

CEPAR 29th Colloquium on Pensions and Retirement Research

Investigating the relationship between personal rates of return within MySuper and the account characteristics that influence these

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Research Background

The 2018 Productivity Commission review in to the **efficiency and competitiveness** of the Australian superannuation system concluded that:

Super has been a large and compulsory public policy endeavour, yet there is **remarkably little publicly available data on the outcomes that individual members are actually experiencing** — in terms of the returns they earn, the fees they pay, the insurance they hold and the outcomes they receive over time

(2018, p. 27)



Performance calculation methods

1. Time-weighted returns (TWR)

calculates how the fund manager performed & compare investment managers

2. Money-weighted returns (MWR)

calculates how the investors money performed

Money-weighted personal rates of returns were calculated using Microsoft Excel's 'eXtended Internal Rate of Return' (XIRR) function as it measures the daily change in the portfolio balance based on dated cash-flows to calculate annualised rate of return.



Research objectives

The focus of this research was to understand and make more transparent:

- what personal rates of return individual members in a single MySuper product are earning (with identical asset allocation)
- how the personal rates of returns compare to the MySuper Dashboard 'representative member' investment return
- determine which demographic and account characteristics have a statistically significant impact on personal rates of return



Research contribution

The study used de-identified, confidential member level data for 53,770 members invested exclusively in the MySuper product of a single Registrable Superannuation Entity (RSE) between 1 July 2018 and 30 June 2019.

As the data is sourced directly from a superannuation fund, the content is validated, and the analysis outputs can provide reliable representations of the actual investment returns earned by individual superannuation fund members.



Limitations

Only one Registrable Superannuation Entity (RSE) out of 79 RSE's licensed to offer a MySuper Product agreed to participate in the study

While the RSE has been de-identified, as at 30 June 2018 the RSE managed between **\$10 to \$20 billion in retirement savings for between 60,000 to 80,000 members**

While 3 financial years of transaction data was requested, administration system constraints limited it to the 2018/2019 year only



Excluded member characteristics

Investment option	Members not invested 100% in the MySuper option for the entire 2018/19 financial year
Pension phase	The study was only focused on members in the Accumulation phase
Closing Balances below \$5,999.99	‘Protecting your super’ legalisation – fees are restricted to 3% of the account balance for members whose account balance is below \$6,000
\$0 opening balance on 1 July 2018 with a subsequent roll in during the financial year resulting in a closing balance above \$6,000	As the XIRR formula calculates an annualised return, the calculated rate of return is distorted for members not invested for the full time period
Members over age 74	Due to the RSE’s ‘Lifecycle’ investment strategy – where the allocation to defensive assets increases for members at age 75



Transaction treatment & Cash-flow direction

Transaction Categories	Transaction Type	XIRR Formula Treatment
Regular Contributions	SGC & Employee contributions	Included: Positive Transaction
Irregular Contributions	Spouse Super Contribution, Co-Contribution, Downsizing Contribution, Personal Deductible Contribution Low-Income Super Tax Offset,	Included: Positive Transaction
Deduction	Contribution Tax & Adviser Fee	Included: Negative Transaction
Fees	Administration and Investment Fee	Excluded: Negative transaction – Fees are reflected in account balance
Insurance Premium:	Death, TPD & Income Protection	Excluded: Negative transaction – Not a monetary benefit to the member
Payments	Early access to super (hardship) payment, Withdrawal	Included – Negative Transaction A monetary benefit has been received by the member
Rollover:	Roll in & Roll out	Included Positive (Rollin) & Negative (Rollout)



Distribution of personal rates of return

Of the 53,770 members in the sample, 45,256 or 84.2% received a personal rate of return **less than** the MySuper Dashboard 'representative member' investment return

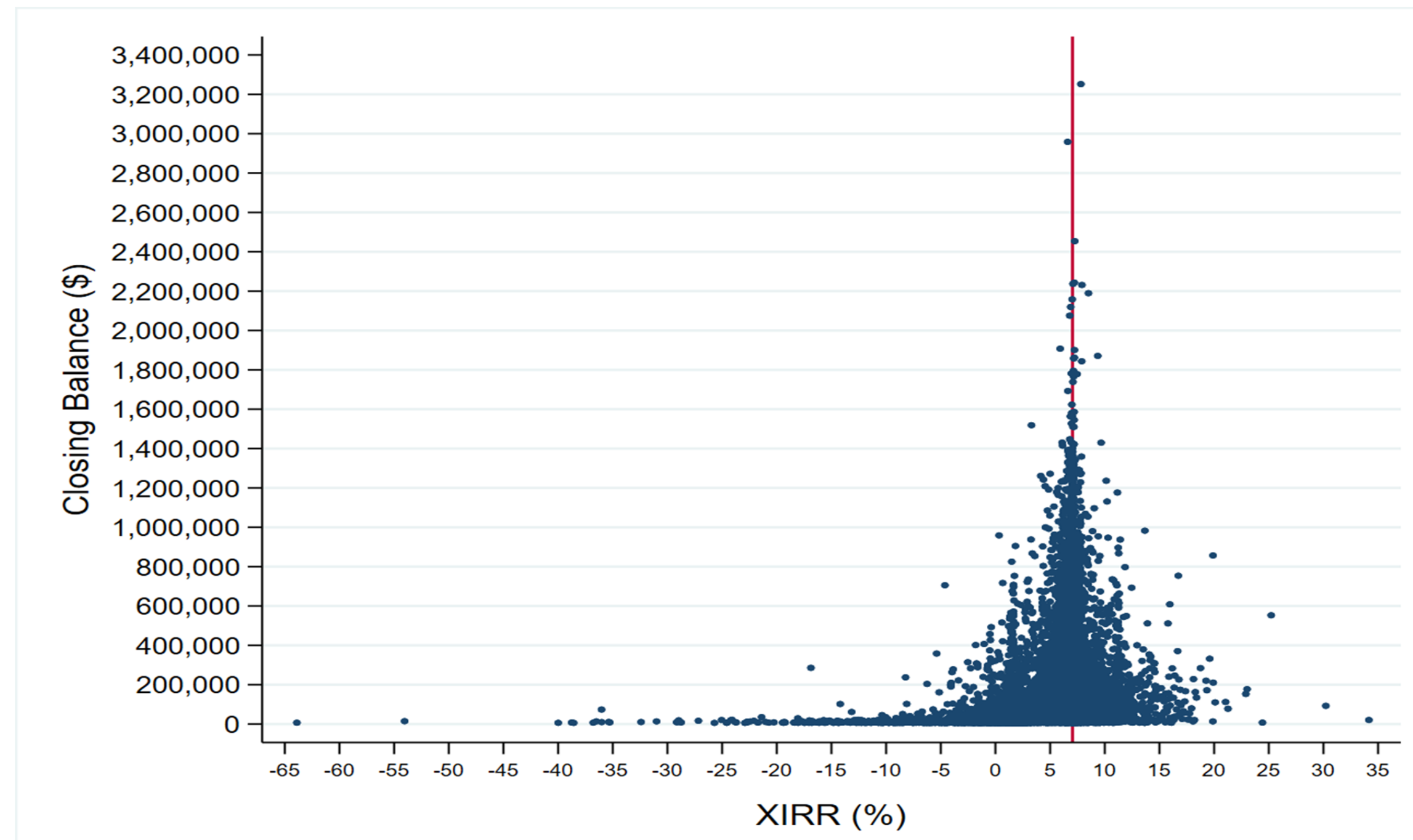


Figure 1: Scatterplot distribution of sample XIRR, by closing account balance. The red line plots the MySuper Dashboard investment return of 7.05%

XIRR (%)					
Mean	Median	Minimum	p25	p75	Maximum
5.927	6.593	-63.896	5.819	6.879	34.164



XIRR Outlier examples

Vignette 1: Negative XIRR	Vignette 2: Positive XIRR
<p>XIRR result: -63.896%</p> <p>Age Group: 55-59 Opening Balance Group: \$6,000 - \$10,000 Closing Balance Group: \$6,000 - \$10,000 Insurance policies held: Death, TPD & Income Protection Insurance policies premium payment frequency: Monthly Salary Range: Not provided SG Contribution Frequency Group: Quarterly</p> <p>Influencing transactions: Total insurance premiums paid: ~\$9,000 Total net SG contributions received: ~\$8,360</p>	<p>XIRR result: 30.224%</p> <p>Age Group: 35-39 Opening Balance Group: Less than \$6,000 Closing Balance Group: \$50,001 - \$100,000 Salary Range: \$40,001 to \$60,000 SG Contribution Frequency Group: Fortnightly Insurance Held: Yes</p> <p>Influencing transaction: External Roll in: ~\$70,000 in December 2018</p>



No transactions

Only 6% of members recorded no transactions during the financial year

If no transactions, both the TWR and MWR methods deliver similar results

Expected that this is not representative of the super system where efforts have been deployed to reduce the number of inactive or duplicate accounts

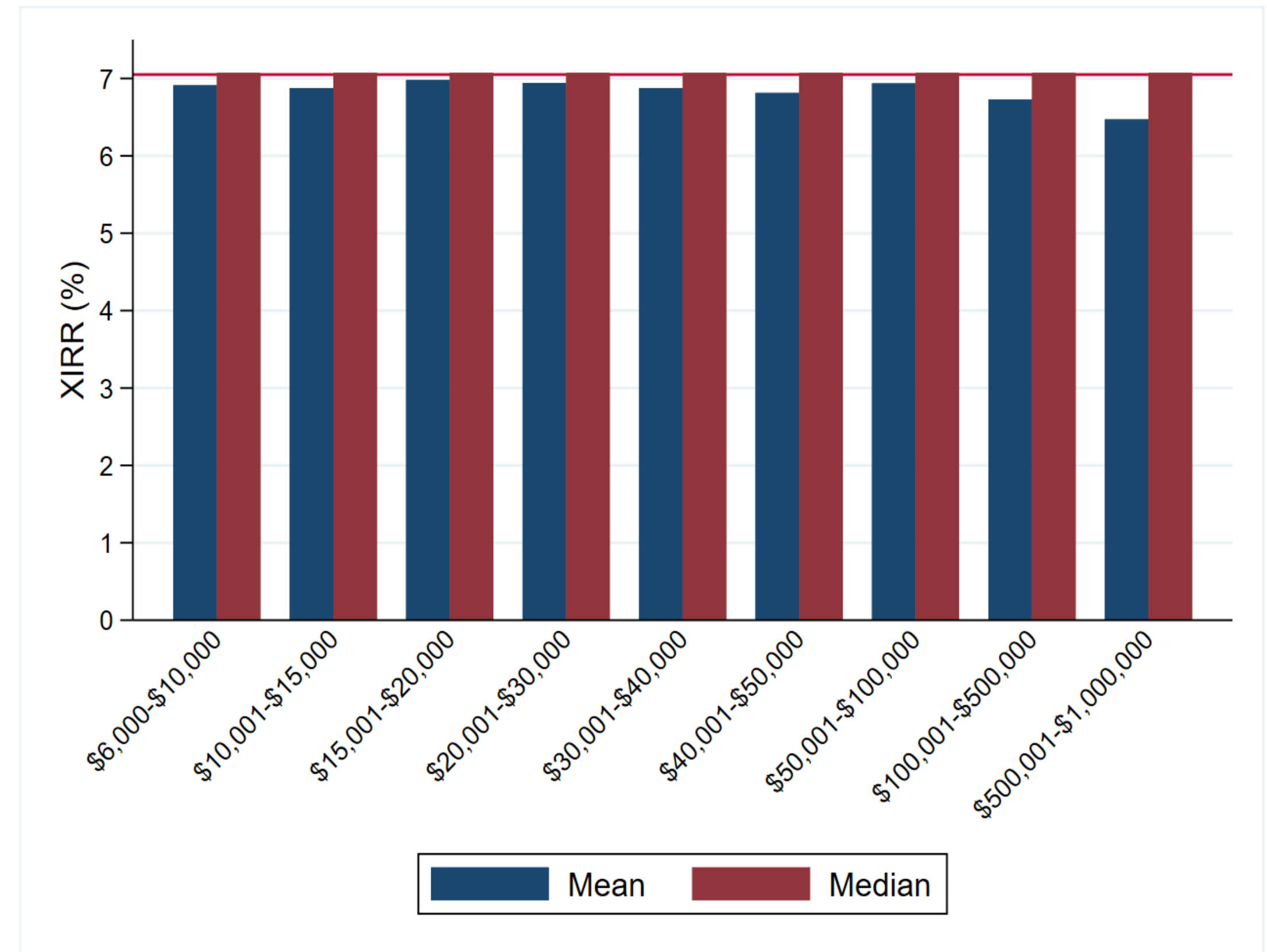


Figure 2: Mean and median XIRR for members with no transactions, by closing balance groups. The red line plots the MySuper Dashboard 'representative member' investment return



With transactions

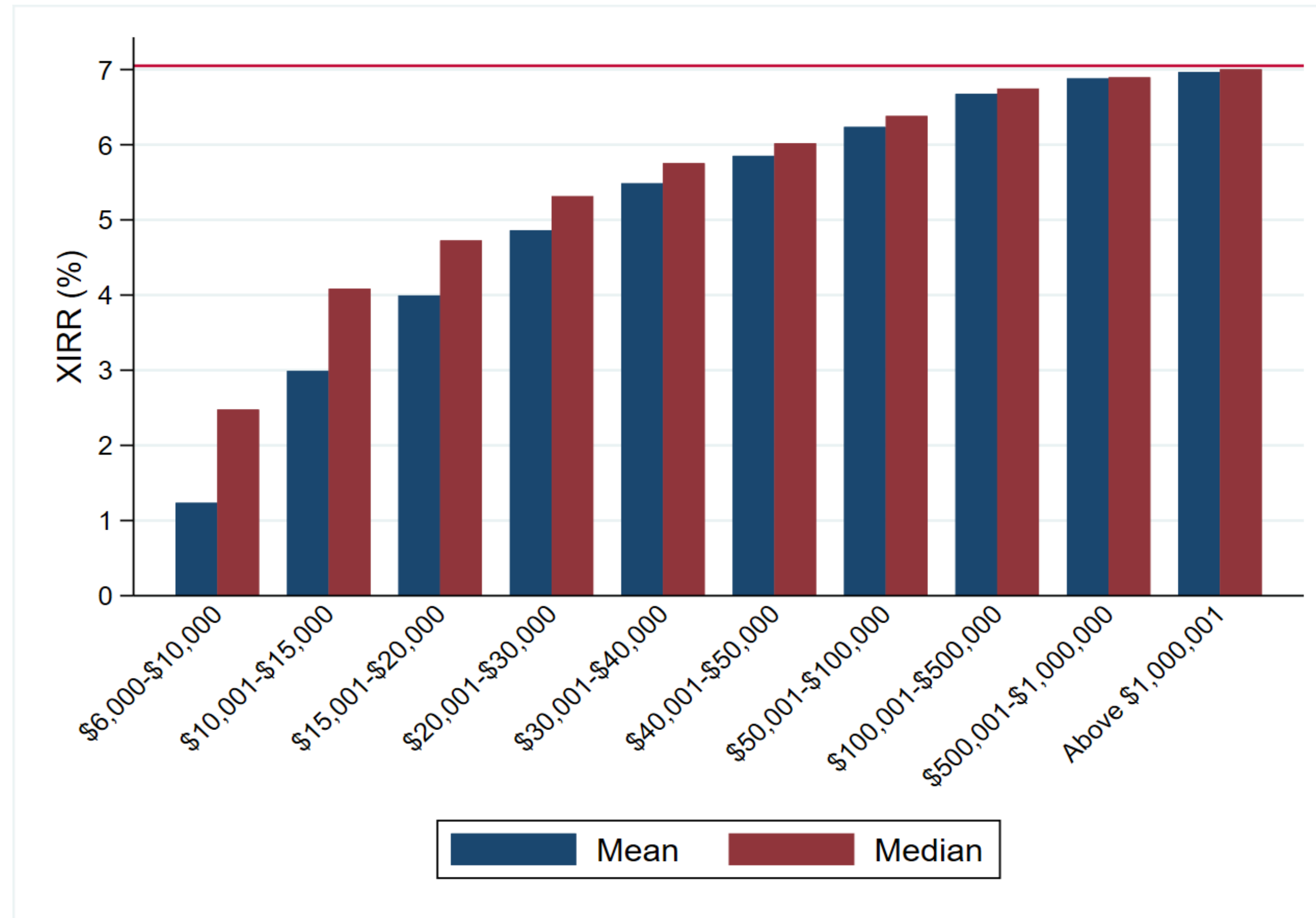


Figure 3: Mean and median XIRR for members with at least one transaction, by closing account balance groups. The red line plots the MySuper Dashboard 'representative member'



Regression results

Full multiple regression analysis is presented in the paper

The following variables calculated statistically significant coefficients:

Positive effect on XIRR	Negative effect on XIRR
<ul style="list-style-type: none">• Higher opening account balance• Not paying insurance premiums• More frequent contributions	<ul style="list-style-type: none">• Female• Paying insurance premiums• Less frequent SGC• Higher salary• Drawing hardship payment



Account balance

Closing Balance Groups	Number	Mean XIRR (%)	Median XIRR (%)	Median % of MySuper Dashboard 'representative member'
\$6,000 - \$10,000	2,837	2.431	3.219	45.7%
\$10,001 - \$15,000	2,728	3.542	4.358	61.8%
\$15,001 - \$20,000	2,278	4.309	5.010	71.1%
\$20,001 - \$30,000	3,591	5.038	5.477	77.7%
\$30,001 - \$40,000	2,865	5.589	5.844	82.9%
\$40,001 - \$50,000	2,507	5.911	6.065	86.0%
\$50,001 - \$100,000	9,718	6.271	6.406	90.9%
\$100,001 - \$500,000	24,834	6.679	6.754	95.8%
\$500,001 - \$1,000,000	2,186	6.866	6.898	97.8%
Above \$1,000,001	226	6.968	7.003	99.3%



Insurance premiums

Insurance premiums reduce the amount of investable capital.

While the member has the benefit of insurance cover, it reduces their personal rates of returns.

Insurance held	Number	Percent
Yes	44,906	83.5%
No	8,864	16.5%
Total	53,770	100%

Insurance held	XIRR (%)			
	Mean	Median	Minimum	Maximum
No	6.750	7.071	-19.467	24.428
Yes	5.765	6.501	-63.896	34.164

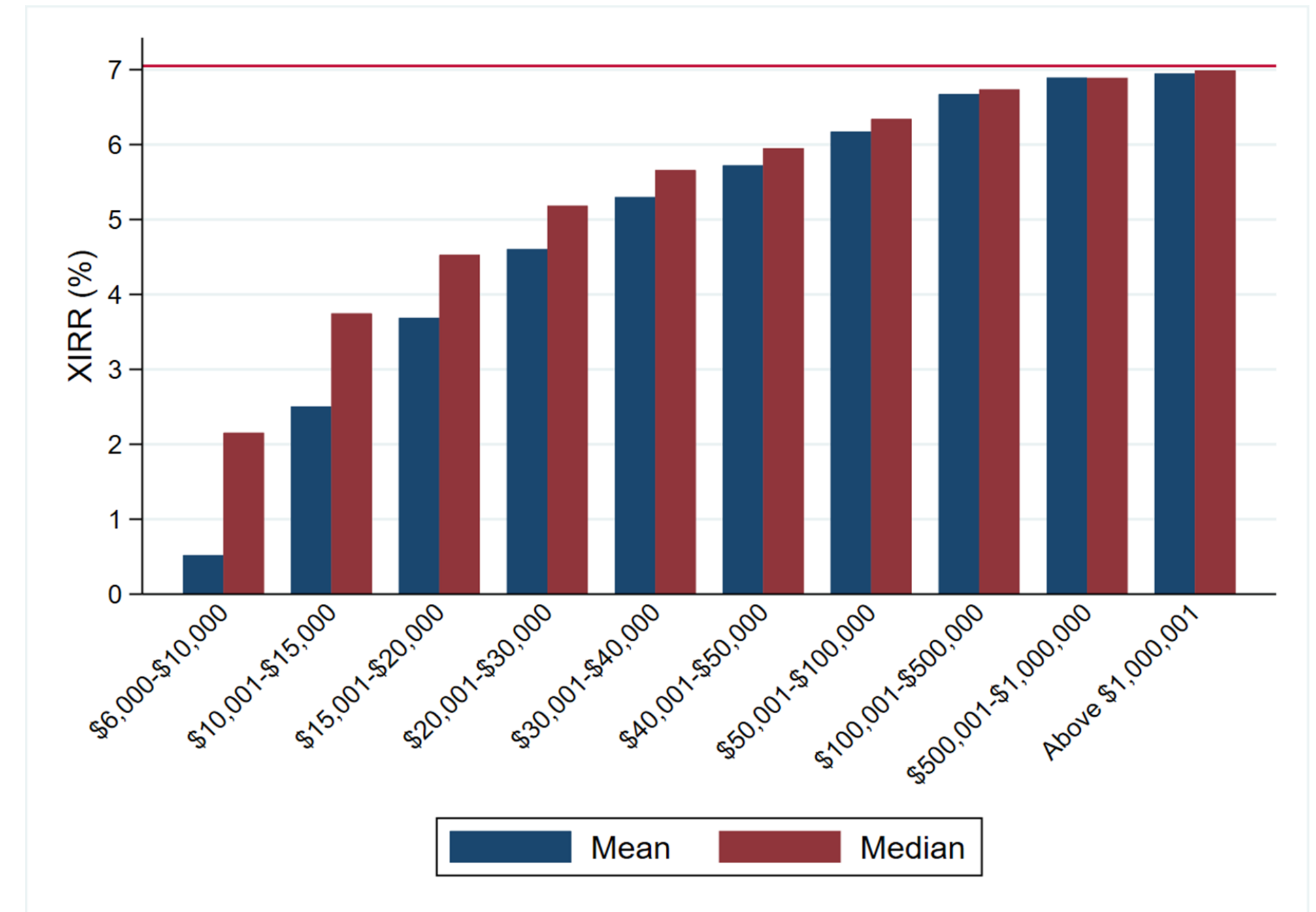


Figure 4: Mean and median XIRR for members with insurance, by closing account balance groups. The red line plots the MySuper Dashboard investment return benchmark of 7.05%

SGC payment frequency

SG Payment Period	Number	Percent
No SG Contributions	16,643	31.0%
Weekly	5,184	9.6%
Ad Hoc ≤ 25 Payments	7,751	14.4%
Fortnightly (26 payments)	15,495	28.7%
Ad Hoc ≥ 28 Payments	3,652	6.9%
Monthly	3,834	7.1%
Quarterly	1,211	2.3%
Total	53,770	100.00%

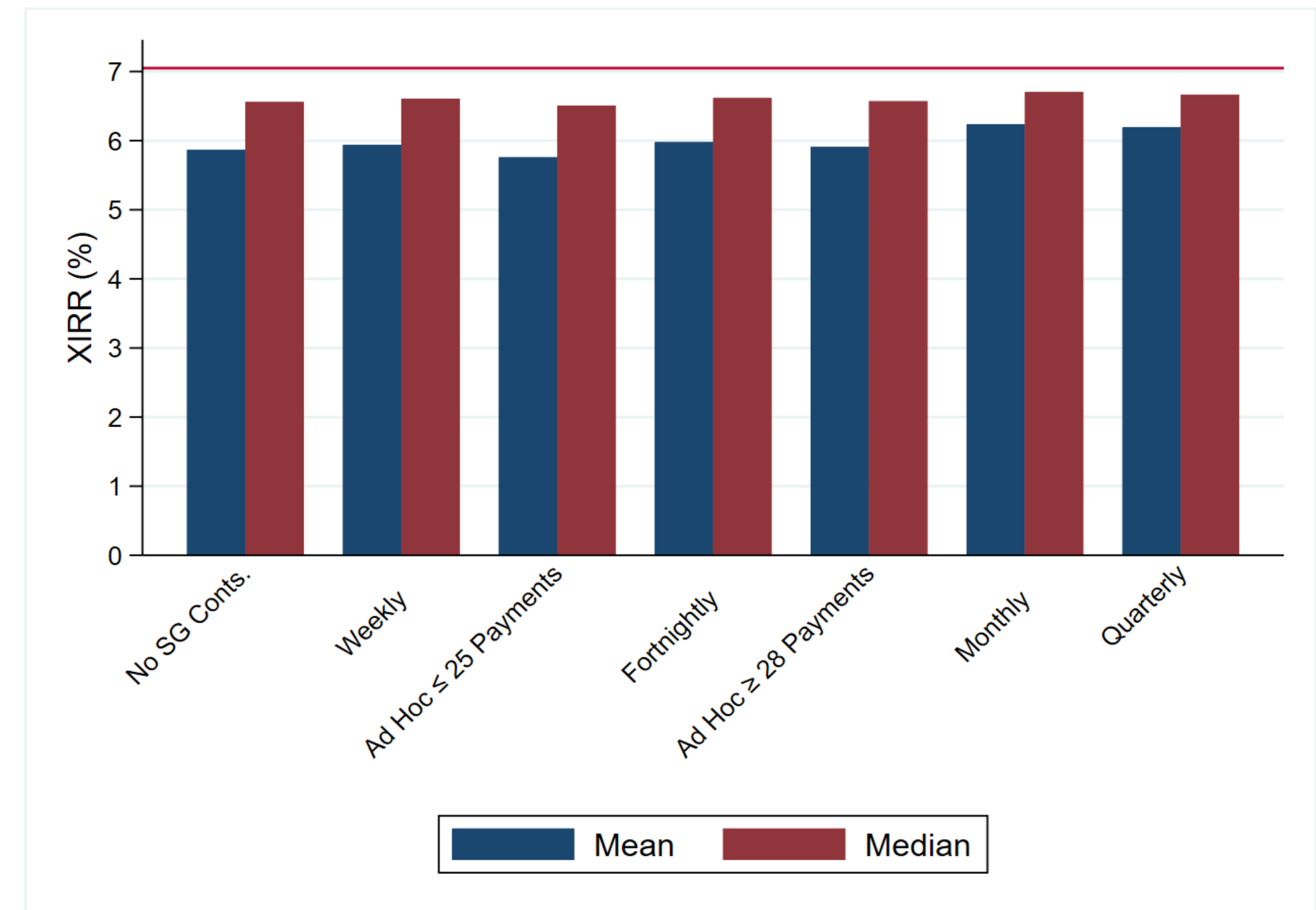


Figure 5: Mean and median XIRR, by Super Guarantee contribution payment frequency period groups. The red line plots the MySuper Dashboard 'representative member'

Gender

The data supports previous research into childbearing age as the point when gender inequality manifests.

	XIRR (%)	
Gender	Mean	Median
Male	5.937	6.618
Female	5.912	6.555

	Mean Closing balance (\$) by Age Group & Gender					
Gender	14-24	25-29	30-34	35-39	40-44	45-49
Male	26,920	55,728	88,628	122,212	151,589	180,743
Female	25,404	59,511	91,470	112,887	142,683	167,290
Difference	94.37%	106.79%	103.21%	92.37%	94.13%	92.56%

	Mean Closing balance (\$) by Age Group & Gender				
Gender	50-54	55-59	60-64	66-69	70-74
Male	224,335	250,892	216,153	173,057	169,391
Female	182,651	190,145	188,477	164,028	148,355
Difference	81.42%	75.79%	87.20%	94.78%	87.58%

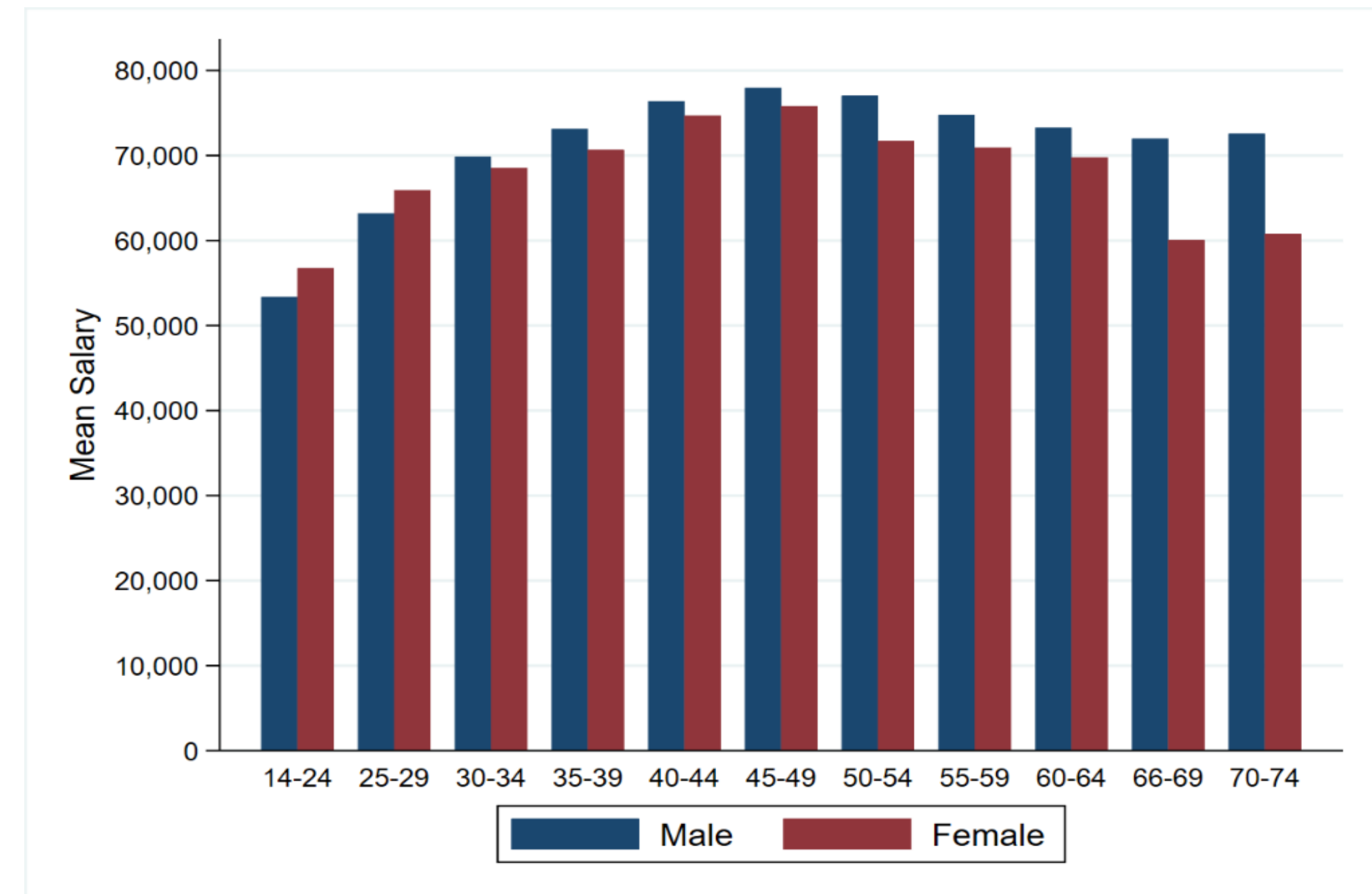


Figure 6: Mean salary, by age groups and gender.

Salary

It could be expected that high incomes translate into both higher level of SG contributions and greater ability to engage in voluntary retirement savings (e.g. via additional personal voluntary contributions).

To ensure tax concessions for super savings do not favour higher-income earners, the system has a contribution ceiling, (concessional contributions cap).

In the study period, the concessional contributions cap was \$25,000

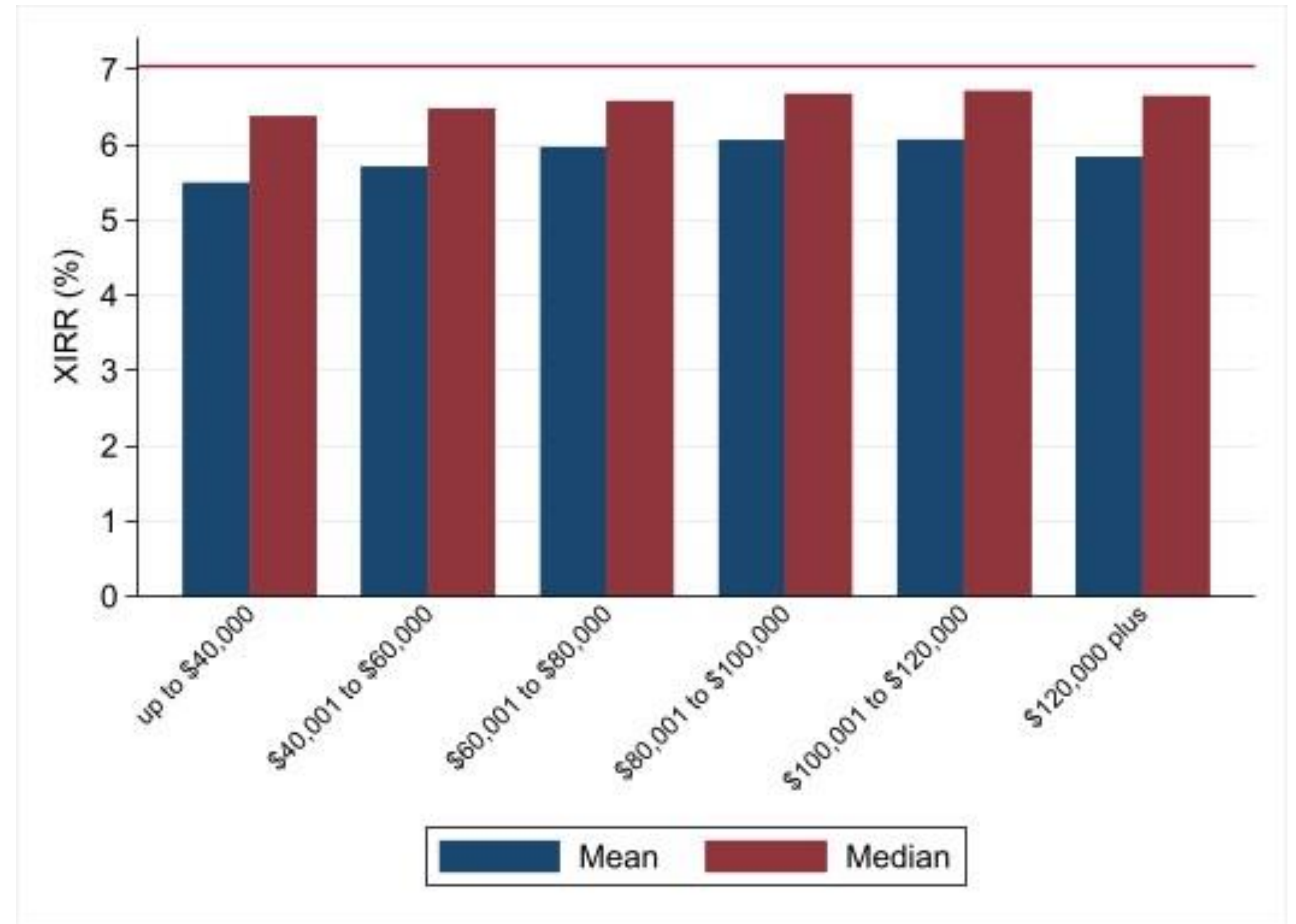


Figure 7: Mean and median XIRR, by salary groups.
The red line plots the MySuper Dashboard 'representative member'



Hardship payment

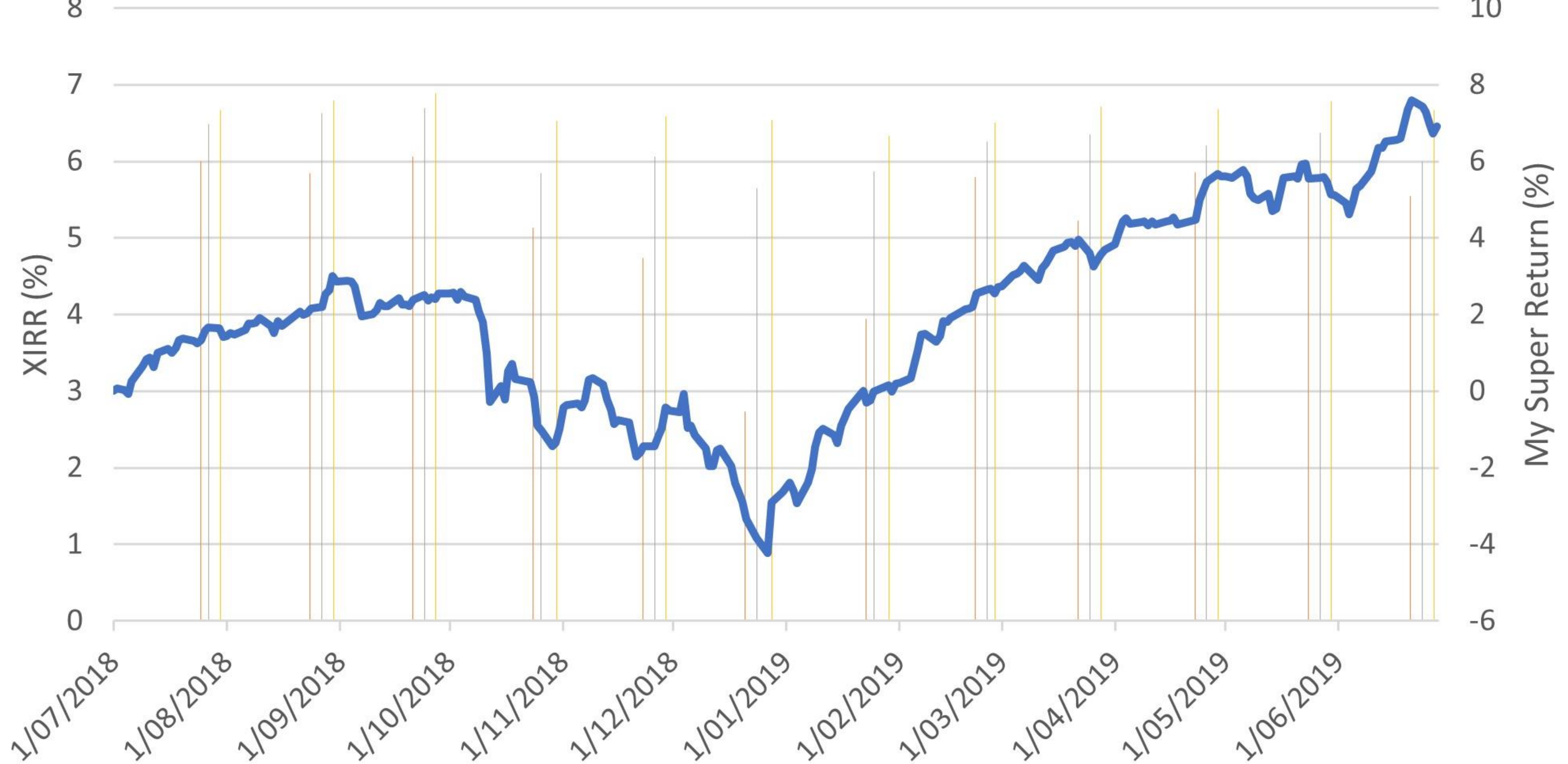
Regional and Remote members were respectively 1.2 and 2.2 times overrepresented in requesting Hardship Payments.

Location	Number	Cohort %	Study sample (%)
Metropolitan	208	46.1%	63.3%
Regional	144	31.9%	26.6%
Remote	99	22.0%	10.1%
Total	451	100%	100%

	Number	Cohort proportion	Mean Payment	Received Hardship Median XIRR (%)
Hardship payment received Cohort	447	0.83%	\$9,878	6.100
Closing Balance Group				
\$6,000-\$10,000	28	0.99%	\$9,604	3.240
\$10,001-\$15,000	27	0.99%	\$9,741	4.494
\$15,001-\$20,000	42	1.84%	\$9,675	5.229
\$20,001-\$30,000	45	1.25%	\$10,000	5.689
\$30,001-\$40,000	40	1.40%	\$10,000	5.886
\$40,001-\$50,000	29	1.16%	\$9,862	5.817
\$50,001-\$100,000	122	1.26%	\$9,902	6.236
\$100,001-\$500,000	112	0.45%	\$9,938	6.680
\$500,001-\$1,000,000	2	0.09%	\$10,000	^
Above \$1,000,001	0	0.0%	-	-

^ Median XIRR not representative as only two observations occurred in this closing balance group.





Closing balance groups

■ \$6,000 to \$50,000
 ■ \$50,001 to \$100,000
 ■ \$100,001 to \$500,000
 — MySuper Return

Findings & Policy debate

The MySuper Dashboard 'representative member' investment return **does not** in fact accurately 'represent' what individual members actually earn

This knowledge could assist in future **Member Outcome Assessments** by reporting a more accurate reality

The variance in outcomes experienced by cohorts highlights the need for policy makers and superannuation funds to ensure that default account settings are not detrimental to vulnerable members at risk of not benefiting from this compulsory saving endeavour

