I. PENSION RECALCULATION AND CONTRIBUTIONS

Two years after the
Law 4387 of 2016

260 additional decrees and ministerial decisions

- From 12.05.2016 when law 4387 came out and the creation of the EFCA, until today there are more than 260 pieces of legislation (laws, ministerial decisions and decrees) which clarify, supplement or amend the law.
- According to the law pensions are recalculated as the sum of the "national" and the "reciprocity" pension.

RECALCULATION 1

National Pension (Flat amount):

- It is calculated on the basis of the number of years of permanent residency in Greece from the age of 15 until the retirement age and the number of career years.
- It is reduced by 1/40 yearly for each year of shorter residence in the country.
- It is also decrease by 2% yearly for less than 20 career years.
- For 40 years of residency and 20 insurance years it amounts to 384 per month.
- The minimum amount for 15 years of service and 40 years of residency in the country is 345.6 euros =384*(1-2%*(20-15)).
- Initially, it was projected to increase on the basis of the CPI and GDP but freezes until 2022.

RECALCULATION 2

The (so called) Reciprocity Pension (Earnings Related):

- Calculated on the pensionable salary at the year of retirement
- For new pensioners after 2015 and current workers the pensionable salary is based on all career after 2002. Salaries before 2016 were valorised with the CPI.
- For retired pensioners who belonged in insurance classes or categories or imputed amounts, the pensionable salary was calculated at their price in 2016. In other cases, the pensionable salary was adjusted by the pension indexation from the retirement year up to 2016. This led to even more than 100% for retired people who left in 1990-2002. Reductions that had been made due to the age limits at the year of retirement did not change with the age limits in force in 2016
- The new replacement rates of Law 4387/2016

“PERSONAL DIFFERENCE”

- For the existing pensioners in 2016 the sum of the national and the reciprocity pension is compared to the amount of pension in 2016 actually paid. The difference between the two amounts is called "personal difference". When the new resulting pension imputed by law 4387 in 2016 falls short of the previous amount in 2016 prior to the law, the difference is calculated in 2016. The previous amount of pension is reduced in 2019 up to 18%. When the new resulting pension exceeds the previous in 2016, the positive difference increases the pension and the resulting increase is payable in five years’ installments from 2019-2023.

- Initially, the negative personal difference had been regulated to be reduced gradually by freezing pensions. However, the freezing of all pensions in retrospect was set to apply until 2022 and the personal difference was cut.

Recalculation Example

RECALCULATION EXAMPLE					
	Previous pension in 2016		1000		400
(1)	National Pension	384		384	
(2)	Reciprocity Pension	350		50	
	Sum of (1) and (2)	734	734	434	434
	Personal diference		-266		34
	Percentage of previous pension		-27%		
	Pension in 2019	1000*(1-18%) =	820	400+1/5*34 =	407

PENSION PRINCIPAL

According to article 11 of Law 3886/2010, which is still in force today

- The level of primary and supplementary pension expenditure, projected by 2060, should not exceed the 2.5 percentage point of GDP growth margin, with a reference year in 2009.

- According to ESSPROS in 2015, the proportion of pension expenditure was 13.5% of GDP, and therefore total pension expenditure from 2010 and onwards should not exceed 16% of GDP.

RESULTS

- Revaluation brings significant reductions (up to 18%) to pensioners who retire with over 38 insurance years who exited from the labor market after 2010.

CONCLUSION 1

For the year 2016 we knew that:

- Pension expenditure was 17.3% * GDP = 17.3% * 177.735,3 trill = 30.75 billion
- Employer's employer contributions = 10.5% * GDP = 18.49 billion (does not include the public as an employer)
- Thus the state through taxes covered 17.3% -10.5% = 6.8% an amount equal to 6.8% * 177.735,3 = 11.92 billion
- That was, from the main and auxiliary expenditure in 2016, 30.75 billion
- Employers and employees contributed € 18.49 billion (61% of the cost)
- The state, i.e. citizens through taxes, paid 11.92 billion (39% of the cost)
- The number of taxable citizens in 2016 was 7.3 million (4.7 employees and unemployed and 2.6 million retired). If the cost of the pension deficit is estimated at 4.7 million of the working population, the share of this amount is € 211 per month (the 3-member family monthly shopping at the SM) only for "retirement maintenance" and in addition to their individual social security contributions.

AGEING REPORT GREECE 2018

- According to the latest AWG country pension report having incorporated pension cuts from 2019, the corresponding tax burden is reduced . In 2020 it is set at 194 per month, securing more or less an amount of one electricity bill per year.
- The government subsidy drops from 6.8% to 5.5% of GDP and thus generates an economic downturn in government subsidy of 1.3% of GDP in 2019 or 2.64 billion.
- This amount if properly used by governments to contribute to the development of the country should boost economic growth.
- According to the report, if the agreed measures are to be imposed pension deficits will burden less the state budget in favor of taxpayers and burdens will gradually be transferred to employers.

PENSION AND CONTRIBUTION PROJECTION 2016-2070, EAA 2018

3.2.1. Projection results disaggregation

TABLE 7a								
Projection results disaggregation (%GDP)								
	2016	2020	2030	2040	2050	2060	2070	Peak year
Gross public pension expenditure	17.3	13.4	12.0	12.9	12.5	11.5	10.6	2016
Main pension expenditure	14.7	11.8	10.5	11.3	11.0	10.0	9.2	2016
Auxiliary pension expenditure	2.1	1.6	1.4	1.5	1.4	1.4	1.4	2016
Uninsured benefits	0.1	0.1	0.1	0.1	0.1	0.1	0.0	2043
EKAS	0.4	0.0	0.0	0.0	0.0	0.0	0.0	2016
Public pension contributions	13.7	12.6	12.3	12.6	12.2	11.5	10.8	2016
Main Employer & Employee	5.2	5.5	6.0	6.1	6.0	6.0	6.1	2035
Auxiliary	1.7	1.6	1.5	1.5	1.5	1.5	1.5	2016
State	6.8	5.5	4.8	5.0	4.7	4.0	3.3	2016

CONCLUSION 2

- In our last year's study, we concluded that old age pensions of the new pensioners after 2016 are significantly under-funded in relation to contributions, thus disproportionately burdening current workers.
- The latter are asked to support with contributions and taxation both existing pensioners and - without any more of a robust new generation of workers - also contributing to their future pensions themselves. It is the first generation not getting enough pensions although they paid for them at the opposite side of the first generation of pensioners who received without paying. In this sense, the agreed measures should be respected.
- The system's reward for young pensioners for 2019 has been estimated at 90%. Although recalculation reduces the average pension of existing retirees, it still maintains a reciprocity rate of up to 200%. At the same time, intergenerational fairness with young people is strengthened.
- Whether the existing or new pensioners' pension cuts were fair, this can be studied on the basis of the respective policies. In this sense, according to a more "proletarian" but also a leveling political view, existing high thresholds lead for the majority of people to adequate non-contributory pensions. Another policy might be that pensions are more rewarding (actuarially fair) as a motivation to work. It always requires a healthy dialogue by using appropriate tools and indicators -without sterile and unilateral conflicts- so that a golden intersection between the two to be immerged.

II. “An insight look on the Social Security reforms”

WITH THE GROUP FUNDING RATIO INDEX

Issued in June 2017

INTRODUCTION

- Our role as government actuaries in Greece has also to do with the financial crisis. Maybe one of the biggest thorns was social security treatment. The pathogenesis and the distortion were already known from years ago, but no Government wanted to drink the bitter remedy of political cost, leaving the system in an uncontrollable way towards the cliff of deficits.
- Our aim is to get straight to the point and provide governments with the tools to negotiate and consult on policies towards the right mixture for a sustainable social security system, between actuarial and social fairness. Indices provide us with the ability to set a further insight to the system

THE VARIOUS FUNDS MERGED INEQUALITIES REMAINED

actuarial association of europe

All main pension funds have been merged to one "EFKA"

- Because the system of main pensions remains distributive (PAYG) financial link between accumulated contributions and discounted pensions at retirement age is not directly provided. Solidarity towards the lower income strata means that those originally entitled to very small pensions according to the law or to their respective contributions, will eventually receive higher amounts. Normally the social policy is an obligation of the State but finally part of the difference between the contributions and the threshold of poverty, is now covered by the budgets of ex so called special funds, "ETAA", "TAPDEH", "TAPOTE" and "Banks" still bearing high contributions.
- In this case, the social justice prevails over actuarial fairness.
- In contrast, in the light of the perception of what is fair that considers that every 1 euro levy at the same time to be able to account for the same amount of pension at the same retirement age, when benefits significantly exceed the poverty threshold, the principle of actuarial fairness prevails over that of social solidarity.

THE GFR INDEX

Actuarial justice of main pensions for groups of people, can be monitored through the "Group Funding Ratio" (GFR), we have already introduced earlier at this group.

$$GFR = \frac{Present\ value\ of\ the\ average\ pension\ of\ \ a\ group\ at\ the\ retirement\ age}{Accumulated\ value\ of\ corresponding\ contributions\ at\ the\ retirement\ age}$$

For an actuarial fair amount GFR shall be equal to 100%, which means that, with the assumptions considered for the group, the present value of pensions (the amount that would be equivalent to all the lifetime pension withdrawals in the form of a lump sum at retirement) is equal to the accumulated contributions of the group. Instead, the groups of policyholders with immediate retirement with GFR more than 100% have on average pension benefits financed from the society. GFR is less than 100% means that the amount of the pension shall be actuarially unfair, in the strict sense of the term, and that the specific group pays more to support other groups, for the sake of social solidarity.

Table A : GFR for main pension funds years 2011 and 2014.

Fund to EFKA	GFR 2011	AVERAGE PENSION	AVERAGE RETIREMENT AGE	AVERAGE CAREER LENGTH	GFR 2014	AVERAGE PENSION	AVERAGE RETIREMENT AGE	AVERAGE CAREER LENGTH
OGA	268%	378	65	19	214%	474	68	24
IKA-ETAM	133%	882	61	27	141%	744	61	28
OAEE	83%	1224	65	32	54%	1012	69	32
PUBLIC SECTOR	186%	1225	56	31	148%	1189	58	32
ETAA	143%	1459	64	36	76%	1273	67	37
BANKS	97%	2282	57	31	77%	1386	57	34
TAPDEH	123%	2606	56	36	93%	1570	58	29
TAPOTE	99%	2031	56	31	86%	1570	57	34
WEIGHTED AVERAGE	**150%**	1082	60	30	**121%**	996	62	31
% DIFFERENCE	-67%	-11%			-19%	-8%		

•Source: author's Calculations based on Ageing Working Group Greek reports for 2009, 2012 and 2015.

Conclusion from table A.

- Table A reveals that in 2011 only OAEE, Banks and TAPOTE were financed on average solely by contributions from insured persons and bear GFR slightly less than or almost equal to 100%. All remaining funds with GFR more than 100% were overfunded by taxpayers or by new retirees of the above three funds. The public sector Fund was also overfunded, with GFR at 186%. The GFR of OGA was 268% for 2011, and the average OGA pension was €378.1, below the poverty threshold of, € 598.17 in 2011.

- The average GFR in 2011 was 150% and the average main pension € 1,081.5, only two thirds of which was covered by contributions and the remaining one third was supplemented by the Public budget. So the system was to be actuarially fair, the average main pension amount should have been 1,082/1.5 = 721 Euros.

Table B:

- Table B below examines the impact of the pension reform in 2016 at groups of main funds as was their situation in 2014, with the assumption that in 2016 the funds carry exactly the same features as in 2014.
- Calculations were carried out with exactly the same salary, retirement age and career of 2014. The effects on the average GFR indicate that generally reforms still not picked up almost no care for the actuarial fairness, or otherwise for the return of contributions.

Table B : Effects on parameters of 2014 from the reform in 2016 for the years 2016 to 2019.

Fund to EFKA	GFR 2016	PENSION 2013 UNDER 2016 REFORMS AT 2016	GFR 2017	PENSION 2013 UNDER 2016 REFORMS AT 2017	GFR 2018	PENSION 2013 UNDER 2016 REFORMS AT 2018	GFR 2019	PENSION 2013 UNDER 2016 REFORMS AT 2019
OGA	201%	446	201%	446	201%	446,3	203%	450
IKA-ETAM	121%	640	121%	640	121%	639,7	121%	640
OAEE	49%	913	49%	913	49%	913,0	49%	913
PUBLIC SECTOR	115%	922	104%	832	99%	789,3	82%	656
ETAA	67%	1112	64%	1057	62%	1.031,5	57%	951
BANKS	58%	1048	52%	933	49%	878,4	39%	709
TAPDEH	69%	1162	61%	1023	57%	957,6	45%	754
TAPOTE	63%	1159	56%	1019	52%	953,7	41%	748
WEIGHTED AVERAGE	**101%**	703	**97%**	678	**95%**	666,4	**89%**	631
% DIFFERENCE	**-17%**	-29%	**-4%**	-4%	**-2%**	-2%	**-6%**	-5%

- Source: author's Calculations

Conclusion from table B.

The OGA remains the most overfunded Fund for 2016 and 2019, while the poverty threshold is already from the year 2014 lower than average pension, €376.0 for 2015 with slight downtrend from 2017 and onwards. The former special funds will suffer progressively larger cuts, resulting in completely reversed their situation, have been treated actuarially unfairly in relation to the IKA-ETAM, OGA and Public Sector. For 2016, the average new pension reduced by 29% compared to 2014 and the total average GFR stands at 101%, 17% less than in 2014, so already by 2016 the general system, becomes actuarial fair. However, a distortion for 2016 is that the Public Sector with GFR 115% and average pension € 922 higher than that of the OAEE, € 913, bears GFR 49% below that of the Public Sector, though this should be vice versa. The same unnecessary distortion applies to Banks and other special funds and mainly the TAPDEH. For the 2017 the distortion is corrected in OAEE and Public Sector but still retained between ETAA, OAEE, Banks and other special funds. The general GFR falls in 2018 at 97% and finally in 2019, when the law of 2016 will be in full force, at 89%, noting a historically negative return record. For 2019, Banks will have the lowest GFR and one of the lowest average pensions.

Assumptions and parameters

TABLE of MORTALITY: EVK 2000 with customizing active population by closing age 76

TECHNICAL INTEREST RATE: 2%

Weighted Annuity and for both sexes: 40% Male, 60% Female without offspring, payable 12 times a year

Inflation rate: 0%

Wage escalation due to age –promotions etc.: 1%

General wage increase: geometric average productivity 1995-2014:1.11%, convex ascending curve

Career: Full years before retirement

Table C : Contributions as a percentage (%) the salary for "old" insured people

Cases for salary contributions are shown in the following table and relate only to insured people before 1993 (“old” insured people):

Fund	Until 1992	Since 1993
OGA	7%	7%
IKA-ETAM	20%	20%
OAEE	20%	20%
PUBLIC SECTOR	20%	20%
ETAA*	22%	22%
BANKS*	37%	33%
TAPDEH*	33%	33%
TAPOTE*	36%	32%

* With some slight approximation and smoothing

Topics:

- Without LONG-TERM planning changes in the main pension system, for generations of retirees for the first time, led from outrageous GFR in 2008, to GFRs of 150% in 2011, 121% in 2014 and 101% in 2016, and are expected to fall to 89% on average by 2019. We see a progression from one extreme end to the other, i.e. from overfunded pensions in 2011 to 2019 underfunding. Unfortunately even today no one can guarantee that the system will be viable from now on, when the income of the funds are still prohibitive, because of unemployment and the working uninsured. Reforms in the social insurance system must be done from now on on a well prepared schedule.
- In this direction we will be preceded by adequate time organising a perhaps not so eagerly anticipated public debate and consultation, provided that specific questionnaire will be drawn up to facilitate this process. Fundamental parameters of this questionnaire should be the social solidarity, the return, the solidarity of generations, replacement rates, as well as a fair distribution of the of reforms' transition costs between insured persons, pensioners, children, grandchildren and society in general.

III. Group Funding Ratio, New pensioners and Pensions stock. A further insight look

An intergenerational distortion

IKA-ETAM	GFR 2011	AVERAGE PENSION	AVERAGE RETIREMENT AGE	AVERAGE CAREER LENGTH
NEW PENSIONERS	133%	882	61	27
STOCK OF PENSIONERS	187%	966	58	20
	GFR 2014	**AVERAGE PENSION**	**AVERAGE RETIREMENT AGE**	**AVERAGE CAREER LENGTH**
NEW PENSIONERS	141%	744	61	28
STOCK OF PENSIONERS	176%	733	59	21
	GFR 2017	**AVERAGE PENSION**	**AVERAGE RETIREMENT AGE**	**AVERAGE CAREER LENGTH**
NEW PENSIONERS	129%	821	63	29
STOCK OF PENSIONERS	166%	757	60	22

Table above

Examines the evolution of the GFR index for new as well as current pensioners. Results appear as follows and reveals the distortions of PAYG system in Greece:

1. New pensioner in 2011 received on average less pensions than current pensioners
2. New pensioners have lower GFRs than current pensioners
3. New pensioners work more and retire later than current pensioners
4. New pensioners are more funded by their contributions

The debate

In Greece there is an ongoing debate whether cuts already done to new pensioners should also be imposed to current pensioners as already agreed with the loaning parties.

There is another debate too, about whether the pension cuts in 2019 are a structural or rather a cash measure.

Of course pension cuts of current pensioners are a structural measure. From the point of actuarial fairness it also seems fair.

From the other side because IKA pensioners also include many people on minimum thresholds it remains an issue especially for them as not to sleep to poverty. This should be the real debate.

The debate

In Greece there is an ongoing debate whether cuts already done to new pensioners should also be imposed to current pensioners as already agreed with the loaning parties.

There is another debate too, about whether the pension cuts in 2019 are a structural or rather a cash measure.

Of course pension cuts of current pensioners are a structural measure. From the point of actuarial fairness it also seems fair.

From the other side because IKA pensioners also include many people on minimum thresholds it remains an issue especially for them as not to sleep to poverty. This should be the real debate.

Assumptions

ASSUMPTIONS	NEW PENSIONERS IKA 2017 "INSIGHT"	STOCK OF PENSIONERS IKA 2018
Mortality table	EVK 2000	
Technical Rate	2%	
Wage escalation	1%	1%
Inflation	0%	
Wage growth:	1,11%	1,11%
Weighted Annuit:	40% Men, 60% Women	
No descendants		
Career:	Full years before the retirement age	
Pension Indexation	-	0,0%
Density of contributions	75%	87%
Entry age	From statistics	35

Thank you!