



## A COMPREHENSIVE ASSESSMENT OF AUTO-ENROLLMENT SYSTEM AS A SECOND PILLAR OF PENSION SYSTEM: THE CASE OF TURKEY



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### ABSTRACT

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The aim of this study is to provide an overview of Auto-Enrollment System (AES) in Turkey; and also to examine impact of Covid-19 upon the development of number of participants and contribution amounts. AES is considered as the second-pillar of pension system. In this study, data is retrieved from official website of Turkish Pension Monitoring Authority (EGM) and Turkish Electronic Fund Trading Platform (TEFAS). The method utilized in this paper is SWOT analysis. This is the first study in Turkey to explain daily pension fund operations together with the impact of pandemic on the AES branch of insurance business. This study argues that auto-enrollment system in Turkey has high growth potential and this system is expected to reach a statistically significant asset level in terms of total asset under management in the medium and long term. This study also indicates that as of the end of September 2020, AES in Turkey was not significantly affected by the coronavirus pandemic (Covid-19) in regard to number of participants and contribution amount in local currency-.

**Contribution/ Originality:** This study is one of very few studies which have investigated the daily fund operational working system of AES by providing comprehensive information about this system. Apart from this, the study contributes in the existing literature by giving preliminary information about the impact of Covid-19 Pandemic upon the development of AES as far as Turkey is concerned.

### 1. INTRODUCTION

Auto Enrollment System (AES), which is considered as the second pillar of pension system is classified as a sub-group of insurance services. Before analyzing details of private pensions in general and AES in particular, it is necessary to provide some information pertaining to World Insurance Market:

SWISS-RE Institute, a reputable institution in the industry, indicates that ten largest –insurance- markets in the world in 2019 (total premiums, USD billion) are USA, China, Japan, UK, France, Germany, South Korea, Italy, Canada and Taiwan, successively (<https://www.swissre.com/institute/research/sigma-research/World-insurance-series.html>).

Private pension systems, which have comprehensive applications in the world especially in developed countries, are an important element of economies since they became a component of sustainable development. The existence of

individual pension system has been deemed important for both the stabilization of economic development and the continuation of the quality of life of individuals - in terms of purchasing power - after retirement.

In line with the world, with the aim of increasing investment and savings, ensuring sustainable growth and protecting the purchasing power of individuals in Turkey, voluntary private pension system ('Voluntary PPS', 'Voluntary BES') was implemented in 2003. Voluntary PPS started to be implemented with retirement plans (by companies operating in the pension field) as the third step ('third pillar') of the pension system. Following this important development, the second step ("second pillar") of the pension system for employees with the Automatic Enrollment System was implemented in 2017 (Some firms' supplementary pension funds were able to provide their employees with supplementary pension under the second pillar, but it was the practice of a limited number of organizations rather than an application covering all employees in this country) Voluntary PPS/BES and AES are not competitors of (state-run) social security system (the 1st pillar), rather they are complementary to the social security system.

In this context, 'Law (Number 4632) on Individual Pension Savings and Investment System' entered into force on October 7, 2001 and the private pension system in Turkey became operational with the approval of the first pension plans in the October 27, 2003. The Automatic Enrollment System actually started with the amendment to this law which entered into force on January 1, 2017.

Significance and motivation of this study: With the voluntary PPS (BES) and auto enrollment system (AES), it is important and necessary to increase the savings opportunities and abilities of the individuals and in return to increase the total size of funds collected to reach a significant level of savings in order to provide a source for sustainable economic growth. The asset size of voluntary PPS and AES funds and their ratio to national income should be increased.

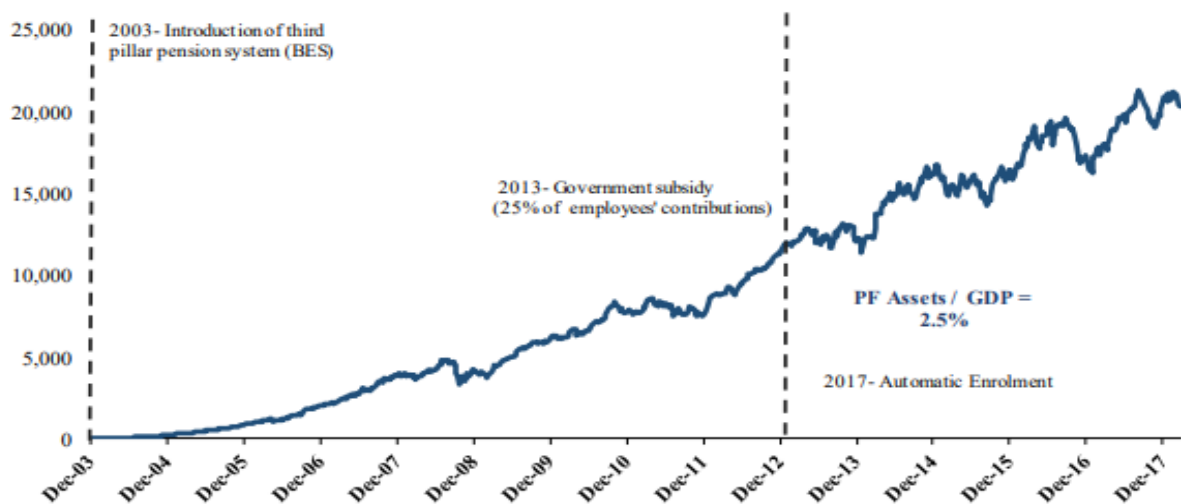


Figure-1. Total Pension Fund Assets in Turkish Private Pension System (USD millions).

Source: Peksevim and Akgiray (2019); OECD (2019).

As shown in Figure 1, with the regulation made in the incentive mechanism in the Private Pension System in 2013, the direct state incentive system was implemented, 25% direct state subsidy instead of tax incentives was offered to participants. The amounts in question started to be directed to the state contribution funds – investing predominantly in government bonds - established by pension companies in accordance with the relevant legislation. AES gave a new impetus to total pension fund asset growth.

In this study, data are retrieved from the Pension Monitoring Center, Capital Markets Board and TEFAS web pages. The SWOT is preferred as a method. In the study, the opportunities and threats faced by the system as well as the strengths and weaknesses of the auto enrollment system are analyzed.

Contribution of this study to the literature: This study contributes to the literature by explaining the fund operational working system of AES and by providing comprehensive information about this system. Apart from these, the study gives preliminary information about the impact of Covid-19 Pandemic upon the development of AES as far as Turkey is concerned.

The paper is structured as follows: Section I is the introduction part. Section II provides a review of auto enrollment system in Turkey. Section III presents literature review explaining some of the past studies related to this subject. Section IV includes data, methodology and findings. Section V is the conclusion part.

## 2. AUTO ENROLLMENT SYTEM IN TURKEY

This article studies a comprehensive assessment of the overall AES and analyze strengths, weaknesses, opportunities and threats faced by the system (with focus on Turkey in particular). To this end, it is necessary to look at basic legislation of the AES in Turkey (regulation size) and next look at regulatory and supervisory authorities, pension companies that operate in this business area, pension fund operations and finally types of pension funds that are crucial elements of the system.

### 2.1. Basic Legislation about AES

Official Website of Turkish Pension Monitoring Authority (EGM) explains the very basics of AES as follows (<https://egm.org.tr/auto-enrollment-system-aes/what-is-aes/>);

- Employers are obligated to enter employees in the Auto Enrollment System (AES) according to the provisions on auto enrollment of the Individual Pension Savings and Investment System Law No. 4632, became in force on January 1, 2017. In accordance with this amendment, employers have to send to the system at least 3% of the premium-based earnings and of the pension deduction-based salary for the private sector and the public sector, in succession.
- Employees can stay in this system for as long as they want. The AES applies to Turkish citizens (or Blue Card holders) below age 45 and who work as a salaried employee in the public or private sectors. Remaining in the system, the employees that are automatically entered in the system receive an additional income on top of the pension income from the social security system.
- The AES's primary goal is to (1) increase the level of wealth by providing an additional income through investment of employee's pension savings, (2) accumulate a stable source for the economy, (3) boost employment, and in return (4) contribute to economic development.
- Entered into force pursuant to the law, the AES, like the voluntary PPS, runs on the principle of savings collection and investment and then making a lump-sum payment or regular payments to the compulsory social security system.
- 25 percent of the contributions made by deducting from participants' salary is entered in the automatic enrollment account. The state contribution paid to a participant cannot exceed 25% of the total gross minimum wage for the relevant year.
- When a participant enters AES system for the first time, a one-time TL 1.000 (additional state contribution) is paid into his/her account.

Institutions that regulate and/or supervise AES (and Voluntary Private Pension System-BES) are as follows:

- Republic of Turkey, Ministry of Treasury and Finance (HMB) / Insurance Regulatory and Supervisory Board (*'Sigortacılık ve Özel Emeklilik Düzenleme ve Denetleme Kurumu'*).
- Capital Markets Board (SPK) (<https://www.cmb.gov.tr/Sayfa/Index/4/4/2>).
- Pension Monitoring Authority (EGM).
- Settlement and Custody Bank of Turkey (Takasbank A.Ş).
- Independent Audit Firms.

11th Development Plan (2019-2023) of Presidency of Strategy and Budget (Presidency of Turkey) underlines the significance of private pension system (PPS) under the heading of 'Domestic Savings' with the following articles: The main objective is to increase savings during the Plan period and to direct increased savings to the financing of investments in priority sectors in manufacturing industry and productive areas. As for Policies and Measures, in order to strengthen the tendency to make long-term savings and increase the pension income of individuals.

Participation in the systems other than the public pension system will be encouraged; private pension system (PPS) will be improved to increase the number of participants, duration of the stay in the system and amount of funds.

The current state subsidies in the PPS will be differentiated by age to make long-term savings attractive to the young population.

In order to prevent the exit of PPS participants due to their short-term cash needs, individuals will be given the opportunity to withdraw some of their savings without leaving the system due to needs such as health, marriage, education and property ownership.

Automatic enrollment in private pension system will be re-arranged such that the duration of the stay in the system and fund amounts will be improved and it will be integrated with the severance pay fund to be established on the basis of individual accounts.

In the above mentioned text received from the plan, PPS covers Voluntary BES (Voluntary Private Pension System) plus OKS (AES in English) The above mentioned development plan also includes the following table of domestic savings targets.

**Table-1. Domestic saving targets.**

| <b>Savings Related Indicators (Turkey)</b>  | <b>2018</b> | <b>2023</b> |
|---|-------------|-------------|
| Rate of Domestic Savings (% of GDP)         | 26.5        | 30.3        |
| Public Sector Savings Rate (% of GDP)       | 1.8         | 2.4         |
| Private Sector Savings Rate (% of GDP)      | 24.7        | 27.9        |
| Number of PPS Participants (Million People) | 11.6        | 15.2        |
| Amount of PPS Funds (Billion TL) *          | 96.3        | 296         |

**Note:** \*Total Voluntary and Auto Enrollment System, Year-End Values (At Prices of 2018).

As can be seen from [Table 1](#), savings rates are not sufficient when compared to gross domestic product of the country. The main aim of the private pension system is to increase domestic savings in an effort to ensure sustainable development.

## *2.2. Pension Companies Operating in Turkey*

In Turkey, pension companies, which establish and operate both voluntary private pension funds and auto-enrollment funds in line with the related law and regulations, are listed below (as of the end of October 2020). In general, these companies' services are categorized into 3 groups; life insurance, pension and personal accident insurance.

1. Aegon Emeklilik ve Hayat A.Ş.
2. Allianz Hayat ve Emeklilik A.Ş.
3. Allianz Yaşam ve Emeklilik A.Ş.
4. Anadolu Hayat Emeklilik A.Ş.
5. Avivasa Emeklilik ve Hayat A.Ş.
6. Axa Hayat ve Emeklilik A.Ş.
7. Bereket Emeklilik ve Hayat A.Ş. (\*)
8. BNP Paribas Cardif Emeklilik A.Ş.
9. Cigna Finans Emeklilik A.Ş.

10. Fiba Emeklilik ve Hayat A.Ş.
  11. Garanti Emeklilik ve Hayat A.Ş.
  12. Groupama Hayat A.Ş.
  13. Katılım Emeklilik ve Hayat A.Ş. (\*)
  14. Metlife Emeklilik ve Hayat A.Ş.
  15. NN Emeklilik ve Hayat A.Ş.
  16. Türkiye Hayat ve Emeklilik A.Ş. (Halk Hayat ve Emeklilik A.Ş., Vakıf Emeklilik and Hayat A.Ş., Ziraat Hayat ve Emeklilik A.Ş. were merged under this name as state-run insurance company on 24 August 2020).
- Out of total 16 (life and) pension companies operating in the country, those 2 companies marked as (\*) provide only non-interest pension services (in accordance with the principles of Takaful, Islamic Insurance).

All of these pension companies are members of Insurance Association of Turkey (IAT, TSB), which is a specialist institution with the characteristics of a unique non-governmental institution established by law (<https://www.tsb.org.tr/about-us.aspx?pageID=919>).

### *2.3. Pension Fund Operations*

The following points should be stated before the operational assessment: The accounting system of the pension company and the accounting system of the funds are different. Although funds have no legal personalities, they have different tax numbers, and they have separate accounting system.

Similarly, the financial portfolio of the pension company that establishes the funds (founding company) is different from that of a pension fund.

Fund Operation (Service Departments) Departments of companies are responsible for the daily operation of funds carried out every day.

- On a daily basis, fund integration process where contribution amounts paid by participants are directed to investment can be described as the process carried out in the morning time in which contribution amount collected from customer turns into a share (of the fund) according to the customer's fund purchase preference, and simultaneously the shares (with the 'sell order' from the customer) turn into the amount / money.
- Fund operations department informs the Portfolio Management Company (PMC) of total amounts (composed of new contributions collected from participants) with which new financial instruments are to be purchased by PMC for the portfolio of each AES fund. Then, the department carries out the registration (data entry into accounting system of funds) of the new financial products/instruments purchased by the PMC. In addition, the department carries out all the processes until the transactions are reported to Takasbank. New shares acquired by the participants and new assets -on fund basis- are notified electronically to the Takasbank via a file. On the other hand, if participant(s) sell their shares, this means selling of some items from fund portfolio by PMC, then the process continues accordingly.
- Takasbank transfers protect the clients/participants and the company from many risks that arise from the bankruptcy of the pension company or the loss of data.

The tax structure of the founding company (pension company) and the tax structure to which the funds are subject are different; pension mutual funds are not taxable in principle. It is an incentive and advantage for the development of this system. In addition, fund service / operation units in companies are responsible for issuing (without payment) the tax returns (Corporate Tax, BA-BS forms) stipulated in the relevant laws for all active pension mutual funds.

### *2.4. Pension Funds within the Context of AES (Turkey)*

Initial Fund with Interest.

Initial Fund without Interest.

AES Standard Fund.

Non-Interest AES Standart Fund.

Conservative / Cautious Fund.

Balanced Fund.

Dynamic/Growth Fund.

Aggressive Fund.

**Table-2.** AES Summary Data (Turkey) as of 30 September 2020.

|  |                      |
|--|----------------------|
| <b>Employees' Total Amount of Funds (TL)</b> | <b>6,548,421,518</b> |
| Amount of Contributions (TL)                 | 5,194,781,079        |
| Number of Employees                          | 3,529,840            |
| Number of Certificates                       | 4,143,392            |
| Number of Employers                          | 148,029              |

Table 2 indicates that AES has total asset under management in the amount of approximately TL 6,5 billion; out of which TL 5,2 billion accounts for total amount of contributions. Difference of these figures can be seen as the increase in the total value of participants' contributions which are attributable to market gains and/or fixed income gains.

According to the data from Pension Monitoring Center of Turkey, the demand for interest-free pension mutual funds is higher than conventional pension mutual funds (Conventional funds here refer to AES funds with portfolio composed of interest-based financial instruments).

### 3. LITERATURE REVIEW

Auto Enrollment System, the second pillar of the pension system, has been subject to different academic studies in the world and Turkey. In this part, some of these studies are included within the scope of the literature review in summary.

Turkish Central Bank Financial Stability Report (May 2019) expresses overall development of the private pension system (voluntary private pension system and AES) in the following way; with the momentum brought by the government incentives in 2013, household savings within PPS continue to grow as of April 2020 (epidemic period). In March 2020, when the pandemic spreading rate increased and economic activity slowed down, it is seen that PPS participants preserved their savings (since there was no extraordinary progress in the number of participants and the amount of funds). The introduction of AES in 2017 brought new individuals (employees) to the system in the private pension system and balanced the impact of the participants leaving the system.

OECD (2019) Pension Markets in Focus reports the following findings: Pension system assets have grown in the last 10 years, despite the losses in 2018 compared to 2017; assets were affected by losses in stock markets in 2018, but continue to generate positive returns in the long term; the return from the *defined benefit* to *defined contribution* model continues. On the other hand, OECD Pension Funds in Figures (June 2020) report that the Covid-19 pandemic effect is explained with the following numbers; by the end of 2019, total pension fund assets in OECD countries reached approximately USD 32 trillion, however, it is stated that COVID-19 will reverse some of these gains in 2020; furthermore, Turkey is reported to be among the countries showing fastest growth in fund assets with the help of AES.

Kaya and Kahya (2017) compare the savings rate in the world and Turkey and maintain that when compared with savings rates in the world, for Turkey there is room for development in this issue; also underline the fact that regulation about AES, which proves to be successful in developed countries (USA, UK, New Zealand), aims to encourage savings in order to maintain the welfare level of employees during their retirement. In addition to this, it



is expressed in this study that increase in the size of the fund is expected to contribute to the deepening for the development of capital markets in Turkey.

Pension Monitoring Authority of Turkey (EGM), Annual Development Report (2017) emphasizes that AES is a saving and investment system operating under the supervision, surveillance and control of the Ministry of Treasury and Finance, the Capital Markets Board, the Pension Monitoring Center and independent audit companies in order to ensure that it is a transparent and safe system.

Rinaldi (2010) studies AES in Italy and argues that: AES can be seen as an effective tool for the supportive pension system because raising retirement awareness is a slow process and mandatory retirement is a politically difficult process. In this study when examining the reasons why the OKS application in Italy is limitedly successful, the following argument is held; a comprehensive and effective pension strategy is required as well as country-specific structural dynamics.

Rudolph (2019) in World Bank working paper, analyze AES for developing countries and underlines 'fair deal' application in the part titled 'lessons for developing countries' and also argues that since the implementation of AES imposes responsibility on the governments, it is necessary for the AES to present a fair application to the participants. Also, in this working paper, it is emphasized that AES is actually based on inertia in a sense and employees join the system without being aware of it.

Gallagher and Ryan (2017) in their study on the applicability of a national Auto Enrollment System in Ireland examine how the portfolio strategy and portfolio design would provide the best income on a member (participant) basis and reach the following conclusion: For a retirement income equivalent to about sixty-five percent of the final salary, a participation rate of eight percent should be sufficient; however, Social Security (Public Funded) acts as an important buffer for retirees.

Peker (2016) studies lowering costs in the private pension system in Turkey and auto-enrollment, and provides policy recommendations about reducing costs, informing the participants in a correct way in order for AES to be more successful.

Peksevrim and Akgiray (2019) in their study on the pension system reform in Turkey, analyze the AES system, some of their suggestions for the system are as follows: The system should cover the entire working population; employer contributions should be mandatory; government financial incentives should be inversely proportional to the income of the participant; life cycle funds should be included in the system.

The portfolio management and performances of private pension funds in general and auto-enrollment funds in particular are on the agenda of the participants and the public opinion.

Portfolio management companies are solely authorized to manage pension fund portfolio by law. Sarioglu (2018) states that portfolio management companies are active in two areas, these are collective portfolio management and individual portfolio management; pension mutual funds are evaluated under collective portfolio management. With the development of artificial intelligence, "Robo-Consulting" activities have gained momentum in recent years apart from conventional portfolio management approach and application of Robo-Consulting - including pension investment fund management - are increasing. Sarioglu (2018) argues that the presence of robo consultants in the investment world creates advantages, these advantages are listed as follows; easier access and lower cost for investors, increased financial inclusion; in addition, investors are provided with more objective, consistent and transparent investment proposals.

#### 4. DATA, METHOD, ANALYSIS

A comprehensive evaluation of AES, key element of pension system in Turkey, is made in this paper and to this end, data from Pension Monitoring Center (EGM) and Turkey Electronic Fund Trading Platform-TEFAS are utilized. With the SWOT analysis method, the strengths and weaknesses of the OKS system, the opportunities and threats faced by the system are examined.

Table-3. SWOT Analysis of AES System in Turkey.

| SWOT Analysis  |  |
|--|--|
| Strengths  | Weaknesses   |
| Corporate savings system with the fastest growth potential.  | High exit rate due to free exit after 2 months.  |
| It is an important system for solving the problem of low savings rate and gaining a regular saving habit.  | Employees' professional organizations oppose compulsory cuts from wages and further increase in cuts                                     |
| The contribution of large fund asset size in the upcoming years to ensure economic stability and reduce the current account deficit.   | Low labor force participation, high unemployment rate.   |
| Implementing direct state contribution incentives of 25% of the contributions, limited to the annual amount of the gross minimum wage for each year.   | Low tendency for long-term and regular saving.   |
| Opportunities  | Threats  |
| If it is combined with the 'Complementary Pension System' (TES), its potential will reach considerable with the inclusion of severance payments in the system.   | The high level of unregistered work prevents higher participation in the system or higher contribution payments.                         |
| Given the fact that more than half of those who quitted their job in Turkey is considered to be unable to receive their severance pay, such risks will be eliminated with AES when 'TES' will evolve into AES. | There is a general social reaction against practices such as the compulsory savings system in the past.                                  |
| It is an important opportunity for the country's low savings rate to rise.   | Public opinion ignoring the periods when fund performances are good and emphasizing the periods when fund performances are insufficient. |

Results of the above mentioned SWOT analysis upon AES system that indicate difficulties and weak aspects of the system can be seen as development areas (key to the solutions to be produced).

Considering the strengths and opportunities together and considering the stable growth of AES since 2017, it is concluded that it is moving towards the goal of eliminating the savings gap - with the fund asset size, it will reach in the medium and long term.

#### 4.1. AES Fund Performance

Prior to going into details of AES fund performances, it is better to evaluate 2019 financial market developments and their reflection on private pension (fund) markets as a whole (voluntary private pensions plus AES funds).

Forbes Turkey, Special Issue on Pension Fund Report-2020 indicates that in 2019 interest rate cuts by FED plus declining policy interest rates by Central Bank of Turkey subsequent to the second half of the year gave rise to a favorable atmosphere for financial markets. Afterwards, relatively stable foreign currency rates against domestic currency and decreasing inflation and decrease in cost of borrowing caused domestic stock market index (BIST-100) to rise considerably. This positive atmosphere had positive repercussions on performance yields of the pension funds. Nearly all investors / participants of the private pension system had opportunity to receive high rate of return vis-a-vis CPI 2019, 11.84%. However, for long period of time, contrary to 2019 returns, [Kuzubas, Saltoglu, Sert, and Yuksel \(2019\)](#) in their study about the performance evaluation of the Turkish Pension Fund System with a comprehensive analysis of the private pension funds argue that majority of these funds are not able to provide excess return, that is, 'a positive Alfa' cannot be obtained as far as majority of the funds' returns are concerned in this market.

Private Pension Funds (EYF), which are established by pension companies in accordance with the related legislation and managed by portfolio management companies as per the relevant legislation, are the cornerstone of this system. The performance of the funds is an issue closely followed by the participants, namely the customers of the system due to the fact that participants take into account the performance of AES funds when making their



decisions about the type of savings and about remaining in the system or opting out (or when exercising their rights to change funds in their pension plans).

**Table- 4.** AES standard fund yearly returns (30 September 2019 – 30 September 2020).

| Fund Code | Fund Title   | Yield % |
|-----------|--|---------|
| KOA       | Allianz Yaşam Ve Emeklilik A.Ş. Oks Standart Emeklilik Yatırım Fonu      | 11.7    |
| AFH       | Anadolu Hayat Emeklilik A.Ş.Oks Standart Emeklilik Yatırım Fonu          | 10.3    |
| AAJ       | Avivasa Emeklilik Ve Hayat A.Ş. Oks Standart Emeklilik Yatırım Fonu      | 11.7    |
| HEC       | Axa Hayat Ve Emeklilik A.Ş. Oks Standart Emeklilik Yatırım Fonu          | 11.2    |
| BNL       | Bnp Paribas Cardif Emeklilik A.Ş.Oks Standart Emeklilik Yatırım Fonu     | 11.9    |
| CHU       | Cigna Finans Emeklilik Ve Hayat A.Ş. Oks Standart Emeklilik Yatırım Fonu | 13      |
| FGF       | Fiba Emeklilik Ve Hayat A.Ş. Oks Standart Emeklilik Yatırım Fonu         | 11      |
| GCS       | Garanti Emeklilik Ve Hayat A.Ş. Oks Standart Emeklilik Yatırım Fonu      | 17.3    |
| MHZ       | Metlife Emeklilik Ve Hayat A.Ş. Oks Standart Emeklilik Yatırım Fonu      | 11.5    |
| NHO       | Nn Hayat Ve Emeklilik A.Ş. Oks Standart Emeklilik Yatırım Fonu           | 11.5    |
| HEN       | Türkiye Hayat Ve Emeklilik A.Ş. Hem Oks Standart Emeklilik Yatırım Fonu  | 11.1    |
| VGZ       | Türkiye Hayat Ve Emeklilik A.Ş. Vem Oks Standart Emeklilik Yatırım Fonu  | 11.3    |
| Z□C       | Türkiye Hayat Ve Emeklilik A.Ş. Zem Oks Standart Emeklilik Yatırım Fonu  | 11      |
|           | Average  | 11.9    |
|           | September 2020 CPI   | 11.75   |

Table 4 illustrates that as of September 2020, average yearly returns of AES standard funds, 11.75% is slightly greater than CPI in Turkey. This can be considered as a real positive return.

**Table-5.** AES Non-Interest standard fund yearly returns (30 September 2019 – 30 September 2020).

| Fund Code | Fund Title   | Yield % |
|-----------|--|---------|
| KOS       | Allianz Yaşam Ve Emeklilik A.Ş. Oks Katılım Standart Emeklilik Yatırım Fonu      | 17.4    |
| AFP       | Anadolu Hayat Ve Emeklilik A.Ş. Oks Katılım Standart Emeklilik Yatırım Fonu      | 14.4    |
| AYJ       | Avivasa Emeklilik Ve Hayat A.Ş.Oks Katılım Standart Emeklilik Yatırım Fonu       | 16.9    |
| HEI       | Axa Hayat Ve Emeklilik A.Ş. Oks Katılım Standart Emeklilik Yatırım Fonu          | 17.3    |
| BEI       | Bereket Emeklilik Ve Hayat A.Ş. Oks Katılım Standart Emeklilik Yatırım Fonu      | 15.9    |
| BNZ       | Bnp Paribas Cardif Emeklilik A.Ş.Oks Katılım Standart Emeklilik Yatırım Fonu     | 16.6    |
| CFE       | Cigna Finans Emeklilik Ve Hayat A.Ş. Oks Katılım Standart Emeklilik Yatırım Fonu | 15.6    |
| FGH       | Fiba Emeklilik Ve Hayat Oks Katılım Standart Emeklilik Yatırım Fonu              | 24.3    |
| GCK       | Garanti Emeklilik Ve Hayat A.Ş. Oks Katılım Standart Emeklilik Yatırım Fonu      | 21      |
| KTZ       | Katılım Emeklilik Ve Hayat A.Ş. Oks Katılım Standart Emeklilik Yatırım Fonu      | 15.3    |
| MHI       | Metlife Emeklilik Ve Hayat A.Ş. Oks Katılım Standart Emeklilik Yatırım Fonu      | 11.8    |
| NHR       | Nn Hayat Ve Emeklilik A.Ş. Oks Katılım Standart Emeklilik Yatırım Fonu           | 15.6    |
| HEU       | Türkiye Hayat Ve Emeklilik A.Ş. Hem Oks Katılım Standart Emeklilik Yatırım Fonu  | 14.9    |
| VGK       | Türkiye Hayat Ve Emeklilik A.Ş. Vem Oks Katılım Standart Emeklilik Yatırım Fonu  | 14.7    |
| ZHI       | Türkiye Hayat Ve Emeklilik A.Ş. Zem Oks Katılım Standart Emeklilik Yatırım Fonu  | 14.7    |
|           | Average  | 16.4    |
|           | September 2020 CPI   | 11.75   |

Table 5 shows that as of September 2020, (annual) CPI, which is 11.75% is much less than average yearly return of AES Non-Interest Standard Funds (Funds with a portfolio without interest-based products achieved an average annual return of 16.4%). This means participants yielded above the annual inflation rate (CPI) announced for the relevant period. The point to note here is that the most accurate method for participants to accurately measure their annual fund returns is Internal Rate of Return (IVO) calculation - which can be calculated with customer/participant cash inflows / outflows and total savings.

#### 4.2. AES Development: Pre-Pandemic and After-Pandemic Analysis

Coronavirus (Covid-19), which emerged in Wuhan, a city in People's Republic of China continues to threaten the world - as of October 2020 - and is described by the World Health Organization as a pandemic. The pandemic disease started to affect Turkey seriously since March 2020 and caused the economic activity to go down, in return GDP contracted by 9.9% in the second quarter of 2020. In order to see whether AES is significantly affected by the pandemic, on a monthly basis, the development of the number of employees in the system and the development of the contribution amount (TL) are analyzed using EGM data. The following figure is obtained after this search.

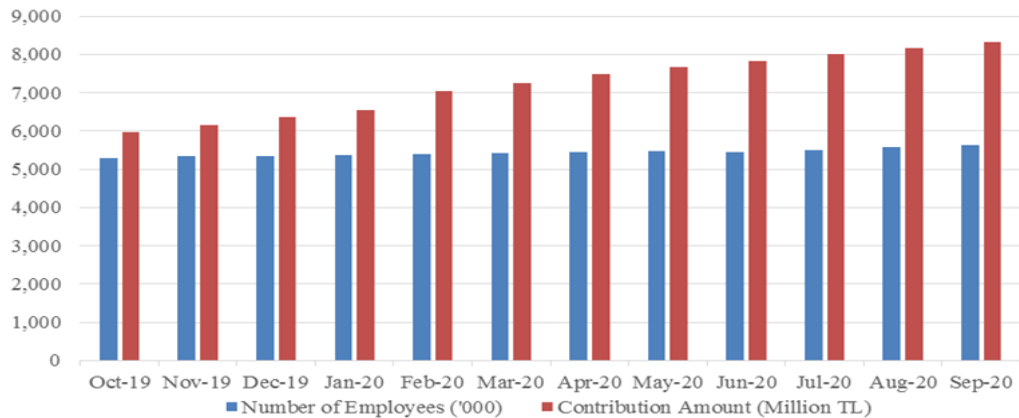


Figure-2. Development of Number of Participants and Contribution Amount (Pre and After Pandemic Analysis).

It is apparent from Figure 2 that for the period between October 2019 and September 2020, number of participants and contribution amounts are not significantly affected by Coronavirus Pandemic. After the period of March 2020, there is no decrease in the numbers of the participants or contribution amounts in the system; on the contrary, the acceleration of increase seems to have continued.

## 5. CONCLUSION

In line with applications in the developed countries in the world, auto-enrollment system (AES) within the framework of private pension system is considered a significant issue when taking into account its function in the economy: The system enables directing savings of individuals (especially employees) to investment, increase pension income of retired population and in return provide long-term financial source for sustainable development. The objective of this study is to comprehensively review general structure of auto-enrollment system and carry out a SWOT analysis about it. This study covers application AES in Turkey. AES in Turkey became effective in 2017 after an amendmend made to Law (on Private Pension Saving and Investment) No.4632 as the second pillar of the whole pension system. To this end, in this study, firstly, basic elements of the system, basic legislation, companies in the system, fund operation system, regulatory and supervisory institutions and AES fund types, which are the basic elements of the system, are discussed. Then, some of the previous studies on the subject were examined within the scope of the literature review. With the SWOT method the opportunities and threats faced by the system as well as the strengths and weaknesses of AES were systematically classified. SWOT analysis in this study shows that the strengths of AES are as follows; it is an institutional savings system with the fastest growth potential; it has increasing fund portfolio size to be further enhanced in the following years; the system has 25% state contribution incentive. The prominent factor among the opportunities facing the system is that AES is an important opportunity for the country's low savings rate to rise. On the other hand, the leading factor among the difficulties the system will face is that the periods with high fund performances are not taken into account in the public opinion and the periods with low fund performances are brought to the fore. Furthermore, this study ends up with the following finding; in AES system, growth of number of employees and contribution amount (TL) were not negatively affected by the outbreak of the pandemic that influenced all of the economies including Turkey. Auto Enrollment System

with its total number of participants, the total fund asset size reached significant amounts in 2020 despite the economic difficulties and pandemic conditions. This study argues that the system will continue with strong acceleration. AES has a high potential to continue to be an insurance product that is a long-term, reliable and attractive investment and savings tool for employees.

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- IAT. Insurance Association of Turkey. <https://www.tsb.org.tr/about-us.aspx?pageID=919>
- SWISS-RE Institute. <http://www.swissre.com/institute/research>
- TEFAS. Turkey Electronic Fund Trading Platform. <http://www.tefas.gov.tr>

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