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Comparing Economics-Based and Conventional Financial Planning

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XY Planning Network Webinar

AGENDA

1. Consumption Smoothing and Economics-Based Planning
2. History of Economics-Based Financial Thought
3. Economics-Based Planning versus Conventional Planning
4. Illustrating Consumption Smoothing
5. Case Studies

Economics-Base Financial Planning

Economics' Life Cycle Theory is a Century Old

- All modern finance is based on the life-cycle theory
- Life Cycle Theory first developed by Yale's Irving Fisher
- Theory's key prediction -- consumption smoothing
- Consumption smoothing's goal -- a stable living standard
- A stable living standard over time and times, good & bad

Satiation Leads to Consumption Smoothing

Consumption Smoothing Reflects Satiation

- Eating 1st cupcake feels better than eating 20th at same sitting
- Goal: eat your cupcakes over time, not all at once
- This is consumption smoothing
- Thus, consumption smoothing is rooted in physiology

Lifetime Utility (Happiness) from Consumption

Life Cycle Model Captures Satiation Mathematically

- Happiness in year t is typically expressed as $U_t = {C_t}^{1-\gamma}/(1\text{-}\gamma)$
- Lifetime Happiness is sum of annual happinesses
- U_t stands for happiness (utility) at time t
- C_t stands for consumption at time t
- γ reflects satiation. The bigger is γ, the faster satiation sets in.
- Economists call γ the degree of risk aversion
- People that are very risk averse care much more about the downside (consuming less) than the upside (consuming more)

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The Life-Cycle Theory's Dictum

Maximize Lifetime Happiness Given Your Lifetime Budget

- Lifetime budget says present value of annual consumptions can't exceed the present value of economic resources
- Economic Resources are present value sum of assets, future labor earnings, and future benefits less future taxes
- Cashflow constraint is an extra constraint. Household can't borrow beyond a fixed amount, which may be zero.
- In simplest case, utility maximization solution is to consume the same amount annually. More complex cases involves consumption gradually rising or falling
- Either way, this is consumption smoothing

Consumption Smoothing Explains It All

Life Cycle Model Unifies Saving, Insurance, Diversification Decisions

- Why save? Starving when old would dramatically lower lifetime utility. Better to give up some consumption when young.
- Why buy insurance? Being uninsured when you need, say, expensive medical care would dramatically lower lifetime utility. Better to buy insurance and consume less when healthy.
- Why diversify your investments? Losing your shirt when the market crashes would dramatically lower lifetime utility. Better to hold less in stock and consume less when stocks boom.

The Life Cycle Model's Impact on History of Financial Thought

Multiple Nobel Prizes in Finance Based in Part/Full on Life Cycle Model

- Franco Modigliani used the life cycle model to explain national saving and growth. He won the Nobel Prize in Economics
- Bill Sharpe, Harry Markowitz, and James Tobin used the Life Cycle Model to develop or extend the Capital Asset Pricing Model. Each won the Nobel Prize in Economics.
- Menachem Yaari used Life Cycle Model to explain and integrate life insurance and annuity insurance. He should win the Nobel Prize.
- Robert Merton used the Life Cycle Model to write *Continuous Time Finance*. He won the Nobel Prize in Economics.
- Many other economists, including Milton Friedman, have received the Nobel Prize for work in whole or in part based on the Life Cycle Model

Conventional Personal Finance

Conventional Personal Finance – Consumption Disruption, Not Smoothing

- Conventional planning asks clients to set their post-retirement spending goal and save to meet it
- If retirement spending goal is set too low, client will spend too much pre-retirement and experience a drop in consumption at retirement.
- If retirement spending goal is set too high, client will spend too little pre-retirement and experience a jump in consumption at retirement.
- Either way this is consumption disruption, not consumption smoothing
- Conventional planning gives wrong saving and spending recommendations

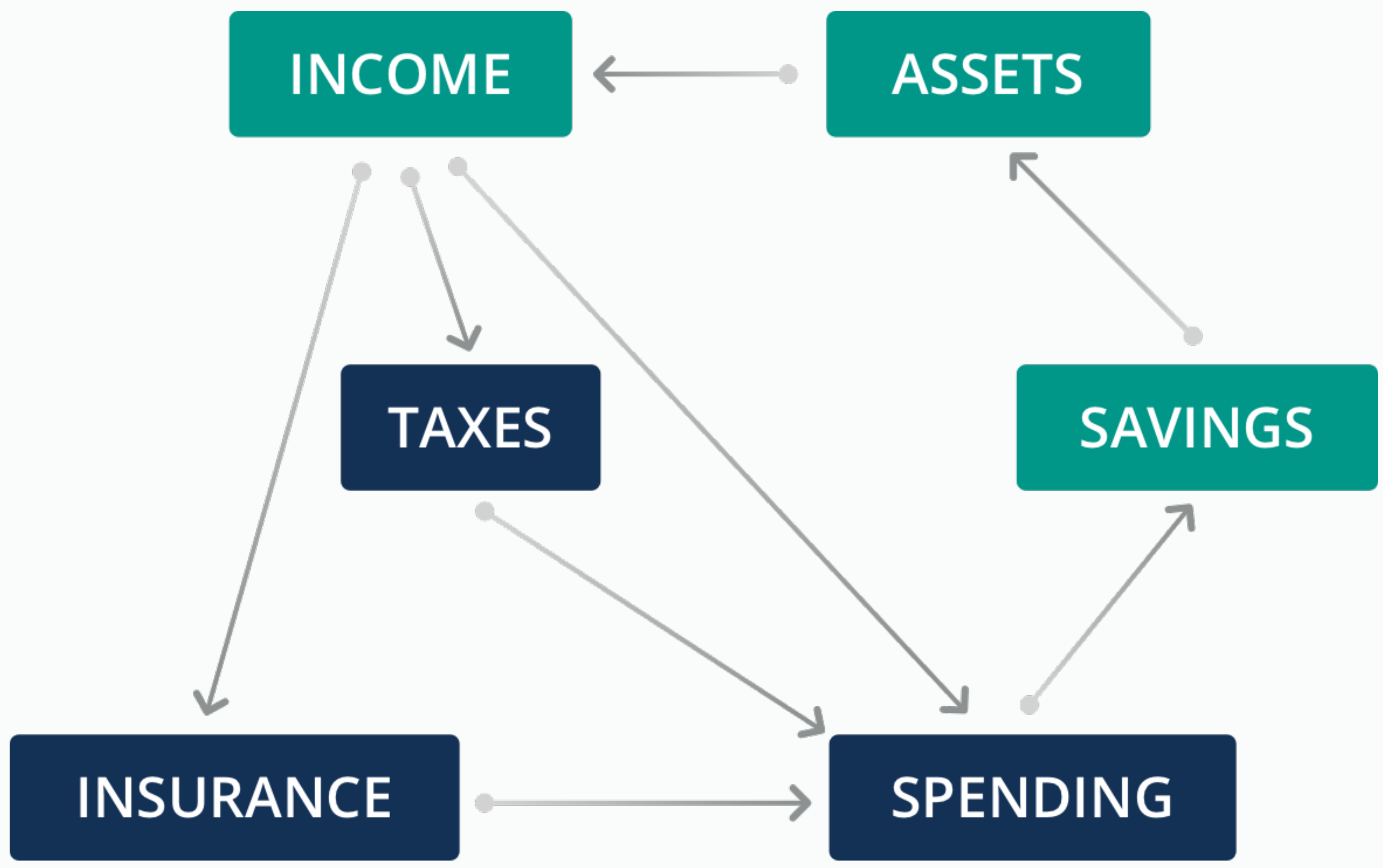
Conventional Personal Finance

Conventional Personal Finance -- No Basis in Life Cycle Theory

- Guessing the wrong target leads to wrong life insurance as well as saving recommendations
- Conventional portfolio analysis simulates the probability of plan failure if you violate proper economic behavior in three ways
- The three mistakes -- spend the wrong amount when young, spend different wrong amount when old, and never adjust spending come hell or high water
- Improper treatment of cashflow constraints – requires dynamic programming
- No guarantee plan satisfies lifetime budget constraint

No Financial Decision Stands Alone

Calculating a household's highest sustainable spending level is extremely difficult. There are myriad, complex interacting financial factors.



MaxiFi's patented algorithm handles all the complexity, providing its answers and solutions in seconds.

Conventional Planning Gets It Wrong for a Reason

Doing Economics-Based Planning Is Extraordinarily Complex

- Chicken and egg problems – e.g., path of spending depends on path of taxes, but path of taxes depend on path of spending
- Need to do dynamic programming to handle cashflow constraints
- Standard dynamic programming generates major interpolation error
- Algorithm must be extremely fast to be of practical value
- Must handle Social Security benefits, federal/state taxes, Medicare Premiums
- MaxiFi Planner, my company's software, does consumption smoothing in less than two seconds, using a unique, and extremely precise (no interpolation error) method of dynamic programming. Also handles all the fiscal details.

Consumption References Your Living Standard

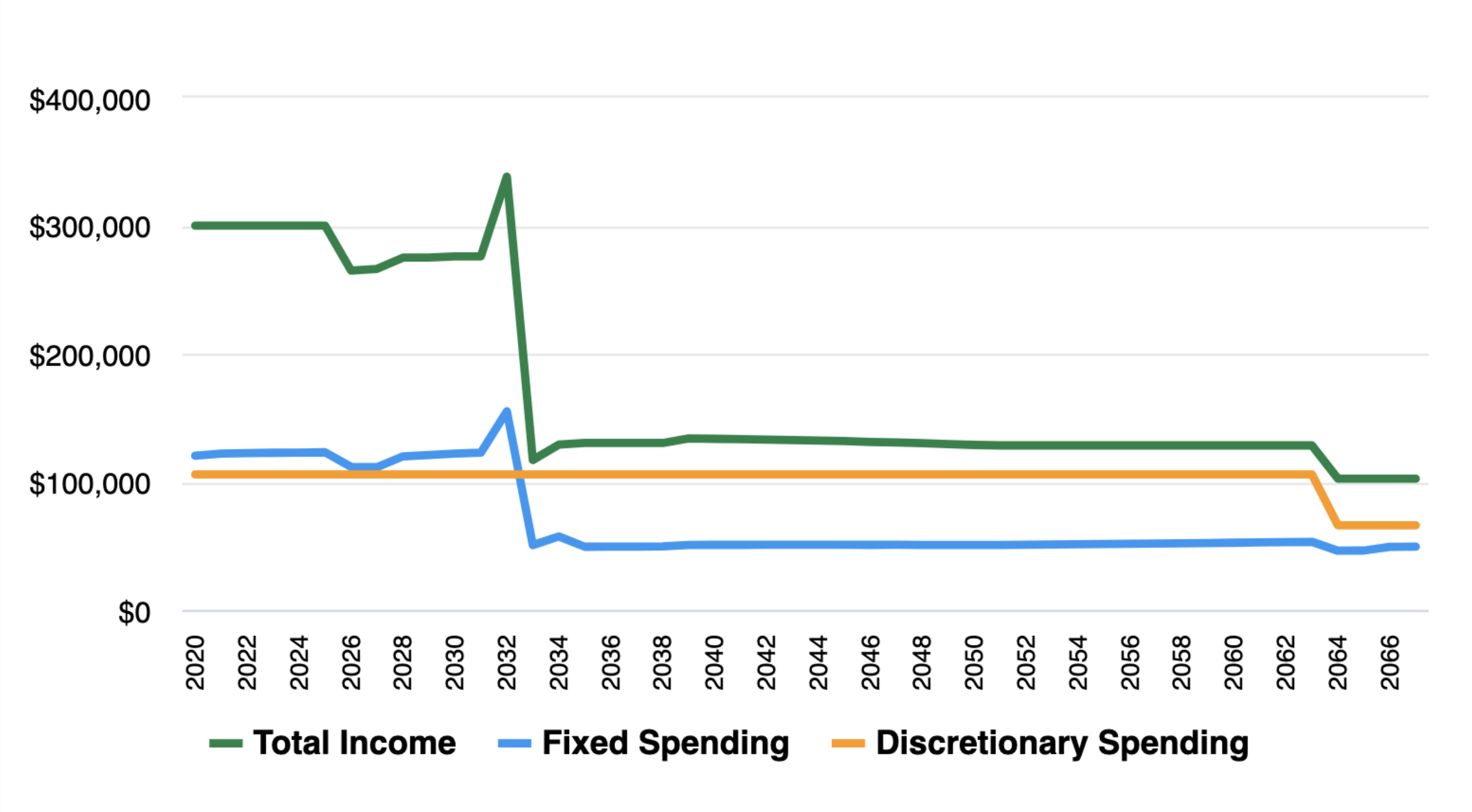
Living standard - Discretionary Spending per Household Member

- Discretionary spending -- everything apart from fixed expenses
- Fixed expenses include taxes, housing expenses, alimony, …
- MaxiFi adjusts living standard for economies in shared living
- MaxiFi adjusts living standard for relative cost of children

Illustrating Consumption Smoothing – A Case Study

- Janet, Age 53 Jeffrey, 57, Kids are grown.
- Janet earns $250K, will retire and take Social Security at 67. Jeffrey earns $50K will retire and take Social Security at 62.
- Live in D.C. in a $1 million house, no mortgage
- Janet has $2 mil in a 401(k) retirement accounts. Jeffrey has $300,000 in an IRA.
- Couple has $100,000 in Regular assets

Janet and Jeff's Smooth their Consumption



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Janet and Jeff's Lifetime Budgeting

Lifetime Balance Sheet

Lifetime Income

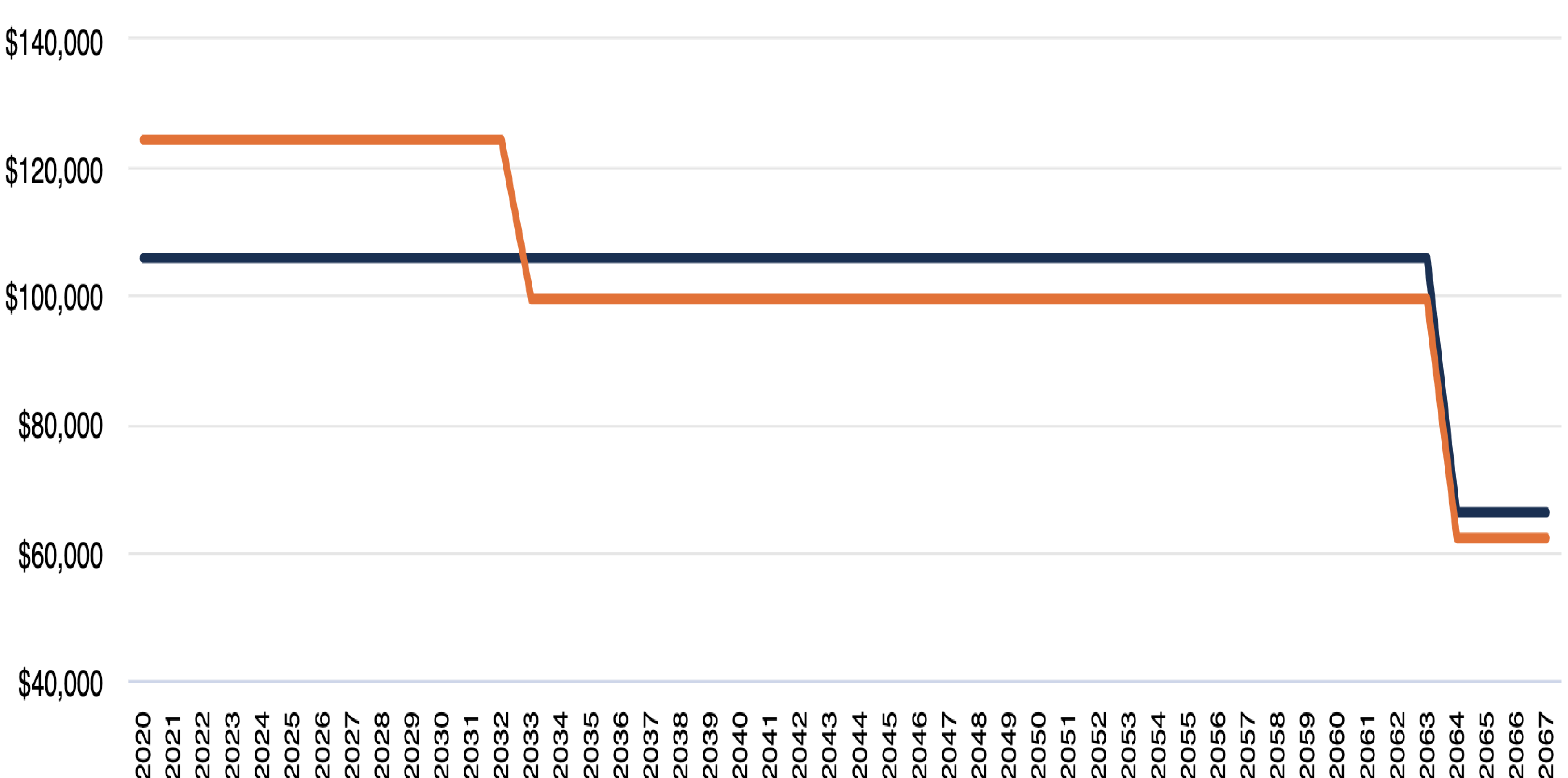
Labor Earnings	$3,550,000
Social Security Benefits	$2,096,354
Pensions and Annuities	$0
Retirement Account Withdrawals	$2,554,499
529 Account Withdrawals	$0
Reserve Fund Assets	$0
Real Estate Income	$0
Special Receipts	$0
Regular Assets	$101,500
TOTAL	**$8,302,353**

Lifetime Spending

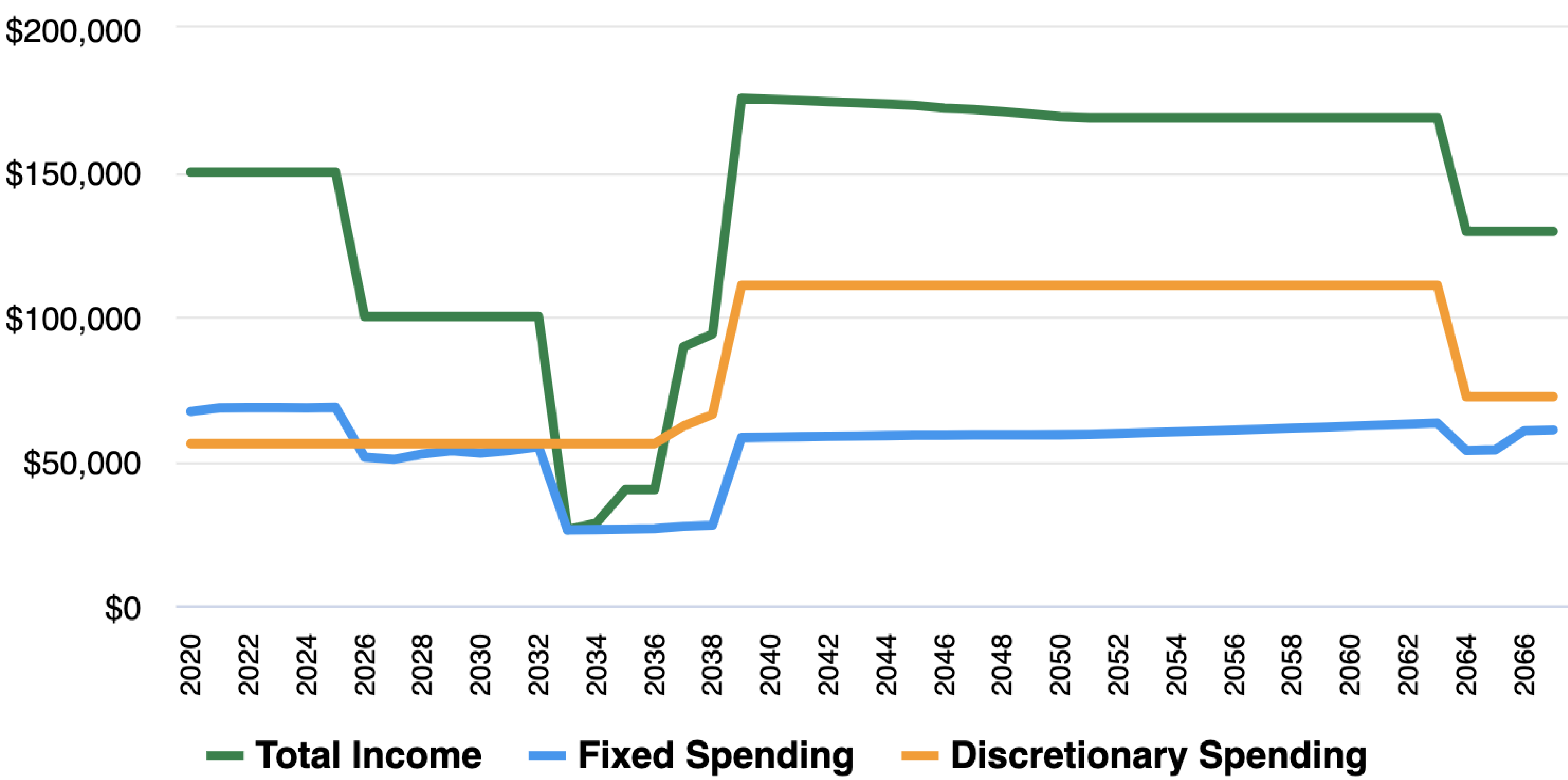
Housing Expenses	$1,008,000
Other Expenses	$0
Federal and State Taxes	$1,922,560
Retirement Account Contributions	$115,999
529 Contributions and Expenses	$0
Ending Reserve Fund	$0
Medicare Part B Premiums	$327,952
Life Insurance Premiums	$5,448
Discretionary Spending	$4,922,392
TOTAL	**$8,302,351**

Conventional Planning – Targeting 20 Percent Too Low

Consumption Disruption – Living Standard Drops by One Quarter



MaxiFi's Robo Optimization – Teaser for Next XYPN July 22, 2PM Webinar on Safely Maximizing Your Clients' Living Standards



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Thank you for participating!