

# The Model of Population Transition in Vietnam in Relation to Europe and Asia: A Quantitative Approach

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## Abstract

This paper analyses the population transition model for Vietnam, based on Grover's five stages of population transition. Compatible with the transitional model of Western Europe and other advanced Asian countries, this process in Vietnam has some significant differences: (a) the initial shift or transition of fertility of the population in Vietnam is later than in Asian countries by about 13 years while compared to Europe it is nearly 108 years later; and (b) while the period of initial transition of mortality in Vietnam may not be very different from other Asian countries, it is more than 100 years later than in European countries, especially those in Western Europe. One of the main factors influencing the late transition of Vietnam's population process is, of course, colonialism and the consecutive wars (1945–1954 and 1955–1975). After 1975, Vietnam's population was stable as industrialisation and urbanisation led to the development of health services, education and an urban lifestyle, as well as effective population policies.

## Keywords

Asia, crude death rate, demographic indicators, demographic transition, Europe, history—logic, population policy, total fertility rate

## Introduction

Changes in demographic patterns can be seen in most countries around the world. The general rule is that after a period of population instability with high birth and death rates in the pre-industrial period there is a population boom where birth rates are high and death rates decline and eventually – today in developed countries – we witness very low birth and death rates. There is ample evidence that this demographic transition process affects a country's economic development.

Khan (2008), for example, provides convincing evidence that demographic transition was a leading factor in the industrialisation process in England. In particular, population growth (as fertility increases and mortality declines, life expectancy increases) had played an important role, and possibly a more significant role than technological factors, in helping Britain achieve the revolution in industrial networks in the 19th century. Taking advantage of younger populations made it possible to advance the industrial revolution into so-called newly industrialised countries such as Taiwan, Korea, Hong Kong and Singapore in the late 20th century. Research by Bloom and

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Williamson (1998) showed that a changing age structure in their populations contributed about 30% to the ‘miraculous’ growth of South Korea, Singapore, Taiwan and Japan. In addition, the current difficulties that developed countries such as Sweden, Italy, Germany and Japan face with an aging population, show once again the influence of demographic factors in national development. Recognising the importance of population issues, the State of Vietnam developed a substantial policy platform on population. Population policies from 1954 to 2000 focused on controlling population growth; and then from 2000 to present, focusing on actively controlling and proactively adjusting the demographic structure to improve the population’s quality of life, increasing life expectancy, reducing child malnutrition, and reducing maternal and child mortality rates (Truong, 2004). In general, the State of Vietnam is aware that Vietnam’s Population Strategy is an integral part of the National Development Strategy (United Nations Population Fund Viet Nam, 2009).

One of the first studies on population transition in Vietnam was by Barbiery (1996), which shows that although there are specific characteristics of population transition in Vietnam, this process still generally follows the rules of demographic transition theory. However, that author also expressed ‘some doubts . . . constantly being raised by many researchers working on what has been called the third world, where if cultural-social and social contexts are very different from those of the Western world, this can produce population patterns that deviate from those observed in developed countries’ (Barbiery, 1996: 86).

Đặng (2000) is another of the few studies on the theory of population transition in Vietnam. However, although the author’s findings and comments can be considered the basis for further research, unfortunately the data used stopped in 1995, so the author did not have the opportunity to analyse Vietnam’s more recent population transition, as well as systematising the population transition model in Vietnam. Nevertheless, after Đặng’s study theoretical concern over the transitional population problem in Vietnam declined significantly and gave way to experimental studies. There were two prominent research topics at this stage: declining fertility; and population aging. Research on fertility rates from 2000 to 2010 focused on analysing the status of high fertility, especially in rural, mountainous, central coastal and ethnic minority areas (Đặng, 2006; Nguyễn, 2000, 2004; Vũ, 2002) and the influence of economic and cultural factors on fertility (Đỗ and Nguyễn, 2006; Phạm, 2008; Trần, 2005). The recommendations proposed from these studies focus on the goal of achieving replacement fertility (total fertility rate (TFR)=2.1 children/woman). The second phase from after 2010 up to the present, from the results of general census, involved researchers who were able to recognise the declining fertility trend (Diệp, 2019; Đỗ, 2018; Lư, 2014; Nguyễn, 2015; Nguyễn TD, 2019; Phạm, 2019; Trần, 2012). Studies have clarified the situation of fertility reduction and analysed differences in fertility trends between urban and rural areas, between large cities (especially in Ho Chi Minh City and Hanoi City) and especially with comparisons between smaller cities. These authors also assessed a more flexible population policy with a focus on reproductive incentives.

There are very few specific studies on mortality transition. Because the death rate in Vietnam has dropped sharply and steadily since 1975, at approximately 10% (Hirschman, 2011), scientists in Vietnam pay more attention to population aging. The problem of population aging has been noted by Vietnamese scientists since the late 20th century under the influence of Lư’s (1992) study of population aging in Japan. After that, scientists began conducting in-depth study of population aging and social security policies for the elderly in Vietnam (Bé, 2010; Bùi, 2001; Giang and Đỗ, 2019; United Nations Population Fund, 2011) and the impact of population aging on socio-economic development in Vietnam (Lê, 2008; Nguyễn, 2006).

The most recent attempt to re-establish theoretical concerns about the population transition problem in Vietnam (almost neglected for at least 20 years) came from the research of Hà and Phạm (2018) which describes the process of population transition according to historical processes

through two indicators of fertility and mortality. Although these researchers have provided a model of population transition, they have not yet set this process of population transition in Vietnam in the context of population growth in the region and the world.

Vietnam has entered a population aging period in 2011 and the peak of the demographic dividend will be reached in 2020, but from the data it can be seen that the nation may be wasting a unique population advantage. How long will the transition period in Vietnam take? What are the characteristics of the demographic transition in Vietnam compared to the demographic transition model in the world, in particular, compared with Asia and Europe? If there are differences, what are the conditions and causes of these differences? These are significant problems the writer focuses upon in this article.

## **Materials and methods**

### *Demographic transition theory*

Demographic transition theory is the foundation of this study. According to Kirk, Frank Notestein was the first to define the term 'transition', in 1945 (Kirk, 1996). Originating from the observation of the development of European demographics, demographers, such as Landry (1987) have divided the population change into three periods based on the fluctuations of fertility and mortality. The first period – before the transition – was characterised by high fertility and mortality rates corresponding to nomadic and agricultural societies. In the second period – transition – fertility and mortality decreases, but the rate of death decreases faster, leading to an increase in life expectancy. The third period – after transition – sees that fertility and mortality are extremely low and there is an aging population.

Although, most scientists agree with the division of the demographic transition into three phases – pre-transition, transition and post-transition – there are still two views on the number of specific stages for each phase. The majority of authors, for example, Hirschman (2011) and Notestein (1945) divide the classical demographic transition model into four stages: (a) Stage 1: pre-transition; (b) Stage 2: early transition; (c) Stage 3: late transition; and (d) Stage 4: post-transition. However, still other authors, such as Blacker (1947), Grover (2014) and Judy (2015), have divided this transition into five different small stages with three larger phases: Stage 1: — High stationary; Stage 2: —early expanding; Stage 3: —late expanding; Stage 4: —low stationary; and Stage 5: —declining. These five stages fit into three larger divisions described as expanding, stationary and declining phases.

The main difference between the models is that the 5-stage model is predictive (at the 5th stage). In contrast, the 4-stage model is a reality that has been proven by demographic research data in developed countries. This paper applies the criteria of the 5-stage model and terminology of the 4-stage model to analyse the demographic transition process of Vietnam through two indicators: TFR; and crude death rate (CDR). This approach helps the research to better delineate real and predictive data. In addition, the use of two overall fertility rate and CDR indicators make the generalisation of the transition model in Vietnam simpler and easier to visualise.

### *Data source and analysis indicators*

This study is based on quantitative data sources from the General Statistics Office of Vietnam, United Nations Population Fund (UNFPA) Vietnam, World Bank Group (World Bank) and real social studies in Vietnam and other countries in the world in recent years. The data are taken from before and after 1950. In cases where the data are from different and multiple sources, the

Indicator	Phase				
	<i>Pre-transition</i> (High stationary)	<i>Transition</i>			<i>Post-transition</i> (Declining?)
		Stage 1 (Early expanding)	Stage 2 (Late expanding)	Stage 3 (Low Stationary)	
Total fertility rate (TFR)	[5.0 (from 5.0 or more)	(5.0; 2.1) (from under 5.0 to under 2.1)	[2.1; 1.85) (from 2.1 to under 1.85)	1.85] (from 1.85 or less)	?
Crude death rate (CDR)	Over 30 ‰	Approximately 20 ‰	Approximately 10‰		?

**Figure 1.** Indicators of demographic transition.

Sources: Đặng (2000), Nguyễn and Lưu (2011) and Grover (2014).

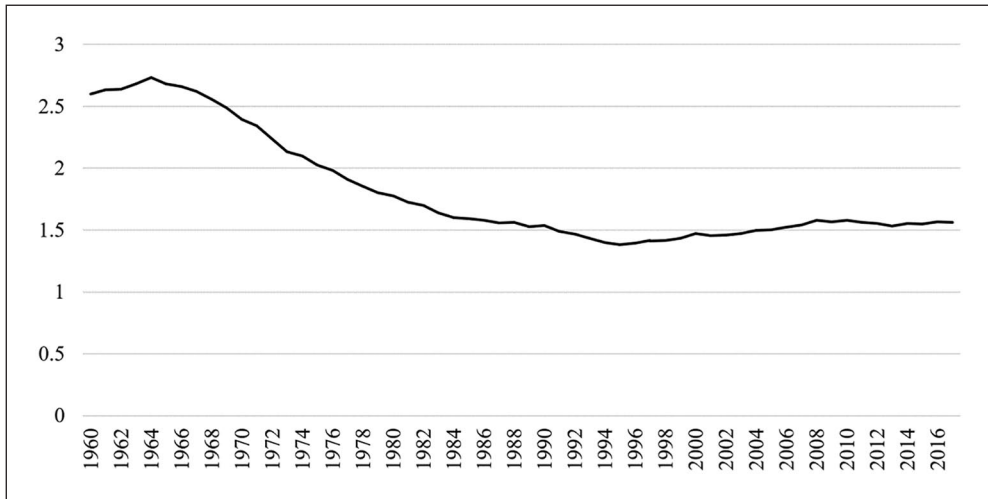
priority order of data selection will be UNFPA Vietnam, General Statistics Office for Vietnam, and the World Bank for global statistics. This study applies the model of Grover (2014) when dividing the population transition into three phases. The first phase – pre-transition witnessed TFR from 5.0 or more and CDR over 30‰. The second phase – transition – is divided into three stages: (a) the first stage has TFR from under 5.0 to under 2.1 and CDR approximately 20‰; (b) the second stage is the stage where TFR from 2.1 to under 1.85 and CDR is approximately 10‰; and (c) the third stage, where TFR is from 1.85 or less and CDR is approximately 10‰. In the third phase–post-transition – it is predicted that TFR and CDR will continue to fall even lower (Figure 1).

## Results

### *Birth rate transition in Vietnam: comparison with Europe and Asia*

If counting from 1870 when the birth rate in some of Western Europe's pioneering industrial countries peaked (fertility rate above 5.0) (Rahman, 2011), the first stage of the fertility rate in the West of Europe in particular and Europe generally lasted about 56 years starting from about 1871 to 1927 (at which point the fertility rate is 2.23); Stage 2 of the fertility period lasts only 4 years, from 1973 (the fertility rate is 2.131) to 1977 (when the fertility rate is 1.90); and Stage 3 begins in 1978 (fertility rate is 1.85) by 2017 (fertility rate is 1.56) for 38 years (Figure 2).

Europe entered Stage 2 of the fertility period marking an essential milestone of demographic transition with declining rates of reproduction tending towards fewer than two births per mother. Besides strong economic factors, the driving force of this period of transition is due to changes in the value of marriage and family. Acceptance of cohabitation before marriage, having children out of wedlock, as well as many women, especially in urban areas, having more opportunity to satisfy their social needs, makes a lower birth rate more desirable with women wanting to be mothers on their own terms. In the past, giving birth to another being was considered a defining role, but with development, giving birth to a child may, for some women, become only one option among many to satisfy a desire for happiness. Until the present time, that trend has remained almost unchanged



**Figure 2.** Fertility rate, total (births per woman) in the European area, 1960–2017.

Source: World Bank Group (2017).

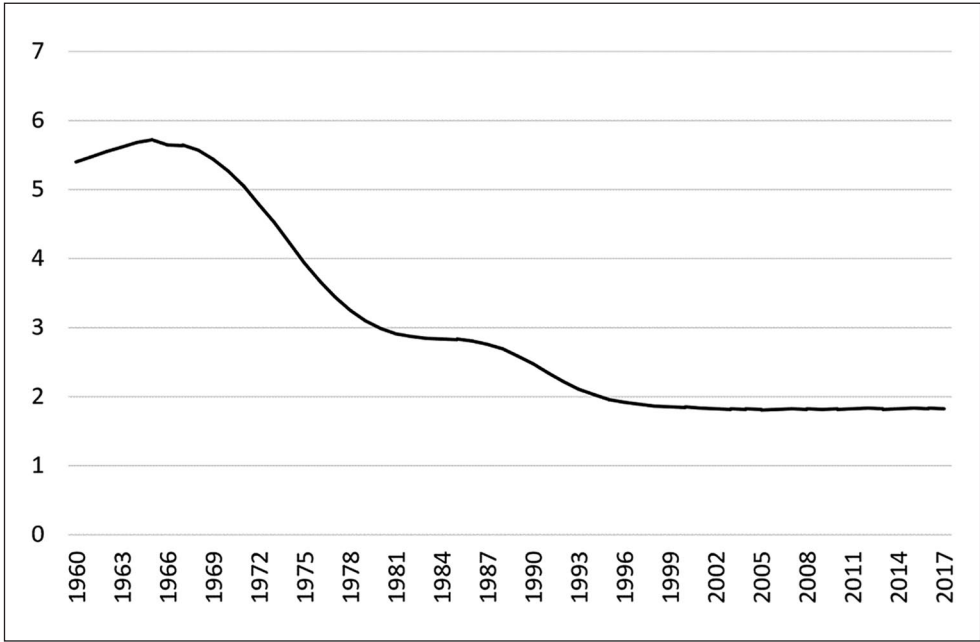
in Europe. Although many fertility incentives have been implemented in countries across Europe, supporting fertility to achieve replacement levels seems impossible (Kaa, 1987).

Asia entered the pre-transition of the fertility phase much later than Europe, around 1950, which lasted until 1965 (10 years). Stage 1 of the transitional phase of birth rate occurred from 1970 to 1989 (19 years); Stage 2 from 1990 to 2005 (15 years); and Stage 3, starting from 2006 and lasting to 2017, has been over 11 years (Hirschman, 2011). On the other hand, World Bank figures show that Stage 1 of the fertility phase in the East Asia and Pacific region lasted 20 years, from 1973 (fertility rate is 4.81) to 1993 (fertility rate is 2.20); Stage 2 lasted 3 years from 1994 (fertility rate is 2.08) through 1997 (fertility rate is 1.87); and Stage 3 from 1998 (fertility rate was 1.849) and by 2017 (fertility rate was 1.848) it was 19 years (Figure 3).

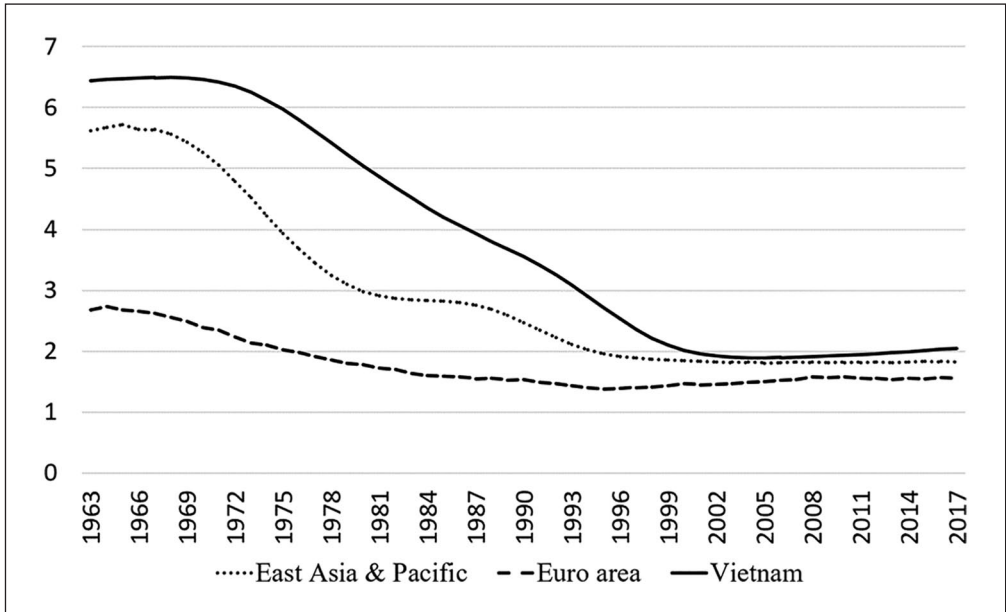
The pre-fertility phase in Vietnam ended around 1978 when fertility declined slowly (the fertility rate was higher than 5.0) (Figure 4). Stage 1 of the fertility period in Vietnam lasted 25 years (1979–2004) when the fertility rate decreased rapidly and began to stabilise but remained higher than the replacement fertility rate; Stage 2 from 2005 to 2044 when the fertility rate of women reaches replacement fertility level then gradually decreases to 1.85 children/woman = 39 years; and Stage 3 forecast after 2044 (United Nations Population Fund, 2016).

Đặng (2000), United Nations Population Fund Viet Nam (2009) and General Statistics Office of Viet Nam (2017) showed that Vietnam entered a phase of transitional fertility in about 1979, slower than Asia by 13 years, and East Asia-Pacific by 6 years; and Stage 1 of Vietnam's fertility period is about 25 years, longer than Asia by 2 years, and East Asia-Pacific by 5 years. The second stage of the fertility period in Vietnam began in 2005, coming 15 years behind Asia and East Asia-Pacific by 11 years, and Europe by 32 years. In short, the phase of fertility transition in Vietnam lasts about 39 years, longer than Asia by 24 years, East Asia-Pacific by 36 years and Europe by 34 years (Figure 5).

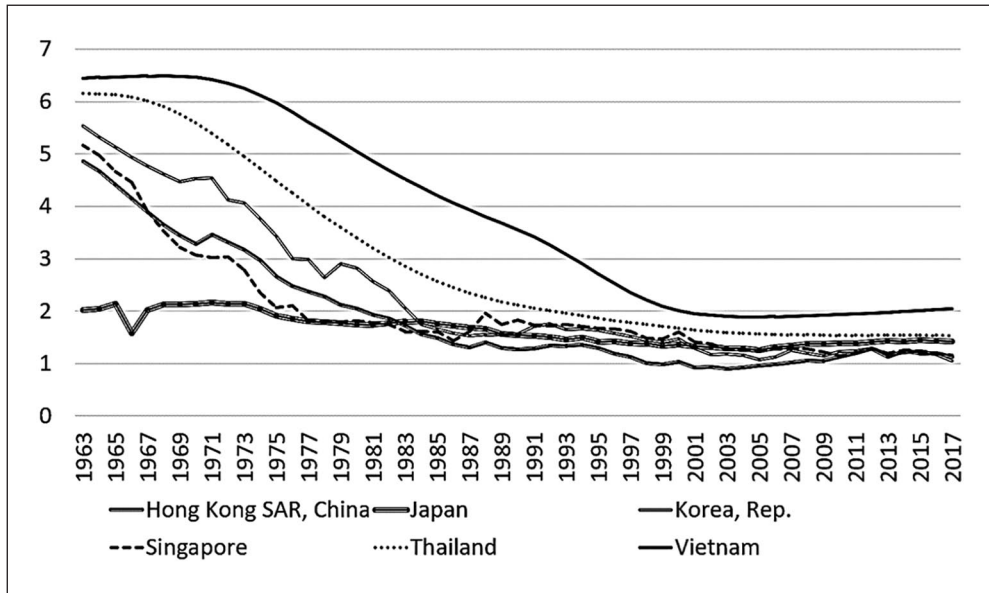
In summary, the demographic transition process in Vietnam comes later and lasts longer than in Asia and Europe. Excluding factors such as education, health, urbanisation and social policy, which have a common impact on the fertility rates of most countries on a global scale, it can be said that colonialism and the two wars (1945–1954 and 1955–1975) were the leading agents that made



**Figure 3.** Fertility rate, total (births per woman) in East Asia and Pacific, 1960–2017. Source: World Bank Group (2017).



**Figure 4.** Death rate, crude (per 1000 people) in Western Europe, 1963–2017. Source: Rahman (2011).

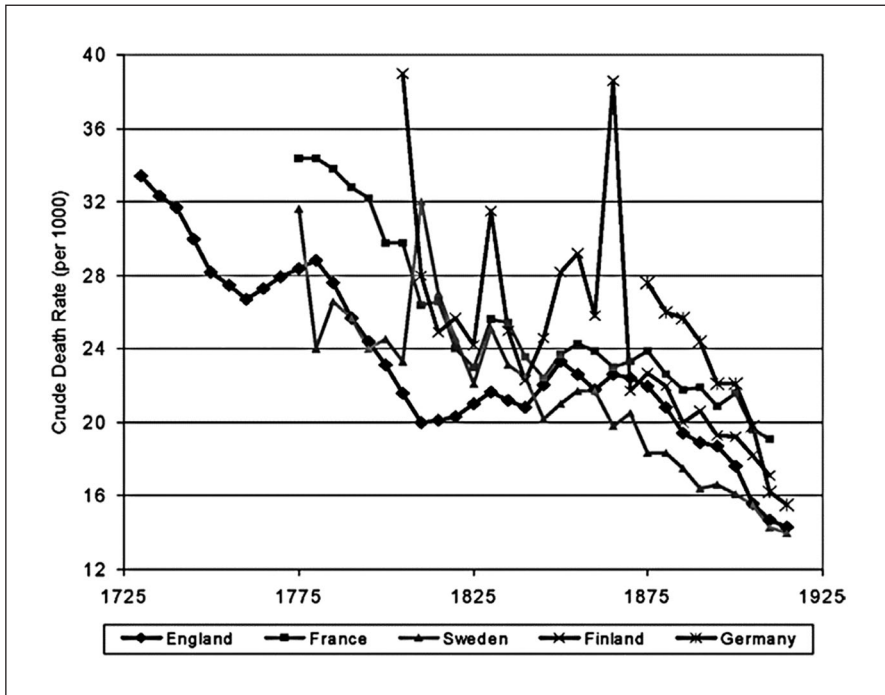


**Figure 5.** Fertility rate, total (births per woman) in Vietnam, East Asia and Pacific, and European area, 1960–2017.

Source: World Bank Group (2017).

the transition of Vietnam's population slower than other Asian countries. Nguyễn (1998) confirmed the connection between the wars and the birth rate. The author states that the North–South War in the late 1960s to early 1970s, two border wars with Cambodia (1978) and the People's Republic of China (China) (1989) and difficulties in trading in 1980 disturbed and prolonged the fertility transition period in Vietnam. The effect of the wars on the population process of Vietnam can be seen more clearly when compared to the process of population transition in countries that experienced fewer wars or ended earlier than Japan (no war after 1945), Korea (ending the war with an armistice agreement in 1953), Singapore and Hong Kong – China, Singapore (independence in 1945) or for example Thailand did not experience the war during World War I and World War II (Figure 6).

Another noteworthy feature is that Vietnam and East Asia-Pacific countries had much lower fertility rates than Europe. Apart from the inheritance of scientific and technological achievements to carry out the industrialisation process (combined with this process is the development of education and health and lifestyle), the population policy had an important role in reducing the birth rate. Population policy in Vietnam succeeded more readily because the country is led by the well-organised Communist Party. As is the case with China and Indonesia where family planning programmes are held in rural hamlets and quarters (Freedman, 1994), in Vietnam, the Communist Party members participate in the implementation of the programme and mobilise others to comply with the population policy in hamlets. Each hamlet has a Communist Party group with about 20 communist members and these people are responsible for managing a residential cluster with a population of 100 or more households. In addition, at the office, if the Communist Party member violates the population policy (with three or more children), besides being subject to the sanctions of the law, there are also political sanctions such as criticism and reduced promotion opportunities. It is these party members who form the core pioneering support for the policy and as they have a very



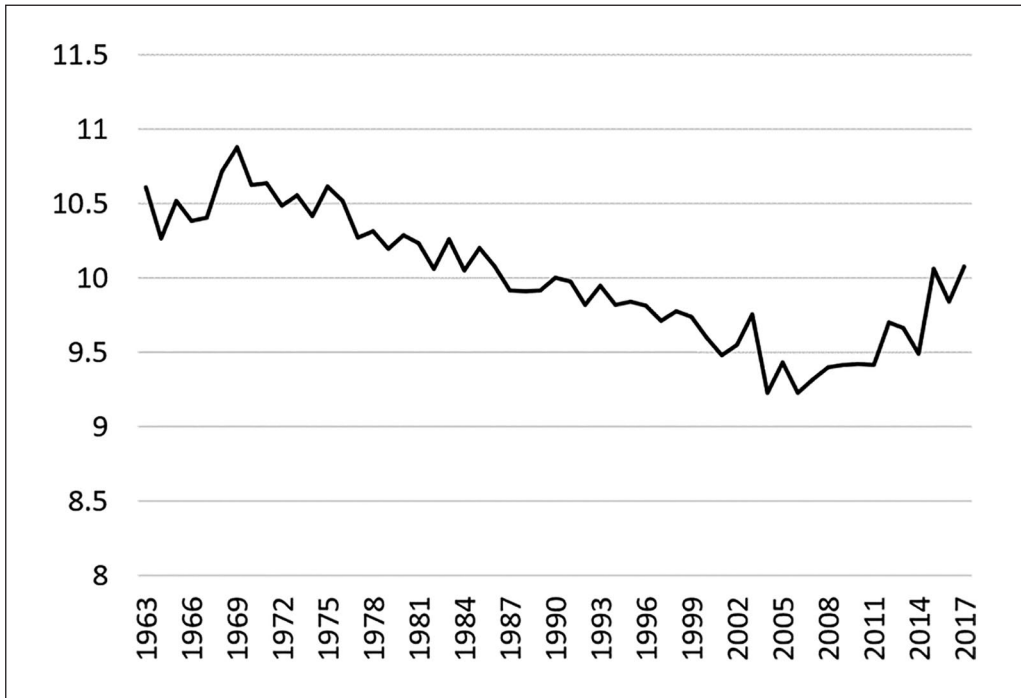
**Figure 6.** Fertility rate, total (births per woman) in Vietnam and some other Asian countries, 1960–2017. Source: World Bank Group (2017).

significant influence upon the community, this influences the overall effort to make the population restriction policy a success. Notwithstanding, another factor to consider is the impact of religion. Catholicism, which is a dominant European religion, also found in parts of Vietnam, promotes the protection of traditional marriages but does not encourage, and even often prohibits, abortion, contraception and sexual safety measures. This contributed significantly to keeping birth rates at a fairly high level in Europe for a long time before religious secularism flourished and saw a steady decline in birth rates (Lesthaeghe and Wilson, 1986). While the majority of Vietnamese people follow the tradition of worshipping ancestors and Buddhism, which has no law prohibiting family planning acts, this doctrine does proscribe abortion. The factors described above have created a favourable psychological and social environment for women to apply contraceptive methods in the context of increasing urbanisation where pressure on parenting is raised, making the fertility rate fall more readily. Research by Tổng Cục Thống Kê (2011) shows that the TFR of Catholics is 2.28, 0.25 higher than the whole country, 0.26 higher than non-religious people and 0.45 higher than the Buddhists (which accounted for the majority in Vietnam). Another study by Hà (2005) shows that 69.5% of Catholics in four communes in two districts of Tien Hai and Dong Hung, Thai Binh province, wanted to have three children or more.

### *Death rate transition in Vietnam: comparison with Europe and Asia*

Western Europe in particular and Europe, in general, entered Stage 1 of the level of death rate transition from 1730 to 1920 (lasting about 190 years); and Stage 2 of the transition period of death comes from around 1920 and by 2017 and it has been nearly 96 years (Figure 7).





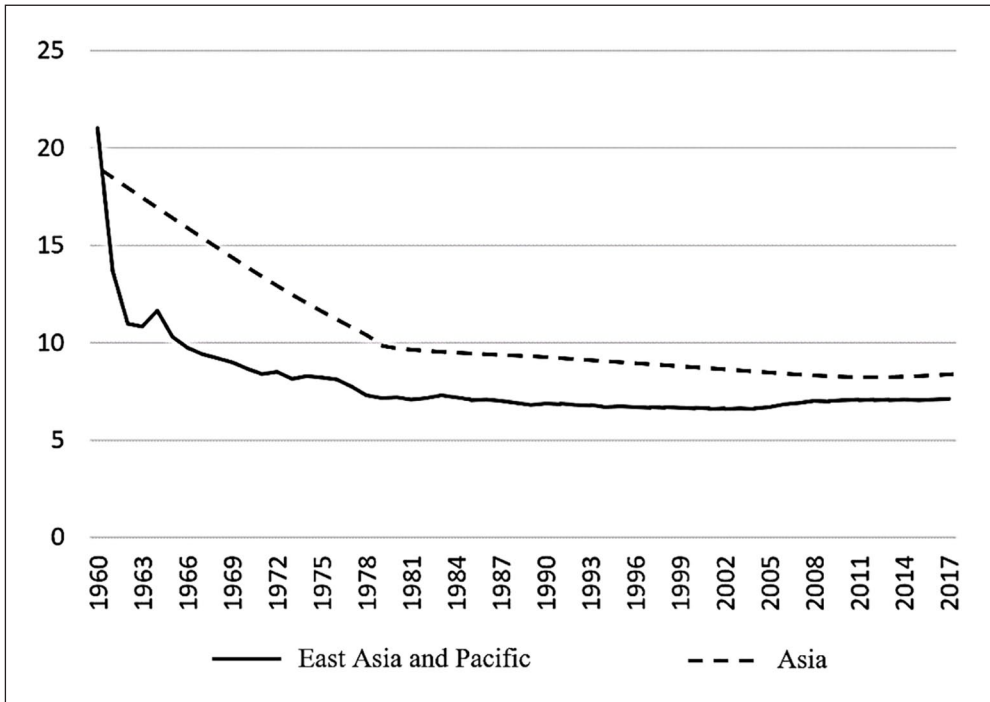
**Figure 7.** Death rate, crude (per 1000 people) in European area, 1960–2017.  
Source: World Bank Group (2017).

Transition of death rates in Europe is affected by changing socio-economic conditions (because of the industrialisation process) which in turn leads to changes that increase the average life expectancy of the population while also making fertility decline. After the first stage of the death transition, fertility and mortality are low and balanced at about 10 per thousand, which means a stable population. The quality of life of women is better, there is good reproductive health care, women participate in productive and reproductive labour and other social and care work, so the number of women married late accounts for a high percentage – the families themselves have a sense of having fewer children so that their parents must invest less time and gradually increase their physical and spiritual participation (changing from ‘quantity’ to ‘quality’ for children) (Nguyễn TC, 2019).

Asia ended the first stage of the transitional phase in about 1975, while the countries of East Asia and the Pacific ended the first stage around 1961 (CDR was 13.66); and the Stage 2 and Stage 3 periods in Asia began after 1975 (it has been 42 years until 2017) while in Asia and the Pacific they started earlier than 1962 (CDR is 10.91) (has been 55 years to 2017) (Figure 8).

When learning about the causes of death in Asia and the Asia-Pacific, it is not surprising that countries in this region conduct industrialisation fairly quickly, leading to a change in living standards, education, health and lifestyle. These positive movements have kept the mortality rate in this area after 1975 always below 10%.

The pre-transition phase in Vietnam was before 1950 (with a CDR of around 30%); Stage 1 of the period of transitional death lasts 25 years (1950–1975); and Stage 2 and Stage 3 of this phase began in 1976 (Đặng, 2000) and is expected to last until 2044 when the death rate is anticipated as low along with increased life expectancy. A forecast that, from 2019 to 2049, the average life



**Figure 8.** Death rate, crude (per 1000 people) in Asia, East Asia and Pacific, 1960–2017.  
Sources: Hirschman (2011) and World Bank Group (2017).

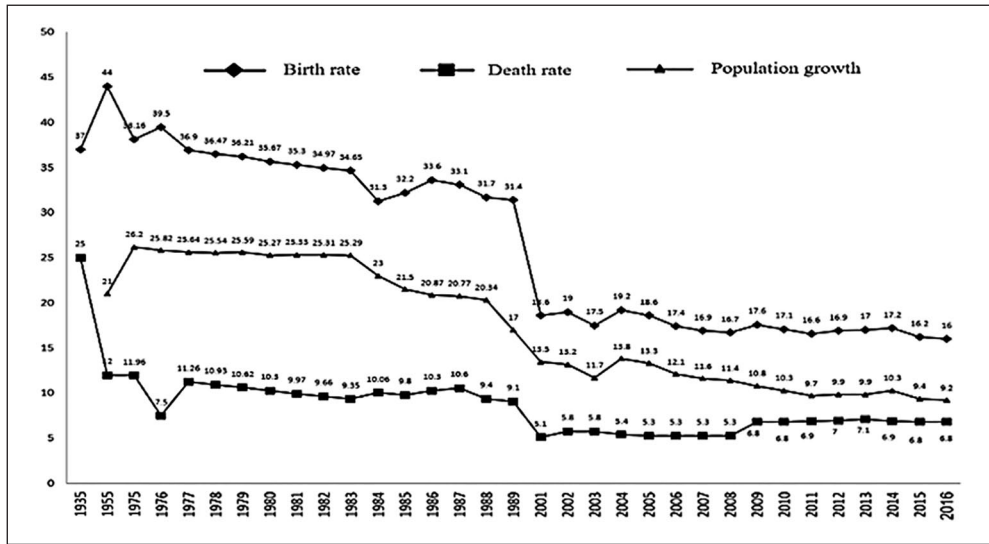
expectancy of Vietnamese people will be 72.35 years shows this as similar to fertility, though the post-transition phase is far more likely to occur in the years following 2044 (United Nations Population Fund, 2016).

Factors affecting high mortality rates in Vietnam in the pre-transition phase are: mothers' education; war (against France and the United States); famine (1945); and quality of health services (especially in the residential areas of ethnic minorities) (Đặng, 2000). Vietnam takes 25 years to bring the mortality rate to below 10%. Notably, the mortality rate of Vietnam in the second stage of the transition phase is still below 10% but tends to increase after 2009. The cause is partly due to the increasing proportion of the elderly; in addition, traffic accidents increase along with climate change and environmental pollution, high pathogenic effects, which can also be high causes of death (United Nations Population Fund, 2011).

Compared to Europe and Asia, Vietnam has a lower CDR because the population of Vietnam officially enters the aging stage from 2014 while the population-aging process in the countries of Western Europe took place in the early 21st century.

### *Demographic transition model in Vietnam: comparison with Europe and Asia*

Data from Figure 9 show a difference of time between the fertility transition and the mortality rate in the transitional demographics of Vietnam. The death transitional phase (beginning 1950) came sooner than the fertility transitional phase (from 1979), and was about 29 years. The phenomenon of 'population explosion' appeared in Vietnam in 1960, and it ended after 1989. On the other hand, because Stage 1 of the death and fertility transition phase lasted about 25 years, the process of



**Figure 9.** Demographic transition mode in Vietnam, 1935–2016.

Sources: Phạm (1990), Đặng (2000), Nguyễn and Lưu (2011) and General Statistics Office of Viet Nam (2017).

transitional fertility and death in Vietnam's population began to converge from 2005, by the time Vietnam reached the replacement fertility level (2.1 children/woman), when Vietnam had entered Stage 2 of the population transition phase.

Similar to Vietnam, Asian countries also entered the first stage of the death rate earlier than the birth rate. In Asia, the death transition came 16 years sooner than the birth transition, and the death rate in Asia is almost the same as the fertility time (25 years versus 23 years). The convergence of fertility and mortality in Asian countries took place after 1975, which was also the beginning of the second stage of the population transition. Thus, Stage 2 of the transitional demographic in Asia is 30 years earlier than Vietnam.

On the other hand, Europe, especially Western Europe, entered the first stage of the death rate 141 years earlier. In addition, the time of death transition is 39 years longer than the fertility transition (190 years compared to 101 years, respectively). From 1920 onwards, Europe entered the second phase of the demographic transition. Thus, the second phase of Europe is about 85 years earlier than Vietnam (Figure 10).

## Discussion

Research results show that although Vietnam still experiences a phase of population transition anticipated in descriptive demographic transition theory, the population transition model in Vietnam still has specific characteristics. Vietnam has entered a period of transition of mortality and fertility almost at the same time with Asia but a 100 years slower than Europe.

Vietnam entered the population transition slower than Asian and European countries as a consequence of rapacious colonialism and two extended wars (1945–1954 and 1955–1975) which severely disrupted the population process. Of course, any country experiencing colonialism or war of this type, will endure long-lasting negative impacts, and Vietnam has seen both unique and all-too-common aspects of such impacts. Yet, since 1975, Vietnam has gradually come through the process of demographic transition due to public campaigns, from literacy to health, alongside

Indicator	Country / Region	Pre-transition	Transition			Post-transition
			Stage 1	Stage 2	Stage 3	
Total fertility rate (TFR)	Europe / Western Europe	From 1870 onwards	1871 - 1972	1973 - 1977	1978 - 2017+	?
	Asia	From 1965 onwards	1966-1989	1990-2005	2006 - 2017+	?
	East Asia - Pacific	From 1972 onwards	1973-1993	1994-1997	1998 - 2017+	?
	Vietnam	1960 - 1978	1979 - 2004	2005 - 2044	2045+	?
Crude death rate (CDR)	Europe / Western Europe	From 1729 onwards	1730 - 1920	1921 - 2017+		?
	Asia		From 1975 onwards	1976 - 2017+		?
	East Asia - Pacific		From 1961 onwards	1962 - 2017+		?
	Vietnam	Before 1950	1950 - 1975	1976 - 2017+		?

**Figure 10.** Demographic transition mode in Vietnam: comparison with Europe and Asia.

Sources: Pham (1990), UNFPA Viet Nam (2009), Hirschman (2011), Rahman (2011), General Statistics Office of Viet Nam (2017) and World Bank Group (2017).

inheriting modern medical achievements and receiving technical and financial support and solidarity from international organisations. A policy and public commitment to building the nation combines with these factors to improve quality of life for the population. The population can be seen to benefit from the consequences of urbanisation, improvement of education levels, and improvement of the quality of health services that have increased life expectancy. Additionally, Vietnamese cultural characteristics are not averse to restricting fertility combined with industrial-era, modern lifestyles, making it easier for people to implement fertility control acts – all of which can be seen as contributing to acceleration of the transitional population growth rate.

In summary, the process of population transition in Vietnam is similar to that of other developing Asian countries, which start slower but take place faster than developed countries. However, this process in Vietnam is even more intense. It can be said that the character of population transition in Vietnam is a form of progressive transition. Because of that, future research should probably focus on analysing factors of social structure and economy, religion, culture and lifestyle for the Vietnamese population, including the extent to which these have affected reproductive behaviour as well as the mortality rate of Vietnamese people at the present time. Infrastructural and policy differences can be discerned and will be invaluable in interpretation regarding population policy in the particular circumstances of Vietnam. In that case, more focused understanding of the model promises to produce more significant and profound results.

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