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17 March 2020

Diversa Trustees Limited
C/- Ms R Artso
GPO Box 3001
MELBOURNE VIC 3001

Dear Trustee,

THE UNIVERSITY OF SYDNEY PROFESSORIAL SUPERANNUATION SYSTEM – ACTUARIAL VALUATION AS AT 31 DECEMBER 2019

EXECUTIVE SUMMARY

Introduction

You requested that ALEA Actuarial Consulting Pty Limited ("ALEA") conducts an actuarial valuation of the University of Sydney Professorial Superannuation System (the "System") as at 31 December 2019. We understand the System is not a non-complying fund under the Superannuation Industry (Supervision) Act 1993 (the "SIS Act") and that it complies with all relevant superannuation legislation. The previous annual valuation of the System was undertaken as at 31 December 2018 (my report dated 11 March 2019).

The purposes of this investigation are to:

- assess the financial position of the System with particular reference to the Pension Section – i.e. the Widows' Contributory Pension Scheme, the Spouses' Contributory Pension Scheme and the Defined Benefit Section of the System;
- to review the level of contributions required to fund the System's Pension Section from the University of Sydney (the "University"); and
- to satisfy the requirements of the SIS Act.

This investigation was undertaken in accordance with:

- provisions of the Prudential Standard SPS160 ("SPS 160") – Defined Benefit Matters; and
- Institute of Actuaries of Australia's professional standard relating to the actuarial investigation of defined benefit funds and reporting of the results of such an investigation – Professional Standard 400 ("Investigations of the Financial Condition of Defined Benefit Superannuation Funds").

Background and Benefit Entitlements (Appendix A)

The System has been established for a number of years and was deemed to have commenced on 1 January 1981 replacing the previous Professorial Superannuation System. It has been closed to new entrants since that date.

The principal parties involved with the System as at 31 December 2019 are:

- Diversa Trustees Limited (ACN 006 421 638) – the “Trustee”;
- The University of Sydney – the Principal Employer; and
- OneVue Super Member Administration Pty Limited – the “Administrator”.

It is governed by a Trust Deed (as amended) although I have been advised there have been no amendments made to the Trust Deed since the previous investigation that directly affect the level or scope of benefits provided to members. A brief summary of our understanding of members’ benefit entitlements is included in Appendix A.

Membership Data (Appendix B)

As at 31 December 2019, there were twenty-four (24) pensioner members and twenty-six (26) widows currently receiving pension benefits from the System.

Accordingly the total membership of the System was 50 as at 31 December 2019 which has decreased from 54 as at 31 December 2018, reflecting:

- the death of one (1) pensioner; and
- the deaths of three (3) widows.

During the period from 1 January 2019 to 31 December 2019 the level of Professorial Salary increased from $197,886 to $202,042 – i.e. at a rate of 2.1% per annum – which was less than assumed in the previous actuarial valuation – i.e. 5.5% per annum.

We have carried out various reasonableness checks of the member data provided by the Administrator for the purpose of this valuation. Where necessary, we have discussed any issues with the Administrator and received clarification of material matters.

On the basis of responses received we are satisfied the data is appropriate for use in this investigation. A brief summary of this data is included in Appendix B.

Investment Assets and Strategy (Appendix C)

The market value of the System’s assets as at 31 December 2019 was approximately $32,537,000. These monies were invested in:

- the Schroder Strategic Growth Fund – approximately $31,809,000; and
- an ANZ Bank Account – approximately $728,000.

This was adjusted for various outstanding transactions as at that date of approximately $139,000 and the ORFR allowance as at 31 December 2019 of approximately $96,000 – i.e. a total increase in the value of assets of approximately $43,000.

Therefore, the net market value of assets available to support the System's Pension Section as at 31 December 2019 was approximately $32,580,000.

A brief summary of transactions applicable for the period from 1 January 2019 to 31 December 2019 is included in Appendix C.

Over the period from 1 January 2019 to 31 December 2019 the average rate of earnings achieved on the System's assets was estimated to be approximately 13.5% per annum (net of tax and fees). This was greater than the 8.0% per annum (gross of tax) rate of return assumed in the previous valuation.

On the basis of advice received from the Administrator we understand approximately 64% of the System's Pension Section assets were invested in "growth" assets – i.e. shares and property – and approximately 36% were invested in "non-growth" assets – i.e. fixed interest and cash – as at 31 December 2019.

The System's current holding of "growth" assets is almost unchanged since 31 December 2018 (where approximately 63% of assets were invested in "growth" assets), and remains consistent with the System's investment strategy of holding between 50% and 80% of the System's assets in "growth" assets.

On the basis of the above, it is my opinion the current investment strategy is appropriate at this time as a long-term strategy for the System given:

- the nature of the principal benefit liabilities of the System – i.e. pension payments;
- the System is "closed" to new defined benefit members; and
- the University's continued financial support.

However, it is appropriate also to note that continuation of the current strategy requires regular monitoring of future investment returns and cash flow requirements for members. The Trustee and University may also wish to consider a reduction in the level of "growth" assets in light of the ageing of pensioners and the recent volatility in investment markets.

Assumptions and Legislative/Regulatory Matters (Appendix D)

Financial Assumptions

Investment returns	6.5% per annum (gross of tax)
Rate of pension increase	4.0% per annum

These rates are different to those adopted in the previous actuarial valuation of the System, but the real rate of return is the same as was used therein – i.e. 2.5% per annum.

Demographic Assumptions

Details of demographic assumptions are provided in Appendix D. They are the same assumptions that were used in the previous actuarial valuation of the System.

Expense Assumption

An allowance of 1.5 times Professorial Salary was included in this investigation. This allowance is the same as the assumption used in the previous actuarial valuation.

Contributions Tax

The System is liable for tax at 15% (the concessional rate for regulated superannuation funds) on University contributions and investment earnings less insurance charges and certain expenses where applicable.

Transfer Balance cap

The Government has introduced a $1,600,000 cap on the total amount that can be transferred into the tax-free retirement phase effective from 1 July 2017.

Further, individuals with lifetime pensions (including defined benefit pensions) will be subject to a defined benefit income cap of $100,000 per annum from 1 July 2017 (the "Cap"). While this change is unlikely to have any impact upon the System, members whose pensions are in excess of the Cap are likely to be required to pay tax on the amount exceeding it at their marginal rate of tax.

Other Regulatory Matters

Prudential Standard SPS160 ("SPS160") – Defined Benefit Matters

SPS160 commenced with effect from 1 July 2013 and includes a number of matters to be addressed in actuarial investigations.

It also provides for the establishment of a "shortfall limit" for the System to be used as a measure of the extent to which the Trustee considers an "unsatisfactory" financial position, arising due to temporary investment market fluctuations, may be corrected within one (1) year.

It is my understanding the Trustee has adopted a shortfall limit for the System as a VBI figure of 95% to comply with SPS160. On this basis, the shortfall limit has not been breached as at 31 December 2019.

In my opinion, the current shortfall limit is appropriate for the purpose of SPS160 at this time.

Prudential Standard SPS114 ("SPS114") – Operational Risk Financial Requirement ("ORFR")

In accordance with the requirements of SPS114 the Trustee has agreed to establish the ORFR for the System as a target of 0.25% of its asset value, with a tolerance level of 0.05% of System assets.

I understand this was done on a gradual basis with transfers made from the System to a designated cash account. The balance held as at 31 December 2019 was approximately $96,000 (as advised by the Administrator) – i.e. about 0.30% of the System's assets as at 31 December 2019.

Funding Status (Appendix E)

Funding Indexes

It is instructive to consider various measures of the funding status of the System. These measures assist in monitoring the progress of the System over time.

It should be a minimum requirement that if a superannuation fund was wound up on the valuation date the available assets were sufficient to pay members' leaving service benefits – i.e. their Vested Benefits. It is also important to assess a fund's position as an ongoing entity. The System's progress in this regard is determined by comparing the value of assets with the total Value of Accrued Benefits as at the date of the investigation.

The System does not have any Minimum Benefit entitlements as at 31 December 2019.

The System's current financial position is illustrated by considering various funding index figures as follows:

	31-Dec-18	31-Dec-19
Vested Benefits Index (VBI)	127%	147%
Value of Accrued Benefits (VABI)	127%	147%

Note: All members are receiving pension payments from the System. Consequently, their Value of Accrued Benefit amounts are equal to their Vested Benefit amounts.

A VBI of 147% indicates the System was in a sound financial position as at 31 December 2019.

The System's financial position has improved since the previous valuation. A brief discussion of the reasons for the change in the indices since 31 December 2018 is included in Appendix H.

Valuation Results and Future University Contribution Rates (Appendix F)

Current University Contribution Rate

In the System's actuarial valuation as at 31 December 2018 (my report dated 11 March 2019), it was recommended the University contributes nil to the System for the period from 1 January 2019 to 31 December 2019.

On the basis of advice received from the Administrator it appears the University adopted this recommendation.

University Contribution Rate from 1 January 2020

Given the System was in a sound financial position as at 31 December 2019, I recommend the University does not make a contribution to the System for the year ending 31 December 2020. This contribution arrangement is expected to maintain the System's VBI at a level well above 100% over the period to 31 December 2020 – i.e. the date of the next actuarial valuation – and also to 31 December 2022 – i.e. in three (3) years' time.

Notwithstanding the above, it is particularly important in uncertain financial times the University understands that in the event actual future experience is less than expected it is possible the University may be required to make additional contributions to the System at some future time.

Financial experience since 31 December 2019

During the period from 1 January 2020 to 29 February 2020, the System's assets achieved an average return of approximately -3.7% over the period (based on change in unit prices as at those dates).

This is significantly less than was assumed in this investigation (6.5% per annum gross of tax) and has a negative impact upon the System's financial position.

At this time, investment markets are highly volatile and it is possible the System's financial position will continue to be adversely affected in the short term at least. I have taken this unfavourable experience into account in determining the System's recommended contribution rate to apply from 1 January 2020.

Sensitivity Analyses and Material Risks (Appendix G)

I have undertaken sensitivity analyses in relation to key assumptions used in this valuation – i.e. the investment earnings rate, the salary growth rate and the mortality decrement rates used in this investigation. The results of the analyses are discussed in Appendix G.

During the process of this investigation, I have identified two (2) material risks that may have an impact on the System's future financial position:

- longevity risk – i.e. the risk that pensioners will live for a longer (or shorter) period than expected; and
- "excessive" funding – i.e. the risk of accumulating excess assets in the System.

These material risks are discussed in detail in Appendix G. In my opinion, it is appropriate for these risks to be monitored through the annual valuations and for appropriate actions to be taken in relation to the University's contribution rate as the need arises.

System Experience During the Valuation Period (Appendix H)

Surplus or deficit items arose during the valuation period due to actual experience differing from the experience assumed as at the previous valuation. The effects of these differences are discussed briefly in Appendix H.

Statement of Compliance (Appendix I)

SPS160 prescribes minimum requirements of actuarial reports for defined benefit superannuation funds. On the basis of the information provided by the Trustee and Administrator I certify a number of matters in Appendix I.

Reliance and Limitation

It is important to note that this valuation has relied upon the accuracy and completeness of all data, and other information provided by the Administrator for the purpose of this investigation.

I have not carried out any independent verification or audit of the data provided but have carried out various reasonableness checks of the data. Where necessary, I have discussed any data issues with the Administrator and received clarification of relevant matters.

It should be noted that if any data, or other information provided to us, is inaccurate or incomplete then this report and any recommendation may need to be revised.

This report is produced solely for the use of the Trustee and the University. No other use of, or reference to, this report should be made without prior written consent, nor should the whole or part of this report be disclosed to any other person without prior written consent.

Recommendations

On the basis of the above, I recommend that:

- the University contributes nil to the System for the period from 1 January 2020 to 31 December 2020; and
- the next actuarial investigation of the System is undertaken as at a date no later than 31 December 2020 to comply with the requirements of SPS160 and the SIS Act and Regulations.

Yours sincerely,

David O'Keefe
Fellow of the Institute of Actuaries of Australia
Director – ALEA Actuarial Consulting Pty Limited

APPENDIX A – BACKGROUND AND BENEFIT ENTITLEMENTS

GENERAL

Members receive benefits in accordance with the provisions of the Trust Deed. I have been advised there have been no amendments to the Deed since the previous investigation directly affecting the level or scope of benefits provided to members.

Members' benefits are defined as a combination of a defined benefit and an accumulation benefit. Although accumulation retirement benefits are calculated as lump sums the Deed provides that they may be converted to additional pensions. Most members elect to receive their accumulation retirement benefits as a lump sum and their defined benefit as a pension.

Upon leaving the System for any other reason members receive lump sum benefits. However, a pension may also be paid to a surviving spouse on the death of a member who contributed to the Widows Contributory Pension Scheme ("WCPS") or the Spouse Contributory Pension Scheme ("SCPS").

FUNDED SECTION OF THE SYSTEM

All accumulation benefits have been paid out of the System as at 31 December 2019 such that this Section is closed.

DEFINED BENEFIT SECTION OF THE SYSTEM

General

Annual Review Date:	31 December each year
Membership Categories:	Defined benefits – Non-Contributory active members and Contributory active members Pensioners – Retired Professors
Professorial Salary (PS):	The annual rate of professorial salary as advised by the University from time to time ($202,042 as at 31 December 2019) – certain professors are also eligible to receive their retirement pension based on the salary of the Vice-Chancellor or Deputy Vice-Chancellor
Normal Retirement Age (NRA):	65 years
Early Retirement Age (ERA):	60 years
Member Contributions:	Non-Contributory active members – nil Contributory active members – 2% of salary Pensioners – nil
Member Account:	The sum of the active member's contributions and the University's matching contributions accumulated with compound interest

Benefits

Retired members receive a pension at the rate specified at the time of retirement which increases at an agreed rate during the 16 years following retirement.

The amount of pension payable from time to time depends upon the level of the PS as advised by the University.

WIDOWS' CONTRIBUTORY PENSION SCHEME

General

Membership Category:	Widows of deceased active members or Retired Professors.
Member Contributions:	Members electing to join the WCPS are required to contribute to age 60 for the basic widows' pension – at rates specified in the Trust Deed – and at the rate of 1% of PS until retirement for the supplementary widows' pension.
WCPS Contribution Account:	The sum of the member's WCPS contributions accumulated with compound interest.

Benefits

Benefit on Death of Professor (WDB)

On the death of a Professor who has contributed to the WCPS a basic widows' pension is provided. The amount of this pension is based upon the level of the member's contributions paid to the WCPS and is subject to a maximum of 15% of PS.

Where the member has also elected to contribute for a supplementary widows' pension an additional 10% of PS will be payable (NB – a member must be contributing for the maximum basic widows' pension at the rate of 15% of PS before being permitted to contribute for the supplementary widows' pension)

Benefit on Leaving Service (LSB)

On leaving the System before their NRA, or where the Professor's wife divorces or predeceases him, the member shall be entitled to receive the balance of their WCPS Contribution Account.

APPENDIX B – MEMBERSHIP DATA

As at 31 December 2019, there were twenty-four (24) pensioner members and twenty-six (26) widows currently receiving pension benefits from the System.

Accordingly the total membership of the System was 50 as at 31 December 2019 which has decreased from 54 as at 31 December 2018, reflecting:

- the death of one (1) pensioner; and
- the deaths of three (3) widows.

The following table provides a summary of membership details as at 31 December 2019:

Category	Number	Pension/Annuity Amounts (per annum)	Average Age
Pensioners	24	1,389,402	84
Widows	26	1,324,193	86
Total	50		

During the period from 1 January 2019 to 31 December 2019 the level of Professorial Salary increased from $197,886 to $202,042 – i.e. at a rate of 2.1% per annum – which was less than assumed in the previous actuarial valuation – i.e. 5.5% per annum.

This investigation was made having regard to liabilities calculated on the basis of member details advised by the Administrator and benefit provisions as described in the Trust Deed.

We have carried out various reasonableness checks of the member data provided by the Administrator for the purpose of this valuation. Where necessary, we have discussed any issues with the Administrator and received clarification of material matters. On the basis of responses received we are satisfied the data is appropriate for use in this investigation.

APPENDIX C – ACCOUNTS, ASSETS, INVESTMENT STRATEGY AND PERFORMANCE

System Accounts

A summary of the System's accounts over the period from 1 January 2019 to 31 December 2019 follows below:

	($'000)	($'000)
Market Value of Assets as at 31 December 2018		31,327
Income:		
Contributions	nil	
Net Investment Income	4,457	4,457
Outgo:		
Administration/Other Expenses	-218	
Taxation	148	
Benefit/Pension Payments	-3,038	-3,108
Market Value of Assets as at 31 December 2019		32,676

These figures were based on draft financial statements provided by the Administrator for the period from 1 January 2019 to 31 December 2019.

They include outstanding transactions of the System as at both 31 December 2018 and 31 December 2019.

System Assets

The market value of the System's assets as at 31 December 2019 was approximately $32,537,000. These monies were invested in:

- the Schroder Strategic Growth Fund – approximately $31,809,000; and
- an ANZ Bank Account – approximately $728,000.

This was adjusted for various outstanding transactions as at that date of approximately $139,000 and the ORFR allowance as at 31 December 2019 (approximately $96,000) – i.e. a total increment in the value of assets of approximately $43,000.

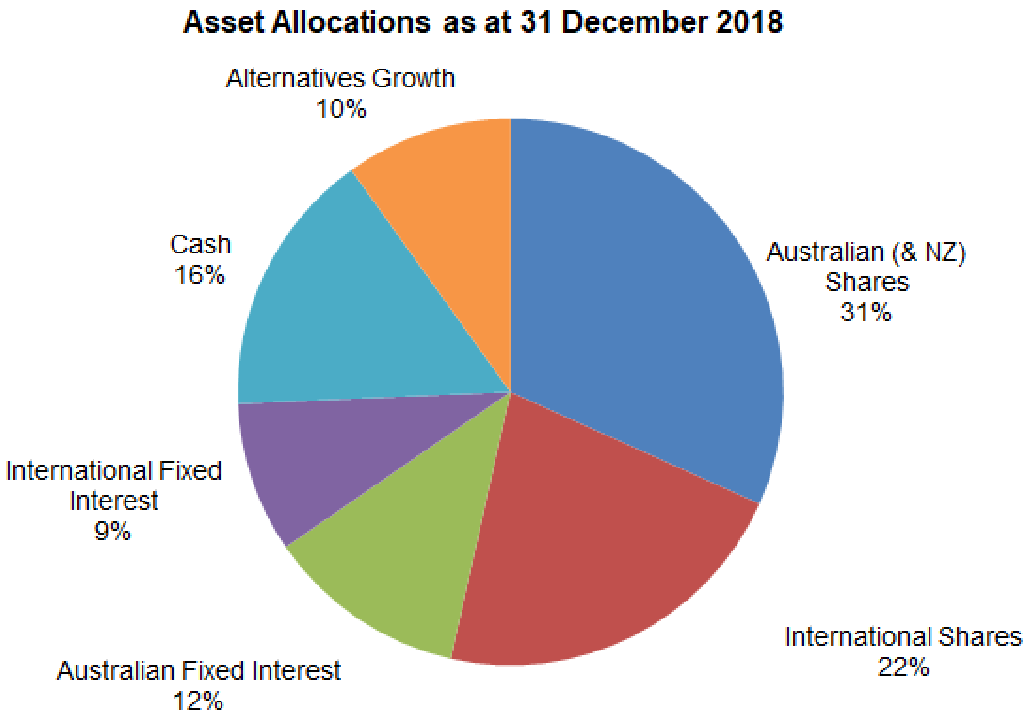
Therefore, the net market value of assets available to support the System's Pension Section as at 31 December 2019 was approximately $32,580,000.

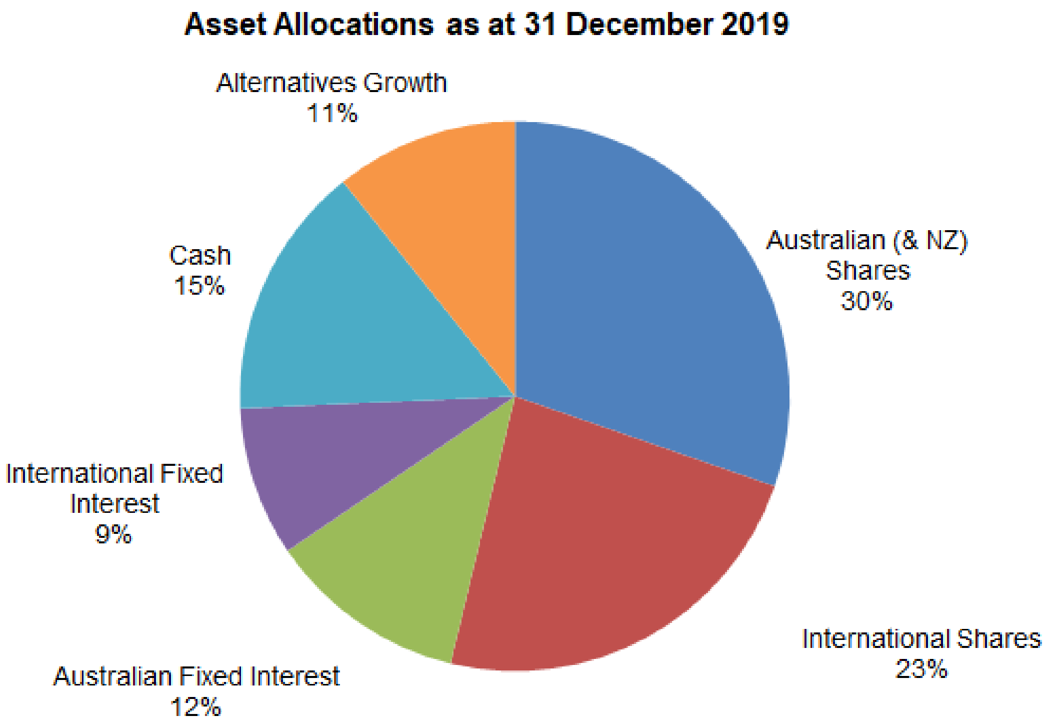
Investment Strategy

On the basis of advice received from the Administrator we understand that approximately 64% of the System's Pension Section assets were invested in "growth" assets – i.e. shares and property and approximately 36% in "non-growth" assets – i.e. fixed interest and cash as at 31 December 2019.

The System's current holding of "growth" assets is almost unchanged since 31 December 2018 (where approximately 63% of assets were invested in "growth" assets), and it remains consistent with the System's investment strategy of holding between 50% and 80% of the System's assets in "growth" assets.

The allocation of the System's assets, by investment sector, is illustrated in the following charts:





I believe the System's current investment strategy is consistent with the System's investment objectives as set out below:

- to avoid negative rates of return (net of tax and fees) over rolling three-year periods; and
- to achieve a return (net of tax and fees) that exceeds the rate of increase in Professorial Salary over rolling five-year periods.

On the basis of the above, it is my opinion the current investment strategy is appropriate at this time as a long-term strategy for the System given:

- the nature of the principal benefit liabilities of the System – i.e. pension payments;
- the System is "closed" to new defined benefit members; and
- the University's continued financial support.

However, it is appropriate also to note that continuation of the current strategy requires regular monitoring of future investment returns and cash flow requirements for members. The Trustee and University may also wish to consider a reduction in the level of "growth" assets in light of the ageing of pensioners and the recent volatility in investment markets.

Investment Performance

During the period from 1 January 2019 to 31 December 2019 the return achieved by the System's investment managers averaged approximately 13.5% per annum (net of tax and fees).

By comparison, the SuperRatings Fund Crediting Rate Survey as at 31 December 2019 indicated an average return for superannuation fund managers, with similar asset allocations, of approximately 14.7% per annum (net of tax and fees) for the period from 1 January 2019 to 31 December 2019.

On this basis, the investment performance of the System's assets in respect of the Pension Section over the period has been less than the average return achieved by superannuation funds with similar investment strategies.

APPENDIX D – VALUATION OBJECTIVES, METHOD AND ASSUMPTIONS

Valuation Objectives

The objectives of the valuation are:

- to assess the level of the System's benefit liability as at the valuation date in respect of the Pension Section of the System; and
- to determine a rate of contribution as a multiple of Professorial Salary that will provide adequate funds for the payment of benefits – the rate of contribution should remain stable in the long term.

Valuation Method

A funding method is a systematic basis for meeting the cost of benefits over the years of operation of the System.

It recognises that a member's benefit entitlements should be funded as uniformly as possible over his or her working lifetime and the assets of the System should cover the total benefits which members would reasonably expect if they left the System.

The main methods available cover a range of options, including the "extremes" of:

- "Pay-As-You-Go" (PAYG) – funding where no assets are accumulated and the employer meets the cost of members' benefits at the time of payment – i.e. a potentially infinite funding period; and
- full funding – where sufficient assets are accumulated to meet the cost of all member benefits at all times – i.e. a nil funding period.

It is important the Trustee understands that all funding methods expect to produce the same total cost of benefits and it is the choice of method which determines the funding period – i.e. the "pace" – at which costs are met by the University.

This valuation was made using a "Target" funding method to determine the level of University contributions required to meet the System's future expected benefit and expense obligations.

The method used in this valuation is the same as that used in the previous investigation as at 31 December 2018 (my report dated 11 March 2019).

Assumptions

In determining the present value of future expected benefits and contributions, assumptions are required about a variety of factors, both economic and demographic. The following paragraphs outline the considerations taken into account in setting these assumptions.

Investment Earnings and Pension Increases

The difference between the investment earnings rate and the rate of pension increase is referred to as the "real" investment return, or "gap", and is the most significant assumption. It is important to note that it is applied over a long period of time – i.e. the future lifetime of pensioners.

Taking account of long-term real rates of return and the System's recent experience, the following rates were adopted in valuing liabilities for the purpose of this investigation:

- Investment returns 6.5% per annum (gross of tax)
- Rate of pension increase 4.0% per annum

These rates are different to those used in the previous actuarial investigation as at 31 December 2018. They were changed to better reflect expectations of the level of future investment earnings and pension increase rates. Notwithstanding this we have maintained the assumed real rate of return of 2.5% per annum.

Demographic Assumptions

<u>Pensioners and Widows:</u>

The following rates of mortality were adopted at various ages for pension members:

Age	Number Expected Out of 10,000 Lives at the Start of Each Year at the Age Shown To:	
	Male	Females
65	131	76
70	210	111
75	333	168
80	507	286
85	771	480
90	1,156	766

** based on the Australian Insured Lives Table IA90-92*

This is the same as the long-term demographic assumptions made in the previous actuarial valuation as at 31 December 2018.

The above mortality rates are reviewed periodically with the latest review being completed in 2018. Consequently, we believe the current mortality rates remain appropriate at this time.

Marriage Assumptions

Unless the age of a married male professor's wife is known it is assumed to be five (5) years younger than the professor's age. As at 31 December 2019 there were seven (7) retired professors with spouses eligible to receive a widow's pension.

Asset Valuation

The net market value of assets has been used in this valuation on the basis that it represents an objective value of the System's assets.

The adjusted market value of assets used was approximately $32,580,000 at 31 December 2019 after allowing for outstanding transactions and the ORFR amount.

Expenses

The investment earnings rate assumed is net of investment expenses.

The University contribution rate makes specific allowance for the cost of administration and general expenses. An allowance of 1.5 times Professorial Salary was included in this investigation. This allowance is the same as the assumption used in the previous actuarial valuation.

Contributions Tax

The System is liable for tax at 15% (the concessional rate for regulated superannuation funds) on University contributions whilst tax at 15% is also payable on the System's investment earnings (except for income earned on those assets supporting the pensions in payment).

However, the effective rate of tax paid by the System on both University contributions and investment earnings is generally less than 15%. On the basis of information received from the Administrator we have assumed that an effective rate of tax on University contributions is nil.

Transfer Balance cap

The Government has introduced a $1,600,000 cap on the total amount that can be transferred into the tax-free retirement phase effective from 1 July 2017.

Further, individuals with lifetime pensions (including defined benefit pensions) will be subject to a defined benefit income cap of $100,000 per annum from 1 July 2017 (the "Cap"). While this change is unlikely to have any impact upon the System, members whose pensions are in excess of the Cap are likely to be required to pay tax on the amount exceeding it at their marginal rate of tax.

Regulatory Matters

Prudential Standard SPS160 ("SPS160") – Defined Benefit Matters

SPS160 commenced with effect from 1 July 2013 and includes a number of matters to be addressed in actuarial investigations.

It also provides for the establishment of a "shortfall limit" for the System to be used as a measure of the extent to which the Trustee considers an "unsatisfactory" financial position, arising due to temporary investment market fluctuations, may be corrected within one (1) year.

It is my understanding the Trustee has adopted a shortfall limit for the System as a VBI figure of 95% to comply with SPS160.

In my opinion, the current shortfall limit is appropriate for the purpose of SPS160 at this time.

Prudential Standard SPS114 (“SPS114”) – Operational Risk Financial Requirement (“ORFR”)

In accordance with the requirements of SPS114 the Trustee agreed to establish the ORFR for the System as a target of 0.25% of its asset value, with a tolerance level of 0.05% of System assets.

I understand this was done on a gradual basis with transfers made from the System to a designated cash account. The balance held as at 31 December 2019 was approximately $96,000 (as advised by the Administrator) – i.e. about 0.30% of the System’s assets as at 31 December 2019.

General

These assumptions are realistic in terms of likely long term experience and provide a reasonable estimate of the System’s future experience. However, the Trustee should expect that the actual future experience of the System will vary from that assumed above in any particular year and that funding levels will fluctuate accordingly.

Over the long term, these assumptions reflect our best estimate of the emerging benefit costs. It is important to note that the long term cost of the benefits does **not** depend directly on the chosen assumptions, but rather on the System’s actual future experience.

APPENDIX E – FUNDING STATUS

General

It is instructive to consider various measures of the funding status of the System. These measures assist in monitoring the progress of the System over time.

Vested Benefits Index (“VBI”)

The first measure compares the market value of the System’s assets with members’ Vested Benefits at the valuation date.

Vested benefits are represented by the value of future pension payments for members currently receiving pensions.

This measure represents a minimum funding standard for the System:

	31-Dec-18 ($ '000)	31-Dec-19 ($ '000)
A. Vested Benefits	24,601	22,156
B. Market Value of Assets	31,232	32,580
C. Vested Benefits Index (B/A)	127%	147%
Surplus/(Deficit)	6,631	10,424

The System’s VBI of 147% as at 31 December 2019 indicates the System was in a sound financial position. The System’s financial position has improved since 31 December 2018.

A brief discussion of reasons for the change in the index since 31 December 2018 is included in Appendix H.

Shortfall Limit

In compliance with SPS160, the Trustee decided upon a shortfall limit for the System as a VBI figure of 95%. On this basis, the shortfall limit has not been breached as at 31 December 2019.

In my opinion, the current shortfall limit is appropriate for the purpose of SPS160 at this time.

Value of Accrued Benefits Index (“VABI”)

The second measure compares the System’s assets with the total actuarial value of all members’ accrued benefits and provides an indication of its solvency on a long-term basis.

As all members are receiving pension payments from the System their Value of Accrued Benefit amounts are equal to their Vested Benefits. Consequently the VABI is the same as the VBI as at 31 December 2019.

Superannuation Guarantee (“SG”) Minimum Benefits Index (“MBI”)

The System does not have any Minimum Requisite Benefit entitlements as at 31 December 2019. Accordingly we understand the System is no longer used by the University to satisfy its SG obligations for any of the System’s members.

Termination Benefits

In the event of termination of the System there are no specific benefits described under the Trust Deed, however Regulation 17 of the Deed ensures that members' Minimum Requisite Benefits are "fully paid and satisfied" on the winding up of the System for any reason.

APPENDIX F – VALUATION RESULTS AND FUTURE CONTRIBUTION RATES

Valuation Results

Based on the valuation assumptions and method previously described, the present value of pensioners' benefits as at 31 December 2019 are as follows:

	Present Values	
	($ '000)	($ '000)
Widows' Contributory Pension Scheme		
Liabilities:		
Benefits in respect of retired Professors	1,645	
Pensions in payment	10,783	
Total Liabilities		12,428
Defined Benefit Section of the System		
Liabilities:		
25% Professorial Salary pension in payment	9,719	
Incremental pension in payment	9	
Total Liabilities		9,728
Combined Total Liabilities		
- based on past and future membership		22,156
Funds available		32,580
Actuarial Surplus/(Deficit)		10,424

The System's total benefit liabilities were calculated to be approximately $22,156,000 as at 31 December 2019. In this event the System had an actuarial surplus of approximately $10,424,000 as at that date.

Current University Contribution Rate

In the System's actuarial valuation as at 31 December 2018 (my report dated 11 March 2019), it was recommended the University contributes nil to the System for the period from 1 January 2019 to 31 December 2019.

On the basis of advice received from the Administrator it appears the University adopted this recommendation.

University Contribution Rate from 1 January 2020

Given the System was in a sound financial position as at 31 December 2019, I recommend the University does not make a contribution to the System for the year ending 31 December 2020. This contribution arrangement is expected to maintain the System's VBI at a level well above 100% over the period to 31 December 2020 – i.e. the date of the next actuarial valuation – and also to 31 December 2022 – i.e. in three (3) years' time.

Notwithstanding the above, it is particularly important in uncertain financial times the University understands that in the event actual future experience is less than expected it is possible the University may be required to make additional contributions to the System at some future time.

Financial experience since 31 December 2019

During the period from 1 January 2020 to 29 February 2020, the System's assets achieved an average return of approximately -3.7% over the period (based on change in unit prices as at those dates).

This is significantly less than was assumed in this investigation (6.5% per annum gross of tax) and has a negative impact upon the System's financial position.

At this time investment markets are highly volatile and it is possible the System's financial position will continue to be adversely affected in the short term at least. I have taken this unfavourable experience into account in determining the System's recommended contribution rate to apply from 1 January 2020.

Recommendations

On the basis of the above, I recommend that:

- the University contributes nil to the System for the period from 1 January 2020 to 31 December 2020; and
- the next actuarial investigation of the System is undertaken as at a date no later than 31 December 2020 to comply with the requirements of SPS160 and the SIS Act and Regulations.

APPENDIX G – SENSITIVITY ANALYSES AND MATERIAL RISKS

Sensitivity Analyses

I have undertaken sensitivity analyses in relation to key assumptions used in this valuation – i.e. the investment earnings rate, the salary/pension growth rate and the demographic assumptions used in this investigation.

Based on recent experience and future expectations in respect of the System and financial markets, I believe it is appropriate to "stress test" both the financial and demographic assumptions as follows:

- the rate of investment earnings (6.5% per annum) increased or decreased by 4.0% per annum;
- the rate of pension growth (4.0% per annum) increased or decreased by 2.0% per annum; and
- the pensioners live one (1) year longer or one (1) year less.

It is important that the Trustee and University appreciate these sensitivity analyses are used only to illustrate the possible financial implications for the System related to changes in future rates of investment earnings, salary/pension growth and decrement rates. They do not represent upper or lower bounds of possible outcomes that might arise in the future.

The table below shows the System's projected VBI as at 31 December 2022 under the different assumptions outlined above and assuming nil University contributions from 1 January 2020:

	VBI 31-Dec-22 (est.)
Current Assumptions	155%
Invesment Earnings Rate - 4% lower	136%
Invesment Earnings Rate - 4% higher	175%
Salary/Pension Growth Rate - 2% lower	187%
Salary/Pension Growth Rate - 2% higher	128%
One (1) Year More Life Expectancy	143%
One (1) Year Less Life Expectancy	169%

The table illustrates the following:

- the System's VBI may decrease over the three (3) year period if pension growth rate is higher than expected, investment performance is lower than expected or the demographic experience is worse than expected – consequently the University may be required to cease its contributions holiday; and
- the System may be expected to accumulate surplus assets if future experience is better than expected which may provide the System with a "buffer" against future adverse financial experience and assist with its short term cash flow requirements.

In summary, the System is likely to accumulate surplus assets if future experience is better than expected. Notwithstanding this, there is also possibility that the University is required to contribute to the System if future experience is worse than expected.

Material Risks

During the process of this investigation, I have identified two (2) material risks that may have an impact on the System's future financial position:

- longevity risk – i.e. the risk that pensioners will live for a longer (or shorter) period than expected; and
- "excessive" funding – i.e. the risk of accumulating excess assets in the System.

Longevity Risk

Whilst the mortality decrement rates assumed in this valuation are expected to represent a good estimate of the experience likely to apply to the System's pensioners, there is no guarantee that they will closely reflect the actual experience of the group given its small size.

In the event that the System's pensioners live longer than expected it is likely that the University would be required to make contributions to the System for a longer period resulting in an increased cost to the University. Conversely, if the System's pensioners live for a shorter time than expected the University may be able to make contributions to the System for a shorter period resulting in a reduced level of cost to the University. However in this case it is also likely that excess monies could accumulate in the System which may be difficult for the University to utilise (as discussed below).

The usual method of addressing this risk is to establish a "pool" of such pensioners with the expectation that where there are a sufficiently large number of pensioners there is a greater chance the assumed mortality rates will be appropriate to the group as a whole, thereby mitigating or removing the longevity risk for the group.

In the absence of any "pooling" arrangement the System will need to accept the longevity risk and to ensure it funds for its costs in an appropriate manner. In particular this might be achieved through regular reviews of the System's financial position and the adequacy of the University's contribution arrangements.

The Trustee has already implemented such a process with annual actuarial valuations of the System's pensions to comply with its understanding of the requirements of SPS160 as they relate to a superannuation fund providing lifetime pensions to its members.

Whist this will not alter the possible need for additional contributions by the University or the possibility of accumulating excess levels of assets, it should assist in adjusting the University's contributions on a timely basis.

"Excessive" Funding

Given the System's VBI was above 100% as at 31 December 2019, continued payment of University contributions each year or favourable System experience may give rise to the "excessive" build-up of assets in the System.

The results of the sensitivity analyses set out above clearly indicate the possible risk in this regard.

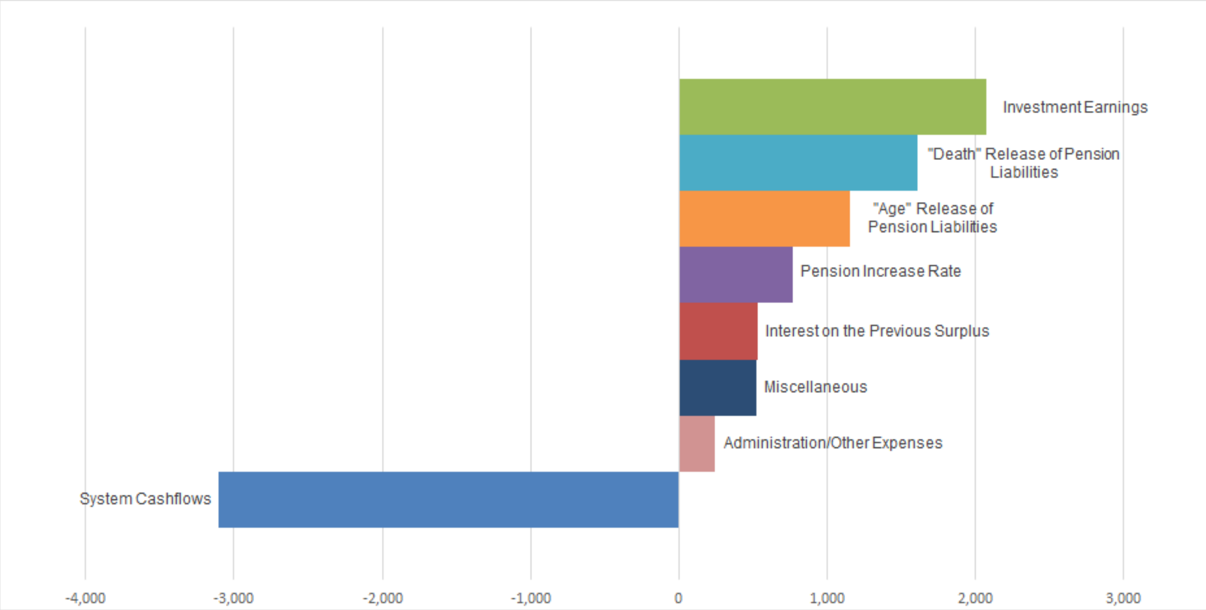
Such a situation could be expected to create some difficulty for the University where excess assets accumulating in the System cannot be readily reclaimed by the University or utilised in the future.

In my opinion, it is appropriate for this risk to be monitored through the annual valuation process and for appropriate actions to be taken in relation to the University's contribution rate as the need arises.

APPENDIX H – SYSTEM EXPERIENCE DURING THE VALUATION PERIOD

An approximate analysis was made of the reasons for the change in the System's financial position since the previous investigation in respect of the System's Value of Accrued Benefits.

The impact of the main items reflecting the change in the System's financial position is illustrated in the following chart:



($'000)

Investment Earnings – Investment returns on the System's assets for the period from 1 January 2019 to 31 December 2019 averaged approximately 13.5% per annum. This is greater than the 8.0% per annum expected in the previous investigation and resulted in an improvement in the System's financial position as at 31 December 2019.

"Death" Release of Pension Liabilities – When a pensioner dies there is generally a "release" of liabilities as the pension ceases or as the pension reverts to the pensioner's spouse. During the year to 31 December 2019, one (1) pensioner and three (3) widows died.

This resulted in an improvement in the System's financial position as at 31 December 2019.

"Age" Release of Pension Liabilities – As a pensioner's age increases the value of the pension liabilities reduces. This resulted in an improvement in the System's financial position as at 31 December 2019.

Pension Increase Rate – The amount of pensioner's pension benefits increased at a rate of 2.1% per annum which is less than expected (5.5% per annum). This produced a lower cost of meeting members' pension benefits and resulted in an improvement in the System's financial position as at 31 December 2019.

Interest on Previous Surplus – This is the effect of interest on the surplus at the beginning of the period and resulted in an improvement in the System's financial position as at 31 December 2019.

Administration/Other Expenses – Expenses paid from the System over the period were less than was assumed in the previous investigation and resulted in an improvement in the System's financial position as at 31 December 2019.

University Contributions/Pensions and Expenses Paid – This is the net cash outflow of monies from the System reflecting pension payments and expenses. This resulted in a reduction in the System's financial position as at 31 December 2019.

Miscellaneous – This is the effect of other differences between actual experience and the valuation basis. They have not been analysed further, however, their combined net effect is relatively small.

Note: The changed financial assumptions have no financial impact upon the System given the real rate of return was not changed.

APPENDIX I – STATEMENT OF COMPLIANCE WITH PARAGRAPH 23 OF SPS160

SPS 160 prescribes the following matters to be contained in actuarial reports for defined benefit superannuation funds:

- The value of the System's assets in relation to the Defined Benefit Section for the purpose of the valuation was $32,580,000 as at 31 December 2019 (excluding any ORFR). This was also the net market value of the System assets as at that date.
- The System's assets are adequate to meet the value of the defined benefit liabilities of the System in respect of Accrued Benefits of $22,156,000 as at 31 December 2019. This is also the total of Vested Benefits in the System at that date. Accordingly, the System's financial position as at 31 December 2019 was satisfactory under Regulation 9.04 of the Superannuation Industry (Supervision) Regulations.
- The recommended University contribution rate for the period from 1 January 2020 is nil.
- Payment of University contributions as above, together with the assets of the System (valued at $32,580,000, excluding any ORFR) and expected earnings of the System over the period from 1 January 2020 to 31 December 2022, is likely to provide adequately for the expected System liabilities arising during the period and will also provide a satisfactory basis for the funding of the System over a reasonable period of time – as per Appendices F and G.
- The System was previously used to reduce or remove the University's Superannuation Guarantee Charge obligation imposed under Section 5 of the Superannuation Guarantee Charge Act 1992. However, the System does not have any Minimum Requisite Benefit entitlements as at 31 December 2019.
- On the basis of the pension details provided by the Trustee and Administrator I certify that the level of System assets as at 31 December 2019 provides a "high" probability of being paid during the term of the pension. This is based on the assumption that:
  - the University contributes to the System in accordance with the contribution arrangements set out in this report;
  - the current investment strategy continues over the period during which pensions are to be paid; and
  - the University agrees to ensure that all pension payments are met as and when they fall due.

  This statement is provided for the year ending 31 December 2019 and I confirm it is consistent with the requirements of Professional Standard 410 "Statements of Opinion Relating to Defined Benefit Pensions" issued by the Institute of Actuaries of Australia.
- Previously the System has been granted a "Pre-1 July 1988 Funding Credit". We understand these credits have been utilised fully at this time (as advised by the Administrator).