



Economics-Based Personal Finance

A Core Book
Spring 2023 Edition

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Preface

Introduction

What is personal finance? The answer to the question is difficult for individuals and families because websites, books, and advisor guidance are normally numbered with “one-off” answers to questions detached from a core body of knowledge. “Whether to save,” “how to invest,” “how to structure a trust agreement,” etc., are very important personal finance questions, but how these types of questions fit within a greater context is more important. Without a foundation, there cannot be a durable structure.

In this book, we rely on economists, including six Nobel Laureates, who have spent close to a century developing the life-cycle model of saving and consumption. The life-cycle model provides a framework for making more effective real-life financial decisions and recognizing and valuing the financial aspects of seemingly non-financial decisions. The shorthand for this framework is “life-cycle consumption smoothing” where smoothing refers to the need to spread economic resources over a lifetime, considering that individuals have highly uncertain futures. The learning offered in this book is practical and is based on standard microeconomic theory of household behavior extended to decision-making that occurs over time as well as across times – both good times and bad times.

This book offers a single source solution for any individual or household including college students who wish to become financially literate. Our experience is the content is perfect for a standalone class in personal finance, and it would be the initial, core course in a multi-dimensional financial planning curriculum. Moreover, this book supports the best financial planning software package on the market today, MaxiFi, which has been built to answer financial questions and household financial plans using the life-cycle model as its basis. Whether a student or financial planner, we hope that our applied format is approachable and informative to sound personal economic decision-making.

Scope of this Text

Every choice one makes about education, career, living location, housing type, family, and investments entails economic benefits and costs. A decision one makes today about education or

employment alters one's life path, and therefore one's lifetime standard of living. Universities are populated with scholars and students who focus on problems of corporations, non-profits and smaller businesses by applying tools from accounting, marketing and finance. Yet, both scholars and students remain mostly unprepared for personal financial decisions about their personal economy. We aspire to change that by equipping those same scholars and their students with a paradigm for personal finance worthy of higher education. Our intent is to offer a text which relies on a knowledge backbone so that a solution to a more specific question, e.g., "If I save money should I use a Roth IRA or my employers 401(k)?" is found consistent with how all other personal finance decisions are made. Internal consistency in personal finance decision-making is critical for the best financial outcome.

By contrast, most personal financial advice - whether from trade books, textbooks, television talk show pundits, or professional personal financial advisors - is scattershot and not linked to the body of economic science. Inaccurate financial advice may be driven by self-interests, but other times the financial patient is seeking a diagnosis to a specific illness and the prescription is appropriately narrow. Our approach is to join the series of personal finance problems, peel away the conflicts of interest, and offer a holistic solution to financial well-being that has the best chance of optimizing the happiness rendered from one's financial prospects.

Economics-Based Personal Finance begins with an introduction to the basic life-cycle model and why the life-cycle model should be *the model* used in a financial literacy course, advisory wealth management and financial planning. We link the basic life-cycle model to the more elegant and advanced life-cycle model software, MaxiFi, and analyze a number of key financial planning questions. The fundamental set of tools offered in the book are integrated with institutional details about the economic value of the individual, how education can affect the value, the role and repayment of student loans, and the economics of where to live. The text is rounded out with chapters on investments, 401(k) plans, Roth IRAs and the "when to retire" question. Knowledge is assembled to support the premise that an optimal and sustainable living standard ought to be the objective of any personal, financial planning question.

Content Organization

We have given the book a sequential structure that follows our experience in the classroom that complements student learning. The book is driven by our success in using case studies to help students learn the fundamentals of sound personal financial decision-making. Fundamentals captured in the first two chapters set-up a more flexible approach among the remaining chapters tailored for instructional needs and the length of the term of instruction.

Chapter 1: Overview of the Economic Life-Cycle and Financial Health introduces the terminology and metrics to describe the financial health of a household. How to evaluate financial health is illustrated with two examples of the financial fitness of neighboring families where the concepts of human capital, economic net worth and risk exposure are introduced. The chapter closes with a four part breakdown of the value of a scientific approach to personal finance after a warning about ubiquitous financial rules of thumb that can inhibit an individual or household's ability to achieve economic happiness.

Chapter 2: The Life-Cycle Model develops the life-cycle model as the way to maximize economic happiness over time. The chapter has been designed to explain the life-cycle model through the building of a prototype plan in a spreadsheet. How to optimally spend and budget and the utility of consumption smoothing are explained. In turn, income, consumption, and savings are woven into

the development of a long-term financial plan while considering the topics of charitable giving and the receipt of an inheritance.

Chapter 3: *Making the Life-Cycle Model Real* introduces MaxiFi Planner by application to numerous case studies. MaxiFi is a comprehensive software package that implements real-world life-cycle personal financial planning while including investment returns and risk, retirement plans, taxes, and social security benefits. After an introductory case study for a single individual, case studies that consider household couples, households with children and households that value setting aside an account for emergencies are developed.

Chapter 4: *Four Key Life Decisions* uses the life-cycle model as a paradigm to analyze four important real-world decisions for college students and new college graduates. How to best achieve the highest standard of living is the measure to evaluate a) human capital and job choice, b) the economic value of additional education, c) the geographic choice of where to live, and d) how to best payoff student loans. Each topic is explored with a case study.

Chapter 5: *Investments* discusses the trade-offs between investment risk and investment return. The chapter begins with the importance of a brokerage account and other investment accounts for other needs such as an IRA and a 529 educational savings account. The chapter provides an overview of historical returns from financial asset investments and how inflation changes real returns and purchasing power. Individual stocks are discussed at length including the many bad ideas about investing in stocks which have become commonplace. Then the focus of the chapter turns to the value of diversification and its implementation through the use of mutual funds and exchange-traded funds (ETFs).

Chapter 6: *Investing in Stocks and Living Standard Risk* take the individual who wants to invest through a systematic process to build a portfolio with the best chance of obtaining an appropriate actual return for the level of risk taken. We present asset allocation and tie-in an investor risk-profile to an investment choice. Then annual portfolio rebalancing is introduced to help an investor stay on their right path. The numerical technique of Monte Carlo simulation is used to estimate the chance that investing in stocks will make you worse off in retirement, compared to investing in risk-free assets. Finally, the chapter ends with a case on living standard risk that discusses how a household should allocate their investments to manage their living standard risk.

Chapter 7: *Risk, Risk Management and Insurance* offers the basis for insurance markets and prices then looks at life insurance, renter's insurance and automobile insurance. Because many types of personal risks are required by law or contract to be handled by insurance, we present ways to shop the insurance market to give the buyer the best chance to have a great insurance experience at the least possible cost.

Chapter 8: *Planning for Retirement* puts retirement planning choices into a life-cycle framework. Individual retirement accounts (IRAs), Roth IRAs, 401(k)s and other qualified plans are put into an "best living standard" context. Case studies built on the question "when to retire," explore both the effects on households retiring late versus early, and the choice about when to file for Social Security retirement benefits; a topic of importance to older, near retirement individuals.

Acknowledgments (Robert Puelz)

A number of years ago, my students have benefited from Aaron Stevens' original work and I am delighted that we are now collaborating on a second book. Larry Kotlikoff has been very encouraging for we realize that financial planning and wealth management can benefit from a theoretical foundation which does not underpin current financial planning practice. My thanks to

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