



McGill International Portfolio Challenge

2024 Edition

Florida Saves:

A Pilot Project for Integrated Liquidity

Disclosure

The case for the 2024 edition of the McGill International Portfolio Challenge was written by the students of FINE 464/664 – Pension Funds and Retirement Systems (Winter 2024), under the direction of Professor Sebastien Betermier at McGill University's Desautels Faculty of Management. Authors of the case include Tina Zhang (lead), Sofiane Bayou, Edison Cueva Huaricallo, Blake Dal Santo, Leonardo de Coninck, Yingqi Gao, Kamakhya Gupta, Daniel Kim, Jerry Ma, Ryan Salo, Charles Wan, and Kelly Zhang.

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Case Overview

Preface

The 8th edition of the McGill International Portfolio Challenge focuses on Florida Saves, a fictional savings pilot project for the U.S. state of Florida.

Recently, global emergencies such as COVID-19 and the inflation surge have elevated the need for short-term liquidity. As a result, not only are people less able to save for retirement, but they risk taking early withdrawals from their accumulated retirement funds to service their needs. Both consequences compound retirement uncertainty in today's economic climate, particularly in the U.S., where most participation in the retirement system is on a voluntary basis.

To address these challenges, Florida would like to establish a statewide, auto-enrolled retirement program. Florida Saves is still in its ideation phase and has the objective to provide up to 22 million Floridians with access to cost-effective, integrated liquidity solutions within their savings and retirement plan. The purpose of this case is to advise the Florida Department of Financial Services on creating a proposal for the design and implementation of Florida Saves, which will enable it to seek final approval by the U.S. Treasury. Although Florida Saves is fictional, real data from the U.S. and around the world is used to frame the discussion surrounding current social and economic conditions.

Florida Saves: A Pilot Project

Florida ranks among the top ten toughest states for saving, with households spending an outsized portion of income on housing and expenses compared to the national average.¹ It also faces elevated liquidity needs due to having the highest proportion of gig workers in the U.S.² To address these challenges and improve savings and retirement outcomes for its population, Florida's Department of Financial Services has hired your consulting team to design a pilot project that fulfills the following mission:

To empower Floridians to build and manage their wealth through innovative liquidity options that integrate with their retirement goals. By providing access to structured, cost-efficient liquidity solutions, Florida Saves aims to encourage greater savings, offer peace of mind through tax-efficient withdrawals, and safeguard against potential misuse and adverse behaviours.

The Importance of Integrated Liquidity in Retirement Solutions

Integrated liquidity refers to mechanisms within savings and retirement accounts by which individuals can access part, if not all, of their funds prematurely.

Long-term savings vehicles such as 401(k)s have traditionally been designed to be as illiquid as possible so that they can preserve capital and reap the benefits of compounding. Withdrawing funds early from a 401(k), for instance, incurs a 10% tax penalty.³ These design choices can disincentivize individuals who are in most need of liquidity from participating in such plans to begin with, thus harming their long-term savings outcomes. In addition, policymakers are finding that it increasingly difficult to justify keeping retirement funds illiquid in light of massive liquidity shocks such as the COVID-19 pandemic. In countries such as Peru and Chile, governments reacted by

opening the valve, letting individuals take penalty-free withdrawals of their retirement funds. While providing liquidity relief and assuaging peoples' short-term anxieties, the sudden access to liquidity has caused great instability in the retirement system and jeopardized their mandate to deliver long-term returns.

Florida Saves aims to navigate the middle ground between keeping savings completely illiquid and allowing unrestricted access to liquidity, drawing inspiration from similar reforms and initiatives around the world.

Offering Integrated Liquidity in a Pooled Plan

A differentiating characteristic of Florida Saves compared with existing state-run auto-enrolled retirement programs is that individual savings will be aggregated into a pooled plan. This will allow Florida Saves to run a centrally managed portfolio, or portfolios, depending on the liquidity structure. The hope is that the professionally managed investment strategy will leverage greater economies of scale to unlock diversified investment opportunities – for example, alternative assets – thereby providing attractive returns in a cost-efficient manner. Since individual contributions will take time to ramp up, the state is willing to make a kick-starter loan of \$30 billion at the current 10-year Florida municipal bond yield of 3.5%, to be repaid in 2035.⁴ The capital will be deployed immediately after project launch.

Case Objective

Florida's Department of Financial Services has contacted your team to help with the design of Florida Saves' integrated liquidity and investment strategies. They would like you to answer the following question:

How can we design an opt-out, state-wide DC with a centrally managed professional portfolio and integrated liquidity that operates more cost-effectively than a regular IRA?

- Opt-out means auto-enrollment. Florida Saves will operate like other states that have enacted auto-IRA programs. Employers that do not offer a retirement plan are required to automatically enroll their employees into these programs. Unlike a workplace-sponsored plan, the employer cannot contribute or match contributions in the auto-IRA; it is on the employee to save.⁵ Employees always have the option to opt out of the plan.
- Since integrated liquidity comes in the form of tax-free plan withdrawals, Florida Saves will require federal support, namely from the U.S. Treasury (Internal Revenue Service). With the project in its early stages, the Treasury is open to proposals for a new retirement savings product with tax exemptions. Your client, Florida's Department of Financial Services, urges your team to focus on the rationale behind your integrated liquidity design, without delving into tax law intricacies.
- Here is a back-of-the-envelope assumption on the project's baseline demographic. There are 10.7 million employed Floridians over the age of 16, not counting inmates and active-duty personnel. If we apply the 22% gig worker estimate (See: Need for Liquidity – Non-Traditional Working Arrangements), we are left with ~2.35 million individuals.⁶ Note that other state-run auto-enrollment programs have coverage beyond gig workers, for instance,

employees of small businesses without a workplace retirement plan. Your team is encouraged to refine the baseline assumption.

A successful proposal from your team will address the challenges and trade-offs associated with integrated liquidity as they pertain to the following dimensions:

- **How should liquidity be integrated?** What should the level and frequency of penalty-free withdrawals be? Should the liquidity be taken out of a single investment account up to a maximum withdrawal limit, or should it exist in its own 'pot' separate from the illiquid savings, or should it follow another structure? Global examples of integrated liquidity outlined in this case offer useful starting points.
- **What should the portfolio's investment strategy be in terms of asset allocation and a risk-return objective?** Since Florida Saves will pool investments under a professional management team, asset allocation can encompass more than simply fixed income and equity. The portfolio should have an optimized asset mix that can deliver against its target risk-return objective. If your team decides to keep the liquid and illiquid savings separate, the separate pots do not have to follow the same investment strategy (i.e., there can be multiple portfolios).
- **How can Florida Saves ensure program buy-in?** To encourage contributions, the plan should be simple and easy for the general population to understand. Studies show that people typically follow the path of least resistance, i.e., they take the default plan option presented.⁷ Your team should also make assumptions about how the plan evolves over time and consider the operational costs of running the program.

The following sections of this case provide further context on the U.S. retirement landscape, the need for liquidity, and associated challenges and trade-offs.

Overview of the U.S. Retirement Landscape and Its Limitations

Retirement Income Sources Available in the U.S.

The U.S. retirement landscape combines a set of systems that aim to provide retirement security, through both a social safety net and more flexible options.

Social Security

Social Security, formally known as the Old-Age, Survivors, and Disability Insurance (OASDI) program, provides a broad social safety net, primarily for retirees. The program operates on a pay-as-you-go (PAYG) basis, meaning that pensions are being paid for by active workers via taxes. Any individuals who work and pay taxes qualify for Social Security. The earliest age to access benefits is 62, with increasing payments at higher ages to incentivize delaying access.⁸ As of January 2024, the average Social Security check was \$1,907.⁹ In comparison, the average monthly cost of living is almost \$4,000.¹⁰ While Social Security keeps up with the cost of living through indexation to inflation, its benefits are modest by international standards.¹¹

Additional Retirement Options

In addition to Social Security, Americans have other retirement options that can be broadly divided into workplace defined benefit (DB) plans and defined contribution (DC) plans, as well as individual retirement accounts (IRAs).

The key difference between workplace DB and DC plans is that DBs offer guaranteed income without asset risk. In a DB, employees contribute a set amount based on salary and receive fixed distributions based on factors like salary and employment length. The employer manages the investments, and employees typically cannot influence the investment strategy or withdraw funds until retirement. In contrast, DC plans, like 401(k)s, offer greater flexibility in contribution amounts but no guaranteed payout. Employees defer a portion of their salary, which the employer may match, and the deferred income remains tax-free until retirement.¹² With employers contributing ~\$190 billion annually at an average 50% match, and tax incentives worth ~\$120 billion annually, 401(k)s and other DC plans can be powerful retirement tools when used effectively.¹³

The public sector has remained largely DB while the private sector has shifted to DCs, with many private-sector workers supplementing their retirement income through IRAs (*Figure A*).¹⁴ As of 2021, DC plans now outnumber DB plans by 14 to 1 (*Figure B*).¹⁵

Figure A: US Retirement Assets (Trillions)

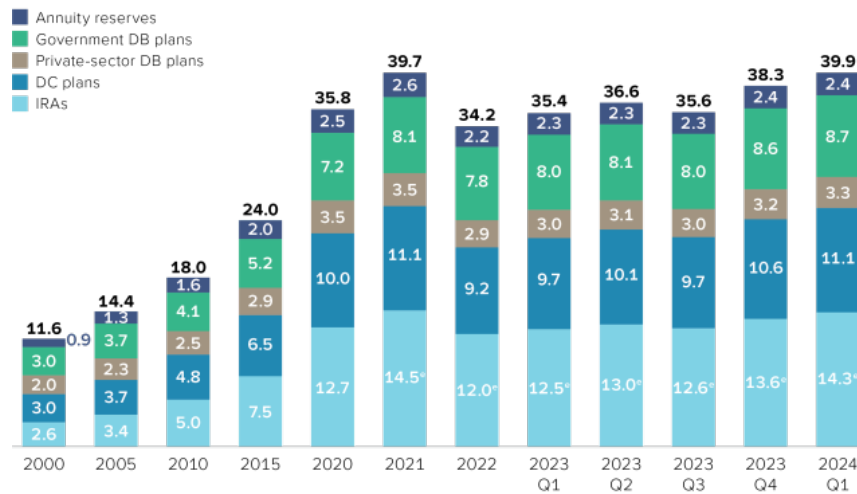
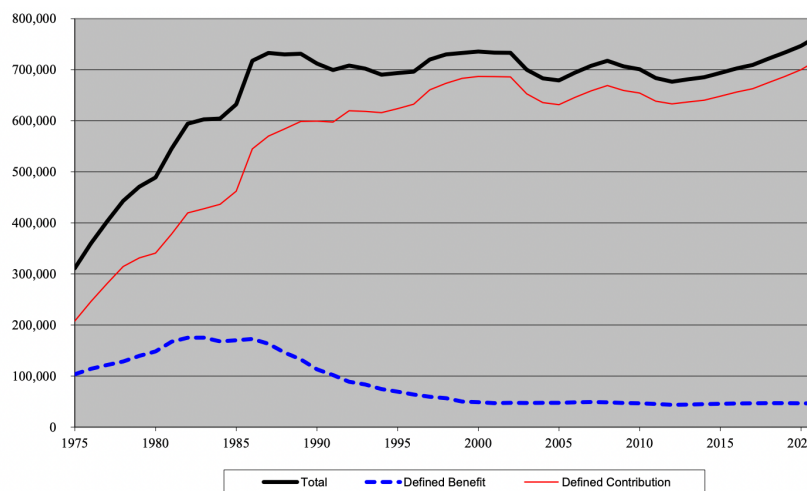


Figure B: Number of Pension Plans by Type of Plan, 1975-2021



Key Trends

In 2024, the U.S. retirement landscape is undergoing significant shifts. 18% of the country’s population, or 60 million people, are now over 65 – the average retirement age – with 4.1 million more reaching that milestone this year.^{16,17} Life expectancy at age 65 has nearly doubled since Social Security was established in 1935, reaching 17 years for men and 19.8 years for women in 2021.¹⁸ Longer lifespans mean most workers can expect to spend 20-30 years in retirement. Healthcare costs are also expected to rise in this extended retirement period.¹⁹

The Baby Boomer generation (1945-1964) is the first to largely move away from traditional DB plans. In the 1980s, over 60% of private sector workers depended on pensions as their only retirement account. By contrast, in 2020, only 4% do.²⁰ This shift is crucial as DB plans once replaced about 70% of income in retirement, a level shown to maintain life satisfaction.²¹ Without

this guaranteed income, workers now bear the responsibility of funding their retirement, facing both longevity and asset risks.

Social Security replaces around 40% of income, but its reserves are projected to deplete by 2035, strained by fewer active workers supporting more retirees (*Figure C, Figure D*).^{22,23} To match the security of a DB plan, Americans must save rigorously to cover at least the remaining 30%, often through voluntary retirement tools.

Figure C: Gross Replacement Rate Including Voluntary Contributions (not Social Security) from Different Ages (%)

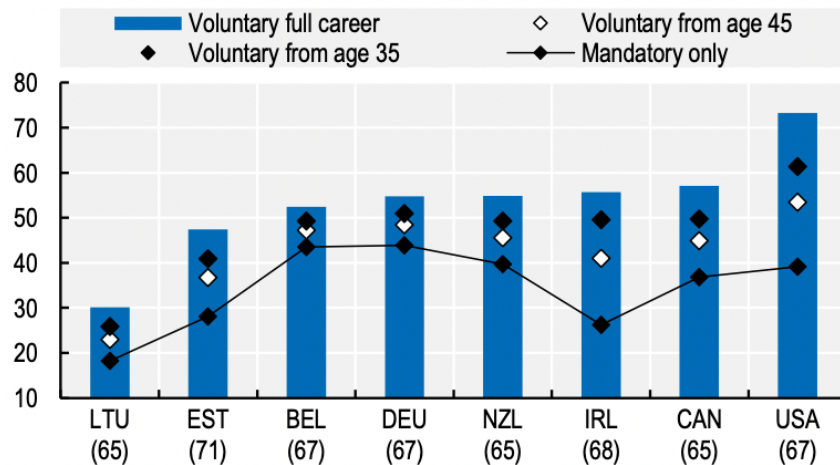
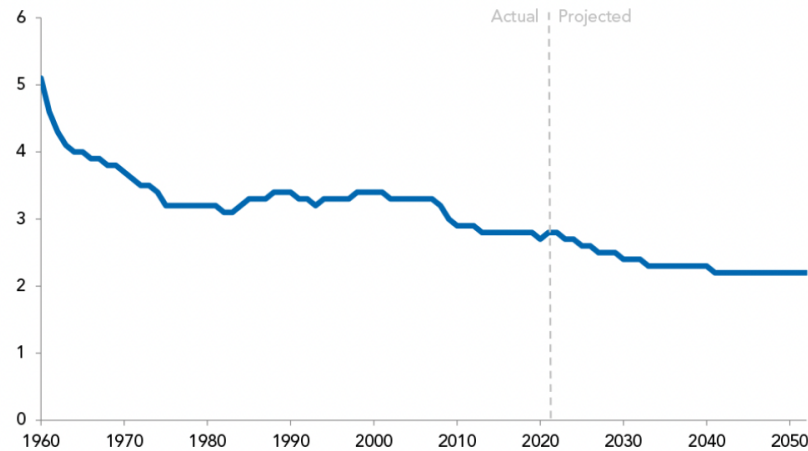


Figure D: Social Security Worker-To-Retiree Ratio



SOURCE: Social Security Administration, *The 2022 OASDI Trustees Report*, June 2022.
 NOTE: Calculated ratio uses beneficiaries from both the OASI and DI Trust Funds. Projections reflect the Trustees' intermediate assumptions.
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Factors Driving Inadequate Voluntary Pension Contributions

Despite support via employer matching and government tax benefits, 1 in 5 adults aged 50 and above have no retirement savings, and most worry about insufficient funds for retirement.²⁴ Several factors limit Americans' ability to fully utilize voluntary pension tools.

Early Withdrawal Penalties

DCs are designed to be illiquid to preserve capital and reap the benefits of compounding. Withdrawing funds from a 401(k) before age 59 ½ incur a 10% tax penalty on top of any income tax. Studies show that this incentive favors wealthier individuals who can afford to keep funds illiquid.²⁵ For example, one paper found that only 9% of savers with parents in the top income quintile take early withdrawals, compared to 16% of those with parents in the bottom quintile.²⁶ Consequently, strict early withdrawal penalties may discourage meaningful savings participation to begin with, especially from those who stand to benefit the most from saving.

Legislation does make exceptions for some withdrawals, notably for first-time homebuying and terminal illness. The Secure 2.0 Act of 2022 takes further steps to offer flexibility in hopes of expanding coverage. Section 115 allow for a financial emergency withdrawal of up to \$1,000 per year, with restrictions on further withdrawals until the initial amount is repaid.²⁷

Individual Investing Limitations

The majority of 401(k)s and IRAs are invested in equity funds, primarily mutual funds offered by institutional investors such as BlackRock, Vanguard, and State Street. However, choosing and maintaining the right investment requires financial literacy, which many individuals may lack. For example, 3 out of 5 people fail to rebalance their portfolios on a regular basis.²⁸ Studies have shown that employees who receive professional investment help achieve median annual returns (net of fees) that are 3.32% higher on average than those managing their own portfolios, which can result in a 79% disparity in wealth over 20 years.²⁹

Target date funds, which adjust their asset allocation between equity and lower-risk investments (e.g. fixed income) to converge on an appropriate risk level by a specified date, have gained popularity for addressing some of these challenges. However, they have their own limitations. A founder of a U.S. wealth management firm noted in a recent op-ed that target date funds often lack post-retirement strategies, and tend to be standardized, conservative, and costly.³⁰

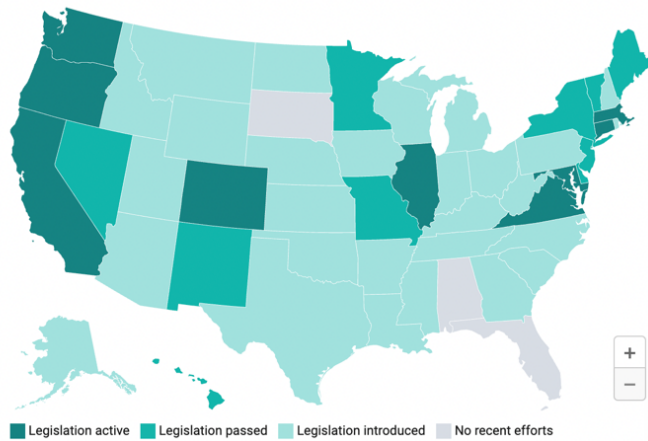
Individual plans also miss out on the benefits of pooled, professionally managed retirement plans. Due to the liquid nature of equity and target-date funds, individuals lack access to diversified portfolios, including assets that offer illiquidity premiums, such as private equity and infrastructure. In contrast, the Australian DC system, with its centrally managed superannuation funds, leverages its A\$3.4 trillion AUM to access illiquid investment strategies. For example, ~20% of AustralianSuper's A\$335 billion AUM is allocated to alternative assets including private equity, infrastructure, and real estate.³¹

Lack of Access

Nearly 57 million Americans do not have access to a retirement plan at work. While IRAs are available to anyone with earned income, there is a significant behavioural obstacle. Studies show

that people are 15 times more likely to save for retirement when they have access to a workplace plan.³² States are increasingly auto-enrolling workers in IRAs, especially those that fall outside of traditional workplace arrangements. 10 states currently offer a plan, another 9 have pending legislation, and 28 have are considering program options (*Figure E*).³³ Florida remains a notable exception.

Figure E: Auto-Enrollment Efforts by State



Need for Liquidity

Factors Driving the Need for Liquidity in the U.S.

Savings Crisis

The U.S. household savings rate was 3.6% in April 2024, near all-time lows (*Figure F*).³⁴ More than 1 in 4 individuals have less than \$1,000 in savings, with rising living costs and consumer indebtedness being the two primary barriers to saving.

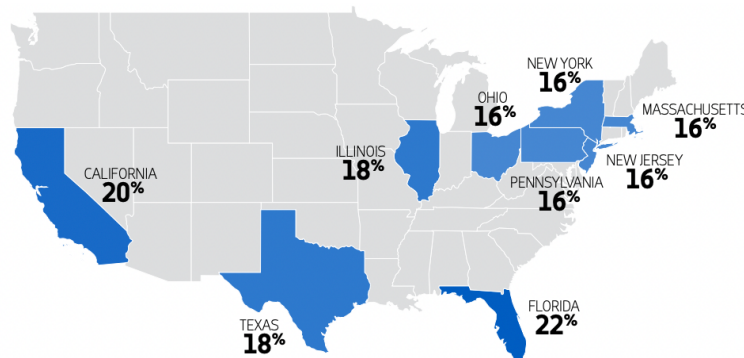
Figure F: U.S. Household Savings Rate



Non-Traditional Working Arrangements

The rise of the gig-economy, where workers are freelance or on a contractual basis without traditional workplace benefits, increases financial uncertainty thus compounding the need for liquidity. Approximately 6% of the American workforce is comprised of gig-workers. Florida has the highest proportion of gig-workers (22%) (*Figure G*).³⁵

Figure G: Top States with Highest Proportion of Gig Workers



COVID-19 Emergency Liquidity Provisions

The COVID-19 pandemic highlighted the need for liquidity during emergencies, as widespread job losses and rising expenses forced many to choose between immediate needs and retirement security. To provide liquidity, some governments allowed pension fund withdrawals. Defined

contribution pension structures are especially vulnerable to such withdrawals because an individual’s contributions accumulate in their own account, as opposed to defined benefit plans where retirement benefits are extracted from a pooled fund.

Latin America

The economic impact of COVID-19 was particularly severe in Latin America, which saw a GDP drop of -6.8% in 2020, double the global average of -3.2%.³⁶ We examine the cases of COVID-era pension withdrawals in Peru and Chile, both of which offer defined contribution pensions run by private *administradoras de fondos de pensiones (AFPs)*. In Peru, the government approved seven different emergency withdrawals between 2020 and 2024. The largest withdrawal in April of 2020 saw 3.8 million Peruvians withdraw up to 25% of their funds, an aggregate outflow equivalent to ~US\$5 billion.³⁷ In total, the withdrawals halved the AFPs’ AUM from ~23% of Peru’s GDP in 2019, to ~12% in 2023 (Figure H).³⁸ A similar story unfolded in Chile, where the government approved three separate withdrawals in 2020. As a result, the country’s \$200 billion pension system, which had been equivalent to 80% of GDP, experienced a ~\$50 billion outflow.³⁹

Figure H: Peru AFP AUM (Circles denote withdrawal dates)



Withdrawals not only jeopardized future retirement outcomes but also disproportionately impacted individual accounts. Wealthier individuals withdrew less, while the most vulnerable often depleted their accounts entirely. In Chile, three rounds of withdrawals wiped out the retirement savings of 4.2 million people, especially those cycling in and out of the formal workforce who already viewed their pension as unstable.⁴⁰

The examples of Peru and Chile also raise concerns about the precedent being set for emergency withdrawals. While COVID-19 was a clear event, the subsequent cost of living crisis put pensions under frequent pressure to liquidate assets, undermining the long-term integrity of the system. As one CIO of a Peruvian AFP put it, “it’s the equivalent to a run on the bank”.⁴¹ Without integrated liquidity, individuals were inclined to over-withdraw whenever the government allowed access, either parking the funds in liquid savings products or spending them immediately since they were uncertain whether future withdrawals would be possible.

The U.S.

In the U.S., regulators allowed for some COVID-specific emergency withdrawals to improve liquidity. Section 2202 of the CARES Act enabled penalty-free 401(k) and IRA withdrawals of up to \$100,000.⁴² As previously mentioned, any withdrawals from a 401(k) or IRA before age 59 ½ would incur a 10% penalty. Individuals were also incentivized by income tax refunds to replenish their savings within three years following withdrawal. However, many couldn't take advantage of this due to ongoing liquidity challenges.⁴³

Unlike Peru and Chile, it is difficult to pinpoint the extent that emergency withdrawals affected the level of U.S. retirement savings. For one, individuals received COVID relief funds that boosted the U.S. personal savings rate to highs of 32% in April 2020.⁴⁴ At the end of Q1 2024, the level of 401(k) and IRA assets has grown ~12% relative to 2020.⁴⁵ There is likely a netting effect between emergency withdrawals, temporary uptick in savings followed by downturns attributable to cost of living pressures, and finally, equity market gains. Many U.S. retirement accounts are partially invested in U.S. equity market indices, and the S&P500 has returned ~40% between 2021 and Q1 2024. Irrespective of the true long-term impact of emergency withdrawals, the U.S. government's relaxation of withdrawal rules during COVID underscores that improving access to liquidity is a key focus in retirement policymaking.

Global Experiments in Integrated Liquidity

Several countries have undertaken initiatives to offer integrated liquidity, catalyzed in part by COVID-19. To recap, integrated liquidity refers to mechanisms within savings and retirement accounts by which individuals can access part, if not all, of their funds prematurely. We examine South Africa's Two Pot Reform and the UK's National Employment Savings Trust (NEST), followed by a review of U.S. initiatives.

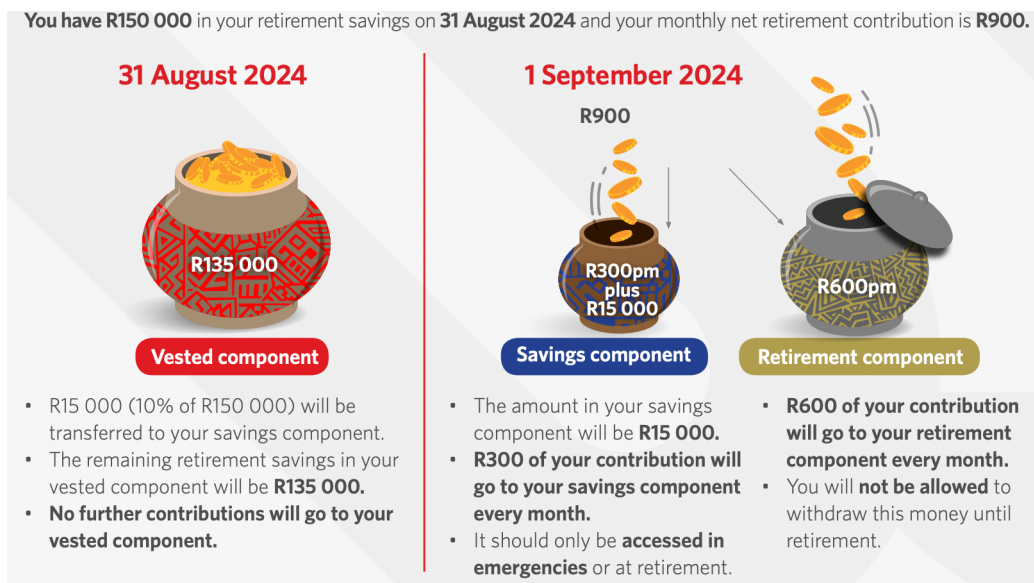
South Africa

In South Africa, the Two Pot System is slated to begin implementation in September 2024, following the signing of the Pension Funds Amendment Bill into law in July 2024.⁴⁶ The Two Pot System aims to redesign the liquidity structure of the pension, with the core idea of keeping one-third of total contributions in a liquid pot, available to be withdrawn for immediate financial needs. South Africa has historically faced challenges surrounding the lack of preservation of retirement funds before retirement age. Previous regulations allowed up to a full withdrawal of funds upon changing or leaving jobs, saddling individuals with tax penalties and insufficient capital upon retirement. Despite penalties for early withdrawals, anecdotal evidence shows that some South Africans quit their jobs specifically to access their pension savings due to urgent liquidity needs.⁴⁷

In response to these challenges, the National Treasury first proposed the Two Pot System in 2021, working with key stakeholders such as labor unions to define a new liquidity structure. Although the name implies two components, contributions will be divided into three: 1) the Vested Pot, encompassing all funds contributed prior to September 1st, 2) the Savings Pot, enabling liquidity through one annual penalty-free withdrawal of up to 1/3 of new contributions, and 3) the Retirement Pot, preserving the remaining 2/3 of new contributions until retirement.⁴⁸ The Savings Pot will be seeded through a one-time transfer from the Vested Pot, with the amount being the

lower of 10% of an individual’s retirement savings or the equivalent of ~US\$1,650. In practice, this will be the first opportunity for South Africans to access part of their retirement savings (Figure I).⁴⁹

Figure I: Two Pot Illustrative Example



Increased liquidity makes the Retirement Pot’s strict capital preservation mandate more palatable as the reform eliminates the prior practice of allowing full withdrawals before retirement age. Hence, by offering structured liquidity and curbing extreme withdrawals, the South African government hopes to alleviate pensioners’ anxiety over liquidity, attract more investment into the pension system, and improve overall retirement savings outcomes.

The UK

In the UK, the National Employment Savings Trust (NEST) launched a workplace sidecar savings trial that aims to provide a hybrid solution addressing emergency and retirement savings. The trial ran from 2019 to 2023, featuring 5 employers and over 80,000 low- to moderate-income employees.⁵⁰ NEST introduced a system called ‘Jars’, where employees signed up via payroll for an accessible savings account that would sit alongside their pension pot. They would then set a contribution rate to meet their savings target. Each payday, contributions were automatically transferred from their salary into their Jar. Once the savings target was met, future contributions were automatically rolled over into the pension pot. There was no limit on the amount or frequency of withdrawals from the Jar, ensuring employees could access funds during emergencies while promoting disciplined saving towards retirement by replenishing the Jar when savings fell below the target.

The trial yielded promising results for liquidity products that build up peoples’ comfort and capacity to save. After 18 months, 99% of Jars accounts were still active, with 60% of participants making withdrawals. The median savings balance after 12 months was US\$490. For context, 56% of UK adults have less than US\$600 in savings, and 25% have no savings at all. However, the opt-in nature of Jars was a limitation, as only ~1% of eligible employees signed up despite 46%

indicating interest. NEST conducted another research trial in 2021 to test the behavioral effectiveness of an opt-out, or auto-save, system instead.⁵¹ Auto-save showed significant improvement, yielding an average savings balance that was four times higher than in the opt-in case. NEST's trials underscore the importance of flexibility and behavioral design in improving personal savings habits, which then strengthen retirement planning.

The U.S.

U.S. initiatives to improve emergency savings without compromising retirement security are relatively nascent. From 2019 to 2022, BlackRock's Emergency Savings Initiative (ESI) partnered with employers, fintechs, and NPOs to study effective savings solutions.⁵² The research showed that emergency savings act as a crucial buffer against early withdrawals from retirement accounts. During COVID, low-income households with at least \$1,000 in emergency savings were half as likely to tap into their retirement accounts. Pairing emergency savings with a retirement plan also made individuals 70% more likely to contribute to their DC plan.

The ESI supported policy action, leading to new provisions in the Secure 2.0 federal legislation. Under Section 127 of the Secure 2.0 Act of 2022, employers can offer non-highly compensated employees separate emergency savings accounts, with auto-enrollment contributions up to 3% of salary, capped at \$2,500.⁵³ Contributions above the cap can be redirected into an IRA or paused until the balance falls below the cap, and the account offers four fee-free withdrawals per year for liquidity.

Key Trade-Offs for Florida Saves

Given the complexity of this challenge, a successful proposal must balance key trade-offs.

How much liquidity should Florida Saves include at the expense of long-term savings accumulation?

The premise of savings initiatives such as the NEST sidecar is that providing some level of liquidity can encourage people to save more. However, this comes at a cost.

On the one hand, a conservative amount of liquidity keeps a greater proportion of contributions as long-term savings and thereby facilitates a more stable portfolio and investment strategy. Too little liquidity, however, undermines the purpose of Florida Saves and destroys program buy-in as people do not see the appeal of participating.

On the other hand, a liberal amount of liquidity empowers people to address their short-term needs and could encourage faster recoveries after periods of stress as people can sooner get back on track with their savings. Too much liquidity can also have adverse effects. As seen in COVID-era Latin America, the system can be prone to abuse as people withdraw more than immediately needed, only to reallocate it, sub-optimally, into chequing accounts. Frequent outflows also put pressure on longer-term investment strategies and can compound operational costs.

Should Florida Saves offer a single account with built-in liquidity, or separate liquid and illiquid accounts?

While the most straightforward way to provide liquidity is to keep everything in a single investment account and cap withdrawals against a chosen metric (e.g. % of total account balance, % of contributions, % of salary, etc.), existing liquidity programs such as South Africa's Two Pot and the UK's NEST sidecar have incorporated additional layers such as separating the contributions into liquid and illiquid accounts, or having the illiquid account capture the overflow from the liquid account. It is worthwhile to examine the behavioural aspects underpinning these programs to help inform your team's liquidity design-choices.

We emphasize that the global examples are a starting point and should not necessarily be used as exact templates. The integrated liquidity of Florida Saves should be tailored to the needs of the program's target demographic: Floridians, particularly those in non-traditional working arrangements. Furthermore, the program should fit within the broader context of the U.S. savings and retirement system.

How much illiquidity premium should the investment strategy aim to capture? Should the fund invest in private assets?

The investable universe of Florida Saves' portfolio can be assessed along a spectrum ranging from short-term liquid instruments (public markets) to long-term illiquid assets (private markets). By pooling the contributions under a centrally managed portfolio, Florida Saves has the ability to capture some amount of illiquidity premium, i.e., extra returns to compensate for the risk of not being able to liquidate an asset in the short-term. However, illiquid assets have longer lock-up periods and offer less transparency and greater timing mismatch with regards to valuation. These

factors can affect the capability of the fund to service participant withdrawals, especially during times of liquidity crisis.

If the fund invests in private assets, there should also be considerations made regarding investment execution. Will Florida Saves have the capabilities for direct investing? Or will it be more feasible to take a fund-of-funds approach? The relative allocation between illiquid and liquid assets should be cohesive with the program's integrated liquidity offering.

How can the fund ensure adequate diversification while maximizing expected returns?

Your team's asset mix should aim to provide a diversified return stream that is downside protected during liquidity shocks, which may coincide with higher withdrawal demands. While Florida Saves does not have a pre-defined risk-return objective, consider what a relevant benchmark may be. Florida Saves is competing with existing U.S. savings and retirement products, so the risk-return profile should attract program buy-in and justify all resources invested in the pilot, including the kick-starter loan of \$30 billion at 3.5% per annum.

Below are some assets classes to consider in your team's portfolio construction:

- Equities – the inclusion of U.S. and/or global equities can provide higher, often inflation-protected returns. This can come at the expense of increased volatility, thereby leading to greater fluctuations in portfolio value.
- Bonds – the inclusion of long-duration bonds in traditional pension funds serves to match the liabilities (retirement benefits) while simultaneously minimizing investment risk (rollover) and interest rate risk. However, this leads to low liquidity in the short-term.
- Alternatives – the inclusion of alternative assets such as private equity, real estate, infrastructure, and commodities, among others, can diversify the portfolio beyond equities and bonds, potentially generating higher returns and hedging against risks such as inflation. However, alternatives can be complex to manage and face increased liquidity risk.

Should Florida Saves aim for the most optimized product, or one that may not be optimal but is simpler to understand and operate?

While this challenge involves plenty of optimization, we encourage your team to consider the business aspects of the proposal as well. Although Florida Saves participants will be auto enrolled, they should still be able to quickly grasp the value of the product in order to generate a positive feedback loop and maximize contributions for the program. Balancing a theoretically optimized product with practical execution is key, especially as the pilot project is starting from scratch and requires operational resources.

Illustrative Examples of Integrated Liquidity

How can Florida Saves offer the optimal level of liquidity? The following section outlines four possible examples that demonstrate the trade-offs that arise when designing a savings product with integrated liquidity. Each of the four examples shows how the chosen liquidity design and investment strategy affect a hypothetical Florida Saves participant's savings balance in the first 10 years of the pilot launch. Specifically, we plot for each example three possible simulations on varying withdrawal intensities. Note that the simulations are at the individual account and not the fund, level.

- Low Withdrawal Simulation – participants will withdraw near the lower end of the allowable amount each year, if they withdraw at all. The simulation assumes the lowest liquidity need and therefore yields the highest savings accumulation on average.
- Moderate Withdrawal Simulation – participants will withdraw anywhere between the maximum allowable amount each year and nothing at all.
- High Withdrawal Simulation – participants will withdraw near the maximum allowable amount each year. The simulation assumes the highest liquidity need and therefore yields the lowest savings accumulation on average.

To interpret the charts, the stacked bars map to the primary Y-axis and show the annual contributions (dark orange), withdrawals (grey), and gross portfolio returns (light orange), while the area chart maps to the secondary Y-axis and shows the total account balance over time (green). The full set of withdrawal simulations can be found in the accompanying Excel file. The charts shown in the following section highlight the moderate withdrawal simulation only.

Model Inputs

All four examples are modelled on the assumption that contributions are made as a lump sum at the beginning of the year, and withdrawals are made as a lump sum at the end of the year.

Salary: The individual's salary at the time of program launch is \$50,000. The salary is assumed to be indexed to an inflation rate of 2% per annum.

Savings Contribution: The individual's annual savings contribution is set at 8% of their salary.

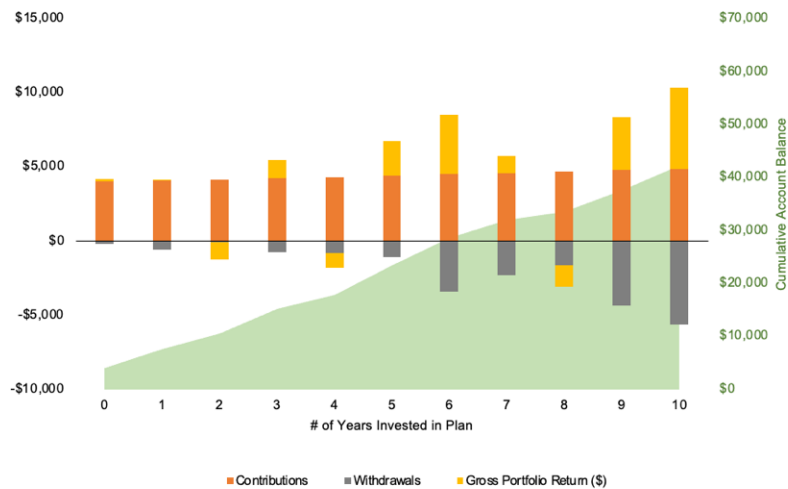
Portfolios: The annual portfolio returns are assumed to follow a normal distribution.

- *Balanced Portfolio:* 5% expected return, 10% volatility
- *Liquid Portfolio:* 3.5% expected return, 5% volatility
- *Illiquid Portfolio:* 7% expected return, 12% volatility

We emphasize that these examples are highly simplified and shown strictly for illustrative purposes. Florida's Department of Financial Services is looking to receive from your team a more sophisticated set of recommendations that will ultimately guide the design of the integrated liquidity savings product.

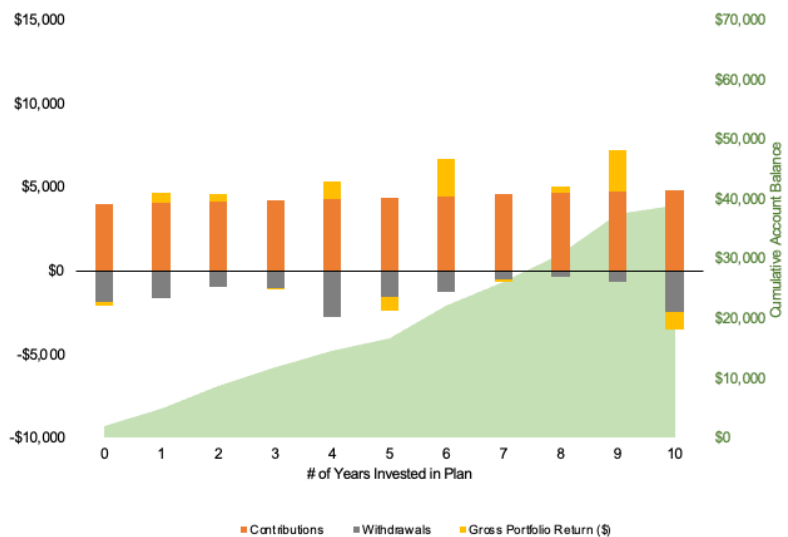
Example 1: Max. Withdrawal of 12% of Total Account Balance, Single Portfolio

The first example features a single balanced portfolio where each year, the participant can withdraw up to 12% of their total account balance. This includes their contributions, and the returns earned on contributions. As the account grows, more liquidity becomes accessible, reflecting the view that individuals need more liquidity later in life. Since everything is invested within a single balanced portfolio, large inflow and outflows could impact investment stability.



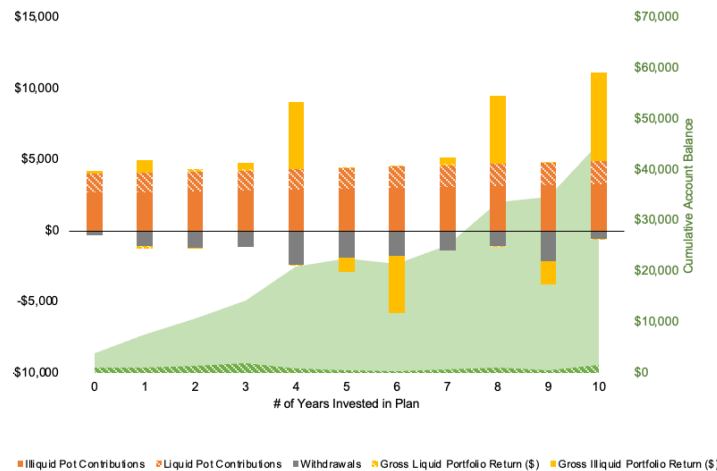
Example 2: Max. Withdrawal of 5% of Salary, Single Portfolio

The second example features a single balanced portfolio where each year, the participant can withdraw from their total account balance an amount equal to 5% of their salary. The amount of accessible liquidity remains consistent over time, even as the account balance grows due to contributions being greater than the withdrawal limit. The example assumes individuals require a similar level of liquidity throughout life. Again, large capital flows within a single balanced portfolio may lead to sub-optimal investments.



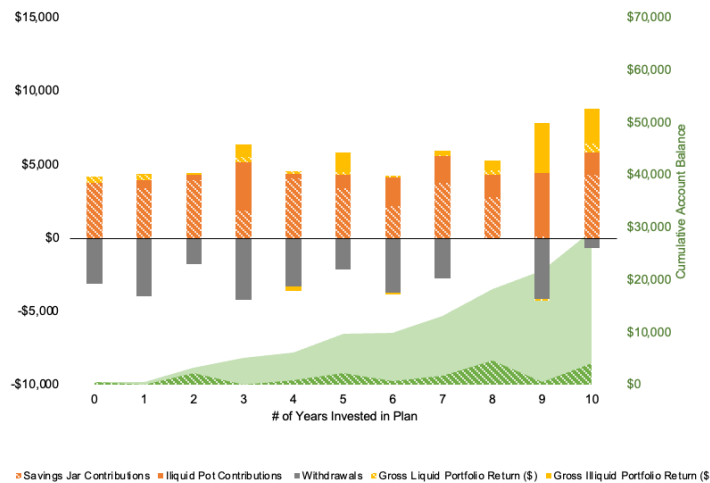
Example 3: Max. Withdrawal of 100% of Contributions ('Two Pot'), Two Portfolios

The third example adds to the first and second by introducing a liquid and illiquid pot. Every year, 1/3 of the participant's salary contribution is invested in a liquid portfolio (dashed) and the remaining 2/3 are invested in an illiquid portfolio (solid). They can withdraw up to 100% of their liquid balance each year while the illiquid balance remains untouched until retirement. This example provides flexibility of withdrawals in the liquid pot while preserving capital in the illiquid pot. Compared with the other examples, it assumes individuals require less liquidity overall, but the amount of accessible liquidity tracks the same path as Example 1. Maintaining two portfolios may also increase operational costs and complexity.



Example 4: Max. Withdrawal of 100% of Savings Jar ('NEST'), Two Portfolios

The fourth example focuses on maximizing liquidity to incentivize saving. All contributions made up to the savings target sit within the Savings Jar and are invested in a liquid portfolio, while any excess contributions get invested in an illiquid portfolio. Every year, the participant can withdraw up to 100% of their Savings Jar, while they can only touch their illiquid balance upon retirement. While the example offers the most liquidity of the four examples and has a strong behavioral design, uncertain inflows into the illiquid portfolio may limit the effectiveness of long-term investments. Managing the program could also become operationally intensive.



These examples are only a starting point. Your team is encouraged to explore other ways to integrate liquidity, such as incorporating behavioral analysis of individuals' savings and withdrawal habits, utilizing more dynamic contribution and withdrawal rules, and building a more comprehensive portfolio(s) that are correlated with liquidity shocks. Additionally, consider other sources of liquidity within the U.S. savings and retirement landscape when evaluating optimal solutions. Florida's Department of Financial Services are keen to hear your insights.

Report Guidelines

For their proposals, participants should submit a 1-page executive summary and a detailed report. The report should not exceed 7 pages (excluding the executive summary, references, and appendices). Participants are free to format the report as they wish (i.e. no required font, margin, spacing, etc....) The report will be evaluated based on its content, clarity, presentation, and conciseness.

The submission should not contain any indication of the participants' university to avoid any bias from the judges. Instead, participants should create an alternative team name for their investment consultancy firm working with Florida Saves. The alternative name should also bear no link to the team's university name nor location to ensure fairness amongst participants of the competition.

Participants are expected to propose a comprehensive proposal for Florida Saves that outline both the integrated liquidity of the plan and its investment strategy. The case is designed to be open-ended. Participants should feel free to make assumptions wherever needed and use any data they see fit. All facts presented in the case merely act as guiding points, so participants are free to incorporate only the sections that they need.

We strongly recommend that participants look at the 1) pedagogical notes about past winning proposals available on the MIPC website, and 2) the post-mortem documents from previous MIPC editions. These documents will give participants many clues as to what judges look for in winning proposals.

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