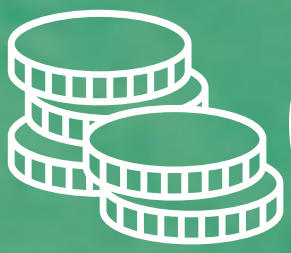

CUAN

Small steps today, big rewards tomorrow

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Executive Summary

This report outlines a comprehensive proposal for improving pension outcomes in Ireland by blending principles from the “Save More Tomorrow” program and the FIRE (Financial Independence, Retire Early) movement into an innovative model called CUAN. As Ireland transitions from Defined Benefit to Defined Contribution pension schemes and prepares to implement a new auto-enrolment system, many individuals remain underprepared for retirement.

Using a salary-based savings approach inspired by Save More Tomorrow, CUAN leverages automatic increments to pension contributions as salaries grow. This is paired with the aggressive savings ethos of FIRE to maximize compound returns early in one’s career. Compared with the planned state auto-enrolment (1.5% to 6% of salary), the CUAN approach delivers a significantly higher final pension pot, nearly quadrupling the amount projected under the standard model over 45 years.

A supporting Google Colab notebook details the data analysis and calculations, while a companion demo app illustrates how users can track progress, access gamification features, and engage with a supportive community. By combining behavioural finance with practical digital tools, CUAN has the potential to transform retirement savings in Ireland.

Introduction

Ireland's pension landscape is experiencing significant change, with most employers now operating Defined Contribution (DC) pension schemes rather than the more secure Defined Benefit (DB) systems. This shift places greater responsibility on individuals to plan and save for their retirement, yet many continue to fall short of their desired targets.

Programs like "Save More Tomorrow" have demonstrated the effectiveness of behavioural interventions to improve savings outcomes, while the FIRE movement has encouraged more aggressive savings approaches to achieve early retirement. This report examines how these principles can be adapted to the Irish context through the CUAN model and compares its performance against the upcoming auto-enrolment system.

The goal is to provide insights into how individuals and pension funds can enhance retirement outcomes by improving savings strategies and utilising the available tools.

What is Save More Tomorrow?

Save More Tomorrow is a prescriptive savings programme developed by Richard Thaler and Shlomo Benartzi. It aims to assist individuals in making better savings decisions for their retirement. It increased participants' savings through four salary raises, boosting their savings from 3.5% to 13.6% over 40 months (Thaler and Benartzi, 2004). This was achieved by automatically raising pension contributions alongside salary increases. This strategy is effective as the additional funds bypass individuals' immediate accounts, going directly into their pensions. Consequently, people subconsciously exclude this money from their available spending (Benartzi, 2012), in line with the common saying, "you learn to spend what's in your pocket."

Ireland's Current Pension System

Now that Ireland has moved away from a defined benefit (DB) pension scheme, most companies operate a defined contribution (DC) pension, meaning individuals must contribute and budget their future pension savings with their current living expenses (Whelan, 2025). With the current DC pensions in Ireland, 70% of retirees regret not engaging with their pensions at an early stage in their careers (Phillips, 2019). The average pension pot size in Ireland is €110,000, which falls short of being the 50% of your salary that financial advisors recommend for your retirement (Whelan, 2024).

The OECD has looked at the pensions in Ireland and has calculated how much we should put away for savings (OCED, 2014); with this, we are not hitting the target. Currently, Ireland doesn't have a mandatory pension enrolment (set to be in place in September 2025); the new auto-enrolment system Ireland is planning on putting in place is 1.5% of gross salary for the first 3 years, moving to 6% after 10 years (Department of Social Protection, 2024). This is a good start, but people should implement a deferred savings plan to start saving and take advantage of compound interest.

Financial Independence, Retire Early (FIRE) Movement

The FIRE movement is a movement of people who make extreme savings with the goal of retiring much earlier than traditional retirement (Kerr, 2024). Most participants live frugally, save most of their income, and invest it into aggressive investments to retire young and live off the 4% rule (Kagan, 2024).

However, this style of living in Ireland isn't as applicable to the vast majority of people, as the median graduate salary in 2019 was €28,900 (Stanley, 2022). This means the FIRE movement is much harder to achieve in Ireland than in other countries.

How Can FIRE and Save More Tomorrow be Tailored to Ireland

By examining the principles of FIRE and how 'Save More Tomorrow' functioned, we can develop an approach within the Irish pension system that will benefit both individuals and pension funds. The upcoming auto-enrolment is a positive beginning, but by tailoring it to the early stages of one's career, we can improve their savings as well as the pension funds' LTV of customers.

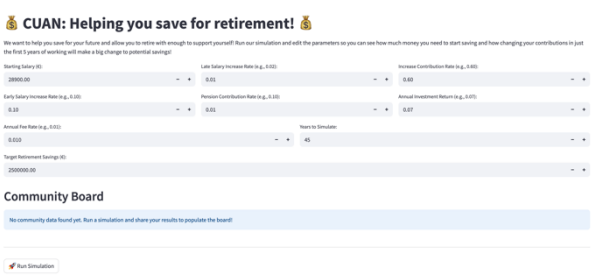
Year of the auto-enrolment scheme	Employee Contribution Rate
1 to 3	1.5%
4 to 6	3%
7 to 9	4.5%
10 and after	6%

The new auto-enrolment (Citizensinformation.ie, 2024) is 1.5% for the first three years and will max at 6% from ten years onwards. This is a good start and will give workers a good foundation for their pensions, but 6% may not be enough to have saved by the time they have retired. This is where we need to consider aspects of FIRE and saving more than what the government provides, as there are also tax benefits for contributing more to your pension that can be utilised.

How Much Can be Saved / Made with CUAN

By adopting elements of Save More Tomorrow and the increased saving strategy from FIRE, we can compare how much CUAN benefits investors and how it enables pension funds to perform in relation to the new auto-enrolment system that is being introduced in September.

Considering both pension funds, based on the 2019 median graduate salary of €28,900 (Stanley, 2022), with an initial contribution of 1.5%, and assuming a 7% annual return, alongside fees of 1% and a salary increase of 10% for the first five years followed by 1.5% thereafter, we can observe the difference between CUAN and the auto-enrolment.

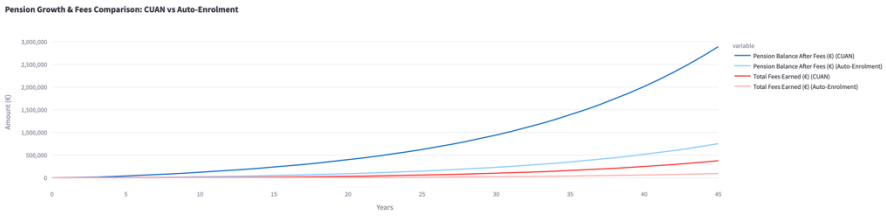


For the CUAN model, we will add 60% of the salary increase to an annual pension contribution during the first five years. After this period, there will be no further increases in contributions.

Using the CUAN approach, the pension balance is €2,894,503 after a 45-year working life, compared to €752,362 with auto-enrolment. This means that with CUAN, the pension amount is nearly four times greater.

Although the dramatic difference is further highlighted by the fees earned by pension funds, with CUAN accumulating €374,592 in fees compared to €92,489 in auto-enrolment, these fees represent a similar proportion of total accumulation (CUAN: 11.46% vs Auto-Enrolment: 10.95%). The fee percentages are comparable, indicating that the larger fund size accounts for the more than fourfold higher fees accumulated by CUAN.

The differences between the two strategies are evident in their contributions. CUAN's average contribution is €10,285, while that of auto-enrolment is €3,367. This indicates a higher contribution under CUAN and that the money is utilised more effectively. The total contributions for CUAN amount to €473,139 compared to €154,893, with the multipliers being 6.12x for CUAN and 4.86x for auto-enrolment. This means that for every €4.86 contributed by auto-enrolment, CUAN contributes €6.12, which is €1.26 more than if we were to do nothing.

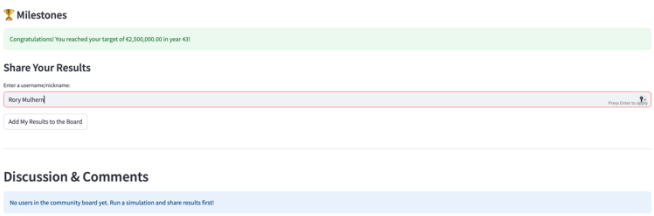


Along with a higher multiple, CUAN's continuous annual growth rate (CAGR) is 3.59% higher (21.62% compared to 18.03%); this slight difference in CAGR results in exponentially greater outcomes. After 45 years, CUAN outperformed auto-enrolment by over €2.1 million, representing a relative difference of 284.72%.

	CUAN	Auto-Enrolment
Final Pension Balance	€2,894,503.11	€752,362.29
Total Fees Earned	€374,591.88	€92,489.09
Avg. Annual Contribution	€10,285.64	€3,367.24
CAGR	21.62% pa.	18.03% pa.
Total Contributions	€473,139.41	€154,893.09
Contribution Multiplier	6.12	4.86
Fees as % of Accumulation	11.46%	10.95%

Social Aspect on CUAN, Mimicking FIRE

In line with the FIRE movement in the US, CUAN has an innovative discussion board, encouraging users to track their savings progress and compare it to their peers. Providing a place where users can share their achievements and goals, CUAN taps into gamification and social accountability, which has been proven to enhance commitment to savings (Conley, 2009)



While also allowing peers to see how you're doing, CUAN has gamification elements with milestones, points, and leaderboards that can be set up with who the user may want to be able to compare and encourage friends. Users can choose to share which stats they would like to from their savings, pension balance, and contribution amounts to CAGR. All of these can be compared through leaderboards, where the top savers are highlighted and rewarded with badges or recognition.

The discussion board allows users to have a support network, sharing tips and techniques and allowing users to share knowledge of financial literacy, similar to FIRE forums; but most importantly, it keeps with the social accountability of users to help them follow their goals.

The social feature allows for the collection of user data, which can be used to further CUAN's models through other machine learning and predictive analytics. This allows pension funds to offer plans that may suit a large portion of people they were missing out on. Understanding what motivates users to save more effectively is valuable for tailoring recommendations and personalising their financial planning tools.

Conclusion

CUAN offers a promising alternative to the standard auto-enrolment system that is planned for Ireland. By integrating behavioural economic principles from Save More Tomorrow and FIRE, CUAN achieves great pension accumulation by leveraging salary increases to encourage higher contributions in the early career stage.

Additionally, gamification and social accountability through discussion boards and leaderboards enhance engagement and motivation. The social aspect helps maintain consistent saving behaviours and promotes knowledge-sharing among users.

While CUAN shows strong performance, further improvements could include personalised recommendations with machine learning tools. Partnerships with pension funds and employers would vastly increase CUAN's reach, allowing for better wealth accumulation for individuals and helping them and their families in the future.

CUAN demonstrates the potential for an innovative, user-focused savings model to deliver superior retirement outcomes. It is adaptable and uses behavioural finance strategies, making it a valuable addition to Ireland's evolving pension landscape.

References

Benartzi, S. (2012) 'Shlomo Benartzi: Saving for tomorrow, tomorrow | TED', 23 February. Available at: https://www.youtube.com/watch?v=gzcw_02ZB1o (Accessed: 10 March 2025).

Citizensinformation.ie (2024) *Auto-enrolment pension*. Citizensinformation.ie. Available at: https://www.citizensinformation.ie/en/money-and-tax/personal-finance/pensions/auto-enrolment/ (Accessed: 14 March 2025).

Conley, D. (2009) 'Savings, Responsibility and Opportunity in America', *New America Foundation* [Preprint]. Available at: https://static.newamerica.org/attachments/4176-savings-responsibility-and-opportunity-in-america/nsc_savings_paper.272537698bb543cd8b22a164f8d53674.pdf (Accessed: 5 April 2025).

Department of Social Protection (2024) *Auto-enrolment retirement savings system for employees*. Available at: https://www.gov.ie/en/publication/2c7b3-automatic-enrolment-retirement-savings-system-for-employees/ (Accessed: 11 March 2025).

Kagan, J. (2024) *What Is the 4% Rule for Withdrawals in Retirement?*, *Investopedia*. Available at: https://www.investopedia.com/terms/f/four-percent-rule.asp (Accessed: 11 March 2025).

Kerr, A. (2024) *Financial Independence, Retire Early (FIRE): How It Works*, *Investopedia*. Available at: https://www.investopedia.com/terms/f/financial-independence-retire-early-fire.asp (Accessed: 11 March 2025).

OCED (2014) *OECD Reviews of Pension Systems: Ireland*, *OECD*. Available at: https://www.oecd.org/en/publications/oecd-reviews-of-pension-systems-ireland_9789264208834-en.html (Accessed: 11 March 2025).

Phillips, D. (2019) *Bridging the pension gap*, *The Irish Times*. Available at: https://www.irishtimes.com/special-reports/pensions-focus/bridging-the-pension-gap-1.4053822 (Accessed: 11 March 2025).

Stanley, B. (2022) *HEO12 - Graduate Earnings - data.gov.ie*. Available at: https://data.gov.ie/dataset/heo12-graduate-earnings (Accessed: 2 March 2025).

Thaler, R.H. and Benartzi, S. (2004) 'Save More Tomorrow™: Using Behavioral Economics to Increase Employee Saving', *Journal of Political Economy*, 112(S1), pp. S164–S187. Available at: https://doi.org/10.1086/380085.

Whelan, A. (2024) 'Average Pension in Ireland', *National Pension Helpline*, 3 March. Available at: https://nationalpensionhelpline.ie/pensions/average-pension-in-ireland/ (Accessed: 11 March 2025).

Whelan, A. (2025) 'Defined Contribution Pension Explained', *National Pension Helpline*. Available at: https://nationalpensionhelpline.ie/pension-ireland/defined-contribution-pension/ (Accessed: 10 March 2025).

Links to Code File, Group Video and Demo App

Google Colab File:
https://colab.research.google.com/drive/1qmeHNICfnegFVl3-eEuzB6fCg8Z-QCmF#scrollTo=BdxmLxaMlbeL

Streamlit Demo App:
https://econometrics.streamlit.app

Group Video:
https://youtu.be/VDf8ospPUS8