

**THE NATIONAL SOCIAL  
SECURITY FUND - LEBANON  
(NSSF)**

**ACTUARIAL STUDY OF THE  
REFORM PROPOSAL  
AS AT 31/12/2003**

# **“What is an actuary” as per the International Association of actuaries (IAA) promotional brochure**

“Actuaries are multi-skilled strategic thinkers, trained in the theory and application of mathematics, statistics, economics, probability and finance. They have been called financial architects and social mathematicians, because their unique combination of analytical and business skills are used to address a growing variety of financial and social challenges worldwide.”

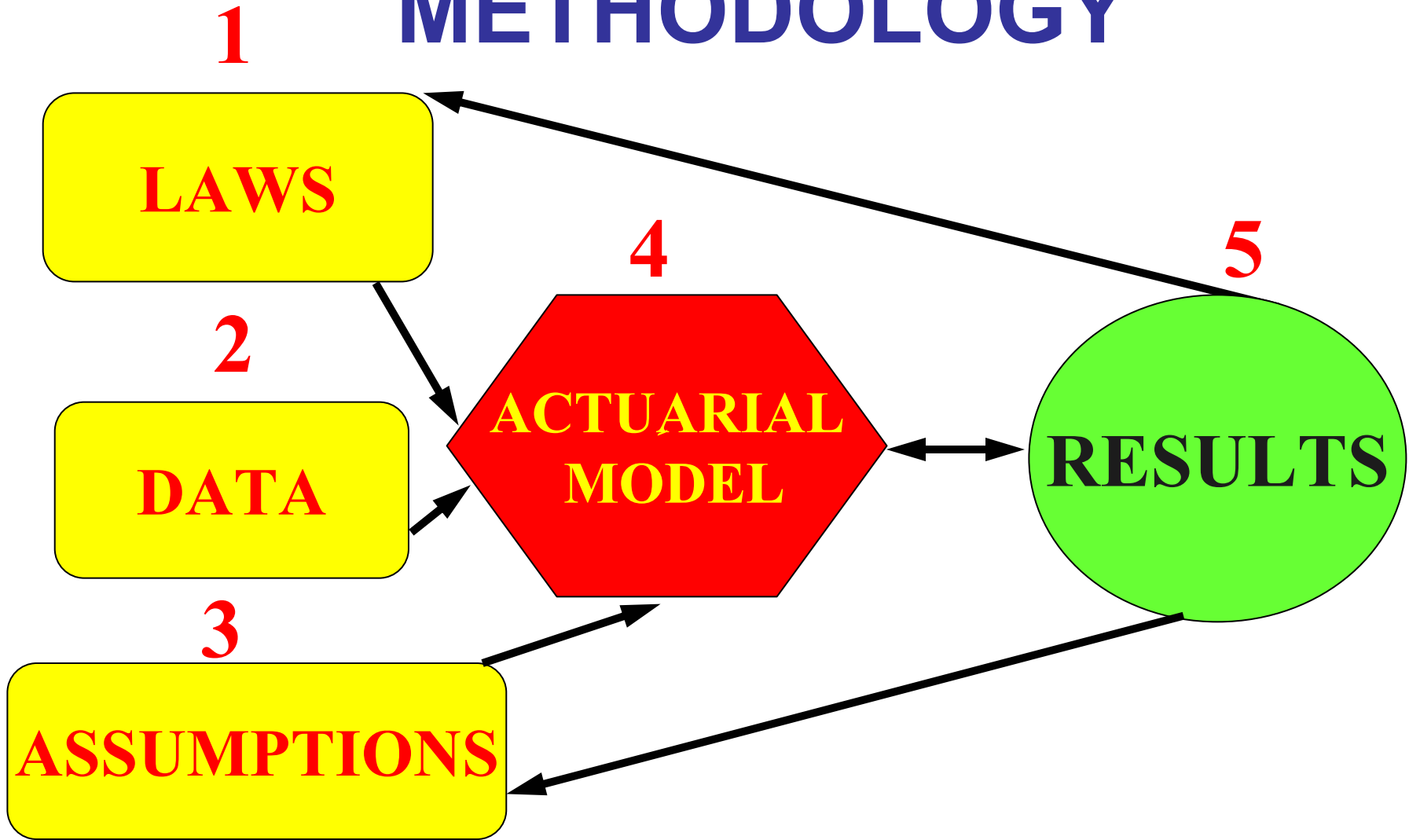
# Objective of an actuarial valuation

- The social security and pension funds aim at providing financial security after retirement
- But to be able to fulfill its obligations towards the insured members, the fund must sustain its financial equilibrium.
- The existing assets should be sufficient to cover fully the value of the benefits accrued in respect of service already completed
- An actuarial model is constructed which takes into account several complex probabilities and assumptions and produces solutions through different scenarios.

# Objective of an actuarial valuation

- Therefore, actuarial science is one of the basic tools for quantifying future risks pertaining to pension and health care benefits.
- One of the major financial challenges that Social Security Programs are facing when planning for the future is due to the effects of changing demographic structures over time.
- From there did the need arise to perform long-term financial projections and analyses of these schemes.

# METHODOLOGY



**Individual  
account  
12.25%**

**Old-age pension**

**12.25%**

**Collective  
account  
5%**

**Post-retirement health**

**2.5%**

**Death and disability**

**1.5%**

**Administration expense**

**0.75%**

**Minimum pension**

**0.25%**

# Collective account

**subsidy**

The government:  
0.45% of salaries

+

Retirees contribution  
for health: 5% of  
pension

+

% of investment  
return

+

% of delay penalty

# individual account 12.25%

5%

employer

No  
cap

7.25%

employer

Cap = 5 million  
LL

5%

employee

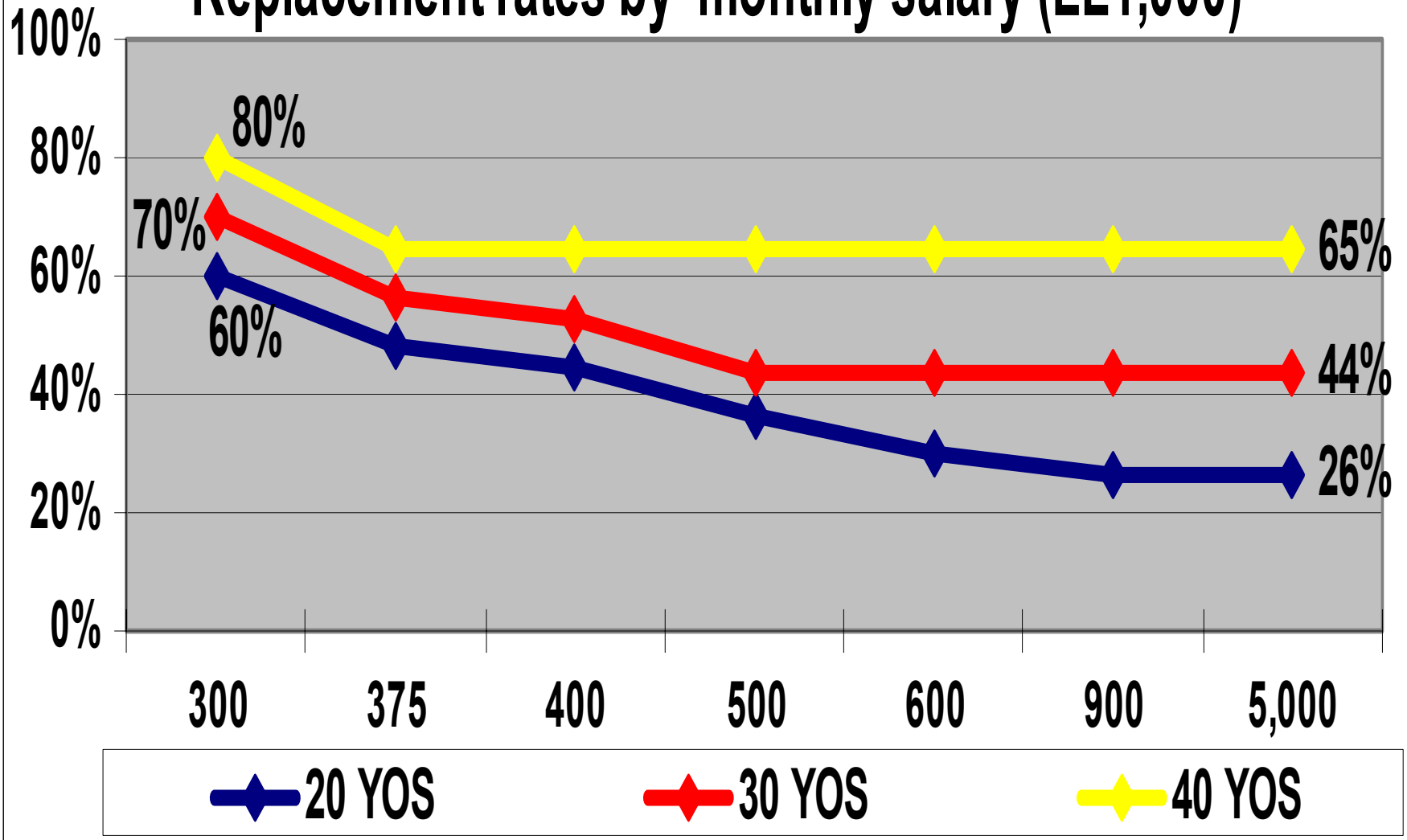
# The benefits

- 1. Minimum pension calculation:** 60% of 300,000, i.e. **180,000** LL for members with **20** years of service.  
The minimum pension increases by 3,000 LL for every year of service exceeding 20, so that it reaches 80% i.e. **240,000** LL for members with **40** years of service.
- 2.** A member's pension is computed on the basis of the due contributions and it is the responsibility of the NSSF to ensure that the salaries are correctly reported and to improve the contributions collection rate.
- 3.** The member has the right upon retirement to retain up to 10% of his account as a lump sum amount, provided the balance of his account is sufficient to be converted into a monthly pension equal to at least twice the minimum salary.

# NSSF participants by salary brackets

<b>Salary bracket</b>	<b>Monthly salary (1,000 LL)</b>	<b>% numbers</b>	<b>% amounts</b>
Low income	<b>300-599</b>	45%	18%
Low-medium	<b>600-899</b>	21%	15%
Medium-high	<b>900-4,999</b>	32%	56%
High income	<b>5,000 +</b>	2%	12%

# Replacement rates by monthly salary (LL1,000)



Minimum Salary (growth @3%)	Minimum Pension	Years of service	Monthly Salary (growth @3%)	Personal Pension	Replacement Rate	Subsidy Rate
300		starting	300			
542	325	20	542	144	60%	15.5%
728	510	30	728	321	70%	7.2%
979	783	40	979	640	80%	2.7%
(growth @3%)			(growth @4%)			
300		starting	300			
542	325	20	657	158	49%	12.9%
728	510	30	973	369	52%	4.7%
979	783	40	1,440	766	54%	0.3%

Minimum Salary (growth @3%)	Minimum Pension	Years of service	Monthly Salary (growth @3%)	Personal Pension	Replacement Rate	Subsidy Rate
300		starting	600			
542	325	20	1,084	287	30%	2%
728	510	30	1,456	642	44%	0%
979	783	40	1,957	1280	65%	0%
(growth @3%)			(growth @4%)			
300		starting	600			
542	325	20	1,315	316	25%	0.34%
728	510	30	1,946	738	38%	0%
979	783	40	2,881	1,532	53%	0%

## Annuity factors at 5%

Age of pensioner	60	64
Age of wife		
No wife	11.09	9.84
60	11.99	11.03
58	12.11	11.17

## Joint life expectancy

Age of pensioner	60	64
Age of wife		
No wife	17.81	14.92
60	22.85	21.33
58	23.77	22.39

**Note: the numbers presented above are purely for illustrative purposes**

# Employer contribution rates – Current and new system

Salary brackets	Monthly salary (LL 1,000)	Old system (8.5%)	Old system regularisation (11.25%)	New system (7.25% capped and 5% not capped)	% increase
Up to cap	1,000	85	112.5	122.5	9%
>=cap	8,000	680	900	762.5	-15%

# **Overview on i.e. MUHANNA & CO.**

**The first and largest Actuarial Consulting Firm in the Arab World**

**The 4th largest Firm in the World in Social Insurance.**

**The only insurance rating company in the region**

**The only actuarial education foundation in the region**

# A part of the Omnimu international group of co.

## The group stands for:

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- Healthcare financing
- Pension and social security
- Insurance supervision
- Financial Strength Rating Services
- Management consulting
- Software solutions
- Strategic thinking

### **The Muhanna Foundation**

- Actuarial education
- Research
- Continuing education

## **To date i.e. Muhanna & co. has :**

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- Provided services to 41 government & semi-government organizations.
- Reviewed 17 Social Insurance Funds
- Advised 52 life & general Insurance companies
- Provide services to 94 other private institutions
- Financed & sponsored 23 actuarial students
- Delivered & published 37 actuarial and insurance papers & studies

# Sites to visit

**i.e. muhanna & co**

**[www.muhanna.com](http://www.muhanna.com)**

**The Muhanna Foundation**

**[www.muhanna.org](http://www.muhanna.org)**

**Tel +9611 752 999**

**Fax +9611 751 292**