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POLICY RESEARCH WORKING PAPER

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Averting the Old-Age Crisis

Technical Annex

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Supporting documentation
for the World Bank
publication *Averting the Old-
Age Crisis: Policies to Protect
the Old and Promote Growth*
(1994)

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Summary findings

Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth, the publication for which this technical annex provides supporting documentation, is the third in a series of major World Bank Policy Research Reports. Unlike its predecessors, *The East Asian Miracle* and *Adjustment in Africa*, it does not concentrate on a specific region but focuses rather on the general topic of income security for old age.

More than two years of research were required to gather data, review the theoretical literature, examine empirical evidence, and write the book that represents

the Bank's most important study of the issue to date. This annex explains in detail the data sources, concepts, and definitions used in the book and provides additional information.

It describes the demographic data used in the report and discusses data about public and privately managed pension schemes around the world (giving specific sources for individual countries). An attempt has been made to cross-reference the data available on *STARS* diskettes, which can be downloaded and analyzed in most database or statistical software packages.

This paper — a product of the Poverty and Human Resources Division, Policy Research Department — provides supporting documentation for the World Bank publication *Averting the Old-Age Crisis: Policies to Protect the Old and Promote Growth* (1994), available from the World Bank bookstore. Copies of this paper and the *STARS* data diskette are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Montserrat Pallares, room H11-094, telephone 202-473-0435, fax 202-477-1692, Internet address mpallares@worldbank.org. February 1996. (142 pages)

The Policy Research Working Paper Series disseminates the findings of work in progress to encourage the exchange of ideas about development issues. An objective of the series is to get the findings out quickly, even if the presentations are less than fully polished. The papers carry the names of the authors and should be used and cited accordingly. The findings, interpretations, and conclusions are the authors' own and should not be attributed to the World Bank, its Executive Board of Directors, or any of its member countries.

Averting the Old Age Crisis: Technical Annex

Robert J. Palacios

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Executive Summary

This paper provides supporting documentation for the World Bank publication, Averting the Old Crisis: Policies to Protect the Old and Promote Growth, published in October, 1994. The purpose of this Annex is to clarify data definitions and sources and to correct, update and supplement the information presented in the book. In addition, this Annex accompanies the STARS data diskette for Averting the Old Age Crisis available from the World Bank bookstore.

Introduction

Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth is the third in a series of major Policy Research Reports. In contrast to its predecessors, The East Asian Miracle and Adjustment in Africa, does not concentrate on a specific region but rather, focuses on the topic of income security for old age. More than two years of research were required to gather data, review theoretical literature, examine empirical evidence and write the book which today represents the World Bank's most important study of the issue. This Annex gives a detailed explanation of the data sources, concepts and definitions used in the book and provides additional information.

The "Technical Annex to Averting the Old Age Crisis" consists of four major sections, several appendices and a page of errata. The first section briefly describes the demographic data used in the report. Section II discusses data related to publicly-managed pension schemes around the world, giving specific sources for individual countries. Section III covers privately managed schemes while Section IV presents miscellaneous other data. All tables and figures mentioned here refer to those in the book, unless designated as Annex tables and figures.

In addition to providing detailed data tables in the Annex, an attempt has been made to cross reference the data available on STARS diskettes, which can be downloaded and analyzed in most database or statistical software packages. The STARS diskettes do not include extensive notes on the data and generally refer the user to the Technical Annex for further explanation of concepts, definitions and sources. Appendix IV lists the pages where variables appearing in the STARS system are described in the Annex.

Section I Demographic Data

A. Historical Data

Historical demographic data presented in Chapter 1 illustrated the fact that population aging took place more slowly and at a later stage of development in the industrial countries of Europe and North America than will be the case in many developing countries. Historical demographic data for European countries shown in Figure 1.6 were calculated based on tables in Mitchell, B.R. *International Historical Statistics: Europe 1750-1988*, Stockton Press, New York N.Y. 1992. For the United States, data were taken from Mitchell, B.R., *International Historical Statistics: The Americas and Australasia*, Gale Research Company, Detroit, Michigan 1983.

Appendix Table I of this Annex present the calculations generated for each of 28 countries for 1) the percentage of the population over 60, 2) the ratio of the population aged 20-59 to the population over 60, 3) ratio of the population aged 15-64 to 65+, 4) the percentage of the population under 15 and 5) the ratio of women aged 60+ to men aged 60+. The first variable was used to generate the dates which corresponded to a doubling of the over 60 population from 9 to 18 percent. In the case of countries where the percent of the population over 60 was still below 18 percent in 1990, World Bank projections (see below) were used to compute the number of years which this doubling would require. Interpolation was necessary in order to estimate an exact year in which the population reached 9 or 18 percent, respectively. Historical demographic data for Mexico and Chile which appear in Figures 4.10 and Issues Brief Figure 6.1. are also generated from data in Mitchell 1983. The sources listed under Issue Brief Figure 6.1 should have included this reference.

B. Demographic Projections

This study assumes that demographic aging will continue to take place around the world. This assumption is based on a consensus among demographers and corresponds broadly to projections made by the United Nations and others. Averting the Old Age Crisis relied exclusively on projections made by the

World Bank's population division. Explanations of methodology and assumptions are discussed in a series of World Bank Working Papers covering each region and published by the Population and Human Resources Department in 1989. The methodology produces a convergence of demographic distributions among most countries by the year 2150, with about 25% of the population over age 65 and 25% under age 20. Further information on the methodology and assumptions is available from the authors, Bulatao and Bos of the World Bank (see Bibliography).

The World Bank's population division produces a STARS version of its population projections which is publicly available on computer diskette. These data were used to calculate variables that were used in the study. The projections cover 180 countries between 1985 and 2150 by five-year cohorts and by gender. The STARS data set which has been produced in conjunction with the book contains both projections and historical demographic data. These data can easily be transferred into most spreadsheet software.

Specifically, the report focuses on seven demographic indicators, including the percentage of the population over 60, 65 and 75, the ratio of old to working age persons and the ratio of old women to old men. The inverse of the dependency ratio, the support ratio, is also presented. These ratios appear several times in the book. For example, Figure 4.11 compares the old age dependency ratio to the ratio of pensioners to active contributors (see Section III.E below). In most cases, the old age dependency ratio mentioned in the text was defined as the ratio of persons over 60 years old to persons aged 20-59. This ratio was chosen over other possible combinations based on the observed age distributions of contributors and pensioners in most public pension schemes around the world. The tables in Annex Appendix I show demographic indicators for all countries along with regional weighted and unweighted averages.

Section II Public Pension Schemes

A. Expenditures and Revenues

Definitions. In this study, pension spending is defined as *old age/retirement, survivors/death and invalidity/disability payments based on past contribution records and non-contributory, universal flat or means-tested programs specifically targeted toward the old*. The data reported are thought to include all major pension spending programs including the main scheme and special schemes covering public sector employees. Due to the dispersion of programs in some countries, however, some of the smaller schemes may not be included. In cases where these omitted schemes were thought to represent a significant percentage of the spending, the country was excluded. In some cases, data on separate programs from different sources are added together to get the total pension spending. Administrative costs as opposed to benefit payments are excluded and treated separately (see "Administrative Costs" below). In-kind services such as medical care or housing for the old are excluded as is poverty assistance not based on age. Public pension spending here refers only to direct spending on benefits and ignores tax expenditures. Data are for years between 1985 and 1993 and include single-year estimates based on data on different pension schemes from different years.

Pension revenues here refer to the combined employer/employee payroll taxes, income from the investment of pension reserves and direct and indirect government subsidies to the pension scheme. The revenues of various social insurance programs are, in many cases, not allocated between pensions and other programs such as unemployment. For this reason, the sample of countries with pension spending data is larger than the sample with data for pension revenues. In addition, more recent and more comprehensive data are sometimes available for pension spending than for pension revenues and the sources may differ. In contrast to pension spending data, revenues are sometimes shown for the main scheme only and therefore may exclude smaller, secondary schemes. In most cases, however, the revenues of all major schemes are available and are included.

Two types of pension surplus or deficit are used in the report. In Appendix Table A.5, the last column subtracts pension spending from the revenues which derive from employer and employee "contributions" or payroll taxes and divides this difference by total pension spending. When there is a surplus of contribution revenues over benefit expenditures, the number in this column will be positive. Note that in table A.5, the data for pension spending do not necessarily correspond in terms of year or source to the data presented in the last column. The second type of surplus/deficit concept, which includes investment income as a revenue source, is used in Figure 4.2. Neither concept includes explicit government transfers or subsidies as a revenue source; these are treated as part of the deficit.

The first measure -- payroll tax revenues minus pension benefits - may be more interesting from the fiscal policy perspective since the income from pension reserves typically represents an interest payment from the general budget to the pension system which itself is paid for with tax revenues or new borrowing. On the other hand, if pension reserves were invested in such a way as to increase economic growth and tax revenues this measure may overstate the fiscal burden imposed by the pension system. In this case, the figure which included investment returns would be a better indicator of the fiscal impact of pensions.

Sources. Much of the previous empirical work on international patterns of pension financing has employed the concept of "social security" spending and revenues rather than separating out pension spending and revenues. Data on separate items falling under the heading "social security" have not been readily available. The IMF's "Yearbook of Government Finance Statistics" does not provide the disaggregation necessary to differentiate between family allowances or unemployment expenditures on the one hand and old age pension benefits on the other. As a result most studies have been forced to use "social security" as a proxy for pension spending (see Palacios 1996).

The International Labour Office (ILO) is the only institution which systematically collects data on pension expenditures and revenues for a wide range of developing countries. These data are available in disaggregated form in the ILO publication, "The Costs of Social Security: Basic Tables" which presents data based on the results of surveys sent to the major institutions in each country responsible for the various programs which are covered under the umbrella term "social security". In many cases, however, survey

responses are incomplete and some smaller programs may not be included. Much of the data presented in the report draws from the ILO data supplemented with other sources.

The Organization for Economic Cooperation and Development (OECD) also collects data on the pension spending of its members. For many of the industrial countries, data obtained directly from the OECD in Paris were used in the report. The statistical arm of the European Economic Community, Eurostat, also publishes detailed pension spending data which were sometimes used to modify the OECD figures, mainly to add spending on early retirement and "redundancy" benefits to the OECD figures.

A third major source of data were a number of World Bank reports which typically covered the social sector or public expenditures or were part of a comprehensive country economic report. Many of these reports are unpublished and some were in draft form at the time of writing. The report drew heavily on these World Bank documents for pension data covering Eastern Europe and the former Soviet Union. Finally, some data were taken directly from the statistical records of administering agencies in the countries themselves. In the case of the Nordic countries (Norway, Iceland, Sweden, Denmark and Finland), the data published by the Nordic Statistical Secretariat in its tri-annual statistical yearbook were used.

For many countries, data from different years and from different sources were available. In general, statistics of the administering agencies in the countries were chosen over secondary sources. When more than one secondary source was available, the choice was based on the perceived quality of the data. Otherwise, an attempt was made to find the most recent year available. In some cases, multiple sources were used in order to get a complete picture of the various pension outlays being made in different programs.

Table A.11 reports pension spending ratios for the most recent year available (at the time of publication) for Eastern Europe and are sometimes of a preliminary nature. Although most correspond to the data presented in Table A.5, the regression results in the book which use pension share of GDP refer to pre-1991 data in all cases. In other words, the regressions are generated with pension spending ratios prior to the major declines in GDP registered in the region. These declines in national income combined with inelastic pension spending tend to increase the ratio after 1991, as shown in Box Figure 4.6. With the

exception of the Baltics, data prior to 1991 were not available for the FSU countries so they are excluded from the regression samples and scatter plot figures.

Data presented in Table 4.4 was adapted from a variety of sources. In most cases, the number of old persons receiving means-tested or flat pensions was divided by the 65+ year old population for the year the data was available. Estimates based on survey data from the cited Pan American Health Organization reports was used for Costa Rica, Trinidad and Tobago, and Argentina. Survey samples are described in the PAHO reports. The non-agricultural wage used as the denominator in the last column were taken from the UNIDO data on wages and should have been included under sources.

Annex Table 1 below presents the ratio of pension spending to GDP available by year and source.¹ Out of 109 observations, 49 were based on ILO data, 18 on World Bank reports, 7 from OECD/EEC data and the rest from other sources. Data for all five Nordic countries came from the NOSOSO reports published with data on a three-year lag. The following supplementary country notes are included in order to highlight certain decisions made regarding the data and changes since the publication of the book.

¹ Although not shown here, pension spending as a share of government spending uses line 82 from the IMF IFS Statistics in the denominator. This variable appears on the STARS data diskette or can be calculated by dividing the total pension spending figures below by government spending that year.

Annex Table 1 Ratio of Pension Spending to GDP

Country	Year	Pension Spending Country Currency (millions)	Gross Domestic Product	Pension Spending/ GDP %	Primary Source	Year	Pension Spending GDP %	Secondary Source
Albania	1993	6980	101100	6.90	IMF forthcoming	-	-	-
Argentina	1986	3395	74309	4.57	ILO 1992	-	-	-
Armenia	1989	339	9490	3.57	World Bank 1993d	-	-	-
Australia	1989	13469	357090	3.77	ILO forthcoming	1990	3.78	OECD 1993
Austria	1989	249418	1672900	14.90	ILO forthcoming	1990	15.11	OECD 1993
Azerbaijan	1991	-	-	5.60	World Bank 1993j	-	-	-
Bahrain	1986	-	-	0.40	ILO 1992	-	-	-
Bangladesh	1986	43	465610	0.01	ILO 1992	-	-	-
Belarus	1991	-	-	7.30	World Bank 1993h	-	-	-
Belgium	1988	-	-	13.04	OECD 93/Eurostat 1992a,b	1986	9.50	ILO 1992
Belize	1988	612	629.8	0.97	WB 1988/BSSB 1989	-	-	-
Benin	1986	7040	502700	1.40	ILO 1992	1983	1.00	ILO 1992
Bolivia	1993	-	-	1.45	World Bank 1993a	-	-	-
Brazil	1989	36195	1266000	2.85	ILO forthcoming	1990	2.97	World Bank 1994a
Bulgaria	1990	-	-	7.90	World Bank 1993b	1990	8.80	Holzmann 1993
Burkina Faso	1986	4800	503500	0.95	ILO 1992	1983	0.80	ILO 1992
Burundi	1985	396	141347	0.28	ILO 1992	1989	0.35	ILO forth./1992
Cameroon	1986	17892	4135100	0.43	ILO 1992	1983	0.25	ILO 1992
Canada	1989	-	-	4.15	OECD 1993	1990	4.34	OECD 1993
Ctrl. African	1986	874	330900	0.26	ILO 1992	-	-	-
Chad	1986	38	3800	0.01	ILO 1992	-	-	-
Chile	1989	424886	7502300	5.66	ILO forthcoming	1986	8.21	ILO 1992
China	1992	62	2402	2.59	ILO 1993	1989	1.97	ILO forthcoming
Colombia	1989	120	15127	0.79	ILO forth./Min. Trabajo	1986	0.80	ILO 1992
Costa Rica	1990	-	-	3.60	World Bank 1994b	1986	4.14	ILO forthcoming
Cyprus	1989	90	2258	4.00	ILO forthcoming	-	-	-
Czechoslovak	1990	-	-	8.20	Holzmann 1993	1989	8.00	ILO forthcoming
Denmark	1990	79412	800000	9.93	NOSOSO 1993	1989	7.92	OECD 1993
Dominican R	1986	-	-	0.10	ILO 1992	-	-	-
Ecuador	1989	57612	5171000	1.11	IESS 1990	1986	1.11	ILO 1992
Egypt	1986	1019	34278	2.97	ILO 1992	-	-	-
El Salvador	1990	132.7	41057	0.42	ISSS	1986	0.32	ILO 1992
Estonia	1993	-	-	5.90	Kuddo 1994	-	-	-
Ethiopia	1986	114	10823	1.10	ILO 1992	-	-	-
Finland	1990	54351	524960	10.33	NOSOSO 1993	1990	7.48	OECD 1993
France	1988	-	-	12.50	OECD 1993/Eurostat	1986	11.75	ILO 1992
Gabon	1986	-	-	0.70	ILO 1992	-	-	-
Georgia	1991	2295	20766	11.05	World Bank 1993f	-	-	-
Germany	1990	239123	2224400	10.75	ILO forth./Eurostat	1989	10.33	OECD 1993
Greece	1988	-	-	14.47	OECD 1993	1985	13.43	ILO 1992
Guatemala	1986	6177	15838	0.39	IGSS 1986/ILO 1992	-	-	-
Guinea	1986	58	16308	0.00	ILO 1992	-	-	-
Guyana	1986	38	2219	1.71	ILO 1992	-	-	-
Honduras	1986	14	7596	0.19	ILO 1992	-	-	-
Hungary	1990	202000	2079500	9.71	JHIBRC 1993	1990	9.70	Holzmann 1993
Iceland	1990	16806	350455	4.80	NOSOSO 1993	-	-	-
India	1990	33976	3965900	0.64	EPF 1990/ILO 1992	1986	-	-
Indonesia	1990	10875*	197721*	0.06	TASPEN 1990/ASTEK 1992	1986	0.05	ILO 1992
Ireland	1988	1423	21815	6.52	DSW 1988/ILO 1992	1988	6.35	OECD 1993
Israel	1989	4556	91009	5.01	ILO forth./ILO 1992	1986	5.36	ILO 1992
Italy	1988	-	-	15.63	OECD 1993/1990	-	-	-
Jamaica	1989	167	23354	0.71	ILO forthcoming	1986	0.80	ILO 1992
Japan	1990	-	-	4.96	OECD 1993	-	-	-

Annex Table 1 Ratio of Pension Spending to GDP - continued

Country	Year	Pension Spending	Gross Domestic Product	Pension Spending/ GDP	Primary Source	Year	Pension Spending GDP	Secondary Source
		Country Currency (millions)		%			%	
Jordan	1986	6	2025	0.31	ILO 1992	-	-	-
Kazakstan	1991	-	-	4.70	World Bank 1992c	-	-	-
Kenya	1989	824	161392	0.51	ILO forthcoming	-	-	-
Korea	1990	950	172724	0.55	Yoo 1992	-	-	-
Kyrgystan	1991	-	-	6.10	World Bank 1993g	-	-	-
Latvia	1992	-	-	6.65	World Bank staff	-	-	-
Lithuania	1991	-	-	6.60	World Bank staff	-	-	-
Luxembourg	1988	-	-	14.70	OECD 1993/Eurostat	-	-	-
Malawi	1987	-	-	0.42	World Bank staff	-	-	-
Malaysia	1986	1146	71594	1.61	ILO 1992/Asher 1992	-	-	-
Mali	1986	4021	542900	0.74	ILO 1992	-	-	-
Malta	1986	-	-	9.50	ILO 1992	-	-	-
Mauritania	1986	615	45921	1.35	ILO 1992	-	-	-
Mauritius	1990	1043	40205	2.71	World Bank 1994c	1986	2.84	ILO 1992
Mexico	1991	851*	86870*	0.98	IMSS 1993/ISSTE 1993	1985	1.05	ILO 1992
Morocco	1989	2203	193930	1.14	ILO forthcoming	1986	1.20	ILO 1992
Mozambique	1986	73	167000	0.04	ILO 1992	-	-	-
Netherlands	1989	56934	684400	11.75	MSZW 1990/ILO forth.	1988	9.62	OECD 1993
New Zealand	1993	5841	78195	7.47	NZDSW 1993	1990	6.67	OECD 1993
Nicaragua	1990	9	1560	0.56	INSSB 1990	-	-	-
Niger	1986	1649	643362	0.24	ILO 1992	-	-	-
Norway	1990	66604	661660	10.07	NOSOSO 1993	1986	9.00	ILO 1992
Pakistan	1989	4324	7207000	0.60	ILO forthcoming	1986	0.40	ILO 1992
Panama	1989	236	4639	5.09	Wyatt (1990)/ILO 1992	1986	3.38	ILO 1992
Paraguay	1987	10722	2493600	0.43	IPSP 1987	-	-	-
Peru	1986	2420*	381022*	0.67	ILO 1992	-	-	-
Philippines	1989	5046	925400	0.55	ILO forthcoming	1986	0.47	ILO 1992
Poland	1992	-	-	12.40	World Bank 1994d	-	-	-
Portugal	1989	551623	7130300	7.74	ILO forthcoming	1986	7.32	ILO 1992
Romania	1991	-	-	6.90	World Bank 1993c	-	-	-
Russia	1992	-	-	7.10	World Bank forthcoming	1992	8.50	McAuley 1994
Rwanda	1989	496.2	193300	0.26	ILO forthcoming	1986	0.18	ILO 1992
Singapore	1989	1239	56844	2.18	Asher 1992	-	-	-
Slovenia	1989	3253	34944	9.31	SLRS 1993/Min.EAD 1993	-	-	-
Spain	1989	3397	45006	7.55	RSS 1989/Eurostat 1992	1989	7.89	OECD 1993
Sri Lanka	1986	3967	179474	2.21	ILO 1992	-	-	-
Swaziland	1986	4	850	0.43	ILO 1992	-	-	-
Sweden	1990	157269	1348900	11.65	NOSOSO 1993	1990	11.88	OECD 1993
Switzerland	1992	34191	339500	10.07	ASS 1993	1986	8.10	ILO 1992
Syria	1986	-	-	0.30	ILO 1992	-	-	-
Tanzania	1990	1263	601449	0.21	TES 1991/ILO 1992	1986	0.14	ILO 1992
Trinidad&To	1989	-	-	3.41	ILO forthcoming	-	-	-
Tunisia	1990	265.7	10798	2.46	Vittas 1993	1986	3.06	ILO 1992
Turkey	1986	956*	39288*	2.38	ILO 1992	-	-	-
Uganda	1986	-	-	0.01	ILO 1992	-	-	-
Ukraine	1992	-	-	9.60	World Bank 1994e	-	-	-
United Kingd	1988	-	-	9.46	UKST 1992	1988	8.34	OECD 1993
United States	1989	336146	5158000	6.51	SSA 1991	1989	5.94	OECD 1993
Uruguay	1990	847294	9784000	8.67	BPS 1991	-	-	-
Uzbekistan	1992	-	-	10.20	World Bank 1993k	-	-	-
Venezuela	1990	11397	2279300	0.50	IVSS 1992/MHV 1991	1986	0.38	ILO 1992
Yugoslavia	1986	-	-	6.46	ILO 1992	-	-	-
Zambia	1989	-	-	0.30	ZNPF 1989	-	-	-

* Billions of country currency

Italicized figures differ from those presented in the book. The number shown reflects revisions due to corrections, updates or the availability of superior data after the book was published.

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World Bank 1993d = Armenia: Country Economic Memorandum, Volume II ECA Country Department IV, March 1993
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World Bank 1993i = Staff Appraisal Report, Albania #11443-ALB, HRO, ECA Region, August 18, 1993
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World Bank 1993k = Uzbekistan: An Agenda for Economic Reform, World Bank (Yellow Cover) 1993.
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World Bank 1994c = Poland: Growth with Equity, Policies for the 1990s, draft report no. 13039-POL, Country Operations ECA
Vittas 1993 = Options for Pension Reform in Tunisia, World Bank Working Paper,
Yoo 1992 = Yoo, Ilho. The Korean Pension System, unpublished mimeograph, Korean Development Institute, 1992.
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Supplementary Country Notes

Albania: Ratio reported as 8.5 and 12.4 percent in 1990 and 1991 respectively. Figures reported in the table are based on 1992 estimates as of December 1, 1992.

Armenia: Includes payments to war veterans and military pensions

Australia: Change reflects revised GDP figures.

Austria: Change reflects revised GDP figures.

Belgium: OECD (1993) excludes invalidity/early retirement/redundancy benefits. Spending in these categories is taken from Eurostat 1992a,b and added to the OECD total based on the same source.

Belize: World Bank report #7178-BEL reports spending on public employees' pensions of 6 million Belize dollars which are added to the reported 606 million reported by the Belize Social Security Board Annual Report for 1989. Changes also reflect revisions in GDP since publication.

Benin: The 1986 value estimated by adding the spending in the main scheme to projected spending on public employee scheme assuming the ratio of the former to the latter remained constant between 1983 and 1986.

Brazil: Includes old age, length of service, disability, survivors, destitution, work bonus and civil servants pensions.

Bulgaria: Includes 1/10th of one percent of GDP in social assistance spending.

Burkina Faso: 1986 total estimated by adding the spending of the main scheme to projected spending on public employees' scheme assuming ratio of former to the latter remained constant between 1983 and 1986.

Chad: GDP taken from internal World Bank estimates not from IMF IFS Statistical Yearbook.

Chile: Spending on both old and new systems included although most spending is on the public scheme which is being phased out as the new scheme matures.

China: Figures do not include a relatively small amount of means-tested spending in the Wu Bao program .

Colombia: Spending on public employees' scheme from Ministerio de Trabajo 1993 "La Prevision Social para los Empleados del Sector Publico: Analisis del Censo de Prevision Social ...Referente a Empleados Publicos". The estimated 25 billion pesos were added to the pension spending of the main scheme and "additional" pensions of the old age, anticipatory, special anticipatory and survivors' branches.

France: Includes mandatory pay-as-you-go, occupational plans. Invalidity/early retirement/redundancy are taken from Eurostat 1992a,b and added to OECD figure.

Germany: Includes public employees and general schemes from ILO, means-tested spending and redundancy benefits from Eurostat 1992a. Means-tested spending is assumed to remain constant in real terms between 1988 and 1989.

Greece: Invalidity spending from Eurostat 1992b added to the OECD figure.

Guatemala: Includes burial grants and survivorship from the invalidity programs as well as Invalidez/Vejez/Muerte benefits. Assumes spending on scheme for public employees remained constant in real terms from 1980 to 1986.

Guinea: GDP data from World Bank internal estimates.

Guyana: Figure differs from the one reported originally due to an error in the earlier calculation.

Iceland: Includes "basic", "supplementary" and "additional" pensions of the old age, anticipatory, special anticipatory and survivors' branches.

Ireland: Includes non-contributory old age and widows' pensions, invalidity pensions and retirement pensions as well as estimated public employees' pensions assuming that real spending on PE schemes did not change between 1986 and 1988. Invalidity spending was erroneously omitted from original table.

Israel: Figure reflects addition of disability pensions which are estimated assuming constant ratio of old age to disability pensions between 1987 and 1989.

Italy: OECD figure is increased by .3 percent of GDP to reflect early retirement spending.

Jamaica: Figure reflects revisions to GDP.

Kenya: GDP is weighted average of 1988 and 1989 GDP to correspond to fiscal year reporting.

Luxembourg: Figure reflects addition of invalidity/early retirement/redundancy spending based on Eurostat 1992a,b which is added to the figures reported in OECD 1993.

Malaysia: Includes public employees' scheme and Employees' Provident Fund withdrawals. Assumes same proportion of housing withdrawals as are made in Singapore.

Mauritius: Includes universal flat scheme, main and public employees' contributory scheme. GDP is a weighted average of 1990 and 1991 to reflect fiscal year reporting.

Mexico: Data does not include the pensions of PEMEX, the national petroleum company.

Morocco: Reflects revisions made to GDP since publication.

Netherlands: Figure which appears in the book and figure reported by OECD 1993 do not include invalidity payments under the General Disablements Act (AWW) or redundancy payments (Wgf) which raises the total significantly.

Nicaragua: Reflects revisions made to GDP since publication. Includes all "pensiones ordinarias" but excludes "pensiones especiales" which appear to be political pensions or pensions related to war injuries. Including these pensions increases the ratio to 1.4%.

Norway: Includes "basic", "supplementary" and "additional" pensions of the old age, anticipatory, special anticipatory and survivors' branches.

Pakistan: GDP is weighted average of 1988 and 1989 to correspond to fiscal year reporting.

Panama: Note that real GDP fell dramatically after 1986. The more typical pension spending ratio which prevailed during 1983-1986 was 3.4%.

Poland: Includes KRUS, FUS and other pensions.

Romania: Figure replaces the one reported in the original table and is considered more reliable.

Rwanda: Reflects revisions to GDP since publication.

Singapore: Includes "retirement and related" withdrawals, "other" withdrawals, social assistance spending and estimated spending on public employees' schemes based on assumption of constant real spending between 1986 and 1989. Housing and Medisave withdrawals excluded.

Spain: Includes compulsory schemes from local and central government employees and redundancy benefits from Eurostat 1992a. Figure reflects revisions to GDP since publication.

Swaziland: Assumes constant real spending on public employees' schemes between 1983 and 1986. New figure uses weighted average of 1985 and 1986 GDP to correspond to fiscal year reporting.

Sweden: Includes "basic", "supplementary" and "additional" pensions of the old age, anticipatory, special anticipatory and survivors' branches.

Switzerland: Includes AVS, AI and PC at the national as well as the cantonal level. The difference from original figure reflects the use of IMF GDP figures instead of preliminary estimates made by the Swiss ASS in their publication.

Tanzania: Assumes that real spending on special schemes for public employees remained constant between 1986 and 1990. GDP is weighted average of 1990 and 1991 GDP to correspond to fiscal year reporting.

Trinidad and Tobago: Includes National Insurance, the non-contributory pension, and estimated spending on public employees' schemes based on assumption of constant ratio of other pension spending to this category between 1983 and 1989. GDP is weighted average to correspond to fiscal year reporting.

Tunisia: Includes CREGT, CAVIS and CNRPS, Table 2, Vittas 1993.

Ukraine: New figure based on different source considered more reliable.

United Kingdom: GDP based on weighted average to correspond to fiscal year reporting.

United States: Includes OASDI, railroad, and public employees' retirement (including military) and Supplemental Security Income (SSI). Data excludes pension spending by States on their own retired employees.

Uruguay: Reflects revised GDP figures since publication. Does not include banking, military pensions.

Venezuela: Includes IVSS, non-contributory pensions within ministries, military, university and state enterprise pensions as well as means-tested pensions from INAGER (Instituto Nacional de Gerontologia). Excludes pensions of PDVSA (state oil company). Isuani (1991) is the source for all non-IVSS spending data.

Relationship between Pension and Health Spending, Population Aging and Income per Capita.

Figures 1.8, 1.9 and 1.10 present evidence on the relationship between pension spending and population aging and income per capita, where pension spending is normalized by national income. Note that pension spending does not include tax expenditures. Inclusion of these expenditures in the dependent variable for countries like the U.S., the U.K. and Australia for which data are available seems to improve the fit generated by the regression in Figure 1.8, suggesting possible substitutability between public and private spending. The regression results imply that demographic aging is a better predictor of the pension spending

ratio than is income per capita. For the aging regression, the functional forms which produced the best fit were the quadratic regressions shown in these figures. The percentage over 60 was considered to be the best proxy available for the population with access to pension benefits since it corresponded to the effective retirement ages in most countries and produced better fits than regressions using the population over 65.

While both income and aging were positive and significant as individual regressors, including both in the same regression resulted in an insignificant income variable while the demographic variables retained its high t-statistic. Although these results must be taken with caution given the proven collinearity of these two variables suggested by Figure 1.3, there are other reasons to believe that aging exerts the greatest influence for higher pension spending.

The higher proportion of GDP spent on public pensions is a function of the maturation of the systems over time, the aging of the population and increases in benefits that typically occurred in the second stage of the pay-as-you-go life cycle (see Issue Brief 6). Since aging and maturation tend to occur simultaneously, the demographic variable captures both of these effects. Income levels may remain stagnant or even fall, as was the case in Argentina or parts of Eastern Europe, while aging and maturation continue to drive up the percentage of national income devoted to pensions. Benefit increases, while arguably related to the prosperity of the 1950s and 60s in the industrial countries, have also been a function of the political power of pensioners who have managed to increase their relative income levels even in times of recession in many countries. Meanwhile, in young countries such as Venezuela, a relatively small number of old persons has been unable to maintain real pension levels even while the pension scheme was running a surplus. For these reasons, population aging seems to be the strongest causal factor behind the growth of public pension expenditures. A fuller discussion of other evidence in the literature, possible theoretical explanations for this result as well as alternative specifications of the relationship are discussed in Palacios (1996).

Figure 2 in the Overview chapter presents simulations based on World Bank demographic projections and the current, cross-sectional relationship which exists between the pension spending ratio and the percentage of the population over 60. A linear version of the regression presented in Figure 1.8 generated the coefficients which were used in the regional simulations. The demographic variable

incorporates both the direct effect of aging and the correlated income effect: for the reasons given above, the former is believed to dominate.

The figure shown in Box 4.7 also used the fitted (linear) regression line produced by the relationship between population aging and pension spending. The original regression sample, it should be noted, is based on a sample of country/year observations which do not include post-transition period data for the transition socialist economies. The pre and post-1990 data points shown in Box Figure 4.7 are intended to illustrate two points: First, the international fitted line can be used as a yardstick with which to compare the pension spending levels of these demographically diverse countries. Second, the post-transition points demonstrate the inelasticity of pension spending to dramatic declines in GDP. While some of the data have been revised (see for example, Ukraine), the pattern of inelasticity seems robust.

In generating Figure 1.10, health spending data were taken from Murray, Govindaraj, and Chellaraj (1993) which documented the sources for the 1993 World Development Report, "Investing in Health", to obtain data on national health spending in a large group of countries. The sample is smaller than the one used in the previous two figures because complete and accurate data was available for only sixty-six countries for which pension spending data was also available. In some cases, countries were eliminated by the author because only partial data on health spending were available or the data quality appeared poor. In many cases, the available year for the health spending ratio was different from the year for the pension spending ratio; however, all data for health and pension spending pertained to the 1982-1992 period.

Murray, Govindaraj and Chellaraj (1993) present a variety of regressions which estimate the income elasticity of health spending over a wide cross-section of countries. They also present a survey of the literature on the income elasticity of health spending. Surprisingly, the influence of demographic factors is ignored. Several studies on the demographic determinants of government expenditures have observed a strong correlation between demographic aging and health spending. Other studies show that, not surprisingly, health spending per person tends to rise dramatically by age cohort (eg., Vukovich 1991, Smeeding et.al, 1988). While an extensive analysis of the demographic determinants of public health spending is beyond the scope of this study, the limited evidence suggests that demographic factors may have an independent effect on health spending ratios. The relationship shown in Figure 1.10 begins to illustrate this independent effect.

Corrections and Supplementary Data. Since the publication of the report, data have been updated to account for new information including revisions of GDP in the IMF International Financial Statistics Yearbook. In Annex Table 1, these data are italicized to denote an update or correction. In the cases where only the ratio was provided by the source, no total spending figure is listed in Annex Table 1. For the most part, these changes are minor, but a few major revisions were made including changes for the following countries: The Netherlands, Switzerland, France, Greece, Italy, Luxembourg, Belgium, Ukraine and Benin. All spending on invalidity pensions had not been included in the original estimates for France, Italy, Greece, Luxembourg, the Netherlands and Belgium.

Since these data were used in the figures mentioned above, the regression results will be affected by these revisions. The corrected version of the regression results presented in Figures 1.8 and 1.9 are presented in Table 2 below. The results are not significantly different from those presented in the book due to the relatively small modifications to the data and the robustness of the results. The cross-section sample data used for the regressions is presented in Annex Appendix 2.

Annex Table 2 Corrected Regression Results for Determinants of Pension Spending Share of GDP

	Intercept	Pop60+	Pop60+ ²	YCAP90	YCAP90 ²	Adjusted R ²
(1)	-0.35404 (-0.44)	0.01791 (0.1)	0.023095 (3.2)	0.000248 (1.9)	-0.000000012 (-2.1)	0.88
(2)	0.27528 (0.3)	0.10921 (0.6)	0.022202 (2.9)	-	-	0.86
(3)	-2.6426 (7.4)	0.6429 (22.3)	-	-	-	0.85
(4)	-2.65096 (6.1)	0.64743 (13.6)	-	0.000006 (0.1)	-	0.84
(5)	0.46519 (0.9)	-	-	0.00054 (9.9)	0.000000003 (1.2)	0.53
(6)	0.68239 (1.4)	-	-	0.00543 (10.1)	-	0.52

Number of observations = 92 t-statistics in parentheses

Dependent variable is public pension spending as share of GDP from Annex Appendix Table 1

POP60+ = Percentage of population over age 60 in 1990

YCAP90 = Per capita income in 1990 from Table 30 of 1992 "World Development Report."

B. Pension Reserves and Investment Returns

Pension Reserves: Definitions and Sources. Pension reserves represent accumulated pension scheme surpluses which occur as the result of a decision to set payroll taxes higher than necessary to cover annual pension outlays. This typically occurs during the early years of a pay-as-you-go pension scheme when the ratio of contributors to pensioners is low because the scheme is immature and the demographic structure of the country is young. In some cases however, governments may choose contribution rates which will produce surpluses even after the scheme has matured. Such a decision was made, for example, in the early 1980s in the United States. By definition, provident fund countries that offer publicly-managed defined contribution plans have funded pensions which are classified here as pension reserves.

Public pension reserves were common in Europe, the United States and some Latin American countries during the first half of this century. Today most of these schemes, including those in Eastern Europe, have exhausted past reserves and are running deficits. In contrast, many developing countries are still in the immature part of the pay-as-you-go life cycle and have significant reserves. All public defined-benefit plans are underfunded to some degree but some continue to run surpluses and therefore can be considered partially-funded. There is no case of a publicly-managed, fully-funded, defined-benefit scheme.

The figures reported in the book represent the reserves of the old age, survivor and disability programs; reserves of other social insurance schemes are excluded. Some countries have more than one public pension scheme; in most such cases, only the pension reserves of the main scheme are available. In some cases such as Indonesia and the Philippines, reserves of more than one scheme are available. For example, the reserves of Indonesia's public employees' scheme (TASPEN) are added to those of the ASTEK, the largest scheme covering private employees, to produce the total pension reserve estimate. Pension reserve data, including data not presented in the report, are shown in Annex Table 3 below in national currency units and as a proportion of GDP. It should be noted that the real value of reserves can change dramatically over short periods of time. In Venezuela, for example, pension reserves of the IVSS lost almost half their real value in one year - 1989 - due to investments in fixed interest rate bonds under conditions of high inflation. In Chile, pension reserves in the new scheme have risen rapidly due to annual contributions to funded accounts and high average real investment returns.

Annex Table 3 Public Pension Reserves in Selected Countries

Country	Year	Reserves*	GDP*	Reserves/ GDP (%)	Source
Barbados	1986	424.2	2646	16.0	Mesa Lago 1991
Belize	1989	70.5	672.8	10.5	Watson 1991
Burkina Faso	1981	11813.9	324200	3.6	ILO 1983
Burundi	1981	1189.5	89086	1.3	ILO 1983
Canada (QPP+CPP)	1990	73759.0	670950	11.0	CICPPF 1991
Chile (new)	1990	3769243.0	9202700	40.9	Mujica 1993
China	1991	15.0	2204	0.7	ILO 1993
Colombia	1980	38013.0	1579000	2.4	ILO 1983
Colombia	1982	-	-	2.9	Brenes 1983
Costa Rica	1987	17591.0	284039	6.2	Mesa-Lago 1991
Costa Rica	1992	47004.0	878198	5.4	CCSS 1992
Ecuador	1989	9831.0	5171000	0.2	IESS 1990
Egypt	1982	2970.5	20881	14.2	ILO 1983
Ghana	1986	3182.0	511400	0.6	ISSA 1991
Guyana	1983	586.5	1468	40.0	ILO 1983
Honduras	1990	436.0	12540	3.5	Bayo 1993
India (EPF)	1990	235774.0	5295400	4.5	EPF 1990
Indonesia (ASTEK)	1987	540000.0	142105000	0.4	ILO 1989
Jamaica	1987	912.9	16002	5.7	Mesa-Lago 1991
Japan	1990	-	-	18.0	Van der Noord/Herd 1993
Jordan	1988	245.7	2235	11.0	ISSA 1990
Jordan	1982	35.9	1638.1	2.2	ILO 1983
Kenya	1989	19764.0	172333	11.5	ISSA 1991
Korea	1990	2198600.0	172724000	1.3	Yoo 1992
Malaysia	1980	9396.8	53308	17.6	Vittas / Scully 1991
Malaysia	1987	-	-	40.5	Vittas / Scully 1991
Mauritius	1981	360.4	10209	3.5	ILO 1983
Mexico	1988	806800.0	395883000	0.2	Mesa Lago 1991
Mexico	1980	56629.0	4276000	0.0	ILO 1983
Morocco	1980	2295.6	74090	3.1	ILO 1983
Niger	1980	7653.2	536200	1.4	ILO 1983
Nigeria	1988	976.0	145243	0.7	ISSA 1991
Pakistan	1981	513.0	278200	0.2	ILO 1983
Panama	1982	841.8	4278.9	19.7	ILO 1983
Paraguay	1987	10639.0	2493600	0.4	IPSP 1987
Peru	1988	8569.1	4383000	0.2	Mesa Lago 1991
Philippines (SS and GSS)	1990	98600.0	1074600	9.2	World Bank 1993
Philippines (SS only)	1988	35422.9	803000	4.4	ISSA 1990
Rwanda	1979	2879.0	97400	3.0	ILO 1983
Senegal	1980	15609.8	627600	2.5	ILO 1983
Senegal	1989	23270.0	1476200	1.6	IPRES 1990
Seychelles	1981	100.9	972	10.4	ILO 1983
Singapore	1980	9674.0	25091	38.6	Asher 1992a
Singapore	1989	36051.6	56844	63.4	Asher 1992a
Sri Lanka	1990	49065.0	321751	15.2	Asher 1992b
Sudan	1982	134.4	6720	2.0	ILO 1983
Sweden	1988	350016.0	1110160	31.5	SSIS 1989
Tanzania	1979	1412.5	32486	4.3	ILO 1983
Togo	1980	13754.0	238400	5.8	ILO 1983
Tunisia	1981	185.1	4162	4.4	ILO 1983
Turkey	1988	252927.2	100826000	0.3	ISSA 1990
United States	1991	268400.0	5672600	4.7	OASDI 1992
Venezuela	1980	9030.0	254200	3.6	Marquez 1992
Venezuela	1989	22761.1	1485500	1.5	Marquez 1992
Zambia	1980	279.0	3064	9.1	ILO 1983
Zambia	1987	-	-	5.8	ZNPF 1989

* in millions of country currency

Sources.

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Investment Returns to Public Pension Schemes: Definitions and Concepts. Estimating the investment returns achieved by the government as manager of these reserves is more complicated. In the case of provident funds, data are usually only available on the rate of return obtained by members who have active accounts. Rates of return to provident funds presented in the report are based on this definition. This rate is usually a nominal interest rate chosen by the government. For example, in India's Employee Provident Fund, the rate credited to members' accounts between 1989 and 1993 was a nominal 12 percent. Since this was just slightly above the inflation rate, the real interest rate was about one percent. The ultimate use of the provident fund monies and therefore, the actual investment performance is usually not clear. In Singapore for example, the Provident Fund lends to the government and the portfolio of government investments is not public information, so the real returns to those investments are unknown. Implicitly, the returns on members' accounts are shown net of any administrative costs incurred by the government in administering the funds.

Data which refer to partially-funded, defined-benefit, public pension schemes are also used in the report. In most cases, the portfolio held by the fund is published in its annual reports and a rate of return can be calculated. The rate of return to some of these investments, such as personal loans in countries like Ecuador and the Philippines, lend themselves to relatively straightforward interpretation. In other cases, where reserves are used to build hospitals or provide credit to public enterprises, the social rate of return is impossible to assess even when the returns to the fund are clear. Most of these intra-governmental investments result in low or negative rates of return to the pension fund, which are sometimes justified on the basis of their supposedly positive social rates of return. In the cases of hospitals which are only accessible to the members of the pension system, as is often the case in Latin America, pension reserve investments are justified on the basis of the benefits provided to members of the system. Calculation of these social rates of return or in-kind benefits to the members of the scheme would require a full-scale research study.

Another problem occurs in countries like the United States where pension reserves are invested in special, non-marketable bonds. Some economists suggest that the presence of the U.S. OASDI Trust Fund, available only for government borrowing, has led to higher government deficit spending. If this were the case, the real social value of the Trust Fund's investments would depend on the marginal

government expenditures that they financed, minus the present value of the future tax increases or expenditures used to pay off the government debt. This report argues that this lack of transparency has unintended distributional and allocative effects and may also have reduced national savings.

Annex Table 4 shows real annual investment returns for various countries between 1977 and 1990 for selected countries. Figures 3.7 and 4.6 include returns for all mandatory, publicly-managed plans for which data were available for more than five years during the 1980s. Since the publication of the report, new data have been obtained for several countries and some revisions have been made to the data presented in Figure 3.7. Specifically, the returns for India have been recomputed using the IMF consumer price index instead of the urban price index used previously, to make it more comparable to other data used in the report. The result is that the 1980-1990 average shown in Figure 3.7 should actually read, 1.1 percent between 1980-1990 rather than .3 percent. This is a substantial difference but would not change the placement of the bar or the overall story conveyed by the graph.

Annex Table 4 Real Annual Investment Returns, Selected Public Pension Funds 1977-1990

Years	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Defined-Benefit Schemes														
Africa and Asia														
Egypt	.	.	.	.	-5.4	-9.9	-10.9	-12.1	-7.1	-18.9	-14.7	-11.8	-15.6	.
Jordan	.	.	.	.	.	.	.	-1.1	2.1	5.7	6.3	-5.2	.	.
Mauritius	.	.	-31.6	-5.1	.	.	.	.	.	.	.	.	.	.
Madagascar	.	.	.	.	.	.	.	.	.	-7.0	-10.4	-7.2	.	.
Morocco	.	.	-2.8	-4.0	.	.	.	.	.	.	.	.	.	.
Pakistan	.	.	1.4	1.8	.	.	.	.	.	.	.	.	.	.
Senegal	.	.	-0.5	4.4	.	.	.	.	.	.	.	.	.	.
Tunisia	.	.	.	-1.4	-4.8	.	.	.	-3.3	.	.	.	.	-1.3
Philippines (SSS)	.	2.8	-11.0	-3.8	6.9	1.4	6.5	-31.6	3.0	18.4	11.3	5.9	5.0	5.9
Turkey (ES)	.	.	.	.	.	.	.	-35.7	-25.1	-15.2	7.2	-50.1	.	.
Turkey (SSI)	.	.	.	.	.	.	-13.9	-25.1	-29.5	-9.8	-16.5	.	.	.
Korea	.	.	.	.	.	.	.	.	.	.	.	4.8	7.2	7.0
North America, Latin America and the Caribbean														
Canada (Quebec Plan)	-0.2	-0.7	-0.9	-1.2	-2.9	-0.5	4.8	6.6	7.1	6.9	6.8	7.3	6.6	.
Canada (Canada Plan)	1.2	1.2	1.2	0.7	-1.3	0.5	5.3	7.4	9.9	9.2	6.9	5.8	6.8	.
Costa Rica	.	.	.	-9.7	-34.5	-40.8	-2.0	-5.2	3.8	1.8	2.6	-6.0	6.7	-6.9
Ecuador	.	.	.	1.8	-2.1	-3.3	-25.2	-15.8	-15.1	-10.6	.	.	.	.
Mexico	.	.	.	-12.0	-17.9	-32.7	.	.	.	.	.	.	.	.
Peru	.	.	.	.	-17.2	-12.7	-31.0	-28.4	-46.9	-23.8	-45.8	-93.5	.	.
Venezuela	-1.1	-0.6	-5.4	-14.7	-6.9	-0.1	2.5	-2.9	-2.2	0.8	-18.9	-20.3	-71.5	.
Jamaica	.	.	.	-13.8	-2.4	3.8	-2.0	-15.9	-9.8	-2.1	3.7	.	.	.
Trinidad and Tobago	.	.	.	.	.	.	-7.5	-6.4	-4.9	-2.7	-4.5	.	.	.
U.S. OASDITF	0.5	-0.5	-3.9	-4.9	-0.4	5.0	7.5	7.3	7.8	9.2	6.3	5.8	4.7	3.9
Provident Funds														
Africa and Asia														
Kenya	.	-2.7	-5.8	-8.8	-6.8	-15.4	-6.5	-2.2	-5.0	4.1	2.8	-0.3	-1.8	-3.8
Zambia	.	.	.	-7.2	-1.4	-8.1	-14.0	-14.5	-32.0	-46.3	-37.5	-50.0	.	.
Fiji	2.3	-1.7	-10.3	-2.8	1.8	.	.	.	.	.	.	.	.	.
India	-0.2	5.8	2.0	-3.0	-4.6	0.9	-2.7	1.7	4.6	2.3	2.3	2.4	5.8	3.1
Malaysia	2.1	2.1	3.6	1.2	-1.6	2.2	4.8	4.9	8.1	8.0	7.7	5.4	5.3	4.9
Singapore	1.4	3.5	-0.8	0.1	-4.7	2.7	5.2	3.9	6.5	7.9	5.4	1.8	0.9	0.3
Sri Lanka	6.2	-9.7	-8.0	-15.7	-8.0	.	.	.	.	.	.	.	.	.

Sources: See data notes.

Some of the new data obtained since the publication of the report should, however, be taken under consideration in the debate over public vs private management of pension reserves. The Canadian data, for example, show a low, but positive real rate of return over the period from 1971-1989. Interestingly, the Quebec Plan which is subject to fewer investment constraints and even has foreign equity holdings,

has achieved superior returns over the period. Furthermore, the Quebec scheme seems to have produced returns which are similar, if slightly lower, than those experienced in the private sector. The 1991 Report of the Committee on the Investment of the Canada Pension Plan Fund concludes that the performance of the Quebec scheme "is competitive with those of the other large funds considered."

The table also suggests that the main pension scheme in the Philippines, while volatile, has managed to achieve positive rates of return on average over a long period. While data are not available, the fund of the special scheme for public employees is known to have performed much worse. There have been many reports of wasteful and fraudulent use of those funds. Jordan also maintained a modest positive average rate of return of about 1.6% between 1984 and 1988. On the other hand, recent reports on the Chinese municipal pension schemes cite high, negative real rates of return on pension reserves invested in treasury bills and bank deposits.

Pension Fund Investment Returns: Sources. Data on the investment performance of pension funds around the world are difficult to find for both public and privately-managed pension schemes. Most of the data presented in the table above are based on ILO/ISSA sources. Data for years prior to 1982 for Mauritius, Senegal, Pakistan, Sri Lanka, Fiji, Morocco and Tunisia were taken from the ILO's Report from the Meeting of Experts on the Investment of Social Security Funds, Geneva, 1983. Tunisian returns for 1985 and 1990 were taken from Vittas (1993). Data for the Philippines, Turkey and Jordan were taken from the "Report of the ISSA Regional Meeting for Asia and the Pacific on the Methods of Financing Social Security with Special Reference to Long Term Benefits" published in New Delhi in 1990. Returns for Singapore were taken from Asher (1992). Malaysian EPF dividends were taken from Fry (1992). An internal, unpublished World Bank report on the Egyptian financial sector reported nominal rates of return credited to the Egyptian scheme during the 1980s.

Zambian rates of return were taken from the ILO (1983) for early years and the Zambian Provident Fund Annual Report for years after 1982. The rates of return credited to members were taken from several reports of the National Provident Fund in Kenya. Data for Madagascar's partially-funded scheme came from the ILO report entitled, "Madagascar: Rapport au gouvernement sur la situation actuelle et les perspectives d'evolution de la protection sociale", Geneva, 1991.

The most extensive study of investment of pension reserves in Latin America was a study by Mesa-Lago (1991) published by the World Bank. Returns data were taken from this study for Costa Rica, Jamaica, Mexico, Peru and Ecuador. Venezuelan rates of return were taken from Marquez (1992). Trinidad and Tobago reported their returns in the report on the Sixth Meeting of Heads of ISSA Member Organizations in the English-Speaking Caribbean, Geneva 1988 which took place in Bermuda. Chilean returns were taken from Iglesias and Acuña (1992). The U.S. Social Security Administration provided OASDI Trust Fund rates of return which are not published in the annual Statistical Bulletin of the SSA. The Canada Pension Plan Advisory Board published the returns of the CPP and QPP in their 1991 Report.

C. Administrative Costs

Concepts and Definitions. Pension administration involves several functions, the most important of which are collection, record-keeping, benefit distribution and management of reserves (when these exist). This production function in the provision of public pensions is analyzed in more depth in James and Palacios (1995) and problems associated with comparisons of administrative costs of public pension schemes are discussed in Valdes-Prieto (1994), James and Palacios (1995), and Ping, Sunden and Mitchell (1994). Costs of public schemes are often understated in official reports because some cost items (such as capital expenditure and depreciation and collection costs) are omitted or borne by other agencies. Individuals also bear non-trivial compliance/evasion costs on the tax collection side and time costs on the benefit application side neither of which are included in official statistics.

Issue Brief 5 also points out that the ratio of costs to benefit expenditures is biased against new or "immature" schemes while the ratio of costs to contribution revenues is biased against schemes with relatively low contribution rates, high floors and low ceilings on taxable earnings. A preferable approach is to compare administrative costs per participant in the pension system. This measure is presented in the two figures in Issue Brief 5 as well as in Table 6.4 and is normalized by per capita income. In all cases, administrative costs are those which apply to the old age/survivors/invalidity programs for the main scheme. Administrative costs in private schemes particular in the Chilean AFP system, are discussed in a later section.

For non-provident fund schemes, participants are defined as active contributors plus pensioners, as defined in the coverage section. For the provident funds in Kenya and Nigeria only the number of affiliates (including those who were not actively contributing) was available. In both cases, the number of active contributors was assumed to be 50% the number of affiliates. This assumption was considered conservative based on the contributor/affiliate ratios found in Tanzania (16.2 %) and Ghana (44%) (see coverage section below). For provident funds which paid a lump-sum benefit, only new, same-year beneficiaries were counted as pensioners. In other words, past lump-sum recipients were excluded from the denominator of the ratio.

Information received since the publication of the report suggest that the administrative cost data for transition socialist countries such as China and Hungary are underestimated to a significant degree. This problem is due to the fact that much of the pension administration occurs within state-owned enterprises and therefore goes unrecorded. This seems to be especially true in the case of China but occurs in large State-owned enterprises in transition socialist economies as well. Throughout the transition economies, administrative costs related to collection of payroll taxes are rising along with the growth of the informal sector. The officially reported costs do not seem to include the costs borne by these firms some of which are required to keep records, pay benefits and determine eligibility.

Finally, it should be noted that the reported costs are generally for the main pension scheme and do not reflect the entire national costs of administering **all** publicly-managed pension schemes. These costs will be higher when multiple schemes exist and the per member costs may rise if those schemes are too small to take advantage of scale economies. Most countries have at least two publicly-managed pension schemes and some have many more. For example, the main pension scheme in Bolivia is supplemented by dozens of individual enterprise-level schemes whose administrative costs are also absorbed by the State.

Data and Sources. Administrative costs for Senegal were taken from the main pension scheme in that country (IPRES 1989) and are included in Annex Table 5 below (they did not appear in Averting). Most of the data were taken from statistical yearbooks of the administering agencies. Annex Table 5 shows the data presented in Appendix Table A.9 of the book. Average annual exchange rates for

conversion to dollar amounts were taken from the International Monetary Fund's "International Financial Statistics Yearbook". For most countries, cost data was taken from ILO's Cost of Social Security Basic Tables (ILO 1992 and ILO forthcoming). The following sources were also used:

Chile: Valdes-Prieto 1994

India: Employees' Provident Fund Annual Report, 1990.

Guatemala: Anuario Estadístico del Instituto Guatemalteco de Seguridad Social, 1986

Honduras: Bayo 1990

Paraguay: Instituto de Prevision Social de Paraguay, Estadísticas 1987

Singapore: Asher 1992

Switzerland: Assurances Sociales en Suisse, 1993

Sweden: Sweden: Social Insurance Statistics, 1989

Tanzania: Tanzania Statistical Yearbook 1990

United States: Social Security Bulletin, 1991

Zambia: Zambia National Provident Fund Annual Report, 1988-89

Annex Table 5 Administrative Costs of Publicly-Mandated Pension Schemes Compared

Country	Year	Administrative Costs (millions) *	GDP per Capita *	Contributors plus pensioners	(1)/(3)	(4)/(2) %	(1)/(3) in \$ US **
Belgium	1986	5162	519168	5619107	919	0.18	20.6
Burundi	1989	190	32697	79950	2370	7.25	14.9
Canada	1989	134	24737	11245230	12	0.05	10.0
Chile (new)	1991	63400	816968	3373328	18794	2.30	50.2
Costa Rica	1985	166	90654	445049	373	0.41	6.7
echoslovakia	1989	346	48561	10522204	33	0.07	2.2
China	1989	330	903	181440000	2	0.20	0.5
Denmark	1989	104	150058	3616328	29	0.02	3.9
El Salvador	1986	13	3993	212032	61	1.54	12.3
Finland	1989	1486	100189	5748489	259	0.26	63.7
Germany	1989	2830	35827	44899000	63	0.18	35.9
Ghana	1989	2656	35100	1958772.9	1356	3.86	5.0
Guatemala	1986	5	1934	710407	7	0.39	4.0
Honduras	1990	4	2454	256509	15	0.59	7.3
India	1989	601	5454	15400000	39	0.72	2.4
Israel	1989	39	18809	2129678	18	0.10	9.5
Italy	1986	1593000	15718777	30000000	53100	0.34	35.6
Jamaica	1989	14	9337	439310	31	0.34	5.5
Japan	1989	39541	3217974	34428000	1149	0.04	8.3
Kenya	1989	42	4732	1102500	38	0.80	1.8
Luxembourg	1986	373	603514	218971	1703	0.28	38.1
Malaysia	1986	54	4444	2289000	24	0.54	9.2
Mauritius	1986	10	19899	1000000	10	0.05	0.7
Mexico	1986	73321	994483	8300000	8834	0.89	14.4
Morocco	1989	50	7778	724206	69	0.89	8.1
Netherlands	1989	293	31349	12227000	24	0.08	11.3
Nigeria	1986	10	744	1460000	7	0.89	3.8
Pakistan	1989	44	7083	727328	61	0.86	3.0
Paraguay	1987	459	636122	121680	3774	0.59	6.9
Philippines	1990	563	17479	3195000	176	1.01	7.3
Rwanda	1989	295	24921	330450	892	3.58	11.2
Senegal	1989	2946	1476200	237736	12391	5.98	38.8
Singapore	1986	23	14928	957600	24	0.16	10.8
Spain	1989	20915	1157753	16947441	1234	0.11	10.4
Switzerland	1991	222	48159	5351900	41	0.09	28.9
Sweden	1988	512	131536	5404000	95	0.07	15.5
Tanzania	1990	538	19347	348865	1541	7.96	7.9
Turkey	1986	12926	763912	4169000	3101	0.41	4.6
United States	1989	2427	21202	167123000	15	0.07	14.5
Zambia	1988	54	2987	400000	134	4.49	16.3
Tunisia	1986	7	939	695500	10	1.03	12.1

* National currency units

** Using average exchange rate during each year.

D. Coverage

Definitions. "Coverage" as normally used in this report is defined as *the number of workers who have contributed during the last year to a public or publicly mandated old age or retirement scheme which pays a lump-sum or annuitized pension which itself is a function of past contributions or credited years of employment divided by the estimated labor force.* The labor force was normally defined as the percentage of persons age 15-64 who were economically active, including the unemployed. Workers who contributed in past years but not the year in question were not considered covered for that year even though they may eventually collect a pension. Although in some countries (eg., Hungary and Spain), workers receive credit for years of unemployment and other non-contributory activities (eg., higher education, maternity leave), these persons are not counted as part of the covered population in the definition used here.

This is the definition used in Figure 1.7 as well as in Appendix Table 4. In figure 1.7, the quadratic functional form was chosen after comparing it with other forms and finding it superior in terms of fit. Variables beside income per capita, such as regional dummies or urbanization, did not improve the explanatory power of the regression. No attempts were made to correct for heteroskedasticity in the sample. A more extensive treatment of the determinants of pension coverage along with a review of other evidence is available in Palacios (1996).

In addition to coverage of workers, the extent of public pension provision or the percent of the population covered. For example, "coverage" could be defined as (1) the percentage of the total population which is directly or indirectly covered by a public pension including the spouses and children of contributing workers or even their parents in some cases, (2) the percentage of the labor force affiliated with or registered in such a scheme, and (3) the percentage of the working age population (including persons not in the official labor force) who contribute in any given year. If the third definition is used, the coverage ratios of lower income countries tend to look smaller relative to those of the richer countries given that the latter have higher participation rates in general.

Even when two studies may use the same definition, small differences in either the numerator or the denominator can lead to significant differences in the ratio. For example, different sources use varying definitions of the economically active population, which can change the denominator. The labor force definition used by different sources such as the World Bank's Social Indicators of Development or the International Labour Office's "Yearbook of Labour Statistics" are not always clear and the figures may not always agree.

Another problem with coverage ratios is that the numerator is not always clearly defined. Many times it includes only private sector workers covered under a general scheme without considering public sector workers or special schemes which may exist for certain occupations. The military, for example, is rarely included in the estimate of the covered labor force while it is sometimes included in the estimated labor force.

Data on provident funds usually include separate figures for both the number of active members (usually defined as those who have contributed at least once during the past year) as well as the number of affiliates. In Ghana, for example, the ratio of active members to registered affiliates was found to be .44. An even smaller percentage of affiliates are active in some of the other African countries. Even in Chile and Singapore, affiliates outnumber active members by a significant margin, in part because some people withdraw from the labor force and in part because some workers evade contributions. In provident funds, a balance remains in the affiliate's name and gathers interest whether or not he contributes during the year. In typical pay-as-you-go schemes, the missed year of contribution will result in one less year toward the minimum needed for retirement with a full pension. In some countries, non-contributory years are credited as service years if certain activities, like higher education are pursued. In short, the value of a missed year in different schemes depends on their design characteristics.

These design features, especially the eligibility and benefit formulas may lead some workers to evade payments during certain portions of their careers in order to increase their pensions. If coverage is defined as the proportion of the labor force which will eventually be eligible for a full pension, the number of contributors in a given year may seriously underestimate the true coverage. On the other hand, to the extent that workers are penalized for missing contribution periods, the liabilities of the system, as well as the probability that a worker will receive a full pension, are reduced.

Alternative Concepts of Coverage. In addition to these concepts of coverage, the extent of pension provision can also be measured in terms of the *wage bill* which is subject to the payroll tax that finances the public pension scheme. Column (4) in Appendix Table 4 presents this measure normalized by GDP for various countries. The estimated covered wage bill is calculated by dividing the contribution revenues of the pension scheme by the contribution rate in the same period. This method results in an estimate of the effectively taxed wage bill rather than the wage bill which is legally subject to the tax. It also takes into account underreporting of wages, the differences in wage levels between the covered and uncovered labor force, the taxable earnings' ceilings and floor, and other factors. When a nominal ceiling is fixed in an inflationary environment, countries experience dramatic declines in the real value of this ceiling, which reduces the effectively taxed wage bill and with it, revenues. In Belize and Venezuela during the late 1980s for example, the taxable earnings ceiling was actually lower than the average covered wage.

Another measure of coverage is the extent to which old people in countries with means-tested or universal flat pension benefits are protected. Eligibility for these schemes is based on age, or age and income level, not on past contributions. Typically there are some citizenship requirements as well. Since universal flat pensions like the "basic pension" paid in the Nordic countries, are available to all citizens, coverage could be considered universal. Income and/or asset tested pensions are also available to all citizens but are paid to only a fraction of the old population. This fraction varies from less than 5 percent in the U.S. and Spain to more than 70 percent in Australia and Hong Kong, where the income test is far less restrictive.

These comparisons of pension coverage across countries and over time do not hold constant the quality of pension coverage in terms of the level of the pension received, the rate of return on past contributions, inflation indexation or other factors. As pointed out in the report, even statutory defined-benefit guarantees must be viewed with skepticism as they are frequently changed. The quality of coverage within a country could vary significantly when multiple schemes exist. Even within one scheme the quality of coverage could vary significantly for different kinds of workers (male vs female, high vs low income etc.). The difficulties which arise when trying to measure quality of pension provision are indicative of the fact that public pension objectives are often ambiguous.

Finally, pension provision can be assessed by observing the proportion of the old population receiving pensions. This ratio will differ from labor force coverage for several reasons. The most important factor is the maturation of the scheme. In relatively new schemes, such as those in Korea and Guyana, very few old persons will be eligible for pensions since most schemes have minimum eligibility conditions. As the scheme matures, labor force coverage and the percentage of the old receiving pensions will tend to converge, other things constant. One measure of this indicator is presented in column (2) of Appendix Table 4 for several countries. This ratio is not the proportion of 60 year olds receiving public pensions but rather the number of old age/invalidity/survivors pensioners divided by the number of persons over the age of 60. This crude proxy for the pension provision rate for the old does not take into account differences between countries in the rate of under age 60 retirement and disability and overstates the proportion of old receiving pensions. While in most countries, the figure in column (2) will be smaller than the coverage rate, in a few cases such as Turkey and Uruguay, the pensioner/60+ ratio is higher than the labor force coverage, signalling high rates of evasion and early retirement.

Coverage data for Eastern Europe and the Former Soviet Union were not presented in the book and are not included here. The coverage rate among workers in pre-transition, socialist countries was probably extremely high in all of the former Soviet bloc countries due to the role of State as employer and low or non-existent unemployment or evasion. Assuming that most countries had almost universal coverage, the regression analysis shows that, on average, ex-socialist countries experienced coverage rates more than 40 percent higher than would have been predicted by their income levels (Palacios 1996). Since 1989 however, the situation has changed dramatically with the share of the labor force operating in the black market or listed on unemployment rolls rising to more than a quarter of the pre-transition labor force by 1994. This has led to declining coverage rates throughout the region. In Hungary, for example, the coverage rate has fallen from close to 100 percent to less than 80 percent of the pre-transition labor force, although some of this is explained by early retirement and increased university enrollment. In the poorer FSU countries, the contributor base has collapsed since 1989 and pension revenues have fallen precipitously as a result. The dramatic drop in effective coverage rates among workers puts the transitional economies closer to other countries at their income levels with respect to coverage rate, but typically their spending to GDP ratio remains above demographically-predicted levels, since the proportion of the old receiving pensions remains high.

Sources. Coverage rate data are not collected systematically by any organization although an effort was made during the ILO's most recent (unpublished at time of writing) "Costs of Social Security" survey to gather data on this indicator. Some of these data were used in this report. For the most part, coverage estimates were generated from data from the administering agencies or from World Bank country or sector reports. Table 6 below shows the primary sources available along with a brief comment. Labor force data were generally taken from the World Bank's "Social Indicators of Development". In certain cases, the labor force estimate was not available for the same year as were the data for the number of active contributors. In these cases, the labor force was estimated based on the recent growth rate of the population. Supplementary country notes by region are provided below.

Annex Table 6 Labor Force Coverage for Selected Countries, 1985-1992

Country	Year	Contributors	Labor Force	Coverage	Primary Source
Argentina	1989	6064000	11398000	53.2	ILO 1993
Bangladesh	1987	1340000	38285714	3.5	World Bank
Bolivia	1992	274000	2344000	11.7	CISS 1993
Bolivia	1985	-	-	16.9	Mesa-Lago 1990
Brazil	1989	-	-	50.3	World Bank 1994b
Burkina Faso	1989	152443	4170000	3.7	Gruat/WBank
Burundi	1990	-	-	4.7	Gruat (1990)
Cameroon	1989	597452	4365000	13.7	ISSA
Canada	1989	12752750	13093172	97.4	ILO forthcoming
Chad	1990	-	-	1.1	Gruat (1990)
Chile (new only)	1992	-	-	55.7	Mujica 1993
China	1989	-	-	23.7	ILO forthcoming
Colombia	1989	2522830	10576000	23.9	ILO forthcoming
Costa Rica	1993	-	-	54.2	CCSS 1994
Cote d'Ivoire	1989	-	-	9.3	ILO forthcoming
Denmark	1990	-	-	100.0	NOSOSO
Dominican Rep	1988	-	-	11.5	Duarte 1988
Ecuador	1989	1342369	3551042	37.8	Ojeda 1992
Egypt	1989	8978000	14420620	62.3	World Bank
El Salvador	1989	-	-	12.4	ISSS 1990
Finland	1990	-	-	100.0	NOSOSO
Ghana	1989	1100000	8300000	13.3	ISSA 1991
Guatemala	1986	-	-	27.0	IGSS 1986
Honduras	1990	295460	1580000	18.7	Bayo (1990)
Iceland	1990	-	-	100.0	NOSOSO
India	1990	34280000	323000000	10.6	EPF 1990/ estimate
Indonesia	1991	7200000	73000000	12.4	IMF and ILO
Jamaica	1991	500000	1271000	39.3	ESSY 1991
Japan	1989	65677000	62000900	100.0	ILO forthcoming
Kenya	1990	1400000	9519040	14.7	Gsanger 1994
Korea	1991	5701000	19000000	30.0	Kwon, S. (1992)
Madagascar	1990	261469	4845000	5.4	ILO 1992
Malaysia	1991	3541542	7270000	48.7	Asher 1992/Fry 1992
Mali	1990	-	-	2.5	Gruat 1990
Mexico	1990	11541000	30487000	37.9	IMSS 1993
Morocco	1989	-	-	17.4	ILO forthcoming
Mozambique	1986	1248	7432212	0.5	ILO 1992
Nicaragua	1989	-	-	22.7	INSSB 1990
Niger	1990	108656	3904030	2.8	Gruat 1990
Nigeria	1990	1000000	42435000	2.4	ISSA 1991
Norway	1990	-	-	100.0	NOSOSO
Pakistan	1989	1139544	32558400	3.5	ILO forthcoming
Panama	1990	344950	872000	39.6	MSSP 1990
Paraguay	1987	-	-	8.7	IPSP/ Cruz-Saco
Peru	1992	-	-	25.7	ISSA?
Philippines	1990	4294100	22509000	19.1	World Bank
Rwanda	1989	315217	3389430	9.3	ILO forthcoming
Senegal	1990	220542	3192000	6.9	IPRES 1992
Singapore	1990	-	-	75.8	Asher 1992
Spain	1992	12743000	14934600	85.3	Yearbook
Sri Lanka	1990	1941000	6730000	28.8	Asher 1992
Sweden	1990	-	-	100.0	NOSOSO
Switzerland	1992	3700000	3300000	100.0	ASS 1993
Taiwan	1988	7152618	8246000	86.7	TSY 1990
Tanzania	1990	642600	12600000	5.1	TES 1991
Trinidad & Tob	1989	-	-	60.7	ILO forthcoming
Tunisia	1990	-	-	50.9	Vitas 1993
Turkey	1990	-	-	34.6	World Bank 1993
U.S.	1989	118110000	122000000	96.8	ILO forthcoming
United Kingdo	1990	-	-	94.2	UKST 1992
Uruguay	1989	922000	1341000	68.8	off&Szalchman (1992)
Venezuela	1990	-	-	34.3	IVSS 1992
Zambia	1989	359620	2608517	13.8	ISSA 1991

ESSY 1991 = Economic and Social Statistics Yearbook, 1991, Jamaica.

MSSP 1990 = Memoria de la Seguridad Social de Panama, 1989-90

TSY 1990 = Taiwan Statistical Yearbook, 1991

Cruz-Saco 1994 = Unpublished report on Paraguay's Instituto de Prevision social

See Annex Table 1 for other acronyms.

Supplementary Country Notes

OECD

Canada: The ILO reports the Canadian Pension Plan and the Quebec Pension Plan together covering around 12,752,750 workers. Taking the estimated workforce for 1989 as 1.1% less than the 1990 workforce estimate given by the World Bank SID, results in a coverage ratio of 97.4 percent.

Japan: ILO data reports 65,677,000 "persons protected" from old age in 1989. This included the Employees' Pension Scheme, The National Pension, the Agriculture scheme, Private school personnel scheme, and local public employees' scheme adjusted for double-counting. Given that this figure is significantly higher than the estimated total labor force from the World Bank's Social Indicators of Development (around 62 million in 1990), coverage was estimated at 100 percent.

Spain: Government sources reported that as of July 1992, there were 12,743,000 active members of the various pension schemes, including the one for public employees and other professions. The ILO Yearbook of Labor Statistics provides an estimate of the active labor force in Spain for 1991 of 15,073,100 of whom 138,500 are over 65, the normal retirement age. Adjusting for these workers, the total is 14,934,600. The coverage rate estimate is therefore 85.3 percent for 1992. A separate estimate using the total number of contributors in the various schemes covering the private sector employees in 1989 and the ILO's estimate of the number of public sector employees covered in the special scheme in 1986 yielded a similar percentage of about 86 percent.

Switzerland: The ILO reports that over 3.7 million Swiss are protected by the general scheme alone. Since the World Bank reports the workforce at less than 3.3 million, and since schemes other than the general scheme were excluded, the figure for Switzerland was set at 100 percent. Independent Swiss figures verify that the number of contributors is greater than the estimated labor force.

Turkey: Data on active contributors to the three main funds taken from an unpublished, World Bank internal report on Turkish pension system. The report also mentioned that only 1 percent of self-employed persons were contributing to the special fund for self-employed workers, the Bag-Kur.

U.S.: 1989 figure from ILO put active members of the OASDI, Railroad and Public Employee schemes at 118,110,000 out of an economically active population of about 122 million yielding the 96.7 percent listed above.

Latin America

Argentina: ILO data for 1989 suggests that 6,064,000 workers are "protected". The World Bank's Social Indicators list the workforce in that year as being 11,548,000 which is adjusted downward by 1.3 percent (the general population growth rate) to 11,398. This yields a coverage ratio of 53.2 percent. Fiscella (1990) lists 5,502,000 active members of the scheme in 1989 which would suggest a lower coverage ratio of about 47.6 percent. Still another source (IDB 1993) shows only 4.98 million contributors out of an economically active population of 12.527 million for a coverage rate of only 39.7 percent in 1992. Discrepancies are largely due to the treatment of evaders.

Bolivia: Mesa-Lago (1990) Table 13, page 41A provides a figure for 1985 of 16.7. The number here comes from the CISS (1993) report which cites the Fondo de Pensiones Basicas and the Instituto Nacional de Estadisticas as its sources and pertains to "cotizantes activos" over labor force for 1991. Actual numbers are not given.

Brazil: Data for contributors and active population both come from an unpublished World Bank internal report on titled The Brazilian Social Security System, 1994. Rural pensions, which were basically non-contributory, are not included here and would raise coverage substantially.

Chile: Mujica (1993) lists the contributors/labor force ratio as 55.9 percent in 1990 and 52.6% in June 1992. For further discussion of coverage in Chile's new scheme, see Acuna and Iglesias (1992).

Colombia: The ILO reports that 2,522,830 workers are covered by the system in 1989. The World Bank reports a workforce of 10,576,000 for 1990 which is adjusted downward by 2% (population growth rate) to 10,394,000. This yields a ratio of 24.5 percent.

Costa Rica: Data from Caja Costarricense de Seguro Social, Annual Report 1988, Table 6 page 22 suggests coverage of around 48 percent. The figure from Szalchman and Uthoff (1992) is 54.2 and includes over a dozen special schemes outside the CCSS.

Ecuador: Table 6 from Ojeda, G. in Szalchman and Uthoff, 1992 (p.82) reports a total active membership of 1,342,369 in 1989 and a labor force of 3,551,042 persons. The membership includes private sector workers, banking sector workers, domestic help, construction, arts, and the special scheme for peasants. Data from World Bank report entitled, "Public Sector Reforms for Growth in the Era of Declining Oil Output", cites a lower coverage ratio of around 26 percent of the labor force which may not include one or more of these programs. Mesa-Lago (1986) reports a coverage ratio of 23 percent in 1980 while Ojeda reports 24.4 percent coverage in 1980.

El Salvador: Data from the Annual Statistical Bulletin of the Salvadoran Social Security Institute (ISSS) 1989.

Guatemala: "Trabajadores afiliados" appear to be active members in the Guatemalan Social Security Institute's numbers. The economically active population covered by the IGSS system is listed as 27% in the IGSS Annual report for 1986. According to the USSSA (1993), some of the public employees are covered by their own special scheme so the figure may be a slight underestimate. Mesa-Lago reports 33 percent for 1980.

Honduras: Table 1 from Actuarial report of Bayo, Actuary to the IHSS reports 249,200 affiliates in 1990. The ILO provides a figure for government employees covered in a special scheme for 1986. These are assumed to maintain a constant ratio to the private sector affiliates and are projected for 1990 and added to the IHSS figure. This total is divided by the 1.58 million workers listed in the World Bank's Social Indicators of Development to arrive at the figure 18.7 percent. Mesa-Lago 1986 reports the coverage ratio to be 13 percent for 1980.

Jamaica: Data provided by the Jamaican Embassy in Chapter 23 of the Statistical Yearbook entitled "Social Security and Welfare". The Yearbook reports 500,000 active contributors in 1991 which is divided by the labor force estimate of 1.246 million for 1990 yields a coverage rate of 40.1.

Nicaragua: Data for active members taken from 1989 Anuario Estadístico of the INSS.

Panama: Data for active members taken from the Memoria de la Caja de Seguro Social de Panama, 1989-1990 which gives a total of 344,950 active members for 1990. The ILO reports 372,750 for the same year. Public employees are covered under the general scheme as well as a special public employees' complementary scheme. Dividing by the World Bank estimate of 1990 labor force of 872,600 workers yields a coverage ratio of 39.5%.

Paraguay: Data for active members taken from Estadísticas Instituto de Previsión Social, Paraguay as reported by Cruz-Saco 1994.

Uruguay: Szalchman and Uthoff eds. 1992 present a table on page 178 which shows total number of contributors to the Caja de Previsión Social of 922 thousand in 1989 and an economically active population of 1,341,000 (about 10 percent higher than the World Bank SID estimate in 1990). This yields a ratio of 68.8 percent (down from 81% in 1975). The figure includes public employees, state enterprises, private sector employees and even the military.

Venezuela: Figure taken directly from Gustavo Marquez in Gestión Fiscal y Distribución del Ingreso, unpublished. Marquez uses the Anuario Estadístico of the IVSS (Instituto Venezolano de Seguros Sociales) as his main source.

China

China: ILO estimates workers covered at 159,430,000 while the World Bank Social Indicators estimate 680 million active workers for the same year. This yields a ratio of 23.44 percent. Another source is Lilian Liu in Handbook on Old Age Security, 1991. Liu's estimates are about 23 percent as well for an earlier year. Includes state enterprise workers, collectives and central government employees. New rural pension scheme coverage was not included. In 1994, an estimated 50 million farmers belonged to these (voluntary?) programs about which little is known.

Africa

Botswana: Given that Botswana has only one scheme which covers only public employees (according to the U.S. Social Security Administration 1993), the estimate of coverage used the total number of government employees for 1985, 45,552 as reported by the World Bank Report No. 7690-BT 1989. Dividing this number by the estimated workforce in 1985 of 358,450 or 33.5 percent of the total population of 1985 assuming no change in participation rate between 1985 and 1990. This yielded a coverage ratio of 12.7 percent.

Burundi: Gruat (1990) finds that 2.4% of the population in 1989 was covered by the general pension scheme. Multiplying this percentage by the 1990 workforce figure provided by the World Bank in Social Indicators of Development results in coverage of 67,680 private sector employees for 1990. The ILO Cost of Social Security (1992) includes a figure on public employee coverage in 1986 in Appendix A (p.194). Assuming the latter did not change between 1986 and 1990, the sum of the two covered sectors divided by the 1990 total workforce yields a rough estimate of the coverage ratio in Burundi in 1990 of 4.7 percent.

Cameroon: The ISSA report on the Tenth African Regional Conference (1991) says that total members covered in 1989 were 597,452 while World Bank Social Indicators show a labor force of 4,365,000 for 1990 increased to 4,238,000 in 1989 (based on population growth of 2.9%) yielding a coverage ratio of 13.7 percent.

Chad: The coverage ratio is taken from Gruat (1990) Table 2. Chad is one of the few countries which apparently does not have a special government scheme according to the ILO and the USSSA.

Egypt: World Bank report No. 10790-EGT Volume II, p. 79-82 describes the coverage situation in Egypt in 1989. While Egyptian farmers are nominally covered, the authors of the report felt that "as a practical matter people covered by this law receive very little insurance protection." For this reason, only State employees, employees of public enterprises, covered private sector firms, the self-employed participating in the system and employers are included here in the coverage ratio. The sum of covered workers in these sectors was 8,978,000 in 1989 out of an estimated labor force in 1990 of 14,420,620 yielding a coverage ratio of 62.3 percent.

Ghana: The ISSA report on the Tenth African Regional Conference (1991) says that for 1989 there were 1.1 million active contributors (out of 2.5 million registered affiliates) to the Ghana provident funds out of a labor force of 8.3 million (p. 81). This leads to the coverage ratio of 13.2%. This is higher than the 9.9% estimate by Gruat and is probably due to the latter's exclusion of public employees. However, the ISSA's estimate of the workforce varies significantly from that of the World Bank which show 5.69 million for 1990. Using the World Bank's figure yields coverage of around 20 percent of the labor force.

Guinea: ILO data for 1989 says that there were 24,943 persons "protected from old age" which is interpreted here as active members of the public old age scheme. This number divided by 3,016,300 which is the 1989 workforce - calculated as the 1990 figure from World Bank Social Indicators minus 2.7% (population growth rate) of that number, yields this tiny percentage of covered population. This agrees with Gruat 1990, Table 2 which reports a coverage ratio of .7%. Guinea apparently has no special public employees' scheme.

Kenya: The ISSA report on the Tenth African Regional Conference (1990) reports the Kenyan Provident Fund membership at 1,708,804 members for 1990. A conservative estimate is estimated that 50 percent of those members are active. The labor force is estimated for 1990 as 9,519,040 so that the coverage ratio is 8.9 percent.

Madagascar: Data from the ISSA 1991 report on the Tenth African Regional Conference sets the covered membership at 550,000 in 1989 while the World Bank figure from Social Indicators of Development says the labor force was about 5 million in 1990. Adjusting this number downward by 3.1% (the population growth rate) yields 4.845 million resulting in a coverage ratio of 11.4 percent.

Mali: Gruat (1990) reports a coverage ratio in the general scheme of 2.1%. The ILO includes an estimate for public employee coverage in 1986 of 12,000 which is then added to 2.1 percent yields 2.5% total coverage.

Morocco: Data taken from ILO for 1989 and includes pensions of the National Social Security Fund and the two special schemes for public employees.

Mozambique: No general scheme is known to exist but a tiny number of public employees are covered according to Appendix A of the ILO's Costs of Social Security (1992). Dividing this figure, 1,248, by an estimate of the workforce for 1986 of 7,432,212 (interpolated from World Bank Social Indicator data).

Niger: Gruat (1990) estimates coverage of the general scheme at 1.4% in 1989. Applying this ratio to the labor force in 1990 yields an estimated 54,656 covered workers in the private sector for 1990. Next, the 1986 figure for public employees covered in a special pension scheme - 54,000 - are added as if that figure had not changed between 1986 and 1990. This total divided by the World Bank's estimate of the 1990 labor force (3,904,030) yields a coverage ratio of 2.8 percent.

Nigeria: The ISSA publication, Tenth African Regional Conference reports that the membership of the Nigerian Provident Fund, including government workers, was two million (no date was given). While this number is almost certainly much higher than the number of active members in the NPF, no estimates of active members are available. Instead, the ratio of active members to affiliates is assumed to be 50 percent of the total membership. The conservative estimate of 1.0 million is then divided by the estimated workforce in 1990, 42,435,000 to yield a coverage rate of 2.4% for 1990.

Rwanda: The ILO report a "persons protected" figure of 315,217 for 1989 which, when divided by the labor force estimate of the World Bank in Social Indicators of Development, adjusted from 1990 to 1989 with a 3.1% reduction for population growth, the ratio becomes 9.3 percent.

Tanzania: Estimated as follows: World Bank Public Expenditure Review for Tanzania (no. 7559) reports central and regional government employment at about 140,000 in 1988. This number is assumed constant through 1990 and added to the number of parastatal workers in 1990 (194,000) and the number of active members of the National Provident Fund in 1990 (317,150 - by definition, members of the private formal labor force). The sum of these numbers gives us an estimate of 5.1 percent of the estimated labor force (W.Bank) of 12.6 million in 1990.

Tunisia: Data on 1990 membership taken from Vittas' "Options for Pension Reform in Tunisia" 1992. while labor force estimates are taken from the World Bank Social Indicators.

Zambia: The ISSA report on the Tenth African Regional Conference includes a table for formal sector employment in 1989. Based on the text and other sources, this figure (359,620) was assumed to be the active membership of the Zambian provident fund, the local employees superannuation scheme and the special schemes covering copper miners described on pages 69-70 of that publication. This number was subsequently divided by the estimated 1989 workforce of 2,608,517 for a 13.8 percent coverage ratio.

Asia

Bangladesh: According to the USHHS Social Security Throughout the World 1991, only public employees are covered. These numbered 1.34 million (excluding public enterprise employees of around 300,000) which formed about 3.5 percent of the labor force in that year (Report No. 6616-BD) 1987.

Indonesia: Figures for active members taken from the IMF's July, 1992 report, "Indonesia: Blueprint for a Comprehensive Public Pension System". These were applied to estimates of the workforce from the workforce from the World Bank's Social Indicators of Development.

Malaysia: Data on active provident fund members and labor force from Asher 1992.

Pakistan: The ILO reports that the general scheme covers 675,398 persons in 1989. In the "Costs of Social Security" (1992), Pakistan is reported to have group insurance and benevolent society coverage of public employees schemes of 26,000 in 1986. This number is increased by the population growth rate and added to the general scheme members in 1989. The final total for 1989 is then divided by the World Bank labor force estimate which was 32,558,400 in 1989 (after adjusting for population growth rate for one year). This yields a ratio of 3.5%.

incorporates both the direct effect of aging and the correlated income effect: for the reasons given above, the former is believed to dominate.

The figure shown in Box 4.7 also used the fitted (linear) regression line produced by the relationship between population aging and pension spending. The original regression sample, it should be noted, is based on a sample of country/year observations which do not include post-transition period data for the transition socialist economies. The pre and post-1990 data points shown in Box Figure 4.7 are intended to illustrate two points: First, the international fitted line can be used as a yardstick with which to compare the pension spending levels of these demographically diverse countries. Second, the post-transition points demonstrate the inelasticity of pension spending to dramatic declines in GDP. While some of the data have been revised (see for example, Ukraine), the pattern of inelasticity seems robust.

In generating Figure 1.10, health spending data were taken from Murray, Govindaraj, and Chellaraj (1993) which documented the sources for the 1993 World Development Report, "Investing in Health", to obtain data on national health spending in a large group of countries. The sample is smaller than the one used in the previous two figures because complete and accurate data was available for only sixty-six countries for which pension spending data was also available. In some cases, countries were eliminated by the author because only partial data on health spending were available or the data quality appeared poor. In many cases, the available year for the health spending ratio was different from the year for the pension spending ratio; however, all data for health and pension spending pertained to the 1982-1992 period.

Murray, Govindaraj and Chellaraj (1993) present a variety of regressions which estimate the income elasticity of health spending over a wide cross-section of countries. They also present a survey of the literature on the income elasticity of health spending. Surprisingly, the influence of demographic factors is ignored. Several studies on the demographic determinants of government expenditures have observed a strong correlation between demographic aging and health spending. Other studies show that, not surprisingly, health spending per person tends to rise dramatically by age cohort (eg., Vukovich 1991, Smeeding et.al, 1988). While an extensive analysis of the demographic determinants of public health spending is beyond the scope of this study, the limited evidence suggests that demographic factors may have an independent effect on health spending ratios. The relationship shown in Figure 1.10 begins to illustrate this independent effect.

E. System Dependency Ratios

A key characteristic of a pay-as-you-go pension scheme is the ratio of pensioners to contributors. In a fully mature system with a stable population, the ratio of pensioners to contributors (the "system dependency ratio") should be the same as the ratio of old persons to workers (the "demographic dependency ratio"). The disparity between the two ratios may be taken as a measure of the system's maturity. In an immature system, the system dependency ratio is less than the demographic dependency ratio because few people are usually eligible for benefits. However, several factors complicate this interpretation. First, in many countries, workers evade paying their contributions while old people still may receive benefits. Second, in some countries a high proportion of beneficiaries may not have reached the normal retirement age and may be receiving early retirement disability pensions. This raises the system dependency ratio above levels which would have been experienced if pensions were received only after the normal retirement age. In some countries, like Turkey and Brazil, "length-of-service" pensions are available without regard to the age of the pensioner, depending only on the number of years the worker participated in the scheme.

Along similar lines, a differing composition of the pensioner population may lead the same system dependency ratio to have quite different financial implications in two countries. For example, old people in an immature scheme with fewer years of covered service may receive smaller pensions than will those who retire during the mature stage of the scheme. Also, pensions of orphans, survivors and the disabled may be much lower than old age pensions of fully vested workers. Some countries may pay a higher pension for a married worker than for a single worker while another country might pay "spouses benefits" separately. In the first country, the pension level would be higher but the system dependency ratio would be lower than in the second. One solution to this problem in comparisons of dependency ratios would be to normalize the pensioners in some way so as to create a "standard pensioner equivalent". This adjustment is not made for system dependency rates appearing in Averting the Old Age Crisis.

Figures 4.10 and 4.11 compare the system and demographic dependency ratios over time (for Mexico) and across countries. In 4.10, the system dependency rate of the IMSS and ISSTE schemes is

compared to the ratio of 60+ year olds to 20-59 year olds between 1960 and 1992. The demographic ratio is taken from Mitchell (1983) and interpolated for intermediate years. The maturation process is illustrated as a convergence of the two ratios over time as pension rights are attained by a growing number of retired persons. The actual story is more complicated of course, with labor force coverage and pension eligibility rules changing over time.

Figure 4.11 is somewhat more complicated for several reasons in addition to those already mentioned. While all demographic dependency points refer to 1990, system dependency ratios are based on different years which roughly correspond to those found in the coverage table. It should also be noted that the number of contributors in some of the countries which are outliers on the graph have experienced rapid and dramatic changes in their respective rates of evasion. In Argentina for example, the rate of evasion rose to more than 50% during the late 1980s. In Hungary, the transition from socialism has raised the number of working age disability pensioners while the contributor base declined, the victim of a growing informal labor market. The surprisingly low Swedish figure can be partly attributed to an expensive partial pension program which allows for persons above age 60 to continue to contribute while receiving partial benefits. Italy meanwhile can blame its record high rate on the fact that the average Italian enjoys one of the longest retirements in the industrialized world.

F. Design Features

Definitions and Concepts Appendix Table A.7 "Main Publicly-Mandated Pension Scheme Design Features, 1991" is based on the U.S. Social Security Administration's, "Social Security Programs Throughout the World". The data refer to the parameters of the main pension scheme which covers private employees. In the case of Japan, the retirement age refers to the National Pension. The employment-related pension scheme which is currently maturing has a retirement age of 60 for men and 57 for women. "Normal retirement age" refers to the age at which retirement would normally occur without actuarial reductions for workers in occupations which are not covered by special early retirement rules for hazardous work conditions or other factors. This should not be confused with "effective retirement age", which is the average age at which new pensioners retire.

The column labeled "covered years required for a full pension" may be misleading since the actuarial reduction for retiring before or after this vesting period varies. Vesting for disability or survivors' pensions may also differ from vesting requirements for the old age pension.

The payroll tax for pensions is shown as the percentage of the relevant wage paid to the administering agency by both the employer and the employee as well as the sum of the two rates. In most countries, workers do not perceive or are not shown the employer share of the payroll tax which is deducted before the worker receives her paycheck. To account for the variation in the employee/employer shares of the payroll tax across countries, a fourth column is presented which divides the sum of the two tax rates over the labor costs which are perceived by the employer, namely the wage plus the employer share of the tax.

This column was presented only for illustrative reasons and should be interpreted carefully. The column heading should read "Pension payroll tax/total covered wage plus employer share of tax". The denominator is not total labor cost since it excludes in-kind remuneration, bonuses and other payroll taxes. In China, for example, these represent almost half of the remuneration for the average worker. The use of ceilings and floors as well as exceptions for certain types of wage-like income for the payroll tax means that only part of the wage bill is actually subject to these taxes. This can be especially important when ceilings are set at relatively low levels and when they are fixed in nominal terms during inflationary periods. Some of the more important exceptions and special rules are shown below:

Supplementary Country Notes

India: The 10 percent tax for employer and employee reported in the table applies to firms with more than 50 employees. For these firms it also includes .65 percent for administrative costs which is not shown in the table. In smaller firms, employee and employer pay 8.33 percent each.

Singapore: A floor is set at earnings below Singapore \$200 monthly. The contribution rises to 8 percent of earnings between 200 and 363 dollars and finally to 33.3% of earnings above 200. If earnings are above 363, the rate falls to 23 percent of total earnings with a maximum of S\$1380 plus 23 percent of bonuses. The employer pays nothing for workers with incomes below 50S\$ per month, 12 percent of amounts over 50S\$ up to a maximum of 780S\$ plus 16.5 percent of bonuses.

Egypt: The employee is to pay 14% of the "basic wage", 11% of the "variable wage" while the employer pays 26 and 24 percent of each of these, respectively.

Tunisia: Non-agricultural private sector employees pay 1.25% of earnings while agricultural workers pay 1.75% up to the agricultural minimum wage or multiple thereof or 2.5% of earnings. Farmers pay 5.25% of profits and non-agricultural, self-employed pay 5.25 % of earnings. The employer pays 2.5 percent of payroll for private non-agricultural employees and agricultural workers while paying 3.5% of earnings up to the agricultural minimum wage or multiple thereof or 5% of earnings.

Brazil: Payroll tax for employee rises from 8-10 percent of earnings inversely to three different wage classes. It is 12.5% for employees of financial institutions. The self-employed pay between 10 and 25% depending inversely on wage level and rising over 25 years. The employer pays 20% of payroll plus 1.5% for the 13th monthly salary. Financial sector employers pay 12 percent. Employers in commerce and industry also pay 10 percent of net profits while financial institutions pay 22.5% of net profits.

Finland: Employer pays 2.4 to 4.05 % of payroll for universal pension while employees pay 1.55% of income. For the contribution-related pension, employers pay 13.3% for employees under age 24. Employers with fewer than 50 employees pay 17.2% while those with more pay between 14.5 and 23.3 % according to age and sex of employee. The average for all employers is 16.8%.

Spain: The contribution rate shown in Table A.7 refers is based on the ratio of pension spending to total social security spending. This ratio is multiplied by the total payroll tax reported by the US HHS 1991.

Switzerland: Contribution rate includes 7.5% for employers and employees each for the mandatory occupational scheme. This rate is the reported average but actually varies by age of the worker. The rest of the contribution rate comes from a 4.2% payment from both employers and employees for the main publicly-managed pension scheme with no contribution ceiling (disability excluded). The self-employed pay 7.8%.

United Kingdom: The rate shown assumes a high income worker. The actual rules are that an employee in 1991 paid 2% on the first 46 pounds per week plus 9% on earnings between 46 and 350 pounds (3.85% for certain married women and widows). If contracted out, 2% on first 46 and 7% on earnings between 46 and 350 pounds. Employer pays between 5 and 10.45% according to employees' wage bracket or if contracted out, 5-10.45% on first 46 a week plus 1.2-6.65% on weekly wages between 46 and 350 pounds and 10.45% on all earnings in excess of 350 pounds weekly. However, these contributions also finance sickness, maternity and unemployment benefits and part of the medical services and is thus an overstatement.

A more useful measure of the magnitude of the payroll tax requires a calculation of the marginal tax on labor income taking into account all of these factors and showing this rate for workers at different income levels. This data is available for OECD countries in the recently-published OECD Jobs Study (1995) but are not readily available for other countries. These calculations are beyond the scope of this paper but would be the best measure of the labor market distortions caused by payroll and other taxes.

For the purpose of this table and whenever data were presented on pension system deficits, no distinction was made between planned and unplanned government transfers to the main pension scheme.

Many countries make ad hoc transfers to these schemes, some of which were intended even if not "planned". While payroll taxes provide some idea of the burden borne by labor income, the explicit regulations regarding subsidies from the central budget do not accurately reflect the actual amounts transferred. The following countries make explicit provisions for transfers from the central budget:

Bolivia:	1% of covered earnings
Costa Rica:	0.25% of covered earnings
Cyprus:	3.5% of earnings
Dominican Republic:	2.5% of earnings
Egypt:	1% of earnings
El Salvador:	0.5% of earnings
Guatemala:	2.5% of earnings
Honduras:	1% of earnings
Iran:	3% of earnings
Kuwait:	10% of earnings
Libya:	3.4% of earnings
Luxembourg:	8% of earnings
Malta:	Sum equal to contributions of covered workers
Mexico:	0.3% of earnings
Nicaragua:	0.25% of earnings
Pakistan:	5% of earnings
Paraguay:	1.5% of earnings
Taiwan:	2.8% of earnings of self-employed
Venezuela:	1.5% of earnings

In addition, many countries make explicit provisions for an annual subsidy, including Germany, Switzerland and Belgium. The amount of this subsidy varies over time. Appendix Table A.6 includes all planned and unplanned general revenue funding of the pension plan in the last column under "General Revenues". The last column in Appendix Table A.5 refers only to the employee and employer (including government contributions as employer) payroll tax payments and excludes other government subsidies to arrive at a true measure of the burden of the pension system on the central budget. This distinction is not important, of course, when looking at the consolidated government accounts.

The column on indexation of benefits should also be used with caution and is presented in order to give an impression of the number of schemes which do not use automatic indexation of pensions, despite the fact that inflation insurance is often used to justify government intervention. According to the USSSA publication, many countries claim to adjust pensions "periodically" or by some other method in which the adjustment is left to the discretion of the government. Only countries in which indexation was specifically tied to some objective indicator, such as the average wage or the consumer price index was the scheme considered to be automatically indexed. It is also important to note that different schemes within the same country often use very different indexation methods. No information is presented with regard to the indexation of the wage base to which the pension formula is applied. Incomplete inflation or wage "actualization" of past wages used to calculate the pension can alter the value of the pension award considerably and arbitrarily. Hungary, where inflation has reached 20 percent in recent years, was not "actualizing" the final two years of the wage base used in the benefit calculation at the time of writing. There seems to be a high correlation between schemes which automatically index pensions in progress and those which actualize past wages as, for example, is the case in the US and Switzerland.

Also important are the differences across countries in terms of the frequency of automatic adjustments, the definition of the indicators to which the indices are pegged and the frequency and ease with which the government may have "skipped" or suspended indexation in the past. For example, the United States temporarily suspended its indexation provisions in 1984. In Brazil, the lags in indexation and delays in payment had a major effect on the value of pensions during periods of very high inflation. Experience with these data has shown that the best measure of the indexation of a particular scheme is to follow the changes in the real value of a pension over time rather than to assume that indexation is performing its intended function.

Finally, the last column in the table classifies the main type of benefit paid by each program as contribution related (CR), universal flat (UF), means-tested (MT), provident fund (PF), or defined contribution (DC). "Main benefit" is defined as the benefit type which comprises the highest percentage of pension spending in a country. The main benefit can change over time if for example, an earnings-related scheme begins to mature and spending on a means-tested or universal flat schemes stays relatively constant or falls.

The contribution-related benefits include schemes which pay a defined benefit based on past contribution history. Some of these defined-benefit formulas link the value of the past contributions to the benefit while others link only the number of contribution years. In other words, benefits in the CR category range from being very closely linked to past earnings to being completely unrelated to past earnings. The universal flat (UF) is defined as a benefit which is paid to anyone above a certain age who has met citizenship requirement. This does not provide any information on the level, pre and post tax, of the UF pension. One caveat about the means-tested (MT) pension is that a universal flat tax with a clawback can result in the same net benefit distribution as an extensive means-tested program.

Provident funds (PF) in this book refer to the publicly-managed defined contribution schemes which can be found in parts of Asia and Africa. A major distinction from the privately managed, defined-contribution (DC) schemes found in Chile is that the interest rate credited to PF members' is usually a rate chosen by the government rather than the rate of return to the fund. Another feature of many provident funds is the payment of a lump-sum upon retirement, instead of an annuity, so longevity insurance is not provided.

Supplementary Notes for Table 7.

Japan: The employee share for Japan should have read 9.6 % of covered wage which was made up of 7.25% for the employees' pension insurance and 2.3 percent (based on the ratio of the flat payment to the average wage) for the National Pension. The employer share should read 7.25%. The contribution for the employees' pension scheme is only 7.075% for women. The rates for both men and women vary by 30 different wage classes. The rate for contracting out is 5.65% for men and 5.575% for women.

United Kingdom: The contribution rate shown in Appendix Table A.7 overstates the payroll tax for pensions since it is also used to finance unemployment, sickness and maternity benefits and part of the medical costs.

Estonia: Personal communication indicate that at no time were pensions indexed to prices. When indexation did take place, it was to the minimum net wage and not to prices.

Poland: Pensions in progress are indexed (although not fully) to wages not prices as stated in the table.

Netherlands: The main public scheme (GOAPA) could be classified as universal flat scheme.

Bolivia: The total payroll tax for pensions is actually about 15 percent when the mandatory "Fondos Complementarios" are included.

In addition, the payroll tax rates found in Appendix Table A.7 of the book include several errors which are described in Section II of this annex. In addition, footnote (a) on page 368, should read "Total labor cost is defined here as taxable wages plus employer share of payroll tax for pensions" and on the same page, footnote *d* should read, "The pension payroll tax for France and Switzerland includes mandatory occupational schemes."

Since publication of the study, the USSSA has published data for 1993 which are not included in the STARS data diskette. Preliminary analysis suggest that payroll tax rates rose in at least 28 countries between 1991 and 1993, continuing the trend over the last several decades. Data for the payroll tax for pensions for 1961 and 1981 also appear in STARS for many countries.

Section III Privately-Managed Pension Schemes

This section reviews data related to privately-managed pension coverage which appear in various parts of the report but are concentrated in Chapters 5 and 6. For much of the data used in these chapters, the reader should refer to the cited sources for more information. For example, the methodology and sources for the investment portfolios and simulated rates of return to occupational pension schemes in the OECD which appear in Chapter 5 are explained in Davis (1993).

A. Coverage in Privately-Managed Occupational Pension Schemes

Table 5.1 presents occupational pension coverage data from a variety of sources. For the most part, occupational pensions for state or state enterprise employees which are operated as supplementary pension schemes over and above the main national scheme are included in these statistics. For example, about half of workers covered by occupational schemes in Brazil work for state enterprises. Another example is found in the second column where the Luxembourg Income Study data on the percentage of persons over 65 receiving occupational pensions includes supplementary pensions of public employees. In other words, some occupational pension schemes are publicly-managed.

Many of the conceptual issues regarding coverage rates mentioned in Section II apply to occupational pension schemes as well. For example, strict comparisons of pension coverage should take into account differences in the quality of the pensions being provided by employers in each country. Also, alternative concepts of pension coverage, such as the percentage of the wage bill covered by occupational and/or privately-managed pension schemes can be used to make cross-country comparisons.

Note that in Switzerland, while coverage is mandatory, it is not quite universal since certain workers below age 25 and of low income are exempted from the mandate, resulting in the 92 percent coverage rate shown. In Australia, where occupational pension provision was made mandatory in 1993, coverage is expected to have risen significantly since the mid-1980s figure which is presented in the table.

Unfortunately, data on the actual number of contributors and pensioners of occupational schemes were not available for most of the OECD countries shown in Table 5.1. Instead, estimated coverage rates were taken from the OECD report entitled Private Pensions and Public Policy, Paris, 1992, which present the figure as an estimated ratio. Other estimates were made by dividing the reported number of contributors and pensioners by the labor force and population over 65, respectively. For Australia, Canada, the Netherlands and the United States, column 2 data refer to the percentage of households headed by persons older than 65+ receiving occupational pensions taken directly from tables produced by Deborah Mitchell using Luxembourg Income Study data for the mid-1980s. These tables are included here as Annex Appendix III of this document.

B. Assets and Investment Returns of Occupational Schemes and the Chilean AFP System

Assets and Portfolio Allocations. Occupational pension scheme assets, including those managed by private insurance firms, are shown in Table 5.1 and 5.2. For Table 5.1, all figures in column (3) are taken from Davis (1994) and not from Davis (1993) as stated in the footnote. In some cases, such as the US, pension plans for state and local employees are included. Assets for South Africa are taken from South Africa (1992). For Brazil, data were obtained from an unpublished World Bank report from the Latin America and Caribbean Department (LAC) under the supervision of Cheikh Kane. As explained in the notes to Table 5.2, data on the share of pension fund assets managed by insurance firms are assumed

to have remained constant throughout the period and estimates are based on data available only for 1991 in Davis (1994). As noted in the table, book reserves are not included in the asset totals. The U.S. figures were adapted from Brankato (1994).

A recent study by Helmut Reisen of the OECD Development Centre provides another set of data on private pension fund assets in the OECD for 1992 which is reported in Annex Table 7 below. Portfolio allocation by different investment type are presented in Figures 5.1 and Table A.12 and are taken from Davis (1993).

For the Chilean AFP system, total asset data were taken from Acuña and Iglesias (1992) for years before 1991. For example, Figure 6.1 uses this source in the denominator of the ratio of administrative costs to total assets through 1990. Assets for 1991 are taken from Valdes-Prieto (1993) and from Abuhadba (1994) for 1992. Assets of Chilean AFPs by size are used in the denominator of Issue Brief figure 5.2 and are adapted from Abuhadba (1994). Further explanations of these figures are given below in Section III.C.

Annex Table 7 Private Pension Fund Assets Selected Countries, 1992

Country	Total (US\$ billions)	Share of GDP
United States	2265	38.5
Japan	362	9.8
United Kingdom	544	52.2
Netherlands	147	45.9
Canada	108	19.2
Switzerland	125	51.9
Germany	85	4.8
Sweden	-	-
Australia	24	11.8
Denmark	21	14.7
Ireland	-	32.8*
Italy	-	0.9*
Norway	4	3.5
Spain	-	0.9*
Belgium	-	0.2*
Portugal	-	2.4*

Source: Reisen 1994

* Includes some publicly-managed funds

Investment Returns of Occupational and Personal Savings Plans. Tables 3.7, 5.3, and Issue Brief Table 2.3 report rates of return on occupational pension fund investments in various OECD countries as reported and elaborated upon in Davis (1993). For the purposes of this report, the annual rates of return which were used to calculate the simple annual averages which appear in Table 3.7 and Issue Brief Table 2.3 were taken from Davis (1993) and appear below in Annex Table 8. The period averages which appear in Table 5.3 are compounded rates of return after inflation.

All data on OECD occupational plan rates of return from Davis are simulation results which, as explained in the note to Figure 5.3, are produced by applying the known rates of return to various asset categories to the known portfolio allocation of the aggregate pension fund investments in each country. The portfolio allocation of the pension sector of each country is known for each year as are the rates of return for each type of investment, but in most cases data on actual rates of return to occupational pension plans are not available.

Annex Table 8 Real Annual Rates of Return to Occupational Pension Funds; Selected OECD Countries, 1967-1990

Year	U.S.	Canada	Germany	Denmark	Sweden	Netherlands	Switzerland	U.K.	Japan
1967	1.7	-3.0	7.9	-2.9	8.8	-	-	19.4	-2.9
1968	-1.9	-4.8	6.1	10.3	5.1	5.1	-	17.3	-5.7
1969	-8.6	-3.8	5.5	-10.1	-10.1	-1.5	-	-12.8	5.2
1970	-12.8	-1.6	0.3	-4.7	1.1	1.6	0.2	-	3.8
1971	14.8	13.2	5.4	8.6	2.7	-1.2	4.7	15.7	5.6
1972	8.9	5.4	3.3	8.3	1.0	6.5	0.8	9.6	12.5
1973	-4.5	-3.1	0.3	-15.5	0.6	-8.1	-8.1	-11.3	-6.3
1974	-21.2	-18.3	1.0	-14.8	-12.0	-4.6	-11.0	-36.4	-15.8
1975	-1.9	-3.1	6.6	7.1	-9.6	0.3	7.8	36.4	1.7
1976	11.0	0.3	4.1	-5.6	-4.3	-2.3	11.2	-7.9	-1.5
1977	-0.2	4.1	8.4	-0.7	-1.9	1.5	9.3	27.9	9.6
1978	-6.0	-1.3	5.9	4.4	-2.1	4.4	11.7	4.7	4.0
1979	-5.7	-1.2	-2.8	5.4	-3.1	5.4	-7.6	1.3	-15.0
1980	-8.3	-7.0	0.8	0.8	-15.1	0.9	-4.3	2.3	-3.2
1981	-6.4	-12.7	-0.2	15.9	-2.3	4.0	-8.1	-1.9	12.3
1982	3.5	-0.8	8.3	12.4	4.9	10.2	7.2	17.4	7.2
1983	26.0	25.8	11.6	28.4	11.2	11.8	3.3	17.4	11.2
1984	0.8	1.7	6.9	-2.9	4.0	11.5	0.8	15.0	12.3
1985	18.2	16.4	12.0	34.6	1.7	14.9	11.1	15.2	11.4
1986	27.6	15.9	14.7	-9.0	17.8	11.3	6.6	19.0	19.8
1987	8.9	7.2	5.3	5.5	3.1	3.4	0.1	12.1	16.6
1988	-3.1	-0.5	-1.4	-	8.8	11.0	7.6	0.9	5.0
1989	14.2	8.9	8.4	-	-7.0	7.5	-9.8	17.2	-
1990	2.9	-	4.7	-	0.7	-1.6	-4.3	-6.7	-

There are several problems with this methodology if the objective is to present an accurate picture of privately-managed pension investment performance. First, to the extent that the pension fund sector underperformed or outperformed the indices of each type of investment, the figures will differ from the true performance of the sector. This problem takes on added importance if differences between the pension regulations or other institutional conditions in the different countries would have systematically led to underperformance in some cases. Another problem stems from the lack of data on administrative costs of the system which reduce the net returns experienced by the pension funds. The crude assumption in Figure 3.7, in which occupational returns are reduced by one percentage point in order to account for administrative costs, is considered conservative based on available information. For example, the average defined benefit, occupational pension fund (weighted by assets) in the United States in 1989 was found to have administrative costs of around 7 to 8 basis points (.7-.8% of assets) in the Form 5500 Annual Report published in 1993 by the U.S. Labor Department. Only general statements about rates of return can be made on the basis of these data and without taking into account significant differences which may exist between pension funds with larger or smaller asset bases, of multi-employer versus single employer funds and other important features. For example, if there are economies of scale in the pension industry and the average pension fund is smaller in one country than in another, these crude assumptions may lead to an underestimate of the relative net returns in the country with the larger schemes.

Rates of return in Chile are shown in several graphs in the report and are discussed in the text. In Figure 3.7 on page 95, the rate of return between 1981 and 1990 after commissions and fees is shown for a worker with an income of UF 10 or about 210 US dollars in 1990. This figure is taken directly from Table 29, page 91 of the extensive description of the Chilean system found in Chile: Experiencia con un Regimen de Capitalizacion 1981-1991, by Acuna and Iglesias published by CEPAL in 1992. On page 224, a slightly different version of the Chilean rates of return during this period are presented in Table 6.4. This table should have included Acuna and Iglesias as a source. The range of 7.5 - 10.5 percent given in the table refer to calculations by Acuna and Iglesias which show that lower income workers received lower rates of return during this period than did higher income workers due to flat rate commissions. This analysis can be found on 101-102 of Acuna and Iglesias (1992). The authors also show that the disparity between returns to higher and lower income workers tended to decline and

practically disappeared by the end of the period, due in part to AFP decisions to eliminate flat rate commissions.

Due to the lack of a long time series, data from several other countries were not included in the report but tend to support its conclusions vis a vis private vs public management. Brazilian rates of return for private occupational pension schemes were reported in World Bank (1994a) at 10.6% in real terms between 1986 and 1990. Rates of return in Peru's scheme ranged from 8-10 percent in real terms in its first year of operation according to data provided by the Superintendency of Pensions in Lima. AFPs operating on a voluntary basis in Costa Rica in the early 1990s reported similar rates of return.

C. Administrative Costs

Data on administrative costs of privately-managed schemes and occupational pension schemes (including public or quasi-public schemes) were not available except in the case of the United States and Chile. For the U.S., occupational plan costs which appear in Figure 5.2 in Issue Brief 5, data were taken from Turner and Beller (1989) which in turn are based on Labor Department survey data. While the figure shows that costs/assets are lower the greater the assets of the plan, other factors not shown here may also influence this indicator. For example, other things constant, defined-contribution plans seem to have a cost advantage over defined-benefit plans, especially small plans, as the latter require complex actuarial calculations as a fixed cost.

Administrative costs in the reformed Chilean AFP system are currently the subject of much controversy in the field of pension economics. Data on AFP administrative costs and the components of these costs are analyzed in great detail in Acuna and Iglesias (1992), Valdes-Prieto (1994) and Abuhadba (1994). Some of the conceptual issues involved in comparisons of the Chilean system with public systems are discussed in James and Palacios (1995).

Section IV Other Data

A. Informal Arrangements

Estimated Reliance on Informal Systems of Old Age Support. The introduction to Chapter 2 refers to estimates of reliance on informal systems for old age support. The statement suggests that roughly 60 percent of the world's labor force and 70 percent of the world's old people do not participate in formal pension systems. This estimate is also mentioned in the introductory chapter in endnote 3. While the detailed estimates are presented in Palacios (1996), the general approach was as follows:

First, coverage data (see "Coverage" section above) were gathered for more than 50 countries for years ranging from 1985 to 1992. The relationship between coverage and income per capita measured in PPP dollars in 1990 from the 1992 World Development Report (table 30) was estimated based on a series of regressions. The bivariate regression which exhibited the best fit is the quadratic equation described in figure 1.7 in Chapter 1 (page 40). Further evidence and discussion of the determinants of pension coverage can be found in Palacios (1996).

Second, data on the size of the labor force in 1990 were taken from the 1992 "Social Indicators of Development". For countries where labor force coverage was not known, the coefficients from equation A.1 were applied to the known income per capita for countries where these data were available. This resulted in estimates of coverage rates which were then multiplied by the labor force figures to arrive at an estimate of the number of covered workers in each country. These covered workers were summed for all countries and the estimated total number of covered workers was divided by the total world labor force to arrive at a global coverage rate. Those not covered by the formal system were assumed to depend on informal arrangements. This implies that workers not participating in the formal contributory schemes run by the public sector are also not covered by privately-managed occupational pension plans or personal retirement savings plans. In general, it seems that those covered by privately-managed schemes are also likely to be covered by the main public scheme but that those outside the public scheme are generally not participating in privately-managed plans.

For the percentage of the population over 60 receiving some public sector pension (including means-tested and universal flat), the known pensioner population was divided by the population over 60 in a subset of countries where data were available. This ratio was regressed on labor force coverage where data for both concepts were available. This ratio tended to be slightly lower than the labor force coverage rate due to the immaturity of many schemes, although some countries exhibited ratios greater than one due to early retirement or below 60 retirement ages. The resulting coefficients were applied to the predicted coverage rates for each country to produce the predicted percentage of persons over 60 receiving pensions. These figures were multiplied by the number of persons over 60 in each country in 1990, summed and divided by the total world population over 60 in the same year. The estimates have the advantage of including known coverage data for approximately three-fourths of the world's population, including China, India, Pakistan, Bangladesh, Indonesia, the Former Soviet Union, the United States and most of Europe and Latin America. Nevertheless, there is no attempt in the book to draw more than impressionistic conclusions based on these data and the global figures mentioned should be considered rough estimates. It is also important to note that coverage rates vary year to year and are currently falling in many of the transition economies of Eastern Europe and the FSU and other countries witnessing an increase in the informal sector and a reduction of the state's role as employer.

Sources of Income. Table 2.3 on page 63, refers to the sources of income of old people in low, middle and high income countries. The income divisions used here conform to the categories applied in the World Development Report 1992. Most of the data were derived from surveys including the Luxembourg Income Study which was the source of information for the industrial countries. The citation given in the book refers to a mimeograph paper by Dr. Deborah Mitchell who produced a series of tables related to the income of household heads aged 65 or more based on LIS data from the middle and late 1980s. This citation also applies to Figure 7.1 on page 250 which omits any mention of the group whose non-wage income shares are being described. The most recent LIS data is sometimes referred to as "Wave 2" data as opposed to an earlier survey in the late 1970s-early 1980s. Appendix III presents some of Mitchell's results. Mitchell's summary of income sources for the elderly by country are presented in Appendix III of this Annex.

A series of country surveys entitled, "Profiles of the Elderly" conducted by the Pan American Health Organization covering Argentina, Chile, Costa Rica, and Trinidad and Tobago were also used. These survey were conducted in 1984 with the exception of the Argentina survey which was conducted between 1985 and 1986. Each report describes a methodological description as well as the text of the survey itself.

Other sources are listed in the table. Data for Bulgaria was taken from Petrov and Minev (1989) while data for Hungary was taken from Vukovich (1991). Given the variation in time period, sample size and survey design, the table should be interpreted with caution. While the question as to whether any income had been derived from a specific source is relatively straightforward, the yes/no answer hides major differences in the levels and proportions of income which come from each source. Unfortunately, comparable data on the importance of each income source in total income were not readily available for a large group of countries.

Living Arrangements of Older Persons Table 2.4 on page 64 presents data on the living arrangements of the old in a range of low, middle and high income countries, again applying the divisions employed in the "World Development Report", 1992. Data for Argentina, Chile, Panama, Honduras and Uruguay were taken from Keller (1994) which is discussed in Section D below. Costa Rica, Guyana and Trinidad and Tobago are adapted from information in the Pan American Health Organization's "Profile of the Elderly" series described above. The other sources are listed in the table.

The column labelled, "with children or family" includes single or married persons living with children or other family members. "Other" includes persons living with only their spouse, institutionalized persons and those living with unrelated persons. Again, caution should be taken when using these data given the diversity of sample and design of the surveys from which each of these observations were taken.

B. Labor Force Participation

Issue Brief Table 8.1 describes changes in the labor force participation (LFP) of males aged 55 or more over in 38 countries between the first half of the 1960s and the latter half of the 1980s with the

exception of Denmark and Switzerland (1960-80), Hong Kong (1971-91), Venezuela (1961-81) and Trinidad and Tobago (1970-90). The STARS data diskette provides additional data for other countries which do not appear in the book.

Male LFPs were used because female LFP ratios tend to rise with income per capita levels, adding a dimension to the trends not found in the male ratios. In fact, these trends are important for the finances of the pension system since they can increase the contributor base even when the working age population remains relatively constant. The complicated financial and distributional implications of these long-term changes are not discussed in the book but warrant further research.

With the exception of LFP rates for Uruguay, which are taken from U.S. Bureau of the Census (1993) all data were calculated using the International Labor Office's "Yearbook of Labor Statistics" for several different years. The methodology and sources for individual country data are included in that publication. The "change" columns refer to the absolute percentage point change between LFP in the earlier and later periods. The decline of LFP among males over 55 years of age is well documented, especially in the industrialized world, but little empirical evidence exists as to the role of public pension schemes on this trend.

C. Duration of Retirement

Figure 4.5 and Appendix Table A.10 present data on the expected duration of retirement at official retirement age in several countries by income per capita groupings using the Purchasing Power Parity definition from Table 30 of the 1992 World Development Report. This indicator is based on life expectancies at retirement age and therefore apply only to those who survive to the official retirement age. The life expectancy data are mostly taken from the 1990 UN Demographic Yearbook (1992) and are based on country studies for years ranging from 1978 to 1990.

The actual expected duration of retirement is actually higher in almost all of these countries because the average effective retirement age is lower than the official retirement age. Different policies regarding early retirement across countries would lead to different results but data on the effective

retirement age are not readily available. Anecdotal evidence suggests that the incidence of early retirement is higher in developing and transition economies.

Another problem with this measure arises from the use of life expectancy at the official retirement age based on the mortality experience of the entire population of a country. Because coverage is low in poorer countries, and because covered workers tend to have higher incomes and better access to health services, the life expectancy figures used here will tend to underestimate retirement duration in many countries. Furthermore, this bias will be greater the poorer the country and the lower the coverage. The implication is that retirement duration in poor countries is even higher than that presented.

D. Poverty Indicators

Figures 3.1 and 3.2 compare poverty rates among different types of individuals in five Latin American countries and eight industrialized countries. Data for Figure 3.1 are based on an unpublished mimeograph commissioned for the report and written by World Bank consultant, Jennifer Keller. The data were obtained from country surveys which are fully described in "Poverty and Income Distribution in Latin America" by Psachoropoulos et. al. 1993. The five countries were chosen from the 13 included in that study because of their comprehensive income definitions (including pension income) and national representative samples.

According to Keller's calculations, the total income of each household was calculated by adding the total incomes of all related household members. Income per household member was calculated by dividing the total household income by the number of members with the following equivalency weights: 1) Adults were counted as 1, 2) children between 6 and 14 years of age were counted as .45 and 3) children under 5 were given an equivalency weight of .25. This method was consistent with the method employed by Deaton and Paxson (1991) which looked at demographic consumption patterns in Thailand and Cote d'Ivoire.

No adjustment was made to account for possible economies of scale within households which might affect the results if large households also tended to be young households. However, the

equivalency adjustments were considered conservative and would bias the results towards showing lower poverty rates for households with many children.

Relative poverty lines were calculated by determining the median per capita household income (weighted by individuals, not households) in the population and multiplying this figure by 0.5. The number of children or old persons living in households with incomes per capita below this figure were classified as relatively poor (i.e., they were below 50% of the median per capita income line) and as absolutely poor (below 35% of the median per capita income line). The percentages of each demographic group falling into this category are reported in Figure 3.1. Some of the analysis extended to urban/rural differences, male/female differences, poverty among working age persons and the very old and income distribution by demographic group. Appendix IV presents some of these results.

Figure 3.2 was based on Smeeding (1992). In this case, the relative poverty line chosen was 40 percent of adjusted family income after tax and transfers. The adjustments include family size adjustments based on the U.S. poverty line equivalence scale which takes into account both economies of scale and age of members. Smeeding's data come from the Luxembourg Income Study (LIS) which is an ongoing attempt to produce an internationally comparable data set on incomes across industrialized countries.

E. Wage growth

Appendix Table A.3 and Issue Brief Table 2.2, 2.3 and 2.4 present data on real earnings growth for a large range of countries. Real wage growth data refer to wage and salary earnings and therefore exclude large segments of the labor force in lower income countries. In many cases the data refer to non-agricultural wage labor or even to manufacturing or other sub-sectors of the labor force receiving wage income. The types of workers to which the data refer vary across countries.

The main source of wage growth data used in Table A.3 and Issue Brief Tables 2.2 and 2.4 was the UNIDO database which is kept in the World Bank computer data files. The annual wage bill and number of workers covered are provided by UNIDO. Dividing the wage bill by the number of workers

yields the average wage which is then adjusted for inflation by deflating the wage by the consumer price indices taken from the IMF International Finance Statistics Yearbook. With the exception of France for which the wage index presented in the IMF IFS Yearbook was used, wage growth in Issue Brief Table 2.4 was taken from Davis (1993) The compound rate of wage growth is computed by applying the yearly rates to an index over the period and then solving for the average annual growth rate which would have produced this result.

F. Real rates of Return to Capital and Education

These rates of return were presented in Issue Brief 2 and were intended to illustrate possible alternatives to an investment in a pay-as-you-go pension system. Real rates of return to equities presented in Issue Brief Table 2.4 were calculated using annual indices provided by the International Finance Corporation (IFC). The annual index changes are based on total returns in US dollars. These nominal returns were calculated and adjusted for inflation using the U.S. consumer price index from the IMF IFS Statistical Yearbook. Annex Table 9 below, shows these annual real rates of returns along with simple and compounded average returns over the period.

Annex Table 9 Total Real Annual Returns in U.S. Dollars for Selected Stock Market Indices

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Argentina	428.0%	-55.2%	149.1%	216.9%	-21.1%	-57.8%	-63.4%	43.5%	-21.7%	69.0%	-27.8%	5.8%	33.5%	163.2%	-39.8%	376.5%	-28.6%
Brazil	-5.4%	-17.4%	-24.1%	-36.9%	-14.7%	22.0%	-18.8%	49.5%	47.1%	87.6%	-26.0%	-64.4%	117.0%	33.5%	-67.4%	159.3%	-2.6%
Chile	96.0%	121.4%	39.8%	107.0%	59.9%	-47.5%	-57.3%	-33.7%	-26.8%	44.2%	150.0%	25.5%	31.8%	44.3%	33.3%	89.9%	12.8%
Colombia	-	-	-	-	-	-	-	-	-	-14.3%	145.4%	72.1%	-15.6%	7.0%	30.4%	179.4%	35.1%
Greece	-	27.3%	-4.6%	-19.1%	-36.5%	-37.1%	-6.0%	-54.8%	-18.2%	-0.1%	49.4%	143.1%	-40.0%	71.9%	93.7%	-22.6%	-29.1%
India	23.1%	4.5%	27.9%	5.2%	20.9%	17.4%	-8.1%	-1.7%	-6.8%	98.1%	-4.7%	-18.6%	32.1%	-0.5%	12.7%	13.5%	19.3%
Indonesia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-5.6%	-44.7%	-0.1%
Jordan	-	-	-	20.8%	5.9%	38.0%	-7.0%	-10.0%	-15.9%	43.4%	-5.3%	-8.0%	-13.6%	-5.6%	-1.1%	10.4%	21.1%
Korea	57.2%	65.1%	26.0%	-31.4%	-45.4%	26.2%	-3.4%	-7.4%	14.7%	33.4%	82.4%	31.6%	104.7%	2.1%	-29.2%	-19.3%	0.5%
Malaysia	-	-	-	-	-	-	-	-	-	-17.2%	9.8%	-2.7%	22.8%	37.4%	-15.7%	7.5%	24.2%
Mexico	-27.5%	17.9%	92.0%	53.6%	-10.1%	-51.2%	-76.4%	95.8%	1.6%	14.3%	93.5%	-8.2%	100.3%	65.4%	23.1%	98.3%	17.6%
Nigeria	-	-	-	-	-	-	-	-	-	1.4%	-57.5%	-16.3%	3.0%	15.6%	33.4%	32.2%	-36.8%
Pakistan	-	-	-	-	-	-	-	-	-	14.3%	18.5%	2.8%	9.4%	1.5%	5.4%	160.9%	-20.8%
Philippines	-	-	-	-	-	-	-	-	-	41.5%	373.6%	46.8%	32.8%	52.2%	-56.2%	52.4%	14.9%
Portugal	-	-	-	-	-	-	-	-	-	-	-	212.5%	-31.1%	33.6%	-33.4%	-2.5%	-21.8%
Taiwan,China	-	-	-	-	-	-	-	-	-	6.7%	46.5%	112.9%	85.9%	90.8%	-53.4%	-4.7%	-28.8%
Thailand	2.5%	123.8%	18.4%	-39.1%	-17.9%	-24.1%	23.6%	17.9%	-5.5%	-3.3%	71.5%	32.5%	35.3%	91.6%	-24.8%	14.3%	36.2%
Turkey	-	-	-	-	-	-	-	-	-	-	-	249.1%	-62.6%	474.6%	-7.7%	-44.2%	-54.1%
Venezuela	-	-	-	-	-	-	-	-	-	-29.1%	54.4%	47.1%	-27.1%	-36.2%	565.8%	38.7%	-44.0%
Zimbabwe	-23.9%	-9.4%	-23.3%	113.0%	20.0%	-66.5%	-46.1%	-13.8%	-10.4%	145.2%	16.2%	87.7%	20.2%	34.3%	85.0%	-54.3%	-60.9%

Source: IFC 1994; author's calculations.

References to Maddison (1987) and Siegel (1992) regarding long-term real returns to capital and labor are made in Issues Brief 2. Annex Table 10 is an adaptation of data from those two sources. It illustrates that for selected OECD countries, 1950-1973 was a period of atypically high productivity growth, and over the long run the rate of return on long term bonds has exceeded the rate of wage growth in the US and the UK. Rates of return to U.S. stocks and bonds shown in Issue Brief Figure 9.1 are taken from Ibbotson and Sinquefeld (1989) and represent real total returns.

Annex Table 10 Growth in Labor Productivity (GDP per hour Worked) and Returns to Capital, 1870-1984
(average annual compound growth rates)

	1870-1913	1870-1950	1950-1973	1973-1984	1870-1984	Real Returns to Long-term bonds 1800-1990
France	1.7	2.0	5.1	3.4	2.6	-
Germany	1.9	1.0	6.0	3.0	2.5	-
Japan	1.8	1.7	7.7	3.2	3.1	-
Netherlands	1.2	1.7	4.4	1.9	2.1	-
United Kingdom	1.2	1.6	3.2	2.4	1.8	2.7
United States	2.0	2.4	2.5	1.0	2.1	3.4

Sources: Maddison, A. "Growth and Slowdown in Advanced Capitalist Economies: Techniques of Quantitative Assessment, *Journal of Economic Literature*, Vol. XXV, June 1987, pp. 649-698; Siegel, Jeremy "The Real Rate of Interest from 1800-1990: A Study of the U.S. and U.K"., *Journal of Monetary Economics* 29, 1992, pp. 227-252.

Rates of return per year of education appear in Issue Brief 2 and are Mincerian rates of return (MRR) taken from Psacharopoulos (1993) for each country or region. Regional returns to secondary and higher education are taken from the same source. This study was a review of scores of empirical studies of returns to education. For the individual country returns shown in Issue Brief Table 2.4, Table 11 shows the original sources of the Mincerian rates of return along with the year corresponding to the data used in each study:

Annex Table 11 Mincerian Rates of Return for Selected Countries, by Source

Country	Year	MRR (%)	Source
Argentina	1989	10.3	Psacharopoulos and Ng (1992)
Chile	1989	12.0	Psacharopoulos and Ng (1992)
Colombia	1989	14.0	Psacharopoulos and Ng (1992)
India	1980	4.9	Rao and Datta (1989), p.377
Korea	1986	10.6	Ryo (1988), p.270
Malaysia	1979	9.4	Chapman and Harding (1985), p. 366
Mexico	1984	14.1	Psacharopoulos and Ng (1992)
Pakistan	1979	9.7	Shabbir (1991), p.12
Philippines	1988	8.0	Hossain and Psacharopoulos (1992)
Taiwan	1972	6.0	Psacharopoulos (1985)
Thailand	1971	11.9	Psacharopoulos (1985)
Venezuela	1989	8.4	Psacharopoulos and Ng (1992)

Appendix I Demographic Tables

Appendix I.A.1 Historical Demographic Data, Argentina 1895-1970

Year	1895	1914	1947	1960	1970
Population aged 15 to 64/ population over 65 years old	28.71	25.78	16.63	11.25	9.14
Population aged 20 to 59/ population over 60 years old	12.77	11.68	8.02	5.80	4.73
Percentage of population over 60 years old	3.61	4.01	6.54	8.92	10.78
Percentage of population under 15 years old	40.33	38.43	30.73	30.71	29.30
Women over 60 years old/ Men over 60 years old	1.03	0.93	0.97	1.06	1.15

Ratios calculated using data found in Mitchell, B. R. 1983 "International Historical Statistics: The Americas and Australasia".

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Appendix I.A.2 Historical Demographic Data, Australia 1891-1971

Year	1891	1901	1911	1921	1933	1947	1954	1961	1971
Population aged 15 to 64/ population over 65 years old	21.45	15.24	15.00	14.40	10.21	8.31	7.62	7.19	7.53
Population aged 20 to 59/ population over 60 years old	9.56	7.84	8.07	6.93	5.37	4.45	4.19	4.03	4.09
Percentage of population over 60 years old	5.05	6.17	6.38	7.51	9.92	12.22	12.50	12.33	12.28
Percentage of population under 15 years old	36.97	35.09	31.59	31.75	27.48	25.05	28.54	30.23	28.77
Women over 60 years old/ Men over 60 years old	0.70	0.78	0.88	0.92	0.99	1.12	1.18	1.25	1.27

Ratios calculated using data found in Mitchell, B. R. 1983 "International Historical Statistics: The Americas and Australasia".

Appendix I.A.3 Historical Demographic Data, Belgium 1846-1981

Year	1846	1856	1866	1880	1890	1900
Population aged 15 to 64/ population over 65 years old	10.51	11.37	9.79	9.31	9.44	10.11
Population aged 20 to 59/ population over 60 years old	5.56	5.85	4.99	4.86	4.91	5.23
Percentage of population over 60 years old	8.94	8.79	9.95	9.78	9.72	9.44
Percentage of population under 15 years old	32.33	30.3	31.64	33.5	32.78	31.6
Women over 60 years old/ Men over 60 years old	1.16	1.19	1.09	1.09	1.11	1.13
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Year	1910	1920	1930	1947	1961	1981
Population aged 15 to 64/ population over 65 years old	9.88	10.55	9.15	6.49	5.23	4.57
Population aged 20 to 59/ population over 60 years old	5.36	5.42	4.84	3.61	2.88	2.88
Percentage of population over 60 years old	9.44	10.2	11.80	15.54	17.93	18.52
Percentage of population under 15 years old	30.63	25.00	22.99	20.61	23.84	20.02
Women over 60 years old/ Men over 60 years old	1.17	1.20	1.16	1.18	1.30	1.43

Ratios calculated using data found in Mitchell, B. R. 1990 "International Historical Statistics: Europe 1750-1988".

Appendix I.A.4 Historical Demographic Data, Brazil 1872-1970

Year	1872	1890	1900	1920	1940	1950	1960	1970
Population aged 15 to 64/ population over 65 years old	7.78	12.91	16.17	13.17	23.01	22.75	20.10	17.40
Population aged 20 to 59/ population over 60 years old	6.39	10.83	12.85	9.76	10.47	10.17	8.94	8.24
Percentage of population over 60 years old	7.63	4.41	3.24	4.04	4.06	4.25	4.73	5.07
Percentage of population under 15 years old	32.97	38.63	44.34	42.78	42.54	41.86	42.75	42.10
Women over 60 years old/ Men over 60 years old	0.90	-	0.94	1.03	1.13	1.09	1.00	1.05

Ratios calculated using data found in Mitchell, B. R. 1983 "International Historical Statistics: The Americas and Australasia".

Appendix I.A.5 Historical Demographic Data, Bulgaria 1888-1985

Year	1888	1900	1910	1926	1946	1965	1985
Population aged 15 to 64/ population over 65 years old	8.40	10.66	10.46	11.01	11.37	7.84	5.92
Population aged 20 to 59/ population over 60 years old	4.56	4.82	5.08	5.64	5.49	4.10	3.08
Percentage of population over 60 years old	9.02	8.39	8.30	8.14	9.59	13.25	17.78
Percentage of population under 15 years old	41.45	40.21	39.76	34.93	27.88	23.85	20.83
Women over 60 years old/ Men over 60 years old	0.96	0.88	0.88	0.97	1.11	1.15	1.16

Ratios calculated using data found in Mitchell, B. R. 1990 "International Historical Statistics: Europe 1750-1988".

Appendix I.A.6 Historical Demographic Data, Canada 1851-1971

Year	1851	1861	1871	1881	1891	1901	1911
Population aged 15 to 64/ population over 65 years old	19.65	17.93	14.97	14.04	13.04	12.00	13.46
Population aged 20 to 59/ population over 60 years old	9.65	8.50	7.56	6.87	6.51	6.16	7.08
Percentage of population over 60 years old	4.10	4.84	5.52	6.37	7.04	7.70	7.11
Percentage of population under 15 years old	44.93	42.50	41.60	38.74	36.36	34.82	32.98
Women over 60 years old/ Men over 60 years old	0.85	0.81	0.82	0.89	0.91	0.94	0.93

Year	1921	1931	1941	1951	1961	1971
Population aged 15 to 64/ population over 65 years old	12.67	11.31	9.83	7.98	7.59	7.70
Population aged 20 to 59/ population over 60 years old	6.49	5.95	5.12	4.46	4.33	4.18
Percentage of population over 60 years old	7.53	8.40	10.20	11.36	10.89	11.69
Percentage of population under 15 years old	34.39	31.62	27.80	30.34	34.13	29.58
Women over 60 years old/ Men over 60 years old	0.93	0.92	0.92	0.95	1.04	1.17

Ratios calculated using data found in Mitchell, B. R. 1983 "International Historical Statistics: The Americas and Australasia".

Appendix I.A.7 Historical Demographic Data, Chile 1895-1985

Year	1895	1920	1930	1940	1952	1960	1970	1985
Population aged 15 to 64/ population over 65 years old	19.95	17.77	17.20	16.84	14.69	13.00	11.06	10.78
Population aged 20 to 59/ population over 60 years old	10.91	7.89	8.12	7.97	7.17	6.44	5.69	5.88
Percentage of population over 60 years old	4.09	5.79	5.69	5.87	6.48	6.79	7.55	8.47
Percentage of population under 15 years old	40.75	37.94	37.19	37.15	37.35	39.63	39.19	31.47
Women over 60 years old/ Men over 60 years old	1.08	1.17	1.18	1.19	1.20	1.20	1.19	1.34

Ratios calculated using data found in Mitchell, B. R. 1983 "International Historical Statistics: The Americas and Australasia".

Appendix I.A.8 Historical Demographic Data, Colombia 1918-1973

Year	1918	1938	1951	1964	1973
Population aged 15 to 64/ population over 65 years old	16.32	19.18	17.37	16.80	17.23
Population aged 20 to 59/ population over 60 years old	7.75	8.53	8.22	7.75	8.22
Percentage of population over 60 years old	5.57	5.01	5.12	4.94	4.75
Percentage of population under 15 years old	39.96	42.00	42.56	46.65	44.54
Women over 60 years old/ Men over 60 years old	1.15	1.16	1.15	1.14	1.09

Ratios calculated using data found in Mitchell, B. R. 1983 "International Historical Statistics: The Americas and Australasia".

Appendix I.A.9 Historical Demographic Data, Costa Rica 1892-1973

Year	1892	1927	1950	1963	1973
Population aged 15 to 64/ population over 65 years old	23.00	21.92	18.87	15.60	14.85
Population aged 20 to 59/ population over 60 years old	11.00	10.15	8.82	7.34	6.92
Percentage of population over 60 years old	4.07	4.26	4.75	5.09	5.56
Percentage of population under 15 years old	41.46	41.49	42.88	47.64	44.09
Women over 60 years old/ Men over 60 years old	1.00	1.00	0.90	1.06	1.00

Ratios calculated using data found in Mitchell, B. R. 1983 "International Historical Statistics: The Americas and Australasia"

Appendix I.A.11 Historical Demographic Data, Egypt 1917-1960

Year	1917	1927	1937	1947	1960
Population aged 15 to 64/ population over 65 years old	-	-	15.65	18.98	15.47
Population aged 20 to 59/ population over 60 years old	5.92	6.94	7.20	7.63	7.06
Percentage of population over 60 years old	7.45	6.57	6.38	6.01	6.07
Percentage of population under 15 years old	28.04	38.68	39.20	38.07	42.76
Women over 60 years old/ Men over 60 years old	1.13	1.16	1.18	1.20	1.13

Ratios calculated using data found in Mitchell, B. R. 1982 "International Historical Statistics: Asia and Africa".

Appendix I.A.10 Historical Demographic Data, Denmark 1801-1981

Year	1801	1840	1850	1860	1870	1880	1890	1901
Population aged 15 to 64/ population over 65 years old	17.37	11.49	9.76	11.76	10.54	9.77	8.42	8.96
Population aged 20 to 59/ population over 60 years old	5.33	5.75	5.38	6.09	5.52	4.93	4.51	4.73
Percentage of population over 60 years old	9.40	8.42	9.33	8.07	8.80	9.65	10.78	9.82
Percentage of population under 15 years old	40.50	32.81	31.81	33.73	33.41	33.79	34.85	33.97
Women over 60 years old/ Men over 60 years old	1.18	1.25	1.58	1.22	1.21	1.18	1.16	1.18

Year	1911	1921	1930	1940	1950	1960	1970	1981
Population aged 15 to 64/ population over 65 years old	8.98	9.05	8.96	12.72	7.08	5.67	5.26	4.50
Population aged 20 to 59/ population over 60 years old	4.80	4.76	4.87	5.90	4.00	3.09	2.92	2.66
Percentage of population over 60 years old	9.85	10.29	10.78	9.66	13.36	16.52	17.59	19.57
Percentage of population under 15 years old	33.60	31.19	27.46	24.57	26.33	23.80	23.32	20.60
Women over 60 years old/ Men over 60 years old	1.20	1.19	1.15	1.08	1.10	1.18	1.22	1.29

Ratios calculated using data found in Mitchell, B. R. 1990 "International Historical Statistics: Europe 1750-1988".

Appendix I.A.12 Historical Demographic Data, Finland 1850-1980

Year	1850	1865	1870	1880	1890	1900	1910
Population aged 15 to 64/ population over 65 years old	13.89	13.28	15.27	15.02	12.15	11.43	10.52
Population aged 20 to 59/ population over 60 years old	7.06	6.40	7.76	6.95	5.86	5.79	5.45
Percentage of population over 60 years old	7.03	7.53	6.44	7.04	7.95	8.21	8.79
Percentage of population under 15 years old	34.54	34.98	33.8	34.64	35.81	34.49	34.21
Women over 60 years old/ Men over 60 years old	1.40	1.32	1.33	1.34	1.28	1.25	1.26

Year	1920	1930	1940	1950	1960	1970	1980
Population aged 15 to 64/ population over 65 years old	10.09	10.38	10.45	9.60	8.49	7.81	5.91
Population aged 20 to 59/ population over 60 years old	5.62	5.43	5.47	5.16	4.40	3.84	3.49
Percentage of population over 60 years old	9.43	9.10	9.84	10.10	11.37	13.70	15.99
Percentage of population under 15 years old	28.01	31.70	26.93	30.00	30.20	24.51	20.28
Women over 60 years old/ Men over 60 years old	1.29	1.27	1.42	1.57	1.57	1.41	1.82

Ratios calculated using data found in Mitchell, B. R. 1990 "International Historical Statistics: Europe 1750-1988".

Appendix I.A.13 Historical Demographic Data, France 1851-1982

Year	1851	1866	1876	1881	1886	1896	1901	1911
Population aged 15 to 64/ population over 65 years old	10.23	9.09	8.47	8.04	8.08	7.85	7.81	7.68
Population aged 20 to 59/ population over 60 years old	5.30	4.76	4.42	4.25	4.30	4.22	4.17	4.18
Percentage of population over 60 years old	10.15	11.20	11.84	12.31	12.18	12.49	12.72	12.81
Percentage of population under 15 years old	27.31	26.95	27.11	26.73	26.96	25.98	25.70	25.46
Women over 60 years old/ Men over 60 years old	1.17	1.09	1.07	1.06	1.02	1.10	1.15	1.20

Year	1921	1931	1936	1946	1954	1962	1975	1982
Population aged 15 to 64/ population over 65 years old	7.43	7.09	6.54	6.10	5.67	5.25	4.42	4.72
Population aged 20 to 59/ population over 60 years old	3.94	3.91	3.70	3.39	3.30	2.91	2.65	2.86
Percentage of population over 60 years old	13.90	14.22	14.91	16.05	16.13	17.09	18.94	18.48
Percentage of population under 15 years old	22.41	22.62	24.44	21.41	23.74	26.36	22.64	20.70
Women over 60 years old/ Men over 60 years old	1.25	1.26	1.29	1.43	1.54	1.52	1.43	1.45

Ratios calculated using data found in Mitchell, B. R. 1990 "International Historical Statistics: Europe 1750-1988".

Appendix I.A.14 Historical Demographic Data, Guatemala 1940-1973

Year	1940	1950	1964	1973
Population aged 15 to 64/ population over 65 years old	20.52	22.35	18.80	18.00
Population aged 20 to 59/ population over 60 years old	8.79	9.61	8.26	8.31
Percentage of population over 60 years old	4.69	4.40	4.78	4.73
Percentage of population under 15 years old	43.61	42.26	45.50	45.10
Women over 60 years old/ Men over 60 years old	1.05	0.98	0.95	0.98

Ratios calculated using data found in Mitchell, B. R. 1983 "International Historical Statistics: The Americas and Australasia".

Appendix I.A.15 Historical Demographic Data, Honduras 1930-1974

Year	1930	1940	1950	1961	1974
Population aged 15 to 64/ population over 65 years old	-	20.17	14.02	20.39	17.86
Population aged 20 to 59/ population over 60 years old	10.37	8.92	6.81	8.76	8.22
Percentage of population over 60 years old	4.09	4.70	6.29	4.35	4.44
Percentage of population under 15 years old	42.39	42.59	40.67	47.78	48.14
Women over 60 years old/ Men over 60 years old	1.06	1.00	1.05	1.00	1.00

Ratios calculated using data found in Mitchell, B. R. 1983 "International Historical Statistics: The Americas and Australasia".

Appendix I.A.16 Historical Demographic Data, Hungary 1869-1970

Year	1869	1880	1890	1900	1910
Population aged 15 to 64/ population over 65 years old	20.75	19.00	14.97	13.54	11.77
Population aged 20 to 59/ population over 60 years old	9.67	7.90	7.02	6.15	5.67
Percentage of population over 60 years old	5.01	6.20	6.81	7.58	8.18
Percentage of population under 15 years old	37.02	35.08	36.61	35.60	35.56
Women over 60 years old/ Men over 60 years old	0.90	1.01	1.06	1.03	1.03

Year	1920	1930	1941	1949	1970
Population aged 15 to 64/ population over 65 years old	11.52	10.49	9.60	8.99	5.88
Population aged 20 to 59/ population over 60 years old	5.55	5.45	5.03	4.72	3.11
Percentage of population over 60 years old	8.97	9.75	10.69	11.65	17.04
Percentage of population under 15 years old	30.61	27.55	25.98	24.88	21.10
Women over 60 years old/ Men over 60 years old	1.06	1.07	1.14	1.27	1.33

Ratios calculated using data found in Mitchell, B. R. 1990 "International Historical Statistics: Europe 1750-1988".

Appendix I.A.17 Historical Demographic Data, India 1881-1971

Year	1881	1891	1901	1911
Population aged 15 to 64/ population over 65 years old	-	-	-	25.14
Population aged 20 to 59/ population over 60 years old	8.99	8.88	9.45	9.30
Percentage of population over 60 years old	5.33	5.24	5.06	5.16
Percentage of population under 15 years old	38.85	39.77	38.64	38.48
Women over 60 years old/ Men over 60 years old	1.19	1.19	1.15	1.09

Year	1921	1931	1951	1961	1971
Population aged 15 to 64/ population over 65 years old	23.70	26.64	16.45	18.18	16.30
Population aged 20 to 59/ population over 60 years old	8.95	11.62	8.28	8.08	7.26
Percentage of population over 60 years old	5.29	4.03	5.70	5.60	5.97
Percentage of population under 15 years old	39.19	40.02	37.50	41.06	42.02
Women over 60 years old/ Men over 60 years old	1.04	0.99	1.01	0.98	0.94

Ratios calculated using data found in Mitchell, B. R. 1982 "International Historical Statistics: Asia and Africa"

Appendix I.A.18 Historical Demographic Data, Italy 1861-1981

Year	1861	1881	1901	1911	1921
Population aged 15 to 64/ population over 65 years ol	14.72	12.22	9.82	9.16	9.20
Population aged 20 to 59/ population over 60 years ol	7.60	5.54	4.87	4.56	4.63
Percentage of population over 60 years old	6.56	8.96	9.60	10.19	10.45
Percentage of population under 15 years old	34.19	32.18	34.36	33.96	31.21
Women over 60 years old/ Men over 60 years old	0.95	0.98	1.03	1.03	1.04

Year	1931	1936	1951	1961	1971	1981
Population aged 15 to 64/ population over 65 years old	8.62	8.32	8.01	6.92	5.70	5.78
Population aged 20 to 59/ population over 60 years old	4.60	4.67	4.38	3.89	3.11	3.41
Percentage of population over 60 years old	10.79	10.97	12.15	13.92	16.65	15.76
Percentage of population under 15 years old	29.74	30.59	26.14	24.50	24.44	21.94
Women over 60 years old/ Men over 60 years old	1.09	1.10	1.22	1.31	1.30	-

Ratios calculated using data found in Mitchell, B. R. 1990 "International Historical Statistics: Europe 1750-1988".

Appendix I.A.19 Historical Demographic Data, Japan 1920-1970

Year	1920	1930	1940	1950	1960	1970
Population aged 15 to 64/ population over 65 years old	11.07	12.36	12.58	12.09	11.22	9.75
Population aged 20 to 59/ population over 60 years old	5.54	6.19	5.94	6.05	5.76	5.31
Percentage of population over 60 years old	8.23	7.41	7.75	7.70	8.87	10.64
Percentage of population under 15 years old	36.47	36.56	36.04	35.37	30.04	24.03
Women over 60 years old/ Men over 60 years old	1.18	1.23	1.26	1.26	1.20	1.22

Ratios calculated using data found in Mitchell, B. R. 1982 "International Historical Statistics: Asia and Africa".

Appendix I.A.20 Historical Demographic Data, Kenya 1962-1969

Year	1962	1969
Population aged 15 to 64/ population over 65 ye	-	13.84
Population aged 20 to 59/ population over 60 ye	7.98	6.86
Percentage of population over 60 years old	4.90	5.28
Percentage of population under 15 years old	46.33	48.42
Women over 60 years old/ Men over 60 years old	0.78	0.94

Ratios calculated using data found in Mitchell, B. R. 1982 "International Historical Statistics: Asia and Africa".

Appendix I.A.21 Historical Demographic Data, Mexico 1895-1970

Year	1895	1910	1921	1940	1950	1960	1970
Population aged 15 to 64/ population over 65 years old	-	24.48	-	18.65	16.31	15.20	13.48
Population aged 20 to 59/ population over 60 years old	13.47	13.08	9.20	8.48	7.70	7.16	6.71
Percentage of population over 60 years old	3.30	3.37	4.93	5.12	5.52	5.57	5.62
Percentage of population under 15 years old	41.55	42.20	38.79	41.19	41.77	44.39	46.22
Women over 60 years old/ Men over 60 years old	0.83	0.93	1.02	1.06	1.09	1.04	1.07

Ratios calculated using data found in Mitchell, B. R. 1983 "International Historical Statistics: The Americas and Australasia".

Appendix I.A.22 Historical Demographic Data, New Zealand 1886-1971

Year	1886	1896	1906	1921	1936	1951	1961	1971
Population aged 15 to 64/ population over 65 years old	26.92	21.35	13.14	12.93	10.36	6.71	6.76	6.98
Population aged 20 to 59/ population over 60 years old	12.75	8.92	7.14	6.91	5.29	3.84	3.84	3.72
Percentage of population over 60 years old	3.49	5.28	7.21	7.55	10.44	13.19	12.22	12.53
Percentage of population under 15 years old	41.54	36.23	31.45	31.42	25.50	29.47	33.10	31.76
Women over 60 years old/ Men over 60 years old	0.66	0.61	0.68	0.84	0.79	1.07	1.22	1.23

Ratios calculated using data found in Mitchell, B. R. 1983 "International Historical Statistics: The Americas and Australasia".

Appendix I.A.23 Historical Demographic Data, Philippines 1939-1970

Year	1939	1948	1960	1970
Population aged 15 to 64/ population over 65 years old	15.45	16.72	18.91	15.35
Population aged 20 to 59/ population over 60 years old	7.27	8.24	9.17	7.53
Percentage of population over 60 years old	5.63	4.88	4.32	5.49
Percentage of population under 15 years old	43.00	44.16	45.69	43.11
Women over 60 years old/ Men over 60 years old	0.97	0.98	0.94	1.04

Ratios calculated using data found in Mitchell, B. R. 1983 "International Historical Statistics: The Americas and Australasia".

Appendix I.A.24 Historical Demographic Data, Portugal 1890-1981

Year	1890	1911	1930	1950	1970	1981
Population aged 15 to 64/ population over 65 years old	9.87	10.07	9.93	8.65	6.40	5.51
Population aged 20 to 59/ population over 60 years old	4.68	4.84	5.04	4.66	3.37	3.15
Percentage of population over 60 years old	10.16	9.59	9.60	10.80	14.43	15.84
Percentage of population under 15 years old	33.12	34.41	31.97	29.35	28.48	25.52
Women over 60 years old/ Men over 60 years old	1.23	1.30	1.36	1.36	1.41	1.37

Ratios calculated using data found in Mitchell, B. R. 1990 "International Historical Statistics: Europe 1750-1988".

Appendix I.A.25 Historical Demographic Data, Spain 1877-1981

Year	1877	1900	1910	1920	1930	1940	1970	1981
Population aged 15 to 64/ population over 65 years old	15.17	11.50	10.92	10.93	10.22	9.72	4.95	5.58
Population aged 20 to 59/ population over 60 years old	6.34	5.42	5.11	4.86	5.15	4.93	2.95	3.21
Percentage of population over 60 years old	7.97	9.05	9.40	9.92	9.52	10.15	16.53	15.59
Percentage of population under 15 years old	32.34	33.46	33.63	32.18	32.17	29.94	27.05	25.64
Women over 60 years old/ Men over 60 years old	1.05	1.08	1.14	1.06	1.21	1.30	1.82	1.37

Ratios calculated using data found in Mitchell, B. R. 1990 "International Historical Statistics: Europe 1750-1988".

Appendix I.A.26 Historical Demographic Data, Sweden 1850-1970

Year	1850	1870	1890	1910	1930	1950	1970
Population aged 15 to 64/ population over 65 years old	12.92	11.16	7.71	7.09	7.16	6.42	4.77
Population aged 20 to 59/ population over 60 years old	6.30	5.93	4.04	3.93	4.15	3.71	2.68
Percentage of population over 60 years old	7.85	8.11	11.44	11.96	12.83	14.99	19.67
Percentage of population under 15 years old	32.88	34.84	33.33	31.72	24.82	23.44	20.82
Women over 60 years old/ Men over 60 years old	1.45	1.36	1.24	1.24	1.21	1.13	1.18

Ratios calculated using data found in Mitchell, B. R. 1990 "International Historical Statistics: Europe 1750-1988".

Appendix I.A.27 Historical Demographic Data, United Kingdom 1841-1981

Year	1841	1861	1881	1901	1921	1931	1951	1961	1981
Population aged 15 to 64/ population over 65 years old	13.41	12.86	12.87	13.49	10.95	9.27	6.06	5.46	4.33
Population aged 20 to 59/ population over 60 years old	6.49	6.38	6.28	6.78	5.68	4.84	3.50	3.06	2.54
Percentage of population over 60 years old	7.20	7.42	7.38	7.40	9.43	11.57	15.93	17.25	20.13
Percentage of population under 15 years old	36.09	35.64	36.45	32.42	27.72	23.83	22.15	22.96	20.45
Women over 60 years old/ Men over 60 years old	1.15	1.16	1.19	1.25	1.26	1.25	1.39	1.49	1.40

Ratios calculated using data found in Mitchell, B. R. 1990 "International Historical Statistics: Europe 1750-1988".

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Appendix I.A.28 Historical Demographic Data, United States of America 1860-1985

Year	1860	1880	1900	1920	1940	1960	1985
Population aged 15 to 64/ population over 65 years old	-	17.01	15.12	13.58	9.94	6.47	5.57
Population aged 20 to 59/ population over 60 years old	10.34	8.20	7.64	6.89	5.28	3.66	3.27
Percentage of population over 60 years old	4.29	5.64	6.41	7.49	10.44	13.20	16.52
Percentage of population under 15 years old	40.49	38.10	34.38	31.80	25.04	31.11	21.72
Women over 60 years old/ Men over 60 years old	0.99	0.95	0.97	0.95	1.02	1.18	1.37

Ratios calculated using data found in "Historical Statistics of the United States .Colonial Times to 1970".
1960 is the first year for which figures include Alaska and Hawaii.

Table I.B.1 Demographic Indicators, 1990

	Population over 60 years old	Population over 75 years old	Population over 75 years old	Population Aged +65/ 15-64	Population Aged +60/ 20-59	Women over 60/ Men over 60
	Percentage:					Ratio
OECD						
Australia	15.0	10.7	4.1	16.0	27.3	1.2
Austria	20.2	15.0	7.0	22.3	36.4	1.7
Belgium	20.7	15.0	6.7	22.4	37.8	1.4
Canada	15.6	11.3	4.5	16.7	27.6	1.3
Denmark	20.2	15.4	6.7	22.7	36.2	1.3
Finland	18.4	13.3	5.6	19.8	32.8	1.6
France	18.9	13.8	6.5	20.8	35.3	1.4
Germany	20.3	14.9	7.2	21.7	35.2	1.7
Greece	20.2	14.2	6.4	21.2	37.4	1.3
Iceland	14.5	10.6	3.9	16.4	27.6	1.2
Ireland	15.2	11.4	4.6	18.4	31.4	1.2
Italy	20.5	14.8	6.5	21.6	37.2	1.4
Japan	17.3	11.9	4.7	17.1	30.9	1.3
Luxembourg	19.3	13.8	6.1	19.9	33.5	1.4
Netherlands	17.8	13.2	5.6	19.1	31.3	1.3
New Zealand	15.2	11.1	4.4	16.7	28.6	1.2
Norway	21.2	16.4	6.9	25.4	40.0	1.3
Portugal	18.0	13.0	5.2	19.5	34.5	1.4
Spain	18.5	13.2	5.4	19.8	34.8	1.3
Sweden	22.9	18.0	8.1	27.8	43.5	1.2
Switzerland	19.9	14.9	6.8	21.8	34.5	1.4
United Kingdom	20.8	15.7	6.8	24.0	38.8	1.4
United States	16.6	12.3	5.0	18.7	30.3	1.4
Latin America and the Caribbean						
Antigua & Barbuda	7.6	5.1	1.3	8.9	18.2	2.0
Argentina	13.1	9.0	3.2	14.8	26.9	1.3
Bahamas	6.7	4.3	0.8	6.7	13.6	1.1
Barbados	14.8	11.3	5.1	17.3	28.6	1.4
Belize	6.4	4.3	1.1	8.0	16.7	1.0
Bolivia	5.4	3.4	0.9	6.3	13.1	1.2
Brazil	6.7	4.4	1.3	7.2	14.1	1.1
Chile	8.7	5.9	2.1	9.3	17.0	1.4
Colombia	6.0	4.0	1.2	6.6	12.5	1.2
Costa Rica	6.4	4.2	1.4	7.1	13.3	1.1
Cuba	11.8	8.4	3.4	12.1	21.4	1.0
Dominica	11.1	8.3	2.8	15.0	28.6	1.0
Dominican Rep.	5.5	3.4	1.0	5.7	11.9	1.0
Ecuador	5.5	3.6	1.1	6.4	12.5	1.1
El Salvador	5.6	3.6	1.0	6.8	14.5	1.3
Grenada	9.9	6.6	2.2	11.1	20.9	1.3
Guadeloupe	11.1	7.8	2.8	12.0	21.3	1.4
Guatemala	4.9	3.0	0.8	5.9	12.6	1.1
Guyana	6.4	4.1	1.3	6.7	13.5	1.1
Haiti	6.2	4.1	1.2	7.3	14.4	1.2
Honduras	4.8	3.1	0.9	6.0	12.4	1.1
Jamaica	8.9	6.5	2.8	11.0	19.7	1.2
Martinique	13.3	9.7	3.6	14.7	24.6	1.4
Mexico	5.7	3.7	1.2	6.3	12.6	1.2
Nicaragua	4.2	2.6	0.7	5.1	10.8	1.2
Panama	6.7	4.5	1.4	7.5	14.3	1.0
Paraguay	5.2	3.4	1.0	6.2	12.0	1.2
Peru	5.8	3.7	1.1	6.3	12.7	1.2
St. Kitts and Nevis	20.0	15.0	5.0	26.1	50.0	1.0
St. Lucia	8.7	6.0	2.0	10.6	22.2	1.6
Suriname	6.7	4.3	1.3	7.0	14.3	1.3
Trinidad & Tobago	8.3	5.7	2.0	9.3	16.9	1.2
Uruguay	16.4	11.4	4.4	18.2	33.3	1.3
Venezuela	5.6	3.6	1.1	6.1	12.2	1.2

	Population over 60 years old	Population over 65 years old	Population over 75 years old	Population Aged +65/ 15-64	Population Aged +60/ 20-59	Women over 60/ Men over 60
	Percentage:					Ratio
Eastern Europe and the former Soviet Union						
Albania	8.1	5.3	1.9	8.7	16.7	1.2
Armenia	11.0	6.9	2.0	10.9	21.7	1.4
Azerbaijan	9.0	5.5	1.7	9.0	18.5	1.5
Belarus	17.6	11.9	4.0	18.4	33.3	1.9
Bulgaria	19.7	13.4	5.0	20.2	37.2	1.2
Croatia	17.8	12.1	4.6	17.9	32.3	1.5
Czech Rep.	16.9	11.8	5.0	18.2	32.3	1.5
Estonia	17.2	11.9	4.3	18.2	32.3	1.8
Georgia	15.9	10.8	3.5	16.5	30.3	1.6
Hungary	19.3	13.5	5.5	20.2	35.9	1.4
Kazakhstan	9.5	6.4	2.0	10.4	19.2	1.8
Kyrgyz Rep.	8.5	5.6	1.7	10.0	19.6	1.6
Latvia	17.9	12.4	4.4	18.9	33.3	1.9
Lithuania	16.2	11.1	3.9	16.8	30.3	1.7
Moldova	12.5	8.5	2.5	14.3	26.3	1.4
Poland	14.8	10.0	4.0	15.4	27.8	1.5
Romania	15.6	10.3	4.0	15.9	29.4	1.3
Russia	16.5	11.4	3.9	17.5	31.3	2.0
Slovenia	16.2	11.1	4.3	16.4	29.4	1.6
Tajikistan	6.2	4.0	1.2	7.7	15.9	1.3
Turkmenistan	6.3	4.0	1.2	7.4	14.7	1.5
Ukraine	18.7	13.5	4.6	20.7	35.7	1.9
Uzbekistan	6.5	4.2	1.3	7.7	15.4	1.5
Yugoslavia, Fed. Rep. of	13.6	8.5	3.4	12.5	25.0	1.3
The Middle East and North Africa						
Algeria	5.4	3.7	1.3	7.0	13.7	1.2
Bahrain	4.4	2.8	0.8	4.5	8.3	1.0
Cyprus	14.5	10.8	4.7	16.8	27.2	1.2
Egypt	6.4	4.1	1.2	7.3	14.4	1.2
Iran, Islamic Rep. of	4.7	3.1	0.9	5.8	11.6	1.0
Iraq	4.4	2.7	0.7	5.4	11.3	1.1
Israel	12.1	8.9	3.7	14.9	25.6	1.2
Jordan	4.2	2.6	0.8	4.9	10.6	1.0
Kuwait	2.7	1.4	0.4	2.3	5.0	0.7
Lebanon	8.9	5.7	2.1	9.8	20.7	1.1
Libya	4.0	2.4	0.6	4.6	10.1	0.9
Malta	14.1	9.9	3.7	14.6	25.4	1.4
Morocco	5.8	3.6	1.2	6.4	13.7	1.1
Oman	4.1	2.4	0.6	4.8	10.0	1.1
Qatar	3.4	1.6	0.5	2.5	6.3	0.4
Saudi Arabia	4.2	2.6	0.7	5.1	10.2	1.0
Syrian Arab Rep.	4.4	2.8	0.9	5.7	11.9	1.1
Tunisia	6.5	4.1	1.2	7.0	14.3	0.9
Turkey	7.1	4.3	1.5	7.0	14.9	1.1
United Arab Emirates	3.0	1.6	0.4	2.3	5.1	0.5
Yemen, Rep. of	4.9	3.0	0.8	6.3	13.9	1.1
Sub-Saharan Africa						
Angola	5.0	3.1	0.8	5.9	12.5	1.2
Benin	4.4	2.7	0.7	5.5	11.7	1.2
Botswana	5.2	3.5	1.2	7.2	14.0	1.2
Burkina Faso	5.0	3.1	0.8	6.0	12.7	1.0
Burundi	4.6	3.0	0.9	5.9	11.6	1.5
Cameroon	5.8	3.8	1.1	7.6	15.1	1.2
Cape Verde	6.7	4.3	1.9	8.4	17.6	1.3
Central African Rep.	5.5	3.0	0.6	5.5	13.4	1.1
Chad	5.8	3.6	0.9	6.6	13.7	1.2
Comoros	4.2	2.5	0.8	5.1	11.2	1.2
Congo	6.1	3.9	1.0	7.7	16.0	1.4
Côte d'Ivoire	4.2	2.5	0.6	5.0	10.8	1.0
Djibouti	4.4	2.6	0.5	4.8	10.5	1.1
Equatorial Guinea	6.5	4.1	1.2	7.5	15.2	1.3
Ethiopia	4.5	2.8	0.7	5.6	11.7	1.4

	Population over 60 years old	Population over 65 years old	Population over 75 years old	Population Aged +65/ 15-64	Population Aged +60/ 20-59	Women over 60/ Men over 60
	Percentage:					Ratio
Gabon	7.5	4.9	1.5	8.8	16.9	1.2
Gambia, The	4.5	2.6	0.5	4.9	10.5	1.1
Ghana	4.5	2.9	0.8	5.7	11.9	1.2
Guinea	4.3	2.6	0.6	5.2	11.1	1.2
Guinea-Bissau	5.5	3.4	0.8	6.3	13.5	1.2
Kenya	4.3	2.8	0.9	6.0	12.4	1.1
Lesotho	5.7	3.6	1.0	6.8	13.8	1.3
Liberia	4.9	3.1	1.0	6.0	12.2	1.1
Madagascar	4.8	3.0	0.8	5.8	12.0	1.2
Malawi	4.2	2.6	0.6	5.0	10.8	1.2
Mali	4.9	3.1	0.9	6.3	13.1	1.0
Mauritania	5.4	3.3	0.8	6.3	13.6	1.2
Mauritius	8.3	5.4	1.6	8.2	15.5	1.2
Mozambique	5.1	3.1	0.8	6.0	12.5	1.2
Namibia	5.1	3.1	0.9	6.2	13.0	1.2
Niger	4.2	2.6	0.6	5.1	10.9	1.2
Nigeria	3.8	2.3	0.5	4.4	9.8	1.3
Rwanda	4.0	2.5	0.6	5.0	10.8	1.2
Sao Tome and Principe	8.5	5.1	1.7	8.8	19.2	1.0
Senegal	4.3	2.6	0.6	5.2	11.2	1.2
Seychelles	10.3	7.4	2.9	12.2	22.7	1.3
Sierra Leone	5.1	3.1	0.7	5.8	12.3	1.2
Somalia	4.8	2.9	0.8	5.8	12.0	1.1
South Africa	6.2	4.0	1.2	6.9	13.5	1.3
Sudan	4.6	2.9	0.8	5.5	11.6	1.1
Swaziland	4.1	2.4	0.6	4.9	11.1	1.1
Tanzania	4.7	2.9	0.9	5.8	12.3	1.1
Togo	4.8	3.0	0.8	6.2	12.8	0.9
Uganda	4.5	2.8	0.8	5.8	12.8	1.1
Zaire	4.2	2.6	0.7	5.1	10.6	1.3
Zambia	3.6	2.3	0.6	4.7	10.0	1.0
Zimbabwe	3.9	2.5	0.8	4.7	9.9	1.1

Asia

Afghanistan	3.9	2.3	0.5	4.5	9.8	1.0
Bangladesh	4.9	3.1	1.0	5.8	12.0	0.9
Bhutan	5.6	3.4	0.8	6.0	12.7	1.1
Brunei	5.9	3.5	0.8	5.6	11.5	0.7
Cambodia, People's Rep. of	5.0	2.9	0.7	4.7	9.7	1.3
China	8.9	5.8	1.8	8.7	16.6	1.1
Fiji	5.2	3.2	0.9	5.4	11.0	1.0
Hong Kong	13.0	8.9	3.0	12.7	22.4	1.1
India	6.9	4.4	1.2	7.4	15.0	1.0
Indonesia	6.4	3.9	1.1	6.5	13.9	1.1
Korea, Dem.	6.5	4.2	1.3	6.1	12.2	1.9
Korea, Rep. of	7.7	4.9	1.5	7.1	13.7	1.4
Lao, People's Dem. Rep.	4.9	3.0	0.7	5.6	11.9	1.1
Macao	11.1	7.4	2.4	10.8	19.2	1.1
Malaysia	5.7	3.6	1.1	6.3	12.5	1.1
Maldives	4.7	2.3	0.5	4.3	11.5	0.4
Micronesia, Fed. States of	5.8	3.9	1.0	7.1	14.7	2.0
Mongolia	5.5	3.4	0.9	6.2	12.7	1.1
Myanmar	6.5	4.1	1.2	7.0	14.3	1.1
Pakistan	4.6	2.8	0.7	5.3	11.2	0.9
Papua New Guinea	4.9	2.7	0.4	4.7	11.4	1.0
Philippines	5.3	3.4	1.0	5.9	11.9	1.1
Singapore	8.5	5.6	1.9	7.8	14.3	1.1
Solomon Islands	4.7	2.8	0.6	5.6	12.7	0.9
Sri Lanka	7.8	5.0	1.5	7.9	15.4	1.0
Taiwan (China)	9.7	6.1	1.7	9.3	18.2	0.8
Thailand	6.0	3.8	1.1	6.0	12.2	1.2
Vanuatu	4.6	2.6	0.7	4.8	11.1	0.4
Viet Nam	6.7	4.5	1.4	8.1	15.6	1.4

Source: calculated using World Bank population data from "Stars" database.

Appendix I.B.2 Percentage of Population over 60 years old

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
OECD										
Australia	15.0	15.3	18.1	22.8	27.7	30.4	30.0	30.4	30.8	30.9
Austria	20.2	21.5	24.9	28.9	34.5	33.9	30.6	30.4	30.7	30.9
Belgium	20.7	22.5	24.8	28.7	32.2	31.2	30.1	30.4	30.8	31.0
Canada	15.6	16.8	20.4	25.9	30.2	30.6	30.2	30.5	30.8	31.0
Denmark	20.2	20.4	24.8	28.4	32.1	30.9	29.9	30.2	30.7	30.9
Finland	18.4	19.8	24.4	28.7	30.9	29.9	29.8	30.3	30.7	30.9
France	18.9	20.2	23.1	26.8	30.1	31.2	30.3	30.5	30.8	31.0
Germany	20.3	23.7	26.5	30.3	35.3	32.5	30.4	30.5	30.8	31.0
Greece	20.2	24.2	26.5	29.1	32.5	34.4	30.7	30.5	30.8	31.0
Iceland	14.5	14.9	17.3	21.4	26.0	29.0	29.9	30.2	30.6	30.7
Ireland	15.2	15.7	17.8	20.1	22.9	28.2	29.4	30.1	30.6	30.9
Italy	20.6	24.2	27.4	30.6	35.9	36.5	30.9	30.5	30.8	31.0
Japan	17.3	22.7	29.0	31.4	33.0	34.4	31.0	30.7	30.9	31.0
Luxembourg	19.3	21.2	25.3	29.5	33.0	30.1	30.2	30.1	30.4	30.5
Netherlands	17.8	19.0	23.4	28.4	33.4	31.7	30.2	30.4	30.8	31.0
New Zealand	15.2	15.9	18.9	22.7	26.8	29.0	29.6	30.2	30.7	30.9
Norway	21.2	20.2	22.4	26.0	29.6	30.2	30.1	30.4	30.8	30.9
Portugal	18.0	19.8	21.4	24.6	29.7	33.0	30.2	30.3	30.7	30.9
Spain	18.5	20.6	22.4	25.6	30.9	34.2	30.3	30.3	30.7	30.9
Sweden	22.9	21.9	25.4	27.8	30.0	28.7	29.9	30.5	30.8	31.0
Switzerland	19.9	21.9	26.6	30.5	34.0	31.6	30.4	30.6	30.9	31.0
United Kingdom	20.8	20.7	23.0	25.5	29.6	29.5	29.7	30.3	30.7	30.9
United States	16.6	16.5	19.2	24.5	28.2	28.9	29.7	30.3	30.7	30.9
Latin America and The Caribbean										
Antigua	7.6	11.1	10.6	12.3	16.9	29.0	29.3	30.5	31.0	30.8
Argentina	13.1	13.7	15.1	17.2	19.3	25.9	28.6	29.7	30.4	30.8
Bahamas	6.7	7.6	10.1	12.9	18.7	25.7	28.3	29.6	30.2	30.5
Barbados	14.8	13.3	14.9	21.9	28.3	30.3	29.7	30.2	30.9	31.2
Belize	6.4	6.5	6.3	6.2	10.6	18.8	27.7	29.5	30.3	30.6
Bolivia	5.4	5.7	6.4	7.9	10.0	17.6	26.0	28.1	29.6	30.3
Brazil	6.7	7.7	9.7	13.1	16.9	24.2	27.7	29.3	30.2	30.6
Chile	8.7	9.8	12.2	16.1	20.8	26.4	28.7	29.8	30.4	30.8
Colombia	6.0	6.7	8.7	12.6	18.0	25.5	28.0	29.4	30.2	30.6
Costa Rica	6.4	7.8	10.0	14.3	19.2	26.4	29.2	30.1	30.6	30.9
Cuba	11.8	13.5	17.0	20.2	27.2	29.8	29.9	30.3	30.7	30.9
Dominica	11.1	11.4	9.9	9.8	14.2	26.0	30.1	30.7	31.9	31.7
Dominican Rep.	5.5	6.7	8.6	11.7	16.3	24.3	27.8	29.3	30.2	30.6
Ecuador	5.5	6.0	7.4	10.1	13.7	22.4	27.3	29.0	30.0	30.5
El Salvador	5.6	6.1	6.6	7.5	10.2	20.3	27.3	29.0	30.0	30.5
Grenada	9.9	10.8	5.7	10.0	16.5	25.2	28.3	29.6	30.5	31.5
Guadeloupe	11.1	12.2	14.8	17.7	24.0	27.9	29.2	30.3	30.8	31.0
Guatemala	4.9	5.1	5.4	6.6	8.8	16.2	26.4	28.7	29.9	30.4
Guyana	6.4	7.3	8.7	11.7	16.6	24.1	27.2	28.9	29.9	30.6
Haiti	6.2	6.0	5.9	6.7	8.2	13.1	22.1	26.9	29.0	29.9
Honduras	4.8	4.8	5.4	6.7	9.3	17.2	26.7	28.9	30.0	30.5
Jamaica	8.9	9.3	10.4	13.3	19.1	26.7	29.0	30.0	30.6	30.8
Martinique	13.3	14.3	15.9	19.6	27.3	28.4	29.7	30.2	30.4	30.8
Mexico	5.7	6.6	8.3	11.2	15.7	24.6	28.3	29.6	30.3	30.7
Nicaragua	4.2	4.4	5.1	6.8	9.3	17.1	26.9	29.1	30.1	30.6
Panama	6.7	7.8	10.1	13.6	18.5	26.6	28.9	29.9	30.5	30.8
Paraguay	5.2	5.1	5.6	8.0	10.4	16.1	25.8	28.9	30.0	30.5
Peru	5.8	6.4	7.7	10.2	13.7	21.5	26.8	28.8	29.9	30.5
St. Kitts and Nevis	20.0	14.3	8.8	5.4	14.6	23.9	24.5	26.5	26.0	26.0
St. Lucia	8.7	9.1	8.9	7.9	13.0	24.7	28.8	29.8	30.8	30.9
Suriname	6.7	7.2	7.8	10.8	16.3	23.3	28.0	29.5	30.1	30.8
Trinidad and T.	8.3	9.0	11.2	14.9	19.1	25.6	28.6	29.7	30.5	30.7
Uruguay	16.4	17.8	18.7	20.3	22.5	27.8	29.3	30.1	30.5	30.9
Venezuela	5.6	6.4	8.5	11.7	15.5	23.6	28.1	29.5	30.3	30.7

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Eastern Europe and Ex-Soviet Union										
Albania	8.1	9.7	11.4	14.9	19.1	25.9	28.8	29.8	30.5	30.8
Armenia	11.0	13.4	14.5	19.6	22.1	27.9	29.1	30.0	30.6	30.8
Azerbaijan	9.0	10.9	11.3	15.9	19.9	26.8	28.7	29.8	30.4	30.8
Belarus	17.6	19.4	20.5	24.1	25.3	27.8	29.2	30.1	30.6	30.8
Bulgaria	19.7	22.8	24.9	26.3	26.7	28.7	29.2	29.9	30.5	30.8
Croatia	17.8	21.2	23.9	26.9	28.7	30.0	29.7	30.1	30.6	30.9
Czechoslovakia	16.9	16.9	19.2	22.6	24.0	27.5	28.8	29.7	30.4	30.7
Estonia	17.2	19.0	20.8	23.6	25.1	27.5	29.0	30.0	30.5	30.8
Georgia	15.9	18.2	18.9	22.3	24.4	27.6	29.1	30.0	30.5	30.8
Hungary	19.3	20.9	23.1	26.7	26.8	28.8	28.9	29.6	30.3	30.7
Kazakhstan	9.5	11.5	12.9	16.7	18.8	25.8	28.1	29.4	30.3	30.7
Kyrgyzstan	8.5	8.7	8.8	11.8	14.2	22.5	28.1	29.5	30.3	30.7
Latvia	17.9	20.0	21.2	24.2	25.9	27.7	29.0	29.9	30.5	30.8
Lithuania	16.2	18.2	19.7	23.5	26.3	28.3	29.3	30.0	30.6	30.8
Moldova	12.5	13.8	14.7	17.3	17.8	25.3	28.1	29.4	30.3	30.7
Poland	14.8	16.2	17.5	22.2	23.3	26.8	28.5	29.6	30.3	30.7
Romania	15.6	17.8	17.9	20.2	21.9	26.1	28.1	29.4	30.2	30.6
Russian Fed.	16.5	18.7	20.5	24.4	24.9	27.6	29.0	29.9	30.5	30.8
Slovenia	16.2	19.4	22.7	26.5	29.1	31.6	30.0	30.2	30.6	30.9
Tajikistan	6.2	6.2	6.0	8.2	10.8	19.3	28.0	29.5	30.3	30.7
Turkmenistan	6.3	6.5	7.0	10.2	13.1	21.8	27.4	29.0	30.1	30.5
Ukraine	18.7	21.3	22.1	24.5	25.5	27.5	29.1	30.0	30.5	30.8
Uzbekistan	6.5	6.7	7.0	10.2	13.2	22.1	28.1	29.5	30.3	30.7
Yugoslavia	13.6	17.3	18.8	22.2	24.9	27.5	28.9	29.9	30.5	30.8
North Africa and The Middle East										
Algeria	5.4	5.4	5.7	7.6	10.9	19.4	27.7	29.2	30.1	30.6
Bahrain	4.4	5.4	8.7	13.8	14.4	17.4	26.5	29.4	30.2	30.7
Cyprus	14.5	16.0	18.8	22.7	26.2	28.8	29.8	30.3	30.8	30.9
Egypt	6.4	7.0	7.9	10.6	12.9	20.2	26.0	28.2	29.6	30.3
Iran	4.7	4.6	5.0	5.8	6.6	9.1	16.2	25.6	29.4	30.3
Iraq	4.4	4.5	5.0	6.0	7.6	14.1	25.3	28.7	29.9	30.4
Israel	12.1	10.2	12.1	16.4	21.3	27.0	29.5	30.3	30.8	30.9
Jordan	4.2	4.6	5.2	6.7	10.3	17.1	27.0	29.2	30.1	30.6
Kuwait	2.7	5.6	10.8	17.6	20.4	27.3	29.2	30.1	30.7	30.9
Lebanon	8.9	9.0	7.9	8.5	11.9	20.4	26.5	28.8	29.9	30.5
Libya	4.0	4.4	5.0	5.5	6.1	9.9	18.9	28.0	29.9	30.5
Malta	14.1	16.4	20.6	24.3	25.6	27.8	29.0	29.7	30.3	30.6
Morocco	5.8	5.9	6.1	8.4	11.3	18.7	26.4	28.4	29.7	30.4
Oman	4.1	4.4	5.4	6.4	7.1	11.8	23.0	29.2	30.2	30.6
Qatar	3.4	5.7	10.0	14.0	14.3	17.3	26.4	29.3	30.2	30.6
Saudi Arabia	4.2	4.3	5.1	6.4	7.0	11.6	22.6	28.8	30.0	30.5
Syria	4.4	4.3	4.2	5.2	7.0	13.0	24.5	29.0	30.1	30.6
Tunisia	6.5	7.3	7.4	10.5	14.9	23.1	27.7	29.3	30.2	30.6
Turkey	7.1	8.3	9.5	12.1	16.0	23.0	27.6	29.3	30.2	30.6
U. Arab Emirates	3.0	5.8	12.7	21.0	20.1	21.5	28.6	29.8	30.4	30.8
Yemen	4.9	4.2	3.4	2.8	3.5	6.1	14.0	23.7	27.3	29.0
Sub-Saharan Africa										
Angola	5.0	4.9	4.7	4.8	5.3	8.1	16.9	25.3	27.7	29.1
Benin	4.4	4.2	4.1	4.6	5.7	11.2	20.9	25.8	28.2	29.4
Botswana	5.2	4.8	5.4	7.3	10.3	20.9	27.7	29.2	30.2	30.6
Burkina Faso	5.0	4.6	4.3	4.1	5.1	8.5	17.6	24.9	27.5	29.0
Burundi	4.6	3.6	3.2	4.0	4.7	7.4	16.7	25.3	27.7	29.1
Cameroon	5.8	5.2	5.0	5.5	6.5	12.0	22.3	27.1	29.1	30.0
Cape Verde	6.7	5.4	3.7	4.6	8.6	15.2	26.6	29.0	30.2	30.6
Cent. Afr. Rep.	5.5	6.1	5.6	5.2	6.1	10.7	20.3	25.6	28.1	29.4
Chad	5.8	5.8	5.8	6.0	6.5	9.5	18.7	25.3	27.8	29.2
Comoros	4.2	3.9	4.2	4.6	5.7	11.0	21.7	27.0	29.1	30.0
Congo	6.1	5.1	4.2	4.4	5.6	9.3	19.1	26.8	28.9	29.8
Cote d'Ivoire	4.2	4.2	4.2	4.7	5.7	10.5	20.9	27.2	29.1	30.0
Djibouti	4.4	4.5	5.2	5.9	6.5	10.4	19.7	25.7	28.2	29.4
Ethiopia	4.5	4.1	3.9	3.9	4.2	6.8	15.1	25.0	27.8	29.2
E. Guinea	6.5	6.7	6.6	7.0	7.7	10.9	20.2	25.1	27.8	29.2

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Sub-Saharan Africa (Cont'd)										
Gabon	7.5	7.1	6.5	6.5	6.7	9.2	18.9	26.4	28.7	29.7
Gambia	4.5	4.8	4.9	5.2	5.3	7.7	15.8	24.1	26.9	28.6
Ghana	4.5	4.5	4.7	5.4	6.8	12.3	22.1	26.5	28.7	29.8
Guinea	4.3	4.2	4.0	4.3	4.9	7.6	15.8	24.0	26.8	28.6
Guinea-Bissau	5.5	4.9	4.3	4.1	4.9	8.0	16.0	22.0	25.2	27.6
Kenya	4.3	3.9	3.6	4.4	5.9	11.7	22.6	27.8	29.5	30.2
Lesotho	5.7	5.7	6.1	6.8	8.2	14.4	24.0	27.2	29.1	30.0
Liberia	4.9	5.0	5.4	6.0	7.5	13.1	22.7	27.1	29.1	30.0
Madagascar	4.8	4.6	4.7	5.4	6.7	11.9	21.3	25.7	28.1	29.4
Malawi	4.2	3.9	3.8	3.8	4.3	6.8	15.0	24.8	27.6	29.1
Mali	4.9	4.5	4.3	3.9	4.5	7.8	16.1	24.6	27.5	29.0
Mauritania	5.4	5.1	4.6	4.1	4.6	6.9	14.9	24.2	27.1	28.8
Mauritius	8.3	9.4	11.7	17.3	23.4	28.8	29.1	29.8	30.4	30.7
Mozambique	5.1	4.6	4.2	4.2	4.8	7.5	16.6	25.3	27.7	29.1
Namibia	5.1	5.0	5.2	6.0	7.6	14.1	24.3	27.9	29.5	30.2
Niger	4.2	4.1	3.9	3.9	4.1	5.9	13.2	23.3	27.0	28.8
Nigeria	3.8	4.0	4.4	5.1	6.5	11.7	20.6	25.7	28.1	29.3
Rwanda	4.0	3.7	3.4	3.3	3.8	6.0	14.3	24.3	27.9	29.3
Sao Tome and P.	8.5	7.3	8.1	9.1	10.8	18.8	26.9	28.6	30.1	30.7
Senegal	4.3	3.7	3.5	3.7	4.3	7.6	17.2	25.1	27.7	29.1
Seychelles	10.3	10.7	10.8	12.0	17.6	24.6	27.7	28.7	28.5	29.0
Sierra Leone	5.1	5.2	5.0	5.0	5.2	7.7	15.6	23.7	26.4	28.3
Somalia	4.8	4.7	4.6	4.8	5.4	8.4	17.1	25.0	27.6	29.0
South Africa	6.2	6.7	7.8	9.8	12.4	18.9	26.7	28.7	29.9	30.5
Sudan	4.6	4.7	5.0	5.6	6.6	11.2	20.6	25.8	28.2	29.4
Swaziland	4.1	3.9	4.2	4.9	6.1	11.7	22.0	27.0	29.1	30.0
Tanzania	4.7	4.2	4.0	3.9	4.5	7.6	16.7	24.9	27.5	29.0
Togo	4.8	4.5	4.4	4.7	5.8	10.9	21.0	26.3	28.6	29.7
Uganda	4.5	3.8	3.1	3.1	4.1	7.8	17.0	24.8	27.5	29.0
Zaire	4.2	4.3	4.4	5.0	6.1	10.7	20.7	26.4	28.7	29.7
Zambia	3.6	3.2	3.0	3.4	4.4	8.9	19.5	26.7	28.9	29.8
Zimbabwe	3.9	4.2	4.9	6.8	9.6	18.3	26.0	28.9	30.0	30.5

Asia

Afghanistan	3.9	3.9	3.9	4.2	4.7	7.0	14.2	22.5	25.6	27.8
Bangladesh	4.9	5.4	6.0	7.6	10.1	17.4	22.6	26.2	28.4	29.5
Bhutan	5.6	5.5	5.7	6.3	7.3	11.0	20.1	25.2	27.8	29.1
Brunei	5.9	7.1	9.6	14.6	18.6	23.9	29.2	30.1	30.6	30.8
China	8.9	10.2	12.0	16.0	21.9	26.1	28.3	29.6	30.4	30.7
Fiji	5.2	6.8	9.3	12.6	15.6	23.5	27.2	28.9	29.9	30.4
Hong Kong	13.0	15.6	18.8	27.3	33.9	35.2	30.9	30.6	30.8	31.0
India	6.9	7.5	8.3	10.3	13.1	20.4	25.7	27.9	29.5	30.2
Indonesia	6.4	7.3	8.3	10.9	14.1	21.7	25.5	27.8	29.3	30.1
Kampuchea	5.0	5.6	7.2	10.1	13.0	16.9	23.3	26.6	28.7	29.8
Kiribati	4.3	8.3	8.2	7.3	10.7	16.7	23.8	27.5	29.7	30.3
Korea, Dem.	6.5	8.2	10.5	14.9	21.9	26.5	28.8	29.9	30.5	30.8
Korea, Rep. of	7.7	10.7	13.9	19.5	25.5	29.8	29.1	29.8	30.4	30.7
Lao	4.9	4.8	4.9	5.2	5.8	9.4	19.3	25.8	28.1	29.4
Macao	11.1	11.4	14.4	22.2	27.9	28.2	29.0	30.1	30.8	30.8
Malaysia	5.7	6.5	8.0	11.0	14.5	22.1	28.3	29.6	30.4	30.7
Maldives	4.7	5.7	5.4	5.5	7.0	13.0	23.6	27.9	29.8	30.3
Micronesia	5.8	6.1	5.5	8.2	10.8	19.8	27.9	29.4	30.3	30.8
Mongolia	5.5	5.9	6.9	8.3	11.1	18.4	26.9	28.8	29.9	30.5
Myanmar	6.5	7.2	7.7	9.9	13.4	20.9	26.5	28.5	29.8	30.4
Nepal	5.2	5.7	6.4	7.3	8.5	14.2	22.8	26.3	28.5	29.6
Pakistan	4.6	4.7	4.9	6.3	8.4	14.2	22.8	26.7	28.8	29.8
Philippines	5.3	5.9	7.3	10.1	13.5	22.3	27.0	28.8	29.9	30.5
P. New Guinea	4.9	5.1	5.7	6.5	8.5	15.0	23.9	26.8	28.8	29.8
Singapore	8.5	10.9	15.6	23.9	29.4	29.8	29.6	30.1	30.6	30.9
Solomon Islands	4.7	4.9	5.4	6.6	8.7	16.3	26.4	28.9	29.8	30.4
Sri Lanka	7.8	9.2	12.0	16.2	20.6	27.0	28.7	29.8	30.4	30.8
Taiwan	9.7	12.0	14.1	20.6	26.1	30.8	29.8	30.1	30.6	30.8
Thailand	6.0	7.4	9.1	12.8	18.0	25.3	27.8	29.2	30.1	30.6
Vanuatu	4.6	4.9	5.3	6.9	9.1	15.7	25.2	28.8	30.0	30.4
Viet Nam	6.7	6.6	6.6	9.2	13.7	22.2	27.4	29.2	30.1	30.6

Source: See Appendix Table I.B.1

Appendix I.B.3 Percentage of Population over 65 years old

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
OECD										
Australia	10.7	11.4	12.8	16.6	21.1	24.9	24.5	24.8	25.2	25.4
Austria	15.0	16.2	19.0	21.7	26.8	28.1	25.1	24.9	25.2	25.4
Belgium	15.0	17.3	18.5	21.7	25.7	25.9	24.7	24.9	25.2	25.4
Canada	11.3	12.8	14.5	19.0	24.2	24.9	24.7	25.0	25.3	25.4
Denmark	15.4	15.3	17.7	21.9	25.1	25.5	24.5	24.7	25.1	25.3
Finland	13.3	14.8	16.8	22.1	24.9	24.2	24.2	24.7	25.1	25.3
France	13.8	15.6	16.7	20.5	23.8	25.4	24.7	24.9	25.2	25.4
Germany	14.9	16.8	21.0	23.1	27.7	26.7	25.0	25.0	25.2	25.4
Greece	14.2	18.3	20.5	22.7	25.3	29.2	25.1	24.9	25.2	25.4
Iceland	10.6	11.7	12.4	15.3	19.9	23.5	24.5	24.8	25.2	25.4
Ireland	11.4	11.7	12.8	15.2	17.1	22.9	23.9	24.5	25.0	25.3
Italy	14.8	18.3	21.0	23.8	27.9	31.2	25.5	24.9	25.2	25.4
Japan	11.9	16.7	21.3	25.8	26.4	29.0	25.5	25.1	25.3	25.5
Luxembourg	13.8	15.8	18.6	22.0	26.5	24.7	24.7	24.6	25.0	25.1
Netherlands	13.2	14.2	16.4	21.4	26.1	26.0	24.9	24.9	25.2	25.4
New Zealand	11.1	11.7	13.3	16.8	20.3	23.3	24.1	24.7	25.1	25.3
Norway	16.4	16.1	16.0	19.7	22.9	24.6	24.7	24.9	25.2	25.4
Portugal	13.0	14.9	16.2	18.4	22.6	27.9	24.8	24.7	25.1	25.3
Spain	13.2	15.9	16.9	19.1	23.4	29.2	24.9	24.7	25.1	25.3
Sweden	18.0	17.0	18.7	21.9	23.8	23.1	24.5	25.0	25.2	25.4
Switzerland	14.9	16.5	19.8	23.7	27.1	25.7	25.0	25.1	25.3	25.4
United Kingdom	15.7	15.9	16.8	19.4	22.9	23.9	24.3	24.8	25.1	25.4
United States	12.3	12.6	13.5	17.7	22.4	23.2	24.1	24.8	25.2	25.4

Latin America and The Caribbean

Antigua	5.1	7.8	7.7	8.8	10.5	24.6	23.6	24.8	25.4	25.2
Argentina	9.0	9.9	10.7	12.5	14.5	20.0	22.9	24.1	24.8	25.2
Bahamas	4.3	5.0	6.6	9.2	12.1	20.8	22.7	23.9	24.4	24.7
Barbados	11.3	10.4	10.3	15.1	21.4	25.1	24.4	24.6	25.1	25.3
Belize	4.3	4.1	4.6	4.0	6.4	13.5	22.2	23.9	24.7	25.1
Brazil	4.4	5.1	6.4	8.7	12.1	18.0	22.1	23.7	24.6	25.0
Chile	5.9	6.8	8.3	11.0	15.2	20.2	22.9	24.2	24.9	25.2
Colombia	4.0	4.5	5.5	8.2	12.2	19.7	22.3	23.8	24.7	25.1
Costa Rica	4.2	5.4	6.7	9.5	13.9	20.1	23.5	24.6	25.1	25.3
Cuba	8.4	9.4	12.1	15.3	19.6	24.1	24.5	24.8	25.1	25.4
Dominica	8.3	8.9	7.7	7.8	8.8	21.4	24.3	24.8	26.1	25.9
Dominican Rep.	3.4	4.4	5.7	7.6	11.1	18.4	22.1	23.7	24.6	25.1
Ecuador	3.6	3.9	4.8	6.5	9.2	16.5	21.8	23.5	24.5	24.9
El Salvador	3.6	4.0	4.6	5.2	6.4	14.8	21.9	23.4	24.4	24.9
Grenada	6.6	7.5	4.7	6.7	10.5	18.5	22.0	23.5	24.4	25.5
Guadeloupe	7.8	8.9	10.5	12.8	17.3	21.0	23.6	24.7	25.3	25.5
Guatemala	3.0	3.4	3.6	4.3	5.7	11.3	20.4	23.0	24.3	24.9
Guyana	4.1	4.9	5.7	7.4	11.2	17.6	21.4	23.3	24.4	25.0
Haiti	4.1	3.8	3.8	4.2	5.2	8.8	16.4	21.3	23.4	24.3
Honduras	3.1	3.1	3.5	4.3	6.0	12.1	20.8	23.2	24.4	24.9
Jamaica	6.5	6.6	7.5	9.0	13.1	20.5	23.3	24.4	25.0	25.3
Martinique	9.7	10.8	11.7	13.9	20.0	22.6	24.2	24.8	25.0	25.3
Mexico	3.7	4.4	5.7	7.4	10.6	18.8	22.7	24.0	24.8	25.1
Nicaragua	2.6	2.9	3.3	4.3	6.2	11.9	21.0	23.4	24.5	25.0
Panama	4.5	5.3	6.7	9.2	13.0	20.5	23.1	24.3	24.9	25.2
Paraguay	3.4	3.3	3.6	5.0	7.1	11.2	19.7	23.3	24.5	25.0
Peru	3.7	4.1	5.0	6.6	9.1	15.7	21.4	23.2	24.3	24.9
St. Kitts and Nevis	15.0	11.4	8.8	2.7	9.8	19.6	20.4	22.4	22.0	22.0
St. Lucia	6.0	6.3	6.4	5.7	7.9	19.3	23.3	24.1	25.2	25.3
Suriname	4.3	4.8	5.6	6.8	11.0	16.7	22.6	24.0	24.6	25.1
Trinidad	5.7	6.2	7.5	10.0	14.3	19.1	22.8	24.1	24.9	25.2
Uruguay	11.4	13.3	14.1	15.1	17.2	22.1	23.6	24.4	25.0	25.3
Venezuela	3.6	4.3	5.4	7.8	10.9	17.5	22.6	24.0	24.7	25.1

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Eastern Europe and Ex-Soviet Union										
Albania	5.3	6.5	8.1	10.0	13.9	19.8	23.1	24.3	24.9	25.2
Armenia	6.9	10.2	10.0	13.4	17.3	21.7	23.2	24.3	25.0	25.3
Azerbaijan	5.5	8.3	7.8	10.2	14.8	20.1	22.8	24.2	24.9	25.2
Belarus	11.9	15.1	14.9	17.7	20.2	21.9	23.5	24.5	25.0	25.3
Bulgaria	13.4	17.2	18.3	20.5	21.2	23.1	23.6	24.3	24.9	25.2
Croatia	12.1	15.5	18.3	20.5	22.8	24.4	24.1	24.5	25.0	25.3
Czechoslovakia	11.8	12.7	13.3	16.8	18.8	22.3	23.2	24.1	24.8	25.2
Estonia	11.9	14.0	15.1	17.6	19.5	21.7	23.3	24.4	24.9	25.2
Georgia	10.8	13.8	13.9	16.0	19.0	21.9	23.4	24.4	25.0	25.3
Hungary	13.5	15.5	16.7	20.2	21.1	23.4	23.4	24.0	24.7	25.1
Kazakhstan	6.4	8.2	8.5	11.4	14.1	19.3	22.3	23.8	24.7	25.1
Kyrgyzstan	5.6	6.5	5.7	7.7	10.2	16.2	22.5	23.9	24.7	25.1
Latvia	12.4	13.3	14.6	15.7	15.8	16.6	17.9	19.4	20.3	22.1
Lithuania	11.1	13.3	14.6	17.0	20.4	22.6	23.7	24.5	25.0	25.3
Moldova	8.5	10.0	9.6	12.4	13.7	19.5	21.8	23.7	24.7	25.1
Poland	10.0	11.8	12.0	15.8	18.6	21.2	22.8	24.0	24.7	25.1
Romania	10.3	11.5	12.5	13.4	13.1	13.4	14.6	15.7	15.7	20.4
Russia Federation	11.4	12.7	14.3	14.6	14.4	16.0	18.0	19.8	20.0	21.4
Slovenia	11.1	14.1	16.9	19.9	22.9	26.3	24.4	24.6	25.1	25.3
Tajikistan	4.0	4.5	3.9	5.1	7.5	13.3	22.2	23.8	24.7	25.1
Turkmenistan	4.0	4.6	4.4	6.3	9.2	15.3	21.8	23.4	24.5	25.0
Ukraine	13.5	16.1	16.3	18.4	20.1	21.8	23.4	24.4	25.0	25.2
Uzbekistan	4.2	4.8	4.5	6.4	9.3	15.7	22.5	23.9	24.7	25.1
Yugoslavia	8.5	12.2	13.6	16.3	19.2	21.9	23.3	24.2	24.9	25.2
North Africa and The Middle East										
Algeria	3.7	3.5	4.0	4.8	7.0	14.3	22.0	23.6	24.5	25.0
Bahrain	2.8	3.2	4.9	9.1	11.1	12.0	20.4	23.8	24.7	25.1
Cyprus	10.8	11.6	13.5	16.7	20.8	22.6	24.0	24.8	25.3	25.4
Egypt	4.1	4.7	5.1	6.8	8.8	14.3	20.5	22.6	24.0	24.7
Iran	3.1	3.0	3.1	3.7	4.4	6.0	11.6	19.7	23.9	24.8
Iraq	2.7	2.8	3.2	3.9	5.0	9.7	19.2	23.0	24.3	24.9
Israel	8.9	7.5	8.0	11.5	15.5	21.3	24.0	24.8	25.2	25.4
Jordan	2.6	2.8	3.5	4.2	6.6	12.4	21.2	23.5	24.5	25.0
Kuwait	1.4	3.0	6.3	11.8	15.9	20.7	23.5	24.5	25.1	25.3
Lebanon	5.7	6.4	5.7	5.8	7.4	14.6	21.6	23.3	24.3	24.9
Libya	2.4	2.7	3.1	3.7	4.0	6.8	13.8	22.2	24.2	24.9
Malta	9.9	11.9	13.7	18.1	20.5	22.1	23.4	24.3	24.7	25.1
Morocco	3.6	3.8	4.0	5.1	7.5	13.2	20.7	22.8	24.1	24.8
Oman	2.4	2.7	3.3	4.2	5.0	7.8	17.1	23.8	24.7	25.1
Qatar	1.6	2.9	5.7	9.6	10.8	12.2	20.5	23.6	24.6	25.1
Saudi Arabia	2.6	2.7	3.1	4.1	4.8	7.9	16.8	23.4	24.4	24.9
Syria	2.8	2.9	2.8	3.3	4.7	8.9	18.5	23.6	24.6	25.0
Tunisia	4.1	4.9	5.2	6.5	10.1	17.3	22.2	23.7	24.6	25.0
Turkey	4.3	5.6	6.5	8.0	11.0	17.0	22.2	23.7	24.6	25.0
Un. Arab Emirates	1.6	3.0	6.8	14.7	16.7	16.2	22.9	24.1	24.8	25.2
Yemen	3.0	2.7	2.2	1.8	2.0	3.7	9.4	17.8	21.7	23.4
Sub-Saharan Africa										
Angola	3.1	3.1	3.0	3.1	3.4	5.2	11.7	19.6	22.1	23.5
Benin	2.7	2.6	2.5	2.8	3.5	7.0	15.0	20.1	22.6	23.8
Botswana	3.5	3.2	3.5	4.6	6.8	14.9	22.1	23.6	24.6	25.0
Burkina Faso	3.1	2.9	2.7	2.6	3.1	5.3	12.2	19.2	21.8	23.3
Burundi	3.0	2.3	1.9	2.3	2.9	4.5	11.5	19.6	22.1	23.5
Cameroon	3.8	3.4	3.1	3.5	4.2	8.1	16.4	21.5	23.5	24.4
Cape Verde	4.3	3.6	3.0	2.3	5.1	10.4	20.7	23.3	24.6	25.1
Cent. African Rep.	3.0	3.8	3.7	3.4	3.6	6.8	14.6	20.0	22.5	23.7
Chad	3.6	3.7	3.8	3.9	4.3	6.1	13.1	19.9	22.2	23.6
Comoros	2.5	2.6	2.7	2.9	3.5	6.9	15.7	21.6	23.6	24.4
Congo	3.9	3.4	2.8	2.7	3.4	6.0	13.6	21.1	23.3	24.2
Cote d'Ivoire	2.5	2.6	2.6	2.9	3.6	6.8	15.1	21.7	23.5	24.4
Djibouti	2.6	2.6	3.1	3.8	4.2	6.8	14.0	20.2	22.5	23.8
Equatorial Guinea	4.1	4.2	4.3	4.5	5.0	7.0	14.5	19.5	22.3	23.6
Ethiopia	2.8	2.6	2.4	2.4	2.6	4.1	10.2	19.1	22.1	23.6

Sub-Saharan Africa (Contd.)

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Gabon	4.9	4.7	4.3	4.4	4.6	5.8	13.4	20.7	23.0	24.1
Gambia	2.6	2.9	2.9	3.3	3.4	4.8	10.7	18.4	21.2	23.0
Ghana	2.9	2.9	3.0	3.4	4.3	8.0	16.2	20.7	23.1	24.2
Guinea	2.6	2.6	2.4	2.6	3.0	4.8	10.7	18.3	21.0	22.9
Guinea-Bissau	3.4	2.9	2.6	2.4	2.8	4.9	10.8	16.6	19.6	22.0
Kenya	2.8	2.6	2.3	2.7	3.7	7.9	16.7	22.3	24.0	24.7
Lesotho	3.6	3.6	3.9	4.4	5.4	9.6	18.0	21.5	23.5	24.4
Liberia	3.1	3.1	3.4	3.8	4.8	8.7	16.8	21.5	23.5	24.4
Madagascar	3.0	2.9	2.9	3.3	4.2	7.5	15.4	20.0	22.5	23.8
Malawi	2.6	2.4	2.2	2.3	2.6	4.2	10.2	18.9	21.8	23.4
Mali	3.1	2.8	2.8	2.6	2.6	4.9	11.0	18.8	21.8	23.4
Mauritania	3.3	3.3	3.0	2.7	2.8	4.3	10.0	18.3	21.4	23.2
Mauritius	5.4	6.4	7.7	11.4	17.0	23.2	23.4	24.1	24.8	25.2
Mozambique	3.1	2.9	2.6	2.6	2.9	4.8	11.5	19.6	22.0	23.5
Namibia	3.1	3.2	3.3	3.9	4.9	9.5	18.4	22.2	24.0	24.7
Niger	2.6	2.5	2.4	2.4	2.6	3.7	8.8	17.3	21.3	23.2
Nigeria	2.3	2.5	2.7	3.2	4.0	7.7	15.1	20.2	22.5	23.8
Rwanda	2.5	2.4	2.3	2.1	2.1	2.1	2.0	2.1	2.3	3.9
Sao Tome and P.	5.1	4.7	5.4	6.4	7.6	13.5	21.1	22.9	24.5	25.1
Senegal	2.6	2.3	2.1	2.2	2.6	4.7	11.9	19.4	22.0	23.5
Seychelles	7.4	8.0	8.4	7.6	11.8	19.3	22.7	23.8	23.6	24.2
Sierra Leone	3.1	3.2	3.1	3.2	3.3	4.8	10.5	18.0	20.7	22.6
Somalia	2.9	3.0	2.9	3.1	3.5	5.4	11.8	19.3	21.9	23.4
South Africa	4.0	4.3	5.1	6.5	8.5	13.1	21.0	23.1	24.3	24.9
Sudan	2.9	3.0	3.1	3.5	4.2	7.3	14.8	20.2	22.6	23.8
Swaziland	2.4	2.2	2.5	3.0	3.9	7.6	16.0	21.4	23.5	24.4
Tanzania	2.9	2.4	2.3	2.4	2.6	4.8	11.5	19.2	21.8	23.3
Togo	3.0	2.9	2.9	3.0	3.6	6.9	15.1	20.7	23.1	24.1
Uganda	2.8	2.4	1.9	1.8	2.3	4.8	11.7	19.1	21.8	23.3
Zaire	2.6	2.6	2.8	3.1	3.9	6.8	14.9	20.8	23.1	24.1
Zambia	2.3	2.0	1.8	2.0	2.6	5.4	13.8	21.2	23.3	24.2
Zimbabwe	2.5	2.6	3.0	4.1	6.1	12.8	20.5	23.2	24.4	25.0

Asia

Afghanistan	2.3	2.3	2.4	2.5	2.8	4.4	9.5	16.7	19.8	22.1
Bangladesh	3.1	3.4	3.9	4.6	6.3	12.1	17.1	20.5	22.8	23.9
Bhutan	3.4	3.4	3.6	4.0	4.6	7.1	14.5	19.6	22.2	23.5
Brunei	3.5	4.5	6.4	9.6	13.8	18.6	24.0	24.6	25.1	25.3
China	5.8	7.0	8.1	11.2	15.0	20.0	22.8	24.1	24.8	25.1
Fiji	3.2	4.2	5.9	8.2	11.2	17.5	21.4	23.2	24.4	24.8
Hong Kong	8.9	11.8	12.9	18.6	27.1	29.3	25.4	25.0	25.3	25.4
India	4.4	4.9	5.4	6.6	8.7	14.4	20.1	22.3	23.9	24.6
Indonesia	3.9	4.6	5.6	6.9	9.6	16.2	19.8	22.1	23.7	24.5
Kampuchea, Dem.	2.9	3.5	4.2	6.2	8.4	10.5	17.7	21.1	23.2	24.2
Kiribati	1.4	6.0	5.2	5.5	6.6	11.1	18.1	21.6	23.8	24.6
Korea, Dem.	4.2	5.4	7.1	9.7	14.4	21.1	23.4	24.3	24.9	25.2
Korea, Rep. of	4.9	6.8	9.5	12.9	18.7	24.4	23.7	24.2	24.8	25.2
Macao	7.4	8.4	9.2	14.5	21.8	21.6	23.3	24.4	25.1	25.2
Malaysia	3.6	4.1	5.2	7.2	10.2	16.0	22.8	24.1	24.8	25.1
Maldives	2.3	3.4	3.8	3.4	4.4	8.7	17.7	22.5	24.2	24.8
Micronesia	3.9	4.5	3.6	5.2	7.2	14.2	22.1	23.5	24.5	25.0
Mongolia	3.4	3.8	4.5	5.4	7.2	13.0	21.2	23.1	24.3	24.9
Myanmar	4.1	4.7	5.2	6.2	8.9	15.3	21.2	23.0	24.2	24.8
Nepal	3.2	3.3	3.5	3.8	4.0	4.4	4.8	5.1	5.5	9.5
Pakistan	2.8	3.0	3.1	3.8	5.3	9.3	16.9	21.0	23.2	24.2
Papua New Guine	2.7	3.1	3.4	4.1	5.2	9.9	18.2	21.1	23.2	24.2
Philippines	3.4	3.7	4.7	6.5	9.1	16.2	21.4	23.2	24.4	24.9
Singapore	5.6	7.3	9.9	16.1	23.3	23.4	24.1	24.6	25.1	25.3
Solomon Islands	2.8	3.0	3.6	4.2	5.7	11.8	20.6	23.1	24.3	24.8
Sri Lanka	5.0	6.3	7.8	11.0	15.0	21.2	23.0	24.1	24.8	25.2
Taiwan	6.1	8.5	9.9	14.0	19.8	25.0	24.1	24.4	25.0	25.3
Thailand	3.8	4.7	6.0	8.2	12.2	19.5	22.1	23.6	24.6	25.0
Vanuatu	2.6	2.9	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Viet Nam	4.5	4.7	4.5	5.7	9.0	16.3	22.0	23.6	24.5	25.0

Source: See Appendix Table I.B.1

Appendix I.B.4 Percentage of Population over 75 Years Old

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
OECD										
Australia	4.1	4.9	5.6	6.7	9.6	14.0	13.9	14.1	14.4	14.6
Austria	7.0	7.5	8.6	10.6	12.4	17.1	14.7	14.1	14.4	14.6
Belgium	6.7	7.5	9.4	9.9	12.5	15.3	14.2	14.1	14.4	14.7
Canada	4.5	5.7	6.7	7.9	11.3	14.4	14.3	14.2	14.5	14.7
Denmark	6.7	7.1	7.5	9.6	12.5	15.4	14.0	13.8	14.3	14.6
Finland	5.6	6.4	7.6	9.0	12.9	13.4	13.8	14.0	14.4	14.6
France	6.5	6.8	8.5	8.9	12.0	14.8	14.2	14.2	14.5	14.7
Germany	7.2	7.3	9.2	11.9	13.0	16.6	14.7	14.2	14.4	14.6
Greece	6.4	7.3	10.4	11.4	12.8	16.5	14.2	14.0	14.5	14.7
Iceland	3.9	5.0	6.2	6.1	9.0	12.7	13.9	14.3	14.5	14.7
Ireland	4.6	5.2	5.5	6.4	8.2	11.6	12.9	13.8	14.3	14.6
Italy	6.5	7.9	10.4	11.8	13.8	19.5	14.7	14.0	14.5	14.7
Japan	4.7	6.5	9.8	12.5	15.3	17.1	14.6	14.2	14.5	14.7
Luxembourg	6.1	6.2	8.5	9.6	12.5	14.6	14.3	13.9	14.4	14.6
Netherlands	5.6	6.4	7.4	9.0	12.6	16.2	14.5	14.1	14.4	14.6
New Zealand	4.4	5.1	5.7	6.9	9.4	13.2	13.6	13.9	14.3	14.6
Norway	6.9	8.2	8.0	8.4	11.4	14.6	14.1	14.1	14.4	14.6
Paraguay	1.0	1.1	1.1	1.4	2.3	4.6	9.4	13.1	13.9	14.3
Portugal	5.2	6.3	7.8	8.6	10.2	15.8	13.9	13.8	14.4	14.6
Spain	5.4	6.6	8.4	8.9	10.7	16.8	13.9	13.8	14.3	14.6
Sweden	8.1	8.7	8.5	10.3	12.4	13.9	14.1	14.2	14.4	14.6
Switzerland	6.8	7.5	9.1	11.4	13.8	16.0	14.7	14.3	14.5	14.7
United Kingdom	6.8	7.4	7.9	8.7	10.8	14.0	13.9	14.0	14.4	14.6
United States	5.0	5.8	6.1	7.0	10.2	12.9	13.8	14.1	14.4	14.6
Latin America and the Caribbean										
Antigua	1.3	3.3	2.9	4.4	4.0	10.9	12.1	13.5	14.1	14.0
Argentina	3.2	3.7	4.4	5.0	6.4	9.1	12.5	13.5	14.2	14.5
Bahamas, The	0.8	1.7	2.0	3.2	4.6	10.2	11.8	13.0	13.9	14.2
Barbados	5.1	5.2	5.0	5.1	8.6	14.7	13.9	13.8	14.3	14.6
Belize	1.1	1.2	1.7	1.7	2.0	5.9	11.0	12.8	13.8	14.3
Bolivia	0.9	1.0	1.2	1.5	2.1	4.4	9.7	11.8	13.3	14.0
Brazil	1.3	1.6	2.2	2.9	4.3	8.0	12.1	13.2	13.9	14.3
Chile	2.1	2.3	3.1	4.0	5.8	10.1	12.7	13.7	14.2	14.5
Colombia	1.3	1.5	1.8	2.5	4.2	8.9	11.9	13.2	14.0	14.4
Costa Rica	1.4	1.9	2.6	3.4	5.3	9.5	13.4	14.0	14.4	14.6
Cuba	3.4	3.8	4.7	6.5	8.5	15.0	14.1	14.0	14.3	14.6
Dominica	2.8	3.8	3.3	3.9	3.5	10.7	13.2	13.9	14.5	14.4
Dominican Repub	1.0	1.2	1.9	2.5	3.7	8.1	12.0	13.2	13.9	14.3
Ecuador	1.1	1.2	1.5	2.0	3.1	6.8	11.5	12.8	13.7	14.2
El Salvador	1.0	1.2	1.5	1.9	2.3	5.6	11.0	12.6	13.7	14.2
Grenada	2.2	2.2	2.8	3.3	3.0	8.0	12.6	13.6	14.0	14.5
Guadeloupe	2.8	3.6	4.5	5.6	6.9	12.4	13.7	14.2	14.4	14.7
Guatemala	0.8	0.9	1.2	1.3	1.9	4.1	9.7	12.5	13.7	14.2
Guyana	1.3	1.4	2.0	2.4	3.4	8.0	11.3	12.8	13.7	14.2
Haiti	1.2	1.1	1.1	1.2	1.5	3.0	6.9	11.0	12.8	13.6
Honduras	0.9	0.9	1.1	1.4	1.9	4.6	10.0	12.6	13.7	14.2
Jamaica	2.8	2.6	3.1	3.6	4.7	10.5	13.0	13.8	14.3	14.5
Martinique	3.6	4.8	5.6	6.4	7.7	14.0	14.1	14.0	14.3	14.7
Mexico	1.3	1.4	1.9	2.6	3.7	8.7	12.5	13.4	14.1	14.4
Nicaragua	0.7	0.8	1.0	1.3	2.0	4.5	10.2	12.8	13.9	14.3
Panama	1.5	1.8	2.4	3.3	4.9	9.9	12.7	13.7	14.2	14.5
Peru	1.1	1.1	1.5	2.0	2.9	6.5	11.2	12.6	13.6	14.1
St. Kitts and Nevis	5.0	5.7	5.9	2.7	2.4	10.9	12.2	14.3	14.0	14.0
St. Lucia	2.0	1.7	3.0	3.1	2.8	8.5	12.6	13.3	14.2	14.4
Suriname	1.3	1.3	2.1	2.5	3.3	8.3	12.6	13.4	14.0	14.4
Trinidad and Toba	2.0	2.2	2.7	3.6	5.3	8.8	12.7	13.7	14.2	14.5
Uruguay	4.4	5.3	6.5	7.0	8.0	11.0	12.8	13.8	14.3	14.6
Venezuela	1.1	1.3	1.8	2.5	4.0	7.6	12.3	13.3	14.0	14.4

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Eastern Europe and Ex-Soviet Union										
Albania	1.9	2.2	3.0	4.0	5.2	9.4	12.9	13.7	14.2	14.5
Armenia	2.0	3.4	5.1	4.6	7.6	10.0	12.6	13.8	14.3	14.6
Azerbaijan	1.7	2.4	4.0	3.4	5.6	9.3	12.6	13.8	14.3	14.5
Belarus	4.0	5.9	7.8	7.3	9.8	11.2	13.0	13.8	14.3	14.6
Bulgaria	5.0	6.3	8.6	9.0	11.0	12.0	12.9	13.6	14.2	14.5
Croatia	4.6	5.7	8.2	9.7	11.3	13.1	13.5	13.8	14.3	14.6
Czechoslovakia	5.0	4.8	5.7	6.3	9.0	10.7	12.3	13.3	14.1	14.4
Estonia	4.3	5.4	7.0	7.5	9.6	11.1	12.7	13.7	14.2	14.5
Georgia	3.5	5.2	7.0	6.7	8.7	11.2	12.8	13.7	14.3	14.5
Hungary	5.5	5.9	7.0	8.0	10.6	11.9	12.6	13.2	13.9	14.3
Kazakhstan	2.0	2.7	3.7	3.8	6.0	8.6	12.0	13.4	14.1	14.4
Kyrgyz Republic	1.7	2.2	2.7	2.3	3.9	6.7	11.8	13.2	14.0	14.4
Latvia	4.4	5.7	7.3	7.9	9.6	11.3	12.8	13.7	14.2	14.5
Lithuania	3.9	5.1	6.7	7.4	9.3	11.9	13.1	13.8	14.3	14.5
Moldova	2.5	3.5	4.3	4.1	6.4	7.5	11.0	13.4	14.2	14.5
Poland	4.0	4.1	5.3	5.5	8.5	9.8	12.1	13.4	14.1	14.4
Romania	4.1	4.1	5.4	5.7	7.3	10.0	11.9	13.1	14.0	14.3
Russian Federatio	3.9	5.5	7.3	7.0	10.1	10.7	12.8	13.8	14.3	14.5
Tajikistan	1.2	1.4	1.8	1.5	2.5	5.2	11.3	13.1	14.0	14.4
Turkmenistan	1.2	1.5	1.8	1.8	3.1	6.1	11.3	12.9	13.8	14.3
Ukraine	4.7	6.5	8.2	8.0	10.0	11.3	12.9	13.7	14.3	14.5
Uzbekistan	1.3	1.5	2.0	1.9	3.3	6.4	11.9	13.2	14.0	14.4
Yugoslavia, Feder	3.4	3.6	6.1	6.5	8.7	11.3	12.7	13.6	14.2	14.5
North Africa and The Middle East										
Algeria	1.3	1.1	1.3	1.7	2.2	5.6	11.1	12.7	13.8	14.3
Bahrain	0.8	0.8	1.4	2.2	4.6	5.3	10.1	13.5	14.1	14.4
Cyprus	4.7	5.0	5.8	7.3	9.4	11.9	13.5	14.2	14.5	14.7
Egypt, Arab Repu	1.2	1.5	1.8	2.0	2.9	5.2	10.0	12.0	13.3	14.0
Iran, Islamic Repu	0.9	0.9	0.9	1.0	1.4	2.2	4.8	9.2	13.2	14.0
Iraq	0.7	0.8	0.9	1.2	1.6	3.4	8.7	12.8	13.7	14.2
Israel	3.7	3.3	3.6	4.0	6.6	11.2	13.7	14.1	14.4	14.6
Jordan	0.8	0.8	1.1	1.4	1.9	5.1	10.3	12.8	13.8	14.3
Kuwait	0.4	0.6	1.5	3.4	6.7	9.2	13.0	14.0	14.4	14.6
Lebanon	2.1	1.9	2.3	2.1	2.5	6.2	11.1	12.5	13.6	14.1
Libya	0.6	0.7	0.9	1.1	1.4	2.5	5.8	11.1	13.6	14.2
Malta	3.7	4.6	5.4	7.0	9.9	11.3	12.6	13.6	14.2	14.5
Morocco	1.2	1.1	1.3	1.5	2.2	5.1	10.3	12.1	13.4	14.1
Oman	0.6	0.7	0.9	1.2	1.8	2.9	7.6	12.9	13.8	14.3
Qatar	0.5	0.5	1.1	2.6	4.6	5.2	9.8	13.3	14.0	14.4
Saudi Arabia	0.7	0.7	0.9	1.1	1.7	2.8	7.2	12.5	13.6	14.1
Slovenia	4.3	5.2	7.5	9.1	11.1	13.9	13.6	13.8	14.3	14.6
Syrian Arab Repu	0.9	0.9	1.0	1.0	1.4	3.3	8.4	13.0	13.9	14.2
Tunisia	1.2	1.4	1.9	2.1	3.1	7.4	11.9	13.0	13.8	14.3
Turkey	1.5	1.5	2.4	2.8	3.8	7.8	12.0	13.1	13.8	14.3
United Arab Emir	0.4	0.6	1.4	3.5	8.2	7.0	11.5	13.2	14.1	14.5
Yemen, Republic	0.8	0.7	0.6	0.6	0.5	1.0	3.0	7.6	11.5	12.8
Sub-Saharan Africa										
Angola	0.8	0.8	0.9	0.9	1.0	1.6	4.0	9.1	11.5	12.9
Benin	0.7	0.7	0.6	0.7	0.9	1.9	5.7	9.9	12.1	13.2
Botswana	1.2	1.1	1.1	1.4	2.1	5.2	11.3	12.9	13.9	14.3
Burkina Faso	0.8	0.8	0.7	0.8	0.8	1.5	4.1	8.8	11.3	12.7
Burundi	0.9	0.6	0.5	0.5	0.7	1.3	4.0	9.1	11.5	12.9
Cameroon	1.1	1.0	1.0	1.0	1.3	2.4	6.4	11.1	12.9	13.7
Cape Verde	1.9	1.0	1.3	1.0	1.0	4.0	10.3	12.9	13.9	14.4
Central African R	0.6	0.8	1.0	1.1	1.0	2.2	5.4	9.7	12.0	13.1
Chad	0.9	1.0	1.1	1.2	1.3	1.9	4.6	9.4	11.6	12.9
Comoros	0.8	0.8	0.8	0.9	1.0	2.2	6.3	11.5	13.0	13.7
Congo	1.0	1.0	0.9	0.8	0.9	2.0	5.1	10.4	12.6	13.6
Cote d'Ivoire	0.6	0.6	0.7	0.8	1.0	2.1	5.9	11.0	12.9	13.7
Equatorial Guinea	0.7	0.7	0.6	0.7	0.7	1.2	3.4	8.5	11.7	13.1
Ethiopia	1.2	1.2	1.2	1.4	1.6	2.3	5.3	9.5	11.7	12.9

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Gabon	1.5	1.4	1.4	1.4	1.5	2.0	4.9	10.0	12.3	13.4
Gambia, The	0.5	0.7	0.7	0.9	1.0	1.3	3.3	8.0	10.7	12.4
Ghana	0.8	0.8	0.9	1.0	1.3	2.5	6.5	10.7	12.6	13.5
Guinea	0.6	0.7	0.6	0.7	0.8	1.3	3.3	8.0	10.6	12.4
Guinea-Bissau	0.8	0.7	0.5	0.6	0.6	1.3	3.3	7.0	9.4	11.4
Kenya	0.9	0.8	0.8	0.7	1.1	2.5	6.9	11.9	13.3	13.9
Lesotho	1.0	1.0	1.1	1.4	1.7	3.2	7.9	11.1	13.0	13.8
Liberia	1.0	0.8	0.9	1.1	1.4	2.9	7.0	11.2	12.9	13.7
Madagascar	0.8	0.8	0.8	0.9	1.2	2.2	6.0	10.1	12.2	13.2
Malawi	0.6	0.6	0.5	0.6	0.6	1.2	3.4	8.3	11.5	12.9
Maldives	0.5	0.7	1.0	1.4	1.2	3.1	7.6	12.0	13.4	14.1
Mauritania	0.8	0.9	0.8	0.8	0.8	1.3	3.1	7.9	11.1	12.6
Mauritius	1.6	2.1	2.7	3.6	6.0	11.1	12.5	13.3	14.1	14.5
Mozambique	0.8	0.8	0.7	0.7	0.8	1.4	3.8	9.0	11.4	12.9
Namibia	0.9	0.9	0.9	1.1	1.5	3.2	8.1	12.0	13.4	14.0
Niger	0.6	0.6	0.6	0.6	0.7	1.0	2.7	7.2	11.3	12.7
Nigeria	0.5	0.6	0.7	0.9	1.1	2.4	5.8	10.0	12.0	13.1
Rwanda	0.6	0.6	0.5	0.5	0.6	1.1	3.3	8.2	12.1	13.2
Sao Tome and Pri	1.7	1.3	2.2	2.7	3.2	5.0	10.2	12.7	13.9	14.4
Senegal	0.6	0.5	0.5	0.5	0.7	1.3	3.9	8.9	11.4	12.8
Sierra Leone	0.7	0.8	0.8	0.9	0.9	1.4	3.3	7.7	10.3	12.1
Somalia	0.8	0.8	0.8	0.9	1.0	1.5	3.9	8.8	11.3	12.8
South Africa	1.2	1.3	1.6	2.1	2.9	5.4	10.5	12.4	13.7	14.2
Sudan	0.8	0.8	0.8	1.0	1.2	2.2	5.6	10.0	12.1	13.2
Swaziland	0.6	0.5	0.7	0.8	1.1	2.3	6.3	11.1	12.9	13.7
Tanzania	0.9	0.7	0.5	0.6	0.7	1.3	3.7	8.6	11.2	12.7
Togo	0.8	0.8	0.8	0.9	1.1	2.1	5.8	10.5	12.5	13.4
Uganda	0.8	0.6	0.5	0.5	0.5	1.3	3.9	8.7	11.3	12.7
Zaire	0.7	0.7	0.7	0.9	1.1	2.1	5.7	10.6	12.5	13.4
Zambia	0.6	0.5	0.4	0.4	0.6	1.6	5.2	10.6	12.6	13.6
Zimbabwe	0.8	0.7	0.8	1.1	1.8	4.6	10.1	12.5	13.7	14.2

Asia

Afghanistan	0.5	0.5	0.6	0.6	0.7	1.2	2.8	6.8	9.7	11.7
Bangladesh	1.0	1.0	1.1	1.3	1.6	3.8	7.2	10.1	12.2	13.3
Bhutan	0.8	0.9	1.0	1.1	1.3	2.2	5.3	9.4	11.6	12.9
Brunei	0.8	1.2	2.2	3.3	4.9	9.0	13.0	13.8	14.3	14.6
China	1.8	2.3	3.0	3.7	5.9	11.2	12.7	13.4	14.0	14.4
Djibouti	0.5	0.7	0.8	1.0	1.2	2.1	5.2	9.7	11.9	13.1
Fiji	0.9	1.1	1.6	2.6	3.8	6.8	11.3	12.8	13.7	14.2
Hong Kong	3.0	4.7	6.4	6.8	11.5	17.1	14.9	14.2	14.5	14.7
India	1.2	1.4	1.7	2.0	2.7	5.5	9.8	11.8	13.2	13.9
Indonesia	1.1	1.2	1.6	2.1	2.9	5.9	9.6	11.6	13.1	13.8
Kampuchea	0.7	0.9	1.2	1.5	2.4	4.2	8.6	10.9	12.6	13.5
Kiribati	0.0	1.2	2.1	1.8	1.6	3.5	8.1	10.8	12.8	13.7
Korea, Democrati	1.3	1.7	2.6	3.5	5.1	12.2	13.0	13.6	14.1	14.5
Korea, Republic o	1.5	2.0	3.2	4.7	6.9	13.2	13.0	13.4	14.1	14.4
Lao People's Dem	0.7	0.8	0.8	0.9	1.1	1.7	5.1	9.9	11.9	13.1
Macao	2.4	3.0	4.0	4.4	8.1	12.0	13.2	13.9	14.3	14.4
Malaysia	1.1	1.2	1.6	2.3	3.6	7.1	12.3	13.3	14.0	14.4
Mali	0.9	0.7	0.7	0.8	0.8	1.4	3.6	8.4	11.3	12.8
Micronesia, Feder	1.0	1.5	1.2	1.6	2.3	6.0	11.1	12.7	13.9	14.1
Mongolia	0.9	1.1	1.4	1.8	2.3	5.1	10.4	12.3	13.6	14.2
Myanmar	1.2	1.4	1.8	2.1	2.7	6.4	11.1	12.5	13.5	14.1
Nepal	0.8	0.9	1.1	1.4	1.7	2.9	7.0	10.2	12.4	13.4
Pakistan	1.0	1.1	1.4	1.9	3.0	6.3	11.1	12.7	13.7	14.2
Papua New Guine	0.7	0.8	0.9	1.0	1.4	3.0	7.1	10.8	12.6	13.5
Philippines	0.4	0.7	0.9	1.1	1.5	3.3	8.0	10.6	12.6	13.6
Seychelles	2.9	2.7	3.6	3.3	2.9	8.8	12.6	13.9	13.8	14.5
Singapore	1.9	2.4	3.7	5.3	9.6	13.7	14.0	14.0	14.3	14.6
Solomon Islands	0.6	0.9	1.1	1.4	1.8	4.2	9.6	12.4	13.6	14.2
Sri Lanka	1.5	2.0	2.8	3.7	5.9	9.9	12.2	13.5	14.2	14.5
Taiwan	1.7	2.9	4.1	4.9	7.9	12.3	13.2	13.7	14.3	14.5
Thailand	1.1	1.3	1.9	2.6	4.1	9.0	11.5	13.0	13.9	14.3
Vanuatu	0.7	1.0	0.8	1.3	1.9	4.1	9.2	12.5	13.7	14.1
Viet Nam	1.4	1.5	1.7	1.8	2.7	6.8	11.8	13.0	13.8	14.2

Source: See Appendix Table I.B.1

Appendix I.B.5 Population Aged 15 to 64 / Population over 65 Years Old

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
OECD										
Australia	6.3	5.9	5.3	3.9	2.9	2.3	2.4	2.3	2.3	2.3
Austria	4.5	4.1	3.5	2.9	2.1	2.0	2.3	2.3	2.3	2.3
Belgium	4.5	3.7	3.5	2.8	2.2	2.2	2.3	2.3	2.3	2.3
Canada	6.0	5.3	4.6	3.3	2.4	2.3	2.3	2.3	2.3	2.3
Denmark	4.4	4.4	3.7	2.8	2.3	2.2	2.4	2.3	2.3	2.3
Finland	5.1	4.5	3.9	2.7	2.3	2.4	2.4	2.3	2.3	2.3
France	4.8	4.2	3.9	3.0	2.5	2.3	2.3	2.3	2.3	2.3
Germany	4.6	3.9	3.0	2.7	2.0	2.1	2.3	2.3	2.3	2.3
Greece	4.7	3.6	3.1	2.7	2.3	1.9	2.3	2.3	2.3	2.3
Iceland	6.1	5.6	5.4	4.3	3.1	2.5	2.4	2.3	2.3	2.2
Ireland	5.4	5.6	5.1	4.3	3.7	2.6	2.4	2.4	2.3	2.3
Italy	4.6	3.7	3.1	2.6	2.1	1.7	2.2	2.3	2.3	2.3
Japan	5.9	4.0	3.0	2.3	2.2	1.9	2.2	2.3	2.3	2.2
Luxembourg	5.0	4.2	3.5	2.8	2.1	2.3	2.3	2.3	2.3	2.2
Netherlands	5.2	4.7	4.1	2.9	2.2	2.2	2.3	2.3	2.3	2.3
New Zealand	6.0	5.6	5.0	3.8	3.0	2.5	2.4	2.3	2.3	2.3
Norway	3.9	4.0	4.1	3.2	2.6	2.4	2.3	2.3	2.3	2.3
Portugal	5.1	4.5	4.1	3.5	2.7	2.0	2.3	2.3	2.3	2.3
Spain	5.1	4.3	3.9	3.4	2.6	1.9	2.3	2.3	2.3	2.3
Sweden	3.6	3.7	3.4	2.8	2.4	2.6	2.4	2.3	2.3	2.3
Switzerland	4.6	4.0	3.2	2.6	2.1	2.2	2.3	2.3	2.3	2.2
United Kingdom	4.2	4.1	3.9	3.2	2.6	2.5	2.4	2.3	2.3	2.3
United States	5.4	5.3	5.0	3.6	2.6	2.5	2.4	2.3	2.3	2.3
Latin America and The Caribbean										
Antigua	11.3	9.1	8.6	7.9	6.5	2.3	2.4	2.3	2.2	2.2
Argentina	6.8	6.5	6.1	5.2	4.5	3.1	2.6	2.4	2.3	2.3
Bahamas	14.9	14.0	10.3	7.4	5.6	2.9	2.6	2.4	2.4	2.3
Barbados	5.8	6.5	6.7	4.5	2.8	2.3	2.4	2.4	2.3	2.3
Belize	12.5	13.9	12.7	17.1	10.8	4.9	2.7	2.4	2.3	2.3
Bolivia	16.0	15.6	15.0	13.0	10.5	5.3	3.0	2.6	2.4	2.3
Brazil	13.8	12.6	10.7	7.8	5.5	3.5	2.7	2.5	2.3	2.3
Chile	10.8	9.7	8.2	6.1	4.2	3.0	2.6	2.4	2.3	2.3
Colombia	15.2	14.8	12.6	8.4	5.5	3.1	2.7	2.5	2.3	2.3
Costa Rica	14.1	11.9	10.1	7.1	4.7	3.0	2.5	2.4	2.3	2.3
Cuba	8.2	7.2	5.6	4.3	3.2	2.4	2.4	2.3	2.3	2.3
Dominica	6.7	6.9	8.3	8.6	7.7	2.8	2.4	2.4	2.2	2.2
Dominican Rep.	17.5	14.6	12.1	9.0	6.0	3.4	2.7	2.5	2.3	2.3
Ecuador	15.7	16.0	14.0	10.5	7.4	3.9	2.7	2.5	2.4	2.3
El Salvador	14.7	14.5	13.6	13.0	10.9	4.4	2.7	2.5	2.4	2.3
Grenada	9.0	8.1	14.6	10.3	6.4	3.4	2.9	2.6	2.5	2.4
Guadeloupe	8.3	7.2	6.4	5.2	3.6	2.9	2.5	2.3	2.3	2.2
Guatemala	17.1	16.1	16.5	14.9	11.9	5.9	3.0	2.6	2.4	2.3
Guyana	14.8	13.2	12.3	9.4	6.0	3.6	2.8	2.5	2.4	2.3
Haiti	13.7	14.7	15.7	14.9	12.5	7.7	3.9	2.8	2.5	2.4
Honduras	16.6	17.8	17.2	15.0	11.4	5.5	2.9	2.5	2.4	2.3
Jamaica	9.1	9.5	9.0	7.6	5.0	3.0	2.5	2.4	2.3	2.3
Martinique	6.8	6.0	5.8	4.8	3.0	2.6	2.4	2.3	2.3	2.3
Mexico	15.9	14.4	12.0	9.3	6.4	3.3	2.6	2.4	2.3	2.3
Nicaragua	19.6	19.0	18.3	14.9	11.0	5.6	2.9	2.5	2.4	2.3
Panama	13.4	12.3	10.2	7.4	5.1	3.0	2.5	2.4	2.3	2.3
Paraguay	16.2	17.1	16.8	12.4	9.2	5.9	3.1	2.5	2.4	2.3
Peru	15.9	15.0	13.3	10.5	7.4	4.1	2.8	2.5	2.4	2.3
St. Kitts and N.	3.8	5.3	7.0	22.0	6.0	2.3	2.0	1.8	1.8	1.8
St. Lucia	9.4	9.7	10.1	12.3	9.0	3.2	2.5	2.4	2.3	2.2
Suriname	14.2	12.6	12.0	10.3	6.0	3.8	2.6	2.4	2.3	2.3
T. and Tobago	10.7	10.3	9.0	6.7	4.5	3.2	2.6	2.4	2.3	2.3
Uruguay	5.5	4.8	4.5	4.2	3.7	2.7	2.5	2.4	2.3	2.3
Venezuela	16.4	14.6	12.5	8.7	6.1	3.6	2.6	2.4	2.3	2.3

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Eastern Europe and Ex-Soviet Union										
Albania	11.5	9.8	8.3	6.7	4.7	3.1	2.6	2.4	2.3	2.3
Armenia	9.2	6.4	6.8	4.8	3.6	2.7	2.5	2.4	2.3	2.3
Azerbaijan	11.1	7.7	8.8	6.5	4.4	3.0	2.6	2.4	2.3	2.3
Belarus	5.4	4.2	4.3	3.5	3.0	2.7	2.5	2.4	2.3	2.3
Bulgaria	5.0	3.7	3.5	3.0	2.9	2.5	2.5	2.4	2.3	2.3
Croatia	5.6	4.3	3.5	3.0	2.6	2.4	2.4	2.4	2.3	2.3
Czechoslovakia	5.5	5.3	5.0	3.8	3.3	2.7	2.5	2.4	2.3	2.3
Estonia	5.5	4.6	4.3	3.5	3.1	2.8	2.5	2.4	2.3	2.3
Georgia	6.1	4.6	4.7	4.0	3.3	2.7	2.5	2.4	2.3	2.3
Hungary	5.0	4.3	3.9	3.1	2.9	2.5	2.5	2.4	2.3	2.3
Kazakhstan	9.6	7.9	8.0	5.8	4.6	3.2	2.7	2.5	2.3	2.3
Kyrgyzstan	10.0	9.1	11.4	8.7	6.6	4.0	2.6	2.4	2.3	2.3
Latvia	5.3	4.5	4.1	3.5	3.0	2.7	2.5	2.4	2.3	2.3
Lithuania	6.0	4.9	4.5	3.8	3.0	2.6	2.5	2.4	2.3	2.3
Moldova	7.0	6.6	7.0	5.1	4.8	3.1	2.7	2.5	2.3	2.3
Poland	6.5	5.7	5.6	4.0	3.3	2.8	2.6	2.4	2.3	2.3
Romania	6.3	5.2	4.9	4.4	4.0	2.9	2.6	2.4	2.3	2.2
Russia Fed.	5.7	4.5	4.6	3.4	3.0	2.8	2.5	2.4	2.3	2.3
Slovenia	6.1	4.8	3.9	3.2	2.6	2.1	2.4	2.4	2.3	2.3
Tajikistan	12.9	12.2	15.7	12.9	9.1	5.0	2.7	2.5	2.3	2.3
Turkmenistan	13.6	12.8	15.0	10.7	7.4	4.2	2.7	2.5	2.4	2.3
Ukraine	4.8	3.9	3.9	3.4	3.0	2.7	2.5	2.4	2.3	2.3
Uzbekistan	13.0	12.3	14.5	10.6	7.2	4.1	2.6	2.4	2.3	2.3
Yugoslavia	8.0	5.4	4.8	3.9	3.2	2.7	2.5	2.4	2.3	2.3
North Africa and The Middle East										
Afghanistan	22.4	22.6	22.0	21.5	20.4	15.1	7.2	3.8	3.1	2.7
Algeria	14.4	16.6	15.3	13.9	9.8	4.6	2.7	2.5	2.4	2.3
Bahrain	22.4	19.1	12.9	6.7	5.6	5.5	3.0	2.5	2.3	2.3
Cyprus	5.9	5.7	4.9	3.8	2.9	2.6	2.4	2.3	2.3	2.3
Egypt	13.7	12.9	12.9	9.9	7.7	4.6	3.0	2.6	2.4	2.3
Iran	17.2	17.2	17.5	14.8	13.1	10.6	5.7	3.1	2.4	2.3
Iraq	18.6	18.5	17.5	15.7	13.2	6.9	3.2	2.6	2.4	2.3
Israel	6.7	8.5	8.5	5.8	4.1	2.8	2.4	2.3	2.3	2.3
Jordan	20.6	19.6	17.0	15.5	10.3	5.4	2.8	2.5	2.4	2.3
Kuwait	43.6	23.0	11.2	5.6	4.0	2.9	2.5	2.4	2.3	2.3
Lebanon	10.2	8.9	11.1	11.8	9.3	4.5	2.8	2.5	2.4	2.3
Libya	21.5	19.3	16.9	15.1	14.6	9.8	4.7	2.7	2.4	2.3
Malta	6.8	5.6	4.8	3.4	3.0	2.7	2.5	2.4	2.3	2.3
Morocco	15.5	15.3	16.0	13.1	9.1	5.0	2.9	2.6	2.4	2.3
Oman	20.9	18.6	16.4	13.5	12.2	8.7	3.7	2.5	2.3	2.3
Qatar	39.9	20.9	10.8	6.3	5.8	5.4	3.0	2.5	2.3	2.3
Saudi Arabia	19.8	19.5	17.4	13.7	12.8	8.6	3.8	2.5	2.4	2.3
Syrian Arab Rep.	17.7	17.3	19.4	18.3	13.6	7.6	3.4	2.5	2.3	2.3
Tunisia	14.2	12.7	12.9	10.6	6.7	3.7	2.7	2.5	2.3	2.3
Turkey	14.2	11.0	10.2	8.6	6.1	3.7	2.7	2.5	2.4	2.3
U. Arab Emirates	43.1	23.1	9.7	4.2	3.7	3.9	2.6	2.4	2.3	2.3
Yemen	15.8	17.3	21.6	28.7	27.4	17.8	7.2	3.5	2.8	2.5
Sub-Saharan Africa										
Angola	16.8	16.6	17.0	17.9	17.4	13.1	5.7	3.1	2.7	2.5
Benin	18.1	20.2	22.2	21.6	18.7	9.8	4.3	3.0	2.6	2.5
Botswana	13.9	17.9	18.4	14.7	10.2	4.3	2.7	2.5	2.3	2.3
Burkina Faso	16.6	17.7	19.3	21.4	20.1	12.9	5.5	3.2	2.7	2.5
Burundi	17.0	21.6	26.7	24.2	20.3	15.1	5.8	3.1	2.7	2.5
Cameroon	13.2	15.5	17.7	16.9	15.4	8.4	3.9	2.8	2.5	2.4
Cape Verde	11.9	13.7	19.3	28.0	13.2	6.5	2.9	2.5	2.3	2.3
Cent. African Rep.	18.1	13.9	14.9	17.6	17.8	10.1	4.4	3.1	2.6	2.5
Chad	15.1	14.2	14.1	14.4	14.2	11.2	5.0	3.1	2.7	2.5
Comoros	19.6	19.5	20.3	19.9	18.0	10.0	4.1	2.8	2.5	2.4
Congo	13.0	14.6	18.5	20.8	17.7	11.4	4.8	2.9	2.5	2.4
Cote d'Ivoire	19.9	20.2	20.6	19.7	17.4	10.0	4.3	2.8	2.5	2.4
Djibouti	20.9	20.7	17.5	15.2	14.7	10.1	4.7	3.0	2.6	2.5
Eq. Guinea	13.4	12.6	12.9	13.2	12.7	9.9	4.5	3.1	2.7	2.5
Ethiopia	17.9	19.0	20.8	21.8	21.6	16.4	6.6	3.2	2.7	2.5

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Sub-Saharan Africa (Contd.)										
Gabon	11.3	11.0	12.1	12.8	13.2	11.8	4.9	2.9	2.6	2.4
Gambia	20.5	17.9	17.7	16.6	17.0	14.3	6.3	3.4	2.8	2.6
Ghana	17.6	18.0	18.6	17.8	15.2	8.5	3.9	2.9	2.6	2.4
Guinea	19.4	20.0	21.0	20.7	19.5	14.1	6.3	3.4	2.9	2.6
Guinea-Bissau	15.9	18.1	20.7	23.3	21.8	14.0	6.2	3.8	3.1	2.7
Kenya	16.6	19.5	23.6	21.5	17.2	8.7	3.8	2.7	2.4	2.3
Lesotho	14.7	15.2	15.0	14.4	12.5	7.0	3.5	2.8	2.5	2.4
Liberia	16.6	17.6	16.9	16.0	13.7	7.8	3.8	2.8	2.5	2.4
Madagascar	17.4	18.1	19.3	18.5	15.7	9.1	4.2	3.1	2.6	2.5
Malawi	19.9	20.7	22.5	23.2	22.0	16.1	6.6	3.3	2.7	2.5
Mali	16.0	18.1	18.4	21.1	22.8	13.8	6.1	3.3	2.7	2.5
Mauritania	15.8	15.2	16.9	19.7	20.6	15.7	6.8	3.4	2.8	2.5
Mauritius	12.1	11.0	9.2	6.0	3.8	2.5	2.5	2.4	2.3	2.3
Mozambique	16.8	17.9	19.4	21.0	20.0	14.3	5.9	3.1	2.7	2.5
Namibia	16.2	16.8	17.3	16.1	13.5	7.1	3.4	2.7	2.4	2.3
Niger	19.7	19.3	20.3	21.2	21.4	17.6	7.7	3.6	2.8	2.5
Nigeria	22.5	21.6	20.5	19.2	16.1	8.8	4.3	3.0	2.6	2.5
Rwanda	20.1	20.9	23.4	25.9	24.6	16.9	7.0	3.4	2.7	2.5
Sao Tome and P.	11.3	12.7	11.6	9.9	8.8	4.9	2.8	2.5	2.3	2.3
Senegal	19.1	22.0	24.2	24.7	22.9	14.5	5.6	3.2	2.7	2.5
Seychelles	8.2	7.7	8.0	9.4	5.8	3.3	2.7	2.4	2.4	2.5
Sierra Leone	17.3	16.4	16.5	17.1	17.7	14.2	6.4	3.5	2.9	2.6
Somalia	17.3	17.0	17.5	18.0	17.3	12.8	5.7	3.2	2.7	2.5
South Africa	14.5	13.6	12.4	10.2	7.9	5.1	2.9	2.6	2.4	2.3
Sudan	18.1	17.9	17.9	17.1	15.3	9.4	4.4	3.0	2.6	2.5
Swaziland	20.5	22.8	21.7	19.4	16.5	9.0	4.0	2.8	2.5	2.4
Tanzania	17.1	20.9	22.0	23.4	23.4	14.2	5.8	3.2	2.7	2.5
Togo	16.2	17.2	18.7	19.8	17.6	10.0	4.3	2.9	2.6	2.4
Uganda	17.1	20.5	26.8	30.8	26.8	14.2	5.7	3.2	2.7	2.5
Zaire	19.7	19.7	19.7	18.7	16.5	10.1	4.3	2.9	2.5	2.4
Zambia	21.4	25.1	30.0	28.7	23.9	12.7	4.8	2.8	2.5	2.4
Zimbabwe	21.1	22.1	21.0	16.2	11.2	5.1	3.0	2.5	2.4	2.3
Asia										
Bangladesh	17.3	17.7	16.7	15.0	10.9	5.5	3.7	3.0	2.6	2.4
Bhutan	16.6	16.2	15.8	15.2	14.0	9.7	4.5	3.1	2.7	2.5
Brunei	17.8	14.4	10.3	7.1	4.7	3.4	2.4	2.3	2.3	2.3
China	11.5	9.4	8.5	6.0	4.3	3.1	2.6	2.4	2.3	2.3
Fiji	18.5	15.5	11.4	8.2	6.0	3.6	2.8	2.5	2.4	2.3
Hong Kong	7.9	6.0	5.5	3.5	2.1	1.9	2.3	2.3	2.3	2.2
India	13.4	12.7	12.1	10.3	7.8	4.5	3.0	2.7	2.4	2.3
Indonesia	15.3	14.3	12.1	9.9	7.1	3.9	3.1	2.7	2.5	2.4
Kampuchea	21.4	16.6	15.8	10.8	7.9	6.5	3.5	2.9	2.5	2.4
Korea, Dem.	16.3	12.4	9.7	7.2	4.5	2.9	2.5	2.4	2.3	2.3
Korea, Rep. of	14.0	10.5	7.4	5.3	3.4	2.4	2.5	2.4	2.3	2.3
Lao	17.8	16.7	17.4	17.7	16.7	12.1	4.9	3.0	2.6	2.5
Micronesia	14.0	11.8	16.5	12.7	9.4	4.6	2.7	2.5	2.4	2.3
Macao	9.3	8.1	7.7	4.5	2.7	2.8	2.5	2.4	2.3	2.3
Malaysia	16.0	14.8	12.6	9.3	6.5	4.0	2.6	2.4	2.3	2.3
Maldives	23.0	15.2	14.4	17.6	14.8	7.8	3.6	2.6	2.4	2.3
Mongolia	16.2	15.2	13.8	12.3	9.5	5.1	2.8	2.5	2.4	2.3
Myanmar	14.3	12.9	12.6	11.1	7.6	4.2	2.8	2.6	2.4	2.3
Nepal	17.4	16.0	14.8	13.4	12.2	7.2	3.7	3.0	2.6	2.4
Pakistan	19.0	18.3	19.2	16.5	12.6	7.3	3.7	2.9	2.5	2.4
Philippines	16.8	16.7	14.4	10.6	7.4	3.9	2.8	2.5	2.4	2.3
P. New Guinea	21.2	18.0	18.2	16.0	13.2	6.9	3.4	2.9	2.5	2.4
Singapore	12.7	9.6	7.2	4.1	2.5	2.5	2.4	2.3	2.3	2.3
Solomon Islands	17.9	18.4	16.3	15.4	12.0	5.6	2.9	2.6	2.4	2.3
Sri Lanka	12.6	10.8	8.8	6.1	4.3	2.8	2.6	2.4	2.3	2.3
Taiwan	10.7	8.2	7.1	4.8	3.2	2.3	2.4	2.4	2.3	2.3
Thailand	16.6	14.3	11.6	8.3	5.5	3.1	2.7	2.5	2.4	2.3
Vanuatu	20.8	18.7	19.4	14.5	11.3	6.1	3.1	2.5	2.4	2.3
Viet Nam	12.4	12.9	14.7	12.3	7.6	3.9	2.7	2.5	2.4	2.3

Source: See Appendix Table I.B.1

Appendix I.B.6 Population over 65 Years Old / Population Aged 15 to 64 (percentage)

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
OECD										
Australia	16.0	16.9	18.9	25.6	34.6	43.1	42.4	43.1	43.9	44.3
Austria	22.3	24.1	29.0	34.5	46.6	50.7	43.7	43.3	43.9	44.3
Belgium	22.4	26.7	28.8	35.1	44.6	45.4	42.8	43.2	43.9	44.4
Canada	16.7	19.0	21.7	30.0	41.6	43.2	42.7	43.4	44.1	44.4
Denmark	22.7	22.8	27.2	35.3	43.1	44.5	42.3	42.8	43.7	44.2
Finland	19.8	22.2	25.7	36.6	43.2	41.6	41.8	42.9	43.8	44.2
France	20.8	23.9	25.4	33.1	40.3	44.4	42.9	43.3	44.0	44.4
Germany	21.7	25.4	33.0	37.6	49.3	47.4	43.5	43.4	44.0	44.4
Greece	21.2	27.7	32.2	36.7	42.8	53.9	43.8	43.2	44.0	44.4
Iceland	16.4	17.8	18.5	23.4	32.2	40.1	42.5	43.4	44.1	44.6
Ireland	18.4	17.9	19.7	23.5	26.8	38.9	41.0	42.4	43.5	44.2
Italy	21.6	27.2	32.4	38.2	48.5	59.0	44.7	43.4	44.0	44.4
Japan	17.1	24.7	33.8	43.7	45.5	53.1	44.7	43.7	44.1	44.5
Luxembourg	19.9	23.8	28.3	35.6	46.6	42.7	42.7	43.3	44.2	44.5
Netherlands	19.1	21.2	24.6	34.1	45.7	45.5	43.1	43.3	44.0	44.4
New Zealand	16.7	17.7	19.9	26.1	33.2	39.5	41.5	42.8	43.8	44.2
Norway	25.4	24.9	24.4	31.4	38.6	42.5	42.7	43.3	43.9	44.3
Portugal	19.5	22.2	24.5	28.2	37.0	50.3	43.0	42.8	43.7	44.3
Spain	19.8	23.5	25.5	29.4	38.6	53.8	43.3	42.8	43.7	44.2
Sweden	27.8	26.8	29.7	36.2	40.9	39.0	42.2	43.3	44.0	44.3
Switzerland	21.8	25.3	31.1	39.2	48.2	44.8	43.5	43.7	44.1	44.5
United Kingdom	24.0	24.7	26.0	30.9	38.7	40.8	41.8	42.9	43.8	44.3
United States	18.7	19.0	20.2	27.9	37.8	39.3	41.5	42.9	43.8	44.3
Latin America and The Caribbean										
Antigua	8.9	10.9	11.6	12.7	15.3	43.0	41.3	43.8	45.0	45.0
Argentina	14.8	15.5	16.3	19.2	22.3	32.7	38.7	41.5	43.1	43.9
Bahamas	6.7	7.1	9.7	13.5	18.0	34.7	38.4	41.0	42.1	42.9
Barbados	17.3	15.4	14.9	22.4	35.1	43.8	42.0	41.9	42.8	43.3
Belize	8.0	7.2	7.9	5.9	9.2	20.3	37.5	41.1	42.8	43.7
Bolivia	6.2	6.4	6.7	7.7	9.5	18.8	33.4	37.7	41.0	42.7
Brazil	7.2	7.9	9.3	12.8	18.2	28.8	37.0	40.5	42.6	43.6
Chile	9.3	10.3	12.2	16.4	23.6	33.0	38.8	41.6	43.2	43.9
Colombia	6.6	6.7	8.0	11.9	18.3	32.1	37.5	40.7	42.7	43.6
Costa Rica	7.1	8.4	9.9	14.1	21.5	32.9	40.1	42.5	43.7	44.2
Cuba	12.1	14.0	17.9	23.1	31.6	41.2	42.3	43.0	43.8	44.3
Dominica	15.0	14.6	12.1	11.6	13.0	35.9	41.3	42.5	45.0	45.0
Dominican Rep.	5.7	6.9	8.3	11.1	16.6	29.4	37.1	40.6	42.6	43.6
Ecuador	6.4	6.2	7.1	9.5	13.5	25.9	36.4	40.0	42.2	43.3
El Salvador	6.8	6.9	7.4	7.7	9.2	22.7	36.7	39.9	42.1	43.3
Grenada	11.1	12.3	6.8	9.8	15.6	29.2	35.0	38.0	40.0	42.0
Guadeloupe	12.0	13.9	15.5	19.1	27.7	34.6	40.4	42.8	44.3	44.9
Guatemala	5.9	6.2	6.1	6.7	8.4	16.9	33.7	38.9	41.8	43.2
Guyana	6.7	7.6	8.2	10.7	16.6	27.9	35.5	39.5	42.1	43.5
Haiti	7.3	6.8	6.4	6.7	8.0	13.0	25.7	35.4	39.8	41.9
Honduras	6.0	5.6	5.8	6.6	8.8	18.2	34.3	39.3	42.0	43.3
Jamaica	11.0	10.5	11.1	13.1	19.8	33.7	39.7	42.1	43.5	44.1
Martinique	14.7	16.6	17.4	21.0	33.1	38.2	41.6	42.8	43.4	44.1
Mexico	6.3	6.9	8.4	10.8	15.6	30.3	38.3	41.3	43.0	43.8
Nicaragua	5.1	5.3	5.5	6.7	9.1	17.9	34.8	39.8	42.3	43.4
Panama	7.5	8.2	9.8	13.5	19.6	33.6	39.3	41.8	43.3	44.0
Paraguay	6.2	5.8	5.9	8.0	10.9	16.9	32.1	39.6	42.3	43.4
Peru	6.3	6.7	7.5	9.5	13.5	24.4	35.6	39.5	42.0	43.2
St. Kitts and N.	26.1	19.0	14.3	4.5	16.7	42.9	50.0	55.0	55.0	55.0
St. Lucia	10.6	10.3	9.9	8.1	11.1	31.5	40.0	42.0	44.4	45.0
Suriname	7.0	8.0	8.3	9.7	16.6	26.2	38.0	41.2	42.7	43.9
T. and Tobago	9.3	9.7	11.1	14.9	22.2	30.9	38.5	41.5	43.3	44.0
Uruguay	18.2	20.9	22.0	23.6	27.2	37.1	40.3	42.2	43.3	44.1
Venezuela	6.1	6.8	8.0	11.5	16.3	27.7	38.2	41.2	42.9	43.7

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Eastern Europe and Ex-Soviet Union										
Albania	8.7	10.2	12.1	14.8	21.4	32.2	39.2	41.8	43.3	44.0
Armenia	10.9	15.6	14.8	20.6	27.4	36.4	39.5	41.9	43.4	44.1
Azerbaijan	9.0	13.0	11.3	15.3	23.0	32.9	38.5	41.5	43.2	44.0
Belarus	18.4	23.7	23.0	28.3	33.1	36.8	40.2	42.2	43.5	44.1
Bulgaria	20.2	26.7	28.9	33.5	35.0	39.2	40.4	41.9	43.2	44.0
Croatia	17.9	23.5	28.6	33.1	38.3	42.2	41.4	42.4	43.5	44.1
Czechoslovakia	18.2	19.0	20.0	26.4	30.1	37.6	39.5	41.4	43.0	43.8
Estonia	18.2	21.6	23.4	28.2	31.8	36.3	39.5	42.0	43.3	43.9
Georgia	16.5	21.5	21.2	25.1	30.8	36.7	39.9	42.0	43.4	44.1
Hungary	20.2	23.2	25.6	32.6	34.4	39.9	39.8	41.2	42.7	43.7
Kazakhstan	10.4	12.7	12.5	17.4	21.7	31.3	37.4	40.7	42.8	43.7
Kyrgyzstan	10.0	10.9	8.8	11.5	15.3	25.2	37.9	40.9	42.8	43.7
Latvia	18.9	22.4	24.5	28.5	33.2	37.1	39.9	41.9	43.3	44.0
Lithuania	16.8	20.3	22.3	26.6	33.5	38.2	40.5	42.2	43.5	44.1
Moldova	14.3	15.2	14.4	19.7	21.0	32.1	36.5	40.4	42.7	43.8
Poland	15.4	17.6	17.9	24.8	30.0	35.3	38.5	41.1	42.9	43.8
Romania	15.9	19.2	20.4	22.7	25.0	34.5	38.5	41.7	43.5	45.5
Russia Fed.	17.5	22.2	21.7	29.4	33.3	35.7	40.0	41.7	43.5	43.5
Slovenia	16.4	20.7	25.9	31.6	38.1	46.6	42.1	42.5	43.5	44.1
Tajikistan	7.7	8.2	6.4	7.8	11.0	20.1	37.3	40.7	42.7	43.7
Turkmenistan	7.4	7.8	6.7	9.4	13.6	23.6	36.5	40.0	42.3	43.4
Ukraine	20.7	25.3	25.5	29.7	32.9	36.6	40.0	42.0	43.4	44.0
Uzbekistan	7.7	8.1	6.9	9.4	13.9	24.3	38.0	41.0	42.8	43.7
Yugoslavia	12.5	18.4	20.7	25.5	31.0	36.7	39.7	41.8	43.2	43.9
North Africa and The Middle East										
Afghanistan	4.5	4.4	4.5	4.7	4.9	6.6	14.0	26.4	32.3	37.2
Algeria	7.0	6.0	6.5	7.2	10.2	21.9	37.0	40.3	42.4	43.5
Bahrain	4.5	5.2	7.8	14.8	17.8	18.2	33.4	40.6	42.7	43.5
Cyprus	16.8	17.7	20.5	26.5	34.3	38.1	41.2	43.0	44.0	44.2
Egypt	7.3	7.8	7.8	10.1	13.0	21.8	33.7	38.1	41.2	42.8
Iran	5.8	5.8	5.7	6.8	7.7	9.4	17.5	32.0	40.9	42.9
Iraq	5.4	5.4	5.7	6.4	7.6	14.4	31.1	38.9	41.9	43.2
Israel	14.9	11.7	11.8	17.2	24.2	35.2	41.2	43.0	43.9	44.3
Jordan	4.9	5.1	5.9	6.4	9.7	18.6	35.3	40.0	42.4	43.5
Kuwait	2.3	4.4	8.9	17.8	24.9	34.2	40.1	42.3	43.7	44.2
Lebanon	9.8	11.2	9.0	8.5	10.8	22.4	36.0	39.6	42.0	43.1
Libya	4.6	5.2	5.9	6.6	6.8	10.2	21.1	37.2	41.6	43.1
Malta	14.6	17.8	20.7	29.1	33.9	37.6	40.5	42.1	43.3	43.9
Morocco	6.4	6.5	6.2	7.6	10.9	20.0	34.2	38.6	41.5	42.9
Oman	4.8	5.4	6.1	7.4	8.2	11.4	26.8	40.7	42.7	43.6
Qatar	2.5	4.8	9.3	16.0	17.2	18.5	33.6	40.4	42.7	43.8
Saudi Arabia	5.0	5.1	5.8	7.3	7.8	11.6	26.3	39.8	42.2	43.3
Syrian Arab Rep.	5.7	5.8	5.1	5.5	7.3	13.1	29.7	40.2	42.6	43.5
Tunisia	7.0	7.8	7.8	9.4	14.9	27.2	37.2	40.6	42.6	43.5
Turkey	7.0	9.1	9.8	11.7	16.5	26.8	37.3	40.6	42.5	43.5
U. Arab Emirates	2.3	4.3	10.3	24.1	26.9	25.4	38.8	41.4	43.0	43.9
Yemen	6.3	5.8	4.6	3.5	3.7	5.6	13.8	28.4	36.1	39.8
Sub-Saharan Africa										
Angola	5.9	6.0	5.9	5.6	5.7	7.7	17.5	32.1	37.0	40.1
Benin	5.5	5.0	4.5	4.6	5.4	10.2	23.3	33.0	38.1	40.8
Botswana	7.2	5.6	5.4	6.8	9.8	23.0	37.1	40.3	42.6	43.6
Burkina Faso	6.0	5.6	5.2	4.7	5.0	7.7	18.3	31.1	36.5	39.7
Burundi	5.9	4.6	3.7	4.1	4.9	6.6	17.1	31.9	37.1	40.1
Cameroon	7.6	6.4	5.7	5.9	6.5	11.9	25.7	35.9	40.2	42.1
Cape Verde	8.4	7.3	5.2	3.6	7.6	15.3	34.3	39.8	42.6	43.7
Cent. African Rep.	5.5	7.2	6.7	5.7	5.6	9.9	22.6	32.7	37.9	40.7
Chad	6.6	7.0	7.1	6.9	7.0	8.9	19.9	32.5	37.4	40.2
Comoros	5.1	5.1	4.9	5.0	5.5	10.0	24.4	36.1	40.3	42.1
Congo	7.7	6.8	5.4	4.8	5.7	8.8	20.7	35.0	39.6	41.7
Cote d'Ivoire	5.0	4.9	4.9	5.1	5.8	10.0	23.4	36.2	40.2	42.1
Djibouti	4.8	4.8	5.7	6.6	6.8	9.9	21.4	33.2	38.0	40.7
Eq. Guinea	7.5	7.9	7.8	7.6	7.9	10.1	22.3	31.8	37.5	40.3
Ethiopia	5.6	5.3	4.8	4.6	4.6	6.1	15.1	31.1	37.0	40.3

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Sub-Saharan Africa (Contd)										
Gabon	8.8	9.1	8.2	7.8	7.6	8.5	20.3	34.2	39.1	41.4
Gambia	4.9	5.6	5.7	6.0	5.9	7.0	15.8	29.6	35.2	38.9
Ghana	5.7	5.6	5.4	5.6	6.6	11.7	25.4	34.2	39.2	41.6
Guinea	5.2	5.0	4.8	4.8	5.1	7.1	15.9	29.4	34.9	38.9
Guinea-Bissau	6.3	5.5	4.8	4.3	4.6	7.1	16.0	26.3	31.9	36.8
Kenya	6.0	5.1	4.2	4.6	5.8	11.6	26.2	37.4	41.1	42.7
Lesotho	6.8	6.6	6.7	7.0	8.0	14.2	28.9	35.8	40.1	42.1
Liberia	6.0	5.7	5.9	6.3	7.3	12.8	26.4	35.8	40.1	42.1
Madagascar	5.8	5.5	5.2	5.4	6.4	10.9	23.9	32.8	38.1	40.8
Malawi	5.0	4.8	4.4	4.3	4.5	6.2	15.1	30.6	36.5	40.0
Mali	6.3	5.5	5.4	4.7	4.4	7.2	16.4	30.4	36.4	39.8
Mauritania	6.3	6.6	5.9	5.1	4.9	6.4	14.8	29.5	35.6	39.3
Mauritius	8.2	9.1	10.8	16.6	26.3	39.5	39.9	41.2	42.9	43.7
Mozambique	6.0	5.6	5.1	4.8	5.0	7.0	17.1	32.0	37.0	40.1
Namibia	6.2	6.0	5.8	6.2	7.4	14.0	29.5	37.4	41.1	42.7
Niger	5.1	5.2	4.9	4.7	4.7	5.7	12.9	27.5	35.4	39.4
Nigeria	4.4	4.6	4.9	5.2	6.2	11.3	23.4	33.2	38.0	40.7
Rwanda	5.0	4.8	4.3	3.9	4.1	5.9	14.3	29.7	37.4	40.6
Sao Tome and P.	8.8	7.9	8.6	10.1	11.3	20.5	35.1	39.5	42.9	44.2
Senegal	5.2	4.6	4.1	4.0	4.4	6.9	17.8	31.5	36.9	40.0
Seychelles	12.2	13.0	12.5	10.6	17.4	30.6	37.5	40.8	40.8	40.5
Sierra Leone	5.8	6.1	6.1	5.9	5.7	7.0	15.6	28.9	34.2	38.2
Somalia	5.8	5.9	5.7	5.6	5.8	7.8	17.6	31.4	36.7	39.9
South Africa	6.9	7.4	8.0	9.8	12.7	19.8	34.8	39.2	41.9	43.2
Sudan	5.5	5.6	5.6	5.8	6.5	10.7	22.9	33.1	38.2	40.8
Swaziland	4.9	4.4	4.6	5.2	6.1	11.2	25.0	35.7	40.1	42.1
Tanzania	5.8	4.8	4.6	4.3	4.3	7.0	17.1	31.1	36.5	39.7
Togo	6.2	5.8	5.3	5.0	5.7	10.0	23.3	34.2	39.1	41.5
Uganda	5.8	4.9	3.7	3.2	3.7	7.1	17.5	31.0	36.5	39.8
Zaire	5.1	5.1	5.1	5.4	6.1	9.9	23.0	34.5	39.2	41.5
Zambia	4.7	4.0	3.3	3.5	4.2	7.9	21.0	35.2	39.7	41.8
Zimbabwe	4.7	4.5	4.8	6.2	8.9	19.4	33.8	39.5	42.1	43.4

Asia

Bangladesh	5.8	5.7	6.0	6.7	9.2	18.3	27.1	33.7	38.5	41.0
Bhutan	6.0	6.2	6.3	6.6	7.1	10.3	22.2	32.0	37.2	40.2
Brunei	5.6	6.9	9.7	14.1	21.5	29.6	41.1	42.7	43.8	44.4
China	8.7	10.6	11.7	16.6	23.2	32.7	38.6	41.4	43.0	43.8
Fiji	5.4	6.5	8.7	12.2	16.7	27.8	35.6	39.6	42.3	43.2
Hong Kong	12.7	16.6	18.1	28.3	47.1	53.9	44.4	43.5	44.1	44.4
India	7.4	7.9	8.3	9.7	12.7	22.0	33.0	37.6	40.9	42.6
Indonesia	6.5	7.0	8.2	10.1	14.1	25.4	32.3	37.1	40.6	42.4
Kampuchea	4.7	6.0	6.3	9.2	12.6	15.5	28.3	34.9	39.4	41.6
Korea, Dem.	6.1	8.1	10.3	14.0	22.1	34.9	39.9	42.0	43.2	43.9
Korea, Rep. of	7.1	9.5	13.5	18.8	29.4	42.2	40.5	41.6	43.0	43.8
Lao	5.6	6.0	5.8	5.7	6.0	8.3	20.6	33.4	38.0	40.7
Micronesia	7.1	8.5	6.1	7.9	10.6	21.8	37.5	40.0	42.2	43.3
Macao	10.8	12.3	13.0	22.0	36.6	35.7	39.7	42.3	43.8	44.1
Malaysia	6.3	6.8	7.9	10.7	15.3	24.9	38.7	41.4	42.9	43.8
Maldives	4.3	6.6	6.9	5.7	6.7	12.8	27.9	37.8	41.8	43.1
Mongolia	6.2	6.6	7.3	8.1	10.5	19.6	35.2	39.2	41.8	43.2
Myanmar	7.0	7.8	8.0	9.0	13.1	23.7	35.1	39.1	41.7	43.0
Nepal	5.8	6.3	6.8	7.4	8.2	13.9	26.8	33.8	38.8	41.3
Pakistan	5.3	5.5	5.2	6.1	7.9	13.7	26.7	34.7	39.4	41.7
Philippines	5.9	6.0	6.9	9.4	13.4	25.4	35.6	39.5	42.0	43.2
P. New Guinea	4.7	5.6	5.5	6.3	7.6	14.5	29.2	35.1	39.4	41.7
Singapore	7.8	10.4	13.9	24.5	39.6	39.8	41.4	42.7	43.7	44.1
Solomon Islands	5.6	5.4	6.1	6.5	8.3	17.8	34.1	39.2	41.8	43.1
Sri Lanka	7.9	9.3	11.4	16.5	23.1	35.3	38.9	41.4	43.1	43.9
Taiwan	9.3	12.1	14.1	20.9	31.6	43.6	41.4	42.2	43.4	44.1
Thailand	6.0	7.0	8.6	12.0	18.2	31.7	37.0	40.3	42.4	43.5
Vanuatu	4.8	5.4	5.2	6.9	8.8	16.4	32.4	39.4	42.6	43.7
Viet Nam	8.1	7.8	6.8	8.1	13.2	25.4	36.8	40.4	42.4	43.4

Source: See Appendix Table I.B.1

Appendix I.B.7 Population Aged 20 to 64 / Population over 65 Years Old

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
OECD										
Australia	5.5	5.3	4.8	3.5	2.6	2.1	2.1	2.1	2.0	2.0
Austria	4.0	3.8	3.2	2.7	2.0	1.8	2.1	2.1	2.0	2.0
Belgium	4.0	3.4	3.1	2.6	2.0	2.0	2.1	2.1	2.0	2.0
Canada	5.4	4.7	4.2	3.0	2.2	2.1	2.1	2.1	2.0	2.0
Denmark	3.9	4.0	3.3	2.6	2.1	2.0	2.1	2.1	2.1	2.0
Finland	4.6	4.1	3.5	2.5	2.1	2.2	2.2	2.1	2.1	2.0
France	4.3	3.8	3.6	2.7	2.2	2.0	2.1	2.1	2.0	2.0
Germany	4.2	3.6	2.8	2.4	1.8	1.9	2.1	2.1	2.0	2.0
Greece	4.2	3.3	2.9	2.5	2.1	1.7	2.0	2.1	2.0	2.0
Iceland	5.3	4.9	4.8	3.8	2.8	2.2	2.1	2.1	2.0	2.0
Ireland	4.6	4.9	4.6	3.8	3.4	2.3	2.2	2.1	2.1	2.0
Italy	4.1	3.4	2.8	2.4	1.9	1.5	2.0	2.1	2.0	2.0
Japan	5.2	3.7	2.7	2.1	2.0	1.7	2.0	2.1	2.0	2.0
Luxembourg	4.6	3.8	3.2	2.6	1.9	2.1	2.1	2.1	2.0	2.0
Netherlands	4.7	4.4	3.7	2.7	2.0	2.0	2.1	2.1	2.0	2.0
New Zealand	5.2	5.1	4.5	3.4	2.7	2.3	2.2	2.1	2.1	2.0
Norway	3.5	3.6	3.7	2.9	2.3	2.1	2.1	2.1	2.0	2.0
Portugal	4.5	4.1	3.7	3.2	2.5	1.8	2.1	2.1	2.1	2.0
Spain	4.4	3.9	3.6	3.1	2.4	1.7	2.1	2.1	2.1	2.0
Sweden	3.2	3.4	3.0	2.5	2.2	2.3	2.1	2.1	2.0	2.0
Switzerland	4.2	3.6	2.9	2.3	1.9	2.0	2.1	2.1	2.0	2.0
U. Kingdom	3.7	3.7	3.5	2.9	2.3	2.2	2.1	2.1	2.1	2.0
United States	4.8	4.7	4.4	3.2	2.4	2.3	2.2	2.1	2.1	2.0
Latin America and The Caribbean										
Antigua	8.8	7.4	7.9	6.9	5.9	2.1	2.2	2.1	2.0	2.0
Argentina	5.8	5.6	5.4	4.7	4.0	2.7	2.3	2.2	2.1	2.0
Bahamas	11.9	12.1	9.2	6.5	5.0	2.6	2.3	2.2	2.1	2.1
Barbados	4.9	5.8	6.0	4.0	2.6	2.1	2.1	2.1	2.1	2.1
Belize	9.5	11.7	10.4	14.4	9.6	4.4	2.4	2.2	2.1	2.1
Bolivia	12.9	12.5	12.4	11.1	9.2	4.7	2.7	2.4	2.2	2.1
Brazil	11.5	10.7	9.3	7.0	4.9	3.1	2.4	2.2	2.1	2.1
Chile	9.2	8.3	7.2	5.5	3.8	2.7	2.3	2.2	2.1	2.0
Colombia	12.5	12.6	11.0	7.5	4.9	2.8	2.4	2.2	2.1	2.1
Costa Rica	11.9	10.0	8.8	6.4	4.2	2.7	2.2	2.1	2.1	2.0
Cuba	7.0	6.5	5.0	3.9	2.9	2.2	2.1	2.1	2.1	2.0
Dominica	5.0	5.9	7.1	7.6	6.9	2.5	2.2	2.1	2.0	2.0
Dominican R.	14.3	12.2	10.4	8.0	5.4	3.1	2.4	2.2	2.1	2.1
Ecuador	12.7	13.2	11.9	9.2	6.6	3.5	2.5	2.2	2.1	2.1
El Salvador	11.3	11.6	11.3	11.2	9.7	3.9	2.4	2.3	2.1	2.1
Grenada	7.7	6.4	12.6	9.3	5.7	3.1	2.6	2.4	2.3	2.1
Guadeloupe	7.1	6.3	5.7	4.7	3.2	2.6	2.2	2.1	2.0	2.0
Guatemala	13.5	12.8	13.4	12.5	10.3	5.3	2.7	2.3	2.2	2.1
Guyana	12.0	11.1	10.7	8.4	5.4	3.2	2.5	2.3	2.1	2.1
Haiti	11.1	12.0	12.8	12.5	10.7	6.8	3.5	2.5	2.3	2.1
Honduras	12.9	14.2	14.1	12.7	9.9	4.9	2.6	2.3	2.1	2.1
Jamaica	7.3	8.1	7.8	6.8	4.5	2.7	2.3	2.1	2.1	2.0
Martinique	5.9	5.3	5.1	4.3	2.7	2.4	2.2	2.1	2.1	2.0
Mexico	12.6	12.1	10.3	8.2	5.7	3.0	2.3	2.2	2.1	2.1
Nicaragua	15.5	15.1	14.9	12.5	9.5	5.0	2.6	2.3	2.1	2.1
Panama	11.0	10.4	8.9	6.6	4.6	2.7	2.3	2.2	2.1	2.0
Paraguay	13.2	14.1	13.8	10.5	7.9	5.3	2.8	2.3	2.1	2.1
Peru	13.0	12.6	11.3	9.2	6.6	3.7	2.5	2.3	2.1	2.1
St. Kitts	3.0	4.3	6.0	19.0	5.5	2.0	1.8	1.6	1.6	1.6
St. Lucia	7.0	8.1	8.6	10.8	8.1	2.8	2.2	2.1	2.0	2.0
Suriname	11.6	10.6	10.2	9.2	5.4	3.4	2.4	2.2	2.1	2.0
Trinidad	9.1	8.6	7.9	6.0	4.0	2.9	2.3	2.2	2.1	2.0
Uruguay	4.7	4.2	4.1	3.8	3.3	2.4	2.2	2.1	2.1	2.0
Venezuela	13.5	12.2	10.7	7.7	5.5	3.2	2.4	2.2	2.1	2.1

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Eastern Europe and Ex-Soviet Union										
Albania	9.7	8.4	7.2	6.0	4.2	2.8	2.3	2.1	2.1	2.0
Armenia	8.0	5.5	6.1	4.3	3.3	2.5	2.3	2.1	2.1	2.0
Azerbaijan	9.5	6.5	7.8	5.9	3.9	2.7	2.3	2.2	2.1	2.0
Belarus	4.9	3.7	3.9	3.2	2.7	2.4	2.2	2.1	2.1	2.0
Bulgaria	4.4	3.4	3.1	2.7	2.6	2.3	2.2	2.1	2.1	2.0
Croatia	5.0	3.8	3.2	2.7	2.4	2.1	2.2	2.1	2.1	2.0
Czechoslovakia	4.8	4.7	4.5	3.4	3.0	2.4	2.3	2.2	2.1	2.1
Estonia	4.9	4.1	3.8	3.2	2.8	2.5	2.3	2.1	2.1	2.0
Georgia	5.3	4.1	4.2	3.6	2.9	2.4	2.2	2.1	2.1	2.0
Hungary	4.4	4.0	3.6	2.8	2.6	2.2	2.3	2.2	2.1	2.1
Kazakhstan	8.2	6.7	7.1	5.1	4.1	2.9	2.4	2.2	2.1	2.1
Kyrgyzstan	8.3	7.5	9.8	7.6	5.8	3.6	2.4	2.2	2.1	2.1
Latvia	4.8	3.9	3.7	3.2	2.7	2.4	2.3	2.1	2.1	2.0
Lithuania	5.3	4.4	4.0	3.4	2.7	2.3	2.2	2.1	2.1	2.0
Moldova	6.1	5.3	6.2	4.5	4.2	2.8	2.5	2.2	2.1	2.1
Poland	5.8	5.0	5.0	3.6	3.0	2.5	2.3	2.2	2.1	2.1
Romania	5.6	4.7	4.5	3.9	3.7	2.7	2.4	2.2	2.1	2.1
Russian Fed.	5.1	4.0	4.1	3.1	2.7	2.5	2.3	2.1	2.1	2.0
Slovenia	5.4	4.3	3.5	2.9	2.4	1.9	2.1	2.1	2.1	2.0
Tajikistan	10.5	9.6	12.9	11.0	7.9	4.5	2.4	2.2	2.1	2.1
Turkmenistan	11.1	10.4	12.8	9.3	6.5	3.8	2.5	2.2	2.1	2.1
Ukraine	4.3	3.5	3.5	3.0	2.7	2.5	2.2	2.1	2.1	2.0
Uzbekistan	10.7	9.9	12.3	9.2	6.4	3.7	2.4	2.2	2.1	2.1
Yugoslavia	7.1	4.8	4.3	3.5	2.9	2.4	2.3	2.2	2.1	2.0
North Africa and The Middle East										
Algeria	11.2	13.3	12.6	11.9	8.6	4.1	2.4	2.2	2.1	2.1
Bahrain	19.5	16.3	10.8	5.8	4.8	4.9	2.7	2.2	2.1	2.1
Cyprus	5.3	4.9	4.4	3.4	2.6	2.4	2.2	2.1	2.0	2.0
Egypt	11.4	10.6	10.9	8.7	6.8	4.1	2.7	2.4	2.2	2.1
Iran	13.8	14.0	14.0	12.1	10.7	9.0	5.1	2.8	2.2	2.1
Iraq	14.7	14.7	14.0	13.0	11.2	6.2	2.9	2.3	2.1	2.1
Israel	5.7	7.4	7.4	5.2	3.7	2.6	2.2	2.1	2.0	2.0
Jordan	16.0	16.0	13.8	13.1	9.0	4.8	2.5	2.2	2.1	2.1
Kuwait	37.6	19.5	9.9	5.0	3.6	2.6	2.2	2.1	2.1	2.0
Lebanon	8.1	7.4	9.3	10.3	8.3	4.0	2.5	2.3	2.1	2.1
Libya	17.1	15.3	13.4	12.2	12.0	8.4	4.2	2.4	2.2	2.1
Malta	6.1	5.0	4.4	3.1	2.6	2.4	2.2	2.1	2.1	2.0
Morocco	12.5	12.6	13.3	11.3	8.1	4.5	2.6	2.3	2.2	2.1
Oman	17.3	14.8	12.9	10.9	10.1	7.7	3.3	2.2	2.1	2.1
Qatar	35.1	17.6	9.1	5.3	5.0	4.8	2.7	2.2	2.1	2.1
Saudi Arabia	16.2	15.6	13.8	11.1	10.6	7.6	3.4	2.3	2.1	2.1
Syria	13.9	13.5	15.3	14.9	11.4	6.8	3.0	2.2	2.1	2.1
Tunisia	11.6	10.6	11.0	9.4	6.0	3.3	2.4	2.2	2.1	2.1
Turkey	11.8	9.4	8.7	7.6	5.4	3.4	2.4	2.2	2.1	2.1
U. A. Emirates	38.7	20.2	8.5	3.6	3.3	3.5	2.3	2.2	2.1	2.0
Yemen	12.2	13.5	16.5	22.3	21.9	15.0	6.5	3.2	2.5	2.3
Sub-Saharan Africa										
Angola	13.5	13.3	13.5	14.1	14.2	11.3	5.1	2.8	2.4	2.2
Benin	14.4	15.7	17.6	17.7	15.7	8.7	3.9	2.7	2.4	2.2
Botswana	11.0	13.8	15.3	12.7	9.0	3.9	2.4	2.2	2.1	2.1
Burkina Faso	13.3	14.0	15.3	17.1	16.5	11.2	4.9	2.9	2.5	2.3
Burundi	13.7	17.2	20.7	19.2	16.5	13.1	5.2	2.8	2.4	2.2
Cameroon	10.7	12.1	14.2	13.6	12.9	7.4	3.5	2.5	2.2	2.1
Cape Verde	9.4	10.8	15.1	23.5	11.4	5.9	2.6	2.3	2.1	2.1
Central African R.	14.3	11.3	11.9	14.3	15.0	9.0	4.0	2.7	2.4	2.2
Chad	12.4	11.5	11.3	11.6	11.8	9.8	4.5	2.8	2.4	2.2
Comoros	15.4	15.3	16.0	16.1	15.0	8.9	3.7	2.5	2.2	2.1
Congo	10.3	11.6	14.6	16.5	14.5	9.9	4.3	2.6	2.3	2.2
Cote d'Ivoire	16.0	15.8	16.3	15.9	14.4	8.8	3.8	2.5	2.2	2.1
Djibouti	17.1	16.7	14.1	12.3	12.2	8.9	4.2	2.7	2.4	2.2
Eq. Guinea	11.1	10.5	10.4	10.8	10.7	8.8	4.0	2.8	2.4	2.2
Ethiopia	14.3	15.0	16.2	17.1	17.3	13.9	5.9	2.9	2.4	2.2

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Sub-Saharan Africa (Contd)										
Gabon	9.5	9.2	9.6	10.2	10.8	10.2	4.4	2.6	2.3	2.2
Gambia	16.9	14.5	14.2	13.2	13.8	12.3	5.6	3.0	2.5	2.3
Ghana	14.0	14.2	14.8	14.6	12.8	7.6	3.5	2.6	2.3	2.2
Guinea	15.5	15.9	16.8	16.4	15.9	12.1	5.6	3.0	2.6	2.3
Guinea-Bissau	12.7	14.7	16.6	18.7	18.0	12.2	5.6	3.4	2.8	2.4
Kenya	12.8	15.0	18.6	17.4	14.4	7.7	3.4	2.4	2.2	2.1
Lesotho	11.9	12.1	12.1	12.0	10.7	6.3	3.1	2.5	2.2	2.1
Liberia	13.3	14.0	13.6	13.2	11.7	6.9	3.4	2.5	2.2	2.1
Madagascar	14.0	14.4	15.5	15.3	13.3	8.1	3.8	2.7	2.4	2.2
Malawi	15.8	16.4	17.5	18.2	17.8	13.7	5.9	2.9	2.5	2.2
Mali	12.5	14.2	14.5	16.7	18.6	11.9	5.4	2.9	2.5	2.3
Mauritania	12.6	12.3	13.3	15.5	16.6	13.4	6.0	3.0	2.5	2.3
Mauritius	10.4	9.6	8.4	5.4	3.4	2.3	2.2	2.2	2.1	2.1
Mozambique	13.5	14.2	15.3	16.5	16.3	12.3	5.2	2.8	2.4	2.2
Namibia	13.0	13.3	14.0	13.3	11.5	6.4	3.0	2.4	2.2	2.1
Niger	15.8	15.3	15.9	16.4	17.0	14.7	6.9	3.3	2.5	2.3
Nigeria	17.7	17.1	16.4	15.7	13.7	7.8	3.8	2.7	2.4	2.2
Rwanda	15.7	16.3	17.7	20.1	19.7	14.3	6.2	3.0	2.4	2.2
Sao Tome	9.3	10.4	9.6	8.4	7.7	4.4	2.6	2.3	2.1	2.0
Senegal	15.1	17.2	18.8	19.4	18.7	12.5	5.0	2.8	2.4	2.2
Seychelles	6.6	6.3	6.9	8.4	5.2	3.0	2.4	2.2	2.2	2.2
Sierra Leone	14.1	13.2	13.2	13.6	14.4	12.2	5.7	3.1	2.6	2.3
Somalia	14.0	13.5	13.9	14.3	14.1	11.0	5.1	2.9	2.4	2.3
South Africa	12.0	11.4	10.4	8.8	6.9	4.5	2.6	2.3	2.1	2.1
Sudan	14.5	14.3	14.3	14.0	12.9	8.3	3.9	2.7	2.4	2.2
Swaziland	16.3	17.7	17.3	15.8	13.8	8.0	3.6	2.5	2.2	2.1
Tanzania	13.6	16.3	17.3	18.3	19.1	12.3	5.2	2.9	2.5	2.3
Togo	12.8	13.4	14.7	16.1	14.7	8.9	3.9	2.6	2.3	2.2
Uganda	13.0	16.1	20.8	24.5	22.0	12.3	5.1	2.9	2.5	2.3
Zaire	15.7	15.7	15.7	15.1	13.7	8.9	3.9	2.6	2.3	2.2
Zambia	16.7	19.4	23.3	22.8	19.6	11.1	4.3	2.5	2.3	2.2
Zimbabwe	16.5	17.2	17.3	13.8	9.9	4.6	2.6	2.3	2.1	2.1
Asia										
Afghanistan	17.9	17.8	17.5	17.0	16.6	12.9	6.4	3.4	2.8	2.4
Bangladesh	13.6	14.2	14.1	12.9	9.7	4.9	3.3	2.7	2.3	2.2
Bhutan	13.6	13.4	12.8	12.5	11.9	8.6	4.0	2.8	2.4	2.2
Brunei	15.1	12.3	8.9	6.2	4.2	3.0	2.2	2.1	2.1	2.0
China	9.7	8.4	7.5	5.4	3.9	2.8	2.3	2.2	2.1	2.1
Fiji	15.3	12.8	9.9	7.3	5.3	3.2	2.5	2.3	2.1	2.1
Hong Kong	7.0	5.4	5.1	3.3	1.9	1.7	2.0	2.1	2.0	2.0
India	11.1	10.6	10.3	9.0	7.0	4.1	2.7	2.4	2.2	2.1
Indonesia	12.6	11.9	10.5	8.8	6.3	3.5	2.8	2.4	2.2	2.1
Kampuchea	18.2	13.3	13.1	9.5	7.0	5.8	3.2	2.6	2.3	2.2
Korea, Dem.	13.4	11.0	8.5	6.4	4.1	2.6	2.2	2.1	2.1	2.0
Korea, Rep.	11.9	9.3	6.7	4.8	3.1	2.1	2.2	2.2	2.1	2.1
Lao	14.5	13.5	13.6	14.3	13.8	10.6	4.3	2.7	2.4	2.2
Macao	8.3	7.3	6.9	4.1	2.4	2.5	2.3	2.1	2.1	2.0
Malaysia	13.2	12.2	10.6	8.1	5.8	3.6	2.3	2.2	2.1	2.1
Maldives	18.4	12.2	11.5	14.5	12.5	7.0	3.2	2.4	2.2	2.1
Micronesia	10.8	9.8	13.5	10.8	8.3	4.1	2.4	2.3	2.1	2.1
Mongolia	13.1	12.5	11.4	10.6	8.4	4.6	2.5	2.3	2.2	2.1
Myanmar	11.6	10.7	10.6	9.7	6.8	3.8	2.6	2.3	2.2	2.1
Nepal	14.1	12.9	12.1	11.3	10.6	6.4	3.3	2.7	2.3	2.2
Pakistan	15.2	14.8	15.7	13.9	10.9	6.5	3.4	2.6	2.3	2.2
Papua N. G.	17.0	14.6	14.8	13.5	11.5	6.1	3.1	2.6	2.3	2.2
Philippines	13.7	13.7	12.4	9.3	6.6	3.5	2.5	2.3	2.1	2.1
Singapore	11.3	8.7	6.5	3.7	2.3	2.3	2.2	2.1	2.1	2.0
Solomon I.	13.8	14.7	13.2	12.8	10.4	5.0	2.6	2.3	2.2	2.1
Sri Lanka	10.7	9.2	7.8	5.4	3.9	2.5	2.3	2.2	2.1	2.0
Taiwan	9.3	7.1	6.5	4.3	2.9	2.1	2.2	2.1	2.1	2.0
Thailand	13.7	12.2	10.2	7.4	4.9	2.8	2.4	2.2	2.1	2.1
Vanuatu	16.5	15.2	15.6	12.2	9.9	5.5	2.8	2.3	2.1	2.1
Viet Nam	10.0	10.6	12.4	10.8	6.8	3.5	2.4	2.2	2.1	2.1

Source: See Appendix Table I.B.1

Appendix I.B.8 Population over 65 Years Old / Population Aged 20 to 64 (percentage)

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
OECD										
Australia	18.1	18.8	20.9	28.3	38.3	48.0	47.2	47.9	48.8	49.3
Austria	24.7	26.5	31.7	37.5	51.2	56.3	48.7	48.2	48.8	49.3
Belgium	24.9	29.3	31.8	38.7	49.3	50.5	47.7	48.1	48.9	49.3
Canada	18.6	21.1	24.0	33.1	46.2	48.0	47.5	48.3	49.0	49.4
Denmark	25.4	24.7	30.0	38.9	47.5	49.6	47.2	47.7	48.7	49.2
Finland	21.8	24.5	28.4	40.4	48.0	46.2	46.5	47.7	48.7	49.2
France	23.4	26.5	28.1	36.5	44.6	49.4	47.7	48.2	49.0	49.4
Germany	23.7	27.6	36.3	41.0	54.2	52.6	48.4	48.3	48.9	49.3
Greece	23.7	30.7	35.0	40.2	47.0	60.1	48.8	48.1	48.9	49.4
Iceland	18.8	20.2	20.8	26.0	35.8	44.7	47.4	48.4	49.2	49.7
Ireland	21.7	20.5	21.9	26.4	29.8	43.4	45.7	47.1	48.4	49.1
Italy	24.3	29.5	35.1	41.5	52.8	65.6	49.8	48.3	49.0	49.4
Japan	19.3	27.0	36.7	48.0	49.9	59.2	49.8	48.6	49.1	49.5
Luxembourg	21.8	26.1	31.3	39.0	51.5	47.4	47.4	48.1	49.2	49.5
Netherlands	21.2	23.0	27.2	37.4	50.3	50.6	48.0	48.2	48.9	49.4
New Zealand	19.2	19.7	22.2	29.0	36.9	44.0	46.2	47.6	48.7	49.2
Norway	28.8	27.4	27.1	34.8	42.7	47.3	47.6	48.2	48.9	49.3
Portugal	22.4	24.7	26.9	31.0	40.6	56.1	47.9	47.6	48.6	49.2
Spain	22.6	25.9	27.8	32.2	42.2	60.0	48.3	47.6	48.6	49.2
Sweden	31.0	29.1	33.3	40.2	45.4	43.4	47.0	48.3	48.9	49.3
Switzerland	24.0	27.4	34.4	43.0	53.2	49.7	48.4	48.6	49.1	49.5
U. Kingdom	26.7	27.3	28.9	34.2	43.0	45.3	46.5	47.8	48.7	49.3
United States	20.8	21.2	22.5	30.8	42.1	43.7	46.2	47.8	48.8	49.3

Latin America and The Caribbean

Antigua	11.4	13.5	12.7	14.5	16.9	47.9	45.8	48.6	50.0	50.0
Argentina	17.2	18.0	18.5	21.5	25.0	36.5	43.1	46.2	48.0	48.8
Bahamas	8.4	8.2	10.8	15.3	19.9	38.8	42.9	45.6	46.8	47.6
Barbados	20.4	17.3	16.6	24.9	38.7	48.7	46.8	46.6	47.5	48.1
Belize	10.5	8.5	9.7	6.9	10.4	22.7	41.8	45.8	47.7	48.7
Bolivia	7.8	8.0	8.1	9.0	10.9	21.1	37.3	42.0	45.7	47.5
Brazil	8.7	9.4	10.8	14.4	20.5	32.1	41.1	45.1	47.4	48.5
Chile	10.9	12.0	13.8	18.3	26.4	36.7	43.2	46.3	48.1	48.9
Colombia	8.0	8.0	9.1	13.3	20.5	35.8	41.8	45.3	47.5	48.6
Costa Rica	8.4	10.0	11.3	15.7	24.1	36.6	44.6	47.3	48.7	49.2
Cuba	14.3	15.4	20.1	25.6	34.8	45.8	47.1	47.9	48.7	49.3
Dominica	20.0	17.1	14.0	13.1	14.5	40.0	45.8	47.2	50.0	50.0
Dominican R.	7.0	8.2	9.6	12.5	18.6	32.7	41.3	45.2	47.4	48.5
Ecuador	7.9	7.6	8.4	10.8	15.1	28.9	40.6	44.6	47.0	48.2
El Salvador	8.9	8.6	8.8	9.0	10.3	25.4	41.0	44.4	46.8	48.2
Grenada	13.0	15.6	7.9	10.8	17.5	32.6	38.9	42.2	44.4	46.7
Guadeloupe	14.1	15.9	17.7	21.2	30.9	38.4	44.9	47.7	49.3	50.0
Guatemala	7.4	7.8	7.5	8.0	9.7	18.9	37.5	43.3	46.5	48.0
Guyana	8.3	9.0	9.4	11.9	18.6	31.1	39.5	44.0	46.9	48.4
Haiti	9.0	8.3	7.8	8.0	9.3	14.6	28.7	39.5	44.4	46.6
Honduras	7.7	7.0	7.1	7.9	10.1	20.4	38.2	43.8	46.7	48.2
Jamaica	13.7	12.4	12.9	14.7	22.2	37.5	44.2	46.9	48.3	49.0
Martinique	16.8	18.7	19.7	23.2	36.8	42.3	46.2	47.6	48.3	49.1
Mexico	7.9	8.3	9.7	12.1	17.5	33.7	42.6	46.0	47.8	48.7
Nicaragua	6.5	6.6	6.7	8.0	10.5	20.0	38.7	44.3	47.0	48.3
Panama	9.1	9.6	11.2	15.1	21.9	37.4	43.7	46.5	48.2	48.9
Paraguay	7.6	7.1	7.2	9.5	12.7	18.8	35.7	44.0	47.1	48.3
Peru	7.7	8.0	8.8	10.9	15.1	27.2	39.7	44.0	46.7	48.0
St. Kitts	33.3	23.5	16.7	5.3	18.2	50.0	55.6	61.1	61.1	61.1
St. Lucia	14.3	12.4	11.6	9.2	12.3	35.2	44.7	46.9	49.4	50.0
Suriname	8.6	9.4	9.8	10.9	18.6	29.1	42.3	45.9	47.6	48.8
Trinidad	11.0	11.6	12.7	16.7	24.9	34.4	42.8	46.2	48.2	49.0
Uruguay	21.1	23.8	24.6	26.5	30.4	41.3	44.9	47.0	48.2	49.1
Venezuela	7.4	8.2	9.3	13.0	18.2	30.8	42.5	45.9	47.7	48.6

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Eastern Europe and Ex-Soviet Union										
Albania	10.3	11.9	13.9	16.6	23.9	35.8	43.6	46.5	48.2	49.0
Armenia	12.5	18.3	16.5	23.0	30.7	40.5	44.0	46.6	48.3	49.0
Azerbaijan	10.5	15.4	12.9	17.0	25.8	36.5	42.8	46.2	48.1	48.9
Belarus	20.6	26.8	25.6	31.6	37.0	40.9	44.7	47.0	48.4	49.1
Bulgaria	22.6	29.6	32.0	37.2	38.9	43.7	44.9	46.6	48.1	48.9
Croatia	19.9	26.1	31.5	36.7	42.5	47.0	46.1	47.1	48.4	49.1
Czechoslovakia	20.7	21.3	22.2	29.5	33.5	41.9	44.0	46.0	47.8	48.8
Estonia	20.4	24.4	26.0	31.5	35.5	40.4	44.0	46.7	48.2	48.8
Georgia	18.7	24.5	23.7	28.0	34.4	40.8	44.4	46.8	48.3	49.0
Hungary	22.7	25.3	28.1	36.1	38.0	44.5	44.4	45.8	47.5	48.6
Kazakhstan	12.2	14.9	14.2	19.4	24.5	34.8	41.6	45.3	47.6	48.7
Kyrgyzstan	12.0	13.3	10.3	13.2	17.2	28.1	42.2	45.5	47.6	48.6
Latvia	20.9	25.3	27.3	31.7	37.1	41.3	44.4	46.6	48.2	49.0
Lithuania	18.8	22.9	24.9	29.6	37.3	42.6	45.1	47.0	48.4	49.0
Moldova	16.4	18.8	16.1	22.3	23.9	35.9	40.6	44.9	47.6	48.7
Poland	17.3	20.2	19.9	27.7	33.5	39.4	42.9	45.7	47.7	48.7
Romania	17.9	21.4	22.4	25.4	27.2	37.4	42.3	45.4	47.5	48.5
Russian Fed.	19.6	25.2	24.5	32.5	36.8	39.7	44.0	46.6	48.3	49.0
Slovenia	18.4	23.3	28.4	34.9	42.1	51.9	46.9	47.3	48.4	49.1
Tajikistan	9.6	10.4	7.7	9.1	12.6	22.5	41.5	45.3	47.5	48.6
Turkmenistan	9.0	9.6	7.8	10.7	15.3	26.2	40.7	44.5	47.1	48.3
Ukraine	23.1	28.5	28.4	33.1	36.7	40.8	44.5	46.8	48.3	49.0
Uzbekistan	9.4	10.1	8.1	10.8	15.6	27.1	42.3	45.6	47.6	48.6
Yugoslavia	14.2	20.7	23.1	28.5	34.6	40.9	44.2	46.5	48.1	48.9
North Africa and The Middle East										
Algeria	8.9	7.5	7.9	8.4	11.6	24.5	41.2	44.8	47.1	48.4
Bahrain	5.1	6.1	9.2	17.4	20.7	20.3	37.1	45.2	47.5	48.4
Cyprus	19.0	20.3	22.9	29.4	38.4	42.3	45.7	47.8	48.9	49.2
Egypt	8.8	9.5	9.1	11.6	14.7	24.4	37.6	42.5	45.9	47.6
Iran	7.2	7.2	7.1	8.3	9.4	11.2	19.6	35.6	45.5	47.8
Iraq	6.8	6.8	7.1	7.7	8.9	16.1	34.6	43.3	46.7	48.1
Israel	17.7	13.5	13.5	19.2	27.0	39.1	45.8	47.9	48.9	49.3
Jordan	6.2	6.3	7.3	7.7	11.1	20.8	39.3	44.6	47.1	48.4
Kuwait	2.7	5.1	10.1	19.9	27.9	38.0	44.6	47.1	48.6	49.2
Lebanon	12.3	13.4	10.8	9.7	12.1	25.0	40.1	44.1	46.7	48.0
Libya	5.9	6.5	7.5	8.2	8.4	11.9	23.6	41.4	46.3	48.0
Malta	16.5	20.1	22.9	32.4	37.9	42.0	45.1	46.9	48.2	48.9
Morocco	8.0	7.9	7.5	8.9	12.4	22.3	38.2	42.9	46.2	47.8
Oman	5.8	6.7	7.7	9.2	9.9	13.0	29.9	45.4	47.5	48.5
Qatar	2.8	5.7	11.0	18.8	20.0	20.7	37.4	44.9	47.5	48.7
Saudi Arabia	6.2	6.4	7.2	9.0	9.4	13.2	29.3	44.4	46.9	48.1
Syria	7.2	7.4	6.5	6.7	8.8	14.8	33.0	44.8	47.4	48.4
Tunisia	8.6	9.5	9.1	10.7	16.7	30.3	41.5	45.2	47.4	48.4
Turkey	8.5	10.7	11.4	13.2	18.4	29.8	41.5	45.2	47.4	48.4
U. A. Emirates	2.6	4.9	11.7	27.8	30.6	28.4	43.2	46.1	47.9	48.9
Yemen	8.2	7.4	6.1	4.5	4.6	6.7	15.5	31.6	40.2	44.3
Sub-Saharan Africa										
Angola	7.4	7.5	7.4	7.1	7.0	8.9	19.6	35.9	41.3	44.6
Benin	6.9	6.4	5.7	5.7	6.3	11.5	26.0	36.8	42.4	45.4
Botswana	9.1	7.3	6.5	7.9	11.1	25.7	41.3	44.9	47.4	48.5
Burkina Faso	7.5	7.1	6.6	5.9	6.1	8.9	20.5	34.7	40.7	44.2
Burundi	7.3	5.8	4.8	5.2	6.1	7.6	19.2	35.7	41.3	44.7
Cameroon	9.4	8.2	7.0	7.3	7.7	13.4	28.7	39.9	44.7	46.9
Cape Verde	10.6	9.2	6.6	4.3	8.8	17.1	38.1	44.3	47.4	48.5
Central African R.	7.0	8.8	8.4	7.0	6.7	11.2	25.2	36.5	42.2	45.3
Chad	8.1	8.7	8.8	8.7	8.5	10.2	22.2	36.3	41.7	44.8
Comoros	6.5	6.5	6.3	6.2	6.7	11.3	27.1	40.2	44.9	46.9
Congo	9.7	8.6	6.9	6.1	6.9	10.1	23.2	39.1	44.1	46.4
Cote d'Ivoire	6.3	6.3	6.1	6.3	6.9	11.4	26.1	40.4	44.8	46.9
Djibouti	5.9	6.0	7.1	8.1	8.2	11.2	23.9	37.1	42.4	45.3
Eq. Guinea	9.0	9.6	9.6	9.3	9.4	11.4	24.9	35.5	41.8	44.9
Ethiopia	7.0	6.7	6.2	5.8	5.8	7.2	16.9	34.7	41.2	44.8

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Sub-Saharan Africa (Cont'd)										
Gabon	10.5	10.9	10.4	9.8	9.2	9.8	22.7	38.1	43.5	46.1
Gambia	5.9	6.9	7.1	7.6	7.2	8.1	17.7	33.0	39.2	43.3
Ghana	7.2	7.0	6.7	6.8	7.8	13.2	28.3	38.1	43.6	46.3
Guinea	6.5	6.3	5.9	6.1	6.3	8.2	17.8	32.8	38.9	43.3
Guinea-Bissau	7.9	6.8	6.0	5.4	5.6	8.2	18.0	29.4	35.6	40.9
Kenya	7.8	6.7	5.4	5.8	7.0	13.0	29.2	41.7	45.8	47.5
Lesotho	8.4	8.2	8.3	8.3	9.3	15.9	32.2	39.8	44.6	46.9
Liberia	7.5	7.1	7.3	7.6	8.6	14.4	29.5	40.0	44.7	46.8
Madagascar	7.2	7.0	6.5	6.5	7.5	12.3	26.6	36.5	42.4	45.4
Malawi	6.3	6.1	5.7	5.5	5.6	7.3	16.9	34.1	40.7	44.5
Mali	8.0	7.0	6.9	6.0	5.4	8.4	18.4	34.0	40.5	44.3
Mauritania	7.9	8.1	7.5	6.4	6.0	7.5	16.6	32.9	39.7	43.8
Mauritius	9.6	10.4	12.0	18.4	29.1	44.1	44.5	45.9	47.7	48.6
Mozambique	7.4	7.0	6.5	6.1	6.1	8.1	19.2	35.7	41.2	44.6
Namibia	7.7	7.5	7.2	7.5	8.7	15.7	32.9	41.6	45.7	47.6
Niger	6.3	6.5	6.3	6.1	5.9	6.8	14.5	30.7	39.5	43.9
Nigeria	5.6	5.9	6.1	6.4	7.3	12.8	26.1	37.0	42.4	45.3
Rwanda	6.3	6.1	5.7	5.0	5.1	7.0	16.1	33.0	41.6	45.2
Sao Tome	10.7	9.6	10.4	12.0	13.0	22.9	39.1	44.0	47.8	49.2
Senegal	6.6	5.8	5.3	5.2	5.4	8.0	19.9	35.1	41.1	44.5
Seychelles	15.2	15.8	14.6	11.9	19.4	33.8	42.2	46.0	46.0	45.5
Sierra Leone	7.1	7.5	7.6	7.4	7.0	8.2	17.5	32.3	38.2	42.6
Somalia	7.2	7.4	7.2	7.0	7.1	9.1	19.7	35.0	40.9	44.4
South Africa	8.3	8.8	9.6	11.4	14.5	22.1	38.8	43.7	46.6	48.1
Sudan	6.9	7.0	7.0	7.1	7.8	12.0	25.5	36.9	42.5	45.4
Swaziland	6.1	5.6	5.8	6.3	7.2	12.5	27.8	39.7	44.7	46.9
Tanzania	7.3	6.1	5.8	5.5	5.2	8.2	19.2	34.7	40.6	44.2
Togo	7.8	7.4	6.8	6.2	6.8	11.3	26.0	38.1	43.6	46.2
Uganda	7.7	6.2	4.8	4.1	4.6	8.1	19.6	34.6	40.7	44.3
Zaire	6.4	6.4	6.4	6.6	7.3	11.2	25.6	38.4	43.7	46.2
Zambia	6.0	5.2	4.3	4.4	5.1	9.0	23.5	39.3	44.2	46.5
Zimbabwe	6.1	5.8	5.8	7.2	10.2	21.8	37.7	44.0	46.9	48.2

Asia

Afghanistan	5.6	5.6	5.7	5.9	6.0	7.8	15.7	29.5	36.0	41.4
Bangladesh	7.3	7.0	7.1	7.7	10.4	20.5	30.2	37.5	42.8	45.7
Bhutan	7.4	7.5	7.8	8.0	8.4	11.7	24.8	35.7	41.5	44.7
Brunei	6.6	8.2	11.2	16.1	24.0	33.0	45.9	47.6	48.8	49.4
China	10.3	11.9	13.3	18.4	25.9	36.3	43.0	46.1	47.8	48.7
Fiji	6.5	7.8	10.1	13.7	18.8	31.0	39.7	44.1	47.0	48.1
Hong Kong	14.3	18.4	19.7	30.7	51.6	59.9	49.4	48.4	49.0	49.4
India	9.0	9.5	9.7	11.1	14.3	24.6	36.9	41.8	45.6	47.4
Indonesia	7.9	8.4	9.5	11.4	15.8	28.3	36.0	41.3	45.2	47.2
Kampuchea	5.5	7.5	7.6	10.5	14.4	17.2	31.5	38.9	43.8	46.3
Korea, Dem.	7.5	9.1	11.8	15.6	24.5	38.9	44.5	46.7	48.1	48.9
Korea, Rep.	8.4	10.7	15.0	20.7	32.5	47.0	45.2	46.3	47.9	48.8
Lao	6.9	7.4	7.4	7.0	7.2	9.4	23.0	37.3	42.4	45.3
Macao	12.0	13.7	14.5	24.3	40.9	39.7	44.1	47.0	48.7	49.0
Malaysia	7.6	8.2	9.4	12.3	17.2	27.8	43.1	46.1	47.8	48.7
Maldives	5.4	8.2	8.7	6.9	8.0	14.3	31.0	42.1	46.5	47.9
Micronesia	9.3	10.2	7.4	9.3	12.0	24.4	41.8	44.4	46.9	48.1
Mongolia	7.6	8.0	8.8	9.5	11.9	22.0	39.2	43.7	46.5	48.0
Myanmar	8.6	9.3	9.5	10.3	14.7	26.4	39.2	43.6	46.5	47.9
Nepal	7.1	7.8	8.3	8.8	9.5	15.6	29.9	37.7	43.1	46.0
Pakistan	6.6	6.8	6.4	7.2	9.2	15.3	29.7	38.7	43.9	46.4
Papua N. G.	5.9	6.8	6.8	7.4	8.7	16.3	32.6	39.1	43.8	46.4
Philippines	7.3	7.3	8.1	10.7	15.1	28.3	39.6	44.0	46.8	48.1
Singapore	8.9	11.5	15.5	26.9	43.9	44.1	46.0	47.5	48.6	49.1
Solomon I.	7.3	6.8	7.6	7.8	9.6	19.9	38.0	43.6	46.5	48.0
Sri Lanka	9.4	10.9	12.8	18.5	25.9	39.4	43.3	46.1	47.9	48.9
Taiwan	10.7	14.0	15.5	23.1	35.0	48.7	46.1	46.9	48.3	49.0
Thailand	7.3	8.2	9.8	13.5	20.4	35.4	41.2	44.8	47.2	48.4
Vanuatu	6.1	6.6	6.4	8.2	10.1	18.3	36.0	43.7	47.1	48.5
Viet Nam	10.0	9.4	8.1	9.3	14.8	28.2	41.0	45.0	47.2	48.3

Source: See Appendix Table I.B.1

Appendix I.B.9 Population Aged 20 to 59 / Population over 60 Years Old

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
OECD										
Australia	3.7	3.7	3.1	2.3	1.8	1.5	1.5	1.5	1.5	1.5
Austria	2.8	2.6	2.2	1.8	1.3	1.3	1.5	1.5	1.5	1.5
Belgium	2.6	2.4	2.1	1.7	1.4	1.5	1.5	1.5	1.5	1.5
Canada	3.6	3.3	2.7	1.9	1.5	1.5	1.5	1.5	1.5	1.5
Denmark	2.8	2.8	2.1	1.8	1.4	1.5	1.6	1.5	1.5	1.5
Finland	3.1	2.8	2.1	1.7	1.5	1.6	1.6	1.5	1.5	1.5
France	2.8	2.7	2.3	1.9	1.6	1.5	1.5	1.5	1.5	1.5
Germany	2.8	2.3	2.0	1.6	1.2	1.4	1.5	1.5	1.5	1.5
Greece	2.7	2.2	2.0	1.7	1.4	1.3	1.5	1.5	1.5	1.5
Iceland	3.6	3.7	3.2	2.5	1.9	1.6	1.5	1.5	1.5	1.5
Ireland	3.2	3.4	3.0	2.6	2.3	1.7	1.6	1.5	1.5	1.5
Italy	2.7	2.3	1.9	1.6	1.2	1.2	1.5	1.5	1.5	1.5
Japan	3.2	2.5	1.7	1.5	1.4	1.3	1.5	1.5	1.5	1.5
Luxembourg	3.0	2.6	2.1	1.7	1.4	1.5	1.5	1.5	1.5	1.5
Netherlands	3.2	3.0	2.3	1.8	1.3	1.4	1.5	1.5	1.5	1.5
New Zealand	3.5	3.5	2.9	2.3	1.8	1.6	1.6	1.5	1.5	1.5
Norway	2.5	2.7	2.3	1.9	1.6	1.5	1.5	1.5	1.5	1.5
Portugal	2.9	2.8	2.6	2.1	1.6	1.3	1.5	1.5	1.5	1.5
Spain	2.9	2.7	2.5	2.1	1.6	1.3	1.5	1.5	1.5	1.5
Sweden	2.3	2.4	1.9	1.7	1.5	1.7	1.6	1.5	1.5	1.5
Switzerland	2.9	2.5	1.9	1.6	1.3	1.4	1.5	1.5	1.5	1.5
United Kingdom	2.6	2.6	2.3	2.0	1.6	1.6	1.6	1.5	1.5	1.5
United States	3.3	3.4	2.8	2.1	1.7	1.6	1.6	1.5	1.5	1.5
Latin America and The Caribbean										
Antigua	5.5	4.9	5.5	4.6	3.3	1.6	1.6	1.5	1.5	1.5
Argentina	3.7	3.7	3.6	3.1	2.8	1.9	1.7	1.6	1.5	1.5
Bahamas	7.4	7.6	5.7	4.4	2.9	1.9	1.7	1.6	1.5	1.5
Barbados	3.5	4.3	3.9	2.5	1.7	1.5	1.6	1.6	1.5	1.5
Belize	6.0	6.9	7.4	8.8	5.4	2.9	1.7	1.6	1.5	1.5
Bolivia	7.6	7.8	7.5	6.8	5.7	3.1	1.9	1.7	1.6	1.5
Brazil	7.1	6.7	5.8	4.3	3.2	2.1	1.7	1.6	1.5	1.5
Chile	5.9	5.5	4.6	3.4	2.5	1.8	1.7	1.6	1.5	1.5
Colombia	8.0	8.0	6.6	4.5	3.0	1.9	1.7	1.6	1.5	1.5
Costa Rica	7.5	6.6	5.6	3.9	2.8	1.8	1.6	1.5	1.5	1.5
Cuba	4.7	4.2	3.3	2.7	1.8	1.6	1.6	1.5	1.5	1.5
Dominica	3.5	4.3	5.3	5.9	3.9	1.9	1.6	1.5	1.5	1.5
Dominican Rep.	8.4	7.6	6.5	4.9	3.4	2.1	1.7	1.6	1.5	1.5
Ecuador	8.0	8.1	7.3	5.6	4.1	2.3	1.8	1.6	1.5	1.5
El Salvador	6.9	7.3	7.5	7.5	5.7	2.6	1.8	1.6	1.5	1.5
Grenada	4.8	4.2	10.3	5.8	3.3	2.0	1.8	1.7	1.6	1.5
Guatemala	7.9	8.1	8.4	7.7	6.4	3.4	1.8	1.6	1.6	1.5
Guadeloupe	4.7	4.3	3.7	2.5	2.0	1.7	1.6	1.5	1.5	1.5
Guyana	7.4	7.2	6.6	4.9	3.3	2.1	1.8	1.6	1.6	1.5
Haiti	6.9	7.4	7.8	7.5	6.5	4.3	2.3	1.8	1.6	1.6
Honduras	8.1	8.8	8.8	7.8	6.0	3.2	1.8	1.6	1.6	1.5
Jamaica	5.1	5.5	5.4	4.3	2.8	1.8	1.6	1.6	1.5	1.5
Martinique	4.1	3.8	3.5	2.8	1.7	1.7	1.6	1.5	1.5	1.5
Mexico	7.9	7.6	6.7	5.1	3.5	2.0	1.7	1.6	1.5	1.5
Nicaragua	9.3	9.4	9.2	7.6	6.0	3.2	1.8	1.6	1.5	1.5
Panama	7.0	6.8	5.6	4.1	2.9	1.8	1.6	1.6	1.5	1.5
Paraguay	8.3	8.8	8.4	6.2	5.1	3.4	1.9	1.6	1.5	1.5
Peru	7.9	7.7	6.9	5.6	4.1	2.4	1.8	1.6	1.6	1.5
St. Kitts and N.	2.0	3.2	6.0	9.0	3.3	1.5	1.3	1.2	1.2	1.2
St. Lucia	4.5	5.3	5.9	7.6	4.5	2.0	1.6	1.5	1.5	1.5
Suriname	7.0	6.7	7.0	5.3	3.3	2.2	1.7	1.6	1.5	1.5
Trinidad	5.9	5.7	5.0	3.7	2.8	1.9	1.7	1.6	1.5	1.5
Uruguay	3.0	2.9	2.8	2.6	2.3	1.7	1.6	1.5	1.5	1.5
Venezuela	8.2	7.7	6.4	4.8	3.5	2.2	1.7	1.6	1.5	1.5

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Eastern Europe and Ex-Soviet Union										
Albania	6.0	5.3	4.9	3.7	2.8	1.9	1.6	1.6	1.5	1.5
Armenia	4.6	3.9	3.9	2.7	2.3	1.7	1.6	1.6	1.5	1.5
Azerbaijan	5.4	4.7	5.1	3.4	2.6	1.8	1.7	1.6	1.5	1.5
Belarus	3.0	2.7	2.6	2.1	1.9	1.7	1.6	1.5	1.5	1.5
Bulgaria	2.7	2.3	2.0	1.9	1.8	1.6	1.6	1.6	1.5	1.5
Croatia	3.1	2.5	2.2	1.8	1.7	1.5	1.6	1.5	1.5	1.5
Czechoslovakia	3.1	3.3	2.8	2.3	2.1	1.7	1.6	1.6	1.5	1.5
Estonia	3.1	2.8	2.5	2.1	2.0	1.7	1.6	1.6	1.5	1.5
Georgia	3.3	2.9	2.8	2.3	2.0	1.7	1.6	1.6	1.5	1.5
Kazakhstan	5.2	4.5	4.3	3.2	2.8	1.9	1.7	1.6	1.5	1.5
Kyrgyzstan	5.1	5.3	6.0	4.6	3.9	2.3	1.7	1.6	1.5	1.5
Hungary	2.8	2.7	2.3	1.9	1.9	1.6	1.6	1.6	1.5	1.5
Latvia	3.0	2.6	2.5	2.1	1.9	1.7	1.6	1.6	1.5	1.5
Lithuania	3.3	2.9	2.7	2.2	1.9	1.7	1.6	1.5	1.5	1.5
Moldova	3.8	3.6	3.7	2.9	3.0	1.9	1.7	1.6	1.5	1.5
Poland	3.6	3.3	3.1	2.3	2.2	1.8	1.7	1.6	1.5	1.5
Romania	3.4	3.0	3.0	2.6	2.4	1.9	1.7	1.6	1.5	1.5
Russian Fed.	3.2	2.8	2.6	2.0	2.0	1.7	1.6	1.6	1.5	1.5
Slovenia	3.4	2.8	2.4	1.9	1.7	1.4	1.5	1.5	1.5	1.5
Tajikistan	6.3	6.7	8.2	6.4	5.2	2.7	1.7	1.6	1.5	1.5
Turkmenistan	6.8	7.1	7.7	5.4	4.3	2.4	1.8	1.6	1.5	1.5
Ukraine	2.8	2.4	2.3	2.0	1.9	1.7	1.6	1.6	1.5	1.5
Uzbekistan	6.5	6.8	7.5	5.4	4.2	2.3	1.7	1.6	1.5	1.5
Yugoslavia	4.0	3.1	2.9	2.3	2.0	1.7	1.6	1.6	1.5	1.5
North Africa and The Middle East										
Algeria	7.3	8.1	8.6	7.2	5.2	2.8	1.7	1.6	1.5	1.5
Bahrain	12.0	9.1	5.7	3.4	3.5	3.1	1.8	1.6	1.5	1.5
Cyprus	3.7	3.3	2.9	2.2	1.9	1.6	1.6	1.5	1.5	1.5
Egypt	7.0	6.8	6.7	5.2	4.3	2.6	1.9	1.7	1.6	1.5
Iran	8.6	8.8	8.3	7.4	6.7	5.6	3.4	1.9	1.6	1.5
Iraq	8.8	8.9	8.6	8.1	7.0	4.0	2.0	1.7	1.6	1.5
Israel	3.9	5.2	4.6	3.4	2.4	1.8	1.6	1.5	1.5	1.5
Jordan	9.5	9.5	8.9	7.8	5.4	3.2	1.8	1.6	1.5	1.5
Kuwait	20.0	9.8	5.4	3.0	2.6	1.8	1.6	1.5	1.5	1.5
Lebanon	4.8	5.0	6.4	6.6	4.8	2.6	1.8	1.6	1.6	1.5
Libya	9.9	8.9	8.0	7.8	7.5	5.4	2.8	1.7	1.6	1.5
Malta	3.9	3.3	2.6	2.0	1.9	1.7	1.6	1.6	1.5	1.5
Morocco	7.3	7.8	8.3	6.5	5.0	2.9	1.8	1.7	1.6	1.5
Oman	10.0	8.8	7.5	6.8	6.9	4.8	2.2	1.6	1.5	1.5
Qatar	15.9	8.6	4.7	3.4	3.6	3.1	1.8	1.6	1.5	1.5
Saudi Arabia	9.8	9.3	8.0	6.9	7.0	4.9	2.3	1.6	1.5	1.5
Syria	8.4	8.8	9.9	8.9	7.3	4.3	2.0	1.6	1.5	1.5
Tunisia	7.0	6.7	7.4	5.4	3.7	2.2	1.7	1.6	1.5	1.5
Turkey	6.7	6.0	5.7	4.7	3.4	2.2	1.7	1.6	1.5	1.5
U. Arab Emir.	19.7	9.9	4.1	2.2	2.5	2.4	1.6	1.6	1.5	1.5
Yemen	7.2	8.1	10.4	14.1	12.3	8.7	4.0	2.1	1.8	1.6
Sub-Saharan Africa										
Angola	8.0	8.0	8.3	8.6	8.7	6.9	3.2	1.9	1.7	1.6
Benin	8.6	9.3	10.4	10.4	9.3	5.1	2.5	1.9	1.7	1.6
Botswana	7.1	8.8	9.5	7.6	5.6	2.5	1.7	1.6	1.5	1.5
Burkina Faso	7.9	8.4	9.2	10.5	9.6	6.6	3.1	2.0	1.7	1.6
Burundi	8.6	10.5	11.9	10.5	9.8	7.7	3.3	1.9	1.7	1.6
Cameroon	6.6	7.6	8.5	8.4	8.1	4.7	2.3	1.8	1.6	1.5
Cape Verde	5.7	6.9	12.3	11.6	6.4	3.7	1.8	1.6	1.5	1.5
Cent. Afr. R.	7.5	6.6	7.5	9.1	8.6	5.3	2.6	1.9	1.7	1.6
Chad	7.3	7.0	7.0	7.2	7.4	6.0	2.9	1.9	1.7	1.6
Comoros	8.9	9.7	9.7	10.0	8.9	5.2	2.4	1.8	1.6	1.6
Congo	6.2	7.4	9.3	9.8	8.5	6.1	2.8	1.8	1.6	1.6
Cote d'Ivoire	9.3	9.3	9.9	9.5	8.8	5.4	2.5	1.8	1.6	1.5
Djibouti	9.5	9.2	8.1	7.6	7.6	5.4	2.7	1.9	1.7	1.6
E. Guinea	6.6	6.2	6.4	6.6	6.6	5.2	2.6	2.0	1.7	1.6
Ethiopia	8.5	8.9	9.7	10.3	10.4	8.0	3.7	2.0	1.7	1.6

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Sub-Saharan Africa (Contd)										
Gabon	5.9	5.7	6.0	6.5	7.0	6.1	2.8	1.8	1.6	1.6
Gambia	9.6	8.4	8.1	7.9	8.6	7.2	3.5	2.1	1.8	1.7
Ghana	8.4	8.7	9.2	8.9	7.8	4.6	2.3	1.8	1.6	1.6
Guinea	9.0	9.4	9.9	9.6	9.5	7.3	3.5	2.1	1.8	1.7
Guinea-Bissau	7.4	8.5	9.6	10.8	10.0	7.0	3.4	2.3	2.0	1.7
Kenya	8.1	9.7	11.3	10.3	8.7	4.8	2.3	1.7	1.6	1.5
Lesotho	7.3	7.3	7.5	7.5	6.7	3.8	2.1	1.8	1.6	1.5
Liberia	8.2	8.3	8.2	8.1	7.1	4.3	2.3	1.8	1.6	1.6
Madagascar	8.3	8.7	9.3	9.1	8.0	4.8	2.4	1.9	1.7	1.6
Malawi	9.3	8.4	9.9	10.6	10.3	8.0	3.7	2.0	1.7	1.6
Mali	7.6	8.3	8.9	10.6	10.1	7.1	3.4	2.0	1.7	1.6
Mauritania	7.3	7.4	8.3	9.8	9.7	7.8	3.7	2.1	1.8	1.6
Mauritius	6.4	6.2	5.2	3.2	2.2	1.6	1.6	1.6	1.5	1.5
Mozambique	8.0	8.5	9.1	9.8	9.7	7.5	3.3	1.9	1.7	1.6
Namibia	7.7	8.1	8.6	8.2	7.1	3.9	2.1	1.7	1.6	1.5
Niger	9.2	9.1	9.5	9.8	10.3	8.8	4.3	2.2	1.8	1.6
Nigeria	10.2	10.0	9.9	9.4	8.1	4.8	2.5	1.9	1.7	1.6
Rwanda	9.3	9.7	10.4	11.9	11.4	8.9	3.9	2.1	1.7	1.6
Sao Tome and P.	5.2	6.3	6.1	5.6	5.1	2.9	1.8	1.6	1.5	1.5
Senegal	8.9	10.1	10.8	11.3	11.0	7.4	3.2	2.0	1.7	1.6
Seychelles	4.4	4.5	5.1	5.0	3.1	2.1	1.8	1.6	1.6	1.7
Sierra Leone	8.1	7.8	7.9	8.3	8.7	7.2	3.5	2.1	1.8	1.7
Somalia	8.3	8.2	8.5	8.7	8.7	6.6	3.2	2.0	1.7	1.6
South Africa	7.4	7.0	6.4	5.4	4.5	2.8	1.8	1.6	1.6	1.5
Sudan	8.6	8.6	8.6	8.5	7.9	5.1	2.5	1.9	1.7	1.6
Swaziland	9.0	9.6	10.0	9.5	8.4	4.9	2.3	1.8	1.6	1.6
Tanzania	8.1	9.0	9.5	10.6	10.4	7.4	3.3	2.0	1.7	1.6
Togo	7.8	8.2	9.2	9.9	8.8	5.2	2.5	1.9	1.7	1.6
Uganda	7.8	9.8	12.6	14.1	11.6	7.2	3.2	2.0	1.7	1.6
Zaire	9.4	9.3	9.4	9.1	8.4	5.3	2.5	1.8	1.7	1.6
Zambia	10.0	11.3	13.2	12.8	11.2	6.4	2.7	1.8	1.6	1.6
Zimbabwe	10.1	10.3	10.3	8.0	5.9	2.9	1.9	1.6	1.5	1.5

Asia

Afghanistan	10.2	10.2	10.1	9.9	9.7	7.8	3.9	2.3	1.9	1.7
Bangladesh	8.3	8.8	8.8	7.4	5.6	3.1	2.3	1.9	1.7	1.6
Buhtan	7.9	7.8	7.6	7.5	7.2	5.2	2.6	2.0	1.7	1.6
Brunei	8.7	7.3	5.6	3.7	2.9	2.1	1.6	1.5	1.5	1.5
China	6.0	5.5	4.7	3.5	2.3	1.9	1.7	1.6	1.5	1.5
Fiji	9.1	7.5	6.0	4.4	3.5	2.1	1.8	1.6	1.5	1.5
Hong Kong	4.5	3.9	3.2	1.9	1.4	1.2	1.5	1.5	1.5	1.5
India	6.7	6.5	6.4	5.4	4.3	2.6	1.9	1.7	1.6	1.5
Indonesia	7.2	7.1	6.8	5.2	4.0	2.4	1.9	1.7	1.6	1.5
Kampuchea, D.	10.3	8.0	7.3	5.5	4.1	3.2	2.2	1.8	1.6	1.6
Korea, Dem.	8.2	7.0	5.4	3.8	2.3	1.8	1.6	1.6	1.5	1.5
Korea, Rep. of	7.3	5.6	4.3	2.8	2.0	1.6	1.6	1.6	1.5	1.5
Lao	8.4	8.0	8.3	8.6	8.5	6.1	2.8	1.9	1.7	1.6
Macao	5.2	5.1	4.0	2.4	1.7	1.7	1.6	1.5	1.5	1.5
Malaysia	8.0	7.3	6.5	5.0	3.8	2.3	1.7	1.6	1.5	1.5
Maldives	8.7	6.8	7.9	8.8	7.4	4.3	2.2	1.7	1.6	1.5
Micronesia	6.8	7.1	8.7	6.4	5.2	2.7	1.7	1.6	1.5	1.5
Mongolia	7.9	7.6	7.1	6.5	5.1	2.9	1.8	1.6	1.6	1.5
Myanmar	7.0	6.7	6.9	5.8	4.2	2.5	1.8	1.7	1.6	1.5
Nepal	8.2	7.6	7.3	7.0	6.5	3.9	2.2	1.9	1.7	1.6
Pakistan	8.9	9.1	9.7	8.0	6.5	3.9	2.2	1.8	1.6	1.6
Philippines	8.4	8.3	7.5	5.6	4.1	2.3	1.8	1.6	1.6	1.5
P. New Guinea	8.8	8.5	8.3	8.2	6.6	3.7	2.1	1.8	1.6	1.6
Singapore	7.0	5.4	3.7	2.2	1.6	1.6	1.6	1.5	1.5	1.5
Solomon Islands	7.9	8.7	8.4	7.8	6.5	3.4	1.8	1.6	1.6	1.5
Sri Lanka	6.5	5.9	4.7	3.4	2.6	1.8	1.6	1.6	1.5	1.5
Taiwan	5.5	4.8	4.2	2.6	1.9	1.5	1.6	1.5	1.5	1.5
Thailand	8.2	7.4	6.4	4.4	3.0	1.9	1.7	1.6	1.5	1.5
Vanuatu	9.0	8.7	8.5	7.4	6.0	3.5	1.9	1.6	1.5	1.5
Viet Nam	6.4	7.2	8.3	6.2	4.1	2.3	1.8	1.6	1.5	1.5

Source: See Appendix Table I.B.1

Appendix I.B.10 Population over 60 Years Old / Population Aged 20 to 59 (percentage)

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
OECD										
Australia	27.3	27.0	32.6	43.4	57.1	65.9	64.7	65.8	66.8	67.4
Austria	36.4	38.6	46.1	57.0	77.2	77.1	66.3	65.9	66.8	67.4
Belgium	37.8	41.7	47.7	58.3	70.6	68.1	65.0	65.8	66.9	67.5
Canada	27.6	29.9	37.5	51.4	65.0	66.1	65.0	66.1	67.1	67.6
Denmark	36.2	35.9	47.6	57.0	69.9	67.0	64.1	65.3	66.7	67.3
Finland	32.8	35.8	47.2	59.4	67.2	64.1	64.0	65.5	66.7	67.3
France	35.3	37.4	43.7	53.7	64.0	68.1	65.3	66.0	67.0	67.6
Germany	35.2	43.7	50.7	61.7	81.2	72.2	65.7	66.0	67.0	67.5
Greece	37.4	45.2	50.4	58.2	69.8	79.1	66.7	66.1	67.0	67.5
Iceland	27.6	27.3	31.5	40.7	52.3	61.8	64.7	65.9	66.7	67.3
Ireland	31.4	29.4	33.4	38.2	44.4	59.2	63.0	65.0	66.5	67.2
Italy	37.2	43.2	51.4	60.7	80.4	86.1	67.4	66.2	67.1	67.6
Japan	30.9	40.7	57.5	65.4	71.3	78.8	67.8	66.7	67.3	67.7
Luxembourg	33.5	38.5	48.0	60.3	73.4	64.5	64.7	65.9	67.1	67.3
Netherlands	30.8	33.1	43.7	56.7	74.6	69.3	65.1	65.9	67.0	67.6
New Zealand	28.5	28.6	34.9	43.6	54.9	61.5	63.5	65.3	66.6	67.4
Norway	40.7	37.0	42.6	51.5	62.8	64.8	64.8	65.9	67.0	67.5
Portugal	34.1	35.6	38.8	46.6	61.2	74.1	65.3	65.5	66.7	67.4
Spain	34.8	36.4	40.5	48.3	64.4	78.2	65.8	65.5	66.7	67.3
Sweden	43.2	41.1	51.5	57.3	64.9	60.4	64.0	65.9	66.9	67.5
Switzerland	35.0	39.9	52.2	63.1	77.0	69.1	65.7	66.3	67.2	67.6
United Kingdom	38.8	38.9	44.4	50.3	63.4	62.9	63.7	65.4	66.7	67.4
United States	30.3	29.8	35.2	48.4	59.6	61.2	63.6	65.5	66.7	67.4
Latin America and The Caribbean										
Antigua	18.2	20.4	18.3	21.5	30.4	61.5	64.1	67.2	68.8	68.8
Argentina	26.9	26.8	28.1	32.1	36.3	52.8	60.3	63.7	65.8	66.9
Bahamas	13.6	13.2	17.5	22.8	34.4	52.7	59.7	63.2	65.2	66.1
Barbados	28.6	23.4	25.9	40.8	58.5	65.5	63.4	63.9	66.0	66.7
Belize	16.7	14.4	13.6	11.3	18.5	34.6	58.6	63.4	65.3	66.4
Bolivia	13.1	12.9	13.3	14.6	17.6	32.5	53.4	59.0	63.2	65.3
Brazil	14.1	14.9	17.4	23.3	31.3	48.2	57.9	62.3	65.1	66.4
Chile	17.0	18.3	21.7	29.3	40.1	54.3	60.5	63.8	65.9	66.9
Colombia	12.5	12.4	15.1	22.2	33.3	51.9	58.8	62.7	65.2	66.5
Costa Rica	13.3	15.1	17.9	25.6	36.3	54.2	62.1	64.9	66.6	67.3
Cuba	21.4	23.7	30.7	36.6	55.8	63.7	64.1	65.6	66.8	67.4
Dominica	28.6	23.1	18.8	16.9	25.4	53.1	64.1	65.6	68.8	68.8
Dominican Rep.	11.9	13.2	15.4	20.5	29.8	48.6	58.0	62.4	65.1	66.4
Ecuador	12.5	12.3	13.7	17.7	24.5	43.5	56.5	61.6	64.7	66.2
El Salvador	14.6	13.8	13.3	13.4	17.6	38.6	56.8	61.6	64.6	66.1
Grenada	20.9	23.8	9.7	17.1	30.6	50.0	56.3	60.0	62.5	65.0
Guatemala	12.6	12.4	11.8	12.9	15.7	29.5	54.2	60.7	64.2	65.9
Guadeloupe	21.5	23.3	26.7	39.8	48.8	58.1	62.1	65.3	67.3	68.0
Guyana	13.5	14.0	15.1	20.3	30.5	48.2	56.2	61.1	64.3	66.3
Haiti	14.4	13.5	12.8	13.3	15.4	23.4	43.0	55.6	61.5	64.2
Honduras	12.4	11.3	11.4	12.8	16.7	31.6	55.0	61.2	64.4	66.0
Jamaica	19.7	18.1	18.7	23.5	35.7	54.9	61.6	64.5	66.3	67.1
Martinique	24.6	26.4	28.8	36.3	58.0	59.7	63.4	64.9	65.7	66.5
Mexico	12.6	13.1	15.0	19.5	28.4	49.3	59.3	63.3	65.6	66.7
Nicaragua	10.8	10.6	10.9	13.2	16.8	31.3	55.6	61.8	64.8	66.2
Panama	14.2	14.8	17.7	24.2	34.5	55.0	61.2	64.1	66.0	66.9
Paraguay	12.0	11.4	11.9	16.1	19.8	29.3	52.5	61.3	64.7	66.2
Peru	12.7	13.1	14.4	17.9	24.5	41.3	55.3	60.9	64.3	65.9
St. Kitts and N.	50.0	31.3	16.7	11.1	30.0	68.8	75.0	81.3	81.3	81.3
St. Lucia	22.0	19.0	16.8	13.2	22.1	50.0	61.8	65.3	68.1	68.8
Suriname	14.3	14.8	14.3	18.7	30.4	45.7	58.4	63.2	65.4	67.1
Trinidad	16.9	17.7	20.1	27.1	36.3	52.0	60.1	63.6	66.0	66.9
Uruguay	33.1	34.5	35.5	38.9	43.7	58.2	62.4	64.8	66.2	67.2
Venezuela	12.2	12.9	15.6	20.9	28.3	46.5	58.9	63.1	65.5	66.6

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Eastern Europe and Ex-Soviet Union										
Albania	16.6	18.8	20.6	26.8	36.1	52.7	60.8	64.0	66.1	67.0
Armenia	21.8	25.4	25.7	37.7	43.0	59.0	62.0	64.4	66.2	67.1
Azerbaijan	18.4	21.3	19.6	29.0	37.9	55.5	60.6	63.8	65.9	66.9
Belarus	33.5	37.3	38.9	48.5	51.4	58.3	62.3	64.7	66.3	67.1
Bulgaria	37.2	43.4	49.3	53.4	54.4	60.7	62.2	64.3	66.0	67.0
Croatia	32.2	39.4	45.9	54.4	60.0	64.8	63.6	64.8	66.3	67.2
Czechoslovakia	32.3	30.5	35.7	44.4	47.2	57.6	61.1	63.7	65.7	66.8
Estonia	32.4	36.1	39.7	47.1	50.9	57.3	61.3	64.5	66.1	66.8
Georgia	30.3	35.0	35.4	43.7	48.8	57.7	61.9	64.5	66.2	67.1
Kazakhstan	19.1	22.3	23.0	31.3	35.3	52.8	59.1	62.8	65.3	66.6
Kyrgyzstan	19.5	18.8	16.6	21.7	25.5	43.9	58.9	62.9	65.4	66.6
Hungary	35.9	37.5	43.5	53.9	54.0	61.0	61.3	63.4	65.4	66.6
Latvia	33.2	38.3	40.5	48.3	52.9	58.0	61.7	64.2	66.1	67.0
Lithuania	30.0	34.1	36.8	46.2	53.9	59.5	62.4	64.7	66.3	67.1
Moldova	26.2	28.0	27.1	34.0	33.4	52.1	59.2	62.8	65.3	66.6
Poland	28.1	30.1	32.0	43.9	45.9	55.7	60.3	63.4	65.6	66.7
Romania	29.7	33.7	33.5	38.7	42.5	53.5	59.1	62.8	65.3	66.5
Russian Fed.	31.2	35.7	38.8	49.6	50.4	57.8	61.7	64.3	66.1	67.1
Slovenia	29.5	35.1	42.1	52.5	60.3	69.9	64.7	65.2	66.4	67.2
Tajikistan	15.8	14.9	12.2	15.5	19.2	36.4	58.9	62.9	65.4	66.6
Turkmenistan	14.7	14.0	13.0	18.5	23.5	42.2	57.1	61.7	64.8	66.2
Ukraine	35.4	41.5	43.0	49.6	51.9	57.3	61.8	64.4	66.2	67.0
Uzbekistan	15.3	14.7	13.2	18.5	23.6	42.9	59.0	63.0	65.4	66.6
Yugoslavia	24.8	32.1	34.9	43.2	50.0	57.2	61.3	64.1	66.0	66.9
North Africa and The Middle East										
Algeria	13.7	12.3	11.6	14.0	19.2	36.3	57.9	62.3	65.0	66.3
Bahrain	8.3	11.0	17.7	29.1	28.6	32.2	54.2	62.4	65.0	66.4
Cyprus	27.2	30.2	34.9	44.7	53.7	61.3	63.9	65.6	66.7	67.0
Egypt	14.4	14.7	14.9	19.3	23.1	38.3	53.3	59.3	63.4	65.4
Iran	11.6	11.4	12.0	13.6	14.8	18.0	29.6	51.8	62.6	65.5
Iraq	11.3	11.3	11.6	12.4	14.3	25.3	50.9	60.5	64.2	65.9
Israel	25.6	19.1	21.8	29.8	41.0	55.6	63.0	65.5	66.8	67.4
Jordan	10.6	10.5	11.3	12.8	18.7	31.3	55.9	62.1	64.9	66.4
Kuwait	5.0	10.2	18.6	33.0	38.7	57.0	62.3	64.8	66.5	67.3
Lebanon	20.7	20.1	15.6	15.1	21.1	38.6	55.7	61.0	64.4	65.9
Libya	10.1	11.2	12.5	12.9	13.2	18.5	35.4	58.9	64.2	65.9
Malta	25.4	30.2	39.2	49.0	52.2	59.0	62.4	64.2	66.5	67.2
Morocco	13.7	12.8	12.1	15.4	20.1	34.9	54.3	60.0	63.8	65.6
Oman	10.0	11.4	13.2	14.7	14.5	20.9	44.9	62.2	65.3	66.5
Qatar	6.3	11.6	21.1	29.8	28.1	31.9	54.1	62.3	65.2	66.5
Saudi Arabia	10.2	10.7	12.6	14.6	14.2	20.5	43.9	61.0	64.6	66.1
Syria	11.9	11.3	10.1	11.2	13.6	23.1	48.8	61.5	65.0	66.3
Tunisia	14.4	15.0	13.6	18.5	26.9	45.2	57.6	62.4	65.1	66.4
Turkey	14.9	16.7	17.6	21.5	29.3	45.0	57.6	62.3	65.1	66.4
U. Arab Emir.	5.1	10.1	24.4	44.9	39.4	41.7	60.8	64.0	65.9	67.0
Yemen	13.9	12.3	9.6	7.1	8.1	11.5	24.9	47.1	56.7	61.4
Sub-Saharan Africa										
Angola	12.5	12.5	12.1	11.6	11.5	14.5	31.0	51.6	58.0	62.0
Benin	11.7	10.8	9.6	9.6	10.7	19.6	40.0	52.6	59.2	62.8
Botswana	14.0	11.3	10.5	13.1	17.9	40.0	57.9	62.3	65.2	66.4
Burkina Faso	12.7	11.9	10.9	9.5	10.5	15.1	32.5	50.3	57.3	61.5
Burundi	11.6	9.5	8.4	9.5	10.2	13.0	30.6	51.3	58.1	62.0
Cameroon	15.1	13.1	11.7	11.9	12.4	21.3	43.5	56.1	61.9	64.6
Cape Verde	17.6	14.5	8.2	8.6	15.6	27.3	54.8	61.6	65.1	66.5
Cent. Afr. R.	13.4	15.1	13.4	11.0	11.6	18.8	38.8	52.1	58.9	62.6
Chad	13.6	14.3	14.4	13.9	13.5	16.8	34.9	51.4	58.3	62.1
Comoros	11.3	10.4	10.3	10.0	11.3	19.2	41.8	55.9	61.8	64.5
Congo	16.0	13.5	10.7	10.2	11.8	16.5	35.8	55.6	61.4	64.1
Cote d'Ivoire	10.8	10.8	10.1	10.6	11.4	18.5	40.0	56.5	62.0	64.6
Djibouti	10.6	10.9	12.4	13.1	13.1	18.4	37.1	52.4	59.2	62.9
E. Guinea	15.2	16.1	15.5	15.0	15.1	19.2	38.4	50.8	58.3	62.3
Ethiopia	11.7	11.2	10.3	9.7	9.6	12.5	27.2	50.7	58.2	62.1

	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Sub-Saharan Africa (Cont'd)										
Gabon	16.9	17.5	16.6	15.5	14.3	16.3	35.3	54.4	60.7	63.7
Gambia	10.5	11.9	12.4	12.6	11.6	13.8	28.8	48.3	55.7	60.4
Ghana	11.9	11.5	10.9	11.3	12.8	21.9	43.1	54.3	60.6	63.8
Guinea	11.1	10.6	10.1	10.4	10.6	13.7	28.8	48.0	55.3	60.4
Guinea-Bissau	13.5	11.8	10.4	9.3	10.0	14.3	29.3	43.1	51.1	57.5
Kenya	12.4	10.3	8.8	9.7	11.4	20.7	44.1	58.0	63.1	65.3
Lesotho	13.8	13.7	13.4	13.4	14.9	26.0	47.8	56.5	61.9	64.6
Liberia	12.2	12.1	12.1	12.4	14.1	23.3	44.4	56.1	61.8	64.5
Madagascar	12.0	11.5	10.7	11.0	12.5	21.0	41.0	52.4	59.1	62.7
Malawi	10.8	10.6	10.1	9.4	9.7	12.6	27.1	50.1	57.5	61.7
Mali	13.1	12.0	11.3	9.4	9.9	14.1	29.3	49.7	57.2	61.5
Mauritania	13.6	13.5	12.1	10.2	10.3	12.8	26.8	48.6	56.3	60.9
Mauritius	15.5	16.0	19.4	30.9	45.2	61.5	62.0	63.6	65.6	66.6
Mozambique	12.5	11.8	11.0	10.2	10.3	13.3	30.4	51.5	58.0	61.9
Namibia	12.9	12.4	11.7	12.3	14.0	25.4	48.5	58.4	63.1	65.3
Niger	10.9	11.0	10.6	10.2	9.7	11.4	23.5	46.0	55.8	60.9
Nigeria	9.8	10.0	10.1	10.6	12.4	20.7	39.5	52.5	59.0	62.6
Rwanda	10.7	10.3	9.6	8.4	8.7	11.3	25.5	48.7	58.3	62.4
Sao Tome and P.	19.2	15.9	16.5	18.0	19.6	35.0	56.1	61.6	65.9	67.3
Senegal	11.2	9.9	9.2	8.9	9.1	13.5	31.7	50.9	57.8	61.8
Seychelles	22.6	22.2	19.6	20.0	32.1	47.5	56.9	61.4	61.4	60.0
Sierra Leone	12.4	12.9	12.6	12.1	11.4	13.8	28.4	47.4	54.3	59.5
Somalia	12.1	12.3	11.8	11.5	11.4	15.0	31.4	50.7	57.6	61.7
South Africa	13.5	14.3	15.5	18.4	22.4	35.4	55.1	60.8	64.3	66.0
Sudan	11.6	11.7	11.6	11.8	12.7	19.7	39.3	52.5	59.3	62.8
Swaziland	11.1	10.4	10.0	10.5	11.9	20.6	42.7	55.7	61.8	64.5
Tanzania	12.3	11.1	10.5	9.4	9.6	13.5	30.6	50.4	57.3	61.5
Togo	12.9	12.3	10.9	10.1	11.3	19.2	40.1	53.8	60.5	63.7
Uganda	12.7	10.2	7.9	7.1	8.6	13.9	31.2	50.2	57.3	61.5
Zaire	10.7	10.8	10.7	11.0	12.0	18.7	39.6	54.1	60.6	63.7
Zambia	10.0	8.8	7.6	7.8	9.0	15.6	36.6	55.0	61.3	64.1
Zimbabwe	9.9	9.7	9.7	12.4	16.9	34.3	53.3	61.2	64.7	66.2

Asia

Afghanistan	9.8	9.8	9.9	10.1	10.3	12.8	25.7	44.2	52.0	58.1
Bangladesh	12.1	11.4	11.4	13.5	17.7	32.3	44.4	53.6	59.8	63.2
Buhtan	12.6	12.8	13.2	13.3	13.9	19.1	38.1	51.0	58.1	61.9
Brunei	11.5	13.7	17.8	26.8	35.1	46.7	62.2	65.3	66.4	67.1
China	16.6	18.3	21.2	28.6	42.6	53.1	59.5	63.4	65.6	66.7
Fiji	11.0	13.3	16.7	22.5	28.3	46.7	56.4	61.3	64.6	66.0
Hong Kong	22.4	25.9	31.4	52.3	74.1	81.7	67.4	66.3	67.1	67.6
India	15.0	15.4	15.6	18.4	23.3	38.8	52.3	58.5	63.0	65.2
Indonesia	13.9	14.1	14.8	19.2	25.2	42.0	51.8	58.0	62.6	64.9
Kampuchea, D.	9.7	12.5	13.8	18.3	24.2	30.8	46.0	54.8	60.8	63.8
Korea, Dem.	12.3	14.4	18.4	26.2	42.6	54.3	61.0	64.1	66.0	66.9
Korea, Rep. of	13.7	18.0	23.5	35.2	50.3	63.9	62.1	63.9	65.8	66.8
Lao	12.0	12.5	12.1	11.6	11.7	16.3	36.1	52.5	59.1	62.6
Macao	19.2	19.5	24.7	42.5	59.1	59.0	61.7	65.0	66.9	67.2
Malaysia	12.4	13.7	15.4	19.9	26.4	42.6	59.5	63.5	65.6	66.7
Maldives	11.5	14.8	12.7	11.4	13.6	23.0	46.4	58.4	64.0	65.5
Micronesia	14.6	14.0	11.5	15.7	19.2	37.6	58.9	62.5	65.3	66.7
Mongolia	12.7	13.1	14.1	15.3	19.7	34.2	55.6	61.0	64.2	65.9
Myanmar	14.3	14.9	14.5	17.3	23.9	39.8	54.5	60.3	64.0	65.8
Nepal	12.1	13.2	13.8	14.3	15.3	25.5	44.9	54.0	60.2	63.4
Pakistan	11.3	11.0	10.3	12.4	15.5	25.5	44.7	54.9	61.0	64.0
Philippines	11.9	12.1	13.4	17.9	24.1	43.6	55.7	61.1	64.4	66.0
P. New Guinea	11.3	11.8	12.0	12.2	15.0	26.9	47.7	55.5	61.1	64.0
Singapore	14.2	18.4	26.7	45.8	62.9	63.8	63.4	65.0	66.5	67.2
Solomon Islands	12.7	11.5	11.9	12.8	15.4	29.8	54.4	61.0	63.9	65.9
Sri Lanka	15.4	16.9	21.2	29.8	39.2	56.1	60.8	63.8	65.8	66.9
Taiwan	18.1	21.0	23.7	38.0	52.0	67.5	64.0	64.8	66.2	67.1
Thailand	12.2	13.5	15.7	22.7	33.4	51.6	58.1	62.2	65.0	66.4
Vanuatu	11.1	11.5	11.8	13.5	16.6	28.4	51.5	61.2	65.0	66.5
Viet Nam	15.6	14.0	12.1	16.0	24.6	43.0	56.9	62.0	64.9	66.3

Source: See Appendix Table I.B.1

Appendix II Data Used in Selected Figures

Appendix II.A: Public Pension Spending, Population over 60 and Income per Capita, Selected Countries 1986-1993

Country	Year	Pension Spending/ GDP	Population over 60	Income per capita	Country	Year	Pension Spending/ GDP	Population over 60	Income per capita	Country	Year	Pension Spending/ GDP	Population over 60	Income per capita
Argentina	1986	4.6	13.1	4680	France	1988	12.5	18.9	15200	Netherlands	1989	11.8	17.8	14600
Armenia	1989	3.6	11.0	4610	Germany	1990	10.8	20.3	16290	New Zealand	1993	7.5	15.2	13490
Australia	1989	3.8	15.0	16050	Greece	1988	14.5	20.2	7340	Nicaragua	1990	0.6	4.2	2550
Austria	1989	14.9	20.2	14750	Guatemala	1986	0.4	4.9	2920	Niger	1986	0.2	4.2	590
Bangladesh	1986	0.0	4.9	1050	Guinea	1986	0.0	4.3	1310	Norway	1990	10.1	21.2	17220
Belgium	1989	13.0	20.7	12950	Guyana	1986	1.7	6.4	990	Pakistan	1989	0.6	4.6	1770
Belize	1988	1.0	6.4	4120	Honduras	1986	0.2	4.8	1610	Panama	1989	5.1	6.7	4120
Benin	1986	1.4	4.4	1500	Hungary	1990	9.7	19.3	6190	Paraguay	1987	0.4	5.2	3120
Bolivia	1993	1.5	5.4	1910	Iceland	1990	4.8	14.5	16535	Peru	1986	0.7	5.8	2720
Brazil	1989	2.9	6.7	4780	India	1990	0.6	6.9	1150	Philippines	1989	0.6	5.3	2320
Bulgaria	1990	7.9	19.7	7900	Indonesia	1990	0.1	6.4	2350	Poland	1990	8.1	14.8	4530
Burkina Faso	1986	1.0	5.0	560	Ireland	1988	6.5	15.2	9130	Portugal	1989	7.7	18.0	7950
Burundi	1990	0.3	4.6	600	Israel	1989	5.0	12.1	11940	Romania	1989	5.7	15.6	6780
Cameroon	1986	0.4	5.8	2020	Italy	1988	15.6	20.6	14550	Rwanda	1989	0.3	4.0	610
Canada	1989	4.2	15.6	19650	Jamaica	1989	0.7	8.9	3030	Singapore	1989	2.2	8.5	14920
C. Afric. Rep.	1986	0.3	5.5	900	Japan	1990	5.0	17.3	16950	Slovenia	1989	9.3	16.2	5410
Chad	1986	0.0	5.8	440	Jordan	1986	0.3	4.2	4530	Spain	1989	7.6	18.5	10840
Chile	1989	5.7	8.7	6190	Kenya	1989	0.5	4.3	1120	Sri Lanka	1986	2.2	7.8	2370
China	1992	2.6	8.9	1950	Korea	1990	0.6	7.7	7190	Swaziland	1986	0.4	4.1	2180
Colombia	1989	0.8	6.0	4950	Latvia	1990	5.6	17.9	7540	Sweden	1990	11.7	22.9	16000
Costa Rica	1990	3.6	6.4	4870	Lithuania	1989	6.0	16.2	5410	Switzerland	1992	10.1	19.9	21690
Cyprus	1989	4.0	14.5	7340	Luxembourg	1988	14.7	19.3	15960	Tanzania	1990	0.2	4.7	540
Czechoslovakia	1990	8.2	16.9	6280	Malawi	1987	0.4	4.2	670	Tr. & Tobago	1989	3.4	8.3	8380
Denmark	1990	9.9	20.2	15380	Malaysia	1986	1.6	5.7	5900	Tunisia	1990	2.5	6.5	3979
Ecuador	1989	1.1	5.5	3720	Mali	1986	0.7	4.9	560	Turkey	1986	2.4	7.1	5020
Egypt	1986	3.0	6.4	3100	Mauritania	1986	1.4	5.4	1240	Ukraine	1990	7.0	18.7	5180
El Salvador	1990	0.4	5.6	1890	Mauritius	1990	2.7	8.3	6500	U. Kingdom	1988	9.5	20.8	14960
Estonia	1990	5.6	17.2	8090	Mexico	1991	1.0	5.7	5980	United States	1989	6.5	16.6	21360
Ethiopia	1986	1.1	4.5	310	Morocco	1989	1.1	5.8	2670	Uruguay	1990	8.7	16.4	6000
Finland	1990	10.3	18.4	15620	Mozambique	1986	0.0	5.1	620	Venezuela	1990	0.5	5.6	6740
										Yugoslavia	1986	6.5	13.6	5090

Income per capita is based on position in Table I of WDR 1992 or 1993 and other information. Armenia's income per capita is for 1991.

Appendix II.B: Public Pension and Health Spending and Population over 60, Selected Countries 1982-1990

Country	Year	Public Pensions plus Health as a % of GDP	Population over 60	Country	Year	Public Pensions plus Health as a % of GDP	Population over 60
Australia	1990	9.12	15.0	Madagascar	1987	0.99	4.8
Austria	1990	20.68	20.2	Malaysia	1988	3.29	5.7
Belgium	1990	16.37	20.7	Mali	1982	2.04	4.9
Bolivia	1990	2.27	5.4	Mauritius	1990	4.94	8.3
Brazil	1989	6.35	6.7	Mexico	1990	1.98	5.7
Burkina Faso	1989	1.62	5.0	Morocco	1987	2.02	5.8
Cameroon	1989	1.12	5.8	Mozambique	1986	1.27	5.1
Canada	1990	11.04	15.6	Netherlands	1990	15.49	17.8
China	1988	3.99	8.9	New Zealand	1990	12.89	15.2
Cote d'Ivoire	1988	1.82	4.2	Niger	1989	1.98	4.2
Czechoslovakia	1989	18.17	16.9	Pakistan	1990	2.21	4.6
Denmark	1990	15.23	20.2	Panama	1982	10.34	6.7
Dominican Rep.	1989	2.08	5.5	Peru	1984	2.44	5.8
Ecuador	1990	3.08	5.5	Poland	1990	15.9	14.8
Egypt	1990	3.46	6.4	Portugal	1990	12.23	18.0
El Salvador	1987	2.06	5.6	Rwanda	1984	0.8	4.0
Finland	1990	16.87	18.4	Singapore	1989	3.49	8.5
France	1990	18.05	18.9	Spain	1990	12.86	18.5
Germany	1990	16.46	20.3	Sri Lanka	1990	3.72	7.8
Ghana	1985	1.27	4.5	Sweden	1990	19.51	22.9
Guatemala	1989	1.82	4.9	Switzerland	1990	12.85	19.9
Honduras	1986	3.36	4.8	Syria	1989	0.63	4.4
Iceland	1990	16	14.5	Togo	1987	2.03	4.8
India	1990	2.32	6.9	Trinidad & Tobago	1988	5.86	8.3
Ireland	1990	12.2	15.2	Tunisia	1989	5.53	6.5
Italy	1990	19.98	20.6	Turkey	1987	4.32	7.1
Jamaica	1985	3.64	8.9	United Kingdom	1990	13.53	20.8
Japan	1990	9.77	17.3	United States	1990	11.18	16.6
Jordan (E. Bank)	1987	1.72	4.2	Uruguay	1989	11.29	16.4
Kenya	1989	2.16	4.3	Venezuela	1986	3.17	5.6
Luxembourg	1990	16.87	19.3	Zambia	1988	2.32	3.6

Appendix II.C: Payroll Tax for Pensions versus Old Age Dependency Ratio; Selected Countries, 1990

Country	Population over 60/ Population Aged 20 to 59	Payroll Tax for Pensions (%)	Country	Population over 60/ Population Aged 20 to 59	Payroll Tax for Pensions (%)	Country	Population over 60/ Population Aged 20 to 59	Payroll Tax for Pensions (%)
Afghanistan	9.8	3.0	Finland	32.3	16.8	Nicaragua	10.8	8.5
Algeria	13.7	7.0	France	35.7	15.8	Niger	10.9	4.0
Argentina	27.0	26.0	Gabon	16.9	7.0	Norway	40.0	24.5
Austria	35.7	22.9	Germany	35.7	17.8	Panama	14.3	9.1
Bahamas	13.5	8.8	Greece	37.0	17.3	Paraguay	12.0	22.5
Bahrain	8.3	12.0	Grenada	20.8	8.0	Peru	12.7	9.0
Barbados	28.6	11.3	Guatemala	12.7	4.5	Philippines	11.9	8.0
Belgium	38.5	16.4	Guinea	11.1	4.0	Poland	27.8	30.0
Benin	11.6	9.0	Guyana	13.5	11.0	Portugal	34.5	35.5
Brazil	14.1	29.5	Haiti	14.5	4.0	Romania	29.4	23.0
Bulgaria	37.0	30.0	Honduras	12.3	3.0	Russia Fed.	31.3	31.6
Burkina Faso	12.7	9.0	Hungary	35.7	30.5	Rwanda	10.8	6.0
Burundi	11.6	8.5	Ireland	31.3	17.7	Sao Tome and P.	19.2	10.0
Cameroon	15.2	7.0	Italy	37.0	26.2	Saudi Arabia	10.2	13.0
Cape Verde	17.5	7.0	Jamaica	19.6	5.0	Senegal	11.2	8.8
Cent. Afr. Rep.	13.3	5.0	Japan	31.3	14.6	Seychelles	22.7	15.0
Chad	13.7	6.0	Jordan	10.5	13.0	Solomon Islands	12.7	12.5
Chile	16.9	13.3	Korea, Rep. of	13.7	3.0	Spain	34.5	28.8
China	16.7	18.0	Latvia	33.3	23.4	Sudan	11.6	14.0
Colombia	12.5	6.5	Lebanon	20.8	8.5	Sweden	43.5	21.0
Congo	16.1	6.0	Liberia	12.2	6.0	Switzerland	34.5	15.9
Costa Rica	13.3	7.3	Libya	10.1	5.1	Taiwan	18.2	7.0
Cote d'Ivoire	10.8	4.0	Luxembourg	33.3	16.0	Togo	12.8	6.0
Cyprus	27.0	12.0	Madagascar	12.0	4.5	Tunisia	14.3	3.8
Dominican Rep.	11.9	9.5	Mali	13.2	7.0	Turkey	14.9	20.0
Ecuador	12.5	20.3	Malta	25.6	16.6	Ukraine	35.7	31.1
Egypt	14.3	26.0	Mauritania	13.7	3.0	United Kingdom	38.5	19.5
El Salvador	14.5	3.0	Mexico	12.7	6.7	United States	30.3	12.4
Eq. Guinea	15.2	26.0	Micronesia	14.7	8.0	Uruguay	33.3	25.0
Estonia	32.3	20.0	Morocco	13.7	5.1	Venezuela	12.2	13.0
Ethiopia	11.8	10.0	Netherlands	31.3	14.1	Zaire	10.6	6.5

Source: Calculated from data from U.S. Social Security Administration (1993); World Bank population data base.

Appendix III Income Sources of Households, Head Aged 65+ in Selected OECD Countries

Appendix III.A Income Sources of the Elderly, Australia 1985

Percentage of households with income from the following sources:

Age	Earnings only	Public pension only	Private pension only	Earnings & pensions	Public & private pension
55-64 years	75.2	18.9	2.9	1.3	1.7
65-74 years	9.7	76.1	2.7	2.1	9.4
75+ years	3.2	81.1	2.5	1.4	11.9
65+ years	7.4	77.9	2.6	1.8	10.3
Quintile (65+)					
I	2.2	93.8	0.3	0.0	3.7
II	2.4	89.0	0.4	0.0	8.3
III	2.1	89.2	0.7	0.0	7.9
IV	2.1	70.2	4.1	1.9	21.7
V	47.9	14.2	12.8	12.8	12.4
QV/QI	21.8	0.2	42.7	*	3.4

Source: Calculations based on Luxembourg Income Study Data.

Appendix III.B Income Sources of the Elderly, Canada 1987

Percentage of households with income from the following sources:

Age	Earnings only	Public pension only	Private pension only	Earnings & pensions	Public & private pension
55-64 years	78.8	3.9	2.1	9.9	5.4
65-74 years	4.6	33.7	0.3	21.2	40.2
75+ years	0.0	47.0	0.0	9.0	44.0
65+ years	2.8	38.7	0.2	16.6	41.7
Quintile (65+)					
I	1.3	77.3	0.0	1.2	20.1
II	0.1	54.1	0.0	3.3	42.4
III	4.1	29.4	0.7	6.4	59.4
IV	4.3	9.9	0.0	31.7	54.1
V	5.7	3.8	0.3	52.3	37.9
QV/QI	4.4	0.0	*	43.6	1.9

Source: See table III.A

Appendix III.C Income Sources of the Elderly, France 1984

Percentage of households with income from the following sources:

Age	Earnings only	Public pension only	Private pension only	Earnings & pensions	Public & private pension
55-64 years	62.8	37.2	-	-	-
65-74 years	5.1	94.9	-	-	-
75+ years	2.7	97.3	-	-	-
65+ years	3.9	96.1	-	-	-
quintile (65+)					
I	4.9	95.1	-	-	-
II	2.2	97.8	-	-	-
III	3.8	96.2	-	-	-
IV	2.8	97.9	-	-	-
V	7.1	92.9	-	-	-
QV/QI	1.4	1.0	-	-	-

Source: See table III.1

Appendix III.D Income Sources of the Elderly, Germany 1984

Percentage of households with income from the following sources:

Age	Earnings only	Public pension only	Private pension only	Earnings & pensions	Public & private pension
55-64 years	78.2	21.8	-	-	-
65-74 years	3.9	96.1	-	-	-
75+ years	0.3	99.7	-	-	-
65+ years	2.3	97.7	-	-	-
quintile (65+)					
I	0.5	99.5	-	-	-
II	0.7	99.3	-	-	-
III	-	100.0	-	-	-
IV	1.3	98.7	-	-	-
V	15.9	84.1	-	-	-
QV/QI	31.8	0.8	-	-	-

Source: See table III.A

Appendix III.E Income Sources of the Elderly, United Kingdom 1986

Percentage of households with income from the following sources:

Age	Earnings only	Public pension only	Private pension only	Earnings & pensions	Public & private pension
55-64 years	58.4	10.7	5.7	11.7	13.5
65-74 years	0.9	30.2	0.1	16.0	52.8
75+ years	-	48.4	0.2	6.8	44.6
65+ years	0.6	36.9	0.1	12.7	49.8
uintile (65+)					
I	0.3	64.1	0.3	0.2	35.0
II	0.0	56.4	0.0	3.6	40.0
III	1.1	30.2	0.2	3.6	64.9
IV	0.0	16.8	0.0	17.6	65.6
V	1.4	8.8	0.0	43.9	45.9
QV/QI	4.7	0.1	0.0	219.5	1.3

Source: See table III.A

Appendix III.F Income Sources of the Elderly, United States 1986

Percentage of households with income from the following sources:

Age	Earnings only	Public pension only	Private pension only	Earnings & pensions	Public & private pension
55-64 years	76.8	10.4	1.2	7.0	4.5
65-74 years	8.5	46.8	0.2	20.7	23.8
75+ years	1.2	68.5	0.1	5.1	25.1
65+ years	5.7	55.2	0.2	14.6	24.3
uintile (65+)					
I	3.1	87.8	0.5	0.0	8.5
II	1.0	70.9	0.2	3.9	26.0
III	4.7	48.3	0.0	10.1	36.9
IV	6.9	31.7	0.0	25.0	36.5
V	15.3	24.9	0.0	43.0	16.9
QV/QI	4.9	0.3	0.0	*	2.0

Source: See table III.A

Appendix III.G Income Sources of the Elderly, Netherlands 1987

Percentage of households with income from the following sources:

Age	Earnings only	Public pension only	Private pension only	Earnings & pensions	Public & private pension
55-64 years	84.4	0.2	12.6	1.7	1.1
65-74 years	0.3	22.8	-	5.5	71.4
75+ years	0.3	22.3	-	4.2	73.2
65+ years	0.3	22.6	-	5.0	72.1
Quintile (65+)					
I	0.0	45.2	-	0.0	54.8
II	0.0	47.2	-	0.8	52.0
III	0.6	7.1	-	1.2	91.0
IV	0.9	6.5	-	2.1	90.4
V	0.0	4.2	-	22.8	73.0
QV/QI	*	0.1	-	*	1.3

Source: See table III.A

Appendix III.H Income Sources of the Elderly, Sweden 1987

Percentage of households with income from the following sources:

Age	Earnings only	Public pension only	Private pension only	Earnings & pensions	Public & private pension
55-64 years	80.2	19.8	-	-	-
65-74 years	0.2	99.8	-	-	-
75+ years	-	100.0	-	-	-
65+ years	0.1	99.9	-	-	-
Quintile (65+)					
I	0.0	100.0	-	-	-
II	0.0	100.0	-	-	-
III	0.0	100.0	-	-	-
IV	0.0	100.0	-	-	-
V	1.1	98.9	-	-	-
QV/QI	*	1.0	-	-	-

Source: See appendix III.A

Appendix IV Demographic Distribution of Poverty in Five Latin American Countries

Appendix IV.A Brazil

Percentage of Demographic Group in Poverty or Absolute Poverty

Demographic Group	Percent in Poverty	Percent in Absolute Poverty
Young (14 or under)	31.8	20.8
Prime Age 1 (20-25)	19.4	10.9
Prime Age 2 (26-35)	18.4	10.9
Prime Age 3 (36-60)	20.2	12.1
Over 60 Total	24.2	12.7
Female	23.5	12.2
Male	25.0	13.3
Over 75 Total	28.6	13.9
Female	26.9	13.1
Male	31.2	15.2

* Poverty = < 50% median income per family member;
 Absolute Poverty = < 35% median income per family member.
 Source: Calculated using household survey data explained in Psacharopoulos:
 "Poverty and Income Distribution in Latin America: The Story of the 1980s."

Appendix IV.B Chile

Percentage of Demographic Group in Poverty or Absolute Poverty

Demographic Group	Percent in Poverty	Percent in Absolute Poverty
Young (14 or under)	18.3	7.6
Prime Age 1 (20-25)	11.8	4.8
Prime Age 2 (26-35)	11.5	4.2
Prime Age 3 (36-60)	12.8	5.2
Over 60 Total	13	4.8
Female	13.4	5
Male	12.7	4.6
Over 75 Total	12.8	4.4
Female	12.5	4.2
Male	13.2	4.7

* Poverty = < 50% median income per family member;
 Absolute Poverty = < 35% median income per family member.
 Source: See table Appendix IV.A

Appendix IV.C Honduras

Percentage of Demographic Group in Poverty or Absolute Poverty*

Demographic Group	Percent in Poverty	Percent in Absolute Poverty
Young (14 or under)	27.5	15.8
Prime Age 1 (20-25)	17.8	10.2
Prime Age 2 (26-35)	17.7	9.5
Prime Age 3 (36-60)	23.0	13.4
Over 60 Total	27.8	17.0
Female	27.2	17.4
Male	28.3	16.7
Over 75 Total	30.2	20.9
Female	27.3	19.5
Male	33.0	22.2

* Poverty = < 50% median income per family member;
 Absolute Poverty = < 35% median income per family member.
 Source: See table IV.A

Appendix IV.D Panama

Percentage of Demographic Group in Poverty or Absolute Poverty*

Demographic Group	Percent in Poverty	Percent in Absolute Poverty
Young (14 or under)	30.9	22.8
Prime Age 1 (20-25)	23.7	16.3
Prime Age 2 (26-35)	19.6	13.1
Prime Age 3 (36-60)	26.1	19.8
Over 60 Total	30.2	23.5
Female	28	21.3
Male	32.4	25.7
Over 75 Total	32.5	26.0
Female	27.2	20.6
Male	38.1	31.7

* Poverty = < 50% median income per family member;
 Absolute Poverty = < 35% median income per family member.
 Source: See table IV.A

Appendix IV.E Uruguay

Percentage of Demographic Group in Poverty or Absolute Poverty*

Demographic Group	Percent in Poverty	Percent in Abs. Poverty
Young (14 or under)	19.1	9.0
Prime Age 1 (20-25)	13.4	5.1
Prime Age 2 (26-35)	10.6	4.5
Prime Age 3 (36-60)	11.3	4.7
Over 60 Total	11.7	3.8
Female	11.5	3.4
Male	12.1	4.3
Over 75 Total	11.2	2.8
Female	11.1	2.8
Male	11.3	2.9

* Poverty = < 50% median income per family member;

Absolute Poverty = < 35% median income per family member.

Source: See table IV.A

Appendix V Cross-Reference List between STARS data diskette and the Technical Annex

Variable Name and Description in STARSPage (s) in Annex

HIS15-64/65	Historical: ratio pop. 15-64 to pop. over 65	1
HIS20-59/60	Historical: ratio pop. 20-59 to pop. over 60	1
HISOVER60	Historical: percentage of population over 60	1
HISUNDER15	Historical: percentage of population under 15	1
HISW60+M60+	Historical: ratio women over 60 to men over 60	1
PRO20-64/65	Projections: ratio pop. 20-64 to pop. over 65	2
PRO20-59/60	Projections: ratio pop. 20-59 to pop. over 60	2
PRO15-64/65	Projections: ratio pop. 15-64 to pop. over 65	2
PRO65/15-64	Projections: ratio pop. over 65 to pop. 15-64 (%)	2
PRO65/20-64	Projections: ratio pop. over 65 to pop. 20-64 (%)	2
PRO60/20-59	Projections: ratio pop. over 60 to pop. 20-59 (%)	2
POPOVER60	Projections: percentage population over 60	2
POPOVER65	Projections: percentage population over 65	2
POPOVER75	Projections: percentage population over 75	2
COVERAGE	Labor force covered by public pension schemes	28-40
SYSDEP	System dependency ratio. (Pensioners/Contributors)	40
RETIREMENTM	Retirement age of males	41
RETIREMENTF	Retirement age of females	41
EXPDURETM	Expected duration of retirement of males	57
EXPDURETF	Expected duration of retirement of females	57
LFPM65PLUS	Labor force participation rate of males over 65	56
LFPM55/64	Labor force participation rate of males 55-64	56
PENTAXEMPR	Payroll tax for pensions from employer	41-47
PENTAXWORK	Payroll tax for pensions from employee	41-47
PENTAXTOTAL	Total payroll tax for pensions	41-47
SYSTAXEMPR	Employer payroll tax, all "social security" programs	n.a.
SYSTAXWORK	Worker payroll tax, all "social security" programs	n.a.
SYSTAXTOTAL	Combined payroll tax, all "social security" programs	n.a.
PENSGDP	Public Pension spending as % of GDP	3-17
PENSGOV	Public pension spending / government spending	3-17
PENSREVGDP	Receipts of pension schemes as % of GDP	3-17
REVPAYTAX	Share of pension revenues from payroll taxes	3-17
REVINVINC	Share of pension revenues from income from capital	3-17
REVGENREV	Share of pension revenues from general revenues	3-17
PUBRESERVES	Public pension reserves, as % of GDP	18-23
PRIRESERVES	Private pension reserves, as % of GDP	49-53
DEFICITBEN	Deficit / pension spending	3-17
ADMINCOST	Per member administrative cost / income per capita (%)	23-26
PUBINVRETS	Public pension fund investment returns	18-23
REPRIVRET	Real private pension fund returns	49-53
PRIRESEQ	Share of portfolio invested in equities	49-53
PRIRESBOND	Share of portfolio invested in bonds	49-53
PRIRESLOAN	Share of portfolio invested in loans	49-53
PRIRESOTHER	Share of portfolio invested in others	49-53

Appendix VI Errata

1. Dr. Timothy Smeeding and Cheikh Kane provided valuable help and comments and should have been listed in the section entitled, "Acknowledgments".
2. Data on pension spending as a share of GDP which appears in several places in the book have been revised for several countries. These changes are explained in Section II.A of this Annex.
3. In Box Table 4.6 on page 135, the units were omitted and should have read millions of Colombian Pesos.
4. Zambian rate of return in table 6.4 on page on page 224 should have been -23.4 rather than -55%. Rates of return for Singapore and Malaysia should read 3.0 and 4.6 respectively. In the same table, Iglesias and Acuna were mistakenly omitted from the sources.
5. On page 247, first sentence of the first full paragraph should read, "The two mandatory pillars together might aim to replace about 60 percent of gross average lifetime wage..."
6. On page 250, figure 7.1, the data on non-wage income sources refer to heads-of-households over age 65 in the various OECD countries.
7. On page 294, Issue Brief table 1.1 under the section "Mandatory Target", the last two columns should read as follows:

Middle income	High-income
74	74
57	57
50	50
40	40
40	50

Also, the second note to the table should read: "The mandatory pension target is 40 percent of gross final year earnings,..."

8. On page 295, the first sentence in the last paragraph should have read, "For example, the government might require saving or contributions that would replace about 40 percent of the worker's gross wage, with a floor at about a third of the gross economy-wide average wage..."
9. On page 312, first full paragraph, the last 2 sentences, "negatively" should read "positively" and "positively" should read "negatively". The reference is to Mitchell et. al., (1994), not to Sunden and Mitchell.
10. In Appendix Table A.6 of the book on page 362, the Hungarian share of total revenues from payroll taxes, investments and general revenues should have read, 89.4, .01 and 10.5 percent, respectively.
11. Payroll tax rates found in Appendix A.7, pp. 364-368, include errors described in Section II.F of this Annex.
12. In Appendix Table A.9 on page 370, information received after publication suggests that Chinese administrative costs are not comparable to other countries because a greater-than-average share of administration costs are borne by firms, in particular, state-owned enterprises.
13. In Figure 1.6, the year in which China is projected to reach 18 percent of the population over 60 is 2023, not 2026 as shown in the parentheses next to the bar.
14. South Africa was mistakenly listed as a contribution-related scheme. The main scheme is means-tested.

Selected Bibliography

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