tools to be married off for a bride price, having no other immediate value to the survival of the family. Mothers are pressured to "be blessed with" as many children as possible during their fertile years, with the goal of giving birth to as many sons as possible... and will keep having children to have ANY sons if she had only given birth to daughters. The demand for physical labor and sons leads to a high fertility rate.





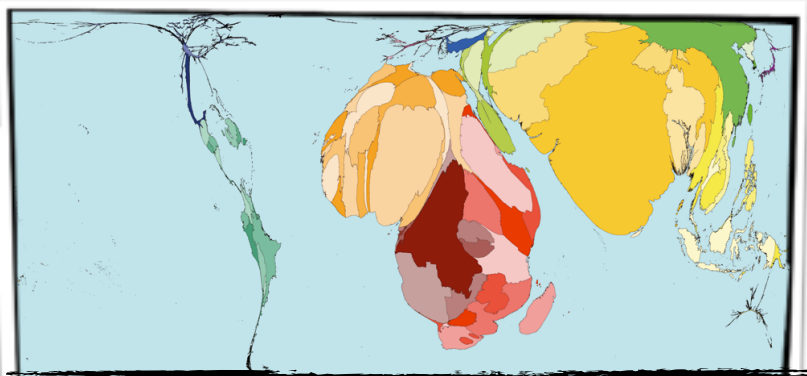
- **Low Development & High IMR.** Periphery regions traditionally have high infant and child mortality rates. When families who work in the primary sector expect 30-60% of their children to die before the age of five, it encourages families to maintain a high fertility rate. The women must have numerous children in hopes that ANY live long enough to work on the farm. *The IMR is highest in areas with low food security, limited access to clean water, no sanitation, and poor medical services.* The lack of sanitation systems causes water aquifers to become contaminated with human urination and defecation. Drinking water also becomes contaminated from water runoff from farms due to the animal waste entering the drinking water supply, as well as the use of pesticides and herbicides.

The result of these activities is the spread of infectious diseases through the water: 1 out of every 5 child deaths (< 5 years old) is caused by water-related diseases. Feces in the water cause the spread of diseases like cholera and e coli, both of which attack the digestive system causing diarrhea and vomiting, leading to death from dehydration. Areas with standing or stagnant water supplies are at risk of mosquito born diseases such as malaria and dengue fever. Malaria and Dengue produce high fevers, fatigue, and internal bleeding.

All of these diseases are devastating to populations who do not have access to basic medical services. They are especially troublesome to vulnerable populations such as infants, children, and pregnant women. Those who survive can be left with physical or mental disabilities that affect their abilities to work or get an education. Isolated, rural regions are also vulnerable to animal-transmitted diseases such as tuberculosis, RSV, measles, mumps, and influenza. These diseases are treatable with common medicines and vaccines, however, those supplies are inaccessible by regions disconnected from transportation and communication networks, not to mention the barrier of paying for the medicines if the families are in extreme poverty.

- **Lack of Women's Rights.** Because of the high economic need for children in the periphery, the role of women is often bound to fertility. Girls may be married at a young age (8-12) and lack any legal protection. This is because their parents see girls as an economic liability, costing parents' money and effort the family will never reap benefits from in return. The greater the family's poverty, the earlier daughters will be arranged for marriage - especially if the family will receive a bride price (which will commonly be used to arrange brides for their sons). When living on a dollar or two a day, families do not see the value of investing in a daughter's education beyond the skills needed to maintain a household. She will become solely dependent on the males in her life, without the skills or education needed to provide a living for herself.

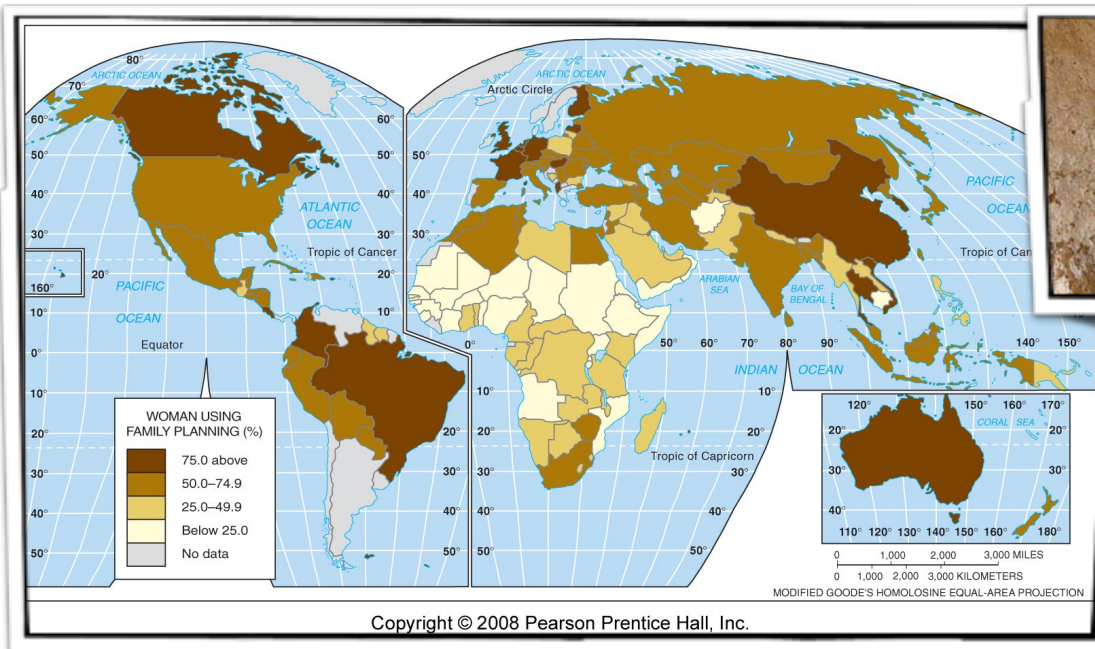
Due to the need for workers and the high IMR/CMR, once a girl reaches puberty, she will be expected to start bearing children - maximizing all of her fertile years. Many periphery cultures only give women "status" or "value" as a citizen based on the number of sons she has produced. A barren mother is a shame to her family and society. In certain societies, being barren - or not producing sons - is grounds for divorce.



Childhood Deaths from Diarrhea

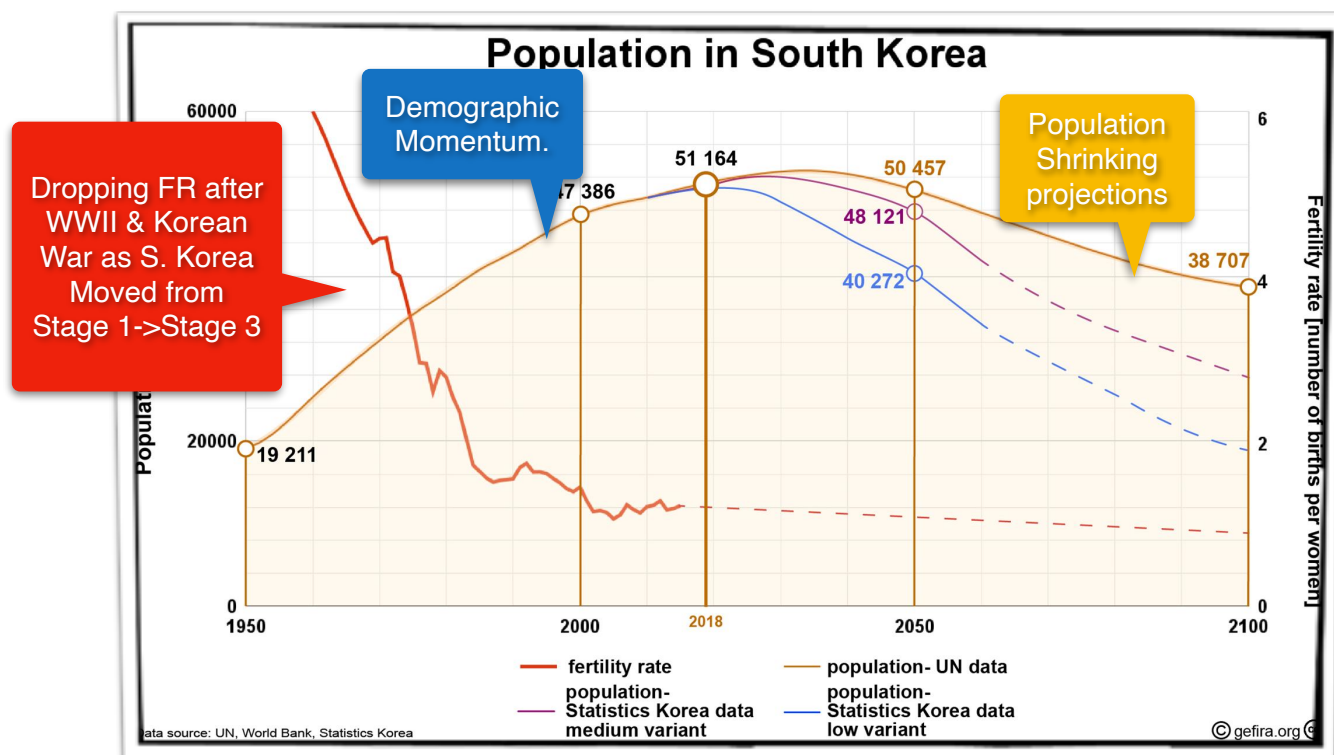






In the periphery, women lack access to education and economic opportunities. The lack of education further limits her opportunities to have any other economic employment other than being a mother. This kills attempts at entrepreneurship or political participation before the desire can even begin. Her dreams and opportunities are further dampened by the lack of family planning, removing her ability to control the number of pregnancies, as well as the timing between pregnancies. The frequency and volume of pregnancies will increase a mother's risk of dying during childbirth.

Family planning is often limited by cultural norms and religion, especially in agricultural societies benefitting from large families and shunning any attempts to change the roles of women. Aside from the economic reasons stated above, husbands refuse to let their wives use family planning because it affects their "manliness", machismo, or sexual prowess. This is further enforced by religious policies. For example: the Roman Catholic Church forbids the use of family planning, claiming it goes against the will of God to limit birth. This has caused prolonged high fertility rates in Latin America, where contraceptives have been available for decades, but considered socially and religiously unacceptable because the Pope's condemnation of their usage.





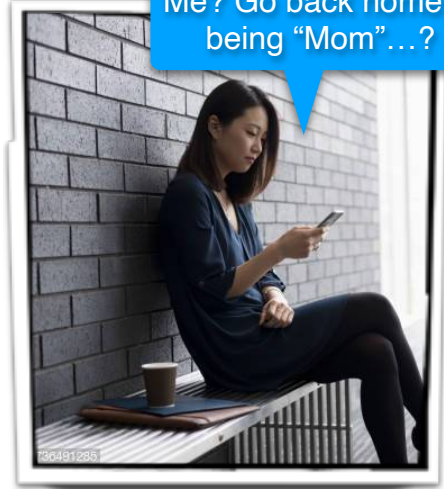
## Pronatalist Policies

Demographics are destiny. As societies industrialize towards Rostow's high stages 2 and 3, one area of focus is to reduce fertility rates by improving the availability of family planning in order to improve the engagement of women as workers in the economy. However, some societies' fertility rates drop below 2.1, creating the threat of population shortage. Hong Kong, Singapore and South Korea all have fertility rates of 1.3 - concerning government leaders of a future economic crisis of not having enough workers to fill jobs and maintain the tax base. The need for higher fertility can also result from any activity that caused a sudden surge in the crude death rate of the young such as prolonged wars, deadly natural or manmade disasters, famines, or droughts.

In the face of this challenge, societies can pursue pronatalist policies to encourage and incentivize the youth of the country to increase the fertility rate. This section explores the tools a society can employ to achieve this:

- **Decreased access to contraceptives and abortions.** Governments can place limits on the production and availability of contraceptives. Taxes can also be placed on family planning to increase the costs in order to discourage people from using them. The government can limit the accessibility of abortions. Some governments put restrictions on the groups seeking to offer abortions that make the costs impossibly high. They can restrict where in a city an abortion clinic can be placed, set the medical requirements for the staff that works at the clinic, write building code laws specifically for abortion clinics about how they are to be built, etc. Other governments make abortions illegal and charge the mothers and doctors as criminals if they perform an abortion. The ultimate goal is to remove the tools women and couples use to prevent pregnancies or to end unwanted pregnancies to increase the fertility rate.
- **Financial incentives.** Children are expensive and the cost of having children while living in an urban area can discourage couples from having children. Governments can take actions that reduce or remove costs of having a family. Governments can provide cash payments or tax credits upon the birth of each child. The more children a family has, the reward increases, which provides an increase in the families' monthly income. Government banks can offer families with children mortgages with reduced interest rates and reduced cost housing insurance. Governments can offer mothers longer maternity leave along with paid-for nanny assistance, child care, and health care costs. Governments can also reduce or remove costs like education tuition, public transportation, diapers/food/formula assistance, flexible time off, etc. An example of this is France after WWII. France already had government paid health care and education. They put into place the Code de La Famille to encourage soldiers to birth large families. The Code de la Famille provides 18 weeks of paid maternity leave, which includes in-home-support with housework, along with paid-for child care.
- **Social Honor.** The USSR gave medals and large financial rewards to women who had large families. For example - a Soviet woman who gave birth to 10 children was awarded "The Order of Maternal Glory" which was the equivalent of a soldier's Purple Heart.
- **Procreative Opportunity.** Governments desiring larger populations help remove the social barriers to couples having the opportunity to procreate. Singapore has government sponsored date nights for young couples with a child by providing a paid for babysitter. The USA has Valentine's Day that encourages couples to be romantic. South Korea offers young professionals classes on how to flirt and date. Russia and Italy have a national

Me? Go back home to being "Mom"...?



Order of Maternal Glory



conception holiday. Businesses are encouraged to give the workers the holiday off. They give a financial reward to families who have children born exactly nine months after the holiday.

- **Bachelor Taxes and Anti-LGBT Laws.** Some countries attempt to de-incentivize, or even criminalize, being single and without children. Some implement a Bachelor Tax, which financially burdens any male who does not get married with the intent of starting a family by 25 years old. Many countries have LGBT laws that arrest, harass, and persecute citizens whose lifestyle does not seem to support procreation. Punishments include fines, imprisonment, torture, being “black listed” so that business could not hire them as employees, forced sterilization, and forced “conversion” practices to “fix the LGBT illness.” These “fixes” included medication, counseling, and electro-shock treatments.
- **Changes in social acceptance.** How a culture portrays and talks about motherhood strongly influences how young women feel about motherhood and her natal choices. A pronatalist country will portray women as being happy with their many children. Songs will speak of the joys of homemaking and watching children grow, while shaming women who are single. TV shows and movies will promote the beautiful actress getting married and pregnant at a younger age; showing her joy and fulfillment with being a mother at home. Women can be scolded and scorned if they are not in relationships or with children. Statements will be made like: “Why don’t you have a boyfriend? Stop being so picky. If you are not careful, you will be an old maid,” “Men don’t want to be with a smart girl,” or “Good choice to go to college. It is a great place to get a rich husband and your Mrs. degree”....



Gay “Corrective” Therapy



TV Show Mom



The Duggar's



## Improved Life Expectancy

Regions experience population growth because of improved life expectancy. As life expectancy improves, with a correlated decrease in the Crude Death Rate (CDR), the total population begins to increase. This happens rapidly when there is a decrease in the CDR at the same time as the high fertility rates. There are a number of factors that cause this type of population increase:

**Improved Infant Mortality Rates.** When IMR and CMR rates decline, more children live into adulthood. The greater the number of adults in a society, the more couples begin to procreate. When societies solve the problem of infant and child mortality, the total population of their society begins to boom in size. These are four factors that lead to a decrease in IMR/CMR:

1. **Food Availability.** 16,000 children die from starvation and malnutrition... each day. That is a rate of 1 child every 5 seconds. The complications begin in pregnancy when the mother does not have enough nutrients. As a result, the fetus does not fully develop, leading to defects or deficiencies in the infant. Once an infant is alive, the society has limited resources to feed the baby, and if the mother does not have enough food, she will not produce enough breastmilk. Isolated, periphery regions do not have access to artificial baby formula, nor do families have money to purchase formula if it is available. If the family already has a large number of children, a new child puts a greater strain on the already strapped dietary resources. Each child receives a smaller portion of food to eat, especially during the hunger seasons. Thus when a society begins to develop, food security is a key area of focus. As the society has access to greater resources from imports or from help provided by Non-Governmental Organizations (NGOs), families receive an increased supply of food and vitamin supplements. When mothers and children eat the recommended daily allotment of calories, the chance of dying from malnutrition and starvation decreases rapidly; the IMR/CMR and MMR decrease, causing an increase in the total population.



2. **Improved Sanitation.** As explored earlier, infectious diseases like cholera and E. coli are diffused by contaminated water supplies. When children are sent to collect and drink from contaminated water sources, it leads to outbreaks of deadly diseases amongst vulnerable populations. If a mother does receive access to baby formula to support feeding her baby, the formula must be mixed with water. The only water the mother has available is the contaminated water which exposes the infant's vulnerable immune system to dangerous germs.

The building of sanitation and sewer infrastructure is critical for containing and removing human waste from where people live. The use of dams, rain-catching systems, and water purification systems provides a stable and reliable source of clean water for communities. When those options are not available, communities can be provided with water filters to put on their well pumps and pipes, along with straws that have built-in filters to remove impurities. When used together, sanitation and purification systems eliminate the key sources of water-born illnesses. This process also helps remove sources of standing water, which attract mosquitos and mosquito borne illnesses, such as malaria. This leads to a decrease in IMR and CMR, allowing more children to live into adulthood, and increasing the country's population.

## Dams & Piping/Irrigation





3. **Improved health and medical services.** When mothers can receive basic health care during their pregnancy and delivery, the infant and mother's survival rates improve dramatically. Access to advancements to Neonatal Intensive Care (NICU) technology allows for babies born prematurely or who have severe medical conditions to receive life-saving medicines and procedures. Once into childhood, medicines and certain vaccines help cure and prevent many deadly diseases, such as: bronchitis, respiratory infections, mumps, small pox, measles, rubella, tuberculosis (TB), and polio. Paired with medication, the education around simple practices such as hand washing before medical care, sterilization of medical equipment, and the use of blood-control products to help avoid cross-blood contamination drastically reduce the spread of diseases like HIV and Hepatitis A/B/C. The reduction of infectious/contagious diseases reduces mortality rates among mothers and babies. This leads to a decrease in IMR and CMR, allowing more children to live into adulthood.



Maternity/NICU Medical Care



4. **Empowerment of mothers.**

When mothers are given appropriate education and tools to control their own bodies, they have healthier pregnancies. When women are allowed access and use of family planning, paired with the social permission to wait until their late teens/early 20s to become pregnant, women have safer pregnancies. This is because a woman's body is more prone to complications in their early teen years, compared to their early 20s. If women have access to education during this time, the mothers can make wiser choices regarding their health, diet and other choices that lead to a healthier pregnancy. In addition, access to family planning allows mothers to be able to put a longer space between pregnancies. Pregnancies that are closer together (within 12 months) have a greater chance of complications. When the pregnancies are spaced out (18-36 months) they tend to have fewer risks and complications for the babies and the mothers. Finally, when mothers that have longer paid maternity leave and - if single - child care support, she can provide a higher quality of living for her family. This includes access to affordable "infant/baby safe" devices such as: electrical outlet covers, baby gates, safe baby toys, infant car seats, baby monitors, etc. When women are educated and empowered, the IMR/CMR declines, increasing the size of the population.



**Improved Development.** As the development of a region improves, there is an increase in the life expectancy of the population. When the life span increases, the CDR declines, causing an increase in the number of humans on the planet (i.e. population growth). Many of the same contributing factors that improved IMR and CMR also allow for adults to live longer, healthier lives: Stable food sources, clean water, improved housing and, basic medical practices and medicines for diseases. In addition, there are a collection of other social and economic improvements that lead to a prolonged lifespan. Improved transportation allows people to access to goods and services faster/safer, with less exposure to natural elements. Increased access to tertiary and quaternary sector jobs creates safer work spaces that are less physically demanding while providing higher salaries. With increased salaries, the ability to have increased pensions assists in the quality of life in the elderly years. The government can develop and enforce better building codes and zoning to create safer buildings/urban spaces. Advanced medical practices are able to prolong life with procedures to fight sedentary and chronic conditions: organ transplants, pacemakers for hearts, blood transfusions, kidney dialysis, chemotherapy to fight cancer, etc.

## Booms & Echoes

A population boom occurs when there is a unique, sudden explosive increase in the crude birth rate causing a significant shift in the age-sex ratio of a country. Baby booms create a large youth-dependency ratio, with a massive number of children who rely on the working population to survive. The most famous population boom occurred in the 1950s-60s after WWII accounted for 50-80 million deaths, primarily among young males. Upon the soldiers return home to civilian life, pronatalist policies were put into place to encourage having large families. Most nations experienced a short “boom” in babies born. In the USA alone, there were over 65 million babies born. After the baby boom, the government realized the dangers of maintaining such a high birth rate and used anti-natalist policies to encourage the reduction of the fertility rate.

An “echo boom” is a second expansion in the population that takes place as a result of the first “baby boom” reaching adulthood. Assuming the society maintains a zero growth fertility rate (2.1), as the “baby boomers” grow older and enter their fertile years, the boomers create a second wave of births equal to their own. In the USA, there were 65 million babies during the baby boom (1950-1960). If the boomers grew up to have a fertility rate of 2.1, then 20 years later a second “boom” would occur. If the 65 million people get married, and each couple has 2 pregnancies, they will give birth to another larger wave of children. This “boom” was an “echo” caused by the first wave of pregnancies.

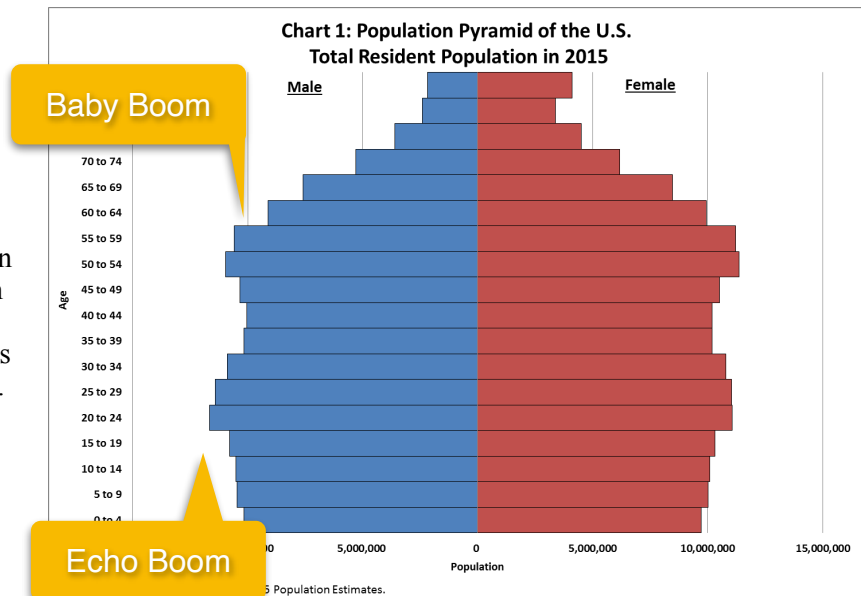
## Increased Migration

Migration is the one method by which societies can grow without reproduction. The trouble with reproductive growth is that it takes multiple generations to create change within the population. Demographic changes impact life 70 years from now. However, with the movement of people from one region or country to another, known as migration, has an instant impact on the demographics of a region. Growth from migration can be broken down into two categories:

- **Intentional Migration.** If a society has a small or shrinking population, the government and businesses can incentivize people to migrate into their country. A government can institute a guest worker program, giving foreign workers temporary permission to live and work in a country. This is frequently used in regions with primary and secondary sector activities that require hard labor, to encourage migrants who would be willing to work for comparatively lower wages than the domestic workforce. It can also be used to fill a skill-need that the local population does not have. This is common in technology businesses, where tech companies use guest worker programs to hire computer programmers to fill the talent need. These can be economic incentives can be paired with the possibility of full-time employment, a “fast track” process to become legal citizens, or the ability to immediately access social services (medical care, education).

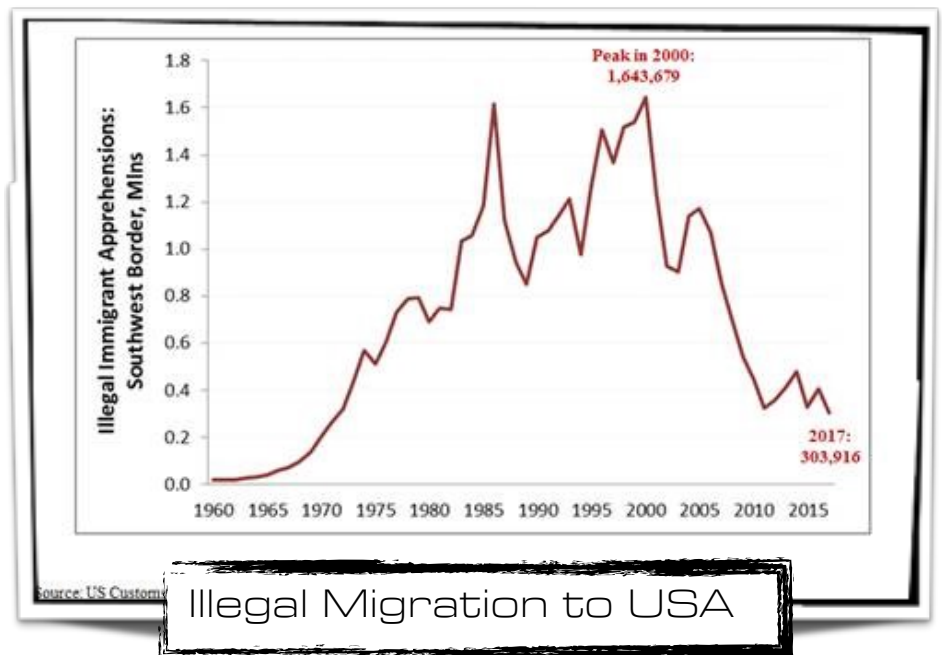
A country can also implement political incentives, such as religious freedoms, voting rights and protections to those who will come.

- **Unintentional Migration.** A country may not want migrants to enter their country, but find the migrants have arrived (or snuck in) anyway. If one neighboring country had a natural disaster or violent conflict, citizens may emigrate (leave their home country) to neighboring countries. If a country is in an economic





depression, or when there is a shortage of work, the unemployed may emigrate to regions where there appears to be better opportunities to gain employment. When migrants are unwanted by the receiving country, they may attempt to sneak in; risking their lives for a chance for a better opportunity. For example: in El Salvador and Honduras farms are failing because of climate change, plus there is violence with drug cartels. Migrants fled the region and walked through Mexico to the USA border. The USA had an estimated 400,000 illegal migrants crossing the border in 2018.



The impact of migrants on the demography of a region can be significant. Migrants from periphery regions tend to be in their late teens or early 20s. This is prime working age, providing a sudden influx of workers - often willing to work for a lower wage than the works native to the place they migrated into. They need food, shelter, and services that local or regional governments were not planning for. The migrants typically come from Stage 2/Stage 3 societies with higher fertility rates. With this cultural tendency, the society receiving immigrants experiences an unexpected increase to the 0-10 age brackets, altering the tax dollars needed for services that serve children, like education. The migrants also bring their cultural traits and values, including language and religion. Domestic citizens where the migrants are relocating may not share these; causing tensions between the migrants and the citizens.

## F. How do Populations Shrink?

Despite the rapid growth of the global population, it is possible for populations to shrink. There are three factors that contribute to a population shrinking:

### Factor contributing to a population shrinking #1 Increased Crude Death Rate

There are three actors that rapidly increase a region's CDR: disease, war/armed conflict, and natural disaster.

1. **Disease:** the single greatest killer of humanity is germs. Contagious diseases and epidemics have accumulated the largest death tolls in human history:
  - Bubonic Plague (Black Death): 50 Million Dead
  - Spanish Flu: 20-50 Million Dead
  - HIV/AIDS: 35 Million
  - Ebola: 10,000 Dead...Cholera... Yellow Fever...

Even in 2019, germs and disease account for the largest percentage of human deaths. Given the increase in globalization and rapid transit, a contagious disease can diffuse rapidly around the world, most recently evidenced by the COVID-19 pandemic. However, with new medical technology, contagious diseases are still superseded by chronic/sedentary diseases like heart disease, diabetes and cancer.

2. **War and violent conflict.** Governments and organized militias can use weapons against large groups of people resulting in numerous casualties in a short period of time. Acts of genocide, crimes against humanity, ethnic cleansing, civil wars, and terrorist attacks all contribute to the increase in unnatural causes of death. Paired with disease, this can have a devastating impact on a society. A violent conflict can permanently change the demography of a region forever through a population decrease from an increased death toll and people emigrating to flee the violence.



3. **Natural disaster.** Natural disasters include, but are not limited to: famines, floods, hurricanes, earthquakes, tsunamis, tornados, and droughts. Natural disasters can vary in terms of severity and impact. A tornado might kill 10-20 people, while the Great Potato Famine in 1846 killed 1 million people in Ireland. A wheat famine in India killed an estimated 19 million people between 1890-1910. As with war and disease, natural disasters can reshape the population pyramid through death and forced emigration. In severe cases, the natural disaster makes a place non-ecumenical; permanently destroying the location's ability to support life and redistributing the entire population.



## Factor contributing to a population shrinking

### #2 Decreased Fertility Rate: Anti-Natalist Policies

Demographics are destiny. If a government sees a population trending towards unsustainable population growth, it may take measures to encourage (or force) a reduction. Large populations can cause problems for a society by putting strain on a location's carrying capacity: stressed food supplies if the physiological density is too high, overuse of natural resources, stress on key urban infrastructure and government services, etc. One action a society can take to control the size of their population is to decrease the fertility rate. While the fertility rate does not have the immediate ability to reduce the population like disease or war, it does profoundly impact the long future of a population. Societies can implement anti-natalist policies, that aim to reduce their society's fertility rates in the following ways:

**Improved Women's Development.** Research universally concludes that the fastest way to reduce a society's fertility rate is to empower women to take control of their reproductive ability. As women's economic status improves, they generally choose to birth fewer children. Four key methods to encourage female empowerment and reduced fertility rates are:

- **Family Planning.** As society develops its industrial capacity and connection to global trade, the availability of family planning tools and contraceptives increases. As women begin to control their fertility cycles, giving birth becomes a strategically planned event. Just because a woman's body can produce 10-15 children does not mean women WANT to give birth that many times, especially if the IMR and CMR are decreasing. A family with two kids can devote more money per child than a family with ten children. This improves the amount of nutrition, education and opportunities each child receives - radically altering the family's future. When given a choice, women will usually limit the number of pregnancies and create opportunities to extend influence beyond the home. The ability to control and selectively prevent conception reduces fertility rates rapidly.



- **Job Opportunities/Career Ambition.** Children require an immense amount of time, effort, and resources. It is very difficult to perform well in a competitive job market and at the same time fully invest into a family. When young women grow up having access to increased educational opportunities for advanced learning, this develops women as interested in job opportunities and political possibilities as they are in creating a family. Women begin to see children as a potential barrier to career aspirations. Having children costs them the opportunity to achieve what they desire professionally. As a result, women may opt to have fewer children later in their life/career or choose not to have children at all. Having two working parents results in families having more wealth to spend on their families. If a family is earning one income at \$600 per year, adding a second income may improve their income to \$1,200 per year. This dramatically changes the quality of life for the family and the children - improved housing, food security, access to water, education, etc. Women are seen as having a financial value to their household, helping them to earn more respect from their spouse and society. It also gives women financial security, so they are not 100% reliant on a male for all their needs.

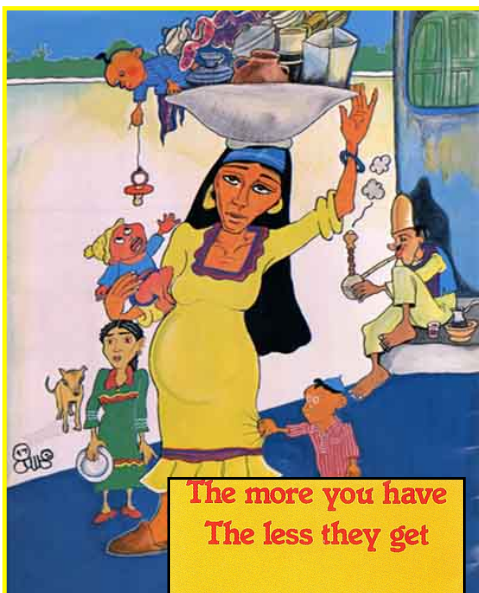


However, women going to work is not without cost. The increase in women into the education and work force can create a tension between the genders. Men now compete with women for job opportunities yet do not share the burden of childrearing responsibilities. In societies where men were seen as breadwinners, it can cause a great deal of anger if the husband is unemployed while the wife has a job, with the husband still refusing to contribute to daily family life. As Stage 1 & 2 societies transition to females entering the workforce, this anger can lead to verbal abuse and domestic violence. A woman can also feel tension from her parents, who may want her to have grandchildren and who do not like the idea of her working because of cultural traditions.

- *Later Marriages.* In societies that are experiencing a growth of secondary, tertiary, and quaternary sector jobs, women are able to financially support themselves. Financial security allows women to choose who and when they want to marry, or if they want to marry at all. Marriages that form later in life (late 20s-mid 30s) lead to families beginning later in life usually resulting in smaller families and a lower fertility rate.
- *Urbanization.* As women and families relocate from rural to urban settings, the need for large families diminishes. In the city children become a financial liability. Families must pay for their food, pay for a place to stay, pay for their schooling, pay for their clothes, pay for their entertainment, pay for their transportation... pay.... pay.... pay... The financial pressures of a larger family in the cramped urban environments lead women and families towards smaller family sizes, purposefully decreasing the TFR.

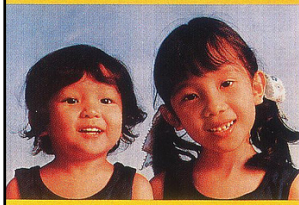
**Child Restrictions.** Governments can put in place restrictions to legally limit the number of children a family can have. China famously had the “One Child” policy from the 1970s, where families could only have one child. If found to have a second child, the family would lose financial and service support from the government and be forced to have an abortion. India implemented a two child policy in 2014, incentivizing families to limit their families to two children, penalizing the family for having over two.

**Subsidizing Family Planning & Sexual Education.** Governments in periphery nations with high fertility rates and rapidly expanding populations will use some of its limited GDP to subsidize family planning and sexual education. Subsidize means to support financially or to help pay for services using tax dollars. Governments will subsidize these measures to help curb fertility rates, reducing strain on their limited health and education service. This will relieve pressure on the limited clean water and food resources, reduce the youth-dependency ratios to allow women the ability to work, and create better a better quality of life for their citizens. Sexual education is also considered a critical component since knowledge of the science of human reproduction is not pre-programmed into humanity. Uneducated societies can develop notions and ideas that do not align with modern science. This can cause unwanted pregnancies, and the spreading of diseases like HIV/AIDS.



The more you have  
The less they get

Two is enough



**Stigmatizing Large Families.** Commercials and media put a stigma, or mark of disgrace, on women having large families (even if by choice). TV shows and movies show women being single, having a high-profile job, or maybe having one child. The female characters are suspicious of marriage and dread the pains of childbirth. If a woman does have a child, she loves that child... but clearly articulates the hardship and headache the one child creates in her life. These images and stories shape the youthful minds around what is acceptable and “normal.” When women have their first pregnancy, everyone celebrates with a baby shower. With the second child, there are a congratulations or a nice card. By child three and four, the comments shift: “Was this planned?” “I’m so sorry.” “How many ARE you going have?” “Stop showing off.” “So, when are you going to get a real job?” “You do realize how to stop this... right?” Societies will use statements such as, “What do you do for a living? Oh, you are just a stay at home Mom?” These comments subtly discourage women from having many children, as they do not want to face the social pressure that comes with the choice.

**Sterilization.** Governments that want to limit population growth can encourage, or force, sterilization. In periphery nations, governments have offered cash payments and technology rewards (TVs, computers) to men who would volunteer to be sterilized. It costs less to pay for the sterilization and TV than it does for a child’s education and medical expenses over the course of the child’s life.

## Factor contributing to a population shrinking

### #3 Emigration

When people emigrate, they choose to leave their home country. Populations may feel pushed out of their country by war, disease, disaster, or discrimination. They may feel pulled by greater opportunities in other regions. These pull factors include better economic opportunities, higher standards of living, religious, and political freedoms. The reasons people emigrate will be thoroughly explored in Chapter 5.

