

# Longevity – a strain on Public Pension Funding or is a new opportunity for Private Pension Funds?

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**Abstract** —The working paper intentions to determine the contemporary of Private Pension Funds approach compared with Public Pension and its unknown crucial importance represents for each person. The research comes aims to show how the establishment of Private Pension Funds can relieve the state budget of additional expenses, related to the assistance of its citizens, after they retirement, by taken care of a part of pensioners financial burden. The paper presented the modern approach as well and the changes done during the last years in Europe and Middle East/GCC. Longevity, birth rate, and unemployment rate and their evolution during the years are dynamic factors which affect Pension Funds, private and public. The author demonstrates that, Private Pension Funds have emerged because of increased longevity, declining birth rates, job instability, and the continued growth of public pension spending. Nowadays, appears as a stringent necessity for everyone to adhere to a Private Pension Fund, to go softly through the whole retirement journey. In the same time, paper shows that Private Pension Funds represent a wise business opportunity too.

**Index Terms** — Pension Funds, Public Budget, Budget Expenditure, Public Finance Policy, Business Opportunity.

## 1 LITERATURE REVIEW –

### THE IMPORTANCE OF PRIVATE PENSION FUNDS COMPARED WITH PUBLIC PENSION

IN our times, generally, pension is defined as a monthly life-time income benefit after you get retired. This amount of money comes from your salary, during your employment years. Pension may be called as a benefit plan, because an individual is paying a specific amount of money monthly, and after he get retired, he started to receive the pension, monthly. The pension can be also defined as a contribution plan, just because during its employment time, an individual is investing monthly for its retirement age. Pension concept appeared for the first time in Europe, in year 1645, in Germany, as an amount of money paid by the government to individuals which faced financial difficulties to survive after the war. Later in the 17th and 18th centuries, public pensions under the form of annuities would become more and more common across Europe. Yet, it was not before 1889 that a legislation applicable to all workers eligible was enacted and implemented. The man behind the initiative called “The Old Age and Disability Bill” was Otto von Bismarck. [1]. Nowadays the public pension system includes almost all the countries in the world, but its way of applying is different, according with each state culture and individual needs. The pension system started as a public aid, and later it was developed as a public mandatory individual contribution for each individual retirement fund. Pensions are paid for the rest of the pensioner’s life and in the form of derivative pensions to the spouse and child (if any) in the event of death [2].

In Europe, USA, Africa, Asia, and Arab world, all citizens must contribute to the public pension funds, in order to be entitled to fixed or flat retirement monthly amount (depending on the system applied in each country) throughout the whole retirement period.

To present the importance of Private pension funds, the research started from the implication of the government to protect its citizens, explaining why public pension contribution is mandatory. Public pension being able to be seen as a public individual benefit. The author continued the research by analyzing the differences between public and private pension system, from legal issues perspective. In both cases the longevity, birthrate, unemployment and job security, political and economic stability are taken into consideration as main crucial factors in settling and implementing public or private pension fund.

## 2 RESEARCH ANALYZES

### 2.1 Indicators which have a critical impact on Pension Funds

Intensely ageing populations, decreasing birth rates and a lack of robust retirement systems led many countries to struggle under the burden of providing adequate pensions to their senior citizens without clear and active action social policies.

Life expectancy is defined statistically as the mean number of years remaining for an individual or a group of people at a given age [3]. Longevity indicate the rate of lifespan expectancy. These indicators usually (or should be) is taken into consideration when the government prepare the public pension fund. If the people start to leave longer, which is good and make our own family very happy, from public budget

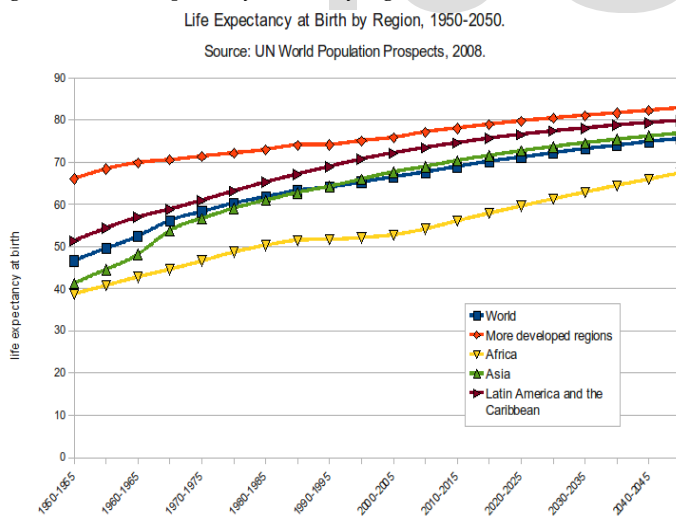
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perspective, it affects public expenditure with public pensions volume, government, from the public pension fund point of view, will have to pay mandatory pensions for a longer time. Longevity is a risk assumed by the government in determining the amount of public pension expenditures. The public pension plan depends on uncertainty about mortality and birthrate. As the age structure changes and the longevity increases, the risk of rising public spending is obvious [4]. At the same time longevity is also a business opportunity addressed to the private sector, but closely monitored by public institutions with responsibilities in the field.

During the last more than 10 years have been noticed (figure no.1) that life expectancy increased in most of all countries around the world. The reason of increasing the life expectancy may be the improvement of living standards, the awareness of the health care and the healthy way of living that we must follow, the development and implementation of active prevention policies of illness, along with the improvement of the economic and social circumstances in almost all the countries.

The rising trend of life expectancy at birth is an indicator that must be considered in the preparation of the pension fund budget, as the number of pensioners is rising and the period of pension payments is increasing as well. This reality affects the volume of expenditure with public pensions, which need to be covered. From longevity perspective, aid to the standard of living, health and disease prevention, there is also a life expectancy of more than 70 years (e.g. – Europe, China, Japan, USA). While in poverty-stricken countries with a low socio-economic level, longevity can also be 45-50 years (most of the Africa countries).

Figure no.1: Life expectancy at birth by region, 1950-2050, [3]



The research has been noticed that the fertility rate follows a descending trend (figure no.2). The decline in fertility, the number of children, leads to a decrease in the number of future employees. Today's employees are those which are contribute to the current public pension fund, from which the pensions are paid to those who are currently retired. In other words, this is another crucial indicator which should take into attention when government prepare the public pension fund.

Birthrate plays very important role in public and private pension industry. The birthrate affects both the positive and negative levels of public pensions, but certainly affects the level of private pensions. Employees from today are those who bear the current costs of public pensions for the state. The more active number of employed persons is, than the amount of the revenues collected from the monthly mandatory contributions to the public fund is much higher than the amount of government expenditures with public pensions. If the birthrate stays constant or rising, then government spending on public pensions will be covered, and even more so, public pension levels may always be updated annually little by little with the inflation index even.

Figure no.2: Fertility Rate, 1950-2050, [5]  
Trends in Total Fertility Rate by Region, 1950-2050.

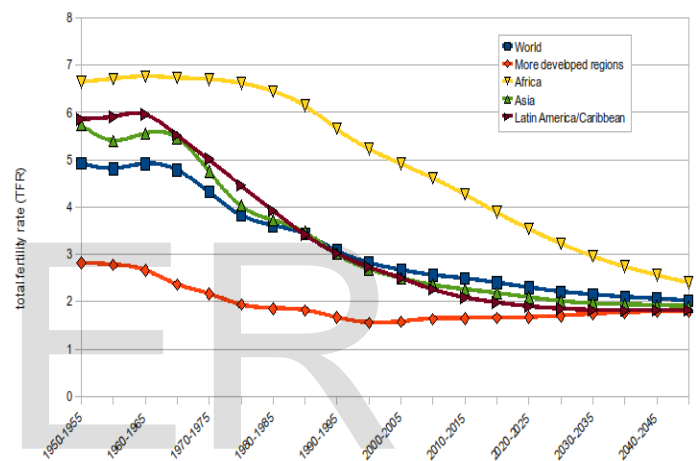
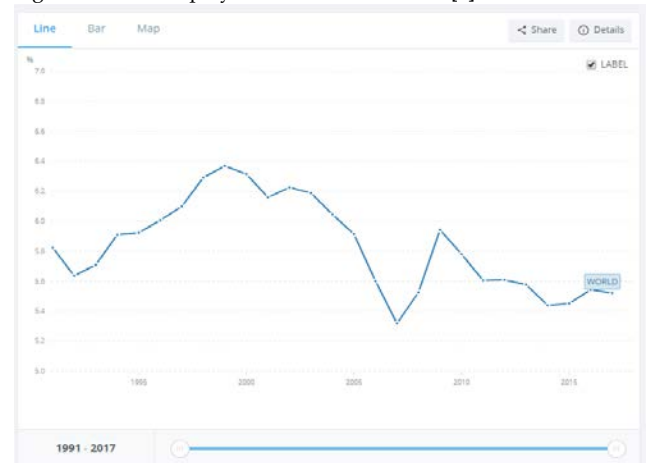


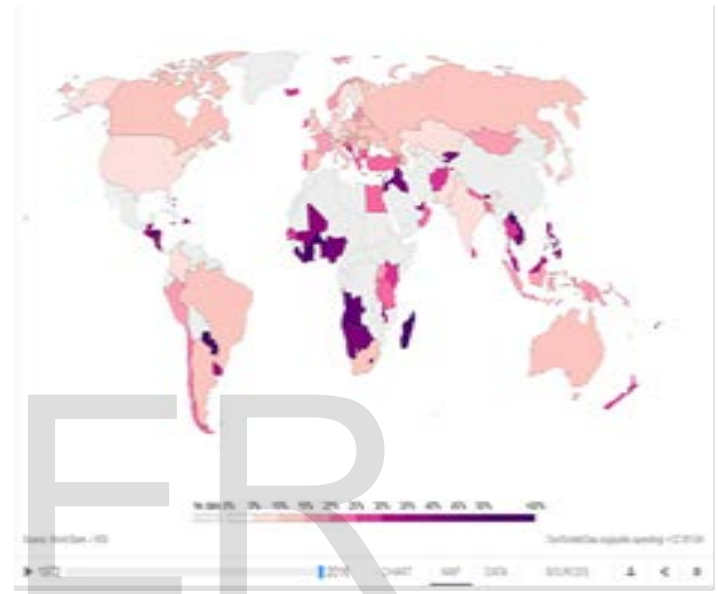
Figure no 3: Unemployment rate, world level, [6]



However, if the birthrate is not constant, or worse is lower and the level of longevity increases, then the government is at risk of additional spending on public pensions. At this time is another reason why the government has encouraged the emergence and development of the private pension system under the close supervision of authorized public institutions.

beginning was a governmental initiative, encouraging this form of financial-protection for the post-retirement period. Along with economic growth, with the rising living standards in developed countries, the private pension system has emerged as a personal investment opportunity for retirement days. These indicators may also encourage the emergence and development of private pension funds, as a necessity for a future financial protection. The initiative was supported by the government, in its desire to provide additional financial support for pensioners.

Figure no.5: Share of employee return in public spending, in 2016, [9]



Private Pensions Funds have broken off from insurance institutions. Currently, a pension scheme is a type of savings plan to help you save money for later life. It also has favorable tax treatment compared to other forms of savings. The percentage paid for public pension to the state budget is exempt from income tax [10]. In some countries, also a specified percentage (see tables no.2-4) paid for private pension is subject of exempt from income tax [11]. In GCC countries, income from pension is considered *Halal* [12] and it is not subject for *Zakat* – imposed according to the Muslim religion in all Arab countries, and paid by Muslim individuals [13].

As it can be seen from the table no.1, the public pension scheme, is mandatory, private pension is a choice that everyone is made, similar with a long-term investment, aims to help to create a safe money which can be used for retirement time. In countries from Europe, public pension system follows a 3 pillars system: Pillar 1 – mandatory for all individuals which are working (contribution to the state budget for public pension fund); Pillar 2 – private mandatory – represent a % contribution to one Private Pension Funds accredited and licensed by the government. This contribution, in generally, is not subject for any income tax. And, Pillar 3 – is a private managed voluntary pension. The percentage or the scheme for Pillar 3 scheme is agreed between the individual and private pension fund chosen.

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Table no.1: Differences between public pension and private pension settlement

Public pension system	Private pension system
Mandatory to be paid by all employees, as a percentage, from individual's salary	Voluntary payment, as a percentage or fix amount, from individual's income
The monthly contribution is calculated as a percentage applied on brut salary	The private pension contribution can be calculated as a percentage on monthly brut salary and/or a fix monthly sum, without any connection with salary or other income
Monthly payment	Monthly/semiannual/ annual payment, according with the agreement signed between an individual and a Private Pension Fund
Due to the government	Due to Private Pension Fund, licensed by the government
Paid by the government	Paid by the Private Pension Fund
Paid according to everyone's monthly contribution	Paid accordingly with the agreement signed
To be paid from the first month of the retirement	To be paid according to the agreement signed
Exempt from income tax	Exempt from income tax, up to one specific limit, according to the law
Apply to all citizens (Some countries ask for mandatory public pension only from their citizens, and not for residents)	Apply to all citizens and any country's individual residence
Public pension mandatory contribution is due annual, till the last month as an employee (age limit of retirement)	There is no age limit for retirement. Payment scheme will be done according the agreement.
The amount of pension which will be receive it depends on the amount of monthly salary, years of contribution	The amount of pension depends on the contribution, number of years, (according to the contract) and interest rate, as specified

Table no.2: Pension contributions in Europe and Central Asia

	Contributions Rates								
	Pillar 1			Pillar 2			Social Security (all programs)		
	Employee	Employer	Total	Employee	Employer	Total	Employee	Employer	Total
Europe & Central Asia									
Azerbaijan	3	22	25	-	-	-	3	22	25
Belarus	1	28	29	-	-	-	1	28	29
Bulgaria	..	..	12.8	-	-	5	..	..	22.3
Croatia	15	-	15	5	0	5	20	17	37
Czech Republic	6.5	21.5	28	-	-	-	11	25	36.4
Estonia	0	16	16	2	4	6	4	21	25
Hungary	2	24	26	8	-	8	10	24	34
Kazakhstan	-	-	-	10	5	10	10	5	15
Kosovo				5	5	10	5	5	10
Poland	2.5	10	12.22	7	-	7	15	13	28
Romania	8	21.1	29	2.5	0.5	3	11	22	33
Serbia	11	11	22	-	-	-	18	18	36
Turkey	9	11	20	-	-	-	9	11	20
Ukraine	2	32	34	-	-	-	3	37	39

Source: [12]

Table no.3: Pension contributions in OECD

	Contributions Rates								
	Pillar 1			Pillar 2			Social Security (all programs)		
	Employee	Employer	Total	Employee	Employer	Total	Employee	Employer	Total
High income: OECD									
Australia	-	-	-	-	9	9	0	9	9
Austria	10.3	12.6	22.8	-	-	-	17.2	25.2	42.4
Belgium	7.5	8.9	16.4	-	-	-	13	24.8	37.8
Canada	5	5	9.9	-	-	-	6.7	7.4	14.1
France	6.8	9.9	16.7	-	-	-	9.8	32.4	42.2
Germany	10	10	19.9	-	-	-	20.2	20.6	40.8
Greece	6.7	13.3	20	-	-	-	11.6	16.4	28
Italy	9.2	23.8	33	-	-	-	8.9	36.4	45.3
Japan	7.7	7.7	15.4	-	-	-	12.4	13.1	25.5
Luxembourg	8	8	16	-	-	-	13.1	13.6	26.6
Spain	4.7	23.6	28.3	-	-	-	6.3	31.1	37.3
Sweden	7	11.9	18.9	-	3	3	7	21.2	28.2
Switzerland	4.9	4.9	9.8	-	-	-	13.1	13	26.1
UK	..	..	..	-	-	-	11	12.8	23.8
USA	6.2	6.2	12.4	-	-	-	7.7	9.2	16.9

Source: [12]

Table no.4: Pension contributions in Middle East and North Africa

	Contributions Rates								
	Pillar 1			Pillar 2			Social Security (all programs)		
	Employee	Employer	Total	Employee	Employer	Total	Employee	Employer	Total
Middle East & North Africa									
Bahrain	6	15	21	-	-	-	12	24	36
Iran, Islamic Rep.	7	20	27	-	-	-	7	23	30
Iraq	2	12	14	-	-	-	5	12	17
Jordan	6	9	15	-	-	-	6	11	17
Kuwait	6	11	17	-	-	-	6	11	17
Libya	4	11	14	-	-	-	5	13	18
Malta	10	10	20	-	-	-	10	10	20
Morocco	4	8	12	-	-	-	6	18	24
Oman	7	15	22	-	-	-	13.5	24.5	38
Saudi Arabia	9	9	18	-	-	-	9	11	20
Syria	7	14	21	-	-	-	7	17	24
Tunisia	5	8	13	-	-	-	9	16	25
United Arab Emirates, Low percentage if his employer is a private owned company	5 / 2.5	15 / 12.5	20 / 15	-	-	-	5 / 2.5	15 / 12.5	20 / 15
Yemen	6	6	12	-	-	-	6	10	16

Source: [12]



Countries from Middle East and from Africa follow only the public Pension System. Private Pension System is not mandatory, every person can create its own retirement scheme in agreement with the Private Pension Funds.

European governments are increasingly retreating from public pension provision and promoting the expansion of private pension funds. Analysts of comparative social policy have traditionally considered that the politics of pension privatization is driven by politicians' and socioeconomic actors' concerns about the generosity and costs of pension arrangements. However, when they are fully funded instead of being financed on a pay-as-you-go basis, pensions generate funds that are injected into the financial system [15].

The emergence of a mandatory or optional private pension system enables everyone to create their own pension protection scheme. The presence of the Private Pension Fund is largely due to the alertness of increasing the level of longevity and reducing the number of current employees. *The red flag* that comes first from the government and then from the private sector as a business opportunity. In most of countries, private pension funds have broken off from insurance companies, and operate on the same principles. All of them are licensed by the government and can play as an investment funds on financial markets, domestic on international.

The development of Private Pension Funds and the encouragement of the population to adhere to private retirement schemes is not only an opportunity to run an extra income source (government, individuals and business) but indirectly help the state budget, contributing to reducing the spending with social security.

According to the pension survey in the UAE, only 9% of the expatriates working in the UAE, which applies to the criteria of the GCC countries plans to retire in the UAE, while the other 91% plans for their retirement in their home countries or abroad. This brings the fact that expatriates in the GCC countries plans for their retirement in a cheaper place than the GCC countries.

Many corporates in the UAE and GCC countries have taken the responsibility in the private pension schemes for their employees, giving them the opportunity and the benefit of the pension schemes from their employment just like how the public pension schemes work. However, the money paid in the end is a lump sum, not as a salary like private pensions. But this money retention tool is still important for the economic development.

Now days, according to the article in Emirates 28/7 business, there are 638 companies in the UAE now that provides their expatriates employees with a retirement saving plan, in which the company contributes with 12% of the basic salary of the employee and the employee contributes with 5% of the basic salary.

These changes that have been made by the corporates are a way to develop the pension schemes and to mix the ventures with the public pension, as the pension should be done by the employee lowering the risk on the governmental economy and economic development, it is the responsibility of the employee and the employers to provide the pension and the retirement plan, and many awareness campaigns have been made for the

importance of a proper saving plan to meet the expectation of the expatriate employee for retirement.

Pension funds and saving plans in the GCC from private are mostly invested in long term deposits, stocks and bonds, according to the preference of the individual saving and retirement scheme chosen or on the corporate level, the preference of the corporate agreement with the financial institute investing the funds in.

### **2.3. Contemporary approach and the changes done during the last years in Europe and Middle East and GCC**

Private Pension Funds have more than 370 years' experience, and the first state which implemented was Germany in early 1970. Employers, on behalf of their employees, or individuals themselves may be able to contribute to their retirement savings through different vehicles. They can save through a pension fund that may be offered by a pension entity (e.g. a pension fund management company or another financial institution), through a pension insurance contract offered by a life or pension insurance company, or through any other retirement products offered by a bank or an investment company. These pension providers are responsible for investing the assets in financial markets [16].

As the research presented earlier, in Europe, pension system is well developed and includes 3 Pillars: Pillar 1 – public pension (mandatory); Pillar 2 – public pension scheme and private mandatory contribution; Pillar 3 – private pension scheme – individual, without any constraint from the government, which also may come with some incentives (tax exemptions up to one certain limit). Based on this Pillars' approach, European countries may be classified in four categories (as presented in the table no.5).

In Middle East, more exactly in GCC area (Gulf Cooperation Council = political and economic alliance of six Middle Eastern countries—Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain, and Oman), all countries share the same policy according to pension funds, as the GCC countries are unified in such matters. Public pension system covers only locals, which contribute to the public pension fund. GCC citizens who are working in any GCC member country outside their home country are entitled to pension. Subscription for other GCC employee should not exceed the subscription share designated for the employers to any GCC nationals working for them. Expats employee are not contributing to the public pension scheme; therefore, they are not entitled to pension but they are entitled to end-of-service benefits (also known as gratuity or service pay). Nevertheless, expats (from outside GCC) contribute to the public pension system by themselves in their home country, sending money every month or annually to their home countries. Given that most expatriate workers in the UAE are estimated to send up to half their salaries home, this system is unsatisfactory from the government's perspective because it drains much-needed resources away from the domestic economy. From this perspective, Private Pension Funds appear as a necessary component for ensuring the sustainability of the country's economy.

Table no.5: Classification of countries according to the approach of the pension system

Member States fall in to four categories, i.e. those that	Examples
use little private funding and do not intend to change this even though there has been some marginal increase in private scheme coverage.	Spain, France, Luxembourg, Malta
have always based part of their pension promises on private, funded schemes but where the role of such schemes has increased and is still evolving. While pay-as-you-go schemes provide effective protection against pensioner poverty, they will not necessarily secure full pension adequacy in the sense of replacement income, therefore they are combined with private, funded schemes.	Denmark, Ireland, the Netherlands, Sweden (*), the United Kingdom
recently have reshaped their statutory systems to include a tier of mandatory funded, private pension schemes and financed these by shifting parts of the overall pension contribution away from the pay-as-you-go scheme. In most of these countries significant parts of the future adequacy of pensions is set to be based on these schemes which are expected to contribute	Bulgaria, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, Slovakia, Sweden (*)
have earnings-related pay-as-you-go social insurance pension schemes but are now shifting parts of their adequacy promise to an expansion of existing or newly created pre-funded, private pension schemes.	Belgium, Germany, Italy, Austria

(\*) Sweden falls within two categories. Source: [17]

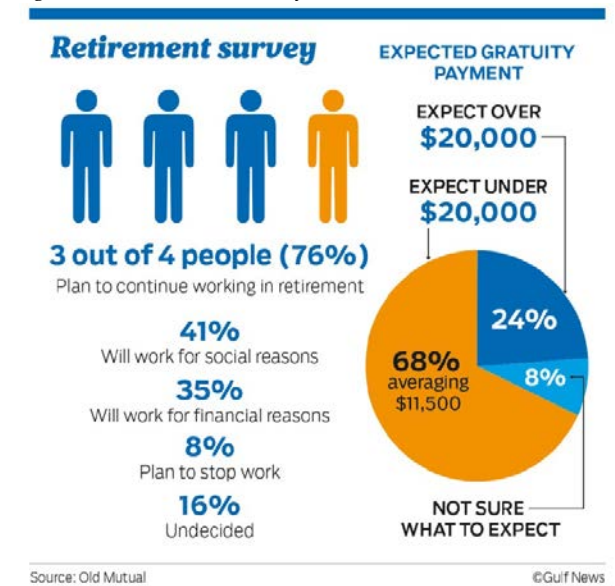
According to the annual pension survey in 2017, 64% of the expatriates in the GCC countries are not enrolled in any pension or retirement schemes. In the meanwhile, the other part that is enrolled in pension or retirement schemes with 81% of the still has an active plan in their home country [18].

With an 80% of the work force being expatriates, the government has noticed the importance to include private pension schemes allowing financial companies and insurance providers to provide retirement products to all GCC and UAE workers. The concept was taken because the trend of sharing the risk between private and public sectors has been raised. Especially in the demography of the GCC countries were the life expectancy is high and the retirement age is low as per the factors affecting the pension funds.

Now the workers who are the majority in GCC are expatriates send half of their salaries to their home countries, can help in the economic development of the economy in the UAE, and GCC by creating for them the correct and beneficial retirement pension fund, and as the retirement survey, it shows how 3 quarters of people plans to work after retirement, as they won't be ready for retirement.

This is what brought the attention to the importance of a proper saving plan for retirement, here came the governmental support for financial institutes and insurance providers to participate in the market with tailored retirement plans as a pension for those unentitled for pensions.

Figure no.6: Retirement survey in UAE, 2018



The most common type of private pension in the UAE is the defined contribution type (DC), public pension in the UAE has appeared in 1999 with the federal law for it, while private pension and retirement plans, has started initially by banks and insurance providers combined with life insurance policies and saving plans that brings the contributor a certain interest to the contribution and the first company that provided that in the UAE with life insurance scheme was ADNIC (Abu Dhabi National Insurance Company), and in the GCC the Saudi united insurance company in 1974 as a company with a national identity providing these services, in the meanwhile various foreign insurance companies was operating in the region, but their funds was invested outside the region.

Is mentioned that the importance of risk sharing between public and private pension became the new trend in economic development, there has been many reasons that came to the decision of introducing the private pension and retirement plan to the GCC countries, according to the study that was published in 2015 [19],[20] GCC countries has several challenges regarding social securities.

The challenges that GCC countries are facing in the public pension schemes, and the low private pension contribution was the reason why the government has encouraged private companies and corporates to enhance their retirement plans for employees that are majority expatriates. The challenges are the following: first, the low retirement age which on average 49 years old, and the service period of 25 years on average to make the citizen eligible for a 100% of salary in comparison to the paid period with the high life expectancy in the region [21].

Second, the low fertility rate that came to the region, making the beneficiaries more than the contribution, in example the UAE ratio between pensioners and contributors fell from 24 contributors to one pensioner in 2000, to 5 contributors to one pensioner in 2012. The case applies to all GCC countries that made the scheme deficit by 100B \$ which makes 25% of the GCC combined GDP.

Private Pension started in 2013 in UAE, and first scheme was offered by National Bank of Abu Dhabi. Today 75 financial institutions are offering private retirement plans or investment planes (46 commercial banks, 2 investment banks, 27 financial companies) and 33 insurance companies (The total number of companies underwriting all insurance classes (insurance of persons & fund accumulation operations, and property & liability insurance) includes (11) national companies and (2) foreign companies. The number of insurance companies underwriting only insurance of persons and fund accumulation operations includes (2) national companies and (7) foreign companies. It is worth noting that (11) national companies operate pursuant to the provisions of Takaful Insurance Regulations.)

The public and private sectors in a number of leading GCC economies are exploring new solutions for ensuring that adequate retirement cover is offered to all local employees. In the UAE, for example, Dubai's Department of Economic Development has been in discussion with the World Bank on the introduction of a mandatory pension system for employees not covered by the present scheme [22] – due to a high percentage of expats (which can contribute today... and save the public for social securities and pensions).

With all these issues the government has encouraged not only bank and insurance providers, but there are a lot of corporates that now engages their employees with an enhanced end of service schemes for retirement with the International Pension Plan and saving Plan Ie: Metlife UAE, in the present time, more than 100 corporates in the UAE includes their employees in such plans, to limit the flow of the employees' salaries to their home countries and increase the economic national development.

### 3 FINDINGS AND CONCLUSIONS

Pensions are used to protect against the risk of superannuation, respectively the outliving your ability to earn your own support in life. Public pension exists, but is the amount received after retirement as social security old-age benefit can be not enough to support a decent standard of living. Retirement is a journey, rather than a destination, and in most economies, it is one that will become progressively longer as life-expectancy levels rise. It is axiomatic that comfort and security should be priorities for all individuals undertaking this journey. For too many retirees, however, the journey is one that continues to be characterized by financial insecurity arising from insufficient savings to cover rising health-care costs and other day-to-day expenses [23]. Private pensions are plans established by a financial institution on private sector, generally defined as Private Pension Funds. These institutions offer a defined benefit plan, which the employees receive at retirement. The assets of private pension funds are used to purchase a variety of financial assets, including stocks and bonds [24]. However, the actual high living costs, financial recessions, inflation and unexpected expenses featured high among the factors likely to affect the respondents' saving plans.

Private pension funds have emerged because of increased longevity, declining birth rates, job instability, and the contin-

ued growth of public pension spending. From this reason private scheme for retirement were encouraged and sustain by the government – in Europe, contributions to private pension become mandatory – Pillar 2 – and promoted by insurance companies and public authorities; in GCC – contributions to private pension funds are promoted by the financial institutions (banks and insurance companies). In special in GCC area, education is considered as a crucial role for the future of the humanity, everyone is encouraged and educated to be aware of the importance of having a retirement plan – public and private – also, how this can become a successful business.

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