AUSTRALIAN CENTRE FOR FINANCIAL STUDIES

MERCER

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Melbourne Mercer Global Pension Index

Consulting. Outsourcing. Investments.

Contents

Letter from ACFS

The Australian Centre for Financial Studies is delighted to be a partner in the research which has resulted in the 2010 Melbourne Mercer Global Pension Index (the Index).

ACFS is a not-for-profit consortium of Monash University, RMIT University, the University of Melbourne and Finsia (Financial Services Institute of Australasia) which was established in 2005 with seed funding from the Victorian Government. Funding for ACFS is also derived from corporate sponsorship and through research partnerships such as the one with Mercer which has led to this report.

ACFS specialises in leading edge finance and investment research, aiming to boost the global credentials of Australia's finance industry, bridge the gap between research and industry, and support Australia as an international centre for finance practice, research and education. ACFS facilitates industry-relevant and rigorous research and consulting, thought leadership and independent commentary. Drawing on expertise from academia, industry and government, the Centre promotes excellence in financial services.

In its second year, the Index not only assists discussion and research on public policy matters related to international retirement systems, but extends this opportunity through the inclusion of three new countries and the beginning of a longitudinal perspective.

The response received following the launch of the 2009 Index demonstrated its value to government, industry and academia in contributing to the debate on how we best provide for the ageing population. In particular, the nature of the Index provides some insight to the challenge of balancing the adequacy of benefits with the sustainability of pension systems, a matter of increasing concern in the post-Global Financial Crisis environment.

As part of its role in the project, ACFS has convened an expert reference group to ensure that the final Index represents an independent and unbiased view. Many thanks to the members of the reference group:

- Syd Bone, Chairman, Australian Centre for Financial Studies
- Prof Kevin Davis, University of Melbourne and Research Director ACFS
- Jeremy Duffield, Managing Director, Vanguard Investments Australia
- Dr Vince FitzGerald, Chairman, Allen Consulting
- Prof Richard Heaney, RMIT University
- Ian Silk, Chief Executive, AustralianSuper

Our thanks to Dr David Knox and Adam Solomon of Mercer, who have produced an excellent outcome and who have been a pleasure to deal with throughout the project. Thanks also to the Department of Innovation, Industry and Regional Development for supporting this second study.

Professor Deborah Ralston

Director
Australian Centre for Financial Studies

Preface

This report represents research that compares fourteen different retirement income systems around the world, building on last year's pilot study of eleven systems.

Last year's report generated considerable discussion and controversy as any comparison of different system raises issues that are not straightforward or easy to compare. After all, there exist many approaches that have been affected by a range of social, political, historical, cultural and economic influences. Notwithstanding these differences, we believe that there are certain features or outcomes of retirement income systems that can be measured and typify strength and longer term sustainability.

There have been some changes to the indicators used in this year's report as we have included a broader range of topics including:

- an assessment of the costs of the system
- the level of home ownership
- actual asset allocation
- the effect that divorce can have on providing an adequate benefit.

The overall index value for each country takes into account more than forty indicators which are scored from objective data or assessments. Of course, the weighting of each indicator can be debated but we have given greater weight to the more important factors. Nevertheless we recognise that each country's index value would move with a change in weighting. For this reason, one cannot be definite and state that one country's system is better than another when the difference is small, say 0.5 in the overall index value. However, when there is a difference of say, five or more we can state that the higher index value indicates that this country has a system that provides more adequate benefits, is more sustainable and/or has greater integrity than the other country.

The preparation of an international report of this nature requires input, hard work and cooperation from many individuals and groups. I would like to thank you all.

First, the financial support of the Victorian Government for this project is greatly appreciated. Without its funding, the concept and development of this index would not have moved from an idea to reality.

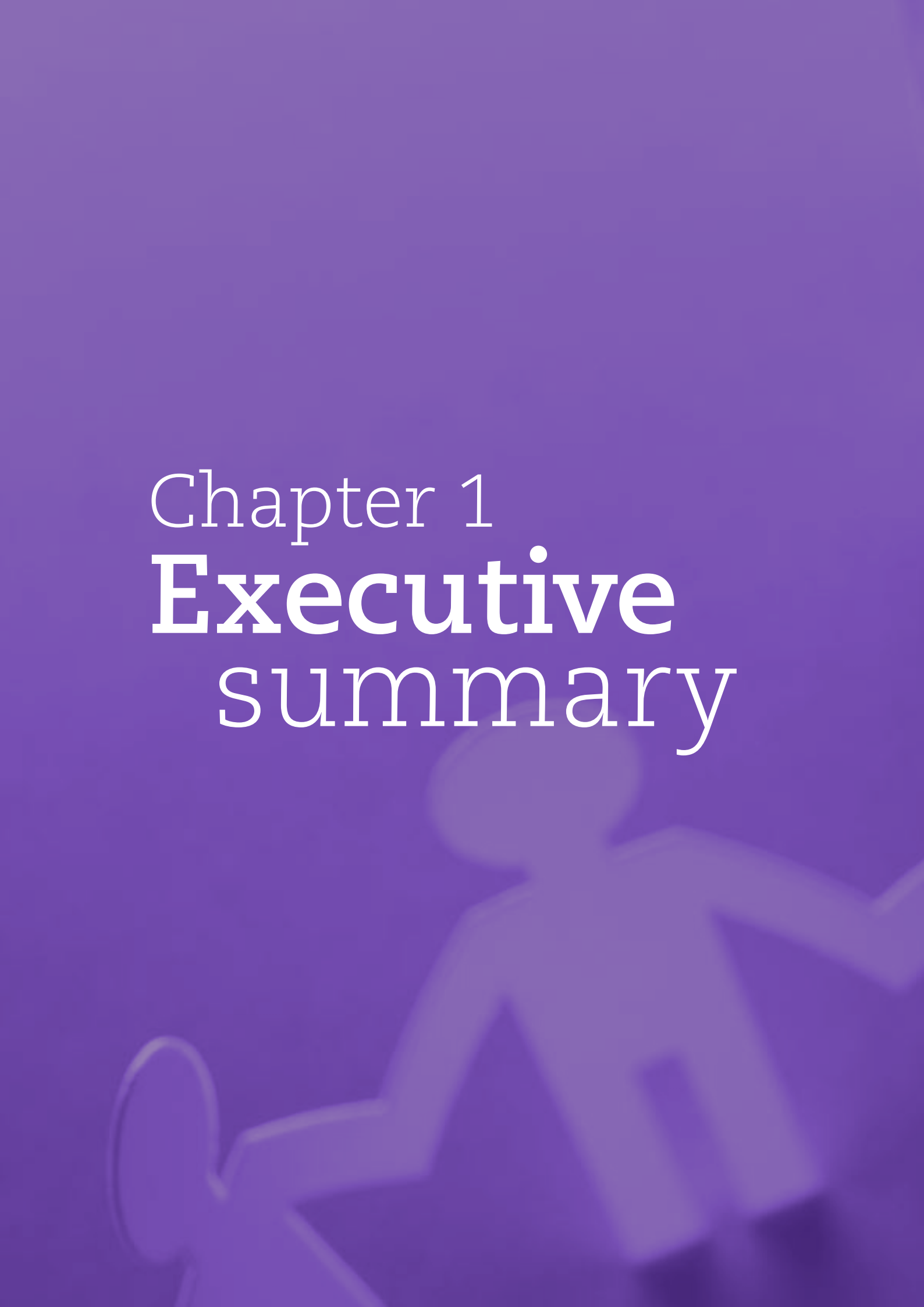
Second, Professor Deborah Ralston and her team at the Australian Centre for Financial Studies have played a pivotal role in this project, particularly in establishing an expert reference group of senior and experienced individuals who provided helpful suggestions and comments throughout the project.

Third, our Mercer colleagues around the world have been invaluable in providing information in respect of their countries' retirement income systems, checking our interpretation of the data, and providing incisive comments.

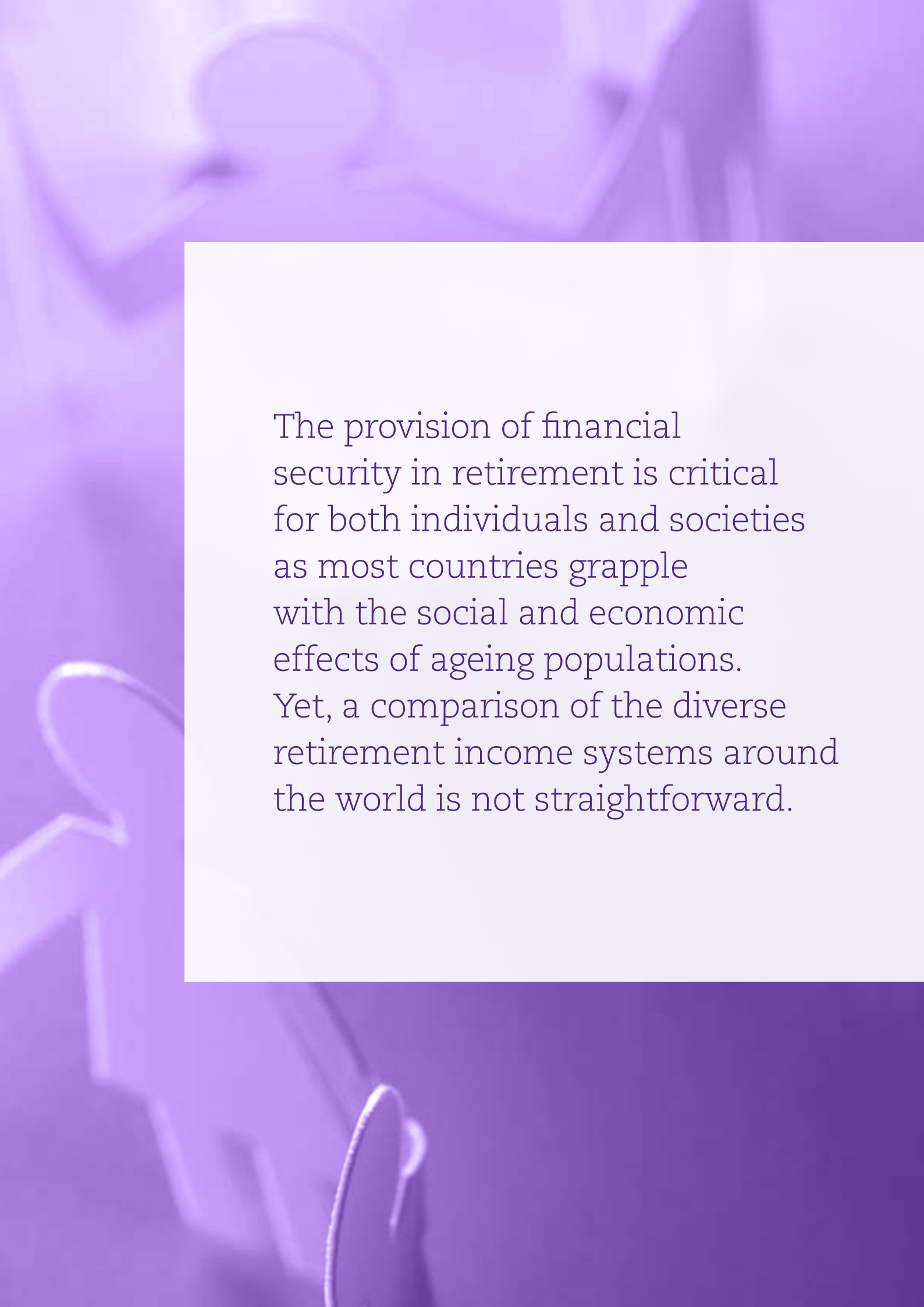
As we look to the future, we would value your feedback, suggestions and comments so that the next report will be of even greater value than this second report. My hope is that you enjoy reading the report and that it provides new insights into the provision of financial security in retirement to our older citizens.

Dr David Knox

Senior Partner
Mercer



Chapter 1
Executive summary



The provision of financial security in retirement is critical for both individuals and societies as most countries grapple with the social and economic effects of ageing populations. Yet, a comparison of the diverse retirement income systems around the world is not straightforward.

Executive summary

The provision of financial security in retirement is critical for both individuals and societies as most countries grapple with the social and economic effects of ageing populations. Yet, a comparison of the diverse retirement income systems around the world is not straightforward.

As the OECD (2009b) notes: "classifying pension systems and different retirement income schemes is difficult." Furthermore, comparing these systems is certain to be controversial as every system has evolved from each country's particular economic, social, cultural, political and historical circumstances. There is no perfect system that can be applied universally around the world. However there are certain features and characteristics of retirement income systems that are likely to lead to improved benefits, an increased likelihood of future sustainability of the system, and a greater level of confidence and trust within the community.

This study of fourteen countries has confirmed that no system is perfect. Indeed, for the second year in a row, no country's system has received an index value above 80, which we consider represents an A-grade retirement income system. However, several countries have an index value between 65 and 80, which represents a B-grade system and – with some adjustments or improvements – these countries could be re-classified as A-grade systems. (The changes that would raise these systems to the A-grade level are discussed in Chapter 7.)

We believe that none of the countries in this pilot study has an E-grade system, which would be represented by an index value below 35. A score between 35 and 50, which represents a D-grade system, indicates a system that has some sound features but where there exist major omissions or weaknesses. A D-grade classification may also occur in the relatively early stages of the development of a particular country's system.

The following table summarises the results.

Grade	Index value	Countries	Description
A	>80	Nil	A first class and robust retirement income system that delivers good benefits, is sustainable and has a high level of integrity.
B	65–80	Netherlands Switzerland Sweden Australia Canada	A system that has a sound structure, with many good features, but has some areas for improvement that differentiate it from an A-grade system.
C	50–65	UK Chile Brazil Singapore USA France Germany	A system that has some good features, but also has major risks and/or shortcomings that should be addressed. Without these improvements, its efficacy and/or long-term sustainability can be questioned.
D	35–50	Japan China	A system that has some desirable features, but also has major weaknesses and/or omissions that need to be addressed. Without these improvements, its efficacy and sustainability are in doubt.
E	<35	Nil	A poor system that may be in the early stages of development or a non-existent system.

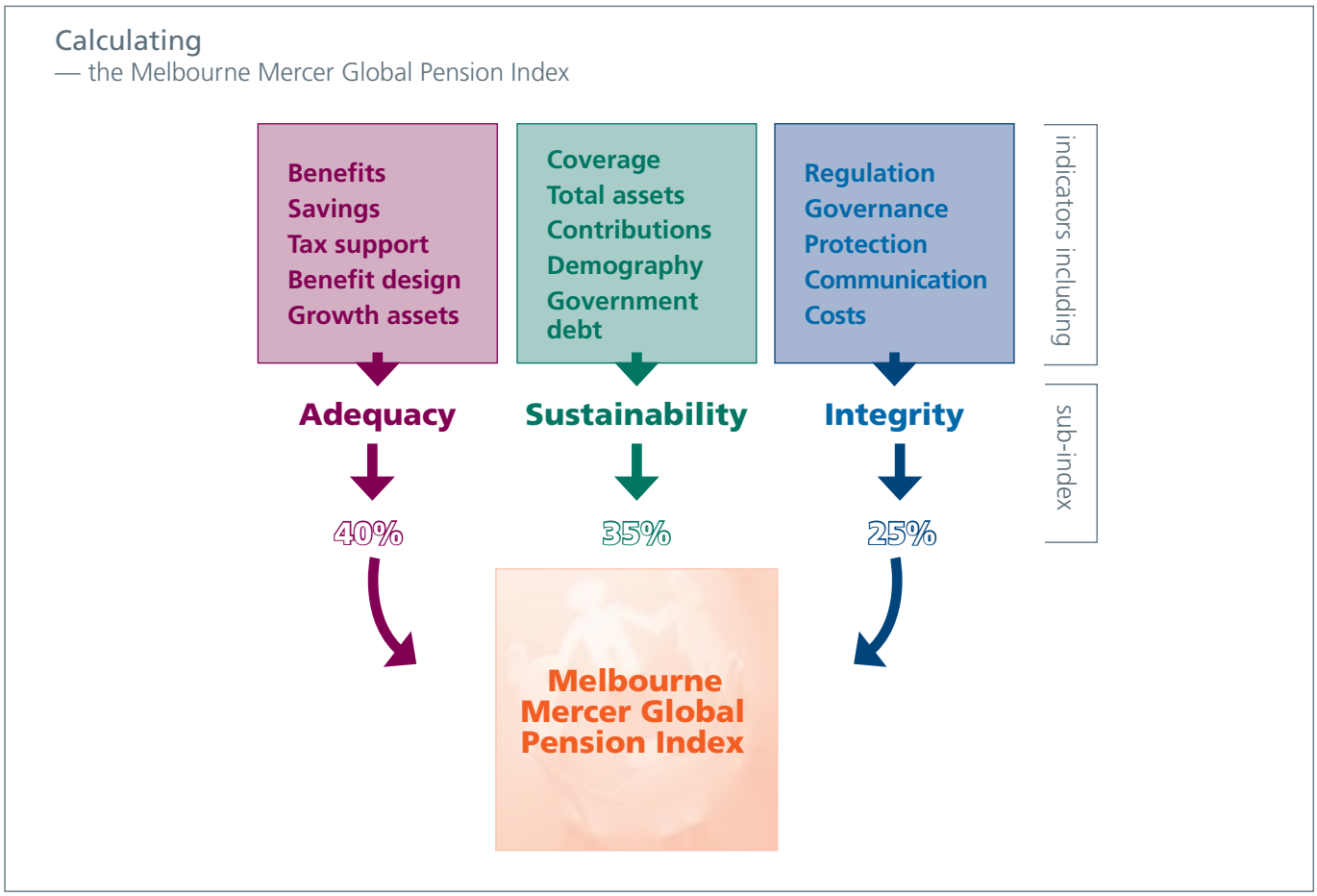
Executive summary

The following table shows the overall index value for each country, together with the index value for each of the three sub-indices: adequacy, sustainability and integrity. Each index value represents a score between 0 and 100.

The overall index value represents the weighted average of the three sub-indices. The weightings used are 40 percent for the adequacy sub-index, 35 percent for the sustainability sub-index and 25 percent for the integrity sub-index. The different weightings are used to reflect the primary importance of the adequacy sub-index which represents the benefits that are currently being provided together with some important benefit design features. The sustainability sub-index has a focus on the future and measures various indicators which will influence the likelihood that the current system will be able to provide benefits that are maintained in the future. The integrity sub-index has a focus on the private sector system and therefore has a more restrictive scope than the other two sub-indices. Nevertheless the private sector represents a critical component in most country's overall system as the public pillar cannot be expected to provide adequate benefits for all over the longer term.

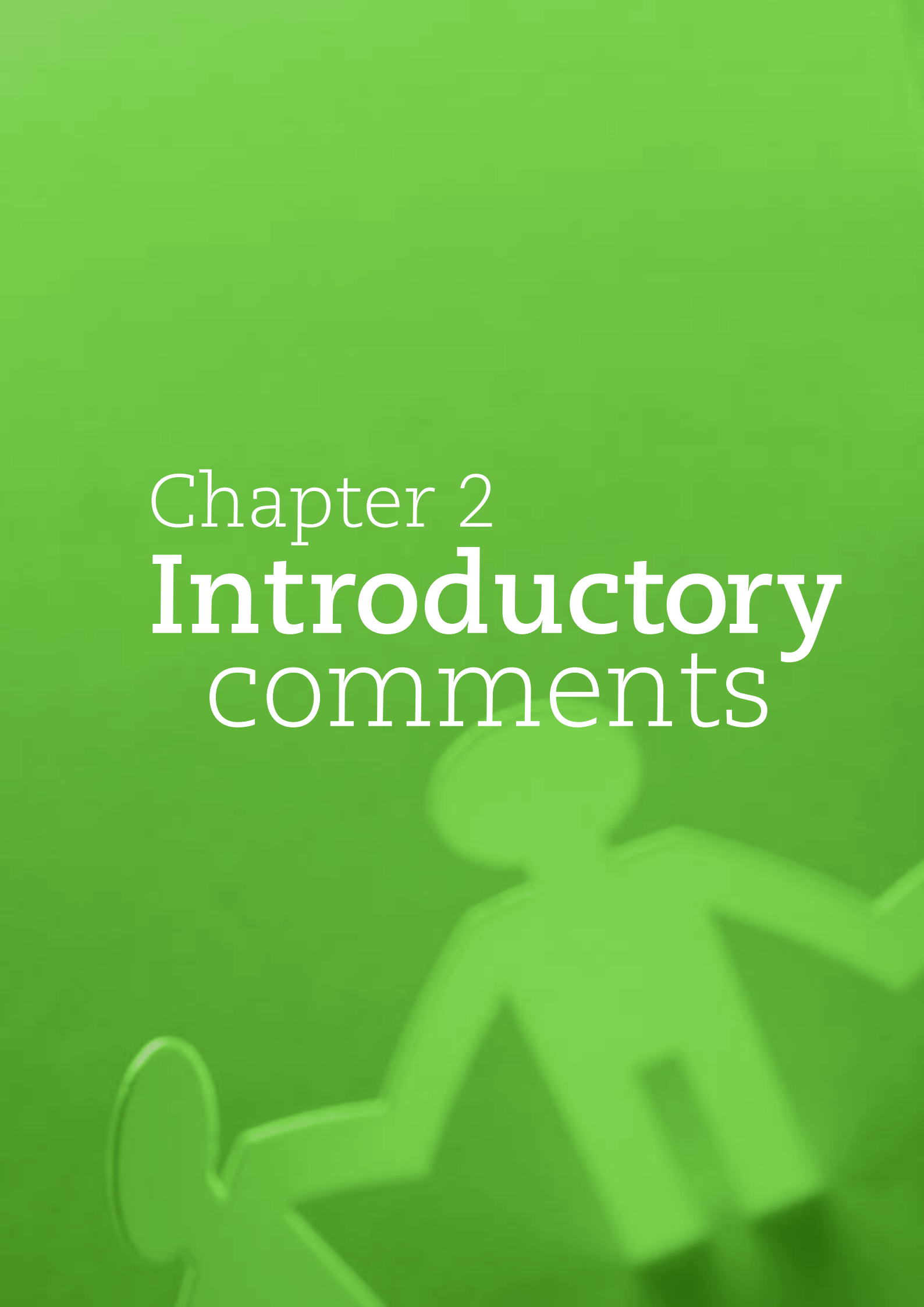
Country	Overall index value	Sub-index values		
		Adequacy	Sustainability	Integrity
		40%	35%	25%
Australia	72.9	68.1	71.7	82.4
Brazil	59.8	72.9	29.1	81.7
Canada	69.9	75.0	56.8	80.1
Chile	59.9	52.1	54.7	79.8
China	40.3	48.3	29.0	43.4
France	54.6	74.9	29.7	56.8
Germany	54.0	64.1	42.3	54.4
Japan	42.9	42.2	27.9	65.2
Netherlands	78.3	76.1	71.6	91.4
Singapore	59.6	43.7	63.6	79.5
Sweden	74.5	72.8	72.9	79.5
Switzerland	75.3	73.1	71.8	83.5
UK	63.7	64.9	47.1	85.3
USA	57.3	54.3	59.0	60.0
Average	61.7	63.1	51.9	73.1

The following diagram presents a high-level summary of the index.



The final chapter makes several suggestions to improve each country's retirement income system. Although each system reflects a unique history, there are some common themes as many countries face similar problems in the decades ahead. These common challenges include:

- Increasing the state pension age and/or retirement age to reflect increasing life expectancy, both now and in the future
- Promoting higher labour force participation at older ages, particularly as many individuals now remain in good health for longer periods
- Encouraging (or requiring) higher levels of saving, both within the pension system and beyond it
- Increasing the coverage of employees in the private pension system, where it continues to be voluntary
- Reducing the leakage from the retirement savings system prior to an individual's retirement
- Promoting greater diversity in the provision of retirement income, whilst also requiring that a least a portion of the accumulated benefit be taken as income.



Chapter 2
Introductory comments

The structure and characteristics of pension systems around the world exhibit great diversity with a wide range of features and norms.

Introductory comments

The structure and characteristics of pension systems around the world exhibit great diversity with a wide range of features and norms. Comparisons are not straightforward. In addition, the lack of readily available and comparable data in respect of many countries provides additional challenges for such a comparison.

This situation is improving and the OECD in particular has made significant progress in recent years. Nevertheless it must be recognised that reliable data in respect of some key indicators remains a significant issue. For this reason, this report uses a wide variety of data sources.

These challenges of data and benchmarking should not, however, prevent the comparing of retirement income systems. This topic, within the context of our ageing populations, is too important to be ignored. Furthermore, there is no doubt that policies and practices adopted in some countries provide valuable lessons, experience or ideas for the development or reform of pension systems in other countries.

This study, which is a follow-up to last year's pilot study[1], compares the retirement income systems of fourteen countries spread over five continents and highlights both the considerable diversity and the positive features that are present in many systems. Notwithstanding these highlights, the study also confirms that no pension system is perfect and that every system has some shortcomings. In Chapter 7, suggestions are made for improving the efficacy of each country's retirement income system. In that respect it is hoped that this study will act as a stimulus for each of the countries in the study (and indeed, other countries as well) to review their retirement income system and to consider making improvements so that future retirement incomes for their citizens can be improved.

[1] Mercer (2009), Melbourne Mercer Global Pension Index, Melbourne Centre for Financial Studies, Melbourne.

In its influential report *Averting the Old Age Crisis*, the World Bank (1994)[2] recommended a multi-pillar system for the provision of old-age income security comprising:

Pillar 1: A mandatory publicly managed tax-financed public pension

Pillar 2: Mandatory privately managed, fully funded benefits

Pillar 3: Voluntary privately managed fully funded personal savings

More recently, the World Bank (2005)[3] has extended this three-pillar system by adding a zero pillar (or safety net) which represents a basic or social pension, as well as a fourth pillar. This new fourth pillar includes personal savings, home ownership and other assets which are held outside the pension system but which, nevertheless, can play an important role in financially supporting the individual during retirement.

Park (2009)[4] in an Asian Development Bank paper suggests that a well designed pension system will have the following characteristics:

- Broad-based in terms of both coverage and the range of risks covered
- Sustainable over time in terms of its actuarial and financial soundness
- Robust so that it can withstand macroeconomic and other shocks
- Affordable from individual, business, fiscal and macroeconomic perspectives
- Providing reasonable levels of post retirement income
- Providing a safety net for the elderly poor.

This list suggests a multiple set of objectives for any pension system and as Park correctly notes, different societies will need to decide on the relative importance of each objective at a particular time. Furthermore, these priorities are likely to change over time as a society's economic and demographic circumstances change.

The 'best' system for a particular country at a particular time must take into account that country's economic, social, cultural, political and historical context. In addition, regulatory philosophies vary over time and between countries. There is no pension system that is perfect for every country at the same time. It is not that simple! There are, however, some characteristics of all pension systems that can be tested or compared to give us a better understanding of how each country is tackling the provision of retirement income.

The Melbourne Mercer Global Pension Index has grouped these desirable characteristics into adequacy, sustainability and integrity. These three distinctive but complementary perspectives allow countries' retirement income systems to be considered comprehensively.

[2] World Bank (1994), Averting the Old Age Crisis, Oxford University Press
[3] Holzmann and Hinz (2005), Old Age Income Support in the 21st Century, The World Bank
[4] Donghyun Park (2009), Ageing Asia's Looming Pension Crisis, ADB Economics Working Paper Series No. 165

Introductory comments

Adequacy

The adequacy of benefits is perhaps the most obvious way to compare different systems. After all, the objective of any pension system must be to provide retirement income. Thus this sub-index will consider both the minimum level of income provided (that is, 'pillar zero' in the World Bank model) as well as the net replacement rate for a median-income earner. It is recognised that an analysis focussing exclusively on benefits provided to a median-income earner does not represent the full spectrum of different income levels and that a more complete picture could be provided by considering benefits replacing a range of income levels. However, a more comprehensive approach would add considerable complexity to the comparison and risk distraction from focussing on adequacy for the majority of workers.

Critical to the delivery of adequate benefits are the design features of the private pension system (or the second and third pillars in the World Bank taxonomy). Whilst there are many features that could be assessed, we have considered the following five, each of which represents a feature that will improve the likelihood that adequate retirement benefits are provided:

- Are there taxation incentives for the median-income earner to make additional voluntary contributions to the system?
- Is there a minimum age at which members can access their benefits, thereby limiting the leakage of benefits before retirement?
- Can a member's entitlement be easily transferred or maintain its real value should the member's circumstances change (for example, with a change of employment)?
- What proportion of the retirement benefit is required to be taken as an income stream during the retirement years?
- What is the normal treatment of accrued pension benefits where a divorce or separation occurs?

In addition, we have factored in savings from outside formal pension programs in recognition of the fact that, as the World Bank notes, the fourth pillar (represented by household savings and home ownership) can play an important role in providing financial security in retirement.

Finally, we recognise that the net investment return (i.e. after allowing for expenses) over the long term represents a critical factor in determining whether an adequate retirement benefit will be provided. While the issue of costs are considered as part of the integrity sub-index, the long term return is likely to be affected by the diversity of assets held by the pension fund. Hence the adequacy sub-index includes an indicator representing an assessment of the percentage of investments held in growth assets.

Sustainability

The long-term sustainability of the current retirement income system in many countries has been raised as a concern, particularly in the light of the ageing population and the increasing old age dependency ratio. This sub-index therefore brings together several measures that will affect the sustainability of current programs. Whilst some demographic measures, such as the old age dependency ratio (both now and in the future) are difficult to change, others such as the state pension age, the opportunity for phased retirement and the labour force participation rate amongst older workers can be influenced, either directly or indirectly, by government policy.

An important feature of sustainability is that the long-term risks are shared or, to put it another way, involve all the relevant stakeholders. Hence, this sub-index also considers the level of pension assets and the coverage of the private sector system. Finally, given the key role that the public provision of a pension plays in most countries, the existing level of government debt represents an important factor affecting a system's long-term sustainability.

Integrity

The third sub-index considers the integrity of the private sector pension system. After all, as most countries are relying on the private system to play an increasingly important role in the provision of retirement income over the longer term, it is critical that the community has confidence in the ability of private sector pension providers to deliver retirement benefits in future years.

This sub-index therefore considers the role of regulation and governance, the protection provided to participants from a range of risks, the level of communication available to members as well as an assessment of the costs involved in each country's system.

The construction of the index

In the construction of the index, we have endeavoured to be as objective as possible in calculating each country's index value. Where international data are available, we have used that data. In other cases, we have relied on information provided by our Mercer colleagues in each country. In these instances, we have not asked them to assess the quality of their country's system. Rather we have asked them objective questions to which, in many cases, there is a yes/no answer. Of course, in some countries there is more than one system or different regulations in different parts of the country. In these cases, we have concentrated on the most common system or taken an average position.

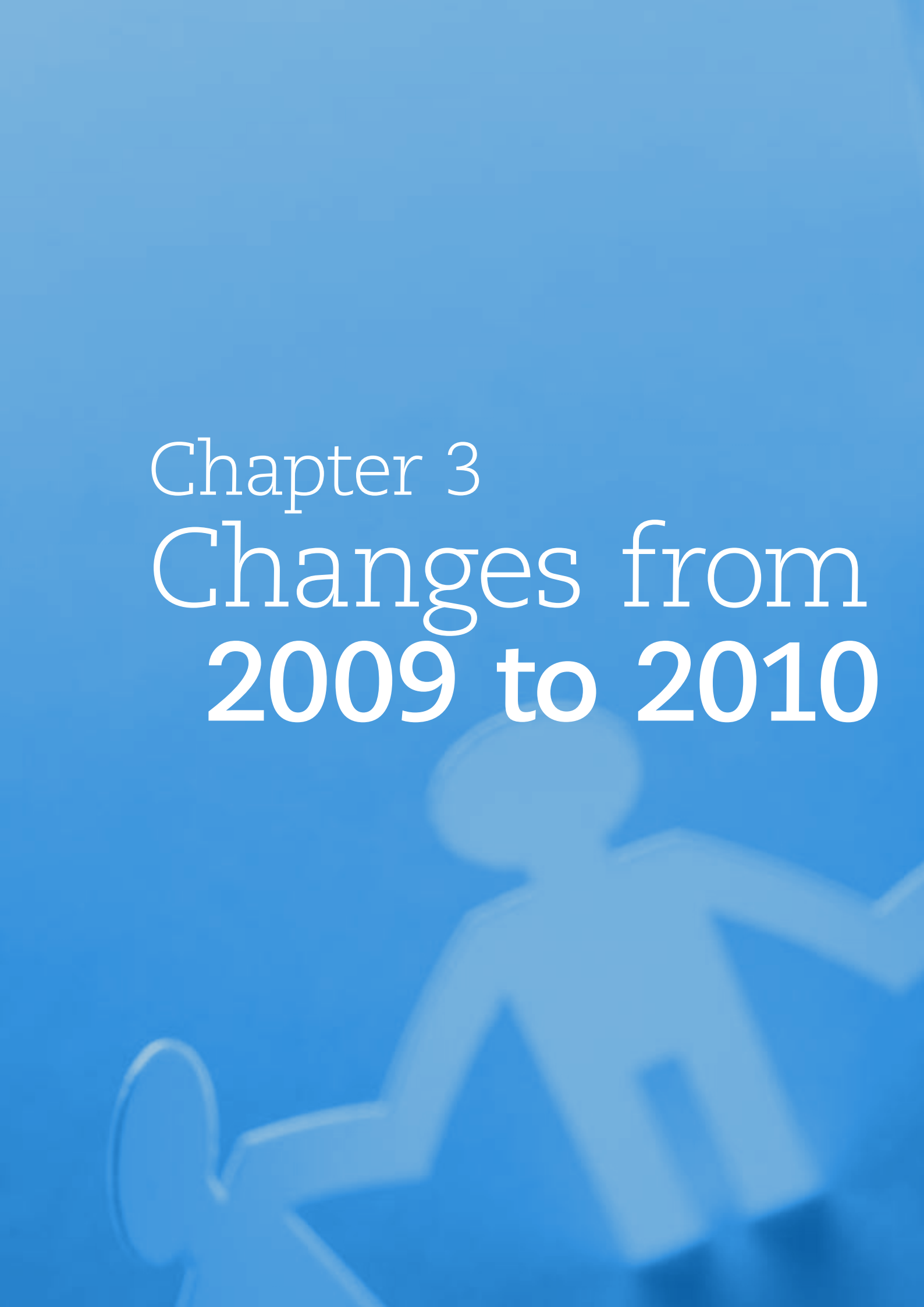
The answers to some of these objective questions may be neither yes nor no, but "to some extent". For many questions, we have therefore adopted a three-point scoring system with 0 for "no"; 1 for "to some extent" and 2 for "yes". Of course, a score of 1 for "to some extent" may represent a range of answers. However this simple approach avoids the problems inherent in defining the difference between a score of say, 2 or 3 on a five-point scale. We agree with Kekic (2007)[5] who noted in developing the Economist Intelligence Unit's index of democracy that a three-point scoring system represents "a compromise between simple dichotomous scoring and the use of finer scales." His conclusion was that although two- and three-point systems do not guarantee reliability, they make it more likely.

Each country's overall index value is calculated by taking 40 percent of the adequacy sub-index, 35 percent of the sustainability sub-index and 25 percent of the integrity sub-index. This weighting was adopted with the following factors in mind:

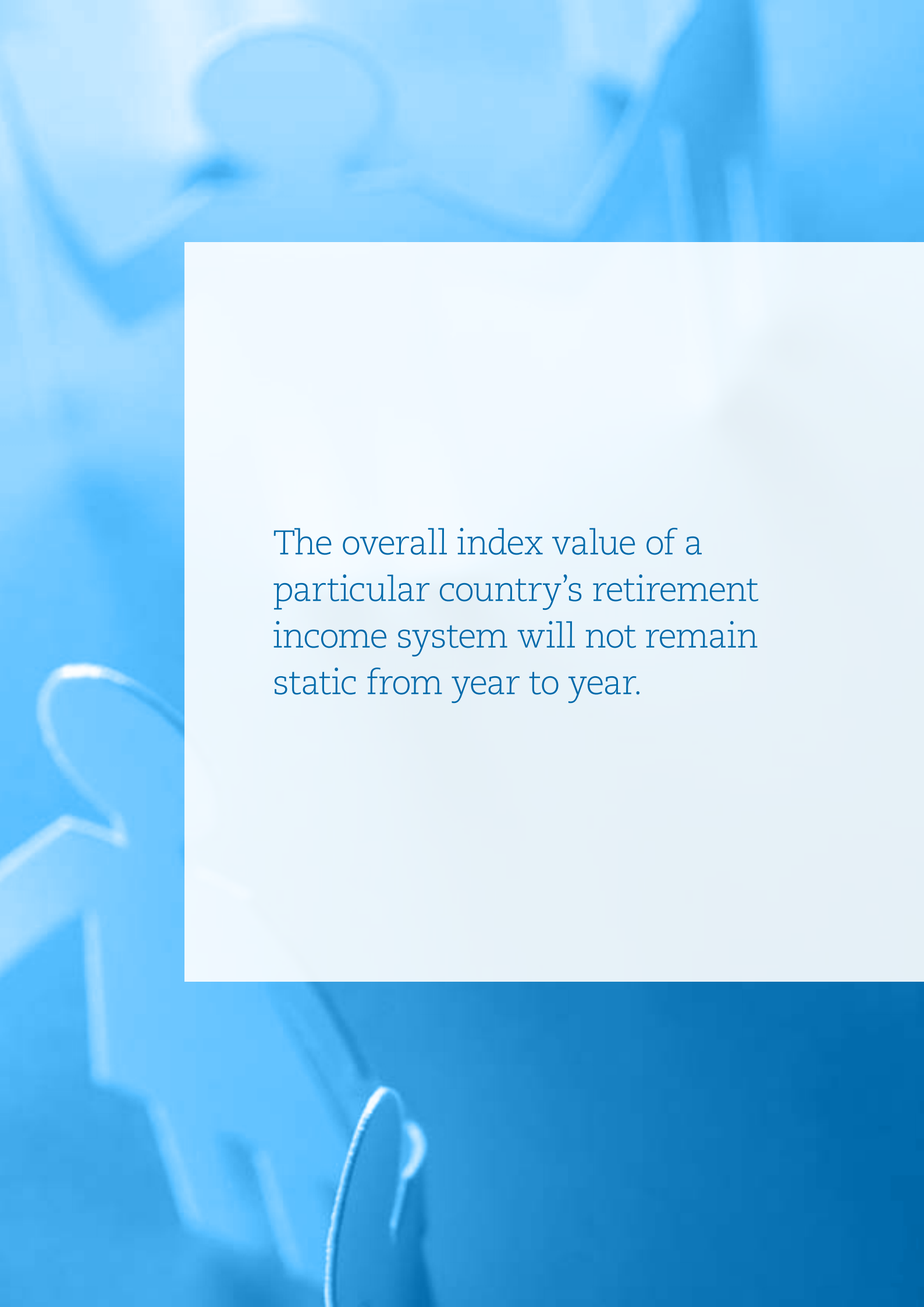
- The major aim of a retirement income system is to provide adequate benefits to retirees; hence this index is the most important as it measures both the current benefits and some important benefit design issues.
- The provision of retirement incomes is a long-term issue, particularly in the context of ageing populations. Hence the sustainability of the current system over the longer term is considered to be very significant.
- The role of the private sector is becoming increasingly important in many countries as governments pass on some responsibility in respect of the provision of retirement income to individuals. In these circumstances, confidence in the private sector system is critical.

It is acknowledged that living standards in retirement are also affected by a number of other factors including the provision and costs of health services (through both the public and private sectors) and the provision of aged care. However some of these factors can be difficult to measure within different systems and, in particular, difficult to compare between countries. It was therefore decided to concentrate on indicators that directly affect the provision of financial security in retirement, both now and in the future. Therefore the index does not claim to be a comprehensive measure of living standards in retirement; rather it is focused on the provision of financial security in retirement.

[5] Laza Kekic, The Economist Intelligence Unit index of democracy, The World in 2007



Chapter 3
Changes from **2009 to 2010**



The overall index value of a particular country's retirement income system will not remain static from year to year.

Changes from 2009 to 2010

The overall index value of a particular country's retirement income system will not remain static from year to year. There will be global economic influences that may affect asset values and/or government debt; legislative change or new data that will affect a particular country; and the introduction of new indicators together with some slight revisions to other indicators which enable the index to obtain a more comprehensive and consistent assessment than occurred in the 2009 pilot study.

Global influences

The provision of financial security in retirement represents a complex and dynamic set of inter-related global and local factors. Some move relatively slowly, such as demographic change, whereas others have a more immediate impact due to local political decisions or a global event. The Global Financial Crisis represents one such example.

However this crisis did not have the same effect on retirement income systems in every country. While the value of assets supporting pension liabilities reduced significantly in some countries, this impact was not uniform as its effect depended on the asset allocation in each country. Similarly, there was a material increase in government debt in some countries but again, this was not universal.

The impact of the global financial crisis was most evident in declines of the sustainability sub-index for Canada, the United Kingdom and the United States through declines in asset values in 2008 and increases in government debt. However the full impact of the crisis has not yet shown up in the index values due to the lags in obtaining comparable data for every country. A further decrease in the sustainability sub-index value for these countries may be expected in future years.

A second global factor that has affected many countries is the ongoing increase in life expectancies as reported by the United Nations. These changes increase the difference between the state pension age and life expectancy which, in turn, increases the expected number of years in retirement. It highlights the need for governments to continue to review their state pension or retirement age.

New questions

The following questions have been added to provide a greater coverage of issues that are relevant to the provision of financial security in retirement:

What is the level of home ownership?

Home ownership represents an important contribution to providing financial security in retirement. Indeed, in some countries, such as Singapore, the provision of saving for retirement and home ownership is carried out through the same funding vehicle.

Upon a couple's divorce or separation, are the individuals' accrued pension benefits normally taken into account in the overall division of assets?

A divorce or separation can have a major impact on an individual's financial security in retirement. For example, if the pension assets are not shared, the retirement expectations of one of the partners is likely to be adversely affected.

What percentage of total private pension assets is held in various types of pension funds?

What percentage of total private pension assets is held by the largest ten pension funds/ providers or by funds that are larger than $US10 billion?

The previous report did not compare the costs of operating each country's retirement income system. Yet costs represent an important factor in determining the financial outcome for members. Unfortunately comparable data is not available and, in some cases, is not even recorded.

For this reason, we have adopted these two proxies to assess the relative costs between countries. The first question is designed to broadly determine the split between for-profit and not-for-profit operations whereas the second recognises that economies of scale occur and can reduce costs.

What is the proportion of pension assets invested in growth assets?

Whilst administration costs inevitably affect the outcome, the net investment return (i.e. after expenses and any taxes) represents a critical factor for members in defined contribution arrangements and for sponsors of defined benefit arrangements.

This question is designed to broadly assess this effect whilst also recognising that a diversified investment portfolio has many advantages for all stakeholders.

Deleted questions

The following questions were removed from those used in the previous pilot study.

What is the split between contributions by employers and employees?

Although there may be advantages in both employers and employees contributing to the pension system, this question was removed as there is no economic difference whether the contribution is paid by employers only, employees only or a combination.

Is a private pension plan required to have separate governance from the employer?

This question was no longer needed as it was generally covered by other questions in the integrity sub-index.

Some other questions in the integrity sub-index were also modified to improve their clarity and relevance.

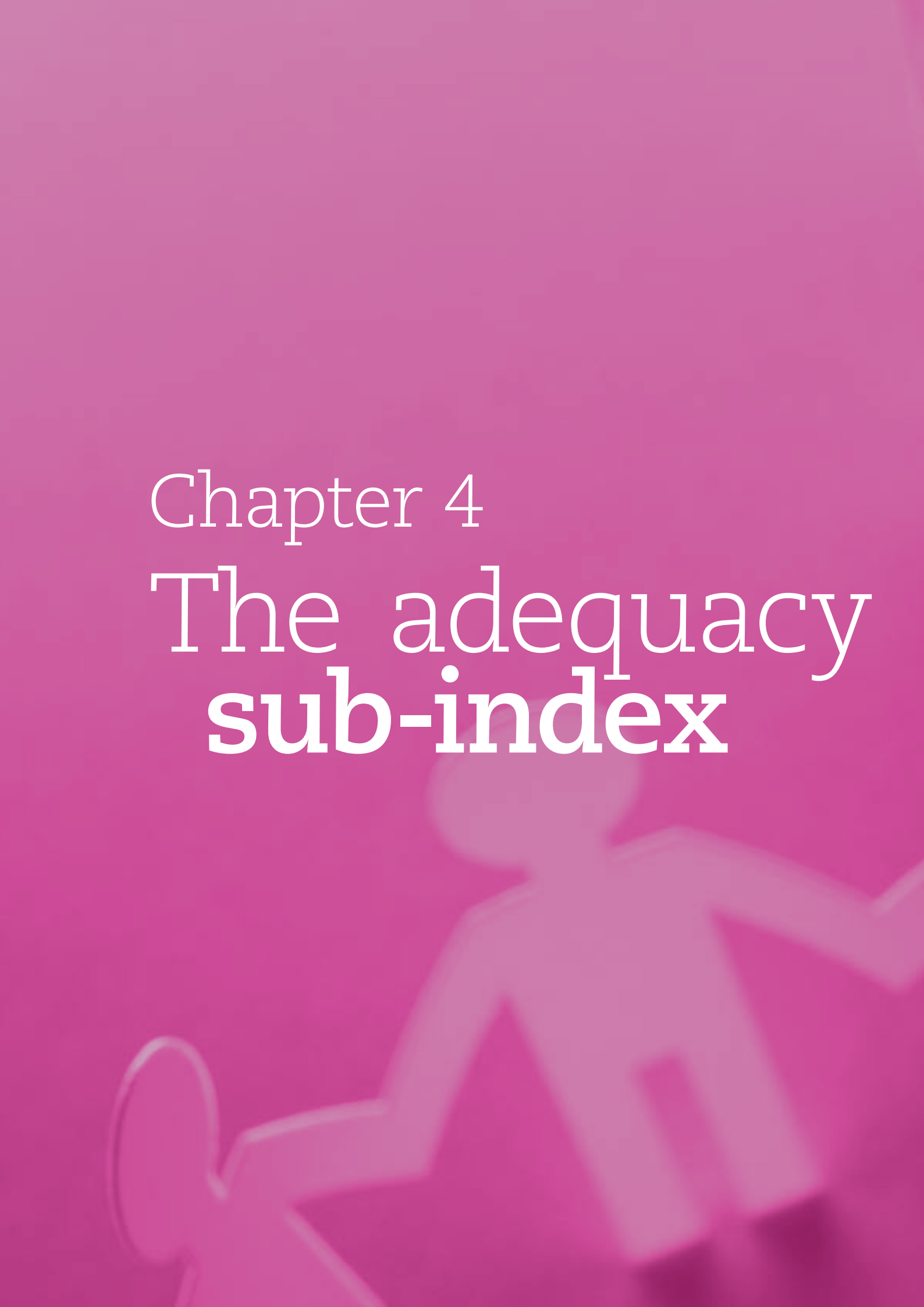
A comparison between 2009 and 2010

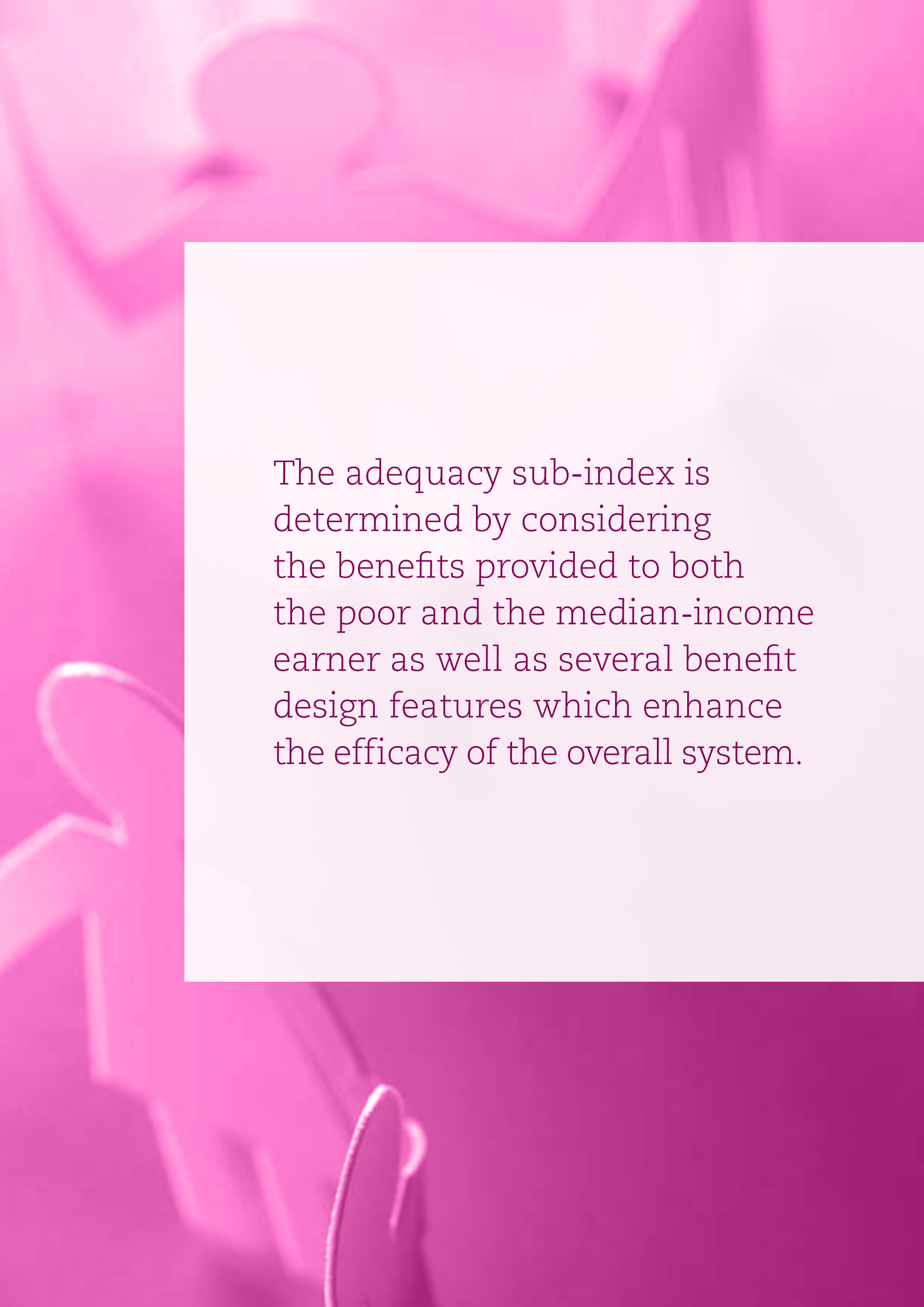
The following table compares the results for the eleven countries which were in both reports. Comments in respect of each of these countries are made in Chapter 7.

Country	Total		Adequacy		Sustainability		Integrity	
	2009	2010	2009	2010	2009	2010	2009	2010
Australia	74.0	72.9	68.1	68.1	71.0	71.7	87.8	82.4
Canada	73.2	69.9	76.2	75.0	64.2	56.8	80.9	80.1
Chile	59.6	59.9	48.9	52.1	54.1	54.7	84.5	79.8
China	48.0	40.3	64.7	48.3	38.5	29.0	34.7	43.4
Germany	48.2	54.0	60.8	64.1	44.3	42.3	33.7	54.4
Japan	41.5	42.9	39.2	42.2	34.4	27.9	55.2	65.2
Netherlands	76.1	78.3	80.5	76.1	62.5	71.6	88.2	91.4
Singapore	57.0	59.6	51.7	43.7	68.9	63.6	49.1	79.5
Sweden	73.5	74.5	68.5	72.8	75.2	72.9	79.1	79.5
UK	63.9	63.7	56.6	64.9	56.4	47.1	86.3	85.3
USA	59.8	57.3	49.2	54.3	69.4	59.0	63.4	60.0
Average	61.4	61.2	60.4	60.2	58.1	54.2	67.5	72.8

Chapter 4

The adequacy **sub-index**





The adequacy sub-index is determined by considering the benefits provided to both the poor and the median-income earner as well as several benefit design features which enhance the efficacy of the overall system.

Chapter 4

The adequacy **sub-index**

The adequacy sub-index is determined by considering the benefits provided to both the poor and the median-income earner as well as several design features which enhance the efficacy of the overall system. The net household saving rate and home ownership rate have also been included as non-pension savings can represent an important source of financial security during retirement.

The countries with the highest value for the adequacy sub-index are the Netherlands (76.1) and Canada (75.0), with Japan (42.2) having the lowest value. Whilst several indicators influence these scores, the level of the minimum pension (expressed as a percentage of the average wage) and the net replacement rate provided for a median-income earner are the most important.

Full details of the values in respect of each indicator in the adequacy sub-index are shown in Attachment 1.

Question A1

What is the minimum percentage of the average wage that a single aged person will receive?

Objective

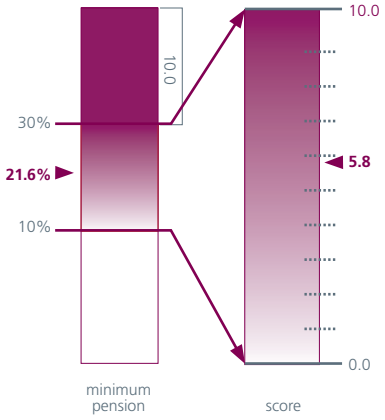
An important objective of any retirement income system is to provide a minimum pension to the aged poor. In terms of the World Bank's recommended multi-pillar system, it represents the non-contributory or 'zero pillar', which provides a minimum level of income for all aged citizens. It should be noted that this minimum pension assumes no work experience, but will often require a minimum period of residency.

Calculation

There is no correct answer as to what the minimum pension should be, as it depends on a range of socio-economic factors. However, it is suggested that a minimum pension of about 30 percent[6] of national average earnings adequately meets the poverty alleviation goal. Hence a minimum pension below 30 percent will score less than the maximum value, with a zero score if the pension is 10 percent or less of average earnings, as such a pension offers very limited income provision. Minimum pensions of 30 percent of average earnings or higher received the maximum score of 10.

[6] This level has been chosen as it is slightly higher than the OECD average of 27% for first tier benefits as mentioned in OECD (2009b), p157.

Calculating A1
—minimum pension



Commentary

The minimum pension for most countries is between 18 percent in the USA and 36 percent in Brazil. Singapore provides modest public assistance whilst the Chinese results have been modified as the minimum pension is not available throughout the country.

Sources of data

OECD (2009b), Pensions at a Glance 2009, Table III.1 p 158, for OECD countries

OECD Pensions at a Glance – Asia Pacific Edition 2009, Table 1.2 for China

Brazil, Chile and Singapore: Mercer calculation (using government website figures)

Weighting

The major objective of any nation's retirement income system is to provide income support for its older citizens. The level of actual benefits therefore represents the major measurable outcome from the system. Hence this measure (which considers the income provided for the poorest in the community), together with the next measure (which calculates the income for a median-income earner), represent the two most important components within the adequacy sub-index. This indicator is therefore given a weighting of 17.5 percent in the adequacy sub-index.

Question A2

What is the net replacement rate for a median-income earner?

Objective

In *Averting the Old Age Crisis*, the World Bank suggested that a target replacement rate for middle income earners from mandatory systems should be:

- 78 percent of the net average lifetime wage
- 60 percent of the gross average lifetime wage
- 53 percent of the net final year wage
- 42 percent of the gross final year wage

It also noted that "The government should not necessarily mandate the full pension that might be desirable for individual households."[7] That is, these targets could be met through a combination of mandatory and voluntary provisions.

The OECD produces measures of the net replacement rate for an individual earning the median-income (revalued with earnings growth) throughout his/her working life. Median income is used as it is a better representation than the average earnings, which are skewed upwards by the highest income earners.

[7] World Bank (1994), p295

Chapter 4

The adequacy **sub-index**

It should be noted that these calculations assume no promotion of the individual throughout their career; that is, the individual earns the median income throughout. Therefore replacement rates based on lifetime median income will be higher than when expressed in terms of final salary for most individuals.

The OECD expresses a target replacement rate of 70 percent of final earnings[8] which includes mandatory pension for private sector workers (publicly and privately funded) and typical voluntary occupational pension plans for those countries where such schemes cover at least 30 percent of the working population.

This indicator for the adequacy sub-index should only include mandatory components of a retirement income system for private sector workers, as voluntary plans that may include only 30 percent of the working population do not represent a good indicator of the total system.

The target benefits from a mandatory system should be less than 70 percent of final earnings to allow for individual circumstances and some flexibility. An objective of between 45 percent and 65 percent of final earnings is considered reasonable. Using the ratios between lifetime earnings and final earnings, the target for a net replacement rate (i.e. after allowing for personal income taxes and social security contributions) for a median-income earner from a mandatory system should be within the range of 70–100 percent of median lifetime earnings (revalued with earnings growth).

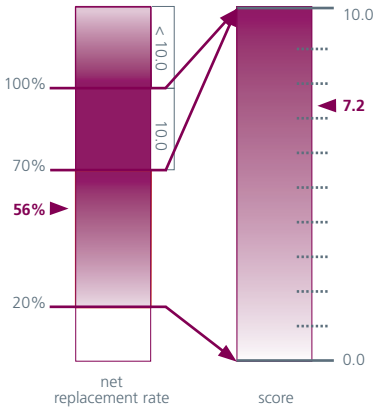
A net replacement rate below 70 percent of lifetime earnings suggests a significant reliance on voluntary savings whereas a figure above 100 percent does not provide the flexibility for individual circumstances and may suggest overprovision. The OECD average for a median-income earner is 71.8 percent of lifetime earnings[9].

Calculation

The maximum score for this indicator is obtained for any country with a result between 70 percent and 100 percent. Interestingly, only Brazil lies within this range, with only the Netherlands lying above it at 105.5 percent.
Any score outside this range scores less than the maximum with a zero score being obtained for a result less than 20 percent or more than 150 percent.

For China and Singapore, the OECD data lists the net replacement rate for mean income earners; we have therefore performed a positive adjustment to these figures in order to align them with the other results based on median-income earners.

Calculating A2
— net replacement rate for median income earner



[8] OECD (2009a), OECD Private Pensions Outlook 2008, p121
[9] OECD (2009b), Pensions at a Glance 2009, p121

Commentary

With the exception of the Netherlands and Singapore, all countries have a result between 40 percent (Japan) and 78 percent (Brazil). The Singapore result, calculated by the OECD, is low due to the availability to members of most of their savings in the Central Provident Fund prior to retirement. On the other hand, the Netherlands result may be considered to produce a pension that is slightly too high for a median-income earner, whilst also not providing the appropriate individual flexibility throughout their lifetime. The Chinese figures have been adjusted to reflect the varying levels of provision that exist in practice.

Sources of data

OECD (2009b), Pensions at a Glance 2009, p121, for OECD countries

China and Singapore: OECD Pensions at a Glance – Asia Pacific Edition 2009, p31

Brazil and Chile: Mercer calculations based on estimated median income

Weighting

As noted in the commentary for Question A1, these results represent a major outcome to assess any retirement income system. As this indicator is likely to reflect the benefits provided to a broader group of retirees than the previous question, this indicator is given a higher weighting in the adequacy sub-index, namely 25 percent.

Question A3

What is the net household saving rate in the economy?

Objective

The living standards of the aged will depend on the benefits arising from the total pension system (which was covered in the previous two questions) as well as the level of household savings outside the pension system. In some countries, these savings may represent an important factor in determining the financial support available to the aged.

Calculation

The rate of household savings is not readily available and we have therefore used data from the Economist Intelligence Unit and calculated the saving rate in the following way:

Household saving rate

$$= \frac{(PDIN - PCRD)}{PDIN}$$

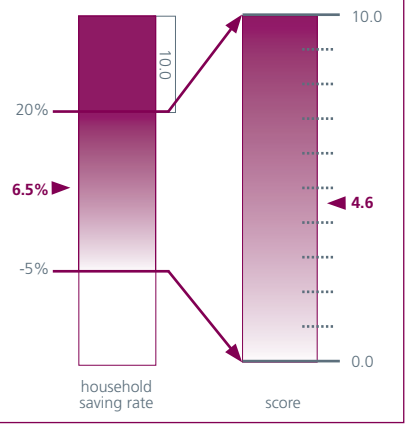
where:

PDIN = Personal disposable income
PCRD = Private consumption

To provide some longer-term perspective than may occur in annual figures, we have averaged the 2008 and 2009 measurements.

The calculated household saving rates ranged from 0.5% in the UK to 17.5% in China. We have provided a maximum score for any country with a saving rate of 20 percent or higher, and a zero score for any country with a saving rate of less than minus 5 percent.

Calculating A3
—household saving rate



Commentary

The household saving rate includes mandatory social security or private sector savings and therefore this measure is not restricted to voluntary savings. Nevertheless, it provides some indication of the level of current income that is being set aside from current consumption.

Source of data

Data provided by the Economist Intelligence Unit.

Weighting

The weighting for this measure has been set at 10 percent for the adequacy sub-index. This indicates the importance of household savings, although some of this saving will be used for other purposes.

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Question A4

Are voluntary member contributions made by a median income earner to a funded pension plan treated by the tax system more favourably than similar savings in a bank account?

Objective

The level of total retirement benefits received by an aged person will depend on both the mandatory level of savings and any voluntary savings, which are likely to be influenced by the presence (or otherwise) of taxation incentives which are designed to change personal behaviour.

Calculation

This indicator was based on a two-point scale with a maximum score for "yes" and zero for "no".

It should be noted that this indicator is concerned with any taxation incentives that make savings through a pension plan more attractive than through a bank account. The benchmark of a bank account was chosen as this saving alternative is readily available in all countries.

Commentary

Most countries offer some taxation incentive for voluntary contributions with China and Japan being the exceptions.

Source of data

The answers were sourced from Mercer consultants in each country.

Weighting

Taxation incentives represent an important measure that governments can introduce to encourage pension saving and long-term investments. Such incentives provide a desirable factor in the design structure of retirement income systems and we have therefore given this measure a weighting of 5 percent for the adequacy sub-index, which represents the same weighting as some other desirable design indicators discussed below.

Question A5

Is there a minimum access age to receive benefits from the private pension plans[10] (except for death, invalidity and/or cases of significant financial hardship)? If so, what is the current age?

Objective

The primary objective of a private pension plan should be to provide retirement income; hence the availability of these funds at an earlier age reduces the efficacy of such plans as it leads to leakage from the system.

Calculation

The first question was scored on a three-point scale with a score of 2 for "yes", 1 if it was applied in some cases and 0 for "no". The second question was scored on a scale for those who said "yes" to the first question; ranging from 0 for age 55 to a score of 1 for age 60. Australia, China and Japan scored 0.5 as age 60 applies to some members.

A maximum score is achieved if a minimum access age exists and this age is at least age 60.

[10] Private pension plans include both defined benefit and defined contribution plans and may pay lump-sum or pension benefits. They also include plans for public sector and military employees.

Commentary

Many countries have introduced a minimum access age, while others have access provisions described in each plan's set of rules. In some cases, early access is not prohibited although the taxation treatment of the benefit discourages such behaviour.

Source of data

The answers were sourced from Mercer consultants in each country.

Weighting

Ensuring that the accumulated benefits are preserved until retirement represents an important design feature of all pension arrangements. Hence, this desirable feature has been given a 10 percent weighting in the adequacy sub-index.

Question A6

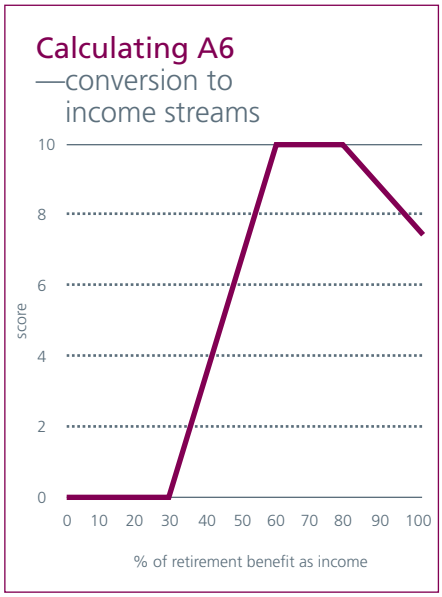
What proportion, if any, of the retirement benefit from the private pension arrangements is required to be taken as an income stream?

Objective

The primary objective of a private pension system should be to provide income during retirement. Of course, this does not imply that a lump-sum payment is not a valuable benefit. It often is. Indeed, in a recent World Bank paper, Rocha and Vittas (2010) suggest that policymakers should target an adequate level of annuitization but should be wary of causing excessive annuitization. Hence, this indicator focussed on whether there were any requirements in the system for at least part of the benefit to be taken as an income stream, and if so, what level of annuitization is required.

Calculation

There is no single answer that represents the correct proportion of a retirement benefit that should be annuitized. However a maximum score should be achieved where between 60 percent and 80 percent of the benefit is required to be converted into an income stream. A percentage above 80 percent reduces the flexibility that many retirees need whilst an answer below 60 percent is not converting a sufficient proportion of the benefit. A percentage below 30 percent resulted in a score of zero.



Commentary

There is considerable variety between countries with some countries requiring most or all of the benefit to be converted into a lifetime annuity (e.g. the Netherlands and Sweden) whereas many countries have no requirement at all (e.g. Australia, Chile and China).

Source of data

The answers were sourced from Mercer consultants in each country.

Weighting

The requirement that part of a member's accumulated retirement benefit be turned into an income stream (which need not necessarily be a lifetime annuity) represents a desirable feature of a retirement income system and therefore a weighting of 10 percent has been used in the adequacy sub-index.

Chapter 4

The adequacy **sub-index**

Question A7

On resignation, are members normally entitled to the full vesting of their accrued benefit?

After resignation, is the value of the member's accrued benefit normally maintained in real terms?

Can a member's benefit entitlements normally be transferred to another private pension plan on the member's resignation from an employer?

Objective

Most individuals do not stay with a single employer throughout their working life. It is therefore important that individuals receive the full value of any accrued benefit on leaving an employer's service and that the real value of this benefit is maintained until retirement, either in the original plan or in a new plan.

Calculation

Each of the three questions were scored on a three-point scale with a score of 2 for "yes", 1 if it was applied in some cases and 0 for "no".

Commentary

There is considerable diversity to the extent that the real value of members' benefit entitlements can be transferred or retain their real value after changing employment. For example in Australia, Chile, and the Netherlands the value of the benefits are maintained and can be transferred, where appropriate.

Source of data

The answers were sourced from Mercer consultants in each country.

Weighting

Maintaining the real value of a member's accrued benefit entitlements during a member's working life should represent an important feature of all retirement income systems. Hence, this desirable feature has been given a 7.5 percent weighting in the adequacy sub-index.

Question A8

Upon a couple's divorce or separation, are the individuals' accrued pension assets normally taken into account in the overall division of assets?

Objective

The adequacy of an individual's retirement income can be disrupted by a divorce or separation. In many cases, the female can be adversely affected as most of the accrued benefits may have accrued in the male's name during the marriage or partnership. It is considered desirable that upon a divorce or separation, the pension benefits that have accrued during the marriage be considered as part of the overall division of assets. This outcome can be considered to be both equitable and provide greater adequacy in retirement to both individuals, rather than just the main income earner.

Calculation

The question was scored on a three-point scale with a score of 2 for "yes", 1 if it was applied in some cases and 0 for "no".

Commentary

In nine of the fourteen countries, it is normal practice for the accrued pension benefits to be taken into account in the overall division of assets upon a divorce or separation.

Source of data

The answers were sourced from Mercer consultants in each country.

Weighting

With a relatively high level of divorce or separation occurring in many countries, adequacy of retirement income for the lower income partner is improved if pension assets are considered in the overall division of assets. This desirable feature has been given a 5 percent weighting in the adequacy sub-index.

Question A9

What is the level of home ownership in the country?

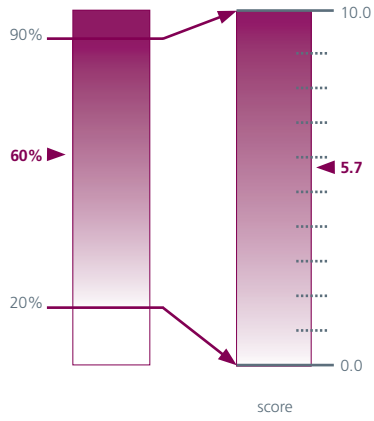
Objective

In addition to regular income, home ownership represents an important factor in affecting financial security during retirement. Indeed in some countries, such as Singapore, a portion of the member's savings can be used to help purchase a home. In other countries, taxation support encourages home ownership.

Calculation

A maximum feasible score is considered to be 90 percent. Hence a home ownership level of 90 percent of more would score maximum results whilst a score of 20 percent or less would score zero.

Calculating A9
—home ownership



Commentary

The level of home ownership ranged from 30 percent in Switzerland to 89 percent in Singapore. The high result in Singapore highlights the role of the Central Provident Fund.

Source of data

The answers were sourced from a variety of sources including World Bank (2010), World Development Indicators 2010.

Weighting

Home ownership represents a desirable feature of financial security in retirement. Hence, this indicator has been given a 5 percent weighting in the adequacy sub-index.

Chapter 4

The adequacy **sub-index**

Question A10

What is the proportion of total pension assets invested in growth assets?

Objective

The investment performance of funded pension funds over the long term, after allowing for costs and any taxation, represents a key input into the provision of adequate retirement income. Yet, as Hinz et al (2010)[11] have noted correctly, international comparisons of investment returns might not be totally meaningful. They also note that any benchmarks need to consider a range of factors including the age of the plan member, the availability of other income (such as Social Security), the contribution rates, the target replacement rate, the risk tolerance of the member and the types of retirement income available.

It is apparent that there is no ideal asset allocation that is appropriate for all members at all ages. The growing interest in life cycle funds suggests that the best approach is likely to be a changing asset allocation during an individual's lifetime.

It is also important to recognise that the investment performance of a pension fund needs to focus on the longer term and not be focused on short term returns. With this in mind, we believe that it is appropriate for the investments of pension funds within any country to be diversified across a range of asset classes, thereby providing the opportunity for higher returns with reduced volatility.

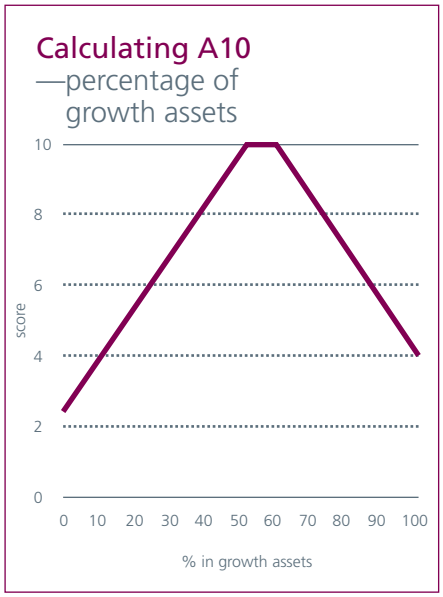
Calculation

Many countries have pension fund assets invested in a range of assets ranging from cash and short term securities through bonds and equities to alternative assets such as property, venture capital and infrastructure.

As a proxy to this preferred approach, we have used the percentage of growth assets (including equities and property) in the total pension assets in each country.

A zero percentage in growth assets highlights the benefit of security for members but without the benefits of diversification and the potential for higher returns. In some emerging markets, it is also recognised that the capital markets are underdeveloped. Therefore a zero percentage scores 2.5 out of a maximum score of 10. This score increases to the maximum score of 10 as the proportion in growth assets increase to 50% of all assets. If the proportion is beyond 60% the score is reduced to reflect the higher level of risk and volatility.

[11] Hinz R, Rudolph H P, Antolin P and Yermo J (2010), Evaluating the Financial Performance of Pension Funds, The World Bank, Washington, p 2



Commentary

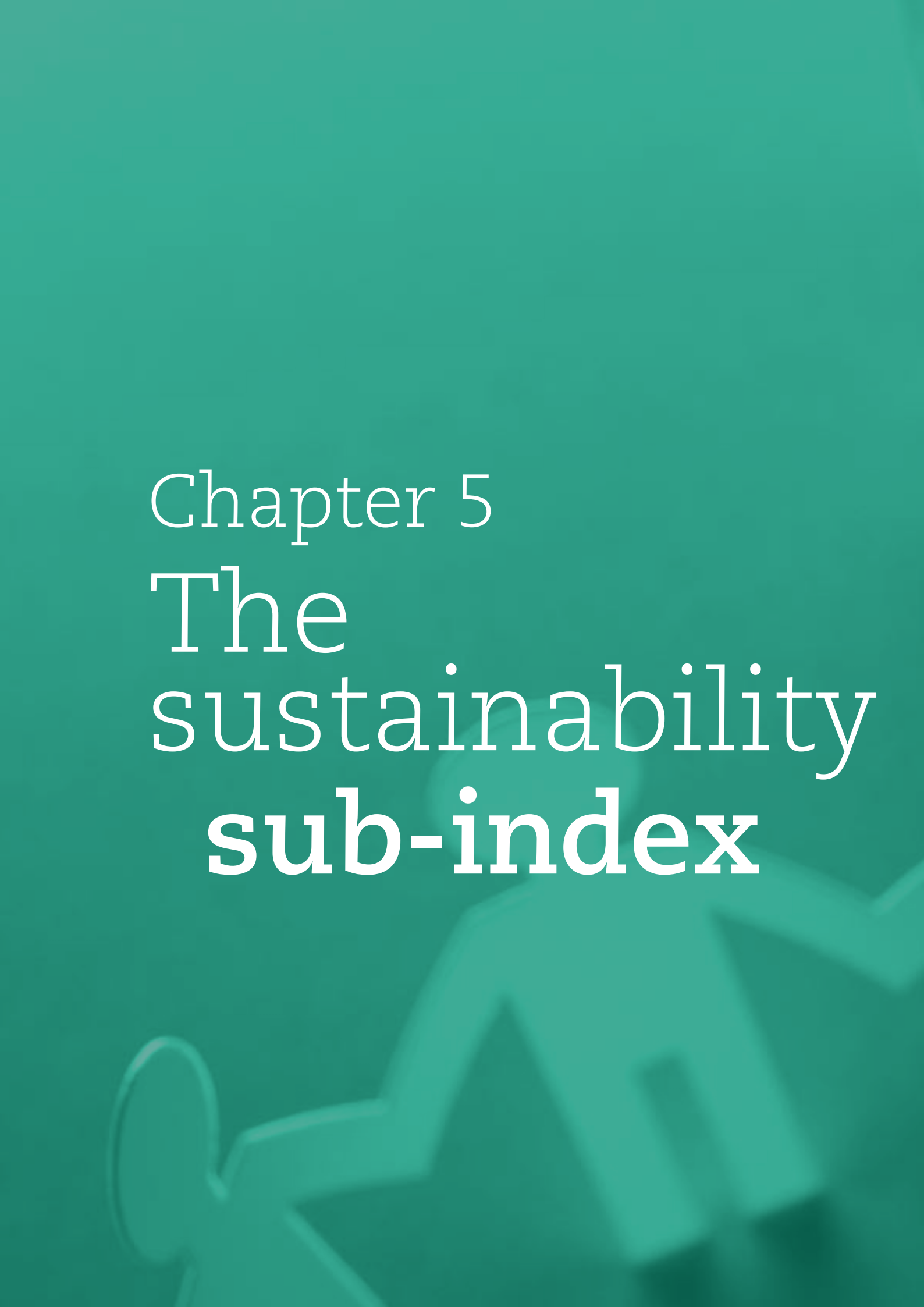
The level of growth assets ranges from virtually zero in Singapore to approximately 70% in Australia. Many countries have a percentage between 40% and 60% which indicates a reasonable level of exposure to growth assets.

Source of data

The answers were sourced from Mercer consultants in each country based on available data.

Weighting

Asset allocation represents an important feature of all funded retirement systems. This indicator has therefore been given a 5 percent weighting in the adequacy sub-index.



Chapter 5
The sustainability **sub-index**

The sustainability sub-index is determined by considering a number of indicators which influence the long-term sustainability of the current system.

Chapter 5

The sustainability **sub-index**

The sustainability sub-index is determined by considering a number of indicators which influence the long-term sustainability of the current system. These include measuring the importance of the private pension system, the length of expected retirement both now and in the future, the labour force participation rate of older workers and the current level of government debt[12].

The countries with the highest value for the sustainability sub-index are Sweden (72.9) and Switzerland (71.8), with the lowest values being for Japan (27.9), China (29.0) and Brazil (29.1). Whilst several indicators influence these scores, the level of coverage of private pension plans, the level of pension assets as a proportion of GDP and the projected demographic factors tend to be the most important.

Full details of the values in respect of each indicator in the sustainability sub-index are shown in Attachment 2.

Question S1

What proportion of the employed workforce are members of private pension plans?

Objective

Private pension plans (including pension plans for public sector employees and the military) represent an important pillar within all retirement income systems. Hence, a higher proportion of coverage amongst the workforce increases the likelihood that the overall retirement income system is sustainable as it will reduce reliance on government expenditure in the future.

Calculation

The rates of coverage ranged from about 10 percent in Brazil to more than 90 percent of the employed workforce in the Netherlands, Singapore, Sweden and Switzerland. Each country's score was related to its coverage, with a maximum score obtained for 100 percent coverage and a zero score relating to coverage of 20 percent or less, as such coverage represents minimal contribution to the provision of retirement income.

[12] The application of means tests in respect of state pensions also represents an important component of the long-term financial sustainability for many systems. However, the measurement of the financial effect of means testing is problematic and its application varies considerably between countries. It was therefore excluded from this sub-index.

Commentary

Many countries have coverage rates in the 40–60 percent range, indicating a heavy reliance on the social security system in the future for a substantial proportion of the workforce.

Sources of data

OECD (2009b) Pensions at a Glance 2009, p141, for OECD countries[13]

OECD (2009c) Pensions at a Glance – Asia Pacific Edition, for China

OECD Reviews of Labour Market and Social Policies: Chile (2005)

Estimates used for Brazil and Singapore

Weighting

The private pillar represents an important characteristic of a multi-pillar retirement income system, particularly with the financial pressures associated with ageing populations. Hence, this indicator was giving a weighting of 20 percent in the sustainability sub-index.

Question S2

What is the level of pension assets, expressed as a percentage of GDP, held in private pension arrangements, public pension reserve funds and protected book reserves?

Objective

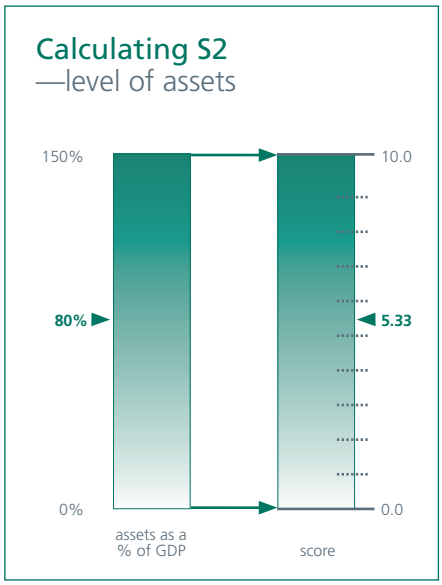
The level of current assets set aside for future pensions, when expressed as a percentage of a country's GDP, represents a good indicator of an economy's ability to meet these payments in the future.

Calculation

We have included assets from private pension funds, public pension funds and protected book reserves to calculate the total level of assets held within each country to pay future pensions, irrespective of whether the pensions are paid through public pension provision or from private pension plans. After all, in most countries an individual's retirement income can include both a public pension and a private pension. The types of funds that have been included are:

- Assets held in private pension plans
- Assets held by insured or protected book reserves which are being accounted for to pay future pensions
- Social security reserve funds
- Sovereign reserve funds which have been set aside for future pension payments.

The level of assets ranged from 3.6 percent for China to 128.9 percent for Switzerland. These scores were then scaled to provide a maximum score for 150 percent of GDP and a minimum score for zero percent.



[13] The German figure used was the voluntary occupational percentage increased by 20 percent of the voluntary personal percentage as the total percentage was not provided.

Chapter 5

The sustainability **sub-index**

Commentary

There is considerable variety in the size of assets set aside for future pensions around the world, reflecting both the importance of any social security reserve funds as well as the second and third pillars in each country's system. In addition, many countries are part-way through a reform process which is expected to increase the level of assets over many decades. In these cases, we would expect the score for this indicator to increase in future years.

It should also be noted that the level of private pension assets goes beyond pension funds and includes book reserves, pension insurance contracts and funds managed as part of financial institutions such as Individual Retirement Accounts. These assets have been included as they represent assets set aside for future retirement income.

It is noted that the level of assets has declined in many countries in 2008 from those recorded in the previous report due to the effect of the global financial crisis.

Sources of data

OECD (2009a), Private Pensions Outlook 2008, p44 and p103, for OECD countries. This 2007 data was updated to 2008 estimates based on data on the OECD website.

OECD (2009c), Pensions at a Glance – Asia Pacific Edition 2009

Estimates for others based on a range of sources:

Brazil: OECD data

Chile:
US Social Security Administration
Mercer calculations

China and Singapore:
OECD Private Pensions Outlook 2008
CIA Factbook (for GDP)

Weighting

This indicator shows the level of assets set aside to fund future retirement incomes. It therefore represents a key indicator in the future ability of each country's system to pay future benefits. Hence, this indicator was given a weighting of 20 percent in the sustainability sub-index.

Question S3

a) What is the current gap between life expectancy at birth and the state pension age?

b) What is the projected gap between life expectancy at birth and the state pension age in 2030? (This calculation allows for mortality improvement.) The above calculations are averaged for males and females.

c) What is the projected old-age dependency ratio in 2030?

Objective

A retirement income system is designed to provide benefits to an individual from when the person leaves the workforce to his/her death. The longer the period, the larger the total value of benefits will need to be and hence there will be an increased financial strain placed on the overall system. Although individuals retire for many reasons, the state pension age represents a useful proxy that guides many retirement decisions. As life expectancy increases, one way of reducing the strain is to encourage later retirement.

In the second question, we project two decades ahead to highlight the fact that many governments have already taken action in respect of the state pension age, thereby reducing the forthcoming pension burden.

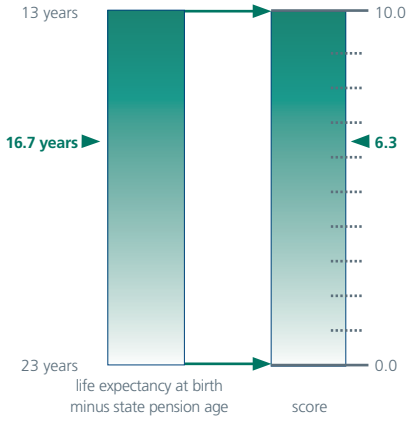
This projected old age dependency ratio question highlights the impact of the ageing population between now and 2030 and therefore the likely effects on the funding requirements for pensions, health and aged care.

Calculations

a) We have calculated the difference between the life expectancy at birth and the existing state pension age, as used in Park (2009). The answers provide an indicator of the average period of pension payment and range from 13.5 in Brazil to 22.2 in Japan. In view of this range, a maximum score is achieved with a difference of 13 years and a zero score with a score of 23 years.

b) For 2030, the results range from 14.9 years in the USA to 22.5 years in France. The formula used remains unchanged with a maximum score for 13 years and a zero score for 23 years.

Calculating S3 a) and b) —life expectancy and state pension age



c) The old-age dependency ratio is the population aged 65 and over divided by the population aged between 15 and 65. The projected dependency ratios for 2030 range from 19.7 percent in Brazil to 52.8 percent in Japan.

In view of this range a maximum score is achieved with a dependency ratio of 20 percent or less and a zero score with a score of 60 percent or higher.

Commentary

With the exception of Japan and France, all countries have a difference between life expectancy and current state pension age of less than 19 years, thereby highlighting the challenge for France and Japan of a relatively low state pension age and longer life expectancy.

The projected results for 2030 differ from the current results, with China, France, Japan and Switzerland having a difference in excess of 20 years.

Sources of data

United Nations (2008), World Population Prospects: Life expectancies

The state pension ages were sourced from Mercer consultants in each country.

Weighting

These demographic-related indicators have a weighting of 20 percent in the sustainability sub-index with a 7.5 percent weighting for the first two questions and a 5 percent weighting for the projected old-age dependency ratio.

Chapter 5

The sustainability **sub-index**

Question S4

What is the level of mandatory contributions that are set aside for retirement benefits (i.e. funded), expressed as a percentage of wages? This includes mandatory contributions into public or private sector funds[14].

Objective

Mandatory contributions from employers and/or employees represent a feature of every country's retirement income system. In some countries these contributions are used to fund social security benefits immediately whereas in other cases the contributions are invested, either through a central fund (such as Singapore's Central Provident Fund or a reserve fund) or through a range of providers in the private sector. In terms of longer-term sustainability, the important issue is whether the contributions are set aside to pay for the future benefits of the contributors, irrespective of the vehicle used for the saving.

Calculation

There is considerable variety in the extent to which the contributions paid are actually invested into a fully funded investment vehicle. The calculation multiplies the level of mandatory contributions by the percentage of these funds that are invested to provide for future retirement benefits. For example, in Australia and Chile the mandatory contributions are fully invested for the individuals concerned. On the other hand, Germany and the UK adopt a pay-as-you-go basis.

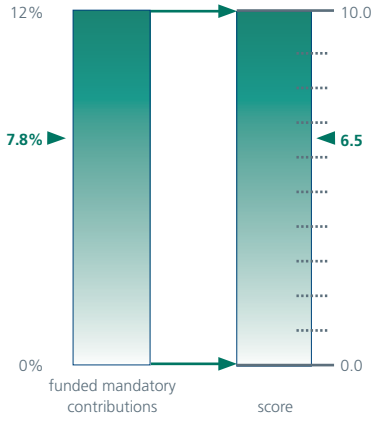
In some cases, neither extreme is adopted. For instance, the Canada Pension Plan adopts a 'steady-state' funding basis so that contributions will remain constant for 75 years. In this case we have assumed that 75 percent of the contributions are invested. In China, only the employee contributions are required to be funded but, currently, many of the individual accounts are notional. Hence 50 percent of employee contributions have been used. We have also used 50 percent in Sweden as they are transitioning from a pay-as-you-go approach to a fully funded one.

In other countries, social security reserve funds are funded by the difference between contributions and current benefit payments or through top-up contributions from the government. Japan and the USA are examples of this approach. In these cases, we have assumed that 15 percent and 33 percent of the contributions are funded respectively. For Singapore we have used 17.14 percent which represents the proportion of contributions that must be set aside for retirement purposes for 36–45 year olds.

The results of the above calculations have meant that the net funded level of mandatory contributions (expressed as a percentage of earnings) range from zero percent in several countries to 10 percent in Chile. In view of this range and likely developments in some countries, a maximum score is achieved with a level of 12 percent and a zero score where there are no funded mandatory contributions.

[14] This question does not include contributions arising from statutory minimum levels of funding for defined benefit plans as these plans do not represent mandatory arrangements.

Calculating S4 —funded mandatory contributions



Commentary

The level of mandatory contributions paid by employers and employees around the world varies considerably. In some cases, they represent taxation for social security purposes and are not used to fund future benefits. On the other hand, funded arrangements with the associated investment funds provide a better level of sustainability for the system and greater security for future retirees.

Sources of data

The answers were sourced from Mercer consultants in each country.

Weighting

This item represents one of several key indicators representing desirable features of a sustainable system. A weighting of 15 percent in the sustainability sub-index is used for this indicator.

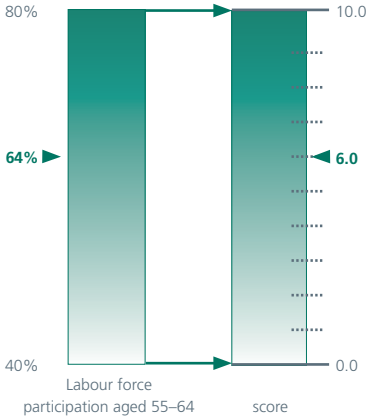
Question S5

What is the labour force participation rate for those aged 55–64?

Objective

An older labour force means that individuals are retiring later thereby reducing the number of years in retirement and the need to provide retirement income, as well as accumulating greater savings for retirement.

Calculating S5 —labour force participation rate



Calculation

The percentages ranged between 41.4 percent in France and 74.4 percent in Sweden. A maximum feasible score is considered to be 80 percent for this age bracket. Hence a participation rate of 80 percent of more scores maximum results whilst a score of 40 percent or less scores zero.

Commentary

Labour force participation rates at older ages had been declining in many countries. However with the increasing awareness of the pressures associated with an ageing population, it is important that governments encourage higher labour force participation rates at these older ages. Most countries have recorded a slight increase over the 2007 figures.

Source of data

International Labour Office (2009), Key Indicators of the Labour Market, 6th Edition

Weighting

This item has a weighting of 10 percent in the sustainability sub-index.

Chapter 5

The sustainability **sub-index**

Question S6

What is the level of adjusted government debt (being the gross public debt reduced by the size of any sovereign wealth funds that are not set aside for future pension liabilities[15]), expressed as a percentage of GDP?

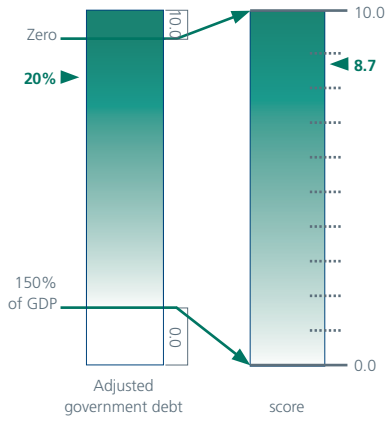
Objective

As social security payments represent an important source of income in most retirement income systems, the ability of future governments to pay these pensions and/or other benefits (e.g. health) represents an important factor in the sustainability of current systems. Clearly, higher government debt increases the likelihood that there will need to be reductions in the level or coverage of future benefits.

Calculation

The level of the adjusted government debt ranges from less than zero for Singapore to 189.3 percent in Japan. A maximum score was achieved for countries with a negative level of adjusted government debt (i.e. a surplus), with a zero score for countries with an adjusted government debt of 150 percent of GDP or higher.

Calculating S6
—adjusted government debt



Commentary

Government debt is likely to restrict the ability of future governments to support their older populations, either through pensions or through the provision of other services such as health or aged care. Hence, governments with lower levels of debt are in a better position to be able to sustain their current pension levels in the future. It should be noted that the level of debt has increased for many countries due to the Global Financial Crisis.

Sources of data

CIA Factbook – latest estimates for 2009 for most countries.

United States – Treasury Direct website[16]

SWF Institute[17] – sovereign wealth fund sizes

Weighting

This item has a weighting of 10 percent in the sustainability sub-index.

[15] This reduction does not include sovereign reserve funds which have been set aside for future pension payments as these have been considered in Question S2.
[16] www.treasurydirect.gov/govt/reports/pd/histdebt/histdebt_histo5.htm
[17] www.swfinstitute.org

Question S7

In respect of private pension arrangements, are older employees able to access part of their retirement savings or pension and continue working (e.g. part time)?

If not, are there other tax advantaged pre-retirement vehicles available to help transition workers into retirement that are commonly used?

Objective

A desirable feature of any retirement income system, particularly where there is an ageing population, is to permit individuals to phase into retirement by gradually reducing their reliance on earned income whilst at the same time enabling them to access their accrued retirement benefit through an income stream.

Calculation

The first question was given a score of 2 for "yes" and 0 for "no". However, it is not as simple as that in many countries where it may depend on particular fund rules. In these cases, a score between 0 and 2 was given depending on the circumstances and practice. A maximum score was achieved where the answer was yes for the majority of older employees.

If the answer to the first question is no, but there are other incentives to encourage similar behaviour, a score between 0.5 and 1 was given depending on the strength of the incentives.

Commentary

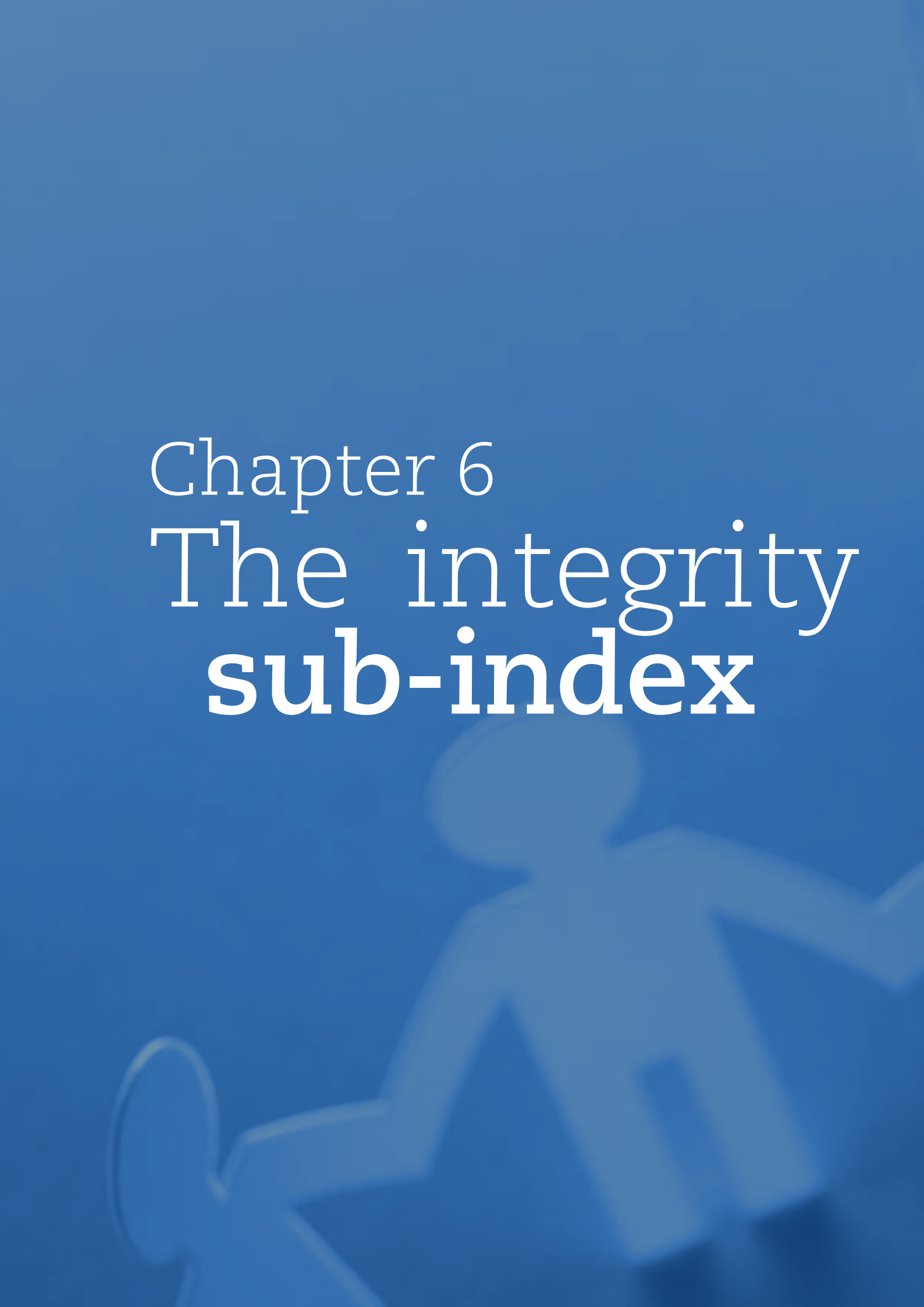
In several countries (including Australia, France, Netherlands, Singapore and Sweden) employees are able to continue working at older ages whilst also accessing an income stream from their accumulated benefits.

Source of data

The answers were sourced from Mercer consultants in each country.

Weighting

This item has a weighting of 5 percent in the sustainability sub-index as it is not considered as critical as the earlier indicators.



Chapter 6
The integrity **sub-index**

The integrity sub-index is determined by considering three broad areas of the private sector pension system, namely: regulation and governance; protection for members; and costs.

Chapter 6

The integrity **sub-index**

The integrity sub-index is determined by considering three broad areas of the private sector pension system, namely: regulation and governance; protection for members; and costs. As this sub-index is only concerned with the private sector pension plans (i.e. the second and third pillars of the World Bank model), it has a more restricted scope than the previous two sub-indices.

The private sector pillar is, however, important because without it the government becomes the only provider, which is not a desirable or sustainable long-term outcome. A sound and well regulated private sector pension system, which has the confidence of the community, represents an important component of most countries' retirement income systems.

The country with the highest value for the integrity sub-index is the Netherlands (91.4), with the lowest value being for China (43.4). As noted above, this sub-index covers three broad areas affecting private sector pension plans and the better scores were achieved by countries with well developed private pension industries.

In each of the three broad areas, several questions have been asked to ascertain the requirements and situations that apply to private sector pension plans in each country.

Full details of the values in respect of each indicator in the integrity sub-index are shown in Attachment 3.

Source of data

As the integrity sub-index is based on the operations of the private sector pension industry in each country, the answers were sourced from Mercer consultants in the relevant countries, except where noted.

Regulation and Governance

Calculation

With the exception of question R2 dealing with the activity of the regulator, each question in this section is scored on a three-point scale with a score of 2 for "yes", 1 if it applied in some cases and 0 for "no".

Question R1

Do private sector pension plans need regulatory approval or supervision to operate?

Is a private pension plan required to be a separate legal entity from the employer?

Is a private pension plan required to have separate assets from the employer?

Objective

These questions were designed to assess the extent to which a private sector pension plan is required to be a separate entity from the sponsoring employer and hold assets that are separate from the employer.

Weighting

Each question was given a 5 percent weighting in the integrity sub-index, resulting in a total of 15 percent for these three questions.

Chapter 6

The integrity **sub-index**

Question R2

Are private sector pension plans required to submit a written report in a prescribed format to a regulator each year?

Does the regulator make industry data available from the submitted forms on a regular basis?

How actively does the regulator (or protector) discharge its supervisory responsibilities? Please rank on a scale of 1–5.

The following table was provided to assist in answering these questions.

Scale	Description	Examples of activity by the regulator
1	Inactive	Receives reports from plans but does not follow up
2	Occasionally active	Receives annual reports, follows up with questions but has limited communication with plans on a regular basis
3	Moderately active	Receives annual reports, follows up with questions and has regular communication with plans, including on-site visits
4	Consistently active	Obtains information on a regular basis from plans and has a focus on risk-based regulation. That is, there is a focus on plans with higher risks
5	Very active	Obtains information on a regular basis from plans and has a focus on risk-based regulation. In addition, the regulator often leads the industry with ideas, discussion papers and reacts to immediate issues

Objective

These questions were designed to assess the level of supervision and the involvement of the regulator with the industry.

Calculation

The last question was scored on a five-point scale as shown in the table. It is important to note that this question did not assess the quality of the supervision; rather it considered the activity of the regulator.

Weighting

The first and third questions were each given a 5 percent weighting, with the second question being given a 2.5 percent weighting, resulting in a total weighting of 12.5 percent for these three questions.

Question R3

Where assets exist, are the private pension plan's trustees/executives/fiduciaries required to prepare an investment policy?

Are the private pension plan's trustees/executives/fiduciaries required to prepare a risk management policy?

Objective

These questions were designed to assess the regulatory requirements in respect of certain functions that may be required in respect of the fiduciaries who oversee private sector pension plans.

Weighting

Each question was given a 5 percent weighting in the integrity sub-index, resulting in a total of 10 percent for these two questions.

Question R4

Do the private pension plan's trustees/executives/fiduciaries have to satisfy any personal requirements set by the regulator?

Are the financial accounts of private pension plans (or equivalent) required to be audited annually by a recognised professional?

Objective

These questions were designed to assess the regulatory requirements in respect of various aspects of the governance of the private sector pension plans.

Weighting

Each question was given a 5 percent weighting in the integrity sub-index, resulting in a total of 10 percent for these two questions.

Commentary on the regulation results

The scores ranged from 26.6 in China and 27.0 in the USA to a near maximum score of 46.5 in the Netherlands.

The relatively low scores in China and the USA are caused by different reasons. For example, China's regulator has less involvement with the industry than in some more developed markets whereas in the USA, there is no requirement to establish any investment or risk management policies.

Chapter 6

The integrity **sub-index**

Protection and communication for members

Calculation

With the exceptions of question P1, dealing with funding, and part of question P3, dealing with employer insolvency, each question is scored on a three-point scale with a score of 2 for "yes", 1 if it applied in some cases and 0 for "no" for most countries.

Question P1

Describe the required minimum level of funding for defined benefit and defined contribution schemes and the requirements to reach full funding when this does not occur.

Objective

These questions were designed to assess the level of funding required in respect of both defined benefit and defined contribution plans. Funding levels are critical in securing members' future retirement benefits.

Calculation

The calculation considered the requirements for both DB and DC plans (where relevant). For the DB funding assessment, we considered both the extent of the funding requirement and the period over which any deficit must be rectified.

Commentary

Most countries require full funding of DC plans; in fact, many respondents noted that this feature is the essence of such a plan. However the requirements for funding DB plans vary considerably. There are, in effect, no requirements in some countries whereas in other countries, such as in the Netherlands and the USA, any deficit requires rectification within a specified period.

Weighting

The funding of a member's retirement benefit in a private sector pension plan represents a basic protection of the member's accrued benefits and this indicator is therefore given a 12.5 percent weighting in the integrity sub-index.

Question P2

What are the limits, if any, on the level of in-house assets (that is, equity or debt investments in the sponsoring employer) held by a private sector pension plan?

Objective

An essential characteristic of a sound retirement income system is that a member's accrued retirement benefit is not subject to the financial state of the member's employer.

Commentary

Most countries have a restriction on the level of in-house assets held by a pension plan. These restrictions are often set at 5 percent of the plan's assets. The exceptions are France, Germany, Japan and some defined contribution plans in the USA.

Weighting

This requirement represents a key method of protecting the member's accrued benefits and is therefore given a 5 percent weighting in the integrity sub-index.

Question P3

Are the members' accrued benefits provided with any protection or reimbursement from an act of fraud or mismanagement?

In the case of employer insolvency (or bankruptcy), describe how the members' accrued benefits are protected, if at all.

Objective

There are many risks faced by members of pension plans. These two questions considered what protection, if any, the members receive in the case of fraud, mismanagement or employer insolvency, where the employer may not pay contributions that are owed.

Commentary

The answers to these questions vary considerably by country. In some cases, there are some restricted arrangements in place to support the member whereas in the UK a fraud compensation scheme exists.

Weighting

Whilst these issues are very important where such incidents occur, experience in most countries suggests that it is not a common event or that its financial effect is relatively minor. Hence each question is given the weighting of 2.5 percent in the integrity sub-index, resulting in a total of 5 percent for these two questions.

Question P4

When joining the pension plan, are new members required to receive information about the plan?

Objective

It is important that members receive information when joining a pension plan, including a description of the benefits and the risks they may face, particularly with the global growth of DC plans.

Commentary

Almost all countries require information to be provided when members join the plan.

Weighting

The weighting for this question is 5 percent in the integrity sub-index.

Chapter 6

The integrity **sub-index**

Question P5

Are plan members required to receive an annual report about the plan?

Objective

Annual reports present the opportunity for pension plans to communicate with their members, highlighting important contemporary issues that may need to be considered by the members, particularly those approaching retirement.

Commentary

There is considerable variety in the responses, with China, France and Germany having no requirements in respect of this question.

Weighting

The weighting for this question is 5 percent in the integrity sub-index.

Questions P6

Are plan members required to receive an annual statement of their current personal benefits from the plan?

Is this annual statement required to show any projection of the individual member's possible retirement benefits?

Objective

Whilst an annual report about the plan is valuable, most members are more interested in their personal benefit. The first question therefore ascertained whether the provision of such information was a requirement whilst the second question considered whether this requirement required any projections about the member's future retirement benefit.

Commentary

More than half the countries have a requirement concerning annual personal statements, but only a few requiring some form of projection. As account balances increase and individuals take on greater responsibility for their retirement benefits, the provision of information of this type will become increasingly important to plan members.

Weighting

The first question was given a 5 percent weighting in the integrity sub-index whilst the second question was given a 2.5 percent weighting, resulting in a total of 7.5 percent for these two questions.

Question P7

Do plan members have access to a complaints tribunal which is independent from the pension plan?

Objective

A common way to provide some protection to individuals who receive benefits from a contract with a financial services organisation (such as a bank or insurance company) is to provide them with access to an independent complaints tribunal or ombudsman. As the provision of retirement benefits can represent an individual's most important financial asset, there is good reason for such a provision to exist in respect of private sector pension plans.

Commentary

Only four countries (Australia, the Netherlands, Switzerland and the UK) have a complaints system focused on pension plans, although Canada, Chile and the USA have a process that could be used for this purpose.

Weighting

Whilst this indicator is not as important as funding or communication to members, it represents a desirable feature of the better pension systems as it provides all members with access to an independent body, should an adverse event occur. It is given a 2.5 percent weighting in the integrity sub-index.

Commentary on the protection and communication results

The scores ranged from 11.9 in China and 15.0 in Germany to 38.8 in Switzerland and 37.5 in the Netherlands.

The relatively low scores in China and Germany are caused by similar reasons; namely the very limited requirements in these countries to provide information to members.

Chapter 6

The integrity **sub-index**

Costs

What percentage of total private pension assets is held in various types of pension funds?

What percentage of total private pension assets is held by the largest ten pension funds/ providers or by funds that are larger than $US10 billion?

Objective

As noted by Luis Viceira in Hinz et al (2010), costs are one of the most important determinants of the long run efficiency of a pension system. He goes on to comment that:

"Unfortunately, there is very little transparency about the overall costs of running most pension systems or the total direct and indirect fees that they charge to participants and sponsors."[18]

This is absolutely correct. The huge variety of pension systems around the world, with a great diversity of retail, wholesale and employer sponsor arrangements means that some administrative or investment costs are clearly identified whereas others are borne indirectly or directly by providers, sponsors or third parties.

Yet, in the final analysis many costs will be borne by members and thereby affect the provision of their retirement income. We have therefore used two proxies for this indicator.

The first question represents an attempt to ascertain the proportion of each country's pension industry that is employer-sponsored plans, not-for-profit plans and retail funds, which may be employer based or individual contracts. Each type of plan is likely to have a different cost implication which influences the overall cost structure of the industry.

The second question highlights the fact that scale matters. That is, it is likely that as funds increase in size, their costs as a proportion of assets will reduce and some of these benefits will be passed onto members.

Calculation

For the first question, each type of plan was given a weight ranging from 1 for individual retail or insurance contracts to 10 for a central fund. These scores were then weighted by the pension industry characteristics for each country.

For the second question, we considered the size of the assets held by the ten largest providers or funds, or by funds that exceeded $US10 billion[19]. A score of 1 was given when these assets were less than ten percent of all assets rising to a maximum score of five when these assets represented more than 75 percent of all assets.

[18] Hinz R, Rudolph H P, Antolin P and Yermo J (2010), Evaluating the Financial Performance of Pension Funds, The World Bank, Washington, p259

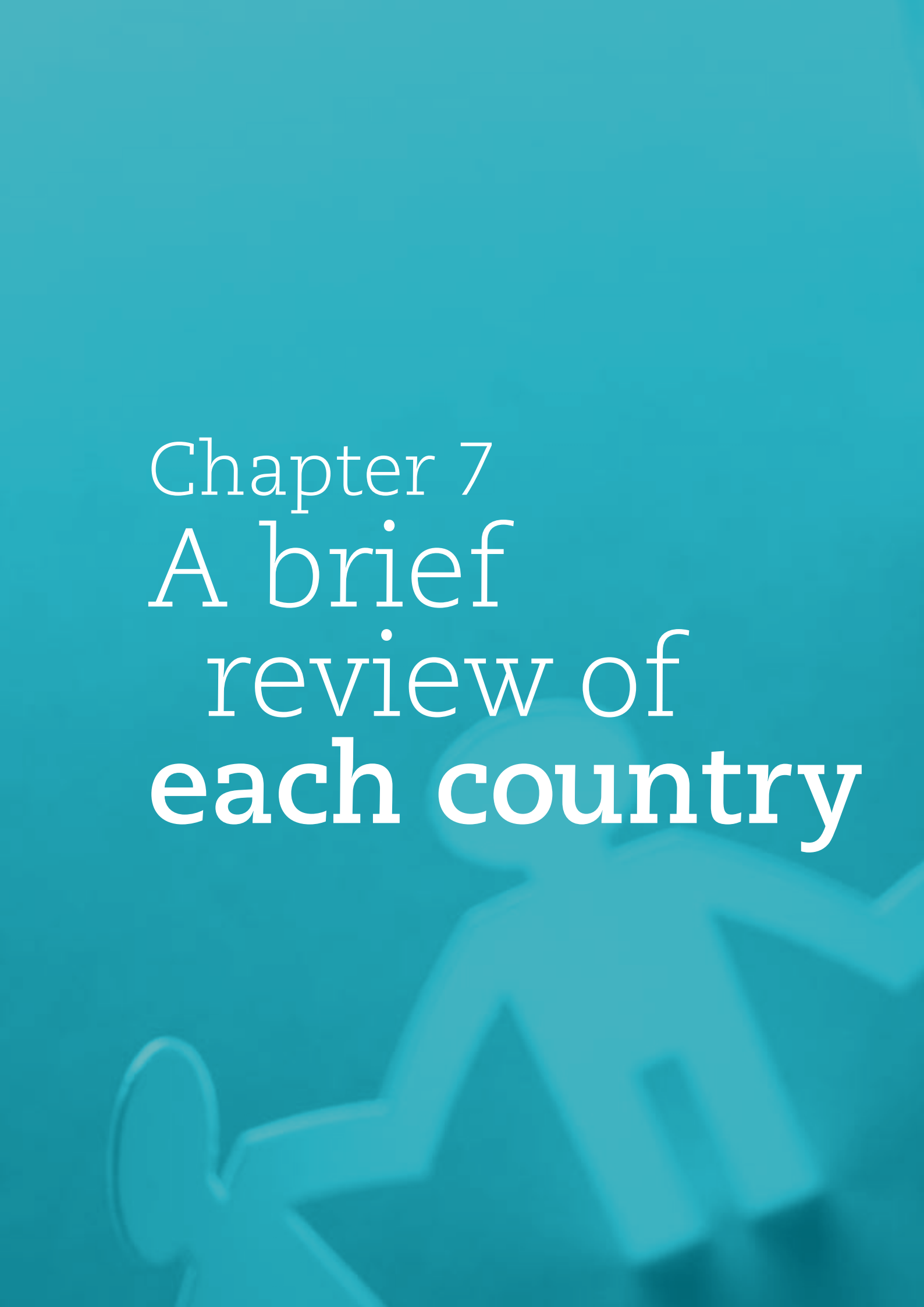
[19] www.pionline.com/article/20090907/CHART2/908289986/-1/WWTOPFUNDS

Commentary on the costs results

The scores for these two indicators ranged from 4.1 for France to 10.0 for Singapore. The Singaporean result is not surprising as the single Central Provident Fund should provide administrative savings and the potential to add value though investment opportunities.

Weighting

Each question was given a 5 percent weighting in the integrity sub-index, resulting in a total of 10 percent for these two questions.



Chapter 7
A brief review of **each country**

This chapter provides a brief summary of the retirement income system of each country in the pilot study, together with some suggestions that would – if adopted – raise the overall index value for that country. Of course, whether such developments are appropriate in the short term depend on that country's current social, political and economic situation.

Chapter 7

A brief review of **each country**

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Australia

Australia's retirement income system comprises a means-tested age pension (paid from general government revenue); a mandatory employer contribution paid into private sector arrangements (mainly DC plans); and additional voluntary contributions from employers or employees paid into these private sector plans.

The overall index value for the Australian system could be increased by:

- raising the level of mandatory contributions to improve the level of benefits whilst also increasing the level of household savings
- introducing a requirement that part of the retirement benefit must be taken as an income stream
- increasing the labour force participation rate amongst older workers
- introducing a mechanism to increase the pension age as life expectancy continues to increase
- reducing the costs of the system by encouraging greater efficiency.

The Australian index value fell slightly from 74.0 in 2009 to 72.9 in 2010 due, in part, to the inclusion of the new cost indicators in 2010 where Australia scored relatively poorly.

Brazil

Brazil's retirement income system comprises a pay-as-you-go social security system with higher replacement rates for lower income earners; and voluntary occupational corporate and individual pension plans which may be offered by insurance companies or employers.

The overall index value for the Brazilian system could be increased by:

- introducing a minimum access age so that the benefits are preserved for retirement purposes
- increasing the level of coverage of employees in occupational pension schemes thereby increasing the level of contributions and assets
- introducing a minimum level of mandatory contributions
- increasing the state pension age over time
- introducing arrangements to protect the pension interests of both parties in a divorce
- enabling individuals to retire gradually whilst receiving a part pension.

Canada

Canada's retirement income system comprises a universal flat-rate pension, supported by a means-tested income supplement; an earnings-related pension based on revalued lifetime earnings; voluntary occupational pension schemes (many of which are defined benefit schemes); and voluntary individual retirement savings plans.

The overall index value for the Canadian system could be increased by:

- increasing the coverage of employees in occupational pension schemes, possibly through a more efficient system
- ensuring that voluntary retirement savings are preserved for retirement purposes
- introducing a mechanism to increase the state pension age as life expectancy continues to increase
- increasing the level of household savings.

The Canadian index value fell from 73.2 in 2009 to 69.9 in 2010 due, in part, to the decline in asset values in 2008 expressed as a percentage of GDP and the increase in government debt, both which were caused by the global financial crisis.

Chile

Chile's retirement income system comprises means-tested social assistance; a mandatory privately-managed defined contribution system based on employee contributions with individual accounts managed by a small number of Administradoras de Fondos de Pensiones (AFPs); and a new framework for supplementary plans sponsored by employers (the APVC schemes).

The overall index value for the Chilean system could be increased by:

- raising the level of mandatory contributions to increase the net replacement for median-income earners
- introducing a minimum access age for the supplementary plans so that it is clear that these benefits are preserved for retirement purposes
- introducing a requirement that part of the retirement benefit must be taken as an income stream
- continuing to review the minimum pension for the poorest pensioners, notwithstanding the 2008 reforms
- introducing arrangements to protect the interests of both parties in a divorce
- enabling individuals to retire gradually whilst receiving a part pension.

The Chilean index value rose slightly from 59.6 in 2009 to 59.9 in 2010.

China

China's retirement income system comprises a basic pension consisting of a pooled account (from employer contributions) and individual accounts (from employee contributions). Supplementary plans are also provided by some major employers.

The overall index value for the Chinese system could be increased by:

- broadening the coverage of the national pension system
- introducing taxation incentives for employee contributions to the supplementary plans
- introducing a requirement that part of the supplementary retirement benefit must be taken as an income stream
- increasing the state pension age over time
- enabling individuals to retire gradually whilst receiving a part pension
- improving the level of communication required from pension plans to members.

The Chinese index value fell from 48.0 in 2009 to 40.3 in 2010 due primarily to a recognition that the national pension system does not yet cover the whole country.

Chapter 7

A brief review of **each country**

France

France's retirement income system comprises an earnings-related public pension with a minimum pension level; two mandatory occupational pension plans for blue and white collar workers respectively; and voluntary occupational plans.

The overall index value for the French system could be increased by:

- increasing the level of funded contributions thereby increasing the level of assets over time
- increasing the state pension age over time
- increasing the labour force participation rate amongst older workers
- improving the regulatory requirements for the private pension system.

Germany

Germany's retirement income system comprises an earnings-related pay-as-you-go system based on the number of pension points earned during an individual's career; a means-tested safety net for low-income pensioners; and supplementary pension plans which are common amongst major employers. These plans typically either adopt a book reserving approach, with or without segregated assets, or an insured pensions approach.

The overall index value for the German system could be increased by:

- raising the minimum pension for low-income pensioners
- increasing the requirement that part of the retirement benefit must be taken as an income stream
- increasing the labour force participation rate amongst older workers
- increasing the level of assets available to support retired workers
- improving the level of communication from pension arrangements to members.

The German index value rose from 48.2 in 2009 to 54.0 in 2010 due, in part, to an increased recognition of some of the features of the commonly used book reserving approach.

Japan

Japan's retirement income system comprises a flat-rate basic pension; an earnings-related pension; and voluntary supplementary pension plans.

The overall index value for the Japanese system could be increased by:

- raising the minimum pension for low-income pensioners
- increasing the level of pension provision and hence the expected net replacement rate for all income earners
- introducing a requirement that part of the retirement benefit must be taken as an income stream
- introducing taxation incentives for employee contributions to the supplementary plans and other forms of retirement saving
- raising the state pension age to reflect increasing life expectancy.

The Japanese index value increased slightly from 41.5 in 2009 to 42.9 in 2010 due primarily to the introduction of the new questions.

The Netherlands

The Netherlands' retirement income system comprises a flat-rate public pension and a quasi-mandatory earnings-related occupational pension linked to industrial agreements. Most employees belong to these occupational schemes which are industry-wide defined benefit plans with the earnings measure based on lifetime average earnings.

The overall index value for the Dutch system could be increased by:

- introducing a minimum access age so that it is clear that benefits are preserved for retirement purposes
- raising the level of household saving
- increasing the labour force participation rate amongst older workers
- providing greater protection of members' accrued benefits in the case of fraud, mismanagement or employer insolvency.

The Dutch index value increased from 76.1 in 2009 to 78.3 in 2010 due primarily to recognition of the level of mandatory contributions actually operating within the country.

Singapore

Singapore's retirement income system is based on the Central Provident Fund which covers all workers, including most public servants. Some benefits are available to be withdrawn at any time for specified housing and medical expenses with other benefits preserved for retirement. A prescribed minimum amount is required to be drawn down at retirement age to buy a lifetime income stream.

The overall index value for the Singaporean system could be increased by:

- raising the minimum level of support available to the poorest pensioners
- continuing to increase the prescribed minimum that must be set aside for retirement purposes
- increasing the percentage of contributions required to be saved for retirement
- encouraging additional savings from above average income earners
- increasing the labour force participation rate amongst older workers
- investing a proportion of the contributions in growth assets.

The Singaporean index value increased from 57.0 in 2009 to 59.6 in 2010 due primarily to an increased recognition of the features of the Central Provident Fund.

Sweden

Sweden's retirement income system was reformed in 1999. The new system, which applies to people born after 1953, is an earnings-related system with notional accounts. The overall system is in transition from a pay-as-you-go system to a funded approach. There is also an income-tested top-up benefit which provides a minimum guaranteed pension.

The overall index value for the Swedish system could be increased by:

- raising the state pension age to reflect increasing life expectancy
- encouraging employee contributions into employer sponsored plans
- improving the requirements in respect of the annual information provided to plan members
- introducing arrangements to protect all the pension interests of both parties in a divorce.

The Swedish index value rose slightly from 73.5 in 2009 to 74.5 in 2010.

Chapter 7

A brief review of **each country**

Switzerland

Switzerland's retirement income system comprises an earnings-related public pension with a minimum pension; a mandatory occupational pension system where the contribution rates increase with age; and voluntary pension plans which are offered by insurance companies and authorised banking foundations.

The overall index value for the Swiss system could be increased by:

- introducing a requirement that part of the retirement benefit must be taken as an income stream
- increasing the state pension age over time
- introducing a universal requirement to permit individuals to retire gradually whilst receiving a part pension.

The United Kingdom

The United Kingdom's retirement income system comprises a flat-rate basic pension supported by an income-tested pension credit; an earnings-related pension based on revalued average lifetime salary; and voluntary private pensions, which may be occupational or personal. Most of the larger voluntary occupational pensions are currently contracted out of the earnings-related social security benefit.

The overall index value for the British system could be increased by:

- raising the minimum pension for low-income pensioners
- introducing a level of mandatory funded contributions
- increasing the coverage of employees in occupational pension schemes
- raising the level of household saving.

The British index value fell slightly from 63.9 in 2009 to 63.7 in 2010 due to the effects of the global financial crisis which were offset by the positive effects of the new indicators.

The United States of America

The United States' retirement income system comprises a social security system with a progressive benefit formula based on lifetime earnings, adjusted to a current dollar basis, together with a means-tested top-up benefit; and voluntary private pensions, which may be occupational or personal.

The overall index value for the American system could be increased by:

- raising the minimum pension for low-income pensioners
- adjusting the level of mandatory contributions to increase the net replacement for median-income earners
- improving the vesting of benefits for all plan members and maintaining the real value of retained benefits through to retirement
- reducing pre-retirement leakage by further limiting the access to funds before retirement
- introducing a requirement that part of the retirement benefit must be taken as an income stream.

The American index value fell from 59.8 in 2009 to 57.3 in 2010 due to the effects of the global financial crisis; namely a decline in asset values in 2008 and a rise in government debt.

Notes

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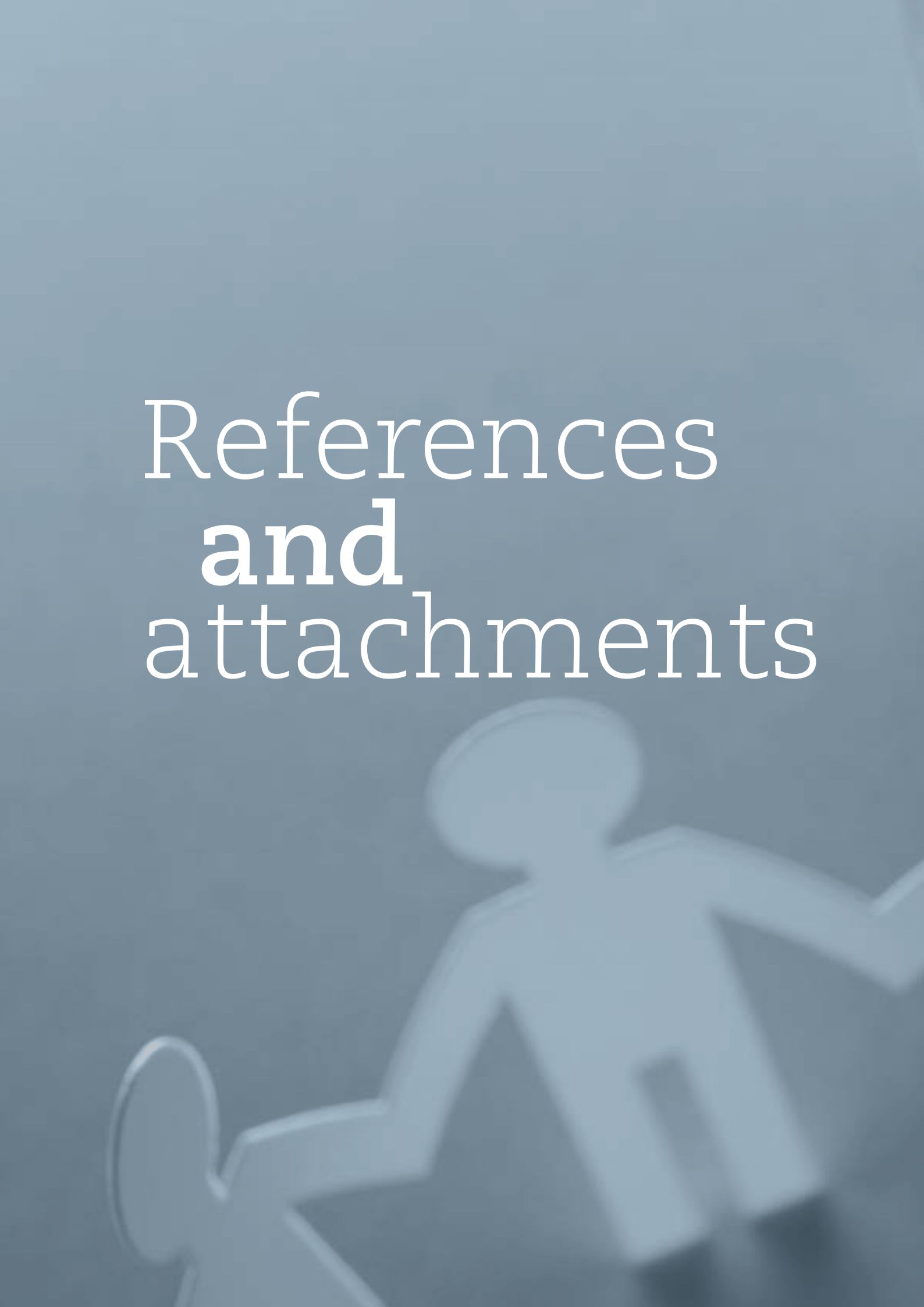

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Attachment 1: Score for each country for each indicator in the adequacy sub-index

	Question	Question weight	Score for each country													
			Australia	Brazil	Canada	Chile	China	France	Germany	Japan	Netherlands	Singapore	Sweden	Switzerland	UK	USA
A1	What is the minimum percent of the average wage that a single aged person will receive?	17.5%	6.5	10.0	10.0	5.7	5.0	6.5	4.5	4.5	10.0	0.2	8.0	7.0	4.5	4.0
A2	What is the net replacement rate for a median-income earner?	25%	7.8	10.0	8.7	5.3	3.6	9.1	8.3	4.1	8.9	0.0	8.8	10.0	4.9	5.4
A3	What is the net household saving rate in the economy?	10%	3.5	5.0	4.7	3.4	9.0	6.3	5.9	2.6	2.7	8.4	5.1	7.5	2.2	4.8
A4	Are voluntary member contributions by a median income earner to a funded pension plan treated by the tax system more favourably than similar savings in a bank account?	5%	10.0	10.0	10.0	10.0	0.0	10.0	10.0	0.0	10.0	10.0	5.0	10.0	10.0	10.0
A5	Is there a minimum access age to receive benefits from the private pension plans (except for death, invalidity and cases of financial hardship)? If so, what is the current age?	10%	8.3	0.0	3.3	5.0	8.3	10.0	10.0	5.0	3.3	6.7	6.7	5.3	6.7	6.3
A6	What proportion, if any, of the retirement benefit from the private pension arrangements is required to be taken as an income stream?	10%	0.0	5.5	5.0	0.0	0.0	5.0	0.0	0.0	7.5	4.6	7.5	0.0	10.0	0.0
A7	On resignation, are members normally entitled to the full vesting of their accrued benefit? After resignation, is the value of the member's accrued benefit normally maintained in real terms? Can a member's benefit entitlements normally be transferred to another private pension plan on the member's resignation from an employer?	7.5%	10.0	10.0	6.0	10.0	8.0	9.0	5.0	6.0	10.0	10.0	10.0	10.0	10.0	5.0
A8	Upon a couple's divorce or separation, are the individuals' accrued pension benefits normally taken into account in the overall division of assets?	5%	10.0	0.0	10.0	0.0	0.0	5.0	10.0	10.0	10.0	10.0	2.5	10.0	10.0	10.0
A9	What is the level of home ownership in the country?	5%	7.0	7.7	6.3	6.6	9.7	5.0	3.3	5.9	4.0	9.9	5.4	1.6	7.0	7.7
A10	What is the proportion of total pension assets invested in growth assets?	5%	8.5	7.0	10.0	9.6	4.8	5.7	8.5	8.3	6.7	2.5	7.0	9.6	10.0	10.0
	Adequacy sub-index	**100%**	**68.1**	**72.9**	**75.0**	**52.1**	**48.3**	**74.9**	**64.1**	**42.2**	**76.1**	**43.7**	**72.8**	**73.1**	**64.9**	**54.3**

Each question is scored for each country with a minimum score of 0 and a maximum score of 10.

Attachment 2: Score for each country for each indicator in the sustainability sub-index

Question		Question weight	Score for each country													
			Australia	Brazil	Canada	Chile	China	France	Germany	Japan	Netherlands	Singapore	Sweden	Switzerland	UK	USA
S1	What proportion of the employed workforce are members of private pension plans?	20%	8.1	0.0	4.7	4.2	0.1	7.3	6.6	3.1	9.4	9.4	9.4	9.4	4.9	4.7
S2	What is the level of pension assets, expressed as a percent of GDP, held in private pension arrangements, public pension reserve funds and protected book reserves?	20%	7.1	1.4	6.4	3.5	0.2	0.6	1.2	3.2	8.1	4.6	5.7	8.6	5.2	7.3
S3	What is the current gap between life expectancy at birth and the state pension age? What is the projected gap in 2030? What is the projected old-age dependency ratio in 2030?	20%	5.6	8.0	5.5	6.2	5.0	1.8	6.3	1.6	6.0	4.2	5.4	4.1	6.2	8.2
S4	What is the level of mandatory contributions that are set aside for retirement benefits (i.e. funded), expressed as a percentage of wages?	15%	7.5	0.0	6.2	8.3	3.3	0.0	0.0	2.0	6.7	5.0	7.2	7.1	0.0	3.4
S5	What is the labour force participation rate for those aged 55–64?	10%	4.9	4.2	5.7	4.5	4.1	0.3	5.1	6.6	3.7	4.8	8.6	7.3	5.3	6.3
S6	What is the level of adjusted government debt (being the gross public debt reduced by the size of any sovereign wealth funds that are not set aside for future pension liabilities), expressed as a percentage of GDP?	10%	8.8	6.0	5.0	9.9	9.4	4.9	5.2	0.0	5.9	10.0	7.6	7.3	5.5	4.5
S7	In respect of private pension arrangements, are older employees able to access part of their retirement savings or pension and continue working (e.g. part time)? If not, are there other tax advantaged pre-retirement vehicles available to help transition workers into retirement that are commonly used?	5%	10.0	0.0	7.5	0.0	0.0	10.0	7.5	5.0	10.0	10.0	10.0	5.0	7.5	5.0
Sustainability sub-index		**100%**	**71.7**	**29.1**	**56.8**	**54.7**	**29.0**	**29.7**	**42.3**	**27.9**	**71.6**	**63.6**	**72.9**	**71.8**	**47.1**	**59.0**

Each question is scored for each country with a minimum score of 0 and a maximum score of 10.

Attachment 3: Score for each country for each indicator in the integrity sub-index

	Question	Question weight	Score for each country													
			Australia	Brazil	Canada	Chile	China	France	Germany	Japan	Netherlands	Singapore	Switzerland	Sweden	UK	USA
Regulation and Governance (R1–R4)	Do private sector pension plans need regulatory approval or supervision to operate? Is a private pension plan required to be a separate legal entity from the employer? Is a private pension plan required to have separate assets from the employer?	15%	10.0	10.0	10.0	10.0	10.0	6.7	8.3	8.3	10.0	10.0	8.3	10.0	10.0	10.0
	Are private sector pension plans required to submit a written report in a prescribed format to a regulator each year? Does the regulator make industry data available from the submitted forms on a regular basis? How actively does the regulator discharge their supervisory responsibilities?	12.5%	9.2	8.4	8.7	8.4	1.3	8.2	4.4	7.6	9.2	5.6	8.4	8.4	10.0	5.6
	Where assets exist, are the private pension plan's trustees/ executives/ fiduciaries required to prepare an investment policy? Are the private pension plan's trustees/executives/fiduciaries required to prepare a risk management policy?	10%	10.0	10.0	7.5	10.0	2.5	5.0	7.5	5.0	10.0	10.0	10.0	5.0	10.0	0.0
	Do the private pension plan's trustees/executives/fiduciaries have to satisfy any personal requirements set by the regulator? Are the financial accounts of private pension plans (or equivalent) required to be audited annually by a recognised professional?	10%	7.5	10.0	7.5	7.5	7.5	10.0	7.5	7.5	10.0	7.5	7.5	7.5	7.5	5.0

Continued

Attachment 3: Score for each country for each indicator in the integrity sub-index

	Question	Question weight	Score for each country													
			Australia	Brazil	Canada	Chile	China	France	Germany	Japan	Netherlands	Singapore	Switzerland	Sweden	UK	USA
Protection and Communication for Members (P1–P7)	Describe the required minimum level of funding for DB and DC schemes and the requirements to reach full funding when this does not occur.	12.5%	7.0	8.0	9.0	10.0	5.0	5.0	4.0	9.0	10.0	6.0	7.0	8.0	7.0	7.0
	What are the limits, if any, on the level of in-house assets held by a private sector pension plan?	5%	10.0	10.0	10.0	10.0	10.0	5.0	5.0	0.0	10.0	10.0	10.0	10.0	10.0	5.0
	Are the members' accrued benefits provided with any protection or reimbursement from an act of fraud or mismanagement? In the case of employer insolvency (or bankruptcy), describe how the members' accrued benefits are protected, if at all.	5%	5.0	0.0	2.5	0.0	1.3	2.5	5.0	2.5	0.0	5.0	5.0	7.5	10.0	5.0
	When joining the pension plan, are new members required to receive information about the plan?	5%	10.0	10.0	10.0	10.0	0.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	Are plan members required to receive an annual report about the plan?	5%	10.0	10.0	7.5	5.0	0.0	0.0	0.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
	Are plan members required to receive an annual statement of their current personal benefits from the plan? Is this annual statement required to show any projection of the individual member's possible retirement benefits?	7.5%	6.7	6.7	6.7	6.7	0.0	3.3	3.3	3.3	10.0	6.7	10.0	10.0	6.7	3.3
	Do plan members have access to a complaints tribunal which is independent from the pension plan?	2.5%	10.0	0.0	7.5	5.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	10.0	10.0	5.0

Continued

Attachment 3: Score for each country for each indicator in the integrity sub-index

	Question	Question weight	Score for each country												
			Australia	Brazil	Canada	Chile	China	France	Germany	Japan	Netherlands	Singapore	Switzerland	Sweden	UK	USA
Costs	What percentage of total private pension assets is held in various types of pension plans? What percentage of total private pension assets is held by the largest ten pension funds/providers or by funds that are larger than $US10 billion?	10%	4.6	6.2	6.1	5.5	4.9	4.1	6.4	8.2	7.4	10.0	7.7	6.7	6.5	5.5
	Integrity sub-index	**100%**	**82.4**	**81.7**	**80.1**	**79.8**	**43.4**	**56.8**	**54.4**	**65.2**	**91.4**	**79.5**	**79.5**	**83.5**	**85.3**	**60.0**

Each question is scored for each country with a minimum score of 0 and a maximum score of 10.

Melbourne Mercer Global Pension Index

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The Australian Centre for Financial Studies (ACFS), formerly the Melbourne Centre for Financial Studies, is a not-for-profit consortium of Monash University, RMIT University, the University of Melbourne and Finsia (Financial Services Institute of Australasia) which was established in 2005 with seed funding from the Victorian Government. Funding for ACFS is also derived from corporate sponsorship and through research partnerships such as the one with Mercer which has led to this report.

The mission of the ACFS is to build links between academics, practitioners and government in the finance community to enhance research, practice, education and the reputation of Australia's financial institutions and universities, and of Australia as a financial centre.

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