DEMOGRAPHIC DIVIDEND AS A DEVELOPMENTAL CONCEPT

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Abstract

The changes in the population's age composition have emerged as a key focus in developmental studies over recent decades. The implications of age-specific population dynamics are centred within the concepts of demographic dividend, according to which demographic changes can positively influence economies. When a country experiences a particular configuration of its population age structure, it can lead to an acceleration of economic growth known as the demographic dividend. However, the impact is not deterministic but contingent upon policy and institutional settings. This article aims to elucidate the demographic dividend as a developmental concept. The first part presents an overview of policy frameworks for demographic dividend achievement, arguing why, given preconditions for its achievement, the demographic dividend represents a developmental concept. In the second part, the study is taking evidence of the potential demographic dividend and the beneficial period of the demographic window of opportunity from selected countries. The growth rate of the conventional and economic support ratios have been instrumental. Presenting the developmental perspective, the article argues that the demographic dividend goes beyond the economic growth issue.

Keywords: demographic window of opportunity, demographic dividend, developmental policies

JEL: O10, O29, J11

Introduction

Demographic dividend and demographic window of opportunity present two phenomena that relate age structure changes to their possible implications for economic development. In particular, the demographic window of opportunity presents the period of the age structure transformations when the working-age population prevails over the dependent population - children and elderly. The

demographic dividend presents the potential economic development acceleration resulting from these age structure dynamics. The concept of the demographic dividend was formalised in the late 1990s in the context of East Asian tigers, explaining about one-third of their economic miracle between 1965 and 1990 during their demographic transition (Bloom and Williamson, 1998). The idea of the demographic dividend has become a central framework in population and developmental debate in the context of late transitional countries, questioning to what extent these countries can benefit from changes in the age structure as the Asian tigers did. The answer relied on proper policies and institutional settings, which have a significant impact on the demographic dividend achievement.

This article addresses the question of the demographic dividend as a developmental concept. While the demographic dividend concept is mostly viewed either as a demographic or economic concept, this article attempts to contribute to the narrative of the demographic dividend, drawing attention to its developmental essence. This view, although specified in the comprehensive literature such as Pace R. et al. (2016) and Canning et al. (2015), is generally quite overlooked. Nevertheless, the demographic dividend has a bold applicability in the developmental aspect: to benefit from the demographic window of opportunity period, necessary developmental policies should be implemented. The article underlines the developmental essence of the demographic dividend phenomena, discussing the main policy frameworks on the issue. It also takes evidence from selected countries on the demographic window of opportunity and the demographic dividend phenomena. The result of the analysis supports the view of the non-deterministic nature of the demographic dividend phenomenon, which, influenced by the age structure dynamics and country-specific context, critically depends on countries' reaction through proper policies and programmes to harness the benefits of the demographic window of opportunity period.

1 Theoretical framework

The idea of development is comprised of several ways in the conceptual framework of the demographic dividend: (1) from the view of demographic evolution framed in the theory of demographic transition and its implication to economic and societal development, and (2) in terms of accelerated economic growth, expressed in conventional indicators of income per capita, GDP, etc. Originally, the concept of the demographic dividend was constructed to explain the links between the demographic transition and economic growth, and the main focus of the literature has

been on economic outcomes (Canning et al., 2015). The demographic window of opportunity can act on economic development through a set of mechanisms: labour participation increase, savings and human capital accumulation. Acting on these mechanisms through targeting policies and programs would involve positive implications for human development as well.

The concept of demographic dividend states that the achievement of a demographic dividend is realised under conditions focusing on macroeconomic stability and policies to regulate employment and to improve health and education of the population (Groth et al., 2019). Because of the measures involved in achieving the demographic dividend in terms of developmental policies and programs, the demographic dividend has been accepted as a concept not only of economic development but also of human development (Canning et al., 2015).

Relying on the experience of East Asian countries, obtaining the demographic dividend was possible due to certain favourable conditions in which development policies and institutions have had their central place. The earlier work on the topic "The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change“ (Bloom et al., 2003) is representative for further studies. The framework incorporates the opening of the economy and flexibility in the labour market that would allow to absorb the excess of labour. It also includes policies and programmes focused on education and health. I focused also on reproductive health, ensuring provision with contraceptives that initiate the decline in child mortality, leading to a decline in fertility and initiating the age structure transition. Health policies also include improved sanitation, immunisation programs, and the provision of antibiotics.

The indicators improvement approach presents a framework proposed by Groth, May and Turbat (2019), classifying the policies for obtaining the demographic dividend into necessary and sufficient policies. These policy groups are concerned with improvement indicators that should lead to demographic dividend achievement. The first set of policies concerns the improvement of the dependency ratio, implying family planning, reproductive health and reducing child mortality. The second set of indicators is related to the employment dependency ratio, which addresses reducing unemployment, especially among the youth, and ensuring the proper functionality of the labour market. The third group of policies addresses the improvement of the socio-economic dependency ratio, referring to human capital, to allow for the necessary level of consumption and to support the population in poverty. Barrientos and Hulme (2009) also acknowledged the growing

consensus around the view that social protection presents an essential component of social development strategies.

Yet other prerequisites for a demographic dividend exist, such as the quality of governance, especially in terms of stability, accountability, and anti-corruption measures. These require a medium—to long-term vision that may be quite difficult to implement (Zuber et al., 2017), making the achievement of the demographic dividend a challenge. It should also be mentioned that development programmes and policies may already be embedded in a country's development strategies. Pace and Ham-Chande (2016:viii) summarise: "Since the simple demographic window does not guarantee a demographic dividend, attention should now be focused on the ability of each nation or society to implement conditions required by the demographic dividend, which are not different from regular development policies.“ The demographic dividend policy framework allows, though, in addition to regular developmental policies, some kind of urgent guidance in developmental strategies adapting to the population's age composition changes.

2 Data and methods

Data. The article presents two phenomena: the demographic window of opportunity and the demographic dividend. Two data sets, World Population Prospects (2022) and NTA data series (2022), are utilised to analyse the age structure fluctuations and their potential economic effect. World Population Prospects data are used to assess the demographic window of opportunity, and NTA data series are used to assess the demographic dividend.

Countries selection. This paper took evidence from six selected countries: Singapore, the Republic of Korea, Ireland, South Africa, Uzbekistan, and Moldova. Those countries started their demographic transition after the 1950s, allowing for a quite comparable timeframe and within a quite comparable global context to analyse the two phenomena of demographic dividend and window of opportunity. Singapore, the Republic of Korea and Ireland experienced significant economic boosts during their demographic transition (Bloom et al., 2003; Bloom and Williamson, 1998) and, along with other East Asian tigers, present hallmarks of the demographic dividend achievement. This article compares these countries with the others to observe how demographic dividends have manifested. Uzbekistan and Moldova are two post-soviet countries for which demographic conjuncture was quite specific. In addition, Uzbekistan, as well as South Africa, is representative of the late transitional countries. By taking evidence from these countries, it aims to

observe how the age structure dynamics impact the potential demographic dividend while also assessing the potential barriers to its achievement.

Methods. This article presents a general assessment of the demographic dividend and demographic window of opportunity that allows to observe the differences among selected countries in the patterns of the manifestation of the two phenomena. This study utilises the growth rate approach to assess the demographic window of opportunity and the demographic dividend. As the demographic window of opportunity is strictly a demographic phenomenon, age structure dynamics are accounted for through the conventional indicator of support ratio - a standard measure for assessing the age structural composition of the population and its evolution:

$$SR(t) = \frac{P(15-64)(t)}{P(total)(t)}$$

An increase in the support ratio will indicate the occurrence of the demographic window of opportunity period. The demographic window of opportunity will be closed when the rate of growth of the demographic support ratio is negative. The demographic window of opportunity period assessment results are confronted with the demographic dividend configuration, with the quest of to what extent the demographic dividend has been manifested during the demographic window of opportunity.

Accounting for the demographic dividend implies an assessment of the interlinkage between age structure dynamics and economic characteristics. In this sense, the NTA methodology presents a basic assessment of the demographic dividend, providing information on the economic support ratio that captures characteristics of age-specific production and consumption patterns of the population (Abio et al., 2023). The economic support ratio is defined as the ratio of the effective number of producers (L) to the effective number of consumers (N):

$$ESR\ (t) = \frac{L(t)}{N\ (t)} = \frac{\sum_x y(x)\ \text{x}\ \text{P}(x,t)}{\sum_x c(x)\ \text{x}\ P\ (x,t)}$$

Where c (x) is an age-specific weight of consumption; γ(x) is an age-specific weight of production; and P(x, t) is the population of age x in year t. Income per effective consumer, y(t) = Y(t)/N(t), can be written as a function of two multiplicative factors:

$$y\ (t) = \ ESR(t)\ \text{x}\ y_l(t),$$

where $ESR(t) = \ L(t)/N(t)$ s the economic support ratio of the number of effective workers to the number of effective consumers, and $y_l(t) = \text{Y}(t)/\text{L}(t)$ is the average income per worker (Dramani & Oga, 2017). Assuming a constant average income per worker, a one per cent increase

in the economic support ratio will lead to a one per cent increase in income per effective consumer. The demographic dividend is presented when the growth rate of the economic support ratio is positive.

3 Results

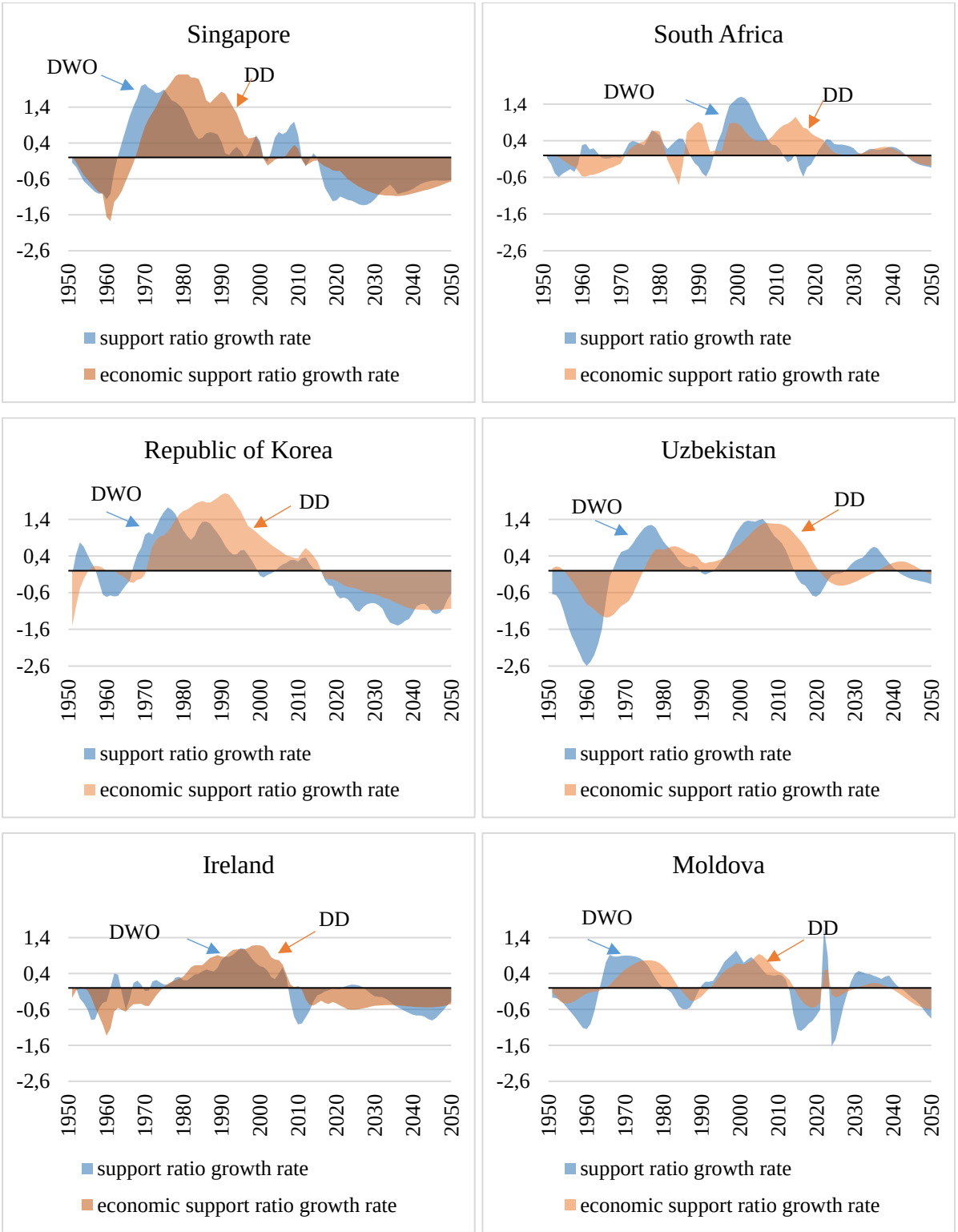
This chapter presents evidence from six selected countries on the demographic window of opportunity and demographic dividend: Singapore, Ireland, the Republic of Korea, the Republic of South Africa, Uzbekistan and Moldova.

Ireland, the Republic of Korea and Singapore present examples of cases where economies have benefited from their age structure transition. South Africa and Uzbekistan are two late transitional countries where the demographic window of opportunity has opened more recently. Their demographic transition has occurred in different contextual settings and experiences different demographic trajectories from the classic age structure transition. These situations have led to different levels of the manifestation of the demographic dividend (fig.1).

The demographic window of opportunity is present in the periods between 1972 and 2007 in Ireland, between 1963 and 1992 in Singapore and between 1967 and 1989 in the Republic of Korea. These three countries have benefited from their window of opportunity and obtained good results on the demographic dividend achievement (fig.1). However, in Singapore and the Republic of Korea, the achievement of the demographic dividend has occurred lately after the window of opportunity was opened. By contrast, in Ireland, the demographic dividend occurrence mirrors the demographic window of opportunity period. It can also be observed that in these three countries, the demographic dividend is significantly and more prominent than the age structure dynamics, presenting thus a consistent realisation of its potential. It reveals a constructive balance between production and consumption levels, leading to positive results during the beneficial period of the window of opportunity.

The occurrence of the demographic window of opportunity in the Republic of South Africa presents a short period between 1994 and 2011. The state faces important challenges in harnessing the demographic dividend, including high unemployment, educational deprivations in terms of quality and accessibility, and struggles with public health services, including HIV pandemics during its window of opportunity (Bloom et al., 2003).

Fig. 1 Demographic and economic support ratios, selected countries, 1950-2050 period



Source: World Population Prospects (2022) of the UN DESA, own calculation and NTA Network (2022) NTA Indicators accessed on 15.08.2024, www.ntaccounts.org.

Human capital improvement, though, was not the only one in the Republic of South Africa: underdeveloped infrastructure and limited public service access hinder economic and social development. In addition, political and economic changes create an uncertain environment, discouraging investment and economic growth. Due to these challenges, South Africa struggled to obtain a demographic dividend during its window of opportunity. Nevertheless, as the environment became more beneficial, the dynamics of the economic support ratio improved, leading to a continuation of the demographic dividend in Africa after the demographic window period (fig.1).

As in Moldova's case, the dynamics of the economic support ratio in Uzbekistan follow a configuration of more than one demographically beneficial period. The demographic window of opportunity in Uzbekistan was between 1968-1989 and 1994-2014 (fig. 1). However, the magnitude of the demographic dividend in the first period was relatively small. As population developmental policies started to be implemented, the demographic dividend was more prominent in the following beneficial period, between 1994 and 2014 (fig. 1).

The demographic window of opportunity in Moldova was in the period of 1964 and 1979 as well as between 1990 and 2012. Concerning the demographic dividend achievement Moldova’s case is quite between these extremes (fig. 1). It may be representative of other countries which did not lose the benefits of the window of opportunity nor fully harness its potential. As in the case of small countries, markets could be quite volatile and reactive to demographic changes, positively impacting the demographic dividend achievement. Still, the preparedness of institutions in terms of their modernisation will also be a critical determinant of the demographic dividend, which, in the case of Moldova, was not allowed to harness the full potential of the demographic window of opportunity.

This short representation of the two phenomena in selected countries does not fully cover the institutional context and developmental environment that lead to the diversity in the realisation of the demographic dividend. Nevertheless, it still draws attention to the demographic dividend's non-deterministic nature and the importance of developmental policies for its achievement.

Conclusions

The demographic dividend is a concept of development both in terms of the result achieved—the acceleration of income per capita—and the means involved, which are developmental policies. The demographic dividend has a strong non-deterministic nature. While age composition may present

benefits to economic development, the capacity of the markets and institutions to react and adapt will determine the level of the demographic dividend achievement.

The essence of the demographic dividend as a developmental concept stays in its applicability part—economic development can be accelerated if necessary developmental policies are present. The necessaire policy frameworks will include a holistic view of human capital development, which focuses on reproduction health and addressing the education and employment deprivation of the population. The developmental framework is also enriched with the quest for the quality of governance regarding stability, accountability and anti-corruption measures. Overall, apart from the scope of the demographic dividend achievement, these developmental policies have reason to be on their own; the demographic dividend framework, though, is adding a kind of urgency to its implementation, adapted according to demographic dynamics.

The empirical analysis shows the diversity of the demographic dividend presence according to the age structure dynamics of the demographic window of opportunity period. It draws attention to the demographic dividend's non-deterministic nature and the importance of ensuring the necessary developmental context for its achievement at the country level.

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