CHAPTER - III

Theory of Demographic Transition
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Introduction

The demographic history of the human race makes it evident that it has maintained its existence at a near balance through out most of the time, characterized by fluctuation about a very gradual rate of natural increase, was maintained generally until two centuries ago. Various levels of fertility and mortality pattern formed a near stability between high rates of birth and high rates of death. Nevertheless, stable population is the outcome of high birth and death rates as well as low birth and death rates. This theory relates the type of population growth to the level of socio-cultural, economic and technological development of the society and examines the periods of stability and periods of different rates of exponential growth.

Even though population growth averaged close to zero, over the extended periods of human history, there were also periods during which population size increased across generations. The population problem in traditional societies was maintaining some sort of rough equilibrium between births and deaths. If population decline could threaten community survival, a long period of increasing population numbers would likely outpace the expansion of food and other resources. Often, there were moments of demographic implosion, or mortality due to calamities, that brought population numbers to former subsistence levels. These catastrophes were viewed by Thomas Malthus as positive checks, which he considered as unavoidable, given the tendency for populations to grow faster than the means of subsistence.
The single method to avert these gloomy cycles of demographic growth and implosion, Malthus argued, for preventive checks, which he considered to be moral restraint that encouraged celibacy and the postponement of marriage. Malthus was pessimistic, however, that moral restraint would be sufficient to avoid positive checks because of the underlying passion between the sexes. Malthus’ pessimistic picture of increase and decline typified the population dynamics of many premodern societies even though periods of growth could be accommodated for decades or even centuries, depending on the technology of production, the possibilities for long distance trade, and the size of the frontier. Moreover, plagues, famines, and wars often followed their own dynamics, independent growth of population.

The center of the demographic transition model is a classification of populations which are differentiated in terms of their distinct combinations of fertility and mortality. Thompson carried out the first formulation of this typology. Notestien’s article is generally regarded as the first acceptable formulation of the demographic transition theory. There are many versions of demographic transition, but there is some agreement over definite stages of variation in death and birth rates and population growth.

Development of the Theory

The process of population transition, from a low level growth to an expanding growth and ultimately stabilizing it at an optimum level in European has been analytically classified into different stages by different demographers. They differ in the number of stages in transition. The pioneers of the transition theory i.e., Landry, Notestein and Thompson have attempted to construct a typology to describe the transition from conditions of high mortality and high fertility to conditions of low mortality and low fertility.
The theoretical task of explaining modern fertility transitions as a consequence (or a delayed consequence) of declines in mortality and the socioeconomic changes that have transformed rural agrarian societies into modern industrial has been the central question of the scientific field of demography. Until the 1970s, the theory of the demographic transition was almost universally accepted by demographers and was widely disseminated in introductory textbooks through stylized graphs and an interpretation of declining fertility in response to the modern forces of industrialization, urbanization, and literacy. These processes have occurred in many Western countries during the nineteenth and twentieth centuries and were presumed to be on the near term horizon of many developing countries.

The idea emerged as early as 1929, when Warren Thompson gathered data from some countries for the period 1908-27 and showed that the countries fell into three main groups, according to their patterns of population growth. In the first group i.e., Group A (northern and western Europe and the United States). From the latter part of the nineteenth century to 1927 they had moved from having very high rates of natural increase to having very low rates of increase and will shortly become stationary and start to decline in numbers. The second group i.e., Group B (Italy, Spain and the "Slavic" peoples of central Europe): Thompson notices evidence of a decline both birth rates and death rates but predicted that the death rate would decline as rapidly or even more rapidly than the birth rate for some time. The condition in these Group B countries is much the same as existed in the Group A countries thirty to fifty years ago. The third group i.e., Group C (the rest of the world): In the rest of
the world Thompson saw little evidence of control over either births or deaths. Thompson observed that the Group C countries (which included about 70 to 75 percent of the population of the world at the time) would continue to have their growth determined largely by the opportunities they have to increase their means of subsistence.

Frank W. Notestein presented the theory of demographic transition in a conventional form with explanations for the changes in fertility. In that sense he may be credited with as the expounder of the theory. He advocated that the development of positive forces resulting from modernization contribute to the decline in mortality as seen from the experiences of Western Europe. Modernization involved rising standards of living, rising incomes and advances in sanitation and medical knowledge. Indeed Notestein did not use the term transition for his classification. The first to use this expression was Adolphe Landry and some years later Davis in 1943.

The work of Thompson was followed by Landry's which was roughly comparable to Thompson's classification, although the latter's analysis was much more depth in relation to fertility and mortality rates. Three demographic regimes was put forth by Landry based on the relationship between production and consumer's preference. In the first stage i.e., Primitive regime, population increases with the increase in availability of food and vice-versa. Death rates are directly related to increase and decrease in food supply. Total production form the upper limit of population growth. The second

stage is intermediate demographic regime in which production determines the size of population indirectly related to economic development. People aspires for a higher economic standard of living and consider an increase in number as a constraint for development. Therefore, population growth is controlled. The third stage- a modern epoch is characterized by general decline in fertility. Under the first two stages, population increases because of technological advances, while economic and technological progress does not have any impact on the growth rate of population.

A society that is undergoing industrialization will also undergo fertility decline. The demographic transition is presented as a function of time and socioeconomic development. It traces a change from a state where a population experiences high rates of mortality and fertility, and hence a low rate of natural increase (Stage I), to one where the mortality and fertility rates are low - as is the rate of natural increase (Stage IV). Stages II and III are characterized by high population growth rates due to large discrepancies between respective birth and death rates. A fluctuating mortality rate in Stage I reflects human helplessness in the face of epidemics, wars and other natural and manmade calamities. The fluctuating fertility rate in Stage IV suggests human decision-making that is sensitive to economic change, and facilitated by modern methods of contraception. Noteworthy, the post-World War II baby boom in the United States and other industrialized countries was a mere boom let compared to the population explosion of the demographic transition.

Notestein characterized three types of population on the basis of the stages of demographic evolution: (1) population in the stage of "Incipient Decline", where fertility had fallen below the replacement level or those approaching this stage (population of Europe, the United States, Australia and New Zealand); (2) Population in the stage of "Transitional Growth", where birth and death rates are still high and growth is rapid, but the decline of the birth rate is well established. (population of the Soviet Union, Japan and some countries in Latin America); and (3) Population in the stage of "High Growth Potential" where mortality is high and variable and is the chief determinant of growth, while fertility is high and thus far has shown no evidence of a downward trend. In these populations, rapid growth is to be expected just as soon as technical developments make possible a decline in mortality (Population in most countries of Asia, Africa and Latin America).

Davis calls the transitional growth of Notestein by the term population explosion where the country is moving from high birth and death rates to low birth and death rates, from high growth potential to incipient decline and there will be rapid growth. Viewed in the long run, earth's population has been like a long, thin powder fuse that burns slowly and haltingly until it finally reaches the charge and explodes.


If a society shifts from an agrarian base to an industrial base, then the demographic pattern of high vital rates shifts to a regime of low vital rates. All nations in the modern era, which have moved from a traditional, agrarian based economic system to a largely industrial, urbanized base, have also moved from a condition of high mortality and fertility. The changing structure of production with a declining importance of the family as a production unit, with the growth of impersonal systems for the allocation of jobs, and with the development of economic roles of women outside of the home, tends to increase the possibility of economic mobility that can better be achieved with small families and tends to decrease the economic advantages of a large family. One of the features of economic development is typically increasing urbanization and children are usually more of a burden and less of an asset in an urban setting than rural. The whole process of economic change, moreover, weakens the force of traditional customs and beliefs. In most countries that have undergone the economic transition from an agrarian to an industrialized, market oriented economy, the custom of the small family has started in the urban groups at the higher end of the socio-economic scale and has spread to smaller cities, lower income groups, and eventually to rural areas.

The five phases of the demographic transition was given by C.P. Blacker. They were (1) Stage of high birth rate and high death rate: Population


virtually remains stationary in backward economies where both the birth and death rates are high. During the preceding years, the death rates may become higher than the birth rates due to the onset of certain positive checks on the population, the growth rate of the population may be negative and the total population even declines. This is a stage of virtually non-growth of population;

(2) Early Expanding Stage: Fall in death rates due to better medical facilities and prevention of epidemics, famines and diseases and there was no corresponding fall in the birth rates of various groups of population and this results in an increase in population (40 per cent population of the world in 1930 was in this stage according to Blacker); (3) Stage of Late Expanding Population: After a time lag, birth rates also start declining and fall in death rate especially of the rates pertaining to infants and children. The higher dependency ratio induces the government to provide family planning facilities (20 percent of the world population was in this stage by 1930); (4) Stage of Low Birth and Death rates: Low birth rates are balanced by low death rates. This is similar to first stage i.e., stage of no growth. However, the population may become large while being stationary (developed European countries had reached this stage by 1930); and (5) Stage of declining population: Death rates exceed the birth rates in this stage. The stage of negative growth rate will bring down the total number. Death rates are low in developed countries but the birth rates may be still lower (France was in this stage).

Notestein pointed out the importance of 'Urban Industrial Society' as a major determinant of demographic transition. "It is difficult to avoid the conclusion that the development of technology lies at the root of the matter".
The theory relates to the stages of population growth with the level of socio-cultural, economic and technological development of the society. The biological determinants of fertility are limited gradually by a process of rational decision-making.

Fertility Transition

The study of fertility decline is more intricate logically rather than the mortality decline. Individuals may assume that societies will try, if given resources and a choice, to minimize mortality levels, but it seems that there is no need that societies have an inherent orientation towards low fertility or any specific fertility level.

Davis' (1963) "Theory of Change and Response in Modern Demographic History" aimed to broaden the scope of the theory from declines in marital fertility (the standard empirical focus) to include the variety of ways that populations respond to population pressure (because of declining mortality) in a context of possibilities for socio-economic mobility. Although declines in mortality and modernization typically reduce marital fertility (through increasing use of contraception and higher rates of abortion), Davis noted that marital postponement, increasing rates of celibacy, and out migration were also part of the demographic repertoire of adaptation to population pressure. Davis suggested that the timing of the onset and the pace of fertility declines vary across societies (and regions in a society) depending on the relative quantities of these responses. Although there have been a few empirical tests of Davis's hypotheses, his systems approach to demographic theory is more admired than empirically addressed.

When mortality declines, more children survive through adulthood, putting greater pressure on family resources, and people have to reorganize their lives in an attempt to relieve that pressure i.e., to people respond to the demographic change. A first response, non-demographic in nature, is to try to increase resources by working more hours. The alternative response is the migration of family members. The second one—Davis' concern is with the interaction of the causes and consequences of population growth, on the assumption that in order to do anything about the consequences, we have to know the causes. Third point is that the survived children of the second generation if, there is a chance for social or economic improvement, will try to take advantage of those opportunities by avoiding the larger families that causes problems for their parents. Davis suggests that the most powerful motive for family limitation is not fear of poverty or avoidance of pain as said by the classical theorists, rather it is the prospect of rising prosperity that will mostly motivate people to find the means to limit the number of children.

Coale (1973), in an endeavor to settle the range of circumstances under which fertility declines have been observed to occur, identified three major conditions for a major fall in fertility: (i) Fertility must be within the calculus of conscious choice. Parents must consider it as an acceptable mode of thought and form of behavior to balance the advantages and disadvantages of having another child. (ii) Reduced fertility must be viewed as socially or economically advantageous to couples. (iii) Effective techniques of birth control must be available. Procedures to prevent births must be known, and there must be sufficient communication between spouses and mutual sustained will to employ them successfully.

Demographic transition theory had basically paying concentration on the second precondition i.e., there must be a perceived socio-economic gain to motivate couples to want fewer children. The first precondition of Coale meant that there must be social legitimization for the idea of fertility regulation before most couples will act to challenge traditional values of having a large family. But in traditional societies with few external influences beyond the family and religious authorities, couples may not think there are any choices to be made.

Pertaining to Coale's third precondition that couples know how to regulate fertility, the presence of knowledge of fertility limitation in a society does not mean that all couples actually knew to practice fertility control. Coale's first and third preconditions are probably less consequential for the modern wave of fertility transitions than the second with the wide diffusions of knowledge about birth control and contraceptives from family planning organizations in many societies. Apart from Coale's conditions, slight harmony has emerged on the causes of fertility decline. The necessity of high fertility for the survival of the community does not imply that most persons had a conscious awareness of the relationship. Rather the desire for high levels of child bearing was woven into the cultural fabric and the social institutions of traditional societies.

Societies characterized by high mortality depend on high fertility to insure their survival. In such situations individual couples will maximize their fertility to guarantee that at least a few of their children survive to adulthood, to continue the family lineage and to care for them in old age. The decline in

mortality may also have other consequences for fertility rates. As mortality declines, the fertility decisions of couples are often influenced by the logic of maintaining the survival of family members by changing health and living practices such as hygienic habits and good diet.

Couples begin to calculate the costs and benefits of children and consider consciously the number of children they would prefer and then take steps to achieve that goal. High mortality societies are often characterized by archaic technology in the manufacture of goods and the children may be economically useful to perform low-skilled work tasks. Parents have an incentive to bear children, or, at the minimum, they have little incentive not to bear children. However, high technology societies place a greater premium on labour skills and often require extended periods of education. Children will have few economic benefits and may become quite costly as they are educated and fed for long periods of time.

Another major factor that may foster fertility decline is the transfer of functions from the family unit to the state. In low technology societies, the family or kin group is often the fundamental unit, providing support for its members in times of economic distress and unemployment and for older members who can no longer contribute to the group through work activities. Children may be viewed as potential contributors to the unit, either in their youth or adulthood. In high technology societies, some of the family functions are transferred to the state through unemployment insurance, welfare programs, and old age retirement systems. The family functions much more as a social or emotional unit where the economic benefits of membership are less tangible, thus decreasing the incentive to bear children.
The importance of social change was also emphasized in the process of development of the theory by Notestein as relevant to explain the determinants of fertility and mortality. The development of a rational and secular point of view; the growing awareness of the world through popular education; improved health and raising the age at marriage.

In addition, fertility rates may vary quite widely across societies due to factors that have little relationship to conscious desires such as the effectiveness of birth control methods. Consequent to these methodical issues scholars seem to have less consensus on the social factors that might produce fertility than mortality decline. The combination of effective family planning efforts and a favorable socioeconomic setting produce conditions most likely to lead to lowered fertility. Sorting out the independent and joint efforts of setting and policy has been remarkable elusive. The initiation of family planning programs tends to the endogenous to the process of development itself, and it is difficult to obtain independent empirical assessments of each. Successful governments tend to have effective public programs, including well-managed family planning programs.

There is considerable evidence that socio-economic development is associated with fertility change in many societies except a few. There has been a rapid diffusion of fertility transition to almost every region and country, which are at varied levels of socio economic development. The declines in mortality are the most likely common cause. The impact of public intervention, and of family planning programs in particular, on fertility trends continues to be debated.

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Another Chief factor in fertility decline may include urbanization and gender roles. Housing is usually costly in cities, and the large family becomes unsustainable. In many high technology societies, women develop alternatives to child-bearing through employment outside their homes, and increasingly assert their social and political rights to participate equally with men in the larger society. They may be decreasingly willing to participate in sustained childbearing through their young adult lives.

Declines in mortality may be crucial in starting fertility transitions, but significant alterations in the roles of children may be key for completing them. Every country that has had a sustained mortality decline of at least 30 years has also had some evidence of a fertility decline. Many countries seem to have the fertility decline precondition of high life expectancy, but fewer have achieved the possible preconditions of acquiring a basic level of education. Much of the debate on the causes of fertility transitions is largely over variations in the proximate conditions that influence the timing of fertility declines, and that there is considerable agreement over the long-term historical factors, especially mortality decline, that have led to fertility transitions.

In order to realize the amazing decline in fertility—the average number of births per woman in contemporary epoch, it is necessary to begin with an examination of high fertility in traditional societies. Fundamentally, fertility was high, typically around five to seven births per woman, because of high death rates. Without high fertility, most societies would have experienced population decline and eventual disappearance. The necessity of high fertility for the survival of the community does not imply that most persons had a

conscious awareness of the relationship. Rather the desire for high levels of childbearing was woven into the cultural fabric and the social institutions of traditional societies. In all societies, fertility (or infant survival) is held in check not only by customs of delayed age at marriage and the proportion ever marrying, but also by long periods of breast feeding and cultural proscriptions that affect the patterns and timing of sexual intercourse, abortion, and infanticide.

Besides strong cultural inducements for marriage and childbearing, the well being of the family in traditional societies was dependent on having several children who survived to adulthood. Families were the primary economic units as well as reproductive unions. Children were a valued source of household labor and were also the preferred means to guarantee the old age security of parents. In societies without formal schools, mass media, and modern transportation, family relationships and interactions were the center of social and cultural life. Larger extended families provided more companionship, a wider circle of trust, more protection in times of trouble, and more status honor for patriarchs and matriarchs than did smaller families. Such customs, especially those of delayed age at marriage, reduced fertility in many traditional Western European societies to moderately high levels of only four to five births per woman. The variations in "high fertility" across societies and over time suggests that fertility was regulated in response to socio-economic conditions and ecological constraints, although most couples may not have been consciously controlling family size.


The major break through in world demographic history, was the constant decline in fertility that began in Western European countries and North America in the late nineteenth century, which led to small families of about two births per couple by the middle of the twentieth century.

Demographers perceive a fertility rate of about two births per woman as replacement level fertility because two children, in the modern context of low mortality, are sufficient to replace their parents in the next generation. The evolution from high to low fertility was not only an unprecedented demographic evolution, but also a cultural revolution with profound implications for definition of the family and the extended roles of both men and women. The contemporary societies are in the process of adapting new institutions and gender roles following the relatively recent transition to low fertility.

Following the fertility decline which started about a hundred years ago in Western Europe and North America, a comparable course began in the developing countries of Asia, Latin America, and Africa. The subsequent wave of fertility transitions began in the late 1950's and in a few East Asian countries. By the 1990s, signs of declining fertility had reached almost every part of the world including areas of persistently high fertility in South Asia and sub-Saharan Africa.

The present knowledge of the process of fertility transition is primarily based upon research at Princeton University on the European fertility transition that took place during the 70-year period between 1870 and 1940. The findings from Princeton European Fertility Project, initially noted in an
article by Knodel and Van de Walle (1979)\textsuperscript{14} and later developed in a volume by Coale and Watkins (1986)\textsuperscript{15}. The Researchers of the European Fertility Project recognized the existence of varying levels of 'natural fertility' (average reproduction in absence of deliberate parity-specific birth control) throughout Europe and European history (Knodel 1977)\textsuperscript{16}. Comparative use of "natural fertility" models and measures derived from these models have been of enormous use to demographers in identifying the initiation and progress of fertility transitions in more contemporary contexts. The results showed that the pace of fertility decline appeared to be more associated with regions that shared common languages and culture than common socioeconomic features.

The majority of scholars have accomplished that European countries seemed to start fertility transitions from very different levels of natural fertility but moved at quite similar speeds to similar levels of controlled fertility on the eve of World War I. As the transition progressed, regional differences in fertility within and across countries declined, while the remaining differences were heavily between countries. In that almost all births in nineteenth century Europe occurred within marriage, the European model of fertility transition was defined to take place at the point marital fertility was observed to fall by more than 10 percent\textsuperscript{17}.


The next challenge to demographic transition theory came in the form of comparative analyses of data from the World Fertility Survey (WFS) project[^18]. The WFS project consisted of cross sectional studies of individual level correlates of fertility behaviors, attitudes, and contraceptive practice in many of developing countries around the globe. In general, fertility was correlated in the expected direction with female education, urban residence, and other socioeconomic variable, the relationships were often meek and there were many exceptional cases.

One of the most influential is John Caldwell's theory of intergenerational wealth flows. Whether high or low fertility is economically rational is determined by social conditions; primarily by the direction of the intergenerational wealth flow. This flow has been from younger to older generations in all traditional societies; and it is apparently impossible for a reversal of flow- at the great divide- to occur before the family is largely nucleated both emotionally and economically[^19].

Demographic transition theory is a body of observations and explanations on which our interpretation of past population movements and expectations about future trends rests[^20]. Caldwell's theory is developed on the premises that there are two types of fertility regimes: first, where there is eventually economic gain to individuals from restricting fertility and the second where there is no economic gains from such restrictions. Thus his theory is based on the behaviour is not only rational but also economically


[^20]: Ibid.,
rational. There is not a whole range of economically rational levels of fertility in different societies, but instead only two situations the first where the economically rational response is an indefinitely large number of children and the second where it is to be children\(^2\).

In many societies at different times there is not a steep economic gradient between different levels of fertility. However, maximum and minimum family sizes in these societies are determined by personal, social and physiological reasons. It is also posited that the movement from a society characterized by economically unrestricted fertility to a society is essentially the product of social rather than economic change, although with economic interpretations.

Fertility in pre-modern countries has been high, due to the maintenance of a whole series of props: religious doctrines, moral codes, laws, education, communities, customs, marriage habits and family organization-all focussed towards maintaining high fertility. High fertility was necessary for survival because otherwise the very high mortality rate would have led to population decline and extinction\(^2\).

Caldwell felt that mass education and Westernization values communicated through the mass media and cinema have popularized the idea of child-centered families that reduce the flow of wealth, services, and other valued resources up the generational ladder. Since these changes have made children less valuable, there are fewer incentives to have large families.

\(^2\) Ibid.,

\(^2\) Ibid.,
The findings of the European fertility project have led some demographers (Knodel and van de Walle 1979) to reformulate ideas about why fertility declined. They suggest that European couples were interested in a small family well before the actual transition occurred. The transition itself was especially facilitated by the development of effective and cheap birth control devices such as the condom and diaphragm. Information about birth control rapidly and widely diffused through European society, producing transitions that seemed to occur independently of social structural factors such as mortality, urbanization, and educational attainment.

While the social causes of the European fertility transition may be more complex than originally thought, it may still be possible to rescue some of the traditional ideas. For instance, mortality data in Europe at the time of the fertility transition were often quite incomplete or unreliable, and most of the studies have focused on infant (first year of life) mortality as possible causes of fertility decline.

The effects of children's roles on fertility decline have often been based on rates of simple literacy as an indicator of educational system development. However, basic literacy was achieved in many European societies well before the major fertility transitions, and the major costs of children would occur when secondary education was implemented on a large scale basis, which did not happen until near the end of the nineteenth century. In a time series analysis of the United States fertility decline from 1870 to the early 1900's, it was found that there was a nearly perfect negative temporal correlation between the expansion of the educational system and the fertility rate. Related
research also shows that educational system development often occurred somewhat independently of urbanization and industrialization in parts of the United States.23

An important methodological issue in the study of the European transition (as in other transitions) is how one models the relationship between social structure and fertility. Many of the research reports from the Princeton School seemed to assume that social structure and fertility had to be closely related at all time points to support various theories about the causal importance of such factors as mortality and children's roles, but certain lags and superficial inconsistencies do not seem to prove fundamentally that fertility failed to respond as some of the above theories would suggest. The more basic question may be whether fertility eventually responded to changes in social structure such as mortality.

Even after admitting some problems with previous traditional interpretations of the European fertility transition one cannot ignore the fact that the great decline in fertility occurred at almost the same time as the great decline in mortality and was associated (even if loosely) with a massive process of urbanization, industrialization, and the expansion of educational systems.

The generality of demographic transition theory, sometimes summarized as a list of independent variables associated with urbanization, industrialization, and modernity, was often an inadequate guide to cumulative

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empirical research. Because many indicators representing the key causal forces were considered interchangeable such as the changing cost of children in rural and urban environments, were rarely differentiated from the broader story about industrialization and urbanization.

Mortality Transition

Variations in mortality characterize many parts of the world at the end of the twentieth century. The pace at which the mortality transition was achieved among lesser developed countries had a intense effect on the magnitude of the population growth that has occurred during the past few decades. Nonetheless, contemporary countries with the lowest life expectancies still exceed those of the most advanced societies in 1900. A much greater range in fertility than mortality characterizes much of the world, but fertility declines seem to be spreading throughout the world. The world population grew at a rate of about 2 percent in the early 1970's but has now declined to about 1.4 percent as fertility has begun to come up to the mortality decline.

Although the mortality transition in Europe was steady and related with the general processes of modernization and raised standards of living, the chief reason perhaps was the increased agricultural yield and developments in transportation infrastructure which enabled more competent food supply and, therefore, greater nutrition to fight off disease.

The European mortality transition was also possibly influenced by improvements in medical knowledge, chiefly in mid-twentieth century and by
improvements in sanitation and personal hygiene. Infectious and environmental diseases especially declined in importance relative to cancers and cardiovascular problems. Children and infants, most susceptible to infectious and environmental diseases, showed the greatest gains in life expectancy.

The more recent and rapid mortality transitions in the rest of the world have mirrored the "European" change with a movement from infectious/environmental causes to cancers and cardiovascular problems. The Egyptian-born demographer and health scientist, Abdel Omran, conceived the notion of the epidemiological transition. Omran presented three stages of epidemiological transition. The epidemiological transition consists of the passage from a situation in which infectious and parasitic diseases are the main causes of death disability amongst infants and children in a high mortality setting to a situation in which chronic and degenerative ailments such as heart disease, cancer or diabetes mellitus, become the main causes of death at older ages. This change in the order of importance of the causes of death runs parallel to mortality decline. The additional stage was combined by the other demographers that acknowledges emerging infectious diseases, such as HIV, and the rising mean age at death in the more developed countries attributable to the prevention and improved management of heart disease and stroke.

The mortality transition result from many of the identical factors as the European case, generally associated with economic development have also been

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influenced by recent advances in medical technology and public health measures that have been imported from the highly developed societies. Inexpensive vaccines are now available throughout the world for immunization against many infectious diseases. Even less developed nations showed major improvements in health conditions, although with the help of international agencies.

However, mortality levels are still lower than those in many affluent societies due to such factors as inadequate diets and living conditions, and inadequate development of health facilities such as hospitals and clinics. It can be observed that among lesser developed countries, mortality from diarrheal diseases such as cholera was prevalent despite control over other forms of infectious disease due to affiliation between diarrheal diseases, poverty, and unhygienic conditions and therefore a nation’s level of socio-economic development. The projection for future conquest over mortality may be greatly associated with aspects of social organization of the community that are independent of simple measures of economic well-being. Governments may be approximately responsive to community’s need for improved health.

Recent mortality trends in the world may be charted with the help of data on life expectancy at age 0 ($e^0$) that have been gathered, sometimes on the basis of estimates, by the Population Reference Bureau (PRB), a highly respected chronicle of world vital rates. For 165 countries with relatively comparable borders over time, it is possible to relate estimated life expectancy in 1986 with the same figure for 1998. Of these countries, only 13.3 percent showed a decline in life expectancy during the time period. Some 80.0 percent had overall increasing life expectancy, but the gains were highly variable. Of all the countries, 29.7 percent actually had gains of at least 5 years or more, a sizable change given historical patterns of mortality.
The late twentieth century round of fertility transitions has occurred in a very different social context than the historical European pattern. In the past few decades, mortality has declined very rapidly. National governments have become very attuned to checking their unprecedented national growth rates through fertility control. Birth control technology has changed greatly through the development of inexpensive methods such as the intrauterine device (IUD). The world has become more economically and socially integrated through the expansion of transportation and developments in electronic communications; Western products and cultural ideas have rapidly diffused throughout the world. Clearly, societies in the world are not autonomous units which respond demographically as isolated social structures.

Leaders among developing countries in the process of demographic transition were found in East Asia and Latin America, as well as nations having small populations located elsewhere. The clear leaders among Asian nations, such as South Korea and Taiwan, generally had experienced substantial economic growth, rapid mortality decline, rising educational levels, and exposure to Western cultural influences. By 1998, South Korea and Taiwan had fertility rates that were below long-term replacement levels. China also experienced rapidly declining fertility, which cannot be said to have causes in either Westernization or more than moderate economic development, with a life expectancy estimated at 71 years and a rate of natural increase of 1.0 percent.

Modernisation

The theory of demographic transition explains the dynamism of modernization related to change in population characteristics and how a demographically backward society transforms itself into a demographically advanced society. Modernization theory provided the basis to the demographic transition to shift from a sheer portrayal of events to a demographic perception.

Modernisation has already been initiated in a number of developing countries, and in a good number of countries substantial reductions in birth rates, has been achieved. In some developing countries, or communities, which are still in the very early phases of modernization. The policies adopted to control fertility and the adoption of family planning may help in lowering birth rates in the advancing nations. Fertility in pre/industrialized societies seems to strongly determined if not controlled in the sense we give to this world, today. It is determined by a network of sociological and biological factors and when the network is known, the result can be predicted. Freedom of choice by couples is almost absent. The couples have the number of children that biology and society decide to give them².

Although some consensus has emerged on descriptive aspects of the fertility transition, much less agreement exists on the social and economic factors that caused the long-term declines. Early theorists of fertility transitions had posited a simple model driven by urban-industrial social structure, but this perspective clearly proved inadequate. For instance, the

earliest declines did not occur in England, the most urban-industrial country of the time, but were in France, which maintained a strong rural culture. The similarity of the decline across provinces and countries of quite different social structures also seemed puzzling within the context of previous theorizing. Certainly, no one has demonstrated that variations in the fertility decline across countries, either in the timing or the speed, were related clearly to variations in crude levels of infant mortality, literacy rates, urbanization, and industrialization.

This theory is regarded as a descriptive account of what has happened in the past demographic history. Notestein presented was a fairly sophisticated interpretation of how fertility declined in response to declining mortality, the reduced role of the family in economic organization, the growing independence of women from traditional roles, and the shift to rationality spurred by popular education.

**Conclusion**

Compared to other theories in the social sciences, demographic transition theory represents one of the most convincing explanations of the momentous social changes of modern times. The theory of demographic transition is based on the actual demographic experience of Western countries, which have moved from a condition of high mortality and high fertility with consequent slow growth of population to conditions of low mortality and low fertility, leading to a slow growth of population.
The theory has undergone many changes in the past century and still under review. Different demographers discussed the stages in the 'continuum of demographic development'. All the theorists had one feature in common i.e., presence of fertility decline as the criterion of classifying societies in the three or five-stage framework of the demographic transition. No disagreement exists on how to order these theories in relative importance. Indeed, each theory may have more explanatory power in some circumstances than others, and their relative importance may vary over time.

Although these fertility transitions are still in process, the end is in sight. Replacement level fertility was achieved in some East and Southeast Asian countries in the 1980s and 1990s, and the United Nations predicts (medium variant) that almost all developing countries will reach replacement level fertility by the middle of the twenty-first century (United Nations 2001).

There are however considerable variations in the timing of the onset and the pace of fertility declines across populations and across groups and regions within populations, which are often associated with linguistic and cultural factors.