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Debates on the New Role of the State and Fiscal Policy in the Projection of Demographic and Technological Changes

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Abstract

There is a demographic transformation process that has never been experienced before, both in developing and developed countries all over the world. In addition to this process, the Industry 4.0 process and the very rapid development in artificial intelligence have created the need to re-define and discuss the role of the state in the economy and the effectiveness of fiscal policies. In this context, the study will discuss the role of state and fiscal policy in the coming period within the framework of demographic and technological developments in the world. The discussions on this issue will be summarized and the possible change scenarios regarding the unemployment problem and taxation in the coming period will be examined, especially in terms of fiscal policy.

Keywords: Fiscal Policy, Demographic Window of Opportunity, Labor Market
Jel codes: H10, H30, J11



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1. Introduction

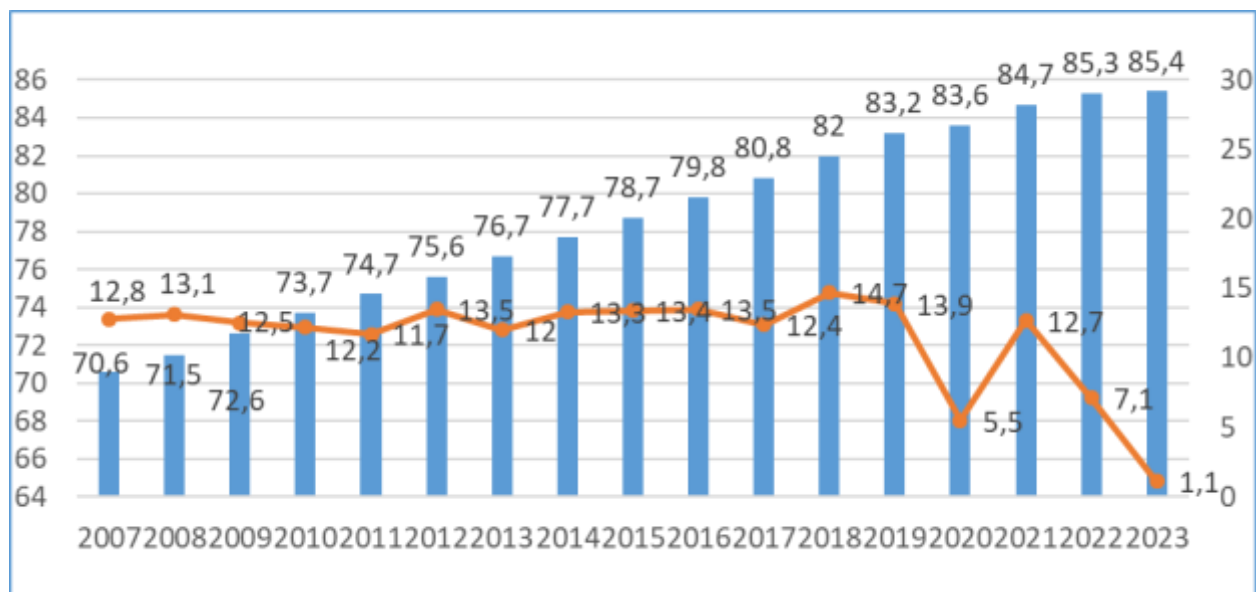
It is possible to say that the world has entered a new era as of the 2020s. It is anticipated that there will be sharp transformations in production processes, especially after Industry 4.0. In addition, there have been great developments in artificial intelligence technology in the last two years. This situation will bring about a re-discussion of the role of the state in the economy, especially in the coming period. The fact that technological transformation has led to major transformations in the labor market has brought about universal basic income discussions.

Another concept that determines the role of the state in the coming period will be demographic transformations. Irregular migration movements all over the world show that the structure of the population is changing in developed and developing countries and that a new era has begun. Türkiye, a developing country, is experiencing these transformations to a great extent. This situation shows that fiscal policy practices will be discussed frequently in the coming period. While designing a new fiscal policy, incentive policies, especially in taxes and public expenditures, need to be reconsidered, taking into account demographic changes, industry 4.0 process, and artificial intelligence transformations.

2. Demographic Changes and Fiscal Policy in Türkiye

Inflation, which has become an increasingly bigger problem and the inadequacy of monetary policy in solving this problem, has increased the importance of fiscal policy practices. Especially with the changing demographic structure, fiscal policy in the upcoming period has gained significant importance. In this context, the study will discuss the subject through the demographic transformation in Turkey.

TÜİK (Turkish Statistical Institute) announced the results of the population census conducted in 2023 with the Address-Based Population Registration System (ADNKS). There was a serious decrease in annual population growth in 2023. The population, which increased by 7.1 per thousand in 2022, increased by 1.1 per thousand in 2023. The proportion of the population in the 15-64 age group, defined as working age, was 66.5% in 2007 and 68.3% in 2023. On the other hand, the proportion of the population in the 0-14 age group, defined as the child age group, decreased from 26.4% to 21.4%, while the proportion of the population aged 65 and over increased from 7.1% to 10.2%.



Graph 1. Population and Population Growth Rate 2007-2023

Source: TÜİK

The most striking result reflected in the graph is that the population growth rate in Turkey has started to decrease. The population growth rate, which was 12.8% in 2007, decreased to 1.1 percent in 2023. This ratio indicates a very critical level. In order for the population to renew itself, the population growth rate must not fall below 2.1 percent. The fact that this rate falls below the critical level in Turkey indicates a serious problem.

The population living in provinces and districts is 79.4 million, constituting 93% of the total population. The population living in towns and villages is approximately 6 million, making up about 7% of the total population. One of the possible problems in the coming period sustainability of agricultural production as a result of the low proportion of people living in rural areas. Another problem is the clustering of the population in certain problems. 38 percent of the population of more than 85 million lives in five major provinces. (Eğilmez, 2024)

Table 1. Distribution of the first 5 provinces with the highest population by gender, 2023

Proportion in total population (%)						
Provinces	Total	Male	Female	Total	Male	Female
İstanbul	15 665 924	7 806 787	7 849 137	18,34	18,27	18,41
Ankara	5 803 482	2 860 361	2 943 121	6,8	6,69	6,9
İzmir	4 479 525	2 221 180	2 258 345	5,25	5,2	5,3
Bursa	3 214 571	1 605 941	1 608 630	3,77	3,76	3,77
Antalya	2 696 249	1 357 198	1 339 051	3,16	3,18	3,14

Source: TÜİK

Istanbul alone hosts nearly a quarter of the country's population, and with this population, it has a larger population than many countries in Europe. Ankara, Izmir, Bursa and Antalya are our other cities with high populations. One of the important theses in Turkey's accession process to the European Union was the idea that the workforce that Europe would need due to its aging population could be obtained from Turkey's young population. However, this situation has begun to reverse with the decrease in Turkey's population growth rate. While the median age of the country was 27 - 29 in 2007, it increased to 33 - 35 in 2023. As of the end of 2023, the number of refugees living in Turkey has been announced by the Directorate of Immigration Administration as approximately 4.7 million people.

In summary, we can list our findings regarding the population in Turkey as follows:

- The population growth rate in Turkey is decreasing.
- Türkiye's population has entered the aging process.
- The male population is slightly ahead of the female population.
- More than 90% of people live in cities.
- There are 4.7 million refugees and 1.6 million foreigners living in Turkey, who are not included in the population of 85.4 million. (Eğilmez, 2024)
- A very serious transformation is expected in business life with Industry 4.0 in the coming period.
- In addition, it is very important to examine the demographic window of opportunity for Türkiye within the framework of these current findings.

The aging of the population will lead to significant transformations in the labor market and the composition of public expenditures. First of all, as the population ages, the demand for health services will increase. This will lead to significant transformations in healthcare services. Technological developments and the use of artificial intelligence will require healthcare personnel to acquire new social skills. (Berger & Frey, 2015, s.2)

2. Demographic Window of Opportunity and Türkiye

In the economic literature, the issue of how the return of the population will affect economic growth is discussed. (Bloom et al., 2003, Kelley & Schmidt, 2005; Wei and Hao 2010; Kumar 2013; Groth & May, 2017) As the population growth rate slows down in the third and fourth stages of the demographic transition process, the working age population continues to increase and reaches high values called the "demographic window of opportunity" or "demographic gift". Later, when fertility also declines, the baby boomers move up the age distribution and after a while enter the working-age population. During this period, more women may enter the labor market as they will have to devote less time to children. (Crombach & Smits, 2021, 172)

There are four main areas in which a country can benefit from the demographic window of opportunity (Kenton, 2020):

- Savings: Personal savings increase throughout the demographic period and can be used to stimulate the economy.

- Labor supply: More people are entering the labor market.
- Human capital: With fewer births, parents can allocate more resources per child, which can lead to better education and health outcomes.
- Economic growth: GDP per capita increases due to the decrease in the dependency ratio.

In a country entering the demographic window of opportunity, the working age population increases over a certain period of time, although the population growth rate decreases. If this situation can be used well and this population can be transferred to production, economic growth can be achieved. Countries called Asian tigers have achieved high growth rates by using this process well (Bloom & Williamson, 1998). Many African and Latin American countries have not been able to turn this process into a growth opportunity. Therefore, Türkiye has to take this process into consideration when designing its fiscal policy in the coming period.

Table 2. Demographic Opportunity Window Criteria and Türkiye

CRITERIA	Türkiye
Decrease in Population Growth Rate	It has decreased from 7.1 per thousand to 1.1 per thousand
Median Age is under 40 years old	33.5 years old
General Addiction Rate is Below 50 Percent	46.3 percent
of the population under the age of 15 to the total population is below 30%	22 percent
the population aged 65 and over to the total population is below 15%	10 per cent

Source: Özsoy & Tosunoğlu, 2023, 409

When Table 2 is examined, it is seen that Turkey meets the demographic window of opportunity criteria. Compared to EU member countries, Turkey is the country with the highest young population with 16.5 percent, while this rate is approximately 10 percent in Spain and Italy (Rittersberger-Tılıç and Çelik, 2016: 8). In a study conducted by Tansel & Hoşgör (2010, pp. 102-103) for Turkey, it was predicted that the demographic opportunity window would be open until the early 2040s.

International institutions and organizations publish reports on how the labor market will transform in the future. (PWC, 2016; OECD, 2017; OECD, 2019; WEF, 2023) It is necessary to carefully monitor the predictions in these reports and act in accordance with these trends, especially when designing the guiding functions of fiscal policy instruments in the labor market.

In 2023, WEF published a report on the labor market by associating the labor market transformations caused by technological breakthroughs such as the development of artificial intelligence with economic and demographic factors. The main issues that stand out in the report are as follows (WEF, 2023, 5-7):

- Economic, health and geopolitical trends have led to mixed outcomes for global labor markets in 2023.
- Technology adoption will continue to be a key driver of business transformation over the next five years.
- The biggest impacts on job creation and destruction are due to environmental, technology and economic trends.
- Technology adoption is likely to see the adoption of big data, cloud computing and artificial intelligence.

- The impact of most technologies on employment over the next five years is expected to be positive overall.
- Employers are forecasting a structural labor market loss of 23% of jobs over the next five years.
- The line between man and machine has shifted as companies are integrating automation into their operations more slowly than previously expected.
- The combination of macro trends and technology adoption will lead to growth and decline in certain business areas.
- Today, the fastest-growing jobs relative to their size are driven by technology, digitization and sustainability.

Cognitive skills are essential in the labor market. In the coming period, metacognitive skills will become such that creativity and critical thinking will be necessary to find solutions to complex problems. Metacognition, lifelong learning, and understanding other cultures will be necessary to adapt to a changing environment. With the use of artificial intelligence, job losses are predicted in many sectors. However, it should not be forgotten that humans cope with uncertainty better than artificial intelligence. At this point, students' digital skills need to improve with technological developments. It should be noted that it is unlikely that technology will replace employees who require social and emotional skills. Demographic and societal changes will require greater social and emotional skills. (OECD, 2019, 5-11)

McKinsey & Company also included the 7 most important factors affecting labor demand in Turkey. These factors (McKinsey & Company, 2020);

- Increased income due to productivity growth and increased commercial activities,
- increase in demand for health services as the population begins to age,
- Construction of new residences, commercial buildings, tourism facilities, etc. construction,
- Infrastructure investments,
- development and dissemination of technology,
- is stated as the increasing need for new services and transformation in energy.

When all these explanations are considered together, we see that experiencing the demographic window of opportunity phenomenon in Turkey in the coming period will create certain opportunities. However, in order to take advantage of these opportunities, the state will need to play a planning role and implement certain reforms, especially in the field of education. Additionally, while these reforms are being implemented, changes in Industry 4.0 and artificial intelligence technology need to be carefully examined.

3. Conclusion

This study highlights certain points regarding the course of fiscal policy in the coming period. First of all, it seems that fiscal policy discussions in the literature focus on obtaining empirical findings regarding the use of public expenditures and taxes. This study emphasizes the need to go beyond these discussions. First of all, it should not be forgotten that economics is a political science and has close relations with many fields such as sociology, anthropology, history and psychology. Therefore, it will be useful to discuss the role of the state in the changing world order in the coming period and therefore the fiscal policy practices that are the state's tool in intervening in the economy.

In this context, the study stands on three pillars. First of all, heterodox suggestions for orthodox economic policies come to the fore all over the world. Criticisms of heterodox economics on the internality of money, the money creation process in the economy, the relationship between banks' loans and deposits, and the transformation between unemployment and inflation are supported by many empirical findings in the literature. At this point, it would be useful to diversify the fiscal policy for the next period in the light of these discussions.

The second important issue is the demographic change occurring all over the world, especially in developing countries. While the population increases in certain countries in the world, the decrease in the population growth rate in certain countries leads to irregular migration movements. This issue is taken into particular consideration when designing fiscal policies in the coming period. In fact, fiscal policy tools may be of critical importance when public policies to be developed in this regard are implemented.

The third important issue is technological changes and the transformation these changes will create in the labor market. International institutions and international think tanks make predictions and publish reports regarding the transformation. Efforts will be made to develop public policies for areas that will come to the fore in the coming

period in the sharp transformation experienced. In the implementation of these policies, public expenditures and taxes will strengthen the critical importance of fiscal policy, especially with their incentive functions. Therefore, fiscal policy discussions will have meanings beyond designing fiscal policy by analyzing the causal relationships between macroeconomic variables; The issue of how to benefit from these tools in the implementation of the public policies mentioned above will come to the fore.

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