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Averting the Pensions Crisis

-the Case of Malta

1998

CONTENTS

		PAGE
	INTRODUCTION	1
1.	OUR YOUNG BUT AGEING SOCIETY	
1.1	Introduction	1
1	A Twentieth Century Development	1
1.3	A primary issue	2
1.4	The demographic dimension	3
1.5	The numbers game	4
1.6	Demographic trends	4
1.7	A solidarity contract	5
1.8	Reliability of projections	6
1.9	Main age groups	7
1.10	Ageing Indices	9
2.	THE WIDENING GAP - Myth or Reality?	
2 1	The Social Welfare Account	11
2.2	Imbalances	12
2.3	Two main causes	14
2.4	Sustainability	17
3.	AN EVALUATION OF THE BURDEN OF THE AGEING POPULATION	
3.1	Introduction	18
3.2	Description of the model	19
3.3	The computation of expenditure	20
3.3.1	The number of beneficiaries	21
3.3.2	The development of expenditure	23

3.4	The pensions balance	25
3.5	An alternative evaluation	29
3.6	Conclusions	30
4.	**A Strategy for Reform of the Pensions Scheme**	
4.1	Public Skills	31
4.2	Options for reform	32
4.3	Parametric reforms	34
4.4	Systemic reforms	35
4.5	The three pillars	35
4.6	Public Pay-as-you-go scheme	37
4.7	Occupational plans	38
4.8	Defined-benefits and defined-contribution plans	38
4.9	Personal saving and annuity plans	39
4.10	Indexation of benefits	40
4.11	Short-and long-term measures	41
4.12.1	Restructuring the Social Security Account	42
4.12.2	Female retirement age	46
4.12.3	Raising retirement age	47
4.12.4	Raising contribution rates	50
4.12.5	Maximum pensionable income	52
4.12.6	Arrears of N.I. contributions	52
4.12.7	Curbing abuses	54
4.12.8	Pensionable earnings level	57
4.12.9	A longer term proposal	58

Appendices

A	Pension schemes in European countries	63
B	Chilean and Singaporean systems	66
C	A framework for a private pension plan	69

References 76

INTRODUCTION

In December 1997, the undersigned was asked to chair a committee appointed by The Malta Council for Economic Development to report on anomalies in the operation of the Social Security Act concerning pensions and on the so-called "welfare gap" or the difference between the total amount of contributions under the Act and total expenditure made in the form of pensions and other benefits made also under the same Act. The group was supposed to continue the work which had started sometime in 1992/93. Since the stage that had been then reached could not be ascertained, it was decided to consider this study as a new assignment.

The committee consisted of representatives of the Trade Unions, Pensioners' Associations, the Malta Employers Association, representatives of the Social Welfare Department, Economic Planning Division, the Central Bank of Malta and the undersigned. At a later stage a representative of the Office of the Prime Minister joined the group.

The Group decided that priority should be given to a consideration of the "Welfare Gap" and this report sets out the observations and conclusions reached on this financial problem. It is divided into four parts:

- Part 1 underlines the various aspects of the problem which mainly lie in the demographic sphere. As an essential basis of future financial outlays, it analyses in some depth the likely demographic developments up to the year 2025.

- Part 2 examines in some detail the "welfare gap" arguing that this term may mean different things to different persons and to different social groups. Its evolvement is mainly a political one and whichever way one looks at the social security account, one is bound to foresee equilibrium problems.

– Part 3 makes reference to demographic developments outlined in Part 1. On the basis of a number of assumptions relating mainly to assumed rates of increases in pensions and benefits sets out two different scenarios of the likely amount of contributions which (depending on the size of the future workforce and GDP) may be collected in future and the expenditure on pensions under the contributory scheme.

The first scenario, which may be regarded as a pessimistic one, is based on the average increases in pensions observed during 1992 - 1996, while the second scenario, which may be regarded as an optimistic one, links increases in rates to an assumed annual inflation rate of 3.5%.

– Part 4 examines the main characteristics of public and private pension schemes mainly found in European countries and the different reforms which pension schemes had undergone. It makes recommendations for short and long term adjustments in our social security system. The latter reform would consist in the adoption of a two-tier pension system, made up of a universal basic pension and a private complementary benefit scheme to cover upper earnings groups and others on a voluntary basis. In formulating short-term measures, the group had in mind the budgetary difficulties obtaining at present.

In brief, the report is an attempt to highlight the need for adjustments to the present public pension scheme. It recognises that the growing fiscal impact of the social security system is a mathematical certainty that cannot be totally blamed on Government except in so far that no proper assessment seems to have been attempted on what the future situation will be. It is partly caused by the increasing number of Maltese who will collect benefits for a longer portion of their lives. The "baby-boom" generation will begin retiring during the first decade of the next century with the result that the cost of maintaining the existing programme of public pensions will balloon enormously.

An official decision whether or not to proceed with a reform strategy should be taken immediately for two reasons. First, by any changes in the parameters of the existing system may bring along with it necessary adjustments of a fiscal, economic or social character and the longer the delay in solving the system's imbalance, the more drastic the steps that must be taken. Secondly, it is important that any reform be phased in over a period of time.

Delay in not acting promptly is also unacceptable for other reasons. On one hand, individuals should have enough time to consider new contribution adjustments and new conditions of pension entitlements in relation to their personal long-term financial plans. On the other hand, both Government as an employer and private employers may have to make changes in their future budgets. It is also important that such reform should be considered as a national issue since the social system touches the lives of virtually all Maltese and time is therefore needed to develop a consensus.

Throughout its deliberations, the group was fully conscious of the fact that theoretically, the problem of the welfare gap can be easily defined, but difficult to solve in practice.

Although this assignment can be viewed as an academic exercise, (it definitely is, in part), yet the Committee have adopted a practical and honest approach. In part 3, an economic model carefully adapted to the local circumstances was employed for purposes of forecasting. In part 4 of the report, our comments were pragmatically aimed at both cutting government expenditure and increasing revenue.

Comparisons with systems found in other countries have not been given a high profile for two reasons. First, by our small economy may not permit the pension arrangements obtaining in the more developed and much bigger economies of Western Europe and elsewhere. Secondly, international statistical data which are

rarely strictly comparable do not permit a very sound comparative analysis of the ratios and magnitudes of several important variables.

A draft of the report has been discussed by the Committee during meetings held in March 199[redacted]

Remo Camilleri
Chairman

1-Our Young but Ageing Society

To-day there are four potential workers for each pensioner. Within ten years, this ratio will decline to 3.5 and will drop to 2.3 by 2025.

1.1 Introduction

1.1.1 Issues of economic security in some form or other have concerned governments for many years. With the advent of industrialisation when more and more people depended on earnings for their economic activity, new types of economic insecurity developed gradually affecting, in particular, certain sectors of the labour force more than others. Workers dependent on their earnings for themselves and to support their families are vulnerable to problems of unemployment, low wages sometimes below the subsistence level, disability conditions, illness and premature death. On retirement, most workers have been faced with poverty and total economic insecurity.

1.1.2 During the 19th century, European countries witnessed the birth of various social reform movements; most of these were run on voluntary basis but concentrated on the acquisition of a "minimum" wage, unemployment protection, workers' compensation and health care benefits and some protection for the elderly. The first movements providing social security benefits in Malta were run on a voluntary basis and date from the 15th century. It was however in 1889, that Chancellor Otto von Bismark introduced the world's first national contributory pension scheme. Until then, governments had assumed no responsibility to provide for old age.

1.2 . A Twentieth Century Development

1.2.1 Just as the ageing phenomenon is a product of the 20th century, so is the birth and development of most social security plans including pension funds operated in various forms in the industrialised countries. Throughout the present century, governments have assumed a positive role in the promotion of 'social welfare' - a term that specifically refers to the provision of education, health-care and social housing; the personal care services for the old, the handicapped etc. and the cash transfers to particular groups such as the sick, the old and the

unemployed. Reforms in the social security systems of the industrialised economies particularly in relation to public pension funds have been undertaken after the Second World War. To-day governments in the OECD countries spend an average of 9 per cent of their GDP on pensions and this is expected to rise in future.[1]

1.2.2 A similar development was discernible, alongside with that in public pension plans, in the private sector. Vocational and other private pension plans were at times received with little enthusiasm by social reformers for various reasons particularly in an *unregulated* environment. Some said that employers might structure their plans to suit more their own interests and concerns. Others maintained that retirement needs of certain groups might be ignored such as in cases of mobile employees or young workers or intermittent workers. Pension plans provisions were at times intended to tie workers to their workplace and could punish those who wanted to leave to work for competitors. There were also cases where private plans were primarily intended to secure the maximum tax incentives that are usually allowed on employers' contributions. Some of these shortcomings were overcome when workers were unionised and where private pension plans were regulated by government as is the case in many countries today. Present arrangements in Europe and other countries provide for both public and private pension schemes to operate alongside each other, with the latter plans generally regulated by government

1.3 A Primary Issue

1.3.1 The present debate on pension funds is likely to continue to be a priority item for society since ageing today affects virtually all countries, but more so the industrialised countries which have experienced this phenomenon for a longer period and for which further pronounced ageing is projected for the next forty years. Both on an international plane, through Organisations as the United Nations, OECD and the World Bank and on a national basis, concerns about the present and future challenges posed by further population ageing are now an important issue item on the agenda of governments.

1.3.2 In the case of Malta, both the Ministry of Finance and Commerce and MCED expect the present Committee to respond to some of these concerns focusing in particular on the fiscal sustainability of the public pension scheme notwithstanding that the brief specifically referred to the so-called "welfare gap".

[1] IMF Survey - December 1997

This is an administratively-coined term broadly related to the shortfall between the total amount of contributions collected under the National Insurance Act and payments in respect of pensions and other social benefits, children's' allowances and hospitalisation expenditure

1.3.3 This paper will examine the pension-related ageing problem from a fiscal perspective although some reference will also be made to pertinent socio-economic issues. It will also focus on immediate or short-term considerations as well as on likely developments up to 2025. Although similar studies take into account a much longer perspective - up to 2100 -it was decided that the discussion will be confined to a much shorter period. The key questions which will be addressed are the following:

- How will projected demographic developments that determine the proportion of the pensionable elderly affect pensions outlay?
- What will be the likely size of the fiscal burden during the next thirty years?
- What may be the fiscal implications of alternative reform options with a view of ameliorating the present burden? In particular, should the present public scheme for universal pension benefits be shared with private sector initiatives?

1.4 The demographic dimension

1.4.1 Changes in the demography of both industrial and developing countries have caused increasing strains in both the traditional and relatively new systems providing financial security for the elderly. During the past few years the debate has assumed new proportions and several countries have tried to study ways to restructure their pensions systems which have proved both unsustainable and difficult to reform. Italy is presently struggling with reforms to avoid imminent further strain to its already weak finances as a result of the exceptionally high proportion of the elderly of its population. According to research carried out by the International Monetary Fund, in some developing countries, these systems are nearing collapse.

1.5 The numbers game

1.5.1 In the beginning of the 1990s almost half a billion people or more, that is 9 per cent of the world's population were over 60 years old. By 2030, the number will triple to 1.4 billion. Most of this growth will take place in developing countries which are still in the first or second stage of their demographic transition, over half of it in Asia and more than a quarter of it in China alone. Because of the broad diffusion of medical care and services, rising incomes and declining fertility, developing countries are ageing much faster than industrial ones. In France and Belgium it took more than 100 years for the share of the population over 60 to double from 9 to 18 per cent. In China it will take only 34 years while Singapore will double its over 60 population in 21 years time. Malta's 60 + population segment represented 9% of total population in the second half of the 1950s but is projected to double itself in 55 years time. As a result of a quick demographic transition, developing counties will age more quickly than the industrial ones.

1.5.2 As a result of rising life expectancy and declining fertility, the proportion of old people in the general population is growing rapidly and at a time when extended families and other traditional ways of supporting the old such as community-based assistance programmes are weakening. Reform or new thinking on present financial security for the old is sometimes handicapped by the lack of awareness on the part of policymakers concerning the impact these arrangements have on such diverse concerns as poverty, employment, inflation and economic growth.

1.5.3. Apart from political and economic implications, the discussion on this issue has, however, to be primarily based on a thorough examination of future demographic trends.

1.6 Demographic trends

1.6.1 Although there may be uncertainty about long-term demographic changes, the short- term outlook is relatively certain while in cases where the demographic transition has reached an advanced stage with fertility and mortality rates fairly stabilised, the medium-term outlook is also predictable with a high level of reliability. Projections of demographic trends mirror a number of assumptions about future variations in fertility, mortality rates and migration flows. The latter parameter is, of course, very important in some countries like Australia,

Canada and in several European countries such as Belgium, Austria and Switzerland where immigration is still an important demographic factor, the more so, if these projections are used for future social security analysis. Fertility rates (the number of children born to an average woman during her lifetime) differ considerably from country to country and may prove difficult to predict. Again, within the context and scope of this paper, although the correctness of fertility assumptions will not affect the projected number of old people, they could nonetheless affect considerably the dependency ratio (the size of those who do not contribute in relation to the size of the working population or potential contributions). Life expectancy is also notoriously difficult to predict but in the more developed economies, such as Sweden and Japan, it is not expected to increase by more than 5 years in the long run.

1.7 A Solidarity Contract

1.7.1 The relevance and influence of demographic developments on the future of social security is partly based on the acceptance of society to give due protection against the contingency of old age by guaranteeing an income to workers who are too old to continue participating in the production process. There has thus developed a sort of an implicit obligation often referred to as a "solidarity contract" between generations; those who are gainfully occupied today contribute towards the elderly whose income may not be enough to support them, in the hope that they too will be treated in the same way when they retire from their jobs. But this solidarity contract is in turn based on a very simple financial premise: ***this support can only be given so long as there is a sufficient amount of contributions***.

1.7.2 Future demographic trends provide a useful guide as to the how long this "contract" could be maintained. An analysis of the structural effects of population change, both from the purely demographic aspects such as gender and age distribution and from related demographic aspects such as the working-age population, the participation rate, the already retired and future retirees, has to be undertaken within the local context. The first part of this study has therefore to be essentially a statistical exercise drawing extensively on data published by the Central Office of Statistics.

1.7.3 Future population changes are usually based on projections which in themselves are neither forecasts nor predictions. They are essentially a function of a number of hypotheses on which they are based, i.e. those related to age-specific fertility, migration and mortality by age and

gender. One has also to add that these projections do not take into account political and economic factors which can cause widespread distortions to the results. In our case, the tables showing future population changes in the 61 + age group takes into account 1996 as base year and are worked out on the basis of the following three parameters and take.

a) the average death rates for each age group by sex recorded during the past three years.

b) the average natality rates specific to age by single years of females aged 14-49 recorded during the last three years and

c) zero migration / naturalisations / registrations

1.7.4 The last parameter could perhaps be somewhat modified to take account of a small number of immigrants mainly returnees and other additions to this age group by way of registration and naturalisation. If this small adjustment is made, each year's 61+ population has to be increased by around 50 (the mean for the last 10 years) which over a period of 28 years would push up the 61+ age group by around 1000 (net). This relatively small addition will not, however, change any of the basic indicators described later on.

1.8 Reliability of projections

1.8.1 The level of reliability of short and medium term population projections based on the parameters already described is very high. Estimates of future population levels worked on the 1985 Census findings in respect of the 60+ age groups tested against the estimated population of the same age group in respect of 1996 showed a shortfall of around 1600 which, when corrected for net migration inflows and the number of naturalised Maltese and other registrations of newly acquired citizenship, stood at 700 over a period of 11 years representing a mean difference of some 64 per year Considering that the 60+ age group averaged 56,000 during the same 11 year period the resulting error demonstrates the high level of reliability obtained as a result of the local stabilised fertility and mortality age-specific rates. Notwithstanding that this study covers a longer period (28 years) there does not seem to be any apparent significant indications of falls in either fertility or mortality rates or both in the near future which would invalidate the assumed variables.

1.9 Main age groups

1.9.1 As at the end of 1996, the Maltese population was estimated at 373958 consisting of 185,319 males and 188639 females. These estimates are based on the 1995 Census and show an increase of 0.61 per cent over the previous year. This magnitude of population growth will be on a declining trend going down to 0.57 per cent by the turn of the century and will be halved by the end of the 2025 when population will increase by 0.31 per cent over the previous year. Zero growth is projected towards the year 2030.

1.9.2 The Total Fertility Rate (TFR) which represents the average number of children that women of reproductive age will have if their reproductive behaviour does not change, works out at 2.1 children per woman. Demographers generally agree that at this rate, generations are renewed; below this rate, they are not.[2] But major population trends change so slowly that demographers have also coined the phrase "population inertia".

1.9.3 Analysed by major age groups, the 0-15 age group represents 23.2 per cent of the Maltese population. The working age group 16-60 represents 61.6 per cent, while the old age group, the 61+ represents 15.2 per cent of the population. At the 1985 Census, the young age group stood at 25.6 per cent, the 16-60 age group at 61.1 per cent while the 61+ age group at 13.3 per cent.

1.9.4 Table 1.1 shows and Chart 1.1 plots changes in the structure of the Maltese population (based on 1996 estimates) up to 2025. Three basic considerations emerge from these projections.

1.9.5. Firstly, in percentage terms the young age group (0-15 years) will register very small drops during each successive year up to 2009, until its proportion reaches 20.3 per cent, thereafter it will recoup some of the losses to stand at 20.7 per cent by 2019 but will resume a downward trend thereafter. In absolute terms, similar movements are discernible at the same time-points. Standing at 86786 as at end of 1996, the number of persons aged 0-15 will decline to 81,285, but will then resume a slight upward trend to stand 85,772 by 2,019, but will then decline to 83,938 by the end of 2025.

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[2] The TFR is not a predictive indicator as such. A population may also continue to grow for a certain time with a TFR lower than 2.1 but this indicates that the population is likely to age if the TFR does not increase in the near future. Most European countries have a TFR less than 2.0.

1.9.6 One possible explanation of these contrasting movements may be the net result of two historical factors "echoed" in subsequent generations. As a consequence of the stemming of migration outflows after 1975, young couples were now staying in their motherland as a result of which, the potential reproductive segment grew bigger and the small "bulge" after 2008 represents their offsprings. But the 1970's witnessed also the onset of the "contraception revolution" in the Maltese Islands accompanied by more education facilities and a changing role of women in the Maltese society, factors which tend to lower fertility. These phenomena could partly explain the reason why reversed migration flows after 1975 did not result in much higher fertility.

1.9.7 Secondly, the 16-60 age group which represents the potential labour force demonstrates contrasting trends. In absolute terms, the 1996 working-age population totalled 230,426. This is projected to rise gradually to 244,976 by 2,005 but will then resume a downward trend which will continue up to 2,023, thereafter it will rise slightly during the following two years. Proportion wise, the decline is a continuous one. From 61.6 per cent in 1996, it will gradually go down to 55.6 per cent or six percentage points by the year 2025.

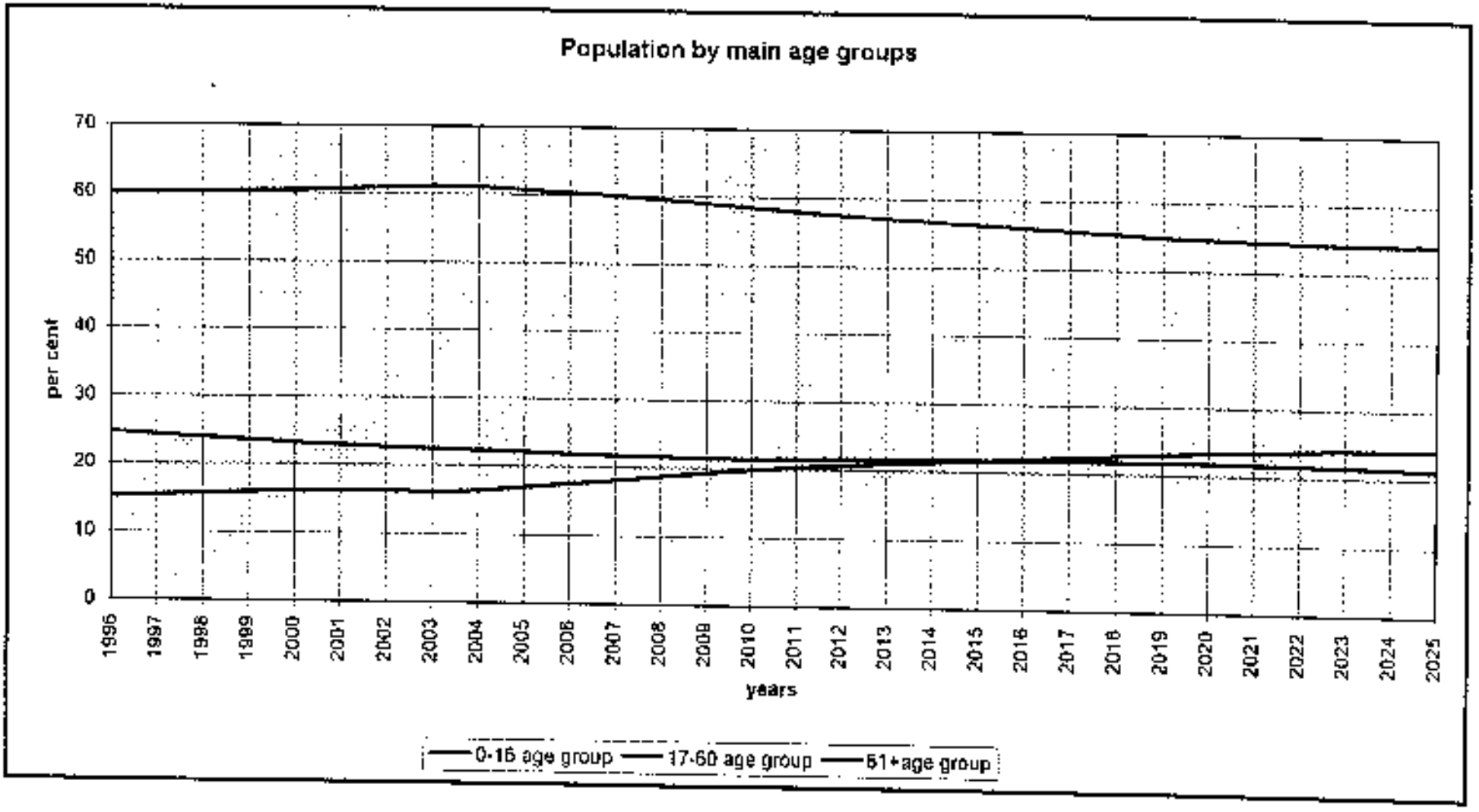
1.9.8 Thirdly, there is a definite upward projected ageing pattern with a stepping-up of the elderly incremental ratio after 2004 which marks a period when the baby-boomers of the mid-1940's will reach age 61. As already hinted, the net inflow of migrants after 1975, mainly within the 45+ age group also pushed modestly the old portion of the population. In absolute terms, the 61+ age group is projected to increase by 44,751, (79 per cent) going up from 56,746 as at end of 1996 to 101,497 in 2025. The gender ratio within the group will however decline; from 133 females per 100 males in 1996 to 118 females per 100 males in 2025. Proportion wise, Malta will be having a substantially higher proportion of elderly in relation to the other main age groups. The 1996 ratio of 15.2 per cent will register a yearly incremental rise varying between 0.1 and 0.3 percentage points up to 2004 but will thereafter increase at rates varying between 0.4 and 0.7 percentage points to stand at 24.3 per cent by 2025.

1.9.9 In brief, population projections up to 2025 mark a slightly falling proportion of the younger age groups and a similar diminishing trend line in respect of the 16-60 age group, more or less of the same magnitude and following generally in a parallel path. In contrast, a gradually rising curve is discernible corresponding to the increase of the 61+ age group. ***The conclusion is clear: in future the supportive element in the population is shrinking while the number of dependants is growing. These trends may be more pronounced after 2025.***

Table 1

Populations by main age groups
Up to 2025

Year	0-15	%	16-60	%	61+	%	Popul.	Change	Increase	Index
1996	86785	23.2	229126	61.6	56742	15.2	372652			100
1997	86004	22.9	231984	61.7	58233	15.5	375221	2569	0.61	100.61
1998	84911	22.4	234013	61.8	59528	15.7	378452	3231	0.59	101.20
1999	84040	22.1	235942	62.0	60665	15.9	380647	2195	0.58	101.79
2000	83361	21.8	237615	62.1	61825	16.2	382803	2156	0.57	102.37
2001	82823	21.5	239566	62.2	62539	16.2	384930	2125	0.56	102.93
2002	82548	21.3	241649	62.4	62838	16.2	387035	2105	0.55	103.50
2003	82203	21.1	244055	62.7	62863	15.2	389121	2086	0.54	104.05
2004	81837	20.9	245293	62.7	64125	16.4	391195	2074	0.53	104.61
2005	81413	20.7	244976	62.3	66858	17.0	393247	2052	0.52	105.16
2006	81150	20.5	245579	61.9	69541	17.6	395270	2023	0.51	105.70
2007	80894	20.4	244165	61.5	72102	16.1	397261	1991	0.50	106.23
2008	81004	20.3	243214	60.9	75006	18.8	399224	1963	0.49	106.76
2009	81285	20.3	242137	60.4	77717	19.4	401139	1915	0.48	107.27
2010	81959	20.3	240932	59.9	80096	19.9	402989	1850	0.46	107.76
2011	82671	20.4	239669	59.2	82421	20.4	404761	1772	0.44	108.24
2012	83262	20.5	238913	58.8	84260	20.7	406435	1674	0.41	108.68
2013	83918	20.5	238177	58.4	86032	21.1	408017	1582	0.39	109.11
2014	84339	20.6	237555	58.0	87622	21.4	409516	1499	0.37	109.51
2015	84801	20.6	236822	57.6	89286	21.7	410908	1392	0.34	109.88
2016	85193	20.7	236009	57.3	90977	22.1	412179	1271	0.31	110.22
2017	85497	20.7	235140	56.9	92705	22.4	413342	1165	0.28	110.53
2018	85689	20.7	234250	56.5	94436	22.8	414385	1043	0.25	110.81
2019	85772	20.7	233513	56.3	95917	23.1	415302	917	0.22	111.06
2020	85721	20.6	232973	56.0	97372	23.4	416066	764	0.18	111.26
2021	85554	20.5	232400	55.8	98736	23.7	416692	626	0.15	111.43
2022	85272	20.4	232120	55.6	99804	23.9	417196	504	0.12	111.56
2023	84891	20.3	231978	55.6	100729	24.1	417598	402	0.10	111.67
2024	84435	20.2	232202	55.6	101239	24.2	417876	282	0.07	111.75
2025	83938	20.1	232597	55.6	101497	24.3	418032	152	0.04	111.79
							Average	1520	0.39	


Population by main age groups
per cent
70
60
50
40
30
20
10
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
years
0-16 age group
17-60 age group
61+age group

1.9.10 The projected age-groups within the 61 + population segment demonstrate also that the biggest percentage increases will manifest themselves in the 'very old' age groups. The 75-79 group which represented 14.9 per cent in 1996, will grow to 18.6 per cent in 2025. The 80-84 group will also rise to 9.9 per cent from its present 8.4 per cent proportional representation, while the 85+ group will surge by 2025 to 6.8 per cent compared to 6.3 per cent in 1996. Together these three age groups will represent 35.3 per cent of the total 61 + age group compared to 29.6 per cent in 1996. In absolute terms, the very old will grow by 18,999 or more than double its present level by 2025.

1.9.11 The projected 61+ age group may however prove to be larger as a result of longer years lived mainly brought about by an amelioration of geriatric services. Life expectancy which at present stands at 74.9 in respect of males and 79.8 for females is fairly comparable to that attained in the industrialised countries of Europe. Sweden records the highest life expectancy indices: 76.5 for males and 81.5 for females followed by Switzerland with life expectancy indices of 75.7 for men and 81.9 for women. It is in countries where the expectation of life at birth is lowest that the greatest progress may be expected mainly as a result of a drop in infant mortality rate and general economic development. In countries where the demographic transition has been or is nearly completed, it will be difficult to make further headway in that existing socio-economic conditions reflect a high standard of medical services and an enhanced quality of life. Malta has reached a stage where further additional years in excess of 3-4 years to the present life expectancy indices may be difficult to achieve up to 2025.

1.10 Ageing Indices

1.10.1 No analysis of the projected demographic changes in the "old" segment of the population will be complete unless due reference is made to the main ageing indexes, the elderly dependency ratio (EDR), the total dependency ratio (TDR) and the very elderly ratio (VER). ***The behaviour of the three indexes is a clear indication of likely future problems that the State has to face as the main provider of social and health services and other financial assistance to the elderly.*** As the elderly population grows in relation to the working-age group, the State has to commit a bigger portion of its budget to meet the rising costs of social and geriatric programmes.

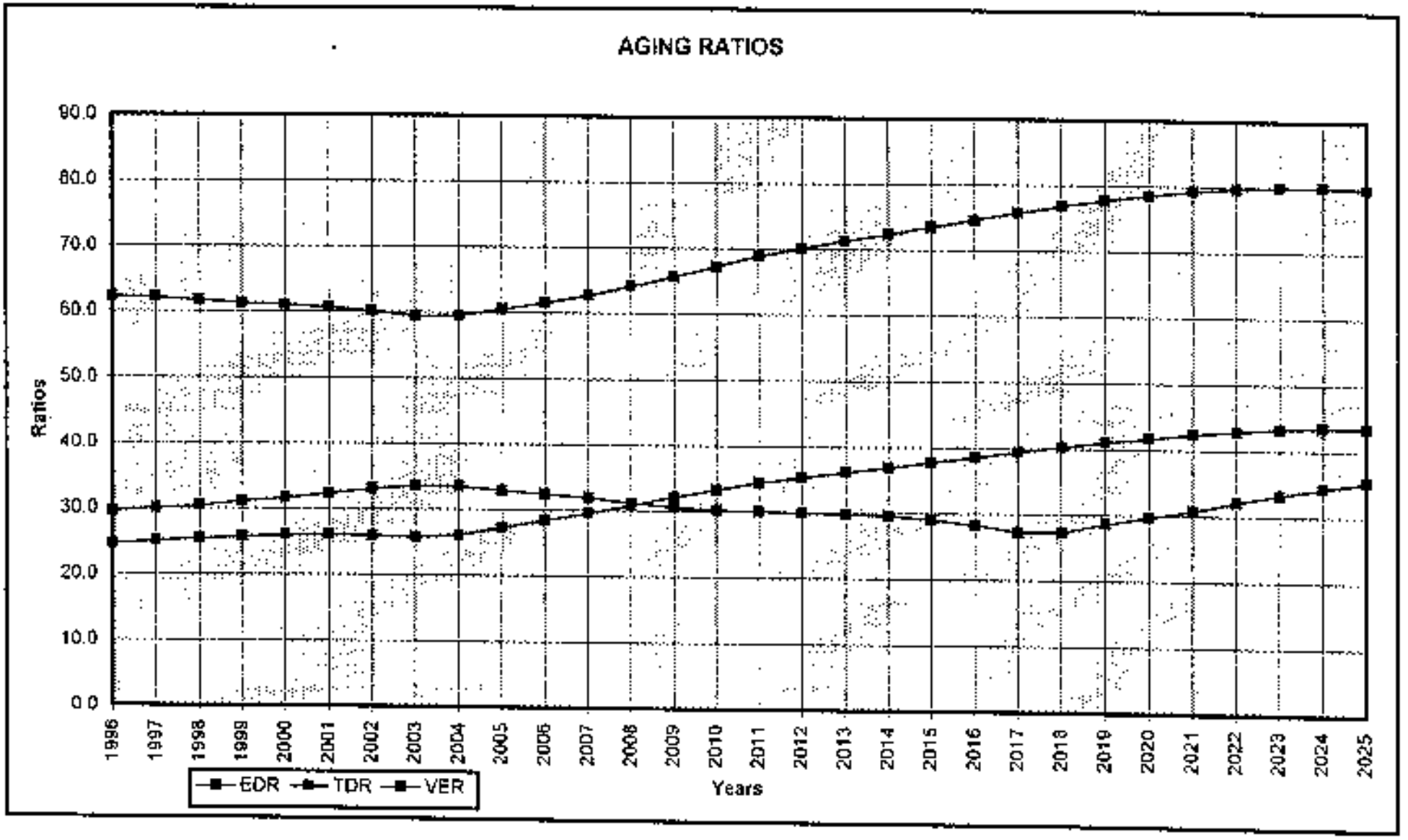
1.10.2 The EDR is essentially a basic indicator relating the number of retirees (those who are 61 years or more) to the number of the potential labour force. This is a useful statistical measure when applied to long-term

Table 2

Aging Ratios
(1996-2025)

Year	0-15	75-79	16-60	80-84	61+	EDR	TDR	VER	85+	75+
1996	86786	8467	230426	4786	56746	24.6	62.3	29.6	3566	16819
1997	86004	9074	231984	4734	58233	25.1	62.2	30.0	3690	17496
1998	84911	9455	234013	4774	59529	25.4	61.7	30.4	3849	18078
1999	84040	9822	235942	5017	60666	25.7	61.5	31.1	3954	18853
2000	83361	10013	237819	5555	61825	26.0	61.1	31.6	3987	19555
2001	82823	10124	239568	6068	62539	26.1	60.7	32.3	3980	20192
2002	82548	10255	241649	6495	62838	26.0	60.2	33.0	3987	20737
2003	82203	10284	244055	6736	62963	25.8	59.4	33.5	4069	21089
2004	81837	10160	245233	7064	64125	26.1	59.5	33.5	4244	21468
2005	81413	10295	244976	7135	66858	27.3	60.5	32.9	4553	21984
2006	81150	10430	244879	7222	69441	28.4	61.5	32.4	4824	22476
2007	80994	10645	244165	7313	72102	29.5	62.7	31.9	5024	22982
2008	81004	10937	243214	7310	75006	30.8	64.1	31.2	5166	23413
2009	81285	11095	242537	7231	77717	32.1	65.7	30.6	5422	23748
2010	81959	11269	240932	7343	80096	33.2	67.3	30.2	5597	24205
2011	82671	11575	239669	7455	82421	34.4	68.9	30.1	5761	24791
2012	83262	11722	238913	7615	84260	35.3	70.1	29.9	5885	25223
2013	83818	11808	238377	7815	86022	36.1	71.3	29.7	5909	25533
2014	84339	12006	237555	7910	87622	36.9	72.4	29.5	5970	25686
2015	84801	11795	236822	8040	89285	37.7	73.5	29.1	6105	25941
2016	85193	11215	236009	8262	90977	38.5	74.6	28.3	6233	25710
2017	85497	10956	235140	8365	92705	39.4	75.8	27.3	6256	25297
2018	85689	10956	234260	8407	94436	40.3	76.9	27.3	6452	25825
2019	85772	12388	232513	8532	95917	41.1	77.8	28.6	6537	27428
2020	85721	13913	232973	8363	97372	41.8	78.6	29.7	6620	28896
2021	85554	15565	232400	7939	98736	42.5	79.3	30.8	6736	30390
2022	85272	17535	232120	7460	99604	43.0	79.7	32.1	6891	32036
2023	84891	18763	231976	7798	100729	43.4	80.0	33.5	6939	33518
2024	84459	18763	232202	8923	101239	43.6	80.0	34.3	7505	34717
2025	83938	18832	232597	10050	101497	43.6	79.7	35.3	6936	35818

EDR - Elderly Dependency Ratio
TDR - Total dependency Ratio
VER - Very Elderly Ratio


AGING RATIOS
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Ratios
1996
1997
1998
1999
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2013
2014
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2022
2023
2024
2025
Years
EDR
TDR
VER

projections, but has to be corrected for gender participation rates for short-term forecasts. The trend is, however, a clear indication of future developments. In 1996, the EDR was 24.6, a moderately low indicator by European standards, but it will rise to 43.6 by the year 2025. ***In other words, there were in 1996, four potential workers to every retiree aged 61 years or over. Within ten years this ratio will decline to 3.5 : 1 and will drop to 2.3 : 1 by 2025.*** **It means *that, all things being equal, the potential financial backing of benefits will be less by around 42 per cent than what is today.***

1.10.3 The TDR, on the other hand, relates the number of those who cannot form part of the working force i.e. the young age groups (0-15 years) plus the old groups (61+ age group) to the working-age population (16-60 age group). This is a macro indicator illustrating the financial burden in the form of taxes on earnings and N.I. contributions that has to be borne by workers to make good for the State transfers in favour of those who are not working and to support those who are too young to work. A high index points to a substantial financial strain on general revenue. In 1996 the index stood at 62.3; it will slightly improve by 2005 but it will, thereafter, resume an upward trend to reach a high level of 80 by 2025. A static projection shows that after 1 year 2005, government finances will be severely strained.

1.10.4 The VER relating the number of persons in the 75+ age group to the number of the old population (61+ age group) is a very useful socio-economic indicator demonstrating, besides the finances needed to provide for a bigger portion of the very old population, the need for more geriatric services and homes for this segment of the elderly. It has been demonstrated that the costs of health services rise at an accelerated rate in respect of those aged 75 and over. Estimates worked out in a number of countries in the 1980s, show that "per capita" public spending on health for those aged 65 and over is, on average 4.3 times that for persons aged under 65. "Per capita" expenditure on those in the 75+ age group is higher still, and reaches a ratio of nearly six times that for those under 65 years[3]. In 1996, the local VER was 29.6 but will rise to 32.4 in ten years' time, thereafter going down to 27.3 by 2017 but will go up to 35.3 by 2025.

1.10.5 These three indexes are basically macro indicators and are widely employed by demographers to demonstrate trends in the old age groups and by financial analysts to project the likely effects of a social and financial nature on the finances of a country. They will form the basic parameters which will be employed in projecting the future financial burden of Malta's ageing population discussed in part 3 of the report.

[3] OECD: Social Expenditure (Paris 1985)

2 - THE WIDENING GAP - Myth or Reality?

The "Welfare Gap" is a misnomer

2.1 The Social Welfare Account

2.1.1 In 1942, the British social security system was formally born following the publication of the Beveridge Report named after Sir William Beveridge and has since been regarded as a model for other systems. It provided for benefits to be paid in cases of sickness, unemployment, retirement and other social allowances. Entitlement to benefits was contingent on the payment of National Insurance contributions. Certain non-contributory benefits known as supplementary benefits were also to be provided as a fallback. Since then however, the non-contributory benefits came to assume far greater importance than was originally intended. This position coupled with demographic pressures caused the imbalance or "welfare gap" to grow to high levels and had to be financed out of general revenue causing a serious fiscal strain on public budgets. The same trend of events is discernible in the case of Malta.

2.1.2 Within the local context, the " welfare gap" may be loosely defined ***as the difference between all items of expenditures and contributions (including fines) under the social security system which is met out of Government revenue***. Historically, the gap was conceived as the shortfall between contributions and the outlay on pensions and other social benefits contemplated in the 1956 N.I. Act. The National Insurance Fund set up under the Act had a positive balance up to 1964; thereafter the Fund and later on, the Social Security Account revealed a growing imbalance either as a result of enhanced benefits which could only be met through higher contributions or on account of administrative decisions to finance out of this account new health and social programmes. The main developments which caused the gap to widen were:

- In 1965, total coverage was extended to the self-employed and the fund had to cater for another 16,900 workers.
- The lowering of pensionable age from 62 to 61 years in 1971.
- In 1979, the two-thirds pension scheme was launched.
- Costs of hospitalisation and community care were defrayed from N.I. contributions as from 1980.
- Parental allowances and bonus were introduced in 1988.

- In 1990 the care of the elderly vote was included as another item of the 'Account'

2.1.3 As a result of the inclusion of these benefits in the social security system, the N.I. Fund ceased to exist in 1978 and expenditure started to be defrayed from the Consolidated Fund. The Social Security Act, No.X of 1987 which consolidated all social security legislation into one Act, again provided for the self-appropriation of all benefits paid in terms of this Act as a charge on the Consolidated Fund as well as other expenses related to Health, Care for the Elderly etc.

2.1.4 Having said so much by way of a historical introduction, one has to make reference to a policy statement made in the 1979 Budget Speech by the then Minister of Finance wherein it was made clear that the revenue from contributions should cover all items of expenditure which are of a "contributory" nature as well as other items such as Children's Allowances and the costs of the Health Scheme. This solemn expectation did not materialise because the Estimates presented with the same Budget Speech showed a shortfall of Lm2.85 million which was referred to as the 'Welfare Gap". With the inclusion of other items of expenditure from time to time, this small imbalance has to-day mushroomed into a huge deficit which definitely cannot be met out of present contributions

2.2 Imbalances

2.2.1 Whichever way one looks at the Social Security Account, one is confronted with its financing arrangements. As already pointed out, this account now includes more items than was originally intended to. The fact that revenue sources have practically remained the same, while new social programmes were financed from N.I. contributions (although these have been raised in the past), has transformed this account into a simple accounting arrangement. The term "welfare gap" is itself a misnomer because the concept of welfare includes other services like education besides those that are presently being financed from contributions.

2.2.2 Nonetheless, the historical evolvement of the Social Welfare Account demonstrates the need either for a new definition to the existing arrangements or a rearrangement of the Account itself. Only then, one will be able to monitor its performance and introduce measures to

Table 2.1 — SOCIAL SECURITY ACCOUNT

LM Million

REVENUE	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Contributions Cl.I	32.4	35.3	35.0	40.6	43.4	48.0	58.0	60.6	70.0	74.8	83.5
" Cl.II	3.3	3.3	4.0	7.0	4.6	5.8	6.3	7.2	7.4	8.5	10.0
State contrib.	17.8	19.3	19.3	23.7	24.0	26.5	32.6	33.9	37.8	42.5	46.5
Fines/others	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.4	0.4	0.5
Total Revenue	*53.5*	*57.9*	*58.4*	*71.3*	*72.0*	*80.4*	*97.0*	*101.8*	*115.6*	*126.2*	*140.5*
EXPENDITURE											
Canaributory	41.1	43.6	45.3	53.0	56.9	63.8	69.6	76.8	84.4	95.1	104
Non-Contributory	26.0	27.6	30.7	32.2	32.5	34.2	36.2	38.7	39.5	44.8	47.9
Health & Elderly	19.1	19.7	21.7	23.9	26.8	34.2	38.4	46.4	50.3	50.1	64.9
Admin. Exp.	0.7	1.3	1.3	1.2	1.5	1.7	1.6	1.7	1.7	1.8	1.9
Total Expenditure	*86.9*	*92.2*	*99.0*	*110.3*	*117.7*	*133.9*	*145.8*	*163.6*	*175.9*	*191.8*	*218.7*
Welfare Gap	33.4	-34.3	-40.6	-39.0	-45.7	-53.5	-48.8	-61.8	-60.3	-65.6	-78.2
Change %		*2.7*	*18.4*	*-3.9*	*17.2*	*17.1*	*-8.8*	*26.6*	*-2.4*	*8.8*	*19.2*
Index	100.0	102.7	121.6	116.8	136.8	160.2	146.1	185.0	180.5	196.4	234.1

Table 2.2 — CONTRIBUTIONS ACCOUNT

LM Million

CONTRIBUTIONS	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Contributions Cl.I	32.4	35.3	35.0	40.6	43.4	48.0	58.0	60.6	70.0	74.8	83.5
" Cl.II	3.3	3.3	4.0	7.0	4.6	5.8	6.3	7.2	7.4	8.5	10.0
Fines/others	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.4	0.4	0.5
Total	*35.7*	*38.6*	*39.1*	*47.6*	*48.0*	*53.9*	*64.4*	*67.9*	*77.8*	*83.7*	*94.0*
EXPENDITURE											
Contributory (Pensions & Benefits)	*41.1*	*43.6*	*45.3*	*53.0*	*56.9*	*63.8*	*69.6*	*76.8*	*84.4*	*95.1*	*104.0*
Contribution Gap	-5.4	-5.0	-6.2	-5.4	-8.9	-9.9	-5.2	-8.9	-6.6	-11.4	-10.0

Table 3.3 STATE CONTRIBUTION AND PAYMENTS ACCOUNT

LM.Million

REVENUE	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
State contribution	*17.8*	*19.3*	*19.3*	*23.7*	*24.0*	*26.5*	*32.6*	*33.9*	*37.8*	42.5	46.6
EXPENDITURE											
Non-Contributory	26.0	27.6	30.7	32.2	32.5	34.2	36.2	38.7	39.5	44.8	47.9
Health & Elderly	19.1	19.7	21.7	23.9	26.8	34.2	38.4	46.4	50.3	50.1	64.9
Admin. Exp.	0.7	1.3	1.3	1.2	1.5	1.7	1.6	1.7	1.7	1.8	1.9
Total	*45.8*	*48.6*	*53.7*	*57.3*	*60.8*	*70.1*	*76.2*	*86.8*	*91.5*	*96.7*	*114.7*
State Cont. Gap	-28.0	-29.3	-34.4	-33.6	-36.8	-43.6	-43.6	-52.9	-53.7	-72.2	-68.2

Table 3.4 CONTRIBUTIONS/ALL PENSIONS ACCOUNT

LM.Million

REVENUE	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Contributions Cl.I	32.4	35.3	35.0	40.6	43.4	48.0	58.0	60.6	70.0	74.9	83.5
" Cl.II	3.3	3.3	4.0	7.0	4.6	5.8	6.3	7.2	7.4	8.5	10.0
Fines/others	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.4	0.4	0.5
Total	*35.7*	*38.6*	*39.1*	*47.6*	*48.0*	*53.9*	*64.4*	*67.9*	*77.8*	*83.7*	*94.0*
EXPENDITURE											
Pensions (Retirement)	22.6	23.7	24.9	29.3	32.3	36.5	39.8	43.4	48.3	54.6	60.0
" (Invalidity)	3.8	3.8	3.5	4.2	4.3	4.7	4.9	5.4	6.2	7.6	8.0
" (Widowhood)	8.0	8.9	9.7	12.4	13.4	14.9	15.8	17.0	18.6	20.4	23.0
Bonus	4.2	4.4	4.5	4.5	4.6	4.7	6.1	9.1	8.3	8.8	8.9
Pensions (Old Age)	4.0	3.0	3.0	3.0	3.0	3.4	3.3	3.4	3.5	4.2	5.1
Bonus	1.5	1.4	1.3	1.4	1.3	1.3	1.8	2.5	2.3	2.4	2.5
Total	*44.1*	*45.2*	*46.9*	*54.8*	*58.9*	*65.5*	*71.7*	*79.8*	*87.2*	*98.0*	*107.5*
Cont./Ponsions Gap	-8.4	-6.6	-7.8	-7.2	-10.9	-11.6	-7.3	-11.9	-9.4	-14.3	-13.5

Table 2.6

ALL CONTRIBUTIONS/ALL PENSIONS ACCOUNT

LM Million

REVENUE	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Contributions Cl.I	32.4	35.3	35.0	40.6	43.4	48.0	56.0	60.6	70.0	74.8	83.5
Cl.II	3.3	3.3	4.0	7.0	4.6	5.8	6.3	7.2	7.4	8.5	10.0
State contrib.	17.8	19.3	19.3	23.7	24.0	26.5	32.6	33.9	37.8	42.5	46.5
Fines/others	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.4	0.4	0.5
Total	*53.5*	*57.9*	*58.4*	*71.3*	*72.0*	*80.4*	*97.0*	*101.8*	*115.6*	*126.2*	*140.5*
EXPENDITURE											
Pensions (Retirement)	22.6	23.7	24.9	29.3	32.3	36.5	39.8	43.4	48.3	54.6	60.0
(Invalidity)	3.8	3.8	3.5	4.2	4.3	4.7	4.9	5.4	6.2	7.6	8.0
(Widowhood)	8.0	8.9	9.7	12.4	13.4	14.9	15.8	17.0	18.6	20.4	23.0
Bonus	4.2	4.4	4.5	4.5	4.6	4.7	6.1	8.1	8.3	8.8	8.9
Pensions (Old Age)	4.0	3.0	3.0	3.0	3.0	3.4	3.3	3.4	3.5	4.2	5.1
Bonus	1.5	1.4	1.3	1.4	1.3	1.3	1.8	2.5	2.3	2.4	2.5
Total	*44.1*	*45.2*	*46.9*	*54.8*	*58.9*	*65.5*	*71.7*	*79.8*	*87.2*	*98.0*	*107.5*
All Cont./All Pen. Bal.	9.4	12.7	11.5	16.5	13.1	14.9	25.3	22.0	28.4	28.2	33.0

TABLE 2.5 CONTRIBUTIONS/PENSIONS ACCOUNT

LM Million

REVENUE	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Contributions Cl.I	32.4	35.3	35.0	40.6	43.4	48.0	58.0	60.6	70.0	74.8	83.5
" Cl.II	3.3	3.3	4.0	7.0	4.0	5.8	6.3	7.2	7.4	8.5	10.0
Fines/others	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.4	0.4	0.5
Total	*35.7*	*38.6*	*39.1*	*47.6*	*48.0*	*53.9*	*64.4*	*67.9*	*77.8*	*83.7*	*94.0*
EXPENDITURE											
Pensions (Retirement)	22.6	23.7	24.8	29.3	32.3	36.5	39.8	43.4	48.3	54.6	60.0
" (Invalidity)	3.8	3.8	3.5	4.2	4.3	4.7	4.9	5.4	6.2	7.6	8.0
" (Widow/hood)	8.0	8.9	9.7	12.4	13.4	14.9	15.8	17.0	18.6	20.4	23.0
Bonus	4.2	4.4	4.5	4.5	4.6	4.7	6.1	8.1	8.3	8.8	8.9
Total	*38.6*	*40.8*	*42.6*	*50.4*	*54.6*	*60.8*	*66.6*	*73.9*	*81.4*	*91.4*	*99.9*
Contrib./Pensions Gap	-2.9	-2.2	-3.5	-2.8	-6.6	-6.9	-2.2	-6.0	-3.6	-7.7	-5.9

ensure its equilibrium. For example, the gap grew by 26.6 per cent in 1994 mainly on account of 20.8 per cent growth in expenditure on Health and Care for the Elderly. Similarly, public outlay on Health and the Elderly surged to Lm64.9 million (+ 30 per cent) in 1997 causing the "welfare gap" to increase by 19.2 per cent over 1996. ***In its present form, the "Account" will continue to balance itself through general revenue, since any shortfall between total contributions and payments has to be met out of public funds.*** The following six tables are a rearrangement of the "social security account" but clearly demonstrate (except table 2.6) the unsustainable character of each "account".

Table 2.1 shows the behaviour of the present "Social Security Account" since 1987 with total contributions going up from Lm53.5 million in 1987 to Lm140.5 million in 1997 an increase of 163 per cent. Expenditure on all programmes stood at Lm86.9 million in 1987 but surged to Lm218.7 million in 1997 i.e. over two and a half times the 1987 level. Since then, the imbalance of this account continued on an upward trend to reach Lm78.2 million by 1997. In 1987, the gap/GDP ratio was 6.1 per cent; in 1997 the ratio stood at 6.2 per cent. In other words, the two ratios moved upwards by the same magnitude.

Table 2.2 This statement may broadly be referred to as a N.I. Fund. It gives a snapshot of the shortfall between total contributions (less the State contribution) and expenditure on pensions and other social benefits financed under the N.I. Act. The State contribution has been left out on the assumption that this amount is extraneous to transactions of a contributory nature. One may, however, regard this State contribution as a payment on behalf of those who cannot contribute their share towards the Social Security system. In this case too, the contributions gap more than doubled between 1987 and 1997.

Table 2.3 has been drawn up to relate the State contribution to the financing of pensions and benefits outside the contributory system and other social programmes like hospitalisation and the Care for the Elderly as well as other benefits like Children's Allowances. Here, again, the gap has more than doubled during the period under review.

Table 2.4 may be referred to as the All Pensions Account showing all contributions except the state contribution and all pensions (contributory and non-contributory). All other benefits were excluded. The shortfall hiked from Lm8.4 million in 1987 to Lm13.5 million in 1997.

Table 2.5 is basically a reproduction of table 2.2 with one important difference. On the expenditure side, it excludes other benefits of a contributory nature. It relates the total amount of revenue from contributions (excluding again the State grant) to the amount paid in the form of pensions (and bonuses) under the contributory system. It shows that the amount of private contributions (i.e. excluding the State contribution) has not been enough to meet pensions under the contributory scheme.

Table 2.6 takes into account all contributions (including the State grant) and relates total revenue to the expenditure on all pensions (i.e. excluding other benefits). The resulting balance falls short of the State grant pointing to the basic need for an annual State subvention to provide for pensions.

2.3 Two main causes

2.3.1 The widening gap illustrated in tables 2.1 - 2.5 has been caused by two main factors:

Firstly, the number of beneficiaries is growing at a faster rate than the number of contributors. This factor will be further analysed later on in the report. In other words, although revenue from all contributions generally rises in line with the Gross Domestic Product (i.e. wages and salaries) yet the increase in pensions and other benefits as well as the introduction of other items which are defrayed from the Social Security Account is outpacing GDP growth.

Secondly, the number of social programmes financed from contributions has increased. The Secretariat for the Care of the Elderly set up in 1987 has since then expanded its activities and services.

2.3.2 It does not appear to be of any benefit if this study reviews in detail, the individual impact on the performance of the account of the broad spectrum of the types of pensions and other benefits of a contributory and non-contributory nature as well as Children's Allowances, outlays on Health and the Care of the Elderly. This paper will instead focus of the outlay on pensions (retirement, invalidity and widowhood) and bonuses under the contributory scheme representing 48 per cent of total expenditure within the existing Social Security Account. In addition, it addresses the future of the present pension system based as it is on the pay-as-you-go plan. Other pensions provided under the Old Age Pensions Act 1948 are on the decline although they will not eventually be phased out and are not being considered.

2.3.3 The rest of this study is therefore concerned with the present fiscal stance relating to pensions of a contributory nature and in this respect, it offers some suggestions to bring about a positron close as much as possible to equilibrium between pension outlays and contributions. It is also forward-oriented, in that it takes into account long-term considerations which will concern new entrants into the labour market. The Committee's intention has always been to look closely at the future and this objective necessitated a somewhat deep analysis of future demographic trends. The report will demonstrate ***that on the basis of present trends,*** the "contribution gap" (or the shortfall between contributions and pensions plus bonus expenditure) is not sustainable and proposes changes to the present pension scheme.

2.3.4 The following simple exercise relates total contributions paid by an employee to the total amount received by him in the form of pensions if he survived to age of 75, which is the male life expectancy based on 1997 data. To test different hypothesis, 14 different average yearly salary levels were considered. These ranges between Lm2340 - a level linked to the minimum wage - to Lm6750, the highest pension - related salary generally enjoined by the middle managerial staff.

It was assumed that workers and employers made regular contributions over a period of 40 years and on retirement, the employee received a 2/3 pension for 14 years. In all cases, the total amount received by way of pensions during the 14 year period was more than the global amount of contributions made to the State by the employee and his employer The difference ranged from Lm6862 in the case of the lowest paid employee and went up progressively in accordance with higher salaries up to Lm19,822 in the case of the highest paid employee. It would be mathematically illustrated that the higher the salary, the bigger the difference that has to be met out of the State's finances. *On the strength of this simplistic exercise which is limited to the 2/3 contributory pension, one may conclude that present contributions are not meeting pension outlays. The difference could, however, be totally bridged, if contributions were invested as soon as they are made.*

Global contributions and Pension Payments

A	B	C	D	E	F	G	H
Assumed average wage	Yearly Earnings	Employee's annual contrib.	Employer's annual contrib.	Total contrib.	Global contrib. over 40 years	Global pension over 14 years	Difference (G) - (F)
45	2340	195	234	429	17160	24022	6862
50	2600	217	260	477	19067	26691	7624
55	2860	238	286	524	20973	29360	8386
60	3120	260	312	572	22880	32029	9149
65	3380	282	338	620	24787	34698	9911
70	3640	303	364	667	26693	37367	10674
75	3900	325	390	715	28600	40036	11436
80	4160	347	416	763	30507	42705	12198
85	4420	368	442	810	32413	45374	12961
90	4680	390	468	858	34320	48043	13723
95	4940	412	494	906	36227	50712	14486
100	5200	433	520	953	38133	53381	15248
110	5720	477	572	1049	41947	58719	16773
120	6240	520	624	1144	45760	64058	18298
130	6760	563	676	1239	49573	69396	19822

The above table shows the difference between the total amount of pensions received by an employee after having paid N.I. Contributions throughout a 40-year period in employment and the total amount of contributions received by the State from this employee and his employer.

Col. A. *Assumed average weekly wage throughout his employment.*

Col. B. *Yearly equivalent of Col. A.*

Col. C. *Employee's annual contribution (1/12 of wage) on wages as in Col. A.*

Col. D. *Employer's annual contribution (1/10 of wage paid to employee) as in Col. C.*

Col. E. *Total of columns C and D.*

Col. F. *Total contributions bassed on a working period of 40 years = 40*(Col. E.). Since the pension is worked out on the average of the last three years which is usually higher than the average for the whole working period, the average wage has been increased by 10%.*

Col G *Total amount received by way of 2/3 pension if the pensioner lived 14 years after age 61. The 14 year period is the difference between the present life expectancy of men (75 years) and official retirement age*

Col. H. Difference between total contributions (Col F) and total pension payments up to age 75 which has to be met from the State budget.

2.4 Sustainability

2.4.1 A fiscal position is sustainable if the primary balance (i.e. all outlays less revenue) equals or exceeds the amounts needed to stabilise the ratio of net public debt to GDP [4]. Sustainability is a concept dealing with expectations usually based on a macroeconomics simulation exercise. Based on the most recent demographic projections and employing an economic model formulated by the Central Bank of Malta a medium-term scenario of the position of the "Pensions Account" has been attempted and is described in the next part of the study

[4] Vide IMF Survey - December 1997

3 - An Evaluation of the Burden of the Ageing Population

Ceteris paribus, the gap is becoming unsustainable

3.1 Introduction

3.1.1 The current and projected increase in the burden of social expenditure in relation to fiscal revenue, is a phenomenon being experienced internationally. Old-age pensions are the primary, though not exclusive, category of expenditure giving rise to this. As pointed out in Part 1 of the report, the economics of the problem mainly lies in the demographic sphere. There are two facets to the demographic issue. On the one hand, the rising proportion of the retired puts upward pressure on total expenditure. On the other, the diminished size of the working age population constrains the growth of income out of which such expenditure is to be financed in a pay-as-you-go manner.

3.1.2 These concerns have given rise to a number of reforms to pension systems internationally some of which are described in Part 4 of this paper. On the one hand, amendments to the parameters of existing pay-as-you-go schemes such as contribution rates, eligibility rules, per capita expenditure levels, and the retirement age can be effected. On the other, funded pension schemes which are considered to provide for retirement income in a more sustainable manner can be established. The evaluation of reform options would be based on a study of the extent of the social expenditure burden in a country, and the specific economic, demographic and political conditions that would determine the relative desirability of the different options

3.1.3 This Part presents an evaluation of the burden of the ageing population in Malta for the period up to 2025. ***It is to be made clear at the outset that this analysis focuses solely on those items of the social security account which are strictly related and a direct cause of the ageing population*** It, therefore, excludes consideration of expenditures such as children's allowances.

3.1.4 The ageing population issue depends on, and indeed feeds into, the overall economic development of the country. In order to examine these effects, a model is used which takes demographic projections as given, on the basis of which it explains developments in the labour market, output, prices and wages, saving, and hence, social contributions and expenditure. The model is essentially macro and long-term in its orientation. At this stage, it eschews details arising out of the complexity of the schemes of social expenditure when these are considered not essential to, or indeed hampering, the macroeconomics analysis.

3.2 Description of the Model

3.2.1 The model used for the purposes of this exercise is geared to furnish the two crucial elements of this analysis, namely, the computation of expenditure items and of National Insurance contributions. The expenditure items relevant in this case, which are described in detail later on, are generally derived as the product of an exogenously-determined per capita benefit and the number of beneficiaries. The latter, in turn, respond to demographic developments, which constitute another exogenous input to the model. National Insurance contributions are mainly determined on the basis of the statutory contribution rates applied to projections of the expected development of the wage bill up to the year 2025. In this respect, an adjustment is made to account for arrears and bad debts.

3.2.2 In turn, the projection for the wage bill is viewed to follow trends in GDP. The latter is derived from the economic core of the model which features a supply-side analysis whereby output depends on the factors of production available, namely the capital stock and labour employed, together with an exogenous technological growth term[5] Aggregate demand and supply equilibrium is assumed to occur via adjustments to the price level. Demand is further split into its consumption and investment components in order to model movements in the capital stock.

3.2.3 The price variable is assumed to depend on an exogenously determined base inflation[6], and on developments in unit labour cost. Unit labour cost is in turn defined as the wage bill per unit of real output. The wage bill is derived as the product of the average wage rate and the number of persons employed. The average wage rate is assumed to develop in a way such that the amount of labour employed is set equal to the labour supply net of the unemployed. The labour supply is derived from demographic data and from an exogenously determined participation rate.

3.2.4 The unemployed are in the long run assumed to represent only the structurally unemployed, as cyclical unemployment is eliminated through movements in the real wage[7]. The rate of structural unemployment is in turn assumed to increase with the social security contribution rates. This economic model underlies the calculation of the revenue and expenditure pertaining to the social security account.

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[5] The values of exogenous variables are set beforehand by the modeller rather than established via the workings of the model itself.

[6] This is akin to imported inflation, although the variable may be used to simulate any kind of exogenous shock to prices.

[7] In other words, unemployment is assumed to settle at the natural rate.

3.2.5 For the purposes of simplicity, the balance of payments is assumed to be in equilibrium. While this may not be applicable to a short time span, balance of payments sustainability is a necessary assumption in this exercise to provide a viable long run economic scenario within which the social expenditure issue could be examined. The monetary sector is assumed away in the model, under the assumption of long-run neutrality of money.

3.2.6 The model thus comprises six sectors namely: demographic projections; output determination; aggregate demand; the labour market; price and wage determination; and the calculation of the revenues and expenditure of the social security account. The values of the parameters of the equations are mainly derived by calibration rather than econometric estimation. This was necessary due to the lack of historical data in some cases, as well as the fact that in other cases, past developments cannot be expected to adequately reflect the structure of the economy over the next thirty years.

3.2.7 The more important assumptions inherent in the model used for this analysis are the following:

1. The rate of exogenous technological progress is assumed constant at 1% per annum.
2. The natural rate of unemployment is assumed constant at 5%
3. The base inflation rate is assumed constant at 3% per annum.
4. Social security contribution rates remain unchanged

3.3 The Computation of Expenditure

3.3.1 As explained in an earlier section of this report, the analysis here presented shall focus solely on the following items of expenditure:

i. Contributory Retirement pensions;
ii. Widowhood pensions;
iii. Invalidity Pensions;
iv. Bonus

3.3.2 The criteria adopted in the choice of these expenditure items for the purposes of analysis were:

i. They are all of a contributory nature, and hence, their matching against contribution revenue is conceptually correct.

ii. They are all strongly influenced by the projected demographic developments, and the ageing phenomenon in particular, as opposed to other contributory items of expenditure such as sickness and unemployment benefits.

3.3.3 The projected development of each of these expenditure items is derived ***as the product of an exogenously determined per capita expenditure and the number of beneficiaries***. The latter are modelled on the basis of demographic projections.

3.3.1 The Number of Beneficiaries

3.3.1.1 The population cohorts relevant for the model are two: the population of pensionable age and the working age population. A description of the expected development in these cohorts has been provided in an earlier part of this report. For the purposes of this exercise, the population of pensionable age is focused upon, from which is derived the projected number of beneficiaries as shown in Table 3.1.

3.3.1.2 The population of pensionable age consists of, according to current legislative provisions, males aged 61 and over and females aged 60 and over. Demographic projections indicate that in that thirty-year period between 1995 and 2025, the population of pensionable age is expected to increase steadily by an average rate of 2% per annum, with the growth being stronger between the years 2000 and 2020, tending to decline thereafter. The male component is projected to rise steadily during the period from 41.5% to 44.8% of the population of pensionable age.

Table 3.1: Demographic Projections

Number of persons

Year	*Males Aged 61+*	*Females aged 60+*	*Total Population of Pension Age*	*Male Participation Rate*	*Female Participation Rate*	*Retirement Pension Beneficiaries*	*Widowhood Pension Beneficiaries*	*Invalidity Pension Beneficiaries*
1995	23,458	33,098	56,556	90.9%	23.3%	29,043	12,118	4,859
1996	24,377	34,335	58,712	90.9%	23.5%	30,227	12,571	4,988
1997	25,072	35,123	60,195	90.9%	23.7%	31,114	12,859	5,121
1998	25,603	35,789	61,392	90.9%	23.9%	31,827	13,103	5,257
1999	26,107	36,481	62,588	90.9%	24.1%	32,525	13,357	5,397
2000	26,615	36,938	63,553	90.9%	24.3%	33,173	13,524	5,541
2001	26,910	37,186	64,096	90.9%	24.5%	33,579	13,615	5,688
2002	27,002	37,244	64,246	90.9%	24.7%	33,754	13,636	5,839
2003	26,995	37,956	64,951	90.9%	24.9%	34,004	13,697	5,995
2004	27,585	39,360	66,945	90.9%	25.2%	34,974	14,411	6,154
2005	28,954	40,736	69,690	90.9%	25.4%	36,652	14,914	6,318
2006	30,209	42,124	72,333	90.9%	25.6%	38,236	15,423	6,486
2007	31,520	43,647	75,167	90.9%	25.8%	39,913	15,980	6,658
2008	32,939	45,033	77,972	90.9%	25.0%	41,660	16,486	6,835
2009	34,296	46,221	80,517	90.9%	26.2%	43,305	16,923	7,017
2010	35,533	47,349	82,882	90.9%	26.5%	44,831	17,336	7,204
2011	36,770	48,327	85,097	90.9%	26.7%	46,324	17,694	7,395
2012	37,675	49,223	86,898	90.9%	26.9%	47,498	18,022	7,592
2013	38,578	50,022	88,600	90.9%	27.2%	48,649	18,314	7,794
2014	39,407	50,864	90,271	90.9%	27.4%	49,749	18,623	8,001
2015	40,267	51,684	91,951	90.9%	27.6%	50,876	18,923	8,214
2016	41,182	52,543	93,725	90.9%	27.9%	52,068	19,237	8,433
2017	42,089	53,407	95,496	90.9%	28.1%	53,260	19,554	8,657
2018	42,990	54,195	97,185	90.9%	28.3%	54,431	19,842	8,887
2019	43,719	54,998	98,717	90.9%	28.6%	55,454	20,136	9,124
2020	44,409	55,733	100,142	90.9%	28.8%	56,427	20,405	9,367
2021	45,080	56,277	101,357	90.9%	29.1%	57,332	20,604	9,616
2022	45,632	56,732	102,364	90.9%	29.3%	58,107	20,771	9,871
2023	46,122	57,014	103,136	90.9%	29.6%	58,777	20,874	10,134
2024	46,391	57,195	103,586	90.9%	29.8%	59,220	20,941	10,404
2025	46,511	57,243	103,754	90.9%	30.1%	59,489	20,958	10,680

3.3.1.3 Out of the pensionable age cohort, the retirement pension beneficiaries are deemed to be those who had participated in the labour force during their working age life. Thus, the pension beneficiaries are from 1996 onwards derived as the population of pensionable age multiplied by a labour force participation rate. ***The participation rates applicable in this case are obviously not the current ones, but rather those pertaining to the years when the current persons of pensionable age could have been economically active***. For this reason, the male and female components of the pensionable age cohorts are multiplied by their respective participation rates pertaining to the previous thirtieth year. Participation rates are thus deemed to have been constant at 90.9% for males, while they increase steadily, at an average rate of 0.3% per annum in the case of females[9]

[9] The forecast errors arising out of this method are 75 persons over-estimated for 1996 and 331 persons under-estimated for 1997, which correspond to 0.2% and 1.1% of the actual population respectively

3.3.1.4 These calculations indicate that the retirement pension beneficiaries are expected to increase from 29,043 to 59,489 between 1995 and 2025, implying an average annual growth rate of 2.4%. This reflects the demographic developments described above, albeit this growth rate is somewhat higher than the 2% rate reported for the population of pensionable age. The fact that the male component within this age cohort, which has a higher labour force participation rate, is projected to grow at a faster pace compared to the female component explains this result.

3.3.1.5 The number of widowhood pension beneficiaries has in the past followed a quite stable relationship with the number of females aged 60 and over. The development of widowhood pension beneficiaries from 1996 onwards is thus described by means of a simple proportion out of the number of females aged 60 and over. The ratio used here is 36.6%, the statistic applicable to 1995[9]

3.3.1.6 Thus, the number of widowhood pension beneficiaries is expected to rise from 12,118 in 1995 to 20,958 in 2025, corresponding to an average annual growth rate of 1.8% per annum.

3.3.1.7 The number of invalidity pension beneficiaries could not be satisfactorily correlated with a demographic variable for which forecasts are readily available. For this reason, it is projected to continue developing from 1996 onwards by growing at an annual rate of 2.7%, the rate observed between 1992 and 1995[10].

3.3.2 The Development of Expenditure

3.3.2.1 The projection of the number of beneficiaries based on demographic developments presented in the previous section can be combined with an estimate of the per capita pension expenditure in each category to derive the total amount of transfer payments. The per capita expenditure for 1995 was derived using actual data for that year by dividing the total expenditure on retirement pensions, invalidity pensions, widowhood pensions and bonus, by the total number of beneficiaries in each case. Starting from the year 1996 to 2025, the average per capita expenditure

[9] The forecast errors arising out of this method are 166 persons over-estimated for 1996 and 198 persons over-estimated in 1997, which correspond to 1.3% and 1.6% of the actual population respectively.

[10] The forecast errors arising out of this method are 228 persons under-estimated for 1996 and 210 persons under-estimated in 1997, which correspond to 4.4% and 3.9% of the actual population respectively.

in each category was allowed to exogenously grow by the average annual growth rates observed between 1992 and 1996. These per annum growth rates are:

Per capita retirement pension	6.9%
Per capita widowhood pension	5.0%
Per capita invalidity pension	6.8%

3.3.2.2 It was deemed that the per capita bonus payable to pension beneficiaries, currently at Lm186 per annum, was unlikely to remain unchanged throughout the forecast period, when prices are expected to rise by around 280%. It is thus assumed that the per capita bonus would rise by 50% every ten years, which roughly corresponds to the historical development in this variable.

3.3.2.3 The development in "per capita" expenditure on each of these categories of transfer payments, together with the relative total expenditure derived after the number of beneficiaries are taken into account, is shown in Table 3.2.

Table 3.2: The Development of Expenditure

Year	Per Capita (Lm)				Total Expenditure (Lm Millions)				
	Retirem't	*Widow'd*	*Invalidity*	*Bonus*	*Retirment*	*Widow'd*	*Invalidity*	*Bonus*	*Total*
1995	1662	1537	1280	186	48.3	16.6	6.2	8.2	81.3
1996	1778	1613	1367	186	52.6	19.9	6.7	8.7	88.0
1997	1897	1694	1459	186	58.2	21.5	7.4	9.0	96.1
1998	2027	1778	1558	186	63.8	23.1	8.1	9.2	104.2
1999	2166	1867	1663	186	69.7	24.7	8.9	9.4	112.7
2000	2314	1960	1775	186	76.0	26.3	9.7	9.6	121.7
2001	2473	2058	1895	186	82.5	27.9	10.5	9.8	130.9
2002	2642	2160	2024	186	89.0	29.4	11.7	9.9	139.9
2003	2823	2268	2160	186	95.7	31.2	12.8	10.0	149.8
2004	3017	2381	2306	279	104.0	33.7	14.0	15.3	167.0
2005	3223	2500	2462	279	115.4	36.7	15.4	15.8	183.3
2006	3444	2624	2629	279	129.0	39.8	16.8	16.5	202.1
2007	3680	2755	2807	279	143.8	43.3	18.4	17.1	222.6
2008	3932	2892	2996	279	160.4	47.0	20.2	17.8	245.3
2009	4202	3037	3199	279	178.5	50.7	22.2	18.4	269.8
2010	4490	3188	3415	279	197.8	54.6	24.3	19.1	295.8
2011	4797	3347	3646	279	218.6	58.6	26.6	19.5	323.5
2012	5126	3514	3893	279	240.5	62.8	29.2	20.2	352.5
2013	5477	3689	4156	279	263.3	67.0	32.0	20.6	382.9
2014	5852	3873	4437	419	287.9	71.5	35.0	31.7	426.1
2015	6253	4066	4737	419	314.6	76.3	38.4	32.3	461.7
2016	6681	4269	5057	419	343.9	81.5	42.1	33.0	500.5
2017	7139	4482	5399	419	376.0	85.9	46.1	33.8	542.8
2018	7628	4705	5764	419	410.7	92.7	50.6	34.5	588.5
2019	8150	4940	6153	419	447.8	98.7	55.4	35.2	637.1
2020	8709	5186	6569	419	487.2	105.1	60.7	35.8	688.8
2021	9305	5445	7014	419	529.3	111.6	66.6	36.4	743.9
2022	9943	5716	7488	419	573.9	118.3	73.0	36.9	802.0
2023	10624	6001	7994	419	620.9	125.0	80.0	37.4	863.2
2024	11352	6301	8534	419	669.7	131.7	87.6	37.8	926.9
2025	12129	6615	9111	419	719.9	138.6	96.1	38.1	992.6

3.3.2.4 In deriving total expenditure figures as the product of per capita expenditure and the number of beneficiaries, it was recognised that the estimated number of beneficiaries is a year-end figure and may thus be unsuitable to compute total expenditure throughout the year. Thus, the number of beneficiaries relevant for the computation of expenditure in a year was deemed to be the average of that year's and the previous year's beneficiaries.

3.3.2.5 In this scenario, the expenditure on retirement pensions is expected to rise fifteen-fold from Lm48.3 million in 1995 to Lm720 million in 2025. ***This reflects the combined effects of demographic pressures and the increase in per capita retirement pension.*** Similar factors influence the widowhood pension expenditure, which is projected to rise from Lm18.6 million in 1995 to over Lm138.6 million by 2025. Invalidity pensions are expected to rise by an order similar to that of retirement pensions, from Lm6.2 million in 1995 to over Lm96 million in 2025. The expenditure on bonus is projected to rise at a slower rate, expanding by around four and a half times during the forecast period to reach Lm38.1 million by 2025. This slower rate of growth reflects the assumed relatively low rate of growth of the per capita bonus.

3.3.2.6 As a result of these developments, total expenditure is in 2025 expected to rise by thirteen times the 1995 level, to stand at close to Lm1 billion. As a proportion of GDP, total expenditure is expected to more than double from 8.3% to 18.8%. ***This by itself vouches against the sustainability of the situation, as the ever-rising proportion of expenditure out of GDP is to be met by contributions derived at a constant rate of GDP,*** as the next section shows. This seems to be the worst projected scenario on the expenditure side.

3.4 The Pensions Balance

3.4.1 The total expenditure thus computed is matched against the revenue from social security contributions. This is a partial analysis, which assumes that such contributions are intended solely to provide for the expenditure items considered in this exercise. Yet, this analysis is useful to highlight the extent of the demographic problem itself.

3.4.2 Social security contributions accrue from employees and employers (including Government) as well as those deemed by the Social Security Act (Cap 318 of the Revised Laws of Malta) as self-employed or self-occupied. Moreover, the State defrays a further contribution out of general Government revenue equal to one-half of the total of the other

contributions. ***For the purposes of this exercise, the State contribution is not considered to be a genuine source of revenue to finance social expenditure.*** Thus, the contributory items of expenditure considered in this exercise are matched solely against the revenue which Government is genuinely deemed to extract out of the economy for the purpose.

3.4.3 The statutory contribution rate of the employees currently stands at 1/12 of the wage bill; that pertaining to the employers, including the Government, stands at one-tenth. ***Applying these statutory rates to the economy's wage bill for the 1995 to 1997 period reveals that the National Insurance contributions actually collected represent only 89% of what should actually have been collected, reflecting an accumulation of arrears of around Lm9 million in each of these three years.***

3.4.4 The projections of the contributions which are collected by Government up to the year 2025 are worked by applying the present statutory contribution rates to the forecast wage bill, which, on the basis of the past development of the Maltese economy, is deemed to be equal to 48% of nominal GDP at factor cost. The resulting figure is adjusted downwards by a factor of 0.89 to represent the accumulation of arrears, which is thus assumed to continue on the same lines as observed between 1995 and 1997. The forecast of GDP, in turn, is derived from the economic core of the model, and is shown, together with its growth rate, in Table 3.3. The model features a generally declining rate of GDP growth, mainly due to developments in the working age population and in the capital stock.

Table 3.3: GDP, the Wage Bill, and Contributions

Lm millions

Year	Nominal GDP	GDP Growth	Wage Bill	Contributions Due	Contributions Collected	Arrears
1995	974.5	8.1%	472.7	86.7	77.7	9.0
1996	1,053.5	8.1%	506.4	92 8	83.7	9 1
1997	1,128.9	7.0%	541.8	99.3	89 6	9.8
1998	1,202.2	6.5%	577.1	105.8	95.4	10 4
1999	1,278.5	6.3%	613.7	112.5	101.4	11.1
2000	1,362.5	6.5%	653.8	119.9	108.1	11.8
2001	1,468.2	7.8%	704.7	129.2	116 5	12.7
2002	1,584.1	7.9%	760.4	139.4	125.7	13.7
2003	1,712.6	8.1%	822.0	150.7	135.9	14.8
2004	1,836.3	7.2%	881.4	161.6	145.7	15.9
2005	1,951.6	6.3%	936.8	171.7	154 8	16.9
2006	2,075.0	6.3%	996.0	182 6	164.6	18.0
2007	2,203.6	6.2%	1,057.7	193.9	174.8	19.1
2008	2,333.8	5 9%	1,120.2	205.4	185.2	20 2
2009	2,470.9	5.8%	1,185.6	217.4	196.0	21.4
2010	2,611.6	5.7%	1,253.6	229.8	207 2	22.5
2011	2,729.6	4.5%	1,310.2	240 2	216.6	23.6
2012	2,863.2	4.9%	1,374.3	252.0	227.2	24.8
2013	3,003.0	4 9%	1,441 4	264.3	238 2	26.0
2014	3,150.9	4 9%	1,512.5	277.3	250.0	27.3
2015	3,302.5	4.8%	1,585.2	290 6	262.0	28.6
2016	3,456.3	4.7%	1,660.0	304.3	274.4	30.0
2017	3,619.0	4 6%	1,737.1	318.5	287 1	31.4
2018	3,785.6	4.6%	1,817.1	333.1	300 3	32 8
2019	3,964.8	4 7%	1,903.1	348.9	314.5	34.3
2020	4,150.9	4.7%	1,992 4	365.3	329.3	36.0
2021	4,346.2	4.7%	2,086.2	382.5	344 8	37.7
2022	4,558.1	4.9%	2,187.9	401.1	361 6	39.5
2023	4,782 9	4.9%	2,295.8	420.9	379 5	41.4
2024	5,029.4	5 2%	2,414 1	442.6	399 0	43.6
2025	5,292.6	5.2%	2,540.4	465 7	419.8	45 9

3 4.5 The contributions collected are matched against the projected expenditure, with the results being shown in Table 3.4

Table 3.4: The Pensions-Contributions Balance

Lm Millions

Year	*Total Contributions Collected (excluding State Contribution)*	*Total Contributions less Total Expenditure*	*Pensions-Contributions Gap as % of GDP*
1995	77.7	-3.6	-0.4%
1996	83.7	-4.3	-0.5%
1997	89.6	-6.5	-0.7%
1998	95.4	-8.8	-0.8%
1999	101.4	-11.3	-0.9%
2000	108.1	-13.6	-1.1%
2001	116.5	-14.4	-1.0%
2002	125.7	-14.2	-0.9%
2003	135.9	-13.8	-0.8%
2004	145.7	-21.3	-1.3%
2005	154.8	-28.4	-1.6%
2006	164.6	-37.4	-2.0%
2007	174.8	-47.8	-2.3%
2008	185.2	-60.2	-2.8%
2009	196.0	-73.9	-3.2%
2010	207.2	-88.6	-3.5%
2011	216.6	-107.0	-4.1%
2012	227.2	-125.4	-4.5%
2013	238.2	-144.7	-4.9%
2014	250.0	-176.2	-5.7%
2015	262.0	-199.7	-6.2%
2016	274.4	-226.1	-6.7%
2017	287.1	-255.7	-7.2%
2018	300.3	-288.1	-7.7%
2019	314.5	-322.6	-8.2%
2020	329.3	-359.5	-8.8%
2021	344.8	-399.1	-9.3%
2022	361.6	-440.4	-9.7%
2023	379.5	-483.8	-10.2%
2024	399.0	-527.9	-10.5%
2025	419.9	-572.7	-10.8%

3.4.6. This exercise reveals that whereas at present, social security contributions match the expenditure on transfer payments, a persistent deficit is expected to start accumulating after 2003, rising rapidly to exceed Lm573 million by the year 2025. As a percentage of GDP, the pensions-contributions gap is expected to rise to 10.8% by 2025, compared to a 0.4% ratio in 1995. ***Thus, this analysis demonstates that demographic pressures, if combined with the increases in per capita expenditure observed in the past few years, will result in a situation which is unsustainable by 2025. Apart from these long term considerations, it is worthwhile to note that the pensions-contributions gap is expected to quadruple within a period of five years from the 1995 level of Lm3.6 million.***

3.4.7 These observations call for two sets of remedies: one should be oriented towards facing the immediate cash-flow problems, the other

should tackle the long term development of the pension-contribution gap in the Maltese economy

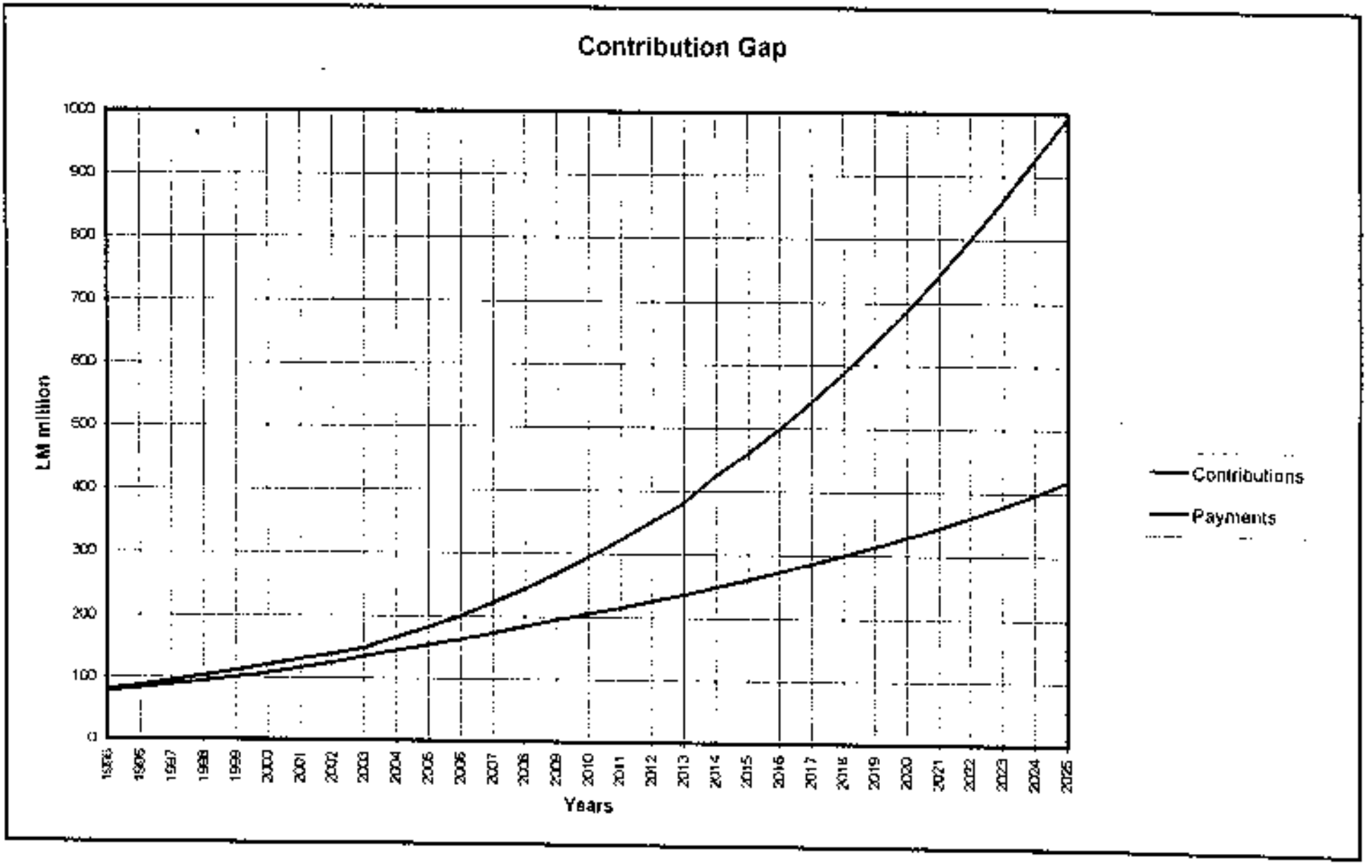
3.5 An Alternative Evaluation Linking Growth in Per Capita Pension to Inflation

3.5.1 The exercise presented in the previous section is repeated under the assumption that the growth in all per capita pension outlays ***is limited to the rate of price inflation, rather than exogenously set at the average growth rates observed between 1992 and 1996.*** The projected inflation rate is derived from the model, and is centred around 3.5% for the forecast period. The results of this exercise are presented in Table 3.5

Table 3.5: The Contributions - Pensions Balance With Inflation-Indexed Per Capita Pensions

Lm Millions

Year	*Total Contributions Collected (excluding State Contribution*	*Total Contributions less Total Expenditure*	*Pensions-Contributions Gap as % of GDP*
1995	77 7	-3.6	-0.4%
1996	83.7	-3 4	-0.3%
1997	89.6	-2 8	-0.2%
1998	95.4	-2.0	-0.1%
1999	101.4	-1.2	-0.1%
2000	108.1	0 2	0 0%
2001	116.5	3 8	0 2%
2002	125.7	8.7	0 5%
2003	135 9	13.6	0.7%
2004	145 7	10 7	0.5%
2005	154.8	9.7	0.4%
2006	164.6	9.1	0 4%
2007	174.8	7 9	0 3%
2008	185.2	6.2	0.2%
2009	196.0	4.9	0.2%
2010	207.2	3.8	0.1%
2011	216.6	0.4	0.0%
2012	227.2	-1.2	0.0%
2013	238.2	-2.7	-0.1%
2014	250.0	-14.3	-0.4%
2015	262.0	-16.3	-0.4%
2016	274.4	-19 0	-0.5%
2017	287.1	-21 9	-0.5%
2018	300.3	-25.0	-0.6%
2019	314.5	-27.2	-0.6%
2020	329.3	-29.3	-0.6%
2021	344 8	-30.9	-0.6%
2022	361.6	-31.2	-0.5%
2023	379.5	-30.5	-0.5%
2024	399.0	-27 6	-0.5%
2025	419.9	-22 9	-0.4%


Contribution Gap
LM million
1000
900
800
700
600
500
400
300
200
100
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
Years
Contributions
Payments

3.5.2 The results of this exercise show a significantly more sustainable situation, with the deficit between pensions and contributions remaining at an insignificant level compared to GDP throughout the forecast period. This results out of the fact that the per capita growth in pensions is in this case substantially smaller than the nominal growth of the economy given in Table 3.3.

3.5.3 ***It thus appears that the sustainability of the pensions balance depends critically on the average annual growth in pensions.*** It is found that for the balance to be consistently more or less in equilibrium, the annual growth in the average "per capita" pension must be 2.2 percentage points lower than that of nominal GDP.

3. 6 Conclusions

3.6.1. Two important considerations emerge out of this exercise. The first is that if "per capita" pensions in future continue to grow at the rates observed between 1991 and 1996, an unsustainable deficit on the pensions balance would be likely to develop, as the nominal growth of the economy would be insufficient to provide for the increase in the elderly population and in the growth of per capita pensions. The second consideration is that this result is highly susceptible to the growth in "per capita" pension being assumed. ***Linking the latter to the rate of retail price inflation, for instance, would yield a significantly more sustainable scenario.***

3.6.2 It must be emphasised that this exercise took into account a few items of expenditure of the social security account. If one were to include other items such as childrens' allowances, etc. the second scenario would be substantially modified.

4 - A Strategy for Reform of the Pension Scheme

It's the quantity of broth that matters, not whether you use two spoons to have it.

4.1 Public Schemes

4.1.1 The debate on pension reform in European countries has been increasingly shaped by anticipating future demographic trends and the resulting strain on the Budget. The latter dimension is largely determined by the level and type of fiscal outlay that is necessary to bridge any difference between contributions and pension expenditure. In theory, it can be shown that a wise combination of parametric reforms such as reduction in benefits, extending retirement age etc. which are discussed later on in this part as well as the implementation of a sustainable contribution rate which anticipates the demands associated with the future increase in the number of pensioners could be able to cope with the fiscal problem. In practice, the introduction of a number of parametric and systemic reforms within a short period may not be advisable on social, economic and political grounds.

4.1.2 A study of the reforms adopted by various countries suggests that in our case the introduction of a partially funded private pension scheme to supplement government's PAYG scheme may prove to be an advantageous approach. The following observations may be made at the onset.

4.1.3 Firstly, any action by government to introduce a private pension scheme should not be perceived by workers as a government's plan to shed its responsibility for social security. The government must inevitably remain the ultimate guarantor of the pension promise.

> "..... the current vogue for turning over State pensions responsibilities to the private sector will be disciplined by a sense of real advantages of each sector, rather than by ideological or fiscal preconceptions. It is inconceivable that the basic provision for old age through the welfare state - which has been so successful in eliminating extreme poverty - should be abandoned".[1]

4.1.4 Secondly, at the outset it must be highlighted that the eventual establishment of funded pension plans managed by the public and/or

[1] L. Hannah : Article titled "Similarities and differences in the growth and structure of private pensions in OECD countries".

private sector raises a number of issues which must be very carefully analysed beforehand. The establishment of a task-force - a suggestion referred to later on - with more narrowly-defined terms of reference must identify these issues and must also propose plausible solutions to the more relevant problems concerning coverage, contributions, investment etc. In spite of this, we believe that even at this preliminary stage, it is our duty to highlight pitfalls which should be effectively addressed by subsequent studies on the feasibility or otherwise of funded pension schemes.

4.1.5 We group the issues, which even at such a preliminary stage require further detailed evaluation, under the following subheadings

a). ***Macro-economic*** What impact will the establishment of funded pension schemes have on critical macro-economic variables, notably the Balance of Payments? Are any regulatory guidelines necessary to alleviate macro-economic impact and how long should they have to be sustained?

b). ***Regulatory***. Given the importance of pension schemes to the peace of mind of to-day's workforce, regulatory issues should not be underestimated. Negative experience from even the most sophisticated economies abroad highlights the pitfalls to be avoided and the importance of setting up monitoring procedures, without imposing excessive bureaucratic burdens on pension plans.

c). ***Administrative/Operational***. A series of issues, ranging from the need to ensure an adequate level of competition amongst different schemes without excessively fragmenting the industry's structure to the detriment of the present workforce must be evaluated. The impact of these decisions on both the sustainability of the present PAYG scheme and the feasibility of funded schemes must be fully evaluated. .

4.1.6. Thirdly, the decision on whether to introduce a private pension plan should be taken as early as possible since it usually takes a lot of time to mature.

4.2 Options for reform

4.2.1 This part lists the options which may be considered in the discussion on possible reforms to the present pension system. It enlists measures which may be studied for immediate or short-term implementation and furthermore attempts to introduce, for more discussion, the idea of having a private plan operated alongside government's scheme. It has

to be observed that the eventual implementation of these socio-economic measures may be further complicated by political considerations. Yet the need for immediate action has to be emphasised.

4.2.2 Experience clearly demonstrates that extended controversies spurred by economic and social interests were evident in several countries whenever the existing arrangements regulating the type and level of contributions or the amount of benefits of an existing social security system were disturbed. Moreover, the issue of how the burden of supporting the elderly is to be distributed may become highly contentious, if the proportion of the working population declines while the elderly segment is growing.

4.2.3 Literature on the subject generally points to *three* ways on how to lessen fiscal pressures resulting from a growing financial burden caused by the public pensions system.

- government may opt for parametric adjustments of the structural characteristics of the pension system such as raising the retirement ages, increasing contributions, modifying entitlement provisions, index-link benefits or earmarking a portion of the contributions to a reserve fund.

- government may legislate for the compulsory establishment of a separate fund to supplement the public pension system. The demand for this reform generally arises from the belief that the financing mechanism related to a PAYG system causes an imbalance between contributions and expenditure and that the setting-up of a reserve fund would reduce the need for unsustainable increases in payroll tax.

- within a macroeconomics context, government may undertake broader fiscal adjustments such as raising taxes or curtailing expenditure not related to public pensions or it may encourage a greater labour force participation rate to increase contributions revenue.

4.2.4 These policy options will be further referred to later on as they seem to be of relevance within the local context.

4.3 Parametric Reforms

4.3.1 A persistent imbalance between contributions and payments calls for an in-depth consideration of the parameters of the existing pension system with a view of identifying corrective measures. The first option is to examine the revenue side. In the past, significant increases in contribution rates were made alongside other measures by some industrialised countries as they completed their demographic transitions.

4.3.2 On the expenditure side, several industrialised countries have increased the statutory retirement age - generally phased over a number of years - to reduce the number of new beneficiaries. At times, these measures were linked to some tightening of the eligibility criteria for early retirement in which case the overall amount of benefits was curtailed. Other expenditure-reducing measures included the degree of indexation of pensions or modifying the conditions that determine the initial benefit for new pensioners. In an earning-related system, this can be modified in several ways.

First by extending the existing qualifying period of contributions to establish the pension entitlement.

Secondly, an alternative to the first option would be to consider partial rather than full grossing up of past earnings for fixing the pension rate

Thirdly, staggering pensions' levels at different levels of income and

Fourthly, lowering the maximum pension rate

4.3.3 Within this context, one may also consider the linking of pension increases to increases registered by some established index such as a Consumer Price Index or a Wages Index or a Productivity Index. The argument as to which Index should be used, generally centres on whether pensioners should also enjoy the benefits of labour productivity growth even though they have already left the labour force. If the CPI is considered, questions would generally crop up about its validity as an inflation index or as a good indicator of a particular sector of the population (i.e. the Elderly) whose needs and consumption pattern differs from that of the general population. In 1992, Italy opted to link pensions' increases to the CPI since this registered smaller increases than the Gross Wages Index. In the same year, Germany shifted to link pension to the Indexation of net rather than gross wages. In both instances, the

objective was to lessen the expenditure increase on pensions on account of the Index-link provisions. In Malta pension increases are generally linked to two-thirds of the increases but the amount of pension is fixed on a relatively short period of earnings.

4.4 Systemic Reforms

4.4.1 Another approach which has been adopted by several countries is to adjust a PAYG defined-benefit scheme[7] under which benefits are generally earnings-related subject to certain conditions such as number of contributions or a maximum ratio between a pension and the assessed earnings by introducing a pillar of financial reserves within the system. It is argued that such a development would reduce the need for unsustainable increases in payroll tax or contribution ratios. The problem here is how to build up this reserve fund. In this case, the investment of reserves has to be very carefully considered. One has to bear in mind that if these reserves are invested in government securities, future interest payments may themselves cause fiscal strains on the government budget.

4.4.2 Systemic reforms as introduced in several countries differ in the extent in which a defined-benefit system has been replaced by a defined-contribution one. Defined contribution schemes have been adopted in some Latin American countries (notably Chile), Asian and African countries. Most industrial and transition countries adopt the defined-benefit approach with a pillar of funded element within the system.

4.5 The three pillars

4.5.1 Literature on the structure of a pensions system makes continuous reference to the three methods universally employed to provide benefits to retirees - the pay - as - you - go arrangements, vocational funds and

[7] The finances of the PAYG plans are highly affected by demographic factors and the degree of maturation of the pension schemes. Equilibrium (contributions=expenditure) is reached when BP=tWL where B stands for the average pensions, t is the PAYG rate, W is the contribution base (average wage), L stands for the number of contributions and P is the number of pensioners. The required contribution rate varies directly with the population dependency ratio (P/L) and the average replacement rate (B/W).

personal savings and annuities plans and refer to these as the three "pillars" of a social security system. These three "pillars" either on their own or jointly employed aim at satisfying the saving, redistribution and insurance functions in a pension system. In industrialised countries these functions are taken up by government and private organisations on a mandatory basis. In developing countries, including Malta, the three functions are combined in a dominant public pillar, in the form of a publicly managed scheme that is financed out of payroll taxes on a PAYG basis supplemented by a government grant.

4.5.2 The combination of the three functions under a public pillar has been considered as being economical to administer, easily managed and politically supported. People with high salaries contribute more and receive more on retirement, while at the same time, the redistributive component of the system ensures that the "poor" get more than what they have contributed. The system prevailed in industrial countries during the first two decades following World War II and has been credited with reducing poverty during those times.

4.5.3 But, according to studies carried out by the World Bank "evidence suggests that public schemes that combine these functions are problematic - for both efficiency and distributional reasons"[13]. It has been argued that:

- the system imposes a relative high contribution which is seen as a tax particularly by employers and high taxes lead to evasion by both workers and employers.
- Employers who cannot pass payroll taxes on consumers or their employees may cut back on their employment.
- Government itself has to employ tax enforcement laws. In many countries the informal sector became larger.
- The savings concept is lost in a one-pillar public system
- Moreover, the rising costs of the system may also impinge on government's ability to meet other important economic objectives that require government finance.

[13] World Bank: "Averting the Old Age Crisis" - 1994 p. 15

4.6 Public pay-as-you-go scheme

4.6.1 This is the most common system and is found in all Western European countries and the USA (Vide also Appendix A). The plan is usually mandatory and coverage is almost universal with some minor exceptions such as Italy where some professions are not covered and Greece where coverage is limited to employees. Since this is a public scheme, the government assumes the responsibilities to legislate, finance, manage and guarantee public pensions. Under the system, beneficiaries receive a defined pension and other benefits that are not actuarially tied to contributions but are usually financed out of a payroll tax, at times supplemented from general revenue

- Benefits on retirement may be in the form of a lump sum as in the case of Denmark, Iceland and Ireland, or linked to either the existing salary on retirement or to average earnings during a number of years as in the case of Belgium, France and Italy. Total pension may be a combination of both benefits i.e a lump sum plus a pension, such as in Finland, Luxembourg, Norway and Sweden.

- These schemes usually provide the largest net benefits to contributors who were 30 to 50 years old when the schemes were introduced. Future workers are likely to receive negative transfers on retirement but from a macroeconomics point of view, the system distributes real income, both across and within generations.

4.6.2 The revenue derived under the PAYG system is mainly the resultant of the working population, the rate of contribution and the general level of wages. The second and third factors may be influenced by government but the working population is primarily a function of demographic forces. As the demographic transition progresses, *per capita* income rises and families tend to have fewer children and people live longer. The old age dependency ratio goes up, while the support ratio tends to decline. This trend will mean a shrinking labour force and a growing elderly population which has to be supported by contributions of the working population. The scheme yields diminishing margins unless the Gross Domestic Product rises fast enough to offset the demographic effects. In most countries, the demographic transition has been in fact, the main factor to cause the "contribution gap" to widen to unsustainable portions, wherever public security plans rested solely on PAYG arrangements. The report has already discussed the sustainability aspect of the present pensions system in Malta loaded, as it is, with increasing costs of pensions and other benefits.

4.7 Occupational plans

4.7.1 These are privately managed pensions funds generally offered by employers to attract and retain workers. They are often government regulated. In some cases such as Finland and France, they are compulsory for workers, and provide for a lump sum and other benefits linked to salary. They are found side by side with the PAYG schemes operated by governments. Their coverage varies between 5% of working population as in the case of Italy to 100% in the case of Finland and Sweden. Most countries register a coverage of 40% to 80% of their working population.

4.8 Defined-benefits and defined-contribution plans

4.8.1 Private pensions systems may broadly be considered as *defined-benefit* or *defined contribution* plans to provide pensions and other benefits at retirement.

4.8.2 In defined-benefit plans the benefit entitlement is determined by years of service and either average earnings over a number of years or the final salary. These plans often have a pension accrual rate varying from 1 per cent to 2 per cent of the salary base per year of service so that if one retires after 40 years of service his maximum pension may be 30 to 60 per cent of salary. The *maximum* pension is mentioned since in integrated schemes involving public and private plans the maximum benefit takes into account benefits received under the two plans. If the benefit is linked to the final salary, it is therefore protected against inflation up to the time of retirement but without any promise to have the pension indexed to future wage or price rises. Pension plans providing defined-benefits are common in industrialised countries although defined-contribution ones are also proving popular arrangements and are substituting defined-benefits plans in some countries.

4.8.3 In defined-contribution plans a predetermined percentage of wages or a fixed amount is contributed periodically by the employee and often by the employer as well. Upon retirement, contributors get back their contributions plus accumulated return, with the pension benefit taking the form of a lump-sum payment or a series of lump-sum payments or an annuity or a combination of these forms. Most public pension schemes are however, defined-benefit rather than defined-contributional ones - Chile and Singapore are exceptions (vide Appendix B). The amount of benefits under the defined-contribution plans therefore depends on the number of contributions and the accumulated

investment earnings which may be high or low according to the behaviour of financial markets and also subject to portfolio management risks. Under these schemes, the resulting pension on retirement is therefore uncertain and not indexed. The inflation risk is thus greater for defined contribution than for defined-benefits plans. In defined-contribution plans, the potential beneficiary bears the major risks since the resulting pension on retirement is undefined.

4.9 Personal saving and annuity plans

4.9.1 The second category of private pension schemes consists of personal saving and other annuity plans. ***Essentially, these are fully funded defined- contribution plans***. They are more attractive to young contributors since these can reap benefits in proportion to the amount they contributed until reaching retirement age although benefits at reduced rates may be enjoyed earlier. Contributions to these plans may enjoy tax incentives in order to prove attractive to voluntary savers. Since benefits are not defined in advance, retirees bear the investment risk on their savings Savings plans may be mandatory and managed by government as in the case of South Asian countries like Malaysia and Singapore or they may be mandatory and managed by private companies on a competitive basis (as in Latin American countries like Chile and Argentine). On the macroeconomic plane, they are beneficial to capital market development, have no effect on labour markets and are relatively immune to political influences.

4.9.2 ***Since economic and social conditions differ from one country to another, no one can present an "ideal" model of an old age security system***. Nonetheless, the saving and redistribution of national income and insurance functions should be the overriding considerations in designing an old age security system. Moreover, the role of government in ensuring the smooth operations of the scheme should be carefully considered. The ***saving*** function involves the postponement of some consumption when people are young so that they can consume more in their old age when they earn less. ***Redistribution*** aims at transferring some income from one person to another, a part of the savings of the rich to supplement the savings of the poor when they grow old ***Insurance*** against risk factors protect the savings against inflation, recession or unwise investment. In this respect, it is recommended that one should consider multiple financing and managerial arrangements so as to spread and lessen risk factors.

4.9.3 A framework for a private pension scheme to make provision for the financing of an upper tier pension element is included as Appendix C

4.10 Indexation of benefits

4.10.1 No discussion on the main features of a social security scheme is complete without referring to the purchasing power provisions in a pension plan. The real value of a benefit may not be maintained at the same level for a long time. In modern times, it may be eroded by inflation and for this reason many countries provide for indexation of benefits. As already pointed out, if a pension is indexed by wage increases, it will maintain its real value and the beneficiary will also share in the benefits of economic growth. If it is linked to a CPI, its real value will also be secured but the relative economic status of the pensioner or beneficiary may decline. However, if it is indexed to some indicator that is less than price increases, its real value will go down. If it is not indexed at all, its real value will be eroded very quickly. The issue of indexation becomes more significant in cases of developing countries which are passing through the final phase of their demographic transition with increases in life expectancy for men and longer life expectancy for women or in countries prone to high inflation.

4.10.2 Public pension systems generally provide for the indexation of benefits even though the real value of the increases may fall short of the drop in the purchasing power of their pensions. The promise to maintain the real value of pensions, is of course, backed by government's authority and ability to impose taxes as permitted by the existing economic conditions from time to time. In the case of private plans, however, full protection against inflation after retirement is rare, "although legal requirements for full or partial price indexation under certain conditions do exist in a few countries - for example in the Netherlands and in Germany. Otherwise, there may be periodic 'ad hoc' increases only if the employer is willing and able to grant them. If adjustments are made on a systematic basis, benefits usually are reduced to permit post-retirement benefit adjustments without increasing contribution rates, or, if negotiated with employee groups, they may be provided at the expense of wage increases for workers." [14]

4.10.3 Certain sectors of the gainfully occupied who are covered by private plans such as mobile workers are more exposed to inflation risks than others since their pensions are usually fixed in nominal terms. The same

[14] Elizabeth Deskin: Article entitled "Changing the mix of public and private pensions: the issues"

holds true if the fund is terminated. Nonetheless in most countries such as the Netherlands and the United Kingdom, indexation of benefits is mandatory "if the financial situation of the fund (and by implication), that of the plan sponsors is healthy. Unexpected inflation which cannot be hedged easily is a major risk for pension funds. At best, within an asset-liability framework, it can be diversified with investment risk."[15]

4.10.4 Full indexation of benefits as a pre-condition in private plans would require higher contributions and for this reason it is very rarely found. However, many experts believe that a lot can be achieved by way of protection against inflation, if pension funds can invest in inflation - adjusted securities. Others question the validity of this view due to the relative lack of index-linked financial instruments. In the United Kingdom and elsewhere, index-linked bonds do exist but the markets are small and the yields may not be very attractive

4.10.5 Related to the indexation issue, is the relatively recent role assumed by members of the European Union to provide initiatives to individuals to take out a private pension and to re-insure private pension plans against bankruptcy arising in particular, from possible mismanagement of funds. A 1980 directive makes it incumbent on European Union member states to insure and legislate in order to guarantee employees' contribution in case of liquidation of the employing company. There is also a similar provision in the local Social Security Act.

4.11 Short- and long-term measures

4.11.1 The following section has been designed to provide an overview of reform options as well as to review the adjustments made to pension plans in European countries. The rest of this section is again divided into two parts. In the first instance, the Committee is listing some measures which may be further examined by Government. They are essentially short-term measures or adjustments to the present system. Some proposals are aimed at curbing abuses such as effective control measures and a strategy for collecting what is due by way of arrears. Others are basically parametric reforms of the system. At the end of this part, the Committee takes a longer view of the problem. It is proposing a two-tier pension scheme with government and the private sector participating in this new initiative. The first tier provides for a basic pension while the upper tier provides a further pension element and is

[5] Jean Frijns and Carol Peterson: Article entitled: "Financing, Administrating and portfolio management. How secure is the pension promise?"

mandatory for the high earnings group but optional for lower earnings groups

4.11.2. The concept of a private or occupational pension schemes is not new to Malta. In the past, some companies made provisions for pension plans for their employees but these were liquidated in 1979. The Unions then asked for the dissolution of funds already invested and those who invested in these funds had their money back. There has recently been some interest on the part of Insurance companies to launch private pension plans and positive comments from Pensioners' Associations and the Trade Unions. It is felt that recent private initiatives should be further examined by Government.

4.12.1. Restructuring the Social Security Account

There are quite a few who believe that Malta is facing problems in financing welfare services partly on account of bad planning. They maintain that no proper assessment of the fiscal burden is made before a new scheme is introduced or whenever changes in benefits are made. Worse still, it is difficult to understand the logic supporting the debit and credit side items of the so-called "Social Security Account" with the result that the "welfare gap" may appear simply an artificial and a purely accounting indicator. Although there is not much to comment on the items appearing on the revenue side of the account in that, most of the income has to come by way of private and public contributions and State grant, some of the expenditure items may not be so easy to explain. As pointed out in the report, their inclusion might have rested solely on administrative decisions. Some years ago, the 'welfare gap' had been called a "time-bomb". To defuse it, one has in the first instance, to have a clear idea of its meaning and a logical understanding of its financial significance.

At present, the Social Security Account may be considered under two broad headings and consists of the following items:

Contributory[16]	Non-contributory
Retirement pension	Handicapped child allowance
Invalidity pensions	Old age pension
Widowhood pensions	Medical assistance

[16] Benefits considered to be contributory may be defined as those where the entitlement to such benefits depends directly on the payment of a social security contribution.

Injury pensions	Social assistance
Disability pensions	Unemployment assistance
Disability gratuity	Supplementary allowance
Orphans' allowance	Children's allowance
Parents' allowance	Maternity benefits
Sickness benefits	Parental allowance
Unemployment benefit	Bonuses
Marriage grant	Other small items
Bonus to pensioners	Health & Community Care
Other small items	Care for the Elderly

In 1997, pensions under both schemes accounted for 49% of total expenditure, children's allowances for 11%, health and community care programmes for 24% while expenditure on care for the elderly represented 5.7%. Bonuses to pensioners accounted for another 6.0% of total expenditure on all items which stood at Lm218.7 million in 1997

The Financial Report compiled by the Treasury shows the Social Security Account in the following form which again fails to distinguish between the contributory and non-contributory elements of the account It seems to regard expenditure on non-contributory items as an accounting information item only

Statement in terms of the Social Security Act (1)	1992	1993	1994	1995	1996	Lm million 1997
Social Security Contributions	53.9	64.3	67.7	77.7	83.7	93.5
Govt. grant	26.5	32.6	33 9	37 8	42 5	46.5
Total receipts	80 4	96.9	101 6	115 5	126 2	140 0
Benefits under Con. Schemes	63.8	69.6	76 8	84.4	95.1	104.0
Children's Allowance	14.5	14.5	15.6	15.5	18.3	20.4
Admin. Expenses	1.7	1.6	1.7	1.7	1.8	1.8
Health & Community Care	27 9	32.3	39.6	41.8	40.1	54 1
Care of the Elderly	6 3	6.1	6.8	8 5	10 0	10 8
Total Payments	114 2	124 1	140.5	151.9	165.3	191.1
BALANCE (Welfare Gap)	-33.8	-27.2	-38 9	-36 4	-39.1	-51 1
Benefits paid under non-contributory schemes	19.7	21 7	23.1	24	26.6	27 5

Source: The Treasury: Financial Reports.

One may argue that the Account should be primarily designed to present in a meaningful way the proceeds from contributions under the Social Security Act and the total pensions and bonuses (of a contributory nature) which are being paid. In other words distinguishing broadly between social security and other welfare programmes. In this way, Children's allowance, Old Age pensions under the 1948 Act, expenditure on Health services and the Care of the Elderly should not be included in the Social Security Account. The account will be styled as a "Contribution/Pensions Account". The suggested rearrangement of the Account would thus allow the monitoring and an understanding of the future behaviour of the account. The 1997 Account will, therefore, include:

	Lm million	Credit	Lm million
A. Pensions	91.0	A. Contributions Cl. I	83.5
(Contributory)		B. Contributions Cl. II	10.0
B. Bonuses	11.4	C. Fines	0.5
C. Admin. Expenses	0.6	D. Balance	6.0
Total	**100.0**		**100.0**

Since, notwithstanding the restructuring of the account to restrict it to contributions and expenditure on pensions only, it has still a modest "contribution gap", it is argued that the short-term measures mentioned later on will be instrumental in narrowing or eliminating the gap.

Admittedly, this is a very simple arrangement. But its primary purpose was to provide a form of account that could be easily monitored and corrected in time. Still, it leaves unanswered the observation whether N.I. contributions should be considered as intended to meet only pension expenditure. Furthermore, it leaves out an important revenue element; the State grant. For this reason, most members of the Committee did not favour this simple approach. They argued that the State grant was an intrinsic element within the system intended for the financing of contributory benefits including pensions of a contributory nature as well, and should not be left out of any calculations aimed at a restructuring of the Social Security Account.

Two other forms of the Account are therefore being reproduced. They incorporate:

a). The State grant on the Credit side

b). other items of expenditure such as sickness, unemployment, disablement and injury benefits and marriage grant on the Debit side. The only difference is the inclusion of the bonuses in the second table 4.12.1.4.

An attempt was made to project the likely expenditure or rather the future state of these accounts up to 2025 on the following assumptions:

Because of the nature of most of these items of expenditure involved (i.e. except pensions and to a certain extent Children's' allowance),the growth rates were not based on demographic projections but on historical evidence.

On the ***revenue*** side:

a). contributions were taken as projected in part 3 of the report and

b). the State grant equal to one-half of all contributions was included.

On the ***expenditure*** side:

a). pension payments were taken as projected in table 3.4. i.e assuming the yearly growth rate specified in para. 3.3.2 1

b). an average growth rate of 6.85% in respect of other benefits except bonuses and

c). an average rate of 5.07 % if one takes into account all benefits including bonuses. ***These growth rates are averages for the past ten years. The first table includes (a) and (b); the second (a) and (c).***

Table 4.12.1.3.						Lm million	
	1997	2000	2005	2010	2015	2020	2025
Contributions (1)	93 5	108 1	154.8	207.2	262 0	329 3	419 9
Govt. grant (2)	46.8	54.1	77.4	103.6	131 0	164 7	210 0
Total	***140.3***	***162.2***	***232.2***	***310.8***	***393.0***	***494.0***	***629.9***
Pensions (3)	91 0	121 7	183.3	295.8	461.7	688.8	992.6
Other Benefits (4)	4.4	5 4	7 5	10.4	14.5	20.2	28.1
Total	***95.4***	***127.1***	***190.8***	***306.2***	***476.2***	***709.0***	***1020.7***
Difference	***44.9***	***35.1***	***41.4***	***4.6***	***-83.2***	***-215.1***	***-390.9***

Table 4.12.1.4.							
Contributions (1)	93.5	108.1	154.8	207 2	262.0	329.3	419.9
Govt. grant (2)	46.8	54.1	77 4	103.6	131.0	164.7	210.0
Total	***140.3***	***162.2***	***232.2***	***310.8***	***393.0***	***494.0***	***629.9***
Pensions (3)	91 0	121.7	183.3	295.8	461.7	688.8	992.6
Other Benefits (5)	13.0	15.1	19.3	24.7	31.7	40 5	51.9
Total	***104.0***	***136.8***	***202.6***	***320.5***	***493.4***	***729.3***	***1044.5***
Difference	***36.3***	***25.4***	***29.6***	***-9.7***	***-100.4***	***-235.4***	***-414.7***

Notes:

1) Private contributions of employers and employees

2) Government grant equals to one-half of (1)

3) Includes retirement, invalidity and widowhood pensions under contributory scheme

4) Includes all other benefits except bonus to pensioners

5) Includes all other benefits

Conclusion

The message conveyed by these accounts is clear Up to the period 2005-2010, both accounts will continue to register healthy balances. Thereafter, there could be serious fiscal stains that would pose problems

4.12.2. Female retirement age

As a general rule, one does not find differences in the retirement age based on gender consideration, the more so in countries where discrimination in work conditions and pay does not exist. In Malta all workers enjoy the same rights related to recruitment, pay and other conditions of work. Yet, female workers still enjoy the right to retire a year earlier than males

There does not seem to be any reason why the law should not provide for retirement for both sexes to be on attaining the same age, presently, at age 61. This proposal is based on the following considerations:

- on grounds of **general policy**, government abides by the maxim of equal treatment and conditions for both sexes

- on grounds of **equity**, females are now paying 1 year less by way of contributions than their male counterparts

- on **demographic considerations**, the average life span of females is around 4 years longer than that of males. This longevity factor is likely to remain in future thus providing females with a greater number of years' benefits notwithstanding that they had paid the same yearly premium as males.

Consideration

It is being considered that as from next year the retirement age should be the same for both sexes. It is estimated that the savings for the year will be almost Lm1.0 million. Since most of the retirees will be government employees, government will also be saving by way of non-payment of pension commutations during the first year when this amendment is introduced.

4.12.3. Raising retirement age

The case for an increase in retirement age rests primarily on the length of life expectancy which is still rising in many European countries including Malta. Life expectancy linked to various cohorts within the 61+ age group has been rising at a significant rate during the past three decades both for males and for females implying an increase in potential pension periods. The increase has been higher for females by around 4 years. A rise in longevity may be translated into corresponding increments in state outlays on pensions even if one were to assume no increase in rates of benefits. When the N.I. Act was introduced in 1965 life expectancy at birth was calculated as 67.0 years in respect of males and 71.3 years in respect of females and increased to 73.79 years and 78.04 years in 1989. Latest estimates (1996) show a life expectancy of 74.9 years for males and 79.8 years for females. At age 61, the life expectancy is 13.9 years for men and 18.8 years for women compared to 6.0 years for men and 10.3 years for women in 1965.

In all cases, raising the retirement age for pension purposes will result in budgetary savings particularly so if, as in our case, a proportion of total outlay in pensions is met out of general revenue. In theory, demographic considerations should be taken into account in establishing the national pensionable age. Some years ago, Sweden changed the retirement age from 65 to 66 years on grounds of demographic changes. On the other hand, in practice experience has proved that several European countries notably Spain and Italy have found it difficult to change the pensionable age once this has been adopted for a number of years. One would also expect that any attempt to change the local retirement age would face opposition from some pressure groups. Any change in retirement age should therefore be gradually introduced.

Economic considerations have also to be carefully weighted. The level of unemployment should be a main consideration; otherwise what may be saved through less pension payments may have to be transferred as support to the unemployed. But as may be read from the following table, compared with other countries, Malta has a somewhat privileged arrangement with general pensionable age of 61 and 60 in respect of males and females respectively.

Pensionable Age in selected European countries

Country	Males	Females
Ireland	66	66
Belgium	65	60
Cyprus	65	65
Denmark	67	67
Italy	62	57
Germany	65	65
Norway	67	67
Portugal	65	62

Source IMF - Ageing Populations and Public Pensions Schemes December 1996

On the basis of the economic model described in part 3 of the report, an attempt was made to quantify the savings which will be made as a result of raising the retirement age to 63 by the year 2003. ***One has to point out that no account could be taken of any increase in unemployment if workers are retained beyond the present retirement age nor of other macroeconomic effects of this proposal.*** In working out the estimate, the following assumptions were made:

- in 1999 female retirement age will be raised to 61,
- in 2001, the retirement age in respect of both sexes, will be raised to 62 and
- in 2003, this will be again raised by one year to 63

The result of this short-term adjustment (later on one may consider whether it is feasible to raise the retirement age to 65), is illustrated in the following table.

Year	Current Retirement Ages		Reformed Retirement Ages		Changes in	
	Beneficiaries	Expenditure	Beneficiaries	Expenditure	Beneficiaries	Expenditure
1995	29043	48.3	29043	48.3	0	0.0
1996	30227	52.6	30227	52.6	0	0.0
1997	31114	58.2	31114	58.2	0	0.0
1998	31827	63.8	31827	63.8	0	0.0
1999	32525	69.7	32062	69.2	-464	-0.5
2000	33173	76.0	32642	74.9	-531	-1.2
2001	33579	82.5	31091	78.8	-2488	-3.7
2002	33754	89.0	31395	82.6	-2360	-6.4
2003	34004	95.7	29854	86.5	-4150	-9.2
2004	34974	104.0	29071	88.9	-5903	-15.2
2005	36652	115.4	27544	91.2	-9108	-24.2
2006	38236	129.0	26688	93.4	-11548	-35.6

In brief: (i) in 1999 there will be 464 less retirees (pensioners) resulting in gross savings on pensions of around Lm0.5million, (ii) when in 2001 the retirement age will be raised by one year, there will be about 2500 less retirees and gross savings of around Lm3.7million; (iii) by the year 2003, there will be 4200 less pensioners resulting in gross savings of about Lm9.2million and (iv) if retirement age stays at 63, gross savings will be higher every year so as to reach Lm35.8million by 2006. It is obvious, of course, that savings will be compounded if the retirement age is again raised after 2003

Proposal

In principle the retirement age should rise regularly with the life expectancy index. In our case, this has not been done. On the contrary, the retirement age was lowered from 62 to 61 in 1972. It is being proposed that the pensionable age should mandatorily be 64 for both sexes going up by 1 year every two years. Considering also that in many countries early retirement schemes have been a major source of financial problems, early retirees should have their benefits reduced while late retirees should have their benefits increased in an actuarially fair way.

Since this proposal may not be enthusiastically received in some quarters, one may opt for an initial period of say three years during which retirement at a later age may not be on a compulsory basis.

4.12.4 Raising contribution rates

Like income tax. National Insurance contributions are a form of direct taxation, and no government can be enthusiastic about raising these rates. The last time there has been a change in rates was in 1994, when government raised the rate payable by employers from 8.3% of the basic wage to 10.0%. At present, employees still pay 8.3% on gross wages and salaries. This rate has not changed since 1979. Most writers agree that several OECD governments preferred to raise more revenue through pushing up N.I. rates rather than resorting to high rates of income tax. Economists point out that a rise in contribution rates may be regarded as an undue burden on labour as a factor of production and may thus be substituted, at least at the margin, by more capital-intensive production, thus creating unemployment.

From the employee's viewpoint, the PAYG deduction is a form of forced savings. It is a price he has to pay for future benefits. Provided his savings are not in any way misappropriated by the State, he will enjoy those savings and interest he had transferred throughout his working life. On the other hand, higher rates of contributions represent also additional costs to employers. From an employer's perspective, wages are but one element of unit labour costs. the other elements include paid holidays, bonuses, N I contributions and other incidental expenses

The decision on whether to raise the contribution rates rests on several considerations such as, the desire to increase revenue to make up for the gap between contributions and pension expenditure and whether this increase can be generated from other sources, the rise in unit labour costs and the level of competitiveness of local industry.

An estimate has been attempted to illustrate the revenue yield if contributions are raised as follows:

- Employee's rate to go up ***from 8.3 per cent to 9.8 per cent in a period of three years as follows***:
  - Base year 8.3%
  - After one year 8.8%
  - After two years 9.3%
  - After three years 9.8%

- Employer's contribution rate to go up ***from 10.0 per cent to 11.5 per cent over a period of three years as follows***

  - Base year 10.0%
  - After one year 10.5%
  - After two years 11.0%
  - After three years 11.5%

The following table shows the yield through N. I contributions if this proposal is implemented. The 0.5 % increase will be implemented in 1999

Expected Scenario assuming unchanged policies

Year	Total Contributions Lm M [1]	Expenditure	Contributions less expenditure	GDP	Gap as % of GDP
1995	77.7	81.3	-3.6	984.9	-0.4%
1996	83.7	88.0	-4.3	1055.0	-0.4%
1997	89.6	96.1	-6.5	1126.9	-0.6%
1998	95.4	104.2	-8.8	1202.2	-0.7%
1999	106.5	112.7	-6.2	1278.5	-0.5%
2000	118.9	121.7	-2.8	1362.2	-0.2%
2001	134.0	130.9	3.1	1468.2	-0.2%
2002	144.5	139.9	4.6	1584.1	-0.3%
2003	156.3	149.6	6.6	1712.6	-0.4%
2004	167.5	157.0	0.5	1836.3	-0.0%
2005	178.1	183.3	-5.2	1957.6	-0.3%
2006	189.3	202.1	-12.8	2075.0	-0.6%
2007	201.1	222.6	-21.6	2203.6	-1.0%
2008	212.9	245.3	-32.4	2333.8	-1.4%
2009	225.3	269.8	-44.5	2469.9	-1.8%
2010	238.3	295.8	-57.5	2611.6	-2.2%
2011	249.0	323.5	-74.5	2729.6	-2.7%
2012	261.2	352.5	-91.3	2863.2	-3.2%
2013	274.0	382.9	-108.9	3003.0	-3.6%
2014	287.5	426.1	-138.7	3150.9	-4.4%
2015	301.3	461.7	-160.4	3302.5	-4.9%
2016	315.5	500.5	-185.0	3458.3	-5.3%
2017	330.2	542.8	-212.6	3619.0	-5.9%
2018	345.4	588.5	-243.1	3785.6	-6.4%
2019	361.7	637.1	-275.4	3964.8	-6.9%
2020	378.7	688.8	-310.1	4150.9	-7.5%
2021	396.5	743.9	-347.4	4346.2	-8.0%
2022	415.9	802.0	-386.2	4558.1	-8.5%
2023	436.4	863.2	-426.8	4782.9	-8.9%
2024	456.9	926.9	-468.0	5029.4	-9.3%
2025	482.9	992.6	-509.7	5292.6	-9.6%

Comparing the data in Col 2 of the above table with that in Col. 3 of table 34 in part 3 of the report, the increase in revenue is nearly Lm5.0million in 1999 Lm10.8million in the year 2000 and Lm17.5million in 2001. The positive effects of this proposal will, of course continue thereafter as one can see from a comparative reading of the two tables

[1] not due but collected

4.12.5. Maximum pensionable income

There has been during the past years a consistent call from Trade Unions and Associations of the Employers for adjusting upwards the maximum level of pensionable income which has been fixed at Lm6740. This was, in fact, the amount of emoluments received by the President of the Republic in 1982 and has since then been used as the maximum base for the calculation of the maximum pension.

On grounds of fairness, there seems to be no reason why this ceiling should not be adjusted from time to time to take into account the present level of salaries, including that of the President of the Republic and retain this yearly salary as the maximum emoluments for pension purposes. The raising of the maximum earnings ceiling for pensions purpose means that, all things being equal, the "welfare gap", will grow at a faster rate than it is growing at present since this additional outlay has to be met out of general revenue.

Proposal

In present circumstances, it is therefore being recommended that the maximum yearly salary for pension purposes should be retained at the present level of Lm6750 for the next three years. After this period the ceiling should either be raised in accordance with the salary of the President of the Republic or else Government may determine the maximum yearly salary for pension purposes which should, however, be higher than the present maximum of Lm6750.

4.12.6 Arrears of N.I. Contributions

Information on the total amount of arrears by way of N.I. contributions could not be obtained from the Department of Social Security. The present Database does not provide such information.

While information on the general level of arrears by way of N.I. contributions in respect of employees is available, the Department is not in a position to make a rough estimate of what is owed by the self-employed. There are several reasons for this state of affairs. First, there has never been any attempt to reconcile the records of the Department concerning the self-employed with information existing at the CET Office. While the number of self-employed on the Department's books

stands at 15,000, the ETC is reporting 17,000, while the CET records show a much higher number. Secondly, even in the case of known contributors, the Department is not happy with the declared income, even though this is accepted for income tax purposes and thirdly, due to shortage of staff, the number of inspections had to be severely curtailed

At present, the department is estimating a total of around Lm8.5 million. This is being considered as the amount of realisable arrears, which the Department will be in a position to collect, given the resources to be employed on this exercise.

The level of arrears has been a recurring item in the Auditor's Reports:

"..... the department does not attempt to track shortfalls in the National Insurance contributions received under the various schemes although the enforcement section can keep track of arrears due by most of the companies/firms." (p. 72 of the 1996 Audit Report)

"This office (the Audit Department) also sees no current strategy nor commitment to pursuing the collection of known arrears i.e. Parastatals in the short term" p. 73.

"..... there is a need for greater control and enforcement of N.I. contributions" p 73.

"A major comprehensive review of this N I Contribution Programme is required to properly define the parameters of its expected contributions and to develop a meaningful database from which it operates" p. 73

The above audit observations point, among other things, to a substantial source of revenue which apparently is not being tapped in a regular and systematic way notwithstanding that in January/September 1996, some 396 warranty of seizure and garnishee orders were served to defaulters. The Department has also collected Lm1 6 million by way of arrears during 1996.

The Committee discussed a legal provision which could lead to abuse and evasion of contribution payments. Section 116 (1) (6) of the Social Security Act imposes a "further contribution" of 5% on any amount due. In effect, this amounts to a one-off fine of 5% on unpaid contribution.

The group discussed at length the implications of this provision Members felt that financially employers and the self-employed could find it advantageous to withhold the prompt payment of contributions and incur a penalty of 5% at a later stage, in order to utilise contribution-money as part of their cash flow. On a purely financial plane, the cost is less than borrowing at 8-9% Members did not rule out the possibility that several defaulters could be making these mathematical calculations

and opt to postpone payments. In present circumstances, when Government is borrowing heavily, the non-payment of contributions on time will make Government financial position more critical.

The Committee is therefore proposing that existing arrears of N.I. contributions will continue to be subject to a 5% penalty. Future arrears will, however, be subject to a penalty of 1% per month, instead of a one-off penalty of 5%. This suggestion will require a legal amendment.

Reference was also made to cases where defaulters of N.I. contributions were, at the same time receiving other social security benefits such as Children's allowance. To say the least, this is an incongruous situation where the department is extending assistance to defaulters and at a time when Government is facing Budgetary problems.

One way of pressing for the payment of arrears would be to suspend payments of other benefits to defaulters until their N.I. dues are settled.

The Group considers that there exists a potential source of partial financing of the shortfall between contributions and payments of pensions and benefits. The Department may therefore, consider the formulation of a new strategy for arrears collection. A Task Unit may be set up for this purpose to examine and make recommendations for action by the Department. This could be composed of officials from the department under the chairmanship of an official from Finance. ***The more important consideration is, however, the establishment of a strategy aimed at the collection of arrears***

4.12.7. Curbing Abuses

As a corollary to the previous proposals, one has to consider thoroughly the principal forms and extent of abuses as well as the perpetrators of crimes related to claims under the social security system. Literature on the subject point to the existence of fraud that is found in most countries, Malta is no exception. In discussing the late retirement proposal, it was pointed out that adequate provision must exist to guarantee against mock early-retirement, even if the system allows for reduced benefits in this case. Early-retirement is also often accompanied by more participants in the black market. In this case, the Consolidated Fund suffers both as a result of extending benefits to early retirees and by being robbed of personal income tax.

It is sometimes argued that generous and universal benefits breed abuses. In the U.K. unemployment benefits are often regarded as enticing workers to leave their work in order to receive a more generous financial handout every week. The latest reforms are aimed at curtailing this abuse. Absenteeism from work is also a generally quoted form of abuse of social security benefits. In Sweden, absenteeism had reached alarming proportions and it was common knowledge that the benefit system had a lot to do with it. In 1991, the amount of cash benefits was adjusted to provide for lower cash payments during the first few days of sickness and less generous cash benefits than previously paid for the remaining days up to the first three months. The law also transferred the administration of these benefits to the employers during the first 14 days the employee is out of work. One reason behind this amendment was to control absenteeism as employers were expected to be more interested than the (anonymous) authorities to get people to return to work.

Referring to the local situation, the committee realised that the number of days of sick leave reported by employees is presently less than some years ago. The number of self-employed applying for sickness benefits is also less than the number of employees, but their period of sickness is generally longer. Inspections by medical doctors are carried out in respect of government employees but in other cases, one has to rely on the reports of private medical practitioners. The present system under which random inspections are carried out by the Government medical officers is generally regarded as satisfactory.

The same remarks may be made in the case of work injuries. Here the abuse is usually related to the definition of what constitutes an "injury" and the required evidence that the injury has been caused by work-related circumstances. In the USA, where work injury insurances provide generous cash benefits, abuses are widespread. It is pertinent to quote again the case of Sweden's where injury benefits were regarded as creating their own beneficiaries causing the Work Injury Fund to accumulate huge debts. In 1993, the law was amended to provide for less attractive cash payments for work-related injuries. It was claimed that these legal adjustments caused short-term absenteeism to drop by nearly 50 per cent and the Work Injury Fund to stem its worsening position.

An "artificial" wage

At this stage, one may refer to an apparently abusive arrangement which is gradually creeping into the system. The law stipulates that the two-thirds pension is to be worked out on an average wage in respect of a number of years. The level of the average wage is, thus, the determining factor in the yearly pension. At present, there is a tendency for Trade Unions to incorporate in the "wage", an element of remuneration which has previously been considered extraneous to the

basic wage. By so doing, the wage will be automatically increased. In several establishments such as the Drydocks the Commercial Banks Air Malta, Sea Malta etc., there exist allowances in respect of shift work, obnoxious conditions etc. During the negotiating of a Collective Agreement, the new wage structure would incorporate in itself certain allowances which were previously considered distinct from the basic wage. A recent example is the Collective Agreement being concluded with Sea Malta.

It may be argued that by so doing, both the employee and the employer would be paying a higher N.I. contribution. This is, however, a short-sighted argument. As has already been shown, there is always a difference between total contributions paid and total pensions and the higher the average wage on retirement, the wider will the gap be. ***This observation should be fully considered by the Department of Social Security and if such new arrangements are indeed considered abusive, Government may issue instructions to Parastatal Companies to avoid similar provisions in new Collective Agreements.***

At the risk of stating the obvious it would seem that more attention has to be directed towards the prevention of abuses in the areas of unemployment, early retirement and injury-related benefits. Although the local media often makes reference to the existence of fraud and abuses in these areas, the Committee has however no evidence as to the extent and perpetration of these abuses and therefore no one can quantify the additional outlay in the form of benefits that has to be incurred as a result of abuses. Nor is it possible to quantify, in the absence of a period of observations, the savings accruing through the curbing of abuses of the scheme. One consequence is certain. Abuses may increase in the absence of administrative arrangements to curtail them. The DSS is definitely in dire need of an investigation section properly set-up with rotating staff trained in such work. It is not the competence of this Committee to determine whether the staff should be found from the existing complement of the Department. The general feeling is that this is not possible and any such section could only be established if new staff is transferred to the Department.

Lack of investigation may breed new abuses particularly so if there exists a general perception that defaulters remain unchecked.

Finally, the Committee discussed at some length whether penalties should be increased in order to serve as a further deterrent. The General conclusion was that there was no general need to enlarge the spread or increase existing penalties. The real problem concerned the identification of the defaulter or the abuser. The department is often unsatisfied with Court decisions whenever abusers are arraigned in Court, and with the decisions of existing administrative tribunals. Very

little, if anything, can be done in this regard. Even so, it is extremely difficult to recoup undue payments made years earlier

4.12.8. Pensionable earnings level

At present, the two-thirds pension entitlement is linked to a 30 year contribution period. Pensionable income for employees is assessed on the best three consecutive years in the last 10 years prior to retirement and in the case of the self-employed on the average of the last 10 years prior to retirement. In the former case, the best three years usually happen to be also the last three years prior to retirement, so that the amount of pension is heavily influenced by the salary of the last three years. Overseas pension plans generally take into account a much longer period to arrive at the pensionable income.

From the point of view of the benefit/contribution ratio, pensions are therefore not related to contributions over a long period. In principle they should be linked to a worker's whole contribution record. Whether at the end, a retiree will eventually receive more than he had contributed, depends on the individual's longevity factor which on the whole, is still growing. The higher this factor is, the wider will be the potential gap between contributions and benefits.

In order to bridge to some extent the difference between the total amount of contributions and total benefits, it may be suggested that the pensionable income should be calculated by taking into account one's contribution record during the last 15 years in the case of both employees and the self-employed. This would result in overall savings on the pension bill.

One may also make reference to some calculations made by the Department of Social Services in order to assess the reduction in employees' pensions if the amount of pension was calculated on the best 5, 10 or 15 years instead of the present three years. In all cases there will be "savings" in pension outlays. Five exercises taking into account five actual salaries scales ranging from Lm1787 - Lm2935, Lm2114 - Lm3829, Lm2194 - Lm4685, Lm2428 - Lm4508 and Lm3202 - Lm6516 were considered. The results (summarised hereunder) show that in the lower earning groups, extending the average period to 5 years, would yield very small savings. Savings on pensions relating to the highest salary scale considered - Scale 5 pertaining to an Assistant Head in Government Service - would amount t Lm2.55 per week. The difference in pensions rises if average salaries which are taken into account for the calculation of pensions are worked out over a longer work period. In the case of salary scale 5 with a maximum of Lm6516, the difference per annum in pension rates would be Lm133, if a 5 year

average is considered Lm720 if a 10 year average is taken into account and Lm1007 will be the difference if a longer period of 15 years is considered

	Pensions on average of the best				Difference		
Salary scale	**3 Yrs.**	**5 Yrs.**	**10 Yrs.**	**15 Yrs.**	**5 Yrs.**	**10 Yrs.**	**15 Yrs.**
Lm							
1787-2935	2008.76	2000.98	1892.8	1840.8	-7.8	-115.96	-167.96
2114-3829	2539.16	2474.16	2253.68	2153.84	-65	-285.48	-385.32
2194-4685	3039.92	2901.08	2571.92	2384.2	- 138.84	-468	-655.72
2428-4508	2980.12	2902.64	2615.08	2464.8	-77.48	-365.04	-515.32
3202-6516	4263.48	4130.88	3543.8	3256.24	-132.6	-719.68	-1007.24

This exercise could give a better indication if the Department of Social Service could provide a distribution of future pensioners by their average salaries on which their pensions will be based. If such data were available a crude estimate could be worked out of the estimated savings during a year as a result on lower pension rates based on a longer average period of service reckoned for pension purposes.

In considering the issue of whether the average earnings in the case of employees should be reckoned on the last 10 years, the question arises whether it would be more appropriate to ameliorate the position of the self-employed by reducing their 10 year period of earnings to three, thereby putting the two categories of workers on the same level. If there exists an anomaly, the position of the least favoured party should be ameliorated to be on the same footing as that of the better one and not the other way round as has been considered. On logical grounds this may be so *But financial considerations dictate otherwise and the Group is addressing financial problems linked to the present pension scheme which if remain uncorrected, will create acute problems in future.*

4.12.9. A longer term proposal

Any substantial change in the present national pension scheme is of national and fundamental importance to all and has to be studied in depth since it deals with long-term arrangements that affect the present and future generations. It is furthermore an issue of a highly technical nature. A critical examination of the various models from other countries (Vide Appendix A) will be beneficial but any new scheme has to be tailor-made to suit local conditions in order to cause the least possible inconvenience to prospective retirees. A lot of research which should serve as a useful base for further work has been done through this report

The Committee feels however that a technical Unit should report on the feasibility of an alternative system taking into account the local socio-economic framework. We would like however, to make a few observations concerning the broad parameters which could form the bases of a new pension plan

Beneficiaries under the present scheme should not be adversely effected by alternative arrangements although they may be given the option to join or participate in any new plan on a voluntary basis. Ruling benefits and entitlements should not be changed or reduced without the consent of present potential beneficiaries.

The rules of economic ***efficiency and equitability*** should be the guiding principles of reform. Similar taxpayers should be treated similarly particularly in so far as obligations and benefits are concerned

The present two-thirds pension should be retained as a basic consideration in any reform plan The quality of life of future retirees should not be subjected to actuarial calculations.

A complete privatisation of the security system on the Chilean or Singapore pattern which are outlined in Appendix B and which would require moving the system totally away from the Budget is not being recommended. ***It is not believed that such action by way of reform is warranted.***

The Committee is clearly in favour of a two pillar approach involving government and the private sector for two main reasons:
First, the fully funded private pension schemes on the Singaporean model which in the past had substituted the public PAYG schemes are rapidly loosing their original glamour and are in the process of reform.

Secondly, research carried out by the International Monetary Fund clearly demonstrate that in the case of countries where the demographic transition is in its final stages, the two-pillar approach should be considered. It should be made clear that Government should retain its role as the main protector of the overall social security system

On the other hand, the Committee believes that everyone should assume responsibility for providing for his own needs on retirement so that the State's contribution should be wholly directed to those who need it most. The modern concept is that self-help should be a basic determinant of the national welfare system

The proposed system should take the form of a two tier arrangement which involves two levels of pension benefits based on earnings' levels:

1. The first tier would consist of a basic pension linked to a certain level of earnings. The actual level of earnings has still to be decided following a thorough consideration of the distribution of national income. The basic pension will be payable to all pensioners. Contributions will be made on the PAYG system, will remain mandatory and will continue to be administered by Government. It is being recommended that, following the restructuring of the social security account on the lines suggested earlier in this part of the report i.e. leaving out the non-contributory benefits, the scheme would be fund-managed, so that contributions could be invested and earn interest

   A decision has to be taken whether to allow existing contributors to participate in the scheme provided that they have not reached a certain age and whether to restrict this two tier arrangement to new entrant in the labour market. It is also important to decide on an increase in the retirement age as proposed elsewhere in the report so as to boost the fund with further years of contributions. ***The first tier is thus aimed at ensuring a guaranteed pension to all workers.***

2. The second tier providing for an additional amount to the basic pension will take the form of a private pension scheme. Experience in other countries suggests that the scheme should be mandatory in the case of those in the higher earnings groups and optional for those who are in lower earnings groups but want to save more for the future. In the former case, i.e. those who enjoy high levels of earnings, there could be provisions for opting out of the first tier and direct all their contributions to the private scheme. A simple framework of a private scheme is included as Appendix C.

   Taxation considerations have to be carefully formulated if private pension schemes are introduced to supplement the public security system. Thus, if the contributions to such funds are tax deductible, then the retirement income received should be included in the individual's taxable income. On the other hand, if the contributions are taxable, then the benefits should not be taxed. Employers' contributions should remain tax deductible. Tax concessions may also be considered in respect of returns on investment funds. A private fund to supplement public arrangements have certain advantages:

   - the pension will be according to a defined contribution plan and will not be related to life expectancy;

- the benefits will depend on what was paid in the system plus the return on investment of the funds

- individuals would have a property right to their benefits. On death of a contributor, the accumulated benefits will form part of his estate and

- young contributors will enjoy additional benefits on retirement as a result of long years of contributions.

A controversial issue that has provoked a lot of discussion in many countries was whether a private pension scheme should be voluntary or mandatory. This issue was also discussed by the Committee and the general feeling was that Malta should follow the example of several countries and opt for a ***mandatory*** approach, at least in so far as those with high levels of earnings are concerned.

Whatever scheme is adopted, its provisions and introduction must take into account the indirect effects on the overall economy, with particular reference to its effects on competitiveness of Maltese industry and on the local employment situation.

Another important economic issue concerns the investment of funds. There is the possibility of capital outflows from the country in the event that all funds pertaining to a private pension plan are invested overseas. Pertinent regulations could of course, provide for this eventuality. In any case, Balance of Payments considerations have to be given their due weight.

At present, several countries are in the process of making adjustments to their pension schemes. One such example is Ireland which has launched a "National Pensions Policy Initiative" in 1996 and a National Commission is drawing up a proposal for Government's consideration. This initiative was undertaken in the wake of situations which were very similar to the local ones described earlier in this paper. For this reason we are also recommending a similar study to be undertaken by another group.

As already pointed out, the drawing up of a new national pension plan is a technical assignment. This Committee does not want to propose, ***much less encourage, any initiative on the naive pretext that other countries are doing it, nor before a proper cost-benefit analysis is carried out. More study is needed on this proposal.*** On the other hand, it is advisable that a wide spectrum of the population be involved in the debate on such an important national issue since any new arrangement has to be accepted by future contributors and beneficiaries. MCED is ideally placed to come up with broadly based ideas since it is composed of representatives of the three Social Partners.

Some actuarial assistance from the International Monetary Fund could be obtained through the Central Bank of Malta This Organisation possesses a substantial fund of expertise in this field

It is therefore being suggested that MCED should set up with Government's approval another Committee mainly composed of technical people with expertise in pensions schemes with the following terms of references:

I. ***to invite proposals from official and private Bodies as well as private individuals on the introduction of a new pension plan based on the two-pillar approach;***

II. ***to carry out an examination of the submissions and present a critical analysis to Government and MCED;***

III. ***to study and review selected models of pensions plans, relating these to the local socio-economic situation; and***

IV. ***prepare a report on a recommendation for the best pension scheme to suit Malta.***

The Committee is prepared to study further any aspect of this report which MCED may request.

Comparing pension schemes

Pension schemes may be broadly classified as public or occupational ones. The following table shows the main characteristics of some developed pension plans found in European countries. These may be summarized as follows:

a) Retirement Age

There is no general distinction between male and female beneficiaries. Pensions eligibility centers around age 65. Some exceptions are France (retirement at age 60), Iceland(at age 67) and Italy (60 years for males and 55 for females).

b) Coverage

One has to distinguish between public and occupational plans. Public plans generally provide coverage for all workers or residents (e.g. Netherlands, Luxembourg and Denmark). Italy is an exception: coverage is limited when it concerns professional categories. Occupational plans may be compulsory as in Sweden, Denmark and France or voluntary as in the majority of the other countries. When this is voluntary the coverage ranges between 3% in the case of Spain and 90% in France. Senior and managerial staff are generally covered by private schemes.

c) Benefits

There are generally three different arrangements. Lump sum payments as in the Netherlands and Denmark, a yearly pension linked to a maximum number of years of service ranging from 5 years to the entire working life as in Greece, Portugal and Spain or a combination of these as in Finland, Sweden and Luxembourg

d) Financing

All public pension plans are financed by a PAYG arrangements Occupational plans are either funded through "ad hoc" payments or through contributions under PAYG or a combination of both as in the case of Finland where employees pay contributions and farmers and the self-employed are subject to PAYG arrangements.

e) Taxation

Generally all contributions and payments by employees and employers are tax deductible e.g. Greece, Spain and Denmark. Several countries like Iceland, Finland and Spain impose a maximum ceiling on employees' contributions which are tax deductible. In most cases pensions are liable to normal rate of income tax. A few countries like Portugal give some tax concessions on pensions.

Country	Retirement age M/F	Public pension schemes: Coverage	Public pension schemes: Type of benefit (maximum gross replacement rate)	Public pension schemes: Financing	Occupational pension schemes: Coverage (% of working population)	Occupational pension schemes: Type of benefit (average gross replacement rate including social security)	Occupational pension schemes: Financing	Occupational pension schemes: Taxation	Occupational pension schemes: Redistribution
Belgium	65/60	All workers	Pensions linked to average earnings during working life (60%)	Pay-as-you-go	Voluntary (95%)	Pensions linked to salary (50%)	Funded	Employer and employee contributions deductible · Pensions liable for income tax with tax credit	Involves very low workers · Concerns 80-90% of managers
Denmark	67/67	All residents	Lump sum (25%)	Pay-as-you-go	Compulsory	Lump-sum pensions (88%)	Funded	Employer and employee contributions deductible · Pensions liable for income tax	
Finland	65/65	All workers	Lump sum and complements linked to level of average earnings during working life (60%)	Pay-as-you-go	Compulsory (100%)	Pensions linked to salary (60%)	Employees: funded Farmers and self-employed pay-as-you-go	Employer contributions deductible Employee contributions deductible up to 15% of annual salary Pensions liable for income tax	
France	60/60	All workers	Pensions linked to average earnings of best 10 years (50%)	Pay-as-you-go	Compulsory (60%)	Pensions linked to salary (67%)	Pay-as-you-go for share of pension (compulsory minimum Funded plans for share of pension (compulsory minimum	Employer and employee contributions deductible Pensions liable for income tax	
Germany	65/65	All workers	Pensions linked to average earnings during working life (50%)	Pay-as-you-go	Voluntary (55%)	Lump-sum pensions or linked to salary (66%)	Mainly book reserve	· Employer contributions deductible · Employee contributions taxed below norm · Pensions taxed	Few workers affected Involves all managerial staff
Greece	65/60	All employees	Pensions linked to average earnings of last 2 years (70%)	Pay-as-you-go	Voluntary (40%)	Pensions linked to salary (67%)	Pay-as-you-go	Employer and employee contributions deductible · Pensions liable for income tax	
Iceland	67/67	All residents	Lump sum	Pay-as-you-go			Funded		
Ireland	66/66	All workers	Lump sum (25%)	Pay-as-you-go	Voluntary (50%)	Pensions linked to salary(58%)	Pay-as-you-go or funded	Employer contributions deductible Employee contributions deductible up to a ceiling · Lump-sum payments exempt Pensions liable for income tax	Membership terms more favourable for managers than workers
Italy	65/60	Employees, self-employed, certain professional categories	Pensions linked to average earnings of last 5 years (80%)	Pay-as-you-go	Voluntary (35%)	Pensions linked to salary (60%)	Pension defined by collective agreement funded or pay-as-you-go Pensions plans managed by	Employer and employee contributions deductible Pensions liable for income tax	

Public and occupational pension schemes (cont.)

Country	Retirement age M/F	Public pension schemes: Coverage	Public pension schemes: Type of benefit (maximum gross replacement rate)	Public pension schemes: Financing	Occupational pension schemes: Coverage (% of working population)	Occupational pension schemes: Type of benefit (average gross replacement rate including social security)	Occupational pension schemes: Financing	Occupational pension schemes: Taxation	Occupational pension schemes: Redistribution
							insurance companies funded		
Luxembourg	65/65	All residents	Partly lump sum partly pensions linked to average earnings over working life (64%)	Pay as you-go	Voluntary	Pensions linked to salary (67%)	Mainly book reserve	Employer contributions deductible · Employee contributions deductible up to a ceiling Pensions liable for income tax	Generally complementary cover insurance for high-level employees
Netherlands	65/65	All residents	Lump sum (70%)	Pay-as-you-go	Voluntary (50%)	Pensions linked to salary (61%)	Funded	· Employer and employee contributions partially and fully deductible Pensions liable for income tax	
Norway	67/67	All workers	Lump sum and complementary pensions linked to average earnings during working life (66%)	Pay-as-you-go	Voluntary (25%)	Pensions linked to salary (65%)	Funded	Contributions deductible Pensions liable for income tax	
Portugal	65/62	All workers	Pensions linked to average earnings of best 5 of last 10 years (80%)	Pay-as-you-go	Voluntary	Pensions linked to salary (60%)	Funded	Employer contributions considered as costs up to maximum 15% of wage costs Employee contributions exempt Pensions partly or wholly deductible, up to certain ceilings	
Spain	65/65	All workers	Pensions linked to average earnings of last 8 years (100%)	Pay-as-you-go	Voluntary (10%)	Lump sum or pensions linked to salary (74%)	Funded	Employer contributions deductible Employee contributions deductible up to a ceiling Pensions liable for income tax	Coverage of all middle/senior managers
Sweden	65/65	All workers	Lump sum and pensions linked to income (80%)	Pay-as-you-go	Compulsory (100%)	Pensions linked to salary (65%)	Funded	Employer contributions partially deductible (since 1991) · Pensions liable for income tax	

APPENDIX B

The Singaporean System

Under this system, social security contributions are placed in a provident fund, which retains a private account for each contributor. Contributions into this fund are mandatory. The Fund guarantees the receipt of a pension to each contributor at the age of retirement, depending on the amounts paid into the pension account during the person's working life. There are many options available for the dispensing of this payment. Under Singapore's system, contributors are given the opportunity to withdraw a lump sum when they retire, with the remaining money given to them in the form of an annuity. The balance in the account is treated as an asset belonging to the contributor, i.e. if ~~s/he~~ he/she dies, it is inherited by his/her relatives.

Singapore's pension system is known as the Central Provident Fund (CPF). It does not only take care of a person's pension, but also provides financial protection to its members and their family through its insurance scheme. The CPF operates via a compulsory contribution into the fund, divided equally between the employee and his employer. Contributions are subject to a maximum amount, based on a salary ceiling, beyond which no contributions are payable.

There are no marketing costs involved in running the fund since it has no competitors. This presents a lot of savings over the Chilean alternative which involves the use of mandatory personal pension accounts purchased from private pension schemes. The latter charge a considerable fee for their services and run rather large marketing budgets. The effective economic gains to the economy of this sort of competition are rather slight if the funds are not allowed to diversify into a variety of different assets.

The introduction of a CPF-modelled pension trust fund in Malta would transform the present Maltese unfunded pension scheme into a funded one. At present, the current contributors' only guarantee of getting a pension is an implicit social contract, not backed by physical or financial assets. There is a political risk for both contributors and beneficiaries in that beneficiaries worry of not being paid a pension, while contributors worry that contribution rates will be jacked up to accommodate the demands of pensioners. All this uncertainty can be removed by the introducing of a funded scheme. Here, contributors would be gaining claims on the CPF whenever they contribute. Given that the fund is closely monitored and invests in stable long-term assets, everyone should be able to receive a just annuity based on his previous income.

The scheme has far-reaching effects on an economy. Social Security contribution rates which are presently perceived as a burden to both employers and employees would become a sort of forced saving.

Forced savings are a feature of all private plans, whether fully funded or partially funded. Although it is a forced decision, the fact that contributions are being saved would generate a higher utility to taxpayers. The effects on the overall level of saving within the economy cannot be foreseen with accuracy. These contributions being placed within a fund with the authority of investing only in risk-free assets could end up as government bonds. Thus government would regard this fund as a pool of savings from which debt could be financed.

The Chilean System

An alternative funded pension approach is that used in Chile. The Chilean scheme is privately and competitively managed by AFP's (private pension funds). Workers choose one of these AFP's (private pension funds) ~~Workers choose one of the AFP's~~ to manage their personal pension saving account (PSA). The PSA system is mandatory for all those who entered the workforce after 1983. The rest of the working force was allowed to remain under the old PAYG scheme. However, they were given the option to revert to the new scheme and given a transfer recognition bond to deposit in their new PSA (around 90% of those eligible chose to do so). The PSA operates via a compulsory contribution (to which can be added a further contribution) from employees (and deposited by their employer) to an AFP of their choice. The AFP chosen is also the source for disability and survivor insurance for the contributor. Employees are free to switch funds once every 4 months. This has led to a lot of switching between funds and also to the expansion of the AFP's marketing costs.

The AFP's operate in the manner of mutual funds, although they are not allowed to carry out certain kinds of investments. They are regulated by the SAFP (set up under a Pension Fund Law). Pension funds can hold one-third variable-income and two-thirds fixed-income instruments. The system has a government security net, in that the State guarantees a minimum pension that is also provided to the elderly, disabled and survivors under certain conditions. If the person's accumulated fund is depleted, this pension is paid out of the Government's general revenue. Each AFP must also guarantee a minimum actual yield per annum. If

this is not achieved, the AFP is liquidated and the state covers the residual. When an AFP goes bankrupt, the state agrees to finance some of its obligations to its members. Once an affiliate retires, he can choose to receive his pension in one of three options: either by a phased withdrawal of his account, a purchase of an annuity from an insurance company, or a combination of both.

Although this system has been lauded by many liberal economists and established in a number of other Latin American countries, the Chilean pension scheme presents several problems. First among them is the overall expense of the scheme. In 1995, it was estimated that the AFP's charges retained 16.7% of workers' contributions. Total administrative costs (and as already mentioned marketing costs) are relatively high. Moreover the annuity market is characterised in Chile by high commissions, a lack of transparency and informational problems. This contributes to making the average pension paid out to retirees rather low. Another source of criticism can be traced to the government's role in the capital allocation process, which besides excluding foreign assets (and thus allowing the funds no diversification benefits, and linking the fund's performance to the local economy's state-of-activity) is heavily politicised with certain kinds of investments being preferred more than others.

A framework of a private annuity plan. APPENDIX C

1. The social security system in the Maltese Islands has been called social insurance, a contract between generations, a mechanism for income distribution, and an insurance and welfare system; it is in part all of these things. The intergenerational aspects have come into question in this study. The contract does not appear to be fair when a smaller younger generation must be taxed to pay benefits for a larger older generation. A funded on the lines described in this Appendix may help to resolve this problem..

2. During their working lives, individuals consume much of their earned income in taking care of the current needs of themselves and their dependents, both through direct payments and indirectly through taxes that pay for government services. The residual that is not consumed could provide a retirement fund, which, properly invested, should earn a real rate of return or yield gap of 2.5 per cent. Put differently, this means that investments will earn market interest rates, reflecting both real productivity gains and the impact of inflation, the investment yield and inflation rate being assumed at 6 and 3.5 per cent respectively. Assuming also a working life of say 40 years, a retirement age of 65, and an expected lifetime of 74 years, we can estimate how much retirement annuity such saving would provide in real terms, relative to pre-retirement income

3. The objective of accumulating a retirement fund is to pay each generation of workers benefits that reflect their contributions plus an adequate rate of return on the accumulated savings. In other words, the amount paid to retired age groups should depend on what they paid in, plus a reasonable accumulation of interest that could be earned if those funds were invested elsewhere in the economy. ***The still-working cohort should pay an amount in social security taxes that, if earned market interest rates, would provide for its own retirement benefits later.***

4 We are excluding from consideration in this discussion all other aspects of the existing system, in particular invalidity and survivors' benefits. This is to keep the analysis simple and not because they are not a substantial element in our social security system. In fact, they are heavily redistributive but have a different time pattern than retirement benefits. A two-tier retirement pension scheme was also assumed in this discussion a first-tier retirement which is unfunded and financed through pay-as-you-go and a second or upper-tier retirement benefit which is obligatory for higher income earners but could also be available to above-minimum wage earners.

5. We further assume a constant stream of earnings which is to provide a constant stream of benefits Increments in earnings can be treated as a separate saving-annuity problem. that of saving out of the increment enough to provide an increase in the retirement annuity The difference is that there is a shorter period of accumulation out of the increment, so a larger fraction of it must be saved This is what life-cycle theories of saving say

6. A life expectancy of 74 years was also assumed. This life expectancy reflects observed improvements in longevity It was further assumed that the annual contributions yield a weekly income equivalent to Lm29 in real terms for a person retiring at age 63. This means that an individual will receive a basic weekly pension on retirement equivalent to Lm35 26 in real terms and equivalent also to the real average weekly pension. On top of this, he will receive an additional Lm29 per week which is derived from the funded pension scheme.

7 Given a yield gap or real return on capital of 2.5 per cent, the size of the accumulated fund at the age of retirement (63 years) relative to the amount saved is determined by the number of years of saving or number of working years. On the other hand, the years of expected retirement determine the annuity payable each year to the retiree relative to the accumulated fund with interest at the start of retirement.

8. The formulae used for this analysis are as follows: $(1-[1+i]^{n})/i$, the present value of an annuity to last n years; and $[1+i]^{n}-1)/i$, the value at end of period of n years accumulation. Since the accumulated fund at the end of the working-saving period is equivalent to the accumulated fund at the beginning of retirement, the retirement annuity relative to the pre-retirement annual saving may also be estimated.

9. The results of accumulating Ln1 over n years at 2.5 per cent are shown in Table 1. The pre-retirement saving or annual contributions required to obtain a retirement annuity of Ln1,500 per annum, or Ln29 per work can be derived from the values in table 1. Consider the following scenario. A person starts working at the age of 23 and retires at the age of 63 and has a life expectancy of 74 years. This means he works for 40 years, and his expected years of retirement add up to 11 years. He receives 67 times his annual saving in a funded pension scheme (see column 5, table 1) and an annual annuity may be purchased at less than 11 times the annual amount or 5.9464 (see column 4, table 1) due to the interest earned.

Table 1: Retirement Annuities (2.5 percent)

(1)	(2)	(3)	(4)	(5)
5	0 8839	1.8103	2.9036	5 2563
10	0.7812	2.0481	5.4700	11.2034
11	0 7621	2.0993	5.9464	12.4835
15	0.6905	2.3173	7 7384	17.9319
20	0.6103	2.6218	9.7432	25 5447
25	0.5394	2.9663	11.5152	34.1578
30	0 4767	3 3561	13.0814	43.9027
35	0 4212	3.7971	14 4657	54.9282
40	0.3724	4.2961	15.6892	67.4026
45	0.3292	4 8606	16.7706	81.5161

Notes: (1) = n years; (2) Present value after n years, (3) Future value in n years; (4) Present value of annuity to last n years, (5) Value at end of period of n years of accumulation plus interest, value of annuity

10 The annual annuity is equivalent to 1/5.9464 or 0.1681 of the accumulated fund, and the annuity relative to the annual saving is derived by multiplying the value at the end of 40 years of accumulation plus interest or Lm67 (see column 5, table 1) by 0.1681, the annuity over accumulation Thus to receive Lm1,500 or Lm29 per week in addition to the lower-tier retirement benefit, an individual would have to pay Lm132.21 per annum.

11. The rates of the retirement annuity to pre-retirement annual saving expressed as a function of working-saving years and years of retirement are shown in table 2 The conversion numbers determine the value of the contributions paid. In other words, the longer the period of working-saving the smaller the contribution A range of feasible annuities may also be observed. If the number of working-saving years and the expected years of retirement add up to 10 (5 years of accumulation and five years of retirement), the retirement annuity per year relative to the pre-retirement

annual saving at 2.5 per cent interest is 81 per cent higher than the value of an annuity at zero per cent. However, if the number of working-saving years and the expected years of retirement add up to 50 (25 years of accumulation and 25 years of retirement) the annuity or pension is 1/[1.5152 or 2.9663

Table 2: Ratio of Retirement income to pre-retirement saving: Retirement annuity per year/pre-retirement annual saving as a function of expected years of saving and years of retirement (2.5 per cent)

Expected Years of Retirement						
	5	10	11	15	20	25
5	1.8103	0.9609	0.8840	0.6793	0.5395	0.4565
10	3.8584	2.0481	1.8841	1.4478	1.1499	0.9729
11	4.2992	2.2822	2.0993	1.6132	1.2812	1.0841
15	6.1757	3.2782	3.0156	2.3173	1.8405	1.5572
20	8.7975.	4.6699	4.2958	3.3010	2.6218	2.2183
25+	11.7638	6.2445	5.7443	4.4141	3.5058	2.9663
30	15.1199	8.0260	7.3831	5.6734	4.5060	3.8126
35	18.9170	10.0416	9.2373	7.0982	5.6376	4.7700
40	23.2131	12.3221	11.3351	8.7102	6.9179	5.8533
45	28.0737	14.9023	13.7085	10.5340	8.3664	7.0790

12.10. Table 3 contains estimates of the annual contributions based on the assumptions referred to earlier. A time span for the payment of contributions is also shown and ranges from 5 to 45. Thus the annual contributions payable by a person who participates in the upper-tier funded pension scheme at the age of 53 yielding an annual retirement income of Lm1,500 would amount to Lm796.14. At the other end of the scale, the annual contributions payable by a person who participates in the pension plan at the age of 23 would amount to only Lm132.33

Table 3: Annual Premia required to yield Lm1500 in real terms

Expected Years of Retirement	10yrs	11yrs	15yrs
5	1560.987	1696.92	2208.298
10	732.3735	796.1498	1036.075
11	657.2742	714.5107	929.8332
15	457.5671	497.4128	647.3115
20	321.2045	349.1756	454.4019
25	240.2107	261.1286	339.8215
30	186.8919	203.1668	264.3924
35	149.3779	162.386	211.3221
40	121.7322	132.3328	172.2122
45	100.6557	109.4209	142.3956

13 Clearly, the number of working years, the age of retirement the rate of inflation, the return on investment have a determining effect on the value of contributions paid. In addition, persons whose working lives are disrupted due to family responsibilities or redundancy would be required to pay a higher annual contribution (when employment is resumed) in order to receive the expected retirement income. The value of the contribution is also dependent on the gender of the person participating in the pension plan as in life assurance. In general women have a longer life expectancy than men and thus pay a higher premium.

14.One of the main advantages of such a scheme is that it compels people (those who are obliged to subscribe to the upper-tier pension) to save for their old age. However, a crucial aspect of funded pension schemes is inflation. Market rates of interest are generally inflation-proof. Nevertheless, assuring the safety of the fund would be difficult without government operation and help

15 A final consideration, which increases in importance as we use longer and longer periods of earnings to compute benefits, rises from increases in income that come near the end of the working life. Adjusting retirement benefits upwards requires relatively larger added contributions per year because there are fewer years of contribution relative to the years of retirement. The funded pension scheme could provide for this through voluntary supplemental annuities

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