Demographic dividend in Latin America: Economic effects of changes in population age structure

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Abstract: Demographic dividend is the potential economic growth caused by the change of population age distribution. With the continuous decline of fertility rate for decades, the age distribution of the population has changed from young age structure to young people of working age. This provides a window of opportunity for further economic growth and poverty reduction. In other words, as the relative size of the labor force increases, the country’s production is expanding because there are more workers and producers. However, this window of opportunity is not automatic and may last for a short time. Therefore, economic, social and government policies are needed to create an enabling environment for the absorption of large numbers of labor in the most productive sectors. Strategic investments in human capital (education and health) are needed to adequately respond to growing economic opportunities. Many Latin American countries have begun to realize the demographic dividend. Over the past decade, the region’s economy has continued to grow, creating favorable conditions for absorbing more and more young adult labor.

Keywords: Demographic dividend; Demographic transition; Fertility; Mortality; GDP; Dependency ratio; Economic and social policy; Latin America

1. Introduction

One of the most controversial aspects of population and development research is the impact of population changes, especially fertility, on a country’s economic dynamics. The pioneering work of Malthus (1798) and Coale and Hoover (1958) is the earliest precedent. For a long time, this work has focused on the impact of accelerated population growth on economic dynamics, which is regarded as an obstacle to economic growth (Giorguli, 2009).

In the late 1990s, economists associated with the World Bank (Rosero-Bixby and Robles, 2008) revisited this issue, emphasizing the economic impact of changes in the age structure of the population, although within the same theoretical framework (Bloom, Canning, and Malaney, 2000; Bloom and Williamson, 1998). In other words, in the context of the continuous decline of fertility and the “capitalist” economic globalization, people’s attention has shifted from the impact of population growth to the impact of the dynamics of different age groups on economic growth. According to the authors, the economic outcome of this particular demographic dynamic is called a demographic dividend. Behind this concept is the view that changes in population structure create favorable opportunities for increasing the rate of economic growth by increasing the relative importance of potential production age groups.

The purpose of this study is to once again draw the attention of researchers, policymakers, politicians and the public interested in the subject to the economic importance of the demographic changes currently taking place in Latin America. The file structure is as follows. The second part introduces the concept of
demographic dividend in the literature on population and development. The third part briefly reviews the population dynamics behind this bonus. The fourth part expounds the concept of economic growth and its relationship with demographic dividend. The fifth part puts forward the short-term and long-term strategies conducive to the realization of the demographic dividend. Finally, in the sixth part, the main conclusions of this paper are put forward.

2. What Is a Demographic Dividend?

The basic concept of demographic “Dividend” or “bono” was first found in the work of Coale and Hoover in 1958. When studying the cases of India and Mexico, the author found that due to the decline of high fertility and infant mortality, the rapid growth of the population led to the increase of the population under the age of 15, the increase of dependency rate, and the significant increase of consumer expenditure, especially health care and education, which damaged a country's ability to save and productive investment. Therefore, the high dependence rate is translated into the financial pressure of the government and households, reducing the ability of total savings and personal savings. However, with the deepening of the demographic transition (decline in fertility and mortality), the decline in fertility and the consequent accelerated growth of the working age population have reduced the dependency rate. This situation presents a unique opportunity for a country’s economy, because a large number of young people enter the economic system as producers to stimulate economic growth through increased production, savings and investment and through their work and labor income. In other words, this is a demographic opportunity to use a society’s human capital to promote its economic growth.

Lee, Lee, and Mason (2007) pointed out that the demographic dividend is the result of changes in the profile of age economic activities, reflecting the changes in the labor force participation rate of age groups. Available evidence suggests that a country’s per capita income increases faster when “the growth of the working age population is relatively greater than the number of dependents (including the elderly)” (Pinto, 2011, p. 108), because the latter is mainly consumers rather than producers (Pinto, 2011).

The term “demographic dividend” is an economic concept put forward by Bloom, Canning and Sevilla (2003). It is regarded as part of a country's economic growth, which is the result of changes in the age structure of the population. The authors mentioned that economists had long been concerned about the impact of population growth on the economy, ignoring the analysis of the impact of changes in the age structure of the population, which is the result of the demographic transformation that a country is experiencing. They also mentioned that although population growth had a negative and statistically insignificant impact on per capita output growth, economically active population growth had a positive and statistically significant impact on per capita output. The available evidence seems to confirm the hypothesis that these demographic events are an important part of the economic “miracle” of East Asian countries. In fact, the demographic dividend accounts for about one third of the economic achievements of this region of the world (Bloom et al., 2003; Bloom and Williamson, 1998).

Wongbounsins, Guest and Prachuabmoh (2005) followed Thailand's explanation and regarded the demographic dividend as the economic benefits of a country’s observed demographic changes. Lee and Mason (2006) wrote that when the labor force grows faster than the dependent population, resources are released for savings and productive investment, and per capita income or output grows faster. This additional output growth is called the first “dividend” of the population. Similarly, in a population study focusing on Africa, Gribble and Bremner (2012) defined the demographic dividend as the acceleration of economic growth caused by the change of population age structure. Williamson (2013) defined the demographic dividend as part of the per capita output growth related to the growth of the working age population (i.e. Labor force). Finally, Bloom, Hmamir, Rosenberg, Sevilla and Trussell (2014) illustrate that the demographic dividend was the potential economic growth created by favorable changes in the age distribution of the population.

In this study, the term “demographic dividend” refers to the economic growth caused by the change of population age structure in a country, that is, the output growth caused by the accelerated growth of working age population in a country. Therefore, it is related to the extraordinary expansion of the labor force, which leads to the change of the average economic burden of the population of production age relative to the dependents (reasons for dependence). Although this accelerated and “explosive” growth of the working age population and the resulting workforce and productive population is referred to as the “population stock” due to the long-term and systematic decline in fertility, in order to avoid confusion with the term “demographic dividend”, this is the economic result of this population dynamics, which will be estimated later by the growth of the working age population in two different fertility decline scenarios from 2010 to 2050.

The presence of a large number of potential adult workers creates a unique opportunity for a country’s government and private sector because they accelerate economic growth (demographic dividend). A large number of labor force in the labor market, especially skilled workers, can create the necessary impetus to improve economic output, so as to improve the income of workers and the general population.

As can be seen from Table 1, the dependence rate shows great differences among regions in the country and over time. First, at the beginning of the analysis period in some countries (Colombia, Costa Rica, Honduras, Mexico, Nicaragua,
Paraguay and the Dominican Republic), due to the recovery of the population age structure, there are a considerable number or more dependent age consumers for every 100 working age people. However, over time, DR (dependency rate) began to decline to about 50%, equivalent to two economically active people per dependent. If the available labor force is properly utilized, a large part of the total consumption can be transferred to the reduced DR through domestic savings (including private and public savings) in the next few years to stimulate investment and economic growth.

Table 1. Reasons for dependence in Latin America, 1950–2050

| Ano | AL | Arg | Bol | Bra | Col | Cri | Cub | Ecu | Els | Gua | Hai | Hon | Mex | Nic | Pan | Par | Per | Red | Uru | Ven |
|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1950 | 78 | 53 | 82 | 80 | 69 | 84 | 76 | 69 | 81 | 86 | 89 | 76 | 86 | 85 | 86 | 80 | 100 | 82 | 98 | 57 | 83 |
| 1955 | 81 | 55 | 83 | 82 | 74 | 92 | 87 | 68 | 87 | 90 | 92 | 76 | 91 | 92 | 92 | 85 | 102 | 84 | 99 | 56 | 89 |
| 1960 | 86 | 57 | 85 | 87 | 80 | 98 | 98 | 66 | 93 | 95 | 94 | 77 | 97 | 97 | 100 | 90 | 104 | 88 | 102 | 56 | 93 |
| 1965 | 89 | 57 | 86 | 89 | 83 | 100 | 105 | 73 | 97 | 97 | 92 | 82 | 101 | 102 | 107 | 93 | 104 | 91 | 104 | 57 | 96 |
| 1970 | 87 | 57 | 87 | 85 | 81 | 97 | 98 | 77 | 95 | 97 | 91 | 84 | 103 | 101 | 103 | 93 | 98 | 90 | 102 | 58 | 94 |
| 1975 | 84 | 58 | 87 | 79 | 73 | 89 | 85 | 79 | 92 | 95 | 91 | 82 | 103 | 99 | 99 | 89 | 91 | 84 | 99 | 60 | 87 |
| 1980 | 79 | 63 | 86 | 73 | 63 | 81 | 74 | 65 | 88 | 93 | 94 | 82 | 101 | 94 | 99 | 82 | 86 | 84 | 85 | 60 | 78 |
| 1985 | 74 | 65 | 84 | 70 | 58 | 72 | 69 | 52 | 82 | 90 | 95 | 86 | 98 | 85 | 100 | 74 | 84 | 78 | 77 | 61 | 74 |
| 1990 | 70 | 66 | 81 | 66 | 56 | 68 | 69 | 43 | 76 | 82 | 95 | 89 | 96 | 75 | 97 | 67 | 83 | 73 | 71 | 60 | 72 |
| 1995 | 65 | 63 | 81 | 60 | 57 | 64 | 66 | 46 | 69 | 72 | 94 | 87 | 92 | 68 | 90 | 63 | 81 | 69 | 68 | 60 | 67 |
| 2000 | 60 | 61 | 78 | 54 | 54 | 59 | 49 | 65 | 68 | 93 | 80 | 86 | 62 | 80 | 60 | 74 | 65 | 66 | 60 | 62 |
| 2005 | 56 | 57 | 74 | 51 | 49 | 55 | 52 | 44 | 62 | 65 | 90 | 73 | 78 | 58 | 72 | 57 | 68 | 60 | 64 | 59 | 57 |
| 2010 | 53 | 55 | 68 | 50 | 46 | 50 | 47 | 42 | 58 | 60 | 85 | 67 | 70 | 53 | 64 | 55 | 63 | 54 | 62 | 57 | 54 |
| 2015 | 51 | 54 | 63 | 49 | 45 | 47 | 45 | 43 | 54 | 56 | 79 | 62 | 63 | 49 | 58 | 53 | 59 | 51 | 59 | 55 | 53 |
| 2020 | 50 | 54 | 58 | 48 | 47 | 48 | 47 | 45 | 44 | 52 | 53 | 72 | 59 | 47 | 56 | 52 | 56 | 50 | 57 | 55 | 52 |
| 2025 | 50 | 53 | 54 | 48 | 51 | 47 | 46 | 47 | 51 | 50 | 65 | 56 | 55 | 47 | 54 | 51 | 54 | 50 | 56 | 55 | 51 |
| 2030 | 50 | 52 | 51 | 50 | 54 | 49 | 49 | 45 | 55 | 51 | 49 | 59 | 53 | 52 | 48 | 51 | 52 | 52 | 49 | 56 | 56 |
| 2035 | 51 | 51 | 49 | 51 | 57 | 51 | 51 | 65 | 51 | 49 | 54 | 51 | 49 | 50 | 49 | 53 | 50 | 49 | 55 | 56 | 51 |
| 2040 | 52 | 52 | 47 | 52 | 59 | 52 | 52 | 74 | 51 | 50 | 49 | 47 | 55 | 49 | 55 | 49 | 54 | 59 | 58 | 51 |
| 2045 | 54 | 55 | 47 | 54 | 60 | 54 | 54 | 75 | 52 | 52 | 48 | 48 | 46 | 58 | 49 | 55 | 49 | 51 | 54 | 59 | 52 |
| 2050 | 56 | 58 | 47 | 58 | 62 | 56 | 58 | 75 | 54 | 53 | 46 | 50 | 47 | 60 | 51 | 56 | 50 | 53 | 54 | 60 | 53 |

AL: Latin America, Arg: Argentina, Bol: Bolivia, Bra: Brazil, Chi: Chile, Col: Colombia, Cri: Costa Rica, Cub: Cuba, Ecu: Ecuador, Els: El Salvador, Gua: Guatemala, Hai: Haiti, Hon: Honduras, Mex: Mexico, Nic: Nicaragua, Pan: Panama, Par: Paraguay, Per: Peru, Red: Dominican Republic, Uru: Uruguay, Ven: Venezuela.

Source: Prepared according to the data of CELADE (2012).

Demographic economists, including Mason (2005) and Lee and Mason (2006), mentioned that due to the increase in the population of the elderly (over 65 years old), there is a second demographic dividend in developed countries, and the elderly have a strong incentive to accumulate resources (such as assets) in response to long-term retirement, unless the government and/or family members (intergenerational transfer) fully meet their future needs. If these additional assets are invested productively at home and abroad, the country’s income or GDP will increase and a second demographic dividend will be generated.

In short, the first kind of bond is the relative increase of producers relative to consumers, while the second kind of bond is the relative increase of owners’ wealth relative to producers, that is, the increase of accumulated wealth (capital) relative to income. The rest of this article focuses only on the first demographic dividend.

3. Demographic Dynamics behind Demographic Dividend

The change in the number of people in each age group basically depends on the dynamics of mortality and fertility, which changes the production and demand of a society and the dynamics of the labor market. Because these two demographic factors (the basic determinants of population age structure) change social and economic needs and labor supply, they create a driving force conducive to a country’s economic growth.

As will be briefly explained in this section, the chain of events leading to subsequent demographic dividends begins with changes in a country’s fertility level. The sustained and long-term decline in fertility clearly leads to changes in the age structure of the population, which may have a positive or negative impact on a country’s economy, depending on various structural and cyclical factors.

The first effect of the continued decline in fertility is the decline in the number of births per year in a country, resulting in a decline in the basis of its population distribution by age, in other words, the number of people under the age of 15 decreases over time. As the number of people in this age group has decreased for decades, its members have begun to enter the economically active age group, and its relative importance has decreased compared with economically active people.
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(15-64 years old). In other words, the rate of economic dependence is declining. This phenomenon can be clearly seen in Figure 1, which reflects the population dynamics of Latin America from 1950 to 2025 through the so-called population age pyramid.

Figure 1. Age structure in Latin America: Dependent and working age population. Source: Based on data from the Latin American Population Center (CELADE, 2012).

Figure 1 shows the changes and expected changes in the age structure of the population in Latin America. In the selected first year (1950), we saw a gradual pyramid with ladder shape, uniform outline, regular and broad foundation, reflecting the decline of high birth rate and infant mortality. Due to the high mortality rate in the past, it finally reached a narrow peak, which made the elderly the smallest group.

At this stage, the proportion of the population under the age of 15 reached 40%, while the working age population accounted for only 56%. In the last selected year (2025), it has a stable pyramid characterized by relatively low birth and mortality rates and a large adult population of childbearing age. In fact, by 2025, the population under the age of 15 will account for only 23% of the total population, while the working age population will account for 67%.

The final stage of the transition (after 2025) is a backward pyramid, with a shrinking base due to low fertility and mortality rates. These characteristics are reflected in the increase in the relative participation rate of the elderly (aged 65 or over), a process known as “aging”.

It must be emphasized that the evolution of age structure has an impact on population dynamics itself and on the economic and socio political aspects of society; in other words, as children and young people enter the next age group, the working age population increases significantly, expanding the supply of labor in the economy and the potential ability to produce more goods and services, savings and investment.

In terms of macro economy, the large increase in the population under the age of 15 means an increase in government expenditure on basic education and health care. Alternative resources for productive investment that can be used to promote economic growth and make better use of demographic dividends. In order to understand why this change occurs in the age structure of the population and why the dependency ratio has systematically decreased over a long period of time, it is necessary to use a reference framework to explain the mechanism of population dynamics (mainly changes in fertility and mortality) leading to these population changes. The standard interpretation framework often used to justify this population change process is called “Demographic Transition Theory” (Coale, 1973; Davis, 1945; Kalache, 1997; Kirk, 1996; Van de Walle and Knodel, 1967).

The existence of the state as a public health actor is a key factor in the progress of this process, as it has improved people’s health and education coverage through universal primary health care (mainly maternal and child health care) and formal education policies for vulnerable groups, as well as the import of public health technology and modern medicine.

We can point out that the most remarkable characteristics of the demographic transition in Latin America are the accelerated growth of the working age population (15–64 years old) and the accelerated decline of fertility. Therefore, it must be taken into account that in the next 20 to 30 years, a generation of adolescents in Latin America (aged 15 to 24) will enter the labor market and childbearing age group in an environment full of economic and social inequalities, characterized by high poverty and unemployment (Lam and Leibbrandt, 2014).
4. Economic Growth and Demographic Dividend

An indicator of this economic activity of enterprises is the production of goods and services, which is called gross domestic product (GDP). There are two reasons for using GDP as an indicator of a country's economic growth and its population. First, GDP is an indicator of an economy's income growth, because it is the sum of the income of all factors that contribute to the production process. In other words, when the economy grows, people's income will also grow. Therefore, with the growth of a country's GDP, its population is generally better than the economic situation of the previous year. Economic growth provides people with more employment options and opportunities, and it is possible to eliminate poverty, underemployment and unemployment.

Second, different economic and sociological theories (Todaro and Smith, 2009; Webster, 1990) point out that the growth of GDP leads to the improvement of the quality of life of the population. For example, it has been pointed out in history that the improvement of the quality of life of the people of a country is related to the relative abundance of material goods and services produced and provided in the country's economy and the creation of employment opportunities.

The term "economic growth" generally refers to the growth or growth of various indicators related to a country's economic activities, such as GDP itself, per capita GDP, national income, per capita income, investment, savings, power consumption, cement consumption, export, stock exchange, etc. Therefore, economists usually associate economic growth with growth in gross domestic product (GDP) or per capita output at constant prices (Weil, 2009).

A country's economic growth is achieved through two mechanisms. On the one hand, it is due to the improvement and progress of productivity, on the other hand, it is due to the growth of labor force. The concept of demographic dividend comes from the latter. In other words, the growth of products is due to more people working to produce goods and services. GDP growth is equal to the sum of productivity and labor growth rate. Therefore, GDP (or GDP per capita) can be broken down into GDP per hour of work (a rough measure of productivity growth) and working hours per worker (a measure of labor utilization). The second component is the use of the labor force through the creation of new jobs in the economy.

Therefore, economic growth is known as the first “dividend” or “dividend” of the population due to the creation of new jobs to absorb the significant increase in the working age population (total population) caused by the accelerated decline in fertility. Therefore, when more and more people enter the labor market and create jobs for them, a country’s economy will grow faster. They now obtain monetary income as producers, increase the demand for goods and services, and generate savings, which provides impetus for a country’s investment and subsequent economic growth.

A simple way to measure the impact of accelerated labor (labor supply) growth on GDP growth is to use the decomposition between productivity growth and output growth generated by labor use. In algebraic terms, the product can be represented by the following identity:

\[
\text{Total Product} = (\text{Average Labor Productivity}) \times (\text{Total Hours Worked})
\]

i.e.,

\[
\text{GDP} = (\frac{\text{GDP}}{\text{Number of workers}}) \times (\text{Number of workers})
\]

The previous expression can be rewritten algebraically in per capita terms as follows:

\[
\frac{\text{GDP}}{\text{TP}} = \frac{\text{GDP}}{\text{LF}} \times \frac{\text{LF}}{\text{WAP}} \times \frac{\text{WAP}}{\text{TP}}
\]

Where TP = total population, LF = labor force and WAP = working age population. The above expression indicates that per capita output is equal to labor productivity multiplied by labor participation rate multiplied by the proportion of working age population. By distinguishing the above expressions and after some algebraic operations, using logarithm and assuming a constant participation rate (Aiyar and Mody, 2011; Drummond, Thakoor, and Shu, 2014), it can be rewritten according to the following growth rate:

\[
\frac{\Delta \text{GDP}_{pc}}{\text{TP}} = \frac{\Delta \text{GDP}_{pc}}{\text{TP}} + \frac{\Delta \text{LF}}{\text{TP}}
\]

In other words, the per capita productivity growth rate is equal to the per capita productivity growth rate plus the proportion growth rate, which is an indicator of the demographic dividend. The calculation of the demographic dividend shown in Table 2 is intended only to illustrate and compare the situation among countries in the Latin American region.

The extraordinary economic growth (demographic dividend) generated by the change in the age structure of the population in Latin America from 1995 to 2025 is calculated by comparing (1) the growth of the working age population predicted under the assumption of a moderate decline in fertility in 1995-2025 and (2) the real value of the opposite. Among them, the proportion of working age population remains unchanged, which is equal to the observed value of the base year (1990), that is, there is no change in the age structure between 1995 and 2025, so the growth during this period is zero. The difference between (1) and (2) represents the average annual growth rate of per capita GDP during the period 1995-2025, which is due to changes in the age structure of the population.
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| Country     | Period   | WAPs * 1995 (%) | WAPs 2025 (%) | Bonus population** |
|-------------|----------|-----------------|---------------|--------------------|
| Latin America | 1995–2025 | 58.9            | 66.8          | 0.42               |
| Argentina   | 1995–2025 | 60.3            | 65.4          | 0.27               |
| Bolivia     | 1995–2025 | 55.3            | 64.9          | 0.54               |
| Brazil      | 1995–2025 | 60.3            | 67.4          | 0.37               |
| Chile       | 1995–2025 | 64.0            | 66.1          | 0.11               |
| Columbia    | 1995–2025 | 59.6            | 67.8          | 0.43               |
| Costa Rica  | 1995–2025 | 59.2            | 68.4          | 0.48               |
| Cuba        | 1995–2025 | 68.6            | 68.0          | -0.03              |
| Ecuador     | 1995–2025 | 56.9            | 66.2          | 0.51               |
| The Savior  | 1995–2025 | 55.0            | 66.5          | 0.63               |
| Guatemala   | 1995–2025 | 51.3            | 60.5          | 0.55               |
| Haiti       | 1995–2025 | 52.9            | 64.3          | 0.65               |
| Honduras    | 1995–2025 | 51.2            | 64.5          | 0.77               |
| Mexico      | 1995–2025 | 57.1            | 68.1          | 0.59               |
| Nicaragua   | 1995–2025 | 50.9            | 65.0          | 0.82               |
| Panama      | 1995–2025 | 59.9            | 66.1          | 0.33               |
| Paraguay    | 1995–2025 | 54.6            | 65.1          | 0.59               |
| Pura        | 1995–2025 | 57.8            | 66.8          | 0.48               |
| Rep. Dominicana | 1995–2025 | 58.5          | 64.1          | 0.31               |
| Uruguay     | 1995–2025 | 62.4            | 64.5          | 0.11               |
| Venezuela   | 1995–2025 | 58.3            | 66.3          | 0.43               |

*WAP: Working age population
**Annual average growth rate of per capita GDP due to the increase in the percentage of PETs
Source: Prepared according to the data of CELADE (2012).

As can be seen from Table 2, in Latin America, the proportion of people aged 15-64 will increase from 58.9% to 66.8% (CELADE forecast) between 1995 and 2025. Therefore, the annual growth rate of working age population (PET) is 0.42%. In other words, in Latin America as a whole, due to the decline in fertility and the resulting changes in the age structure of the population, the average annual growth rate of per capita GDP (demographic dividend) will increase by 0.42% in the next 30 years due to the increase of the labor force. This means that more potential producers in Latin American economies will revitalize the region’s economy in a limited time.

At the national level, El Salvador, Haiti, Honduras, Mexico and Nicaragua are the countries with the greatest potential for GDP growth due to their abundant labor force in their economies, but if these people (total population) entering the labor market during the above-mentioned period have or are creating productive employment opportunities, this growth will be effectively and better utilized. Otherwise, the accelerated growth of labor force will become an obstacle to its economic growth, rather than a driving force to promote its economic growth.

On the other hand, the bonus effect of Argentina (0.27%), Chile (0.11%), Panama (0.33%) and Uruguay (0.11%) will be weakened, and the bonus effect of Cuba (0.03%) will be negative, because the aging of the Cuban population accelerated during the above-mentioned period, which means that its labor force growth will not be enough to stimulate the economy during the reporting period. It must be pointed out that the increase of the working age population does not guarantee their automatic employment. In many cases, such population growth may lead to low per capita output growth if sufficient employment opportunities cannot be created for the growing working age population.

5. Strategies Conducive to the Demographic Dividend

During a country’s demographic transition, there is only one opportunity to make the best use of the demographic dividend, which lasts only a few decades. Therefore, decision makers and policy makers must understand and create the necessary conditions to generate demographic dividends by making better use of a country’s demographic structure.

According to Bloom (2003) there are basically four interrelated and clearly identifiable basic requirements to generate and realize the demographic dividend:

(1) The so-called demographic situation occurs in the second stage of population transition: the continuous decline of mortality, fertility and dependency ratio.

(2) The existence of qualified human resources is the real driving force in the process of economic growth. In other words, human capital investment is a necessary condition to realize the demographic dividend.

(3) The existence of policies aimed at creating an environment conducive to the creation and effective use of productive labor. These policies include: (i) economic policies that promote free markets; (ii) labor policies that make labor markets more flexible; (iii) human capital development policies, such as health care and quality education; and (iv) financial policies, such as incentives to create savings and investment.
(4) The so-called institutional and political conditions require strong institutions to ensure institutional and political stability.

On the one hand, laws need to be strengthened to ensure the implementation of contracts and respect for private property. On the other hand, actions need to be taken to improve the efficiency of government institutions and reduce corruption. (Pinto, 2011, p. 116)

The demographic dynamics behind age group changes provide the human capital needed to realize the demographic dividend. In order to maximize this economic benefit, it is necessary to invest in health, education and governance, and take appropriate economic measures to transform the change of age structure into accelerated economic growth. Therefore, strategies for economic, demographic and social policies are needed to create the best conditions for the use of bonds. Some of these strategies are as follows:

A. Implement a series of economic policies aimed at ensuring long-term growth (at least 5%). The basic strategy should promote productive investment, that is, capital accumulation and create productive employment opportunities, so as to reverse the instability of existing employment opportunities in a country’s economy.

B. Promote the reform of the financial and labor sectors. These measures should broaden the tax base to cope with the growth of productive workers, while eliminating tax evasion through formal economic activities.

In the field of work, they must improve the conditions of the labor market by reducing obstacles to first-time workers, especially women and young people, promoting job flexibility in recruitment and labor mobility, and ensure gender equality in employment opportunities, real wages and equitable social welfare. As part of job flexibility, employers themselves commit themselves to strengthening the work and technical skills of all workers both inside and outside the workplace.

C. Education policies should focus on improving the quality of the labor force as a pillar of economic growth and productivity, taking into account domestic market demand, competitiveness and technological development brought about by globalization.

D. Expand access to general health, family planning and reproductive health services, especially in socially and economically disadvantaged population groups and geographical regions, in order to reduce: (a) risks associated with diseases such as tuberculosis, malaria and HIV/AIDS, which reduce the productivity of the population in the labor market; (b) unwanted pregnancies. Only through the use of modern contraceptive methods can we effectively control the birth spacing and quantity. In other words, modern contraception is necessary because it has the potential to accelerate the reduction of population fertility to the level similar to those currently in developing countries by meeting the demand for contraception, especially among the young population. At the same time, the use of family planning also helps to improve the health of children and mothers, especially adolescent women (Kavanaugh and Anderson, 2013).

At present, the key to a country’s economic growth lies not only in the accumulation of material capital, but also in the creation of human capital. Therefore, human capital investment and its productive utilization are very important to accelerate economic growth and improve the utilization of demographic dividend.

6. Conclusion

This view of the demographic impact on the economy highlights the potential benefits of systematically reducing dependency rates and the subsequent entry of the youth into the labor market, which, despite their dynamism, have failed to create productive, fully formal and stable employment, wages and working conditions conducive to the entry of young workers into the labor market.

Latin American countries face a unique opportunity.

Economic history is “accelerating growth, reducing poverty and inequality and improving people’s living conditions” (Pinto, 2011, p. 116). This opportunity begins with a decline in fertility and dependency ratio, while the participation rate of the working age population is increased. However, this demographic phenomenon does not automatically produce a high rate of economic growth, because to realize the demographic dividend, it is necessary to make informed and “immoral” decisions to create the necessary demographic conditions for taking advantage of this economic benefit (demographic dividend). For example, in many cases, it is necessary to accelerate the population transition by reducing fertility, so as to create demographic conditions as a catalyst for realizing this economic benefit.

On the other hand, a series of economic, social and political conditions are needed to make the best use of this benefit. For example, young people entering the labor market can find stable and high-quality jobs with wages appropriate to their needs and provide health care and education to meet the needs of rapid and sustainable economic growth.

A sound financial system is also needed to enable workers to generate the savings needed for retirement, while creating financial capital to provide resources for economic growth. All these require a stable social and political environment, through effective government, a consolidated civil society and a high level of security and political tranquility.

Investing in education, health and productive activities that create jobs is essential to take full advantage of the demographic dividend. Otherwise, this economic growth opportunity may become a social nightmare in which an
increasing number of unemployed workers may contribute to social discontent and unrest through actions and behaviors that may threaten and weaken the political stability of democratic regimes in the region. (Pinto, 2011: 116–117)

In other words, the rapid growth of the working age population in the region may lead to unemployment, poverty and crime, which may be exacerbated if there is no ability to integrate an increasingly large generation of young people into the formal labor market and existing economic and social inequalities and disparities may increase and deepen. For example, in many countries of the region, the lack of education and employment opportunities has forced young people to join organized crime and other forms of crime. It must be noted that in 2013, the unemployment rate of young people aged 15–24 in 11 Latin American countries was 14.5% and 14.0%, respectively (International Labor Organization, 2014). Therefore, a country’s population structure may also become an obstacle to economic growth rather than a promoter.

Finally, the most important lesson learned from this experience is that population is a valuable resource for economic growth, and reducing the economic dependence rate does not necessarily lead to the acceleration of a country’s economic growth. However, the latter also depends on an enabling institutional and economic environment and the existence of specific sociopolitical dynamics that help to create conditions for promoting and accelerating a country’s growth and improving the living conditions of its people.

Conflict of Interest

The author declared no conflict of interest.

References

Aiyar S and Mody A. (2011). The demographic dividend: Evidence from the Indian states (IMF Working Paper 11/38) [online]. Available from: https://www.imf.org/external/pubs/ft/wp/2011/wp1138.pdf.

Bloom D and Williamson J. (1998). Demographic transition and economic miracles in emerging Asia. World Bank Economic Review, 12(3):419-456.

Bloom D, Canning D and Seville J. (2003). Demographic Dividend: A New Perspective on the Economic Consequences of Population Change. Santa Monica, California: RAND.

Bloom D, Canning D and Malaney P. (2000). Population change and economic growth in Asia. Population and Development Review, 26(Suppl.):257-290.

Bloom D, Humair S, Rosenberg L, et al. (2014). Capturing a demographic dividend: Source, magnitude and realization. In: Soucat A and Mthuli N (eds.). One Billion People, One Billion Opportunities. Washington, D.C.: African Development Bank, Communications Development Incorporated.

Coale A. (1973). The demographic transition reconsidered. Proceedings of the International Population Conference. Liege, Belgium: Liege International Union for the Scientific Study of Population, p. 53-57.

Coale AJ and Hoover EM. (1958). Population Growth and Economic Development in Low-income Countries. A Case Study of India’s Prospects. Princeton: Princeton University Press.

Davis K. (1945). The world demographic transition. Annals of the American Academy of Political and Social Science, 273:1-11.

Drummond P, Thakoor V and Shu Y. (2014). Africa rising: Harnessing the demographic dividend (IMF Working Paper 14/143) [online]. Available from: https://www.imf.org/external/pubs/ft/wp/2014/wp14143.pdf.

Giorguli S. (2009). Demografía y economía en el México de hoy [Demography and economy in Mexico today]. In: National Population Council, Population Policies in Mexico. Debates y propuestas para el Programa Nacional de Población 2008-2012 [Debates and Proposals for the National Population Program 2008-2012]. Mexico D.F: National Population Council.

Gribble J and Brenner J. (2012). The Challenge of Attaining the Demographic Dividend. Policy Brief. Washington D.C.: Population Reference Bureau.

International Labor Organization. (2014). Panorama Laboral 2014 América Latina y el Caribe [Employment Profile in Latin America and the Caribbean, 2014]. Peru: Lima.

Kalache A. (1997). Demographic transition poses a challenge to societies worldwide. Tropical Medicine and International Health, 2(10):925-926.

Kirk D. (1996). Demographic transition theory. Population Studies, 50:361-387.

Lam D and Leibbrandt M. (2014). Youth Bulge and Youth Unemployment in Developing Countries. Paper presented at the Eighth Annual Research Conference on population, reproductive health and economic development in Nairobi, Kenya.

Latin American Population Center. (2012). Population Observatory. Population Projections. Santiago, Chile: United Nations.
Lee R and Mason A. (2006). What is the demographic dividend? *Finance & Development*, 43(3).

Lee R, Lee SH and Mason A. (2007). Charting the economic lifecycle. *Population and Development*, 33(27):208-237.

Malthus TR. (1798). *An Essay on the Principle of Population*. Cambridge, UK: Oxford Press.

Mason A. (2005). *Demographic Transition and Demographic Dividend in Developed and Developing Countries*. Mexico: United Nations.

Pinto G. (2011). El bono demográfico: una oportunidad de crecimiento economic [The demographic dividend: An opportunity for economic growth]. *Umbrales*, 22:157–173.

Rosero-Bixby L and Robles A. (2008). Demographic dividend and the economy of the vital cycle in Costa Rica. *Papeles de Población*, 55:1-25.

Todaro M and Smith S. (2009). *Economic Development*. Boston: Addison-Wesley.

Van de Walle E and Knodel J. (1967). Demographic transition and fertility decline: The European case. *International Federation for Population Science Research, Contribution Paper*, Sydney conference, 1967 August 21-25. Liege, Belgium: IUSSP, p. 47-55.

Webster A. (1990). *Introduction to Sociology of Development*. 2nd Ed. Atlantic Highlands, New Jersey, USA: International Humanities Press.

Weil D. (2009). *Economic Growth*. 2nd ed. Boston, USA: Pearson, Addison Wesley.

Williamson JG. (2013). Demographic dividend revisited. *Asian Development Review*, 30(2):1-25.

Wongboonsin K, Guest P and Prachuabmoh V. (2005). Demographic change and demographic dividend in Thailand. *Asian Population Studies*, 1(2):245-256.