THE IMPACT OF DEMOGRAPHIC TRENDS ON SUSTAINABLE COMPETITIVENESS: A CASE STUDY OF CROATIA AND SERBIA

UTJECAJ DEMOGRAFSKIH KRETANJA NA ODRŽIVU KONKURENTNOST: STUDIJA SLUČAJA HRVATSKE I SRBIJE

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Abstract: *Discussions about the impact of population changes on economic growth have, until recently, largely neglected and/or underestimated the significance of population's composition by age groups. This issue was again debated by the World Economic Forum in its latest report. That is why we shall, first of all, summarize considerations concerning features of demographic transition in developed countries. Then we will determine whether Croatia and Serbia resemble similar pattern of age-structural transition. The aim of this paper is twofold: a) to warn to potential consequences of existing and upcoming unfavorable demographic trends on future competitiveness; b) to offer a review of possible solutions to mitigate effects of the aforementioned trends.*

Key words*: demographic transition, age structure of population, sustainable competitiveness*

Sažetak: *Rasprave o utjecaju populacionih promjena na gospodarski rast su sve do nedavno u velikoj mjeri zanemarivale i/ili podcjenjivale važnost kompozicije stanovništva po dobnim skupinama. Ovo pitanje je ponovo aktualizirano u najnovijem izvješću Svjetskog gospodarskog foruma. Stoga ćemo, prije svega, sažeti razmatranja o značajkama demografske tranzicije u razvijenim zemljama. Potom ćemo utvrditi da li Hrvatska i Srbija nalikuju ovom obrascu dobno-strukturne tranzicije. Cilj ovog rada je dvostruk: upozoriti na potencijalne posljedice postojećih i nadolazećih nepovoljnih demografskih kretanja na buduću konkurentnost.*

Ključne riječi: *demografska tranzicija, dobna struktura stanovništva, održiva konkurentnost*

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1. Introduction

With certain exceptions (at least when social and economic concepts of sustainable development are considered), such as, for example, the report of the Center for International and Strategic Studies attempting to measure the "sensitivity" of the developed economies on the increase in costs caused by the aging of the population [8], discussions about the impact of population changes on economic growth until recently, generally underestimated the significance of the so-called age-structural transition [2], [3], [15]. However, in its latest report the World Economic Forum [19] pointed out that structural aging of the population is not only demographical, but also social and economic problem that can cause a drop in productivity and jeopardize national competitiveness in the long run. Bearing in mind the importance and urgency of the subject, we structure this paper as follows: first of all, we will indicate features of demographic transition in developed countries; then, we shall focus on its characteristics in Croatia and Serbia, in order to determine the extent of their demographic “similarity” to developed countries; finally, we shall analyze potential consequences of age-structural transition and possible solutions to mitigate the effects of existing and announced unfavorable demographic trends. Our approach applies methods of descriptive statistics (relying on latest available data and projections of the United Nations), since the length of time series for Croatia and Serbia does not allow any serious econometric analysis of this issue.

2. The dynamics of demographic trends in developed countries

Having considered theoretical analysis in the regard of demographic transition, to our opinion its main features in developed countries can be sublimated in the following way:

First, the share of working age to total population and its composition are important factors that indicate *the potential for economic growth* [10], [12]. In other words, demographic transition that leads to "domination" of working-age in total population represents just a chance and an opportunity for a country which can be eventually materialized (in the form of raising productivity and higher growth rates). Recently, some authors argue that the demographic composition of working age population is extremely important, particularly the proportion of those belonging to the most productive working age. Thus, for example, some authors [16] claim that the initial share of labor force aged 30-49 years dominantly influences economic growth in thirty-year period on.

Second, in some developed countries, *acceleration of demographic transition has played an important role in the emergence of modern growth*, since it made possible converting gains from capital accumulation and technological progress in the growth of per capita income [6]. This phenomenon is very well known in the literature as "demographic dividend". It occurred in those economies in which the raise of share of working age population had positive impact on output per worker (i.e. productivity). Thus, for example, has happened in East Asia, where one third of the achieved results can be attributed to the exploitation of favorable demographic circumstances [2].

Japan, too, falls into the category of countries that have "experienced" so-called "population bonus" [17].

Third, the *demographic dividend is not an inevitable thing*, quite the contrary - it has to be "earned". Hence, it is considered to be time limited "demographic gift" [7] producing positive economic effects if appropriate economic policy's decisions (that had or still have a direct and an indirect impact on the pace of demographic transition, economic growth and development) are existing and being applied.

Fourth, *demographic bonus* that appeared in the twentieth century *seems to be expired* [5]: favorable trends are over, and future projections are pessimistic. Specifically, the share of working age population in developed countries which was growing up during the period 1970-2005 (when it reached 63%), now shows the tendency of decrease. Its declining trend will continue, particularly due to extremely unfavorable tendencies in Europe, expected to experience an annual decrease of working age population for 0.61% [18].

Fifth, *potential and actual implications of transition from the phase of demographic bonus to the period of demographic onus* [17] *become certain and obvious*. In fact, in some countries the effects of the above mentioned changes have already occurred. For example, Italy, Spain, Japan, Korea, Singapore, Taiwan experienced reduction of work force and increase of the share of elderly population [2], [14]. In other countries serious consequences of age-structural transition are supposed to be apparent in ten to twenty years. The ratio of "potential support" (the reciprocal value of old dependency ratio), which in most European countries at the beginning of this century was approximately 4, according to the estimates for mid-XXI century will be about 2 [18]. At the time difficulties in terms of efficiency and competitiveness will then be further complicated [7]. To be more precise, this phenomenon imposes new challenges in the sphere of distribution, leads to lower productivity growth, less flexibility in the labor market, increased costs of health insurance, nursing and health care [15], [17].

Sixth, *accounting effects of demographic changes* that were positive in Western Europe during 80-ies [16], *now become negative ones* – they cause slowing of economic growth [9], [3]. Still, since these effects can be partially compensated by the influence of behavioral factors (such as increases in labor force participation, investment in human capital etc.), the final, cumulative impact of age-structural transition in developed countries on productivity, competitiveness and economic growth is theoretically indefinite yet [3], [15].

3. Demo-economic transition of Croatia and Serbia

Region of Southern Europe either has not experienced above mentioned positive effects of demographic transition in comparison with other areas [16] or it failed to "benefit" from them [3], [5]. Both of these arguments seem to be valid in the case of Serbia and Croatia, since their demographic indicators are quite ambiguous. In the last decade of XX century some parameters indicate that the demographic "window" was not "closed". The share of working-age in the total population was 67.2% in Serbia and 68.2% in Croatia, whereas a proportion of those aged 65 and over has

been at levels 9.6% and 11.3%, respectively [18]. Serbia, along with Albania and Russia, at the time had the lowest percentage of elderly population in Europe [5]. Besides, when we analyzed shares of most productive group in total as well as in working age population and compare these indicators with those achieved by other regions in Europe, results appeared to be similar and rather promising. Share of population aged 30-49 in total population, during the period 1990-2010, was on average 28.5% in Croatia and 27.5% in Serbia, whereas the shares of the same group in working age population were 42% and 41%, respectively. These values mainly corresponded to those achieved by Western and Northern Europe, respectively.

On the other hand, when we calculate other parameters (using available data) the situation appears to be different. Share of children and young people up to 30 years in Croatia reached 41.04% in Croatia and 44.75% in Serbia, while the shares of those aged 60 and above were 17.11% and 15.33%, respectively. According to the criteria of division of the world's population by age structure [11], countries with mature age structure have less than 45% of population below 30 years, up to 25% population aged 60 and over and fertility rate below replacement level. Therefore, demographic transition itself (i.e. without any "assistance" of economic transition) produced mature age structure in Croatia and Serbia.

To make this situation more complicated, the last decade of XX century was the embodiment of the simultaneous ongoing of two types of transition that were not independent of one another: demographic (which began several decades earlier) and economic and social one (being in its infancy at the time).

Decline in total fertility rate below replacement level (2.1) begun in the seventies, continued to the end of the last century when (as a by-product of economic transition) reached 1.74 for Serbia and 1.54 for Croatia, and its decreasing tendency is expected in the first half of this century [18]. Obviously these countries are facing with depopulation process, which can produce an extremely negative implication in the form of rapid population declines [14]. In the group of 49 countries whose population will be shrinking in the mid-century at least ten percent are, among others, Bosnia and Herzegovina, Bulgaria, Croatia, Serbia, Russia, Romania etc [18].

Changes in age structure are moving in the direction of absolute and relative decrease of the share of young people simultaneously with an increase of the share of old generations. In this respect Croatia and Serbia belong to the economies characterized by the so-called post-demographic transition [12], [15].

At the end of last century, potential support ratio was above the European average (4.32 for Croatia and 4.87 for Serbia). Relying on projections made by UN [18], we calculate that approximately in ten years this ratio is supposed to have a more rapid decline, whereas in mid-century it will reach 2.07 for Croatia and 2.43 for Serbia. And when we now analyze shares of most productive group in total as well as in working age population for the period 2010-2030, we cannot help noticing that situation would be changed. Precisely, in next twenty years, these indicators will exhibit decreasing tendency: share of population aged 30-49 in total population will be on average 23% in Croatia and 26% in Serbia, whereas the shares of the same group in working age population will be 38% and 40%, respectively. Unlike regions of Northern and Western Europe, which would keep relatively stable proportion of

most productive group in working age population, Serbia and particularly Croatia seem not to be capable to do so. Total dependency ratio dramatically increases and the effects of aging on further economic and demographic evolution are expected to become apparent during this decade. Specifically, fewer generations of those born in a time of economic transition are growing up to the contingent of the working age population (as the main source of active population), and the problem is emphasized due to decline of their participation in the labor market caused by extension of the period of schooling (being sometimes involuntary response to reduced opportunities for finding a job immediately after graduation). Changed structure of the population is no longer demographic problem *per se,* since economic transition (characterized by poor economic conditions and the failures in human resource management) even worsened already unfavorable trends and disordered demographic transition. The migratory movements (i.e. more rapid emigration) were causing not only population's decline at the moment, but also long-term demographic implications (loss of potential, future offspring). Emigration of more than 170000 people from Croatia and about half a million people from Serbia during the period 1995-2005 [18] initiated structural changes since moving out of highly educated, younger population produced additional negative consequences for productivity, economic growth and development.

What possibilities do these countries have at their disposal to make negative demographic pulses easier to cope with? Roughly speaking, the solutions can be divided into demographic and non-demographic ones [5]. Available demographic solutions appear to be questionable: in the short term increase of the potential support ration is possible by means of migration, while in the long run it is feasible by increasing the fertility. Although only fertility rate substantially change the composition of population groups [1], in case of Croatia and Serbia this option has no chance since deficit of the population created by low birth rates cannot be compensated under the circumstances when these rates become even lower. In addition, although the overall benefits of migration of skilled labor are doubtless, the very idea that it would represent a kind of economic "salvation" for Europe is completely rejected, because its effects are not huge [5], [6]. On top of everything, according to their growth rates, Croatia and Serbia are lagging behind countries of European Union. That is why they are not considered to be an attractive area for immigration.

Non-demographic solutions are related to improvements in the educational sphere, adjustments in labor market, pension system, age of retirement etc [5]. Increased investment in education of working age population is an important determinant having positive impact on economic growth [13]. After the peak reached at the beginning of this century, the absolute size of the workforce is reducing, and its educational profile (influenced by the trend of global education) improves. And if labor inputs continue to decline owing to technological changes, the combination of less numerous but better educated workers can represent exactly what labor market need at the moment. What remains questionable is, however, whether higher educational attainments are able to compensate the above mentioned reduction of the

labor force [14]. In addition, less developed European countries are generally facing with problems of unreformed labor markets and pension systems, and frankly speaking those countries being (from demographic point of view) in the worst position are (at the same time) the ones experiencing the largest institutional problems [8]. Therefore, they need an adequate combination of "answers" for the proper management of these changes [5].

5. Conclusion

Demographic transition has left the legacy in the form of an aging population in the XXI century to many developed countries. Croatia and Serbia resemble the same pattern in the regard of declining fertility, dropping share of working age in total population and increasing proportion of elderly. However, the situation in this area is even more complicated due to the fact that demography's disturbances were worsened by economic transition itself. That is why available demographic solutions are not applicable. Judging by what developed economies have already experienced, accounting effects of analyzed demographic changes are negative – they inhibit economic growth. In order to (at least partially) compensate unfavorable accounting effects, it is necessary to make (if feasible and possible) behavioral adjustments, whose analysis may be the subject of some further research.

6. References

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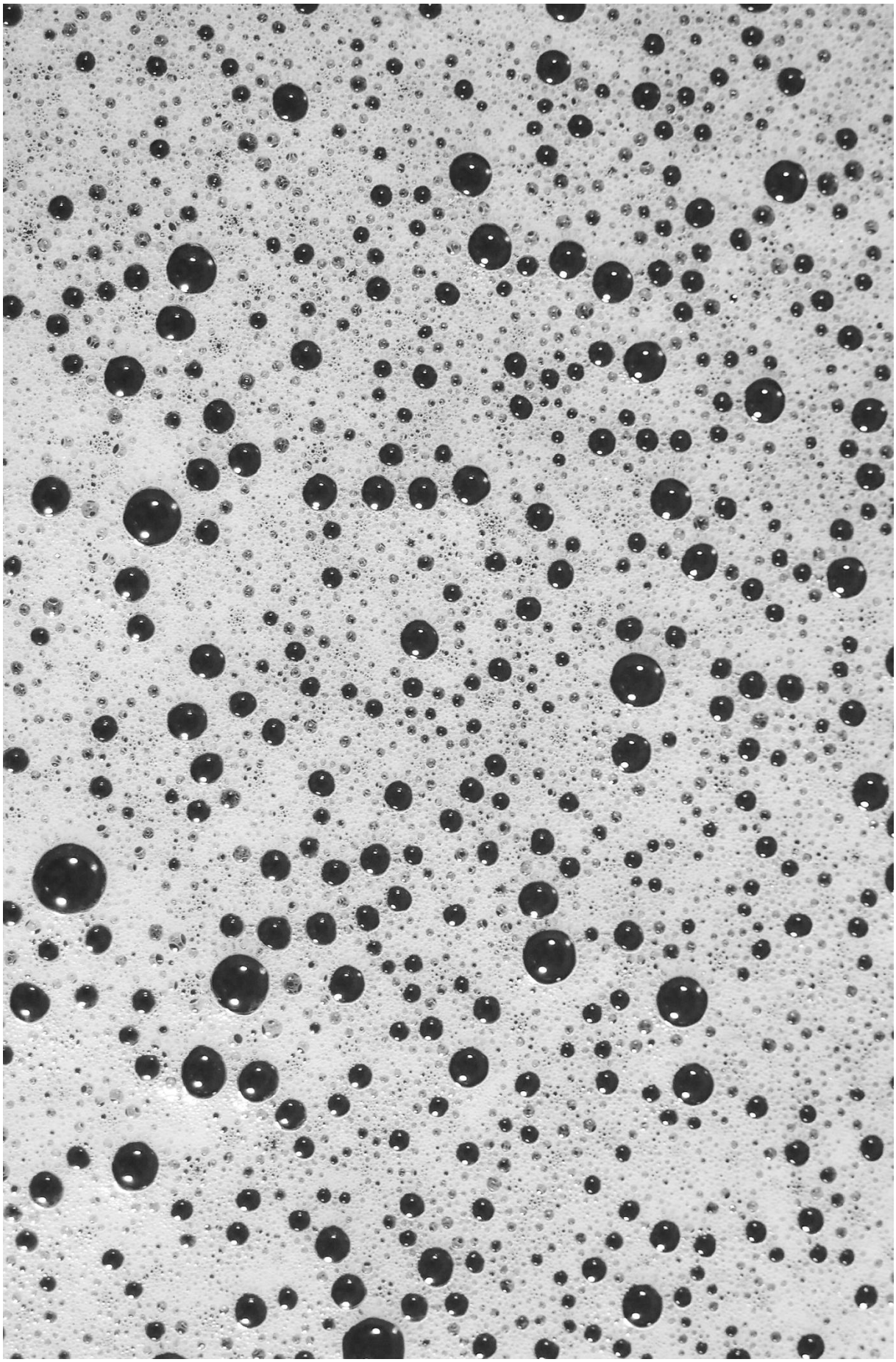

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