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Funding of Private Funds in Egypt

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Agenda

- Introduction: importance of private pension
- International development vs Egyptian development
- Solvency situation in some developed countries
- Solvency study in Egypt
- Funding situation of private funds in Egypt
- Remedial actions recommended



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Introduction: Importance of Private Pension

- Principal sources for retirement income:
 - Government social security
 - Private pension
 - Individual savings
- With aging demographics, social security is under increasing funding pressure
- Individual savings are not reliable, especially for the lower income people
- Most countries are looking to pension plans provided by private companies to fill in the gap



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International Development of Private Pension Plans



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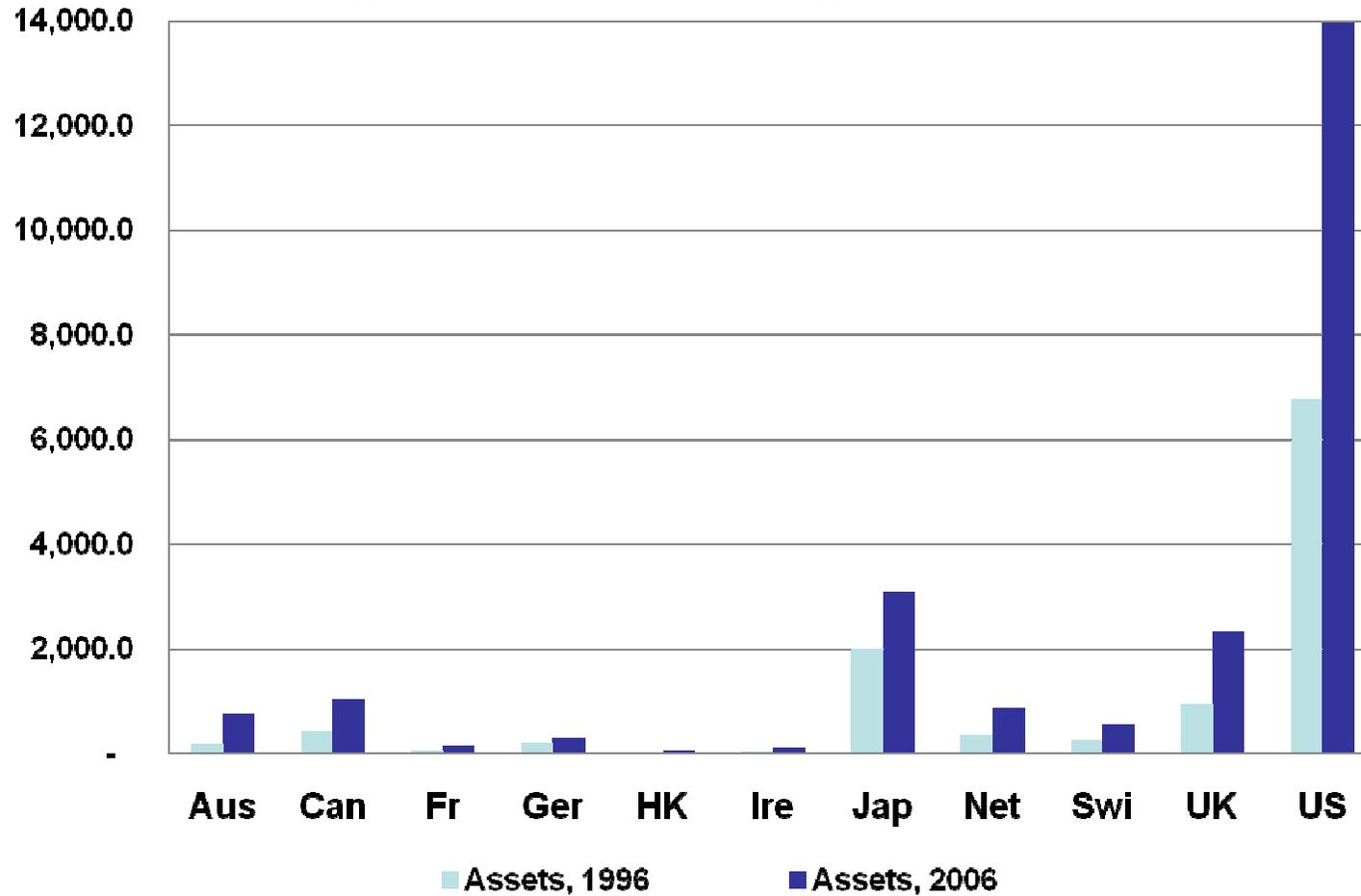


11 Countries included in the Pension Assets Study

- Australia (Aus)
- Canada (Can)
- France (Fr)
- Germany (Ger)
- Hong Kong (HK)
- Ireland (Ire)
- Japan (Jap)
- Netherlands (Net)
- Switzerland (Swi)
- United Kingdom (UK)
- United States (US)



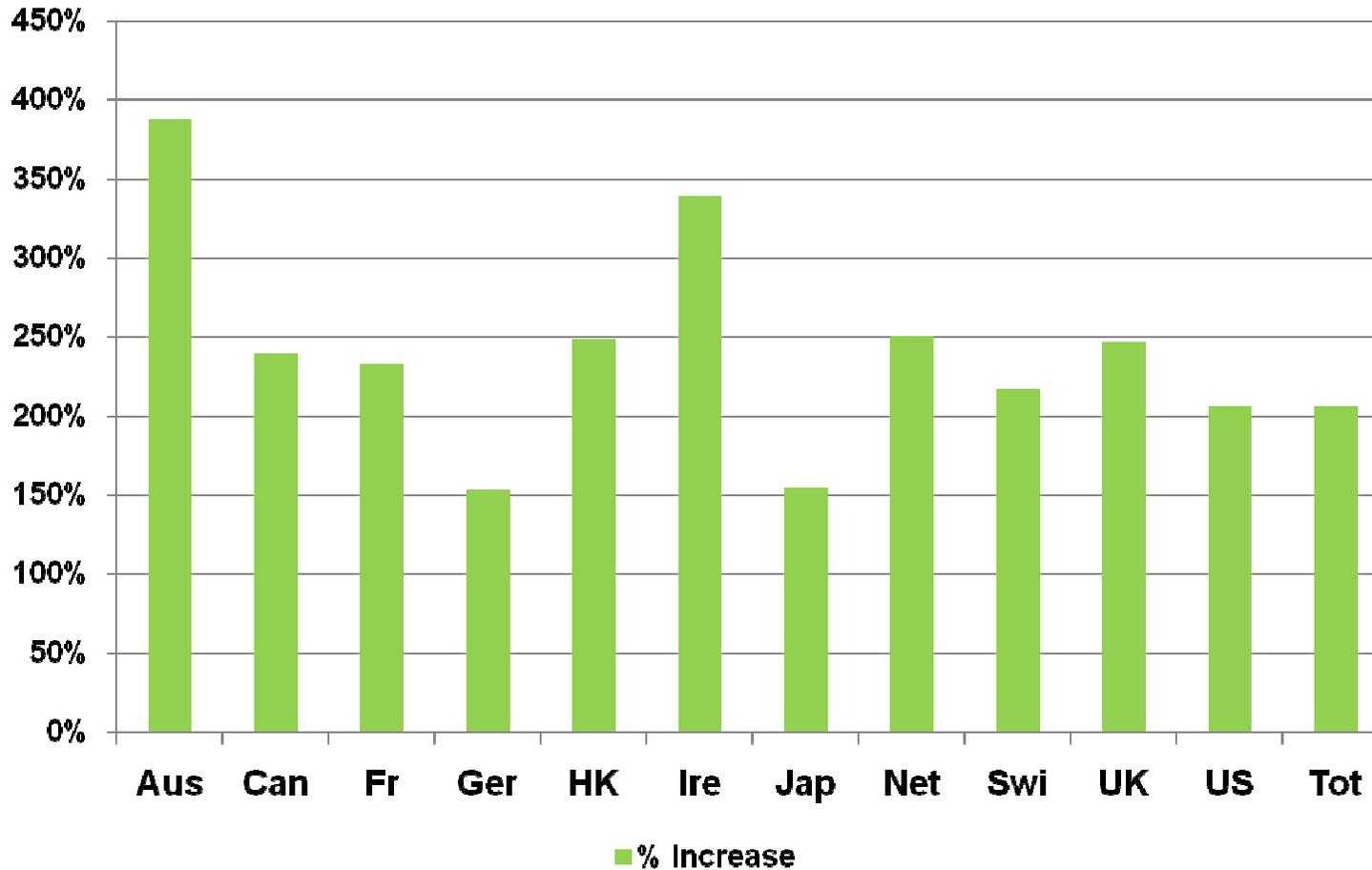
Pension Assets in billions USD



Data Source: With permission of Watson Wyatt, from their publication 2007 Global Pension Assets Study



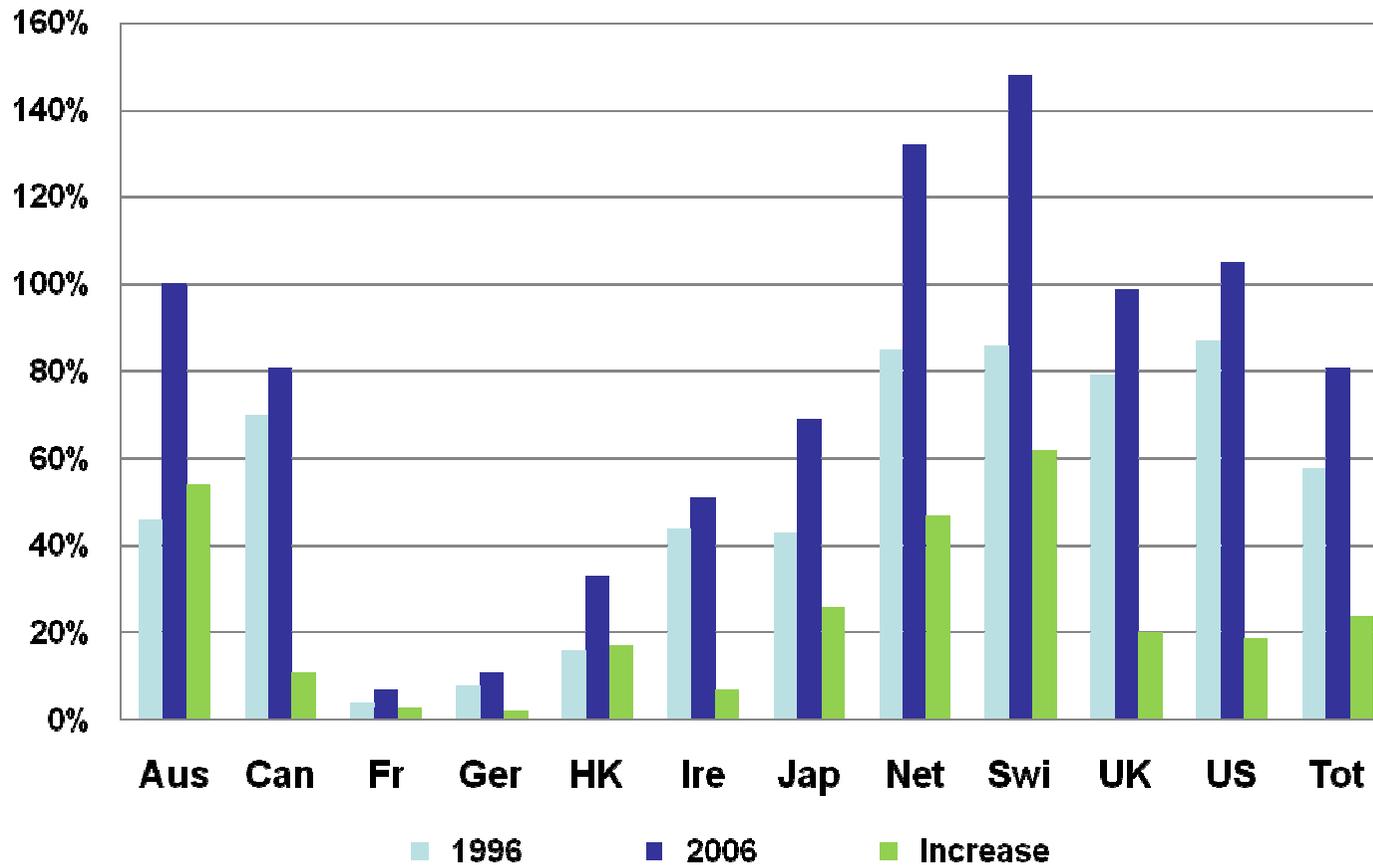
% Increase in Pension Assets



Data Source: With permission of Watson Wyatt, from their publication 2007 Global Pension Assets Study



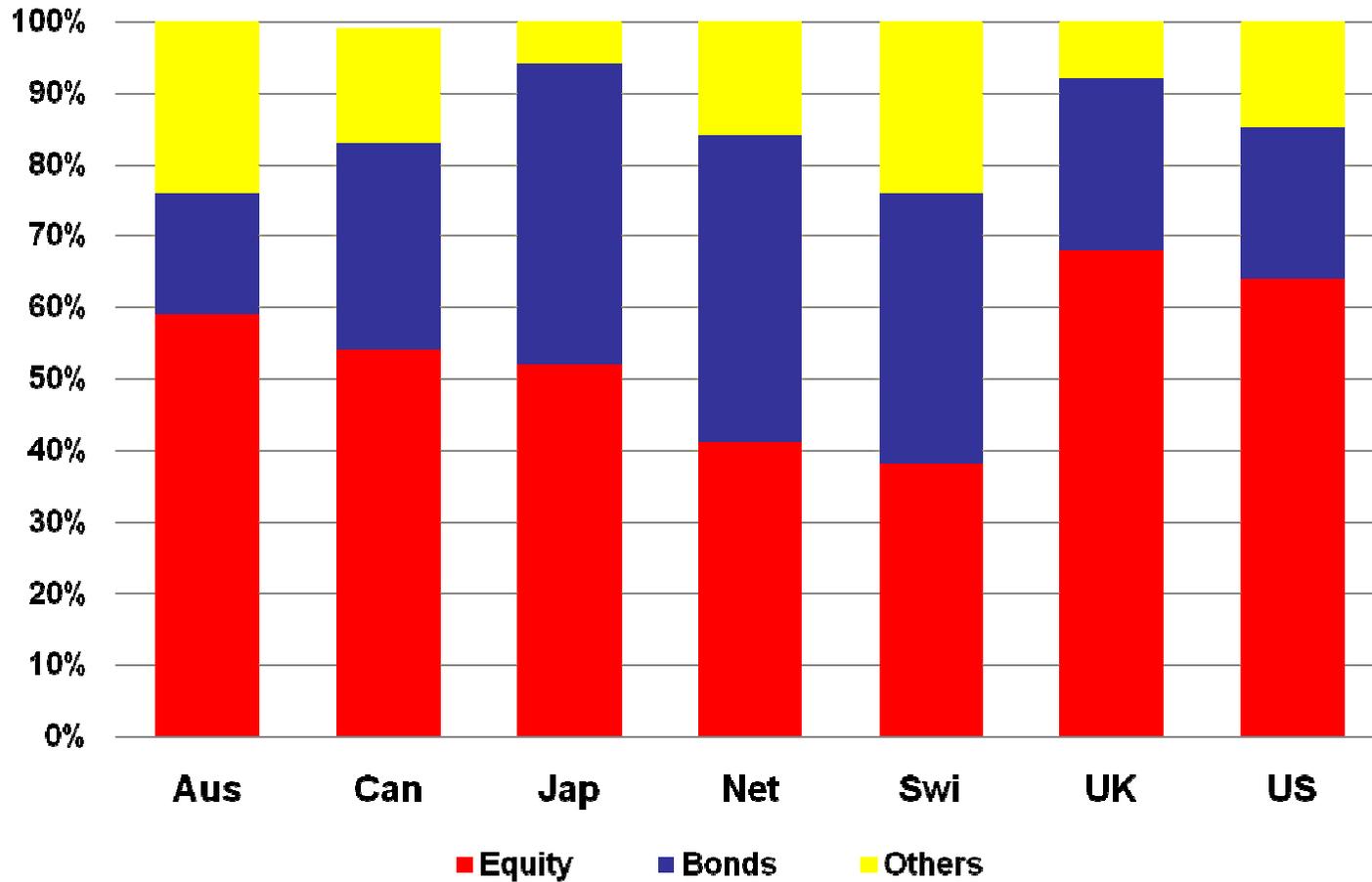
Pension Assets as % of GDP



Data Source: With permission of Watson Wyatt, from their publication 2007 Global Pension Assets Study



Asset Allocation



Data Source: With permission of Watson Wyatt, from their publication 2007 Global Pension Assets Study

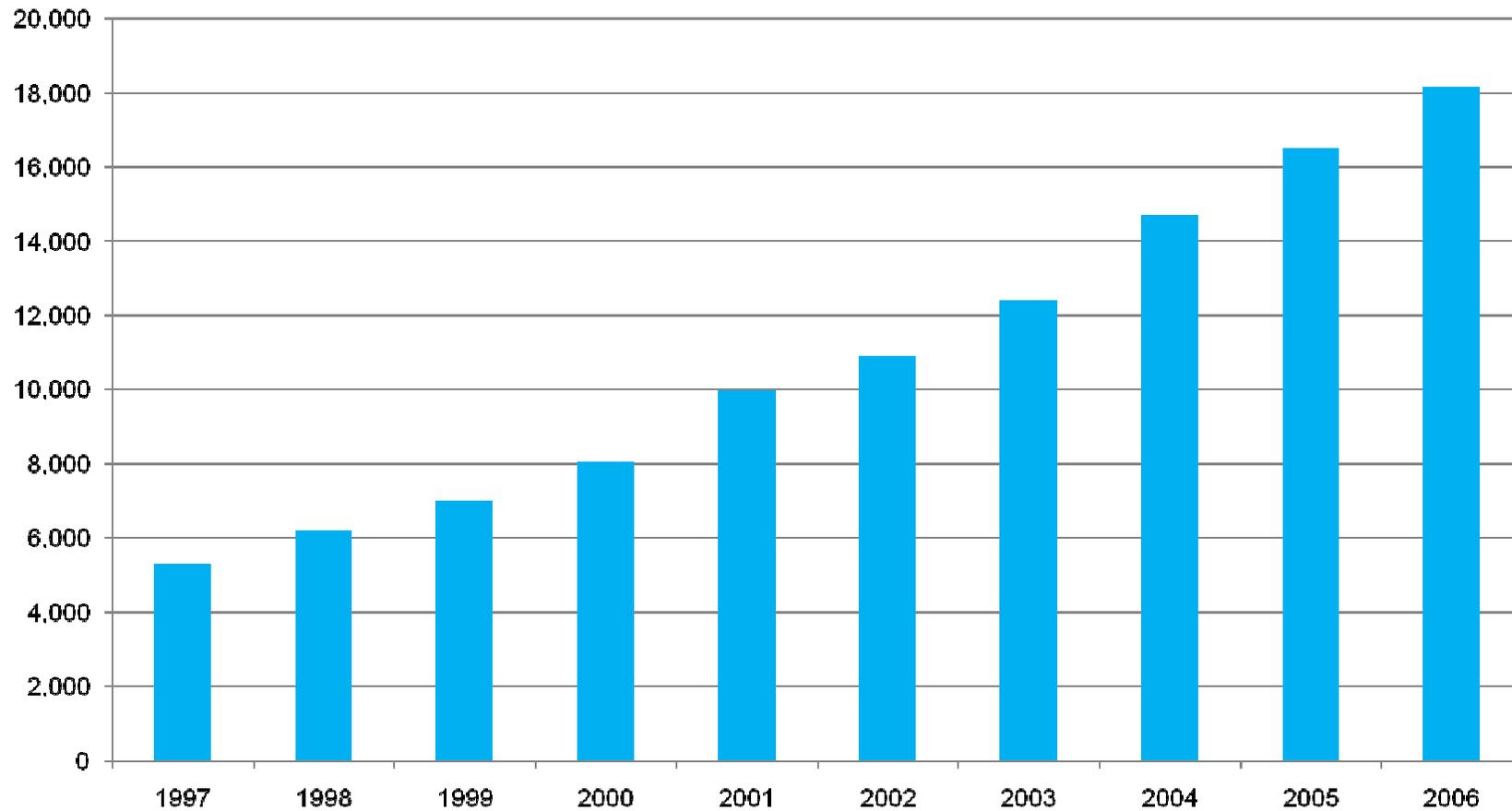


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Development of Private Funds in Egypt

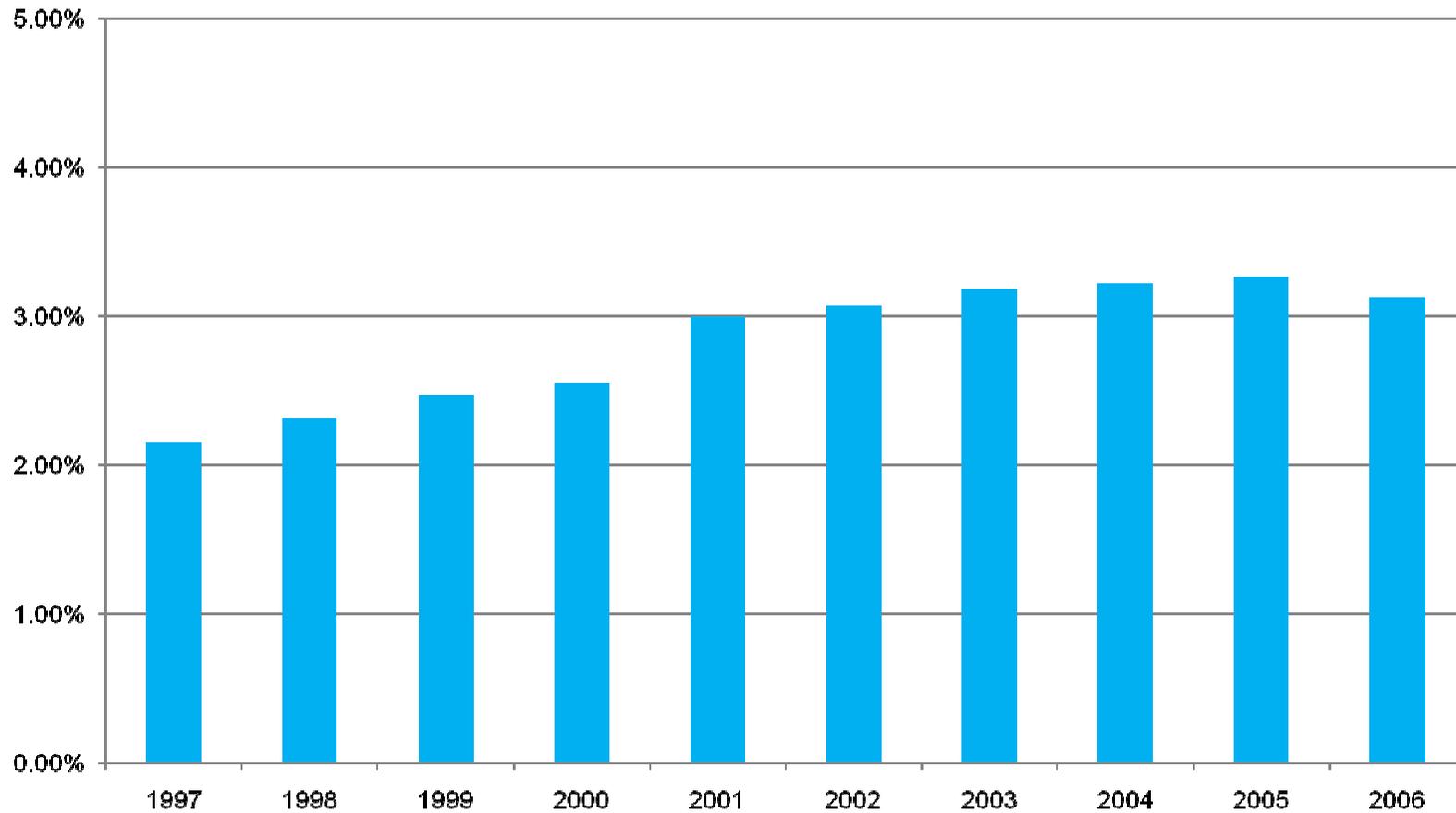


Pension Assets in Egypt in millions





Pension Asset as % of GDP





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Comments

- The amount of pension assets in Egypt more than tripled in the last 10 years from L.E.5.3 million to L.E. 18.2 million
- As a percentage of GDP, total pension assets increased from 2.15% in 1996 to 3.13% in 2006
- The volume of pension assets as a percentage of GDP is far less than other countries
- For a developing economy as Egypt, there is much room for expansion of pension business



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Funded Status of Pension Plans in Selected Countries



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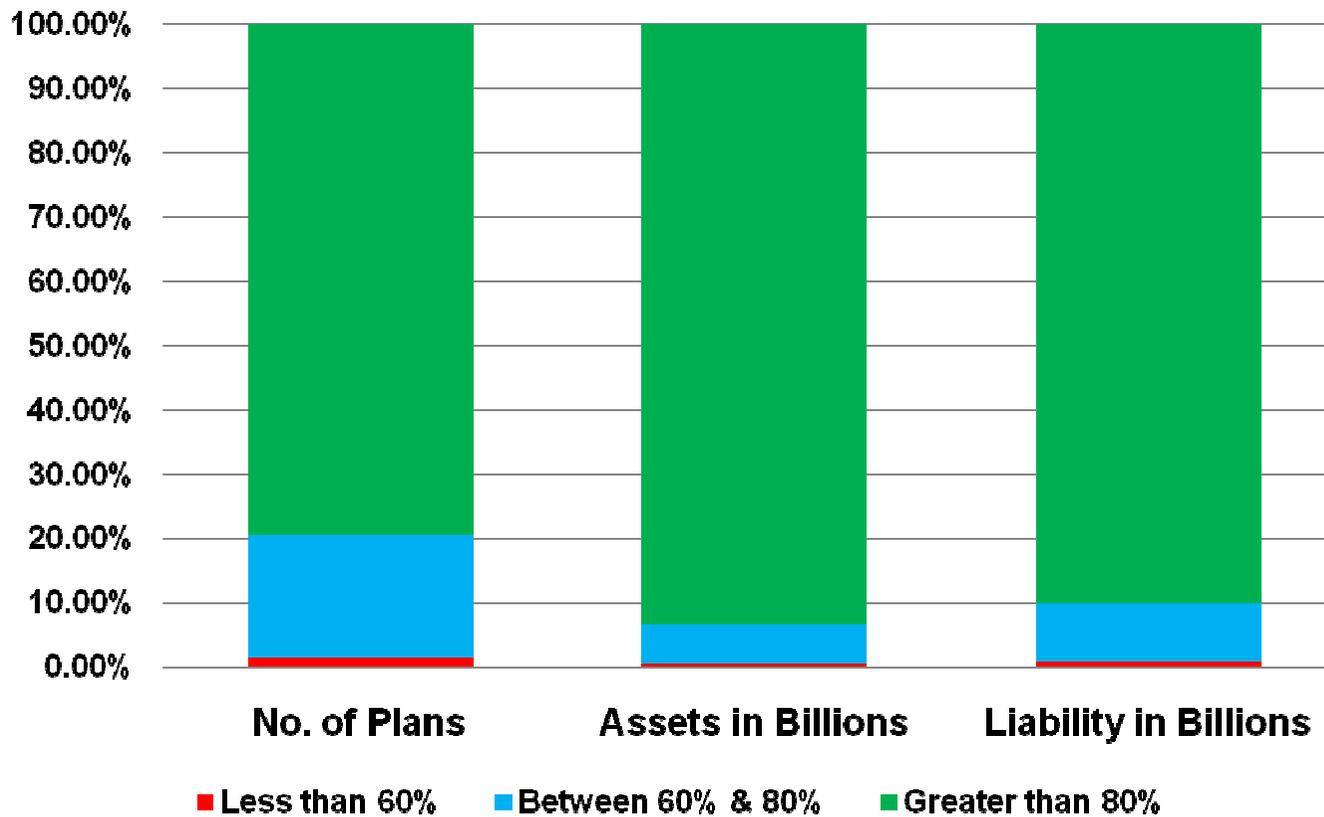


Generally Accepted International Standard

- Some form of solvency valuation is required in each country
- Details may vary
- Principal concept is quite similar in each country
- Protection of of employee benefit security is of paramount importance for each country
- In following pages we present solvency valuation results in three countries
 - The United States
 - Canada (Ontario)
 - The United Kingdom



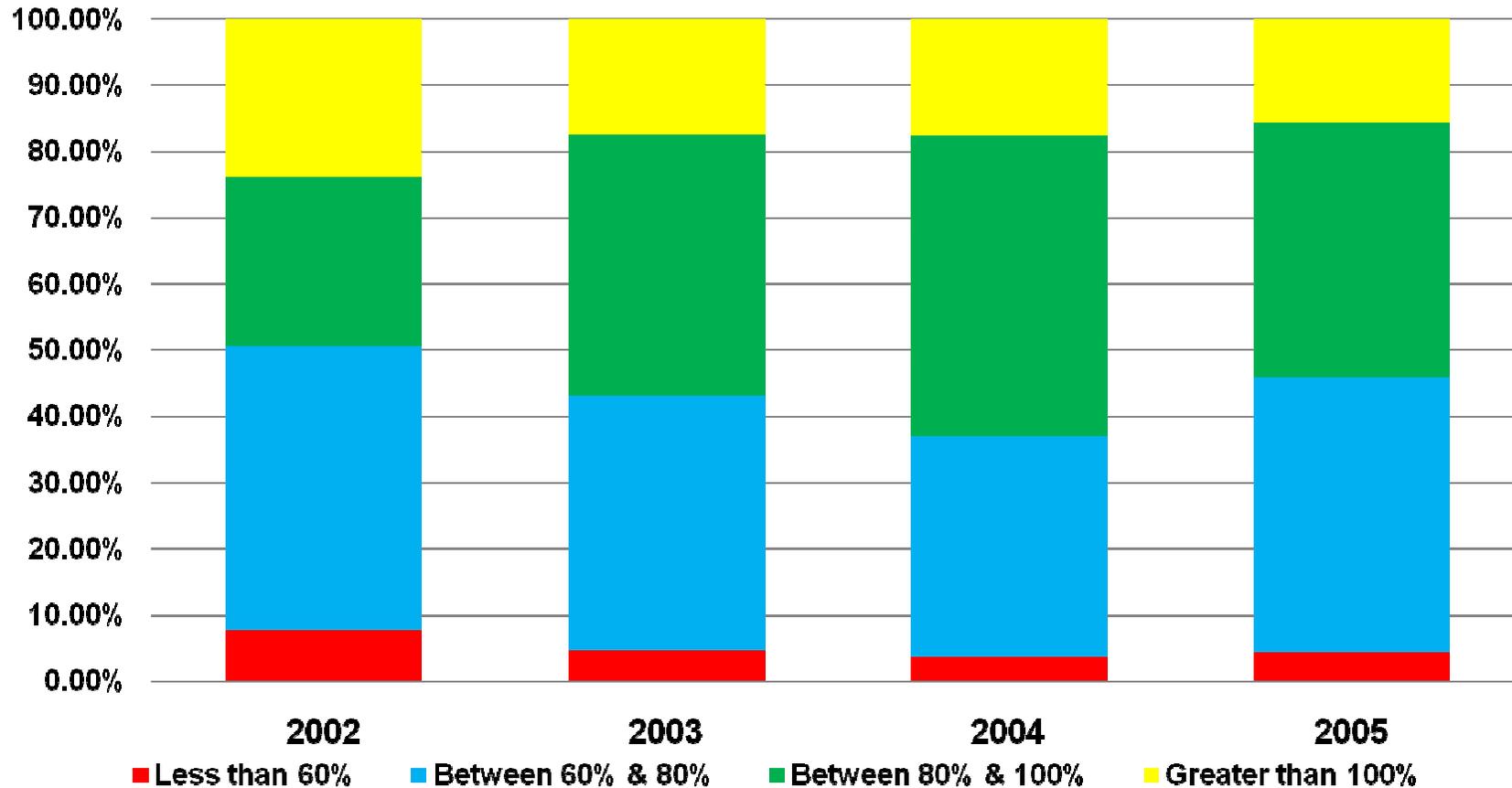
% Distribution of US Pension Plans by Funded Ratios



Data Source: Based on 2005 Form 5500 data for 10417 plans with over 100 employees. Funded ratios represent market assets divided current liabilities as defined in RPA 1994.



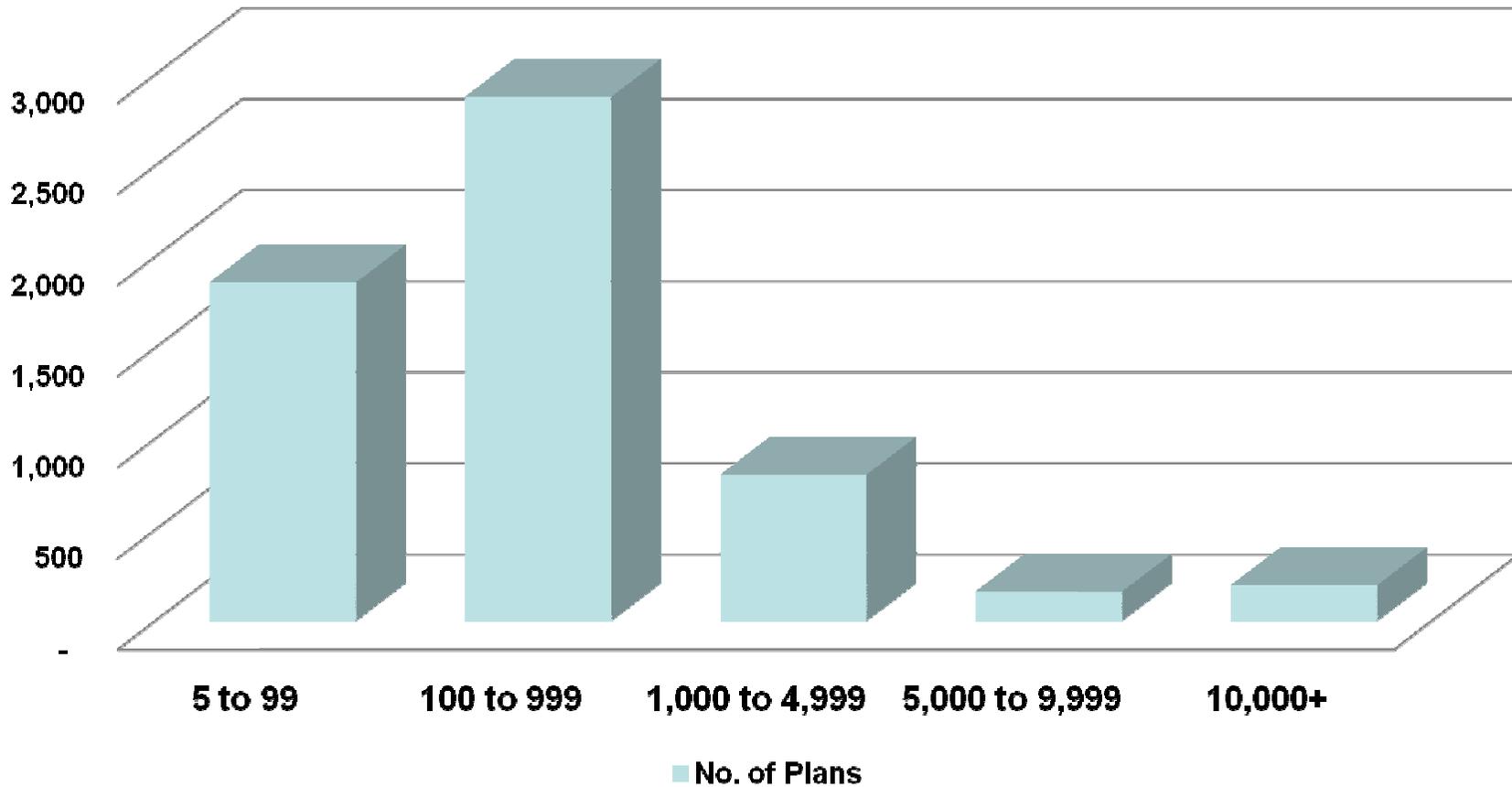
Distribution of Ontario Plans by Solvency Ratios



Data Source: Funding Defined Benefit Pension Plans: Risk-Based Supervision in Ontario - Overview and Selected Findings 2002-2006 by Financial Services Commission of Ontario



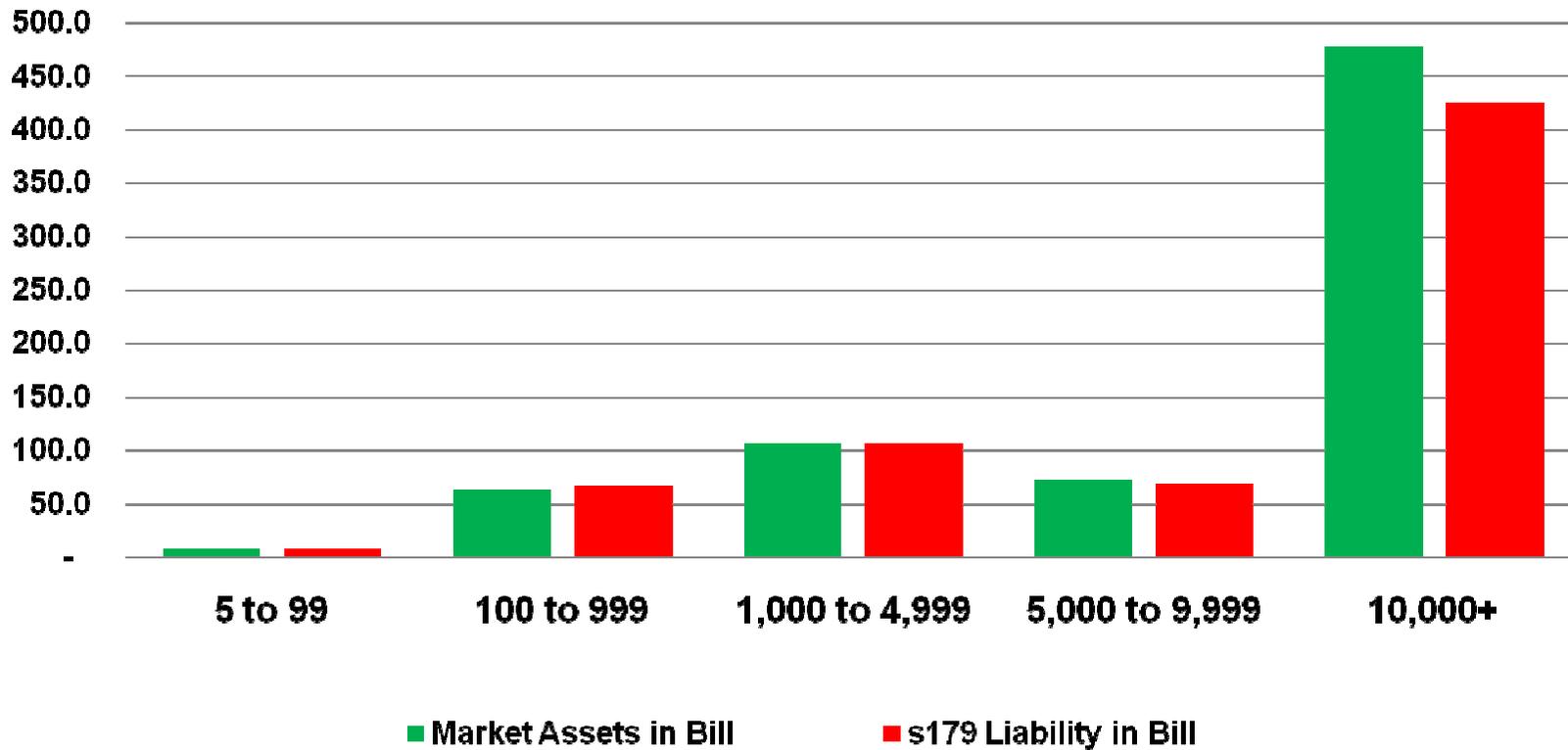
No. of Sample Plans in UK



Data Source: 2007 Purple Book published by the Pension Protection Fund of the United Kingdom



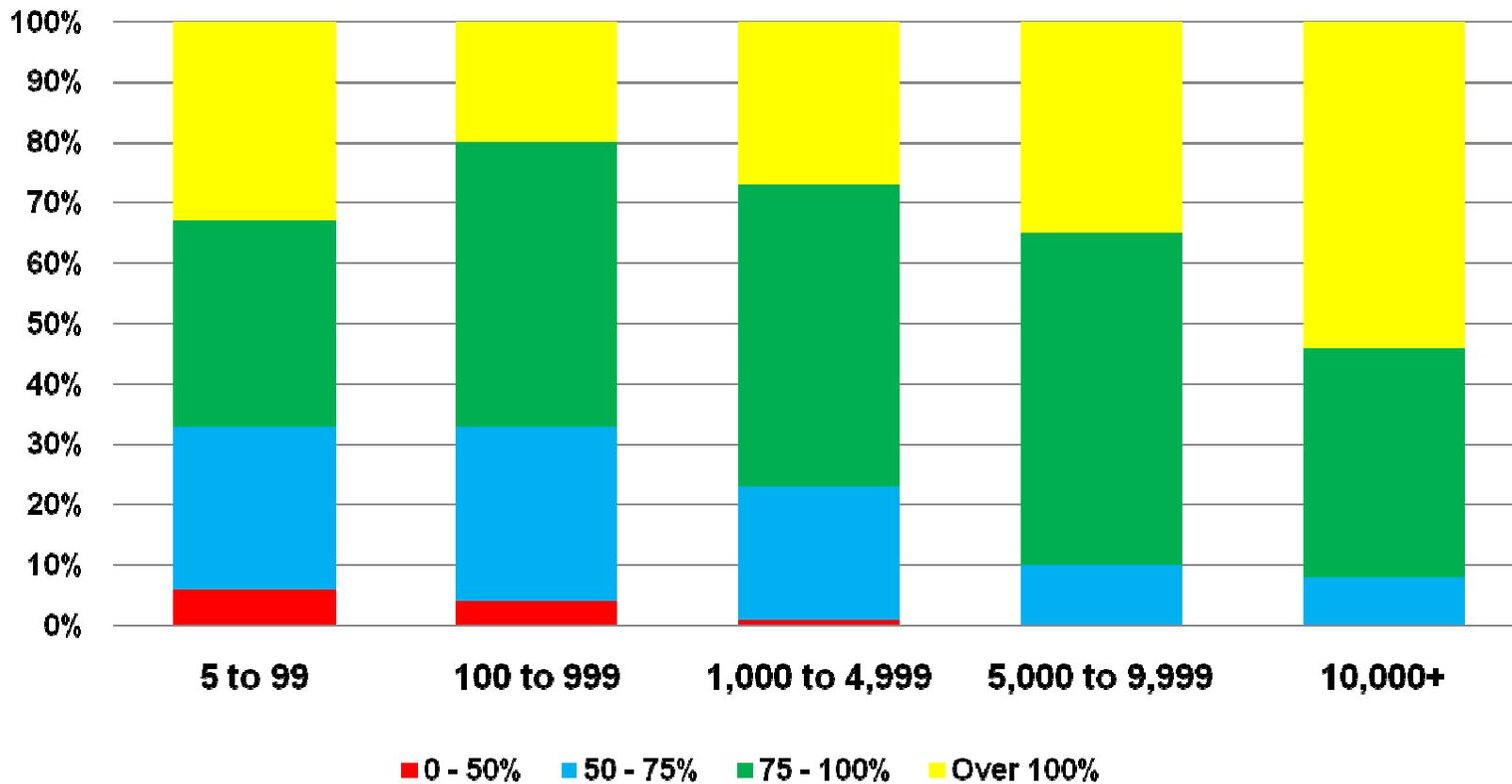
Assets vs Liabilities for Sample UK Pension Plans in Billion Pounds



Data Source: 2007 Purple Book published by the Pension Protection Fund of the United Kingdom



Funded Status of Sample UK Pension Plans



Data Source: 2007 Purple Book published by the Pension Protection Fund of the United Kingdom



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Some Pertinent Remarks

- Having a funded ratio below 50% or 60% is considered to be very critical in any country
- In each of the countries reviewed, there are very few plans with such critical status
- Normally, the regulator will step in when a plan gets into the critical stage
- Most sponsors will work hard to avoid falling into that situation



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Funding of Private Funds in Egypt



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Dr. Adel Mounir ordered Solvency Study in Egypt

- Supervisor – Dr. Ali Al-Ashry
- Team leader – Wael Abdel-Hady
- Actuaries
 - Ahmed Fouad Selim Mohamed
 - Essam A. Sabra
- Pension inspectors
 - Abdel Monsef
 - Moustafa Haussen
 - Sherif Hefny
 - Tarek Emam
 - Hussien Amin



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Procedure of Solvency Survey in Egypt

- Delegation of responsibilities
- Detailed time-table
- Survey closely monitored by Dr. Adel, Wael Abdel-Hady and Gail Burns of BearingPoint
- EISA actuaries and pension inspectors were enthusiastic and worked hard
- Progress went according to plan
- Results of the study are summarized in the following pages



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Data

- 46 private funds were included in the study
- Total fund assets exceed L.E. 10 billion – more than 50% of total private fund assets in Egypt
- Total members exceed 2.3 million, over 80% of total private fund membership in Egypt
- Average age ranges from 30.3 to 50.6
- Average service ranges from 26.9 to 5.3
- Study expected to represent potential risk of private fund industry in Egypt



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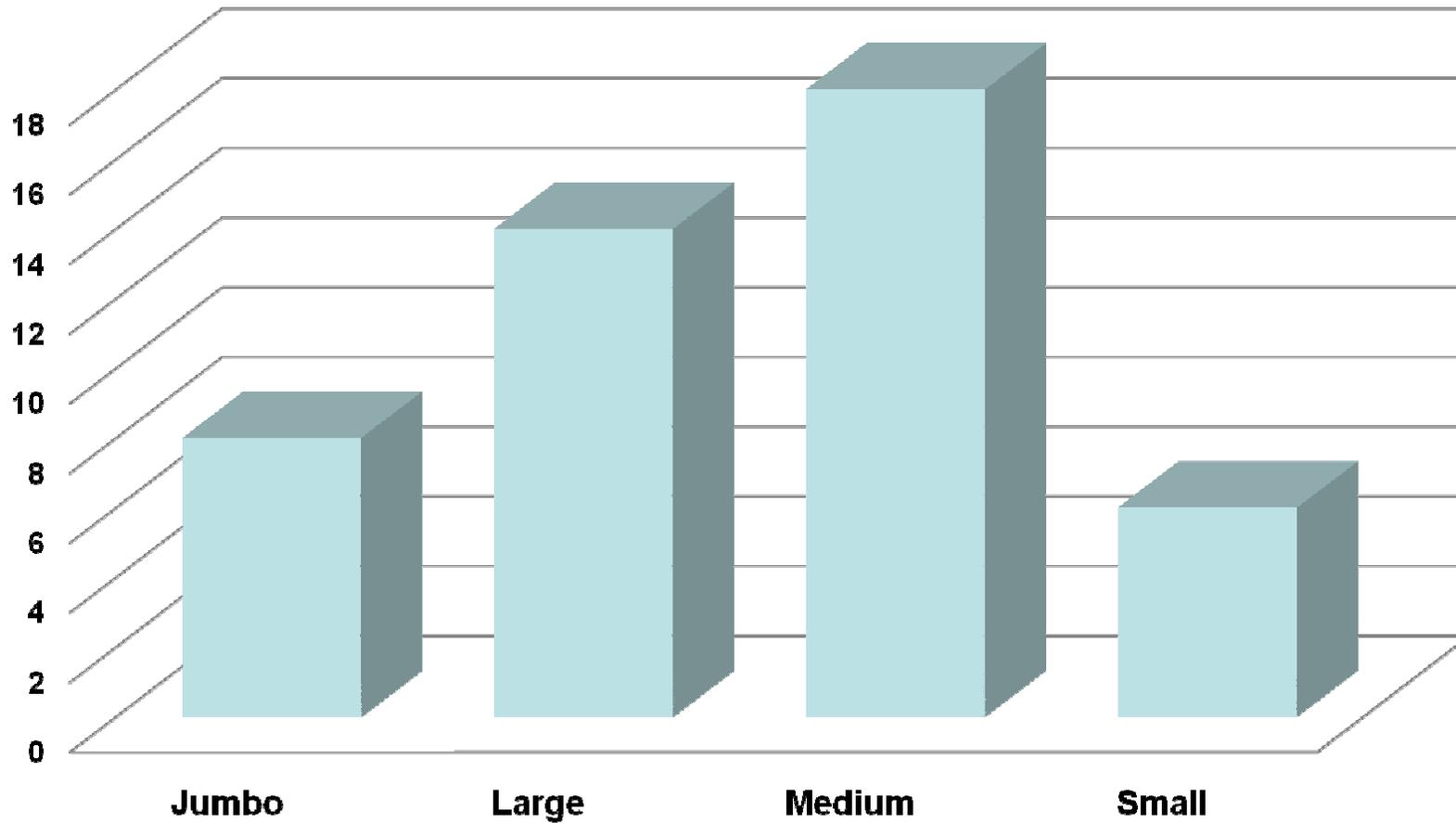


Data Groups

- The 46 private funds are classified into four categories
- Category 1 – 8 jumbo funds, with over 50,000 members each
- Category 2 – 14 large funds, with over 10,000 members each
- Category 3 – 18 medium funds, with over 1,000 members each
- Category 4 – 6 smaller funds, with less than 1,000 members each



Number of Private Funds in the Study



Data Source: 2008 Solvency Study of the EISA



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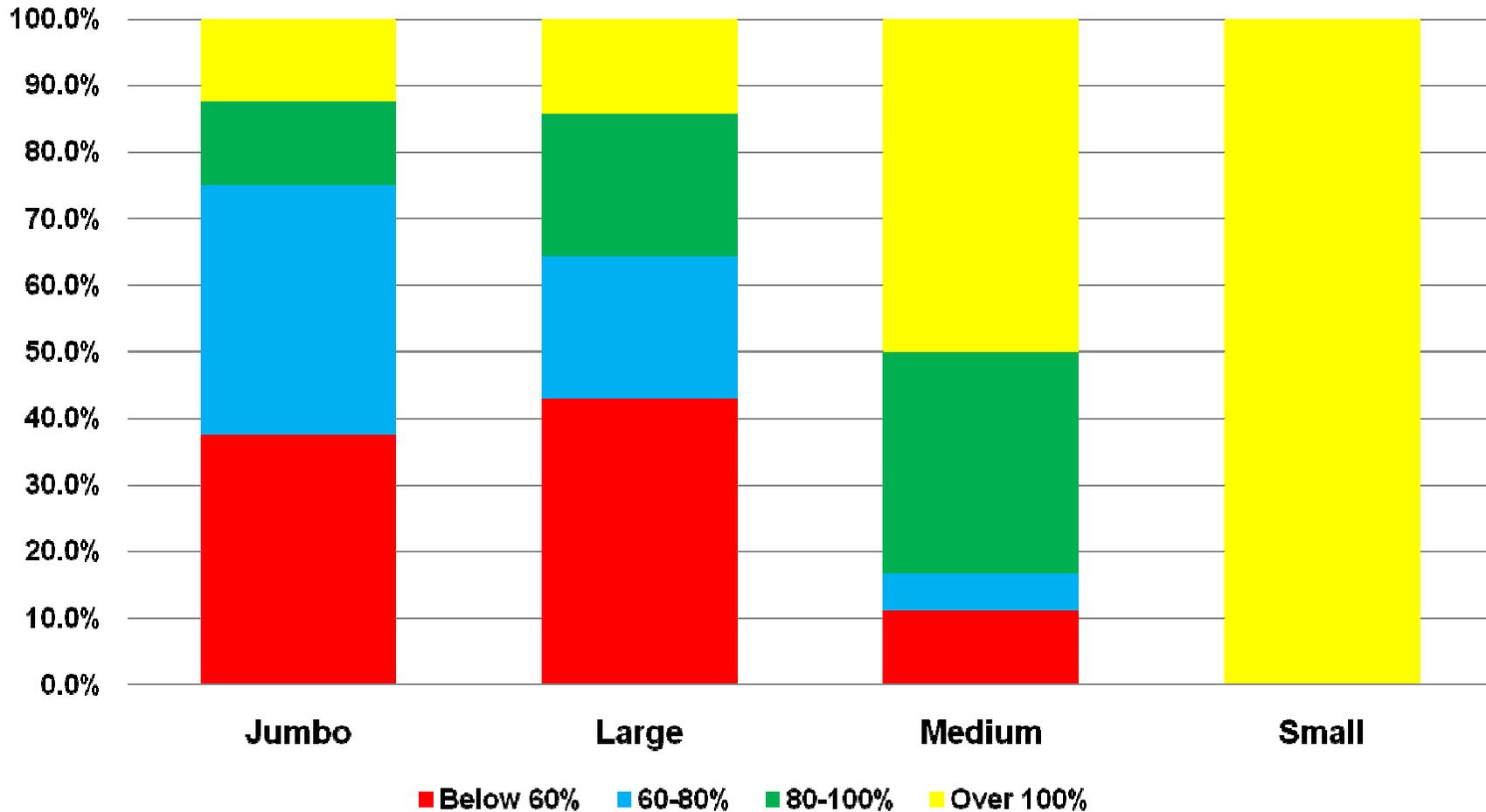


Solvency Valuation Results

- A solvency valuation was performed for each fund
- Solvency liability is the present value of accrued benefits based on
 - Current service, current pay and conservative interest rates
- Solvency ratio = market assets / solvency liability
- Funds are further classified into four groups according to their respective solvency ratios
 - Below 60%
 - Between 60% and 80%
 - Between 80% and 100%
 - Over 100%



Distribution of Private Funds by Solvency Ratios



Data Source: 2008 Solvency Study of the EISA



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Some Comments on Solvency Results

- The study shows that the problem with the private fund system in Egypt is very serious
- The results for the jumbo and the large categories are especially disturbing because
 - each fund covers a large number of members
 - each fund has a large amount of assets, but an even larger amount of liabilities
 - a collapse of the private fund system will have devastating effects on the economy of Egypt
- Many plans in these categories are in a critical situation



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Update of 2003 Solvency Study

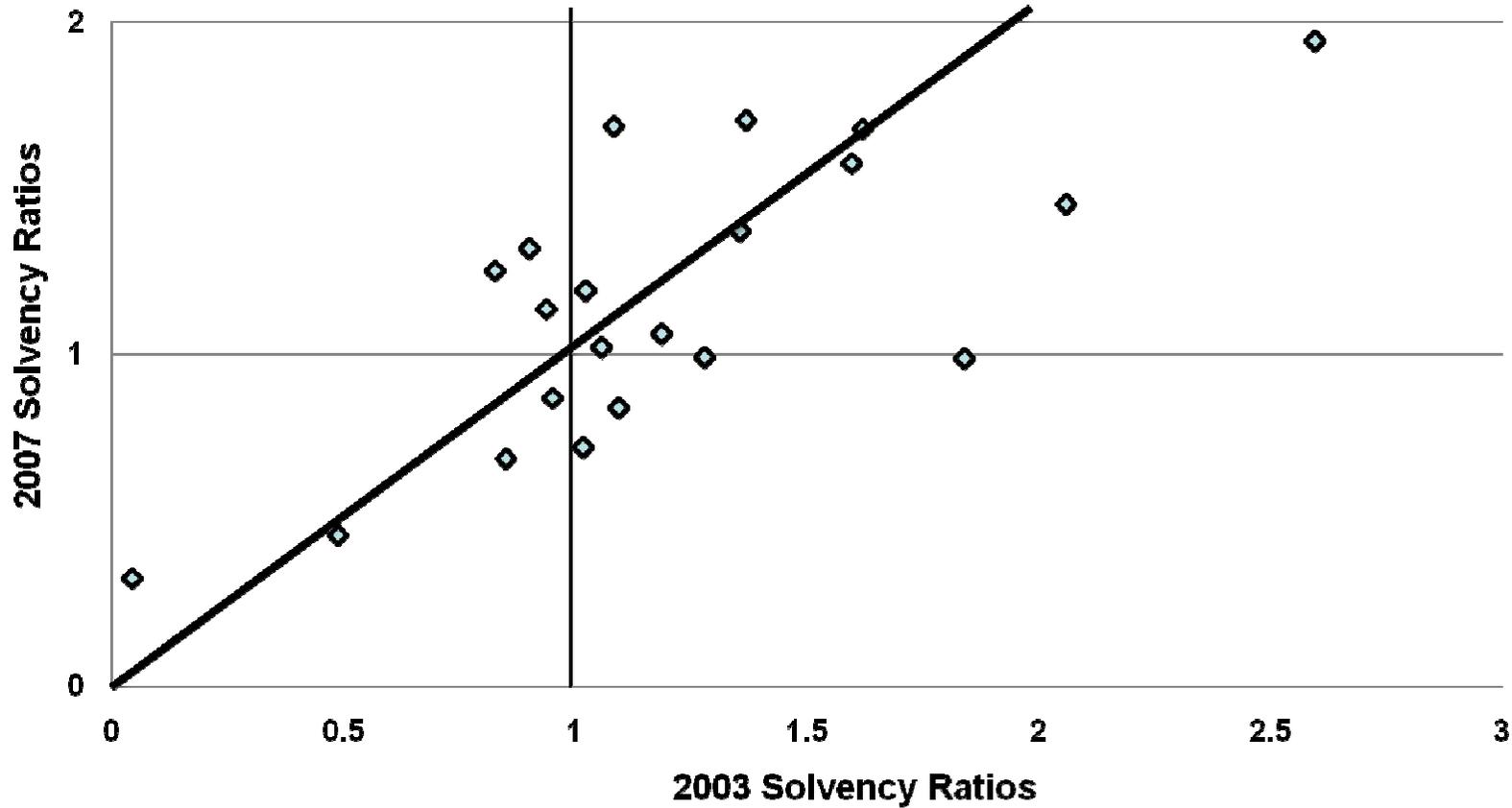


2007 Update of 2003 Solvency Study Results

- Of the 30 private funds included in the 2003 solvency study, the 2007 update shows
 - Four funds have terminated during the last five years
 - Two of the four were deficient in 2003, one had SR <50%
 - Four other funds have not completed any actuarial report during the last five years
 - Three of the four were deficient in 2003, one had SR < 25%
 - The proportion of funds terminating and funds with potential reporting problems should prompt further investigation
 - A comparison of the results of the other funds in 2003 and 2007 is shown in the following scatter plot



Comparison of Solvency Ratios



Data Source: 2008 Solvency Study of the EISA



Summary Results

- Each point on the graph represents the SR of a fund
 - Horizontal co-ordinate represents the SR in 2003
 - Vertical co-ordinate represents the SR in 2007
- Many points are close to the diagonal line, showing that they have approximately the same SR in both studies
- The 4 points in the lower left quadrant represent funds with solvency deficiency in both studies
- The three points in the upper left quadrant represent funds changing from deficit position to surplus
- The four points in the lower right quadrant represent funds depreciating into deficit position
- Graph shows that, even after eliminating the eight problematic funds, there is still slight deterioration in solvency situation



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Additional Investigation



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Areas of Further Investigation

- Benefit payments vs contributions
 - Global annual income vs outgo for each plan
 - Payments to individual vs his/her accumulated contributions
- Investment returns
- Actuarial assumptions
 - Mortality
 - Interest rate
 - Salary scale
- Actual contributions vs expected normal cost



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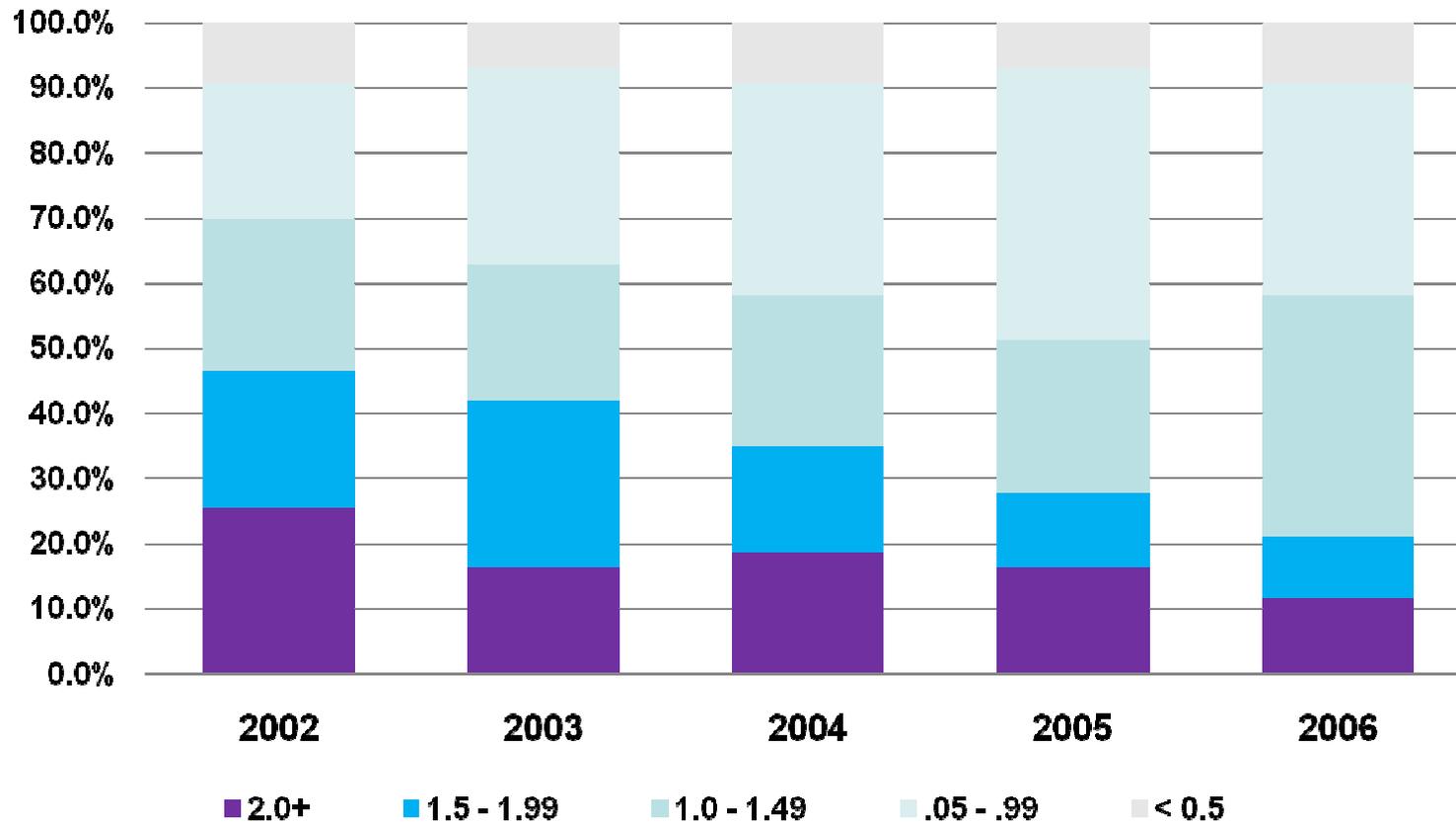


Annual Total Cash Income of Fund vs Outgo

- The pension fund needs to build up assets for future payments
- Cash income must outpace outgo by 50% or 100%
- The financial statements of each fund in the period 2002 – 2006 were examined
- The cash income for each year was compared to the outgo for that year
- Income equals contributions from all sources
- Outgo equals benefit payments and expenses
- Ratio of income / outgo was calculated



Cashflow - Income / Outgo Ratio



Data Source: 2008 Solvency Study of the EISA



Observations

- In 2002, only about 40% of the funds had Income/outgo ratios over 1.5
- The rest of the funds had ratios of less than 1.5
 - After covering the outgo, there was not enough asset buildup for future benefit payments
- The situation got progressively worse over the next four years
- In 2006, only about 20% of the funds had income/outgo ratios over 1.5
- 80% of the funds were not building up enough assets for future payments

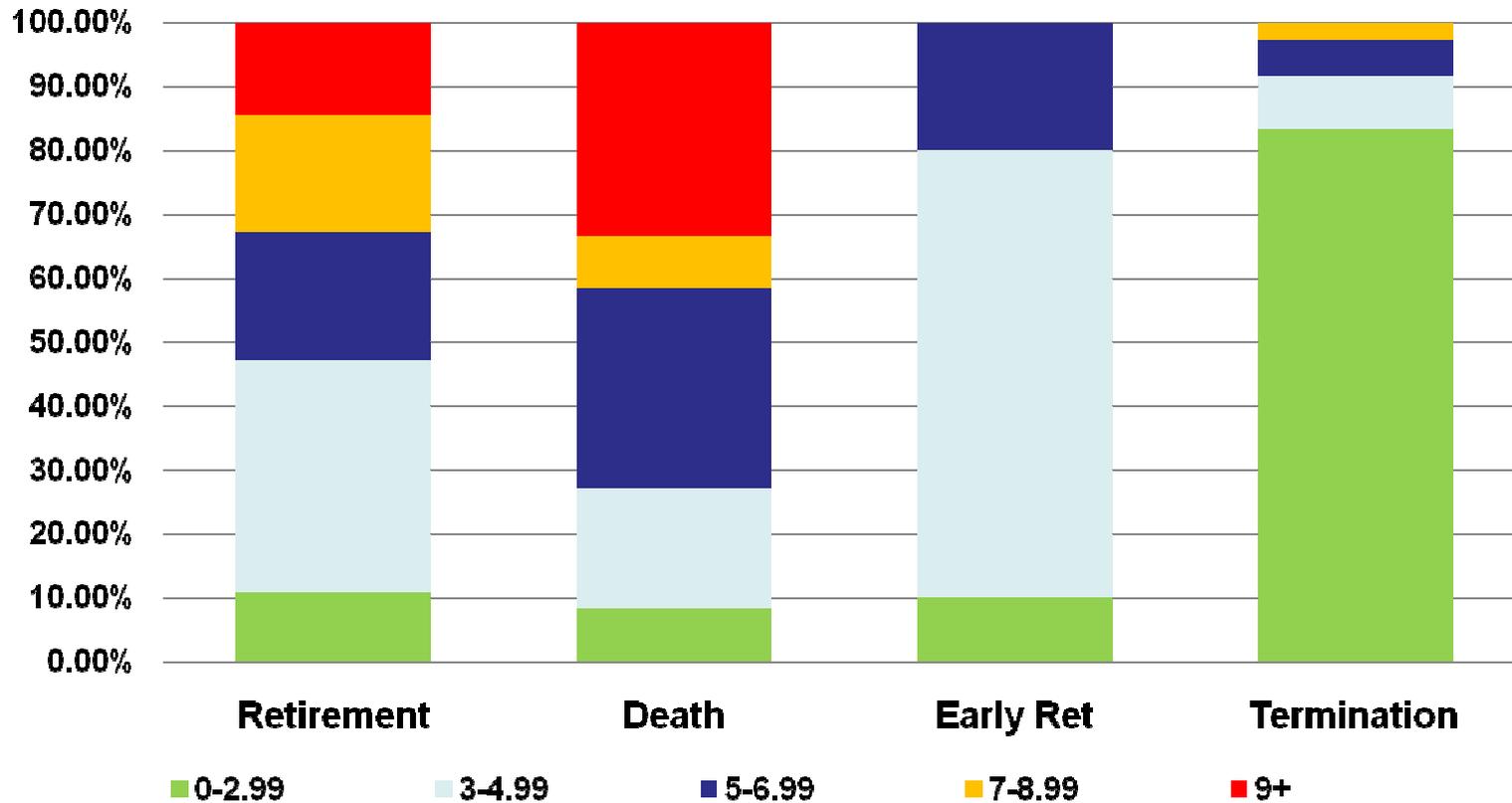


Individual Payment vs Accumulated Contribution

- For each employee to pay his/her own retirement cost
 - the value of benefit received must not exceed his/her accumulated contribution plus interest
- Unless the investment return far exceeds salary increase,
 - accumulated contribution plus interest is not expected to exceed three times accumulated contributions
- For each retirement, death or termination in 2002-2006 we examine
 - ratio of the **benefit paid to the individual/ his accumulated contributions**



Distribution of Payments by Ratios of Payment to Accumulated Contributions for 2002-2006



Data Source: 2008 Solvency Study of the EISA



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Observations

- The early retirement column included results for disability and partial disability
- The payments for retirement and death were much higher than for the other decrements
- For retirement and death, only 10% of funds were paying out less than 3 times the accumulated contributions
- More than 35% of funds were paying out much higher retirement and death benefits than they could afford



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Investment Returns

- The solvency study shows most of funds invested most assets in government guaranteed securities
- Although not conforming to international practice, the investments generated over 9% investment return every year
- The returns were higher than the interest rate assumption
- There was no negative impact on the funded status of the funds



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Actuarial Assumptions

- Three principal actuarial assumptions were examined
 - Mortality rates
 - Interest rate
 - Salary scale
- The assumptions in Egypt were compared to international practice



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Mortality Rates

- The mortality assumptions in other countries are continually updated
- The UK is using PA92 Tables
- The US and Canada are using a version of the UP94 Table
- Egypt is still using the old British a49-52 Table
- With mortality improvement, using outdated mortality rates tends to understate the pension cost



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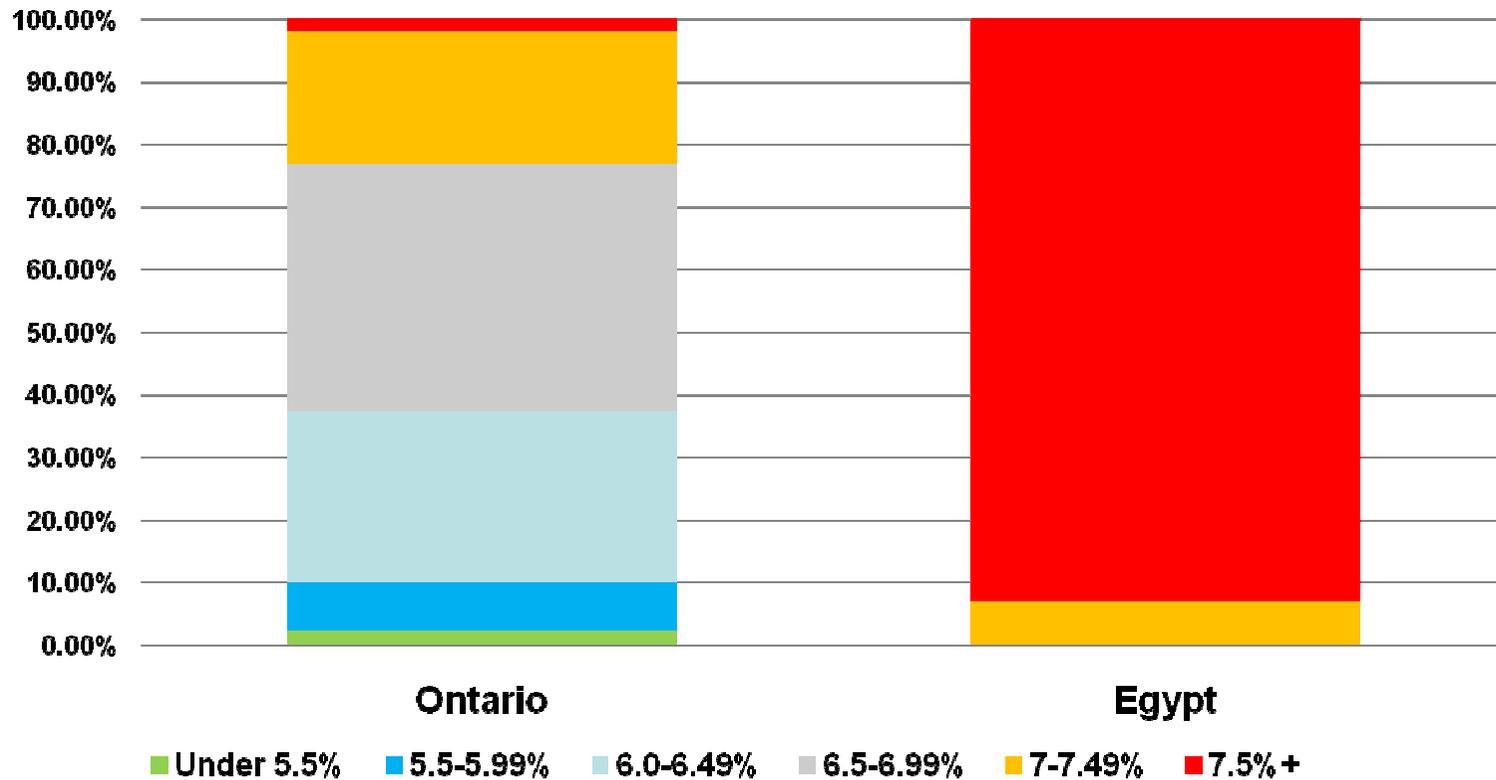


Interest Rate and Salary Scale

- Pension cost is highly sensitive to the choice of interest rate and salary scale
- For pay related plans, the interest - salary differential has pivotal effect on the pension cost
- We compare the Egyptian assumptions to the Ontario assumptions in Canada
- The results are shown in the following diagrams



Distribution of Pension Plans by Interest Assumptions



Data Source: Ontario Data – Overview and Selected Findings 2002-2006 by FSCO
Egyptian Data - 2008 Solvency Study of the EISA



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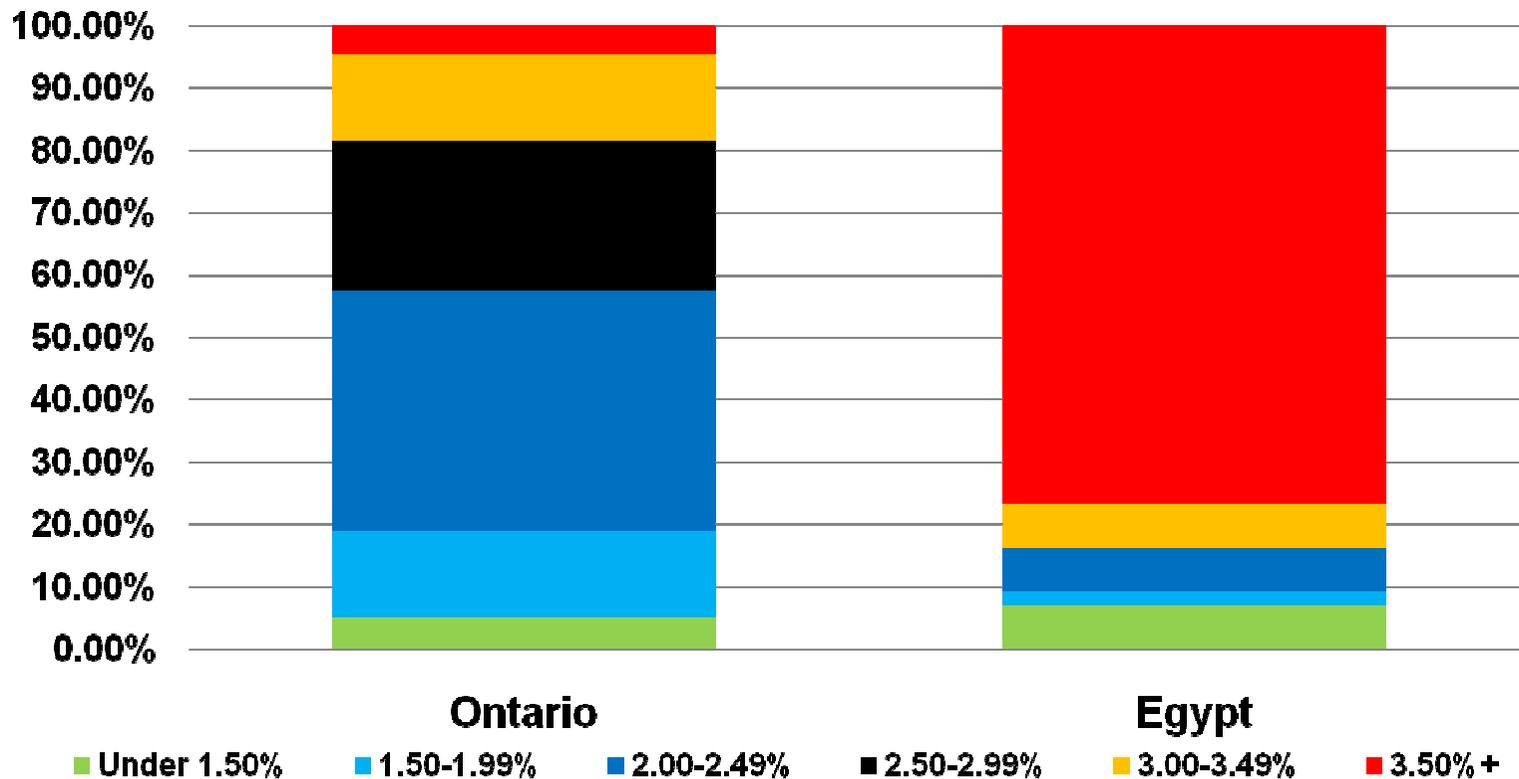


Comments on Interest Rate Assumption

- Interest rate of 5% is considered to be conservative
- Most Ontario plans have interest rates between 5% – 7%
- Few Ontario plans would venture above 7% interest
- In Egypt, all funds are using higher than 7% interest
- Quite a number of funds are using 9% interest
- Egyptian interest rate assumptions are very aggressive, and cannot be sustainable long term



Distribution of Pension Plans by Interest - Salary Differential



Data Source: Ontario Data – Overview and Selected Findings 2002-2006 by FSCO
Egyptian Data - 2008 Solvency Study of the EISA

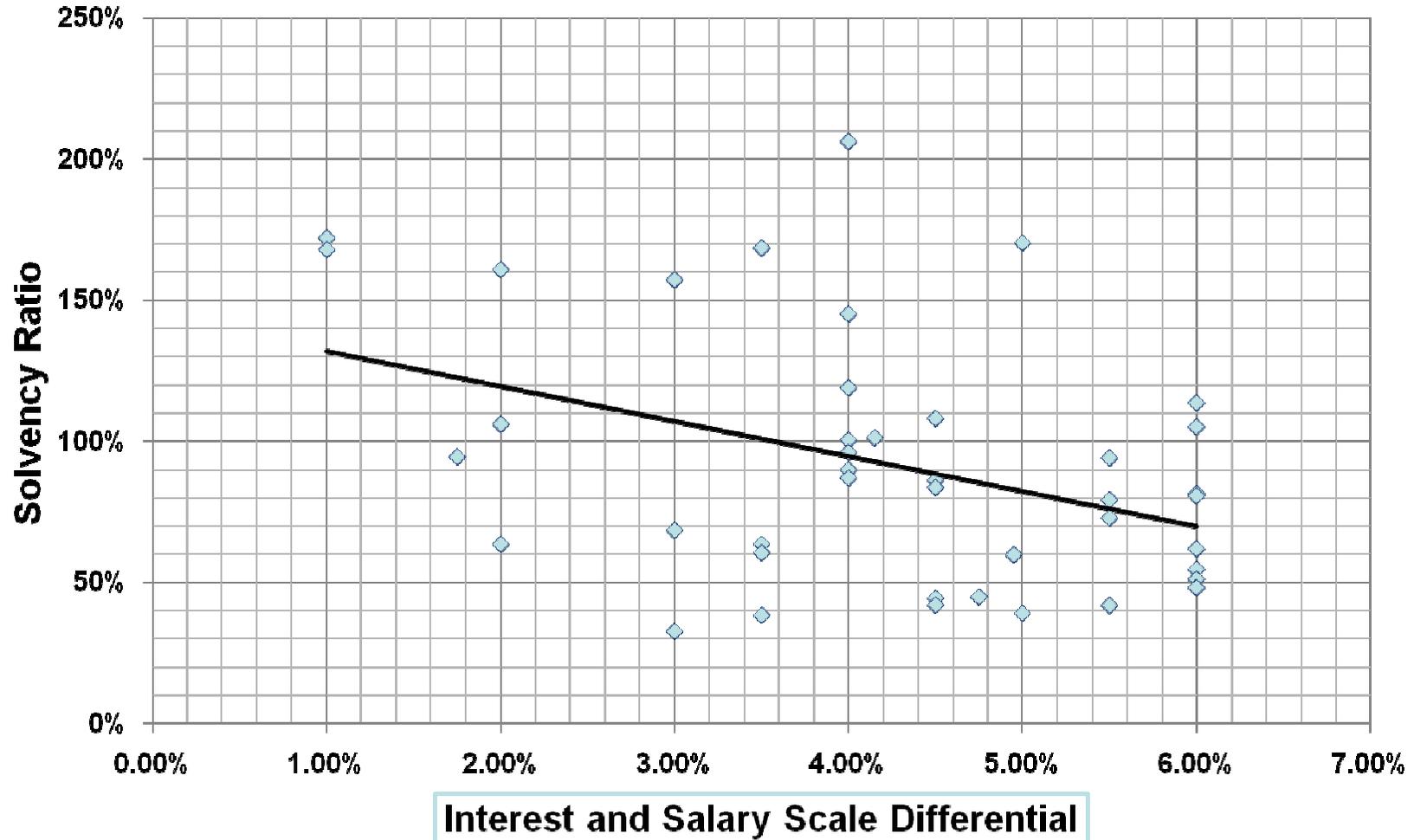


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Comments

- In Ontario, an interest - salary differential of 2% or less is considered to be conservative
- Most plans use a 2% - 3% differential
- Few plans would use a differential higher than 3%
- In Egypt majority of funds have higher than 3% differential
- Many funds have differential as high as 5%
- The impact of differential on solvency ratio is examined in the following scatter plot



Data Source: 2008 Solvency Study of the EISA



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Comments

- Every point on the plot represents the comparison of the interest - salary differential of a private fund vs its solvency ratio
- The horizontal co-ordinate represents the interest - salary differential
- The vertical co-ordinate represents the solvency ratio
- The regression line shows the general relation between a funds differential vs its solvency ratio
- Observation: the higher the differential, the lower the solvency ratio

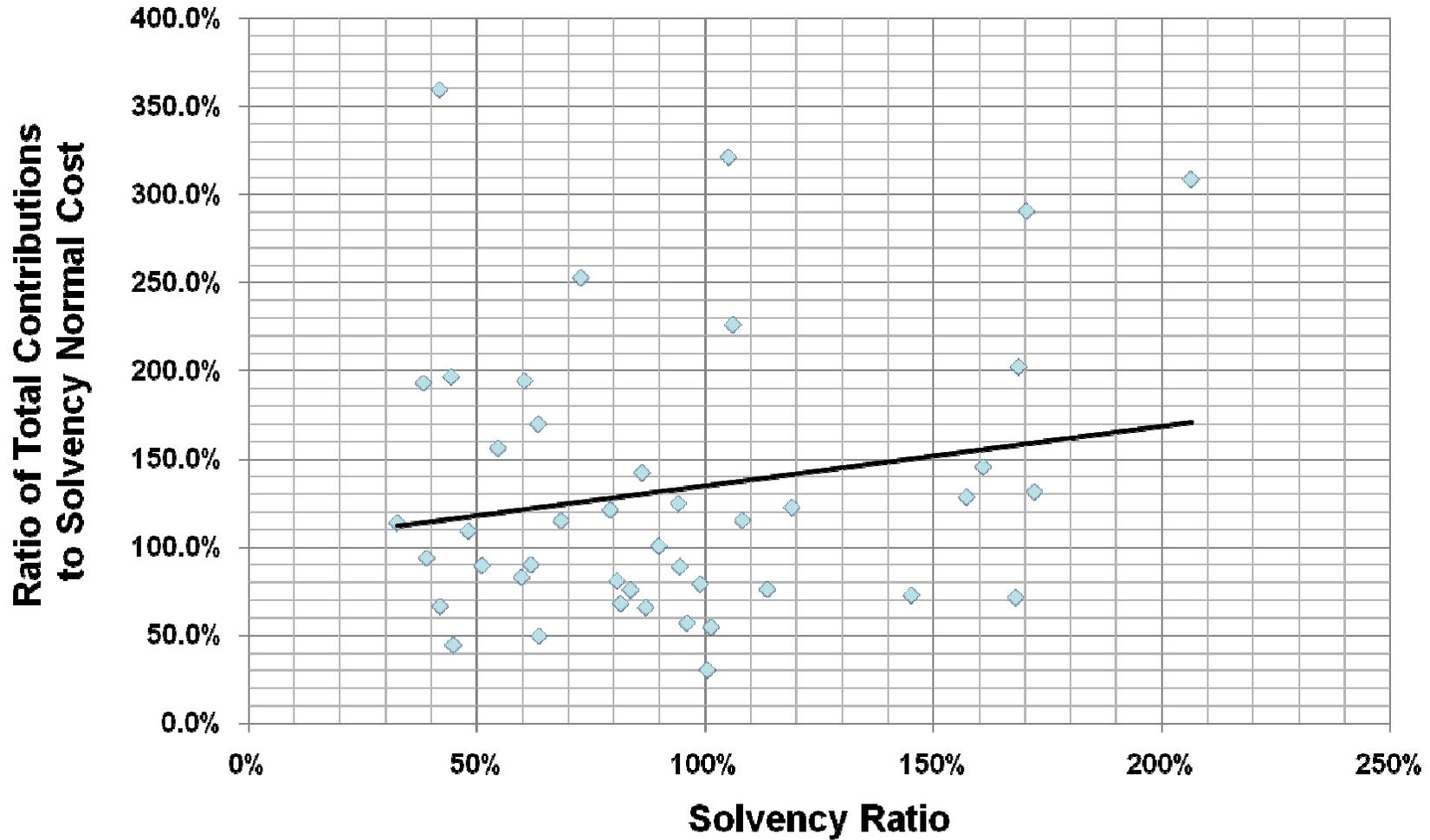


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Solvency Normal Cost

- Solvency normal cost is the present value of the expected benefit accrual for the present year
- If actual contributions of the fund exceed the solvency normal cost, solvency ratio will improve
- We examine this by a scatter plot of the solvency normal cost vs actual contributions



Data Source: 2008 Solvency Study of the EISA



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Impact of Actual Contribution/ Solvency Normal Cost

- Each point on the graph represents the characteristics of a private fund
- The horizontal co-ordinate represents the solvency ratio of the fund
- The vertical co-ordinate represents the ratio of actual contributions/solvency normal cost of the fund
- The regression line shows the relationship between the two variables
- Observation: There is positive correlation between the two variables



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Recommendations



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Three-Prong Recommendations

- Reporting and disclosure
- Contributions
- Benefit payments



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Reporting and Disclosure

- Solvency valuation is required in each actuarial valuation report
- The date of solvency valuation must be January 1 of each year
- The first solvency valuation must be done for 2009
- If there is no solvency deficiency, the next valuation may be done after three years
- If there is a solvency deficiency, solvency valuation must be done each year
- Solvency ratio must be disclosed to all stake holders



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Contributions

- Plans with solvency deficiency must make solvency payment
- Solvency deficiency = solvency liability – market assets
- Solvency payment = solvency deficiency /5
- Minimum contribution = solvency normal cost + solvency payment
- Plan sponsor is required to ensure that the minimum contribution is made



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Benefit Restrictions

- Solvency ratio = Market assets / solvency liabilities
- If solvency ratio < 100%, lump sum distribution is limited to the portion of funded ratio
 - In order to distribute full lump sum, additional contribution is required from the sponsor
- If solvency ratio < 80%, amendments to improve benefits are not allowed
- If funded ratio < 60%, future benefit accruals are not allowed
- Limitations may be removed when the solvency ratio improves



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Implementation Process

- Consultative approach
 - Numerous meetings
 - Comments welcome
- Effective date
 - January 1, 2009
 - Early compliance encouraged
- Training sessions
 - Actuarial methodology and administrative issues
 - June 1 – June 14, 2008
 - Principles and Methodology of Solvency Valuation of Pension Funds by Michael Sze, January 2008



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Acknowledgement

While the author bears responsibility of any material mistakes of this presentation, we would like to acknowledge

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Reference

- *2007 Global Pension Assets Study by Watson Wyatt Worldwide, January, 2007*
- *Funding Defined Benefit Pension Plans: Risk-Based Supervision in Ontario, Overview and Selected Findings, 2002-2006 by Financial Services Commission of Ontario, March, 2007*
- *The Purple Book, DB Pension Universe Risk Profile by Pension Protection Fund, The Pension Regulator of UK*
- *Principles and Methodology of Solvency Valuation of Pension Funds by Michael Sze, January, 2008*