

Personal Financial Decisions

Prof. David Germany

Please sign in and take a seat

Sign in sheets are by last name:

A-C, D-H, I-O, and R-Z

Today's World

- Financial responsibility has increasingly shifted to individuals
 - Who face a complex set of decisions
 - With little or no education in personal finance
 - But are being offered growing opportunities to take on debt
-

Today's World

- Financial responsibility has increasingly shifted to individuals\
- Facing them with a complex set of decisions
- With little or no education in personal finance
- And growing opportunities to take on debt

-
- Examples:
 - Employee coverage by defined-benefit pension plans
 - 1981: 84% of employees at large corporations
 - 2020: 21% of employees at large corporations
 - Kotlikoff's computer program to make these decisions > 3.500 pages.
 - Student debt

A Sad Reality

Many people today face severe financial stress

- Inadequate reserves
- Trapped by debt
- Dreams out of reach
 - Like owning a home, helping kids with college costs, etc.
- Can't retire comfortably
 - Prof. Olivia Mitchell's presentation to the Q Group

Our Goal: Financial Wellness

- That is, having a sense of
 - Security and freedom
 - Being able to absorb a financial shock
 - Being on track to achieve your financial goals
 - Being happy
- The good news
 - Financial wellness is achievable
 - Time is on your side
 - You don't need to be a rocket scientist
 - Rules of thumb
 - Lots of websites
 - Key: getting the basics right

The Course

- Intended for a general audience
- Consists of 12 lectures on key financial topics
 1. Getting control of your financial life
 2. Dealing with debt
 3. Investing in yourself (+ student debt)
 4. Thinking about retirement
 5. Getting a place to live
 6. Basic banking, basic securities
 7. Basic investing
 8. Investing challenges
 9. Protecting yourself & the role of insurance
 10. Credit Problems, Credit Fraud & Scams
 11. Taxes and inflation
 12. Getting your affairs in order
- Must attend a minimum of 9 lectures to pass the course

The Course -2

- Sign in policy
- Covid policy/mask policy
- Off days
 - No lecture on December 7
 - Do you want other free day to be October 12 or October 19?
 - (Break is October 16 & 17)
- Audit policy
 - Slides for all lectures will be posted on Sakai
- Questions/Jargon

Other Resources

- Books
 - Beth Kobliner, “Get a Financial Life”
 - Subtitle: Personal Finance in your Twenties and Thirties
 - Laurence Kotlikoff, “Money Magic”
 - Subtitle: An economist’s secrets to more money, less risk, and a better life
- Websites include
 - BankRate, Investopedia, NewWallet & WalletHub
 - Important: How these sites make their money

Taking Control Of Your Financial Life

Four mantras

- You can't manage something you don't measure
- You won't achieve goals you don't plan for
- Regular, small tweaks is a lot easier than occasional, big cuts
- Stress goes down when you working towards a solution

Taking Control Of Your Financial Life

Four mantras

- You can't manage something you don't measure
- You won't achieve goals you don't plan for
- Regular, small tweaks is a lot easier than occasional, big cuts
- Stress goes down when you working towards a solution

A Basic Mindset

- Taking ownership
 - Making choices (decisions, not outcomes)
 - Understanding opportunity costs
- Awareness:
 - Current situation
 - Future needs/wants
- Making time your friend
 - Big idea: The power of compound interest

A Big Idea: Compound Interest

- Earn interest on original investment plus accumulated interest
- This results in the value of a holding growing exponentially.

Growth of \$1 With Compound Interest

(interest rate = r)

Year	FV(t)	Earn
0	1	$(1+r)$
1	$(1+r)$	$(1+r)$
2	$(1+r)^2$	$(1+r)$
3	$(1+r)^3$	$(1+r)$
\vdots	\vdots	\vdots
N	$(1+r)^N$	

Importance of Compound Interest (r=8%)

Year	If you save \$1,000 today	If you save \$1,000 year
1	\$1,080	\$1,000
2	\$1,166	\$2,080
3	\$1,260	\$3,246
5	\$1,469	\$5,867
10	\$2,159	\$14,487
20	\$4,660	\$45,762
30	\$10,063	\$113,283
40	\$21,725	\$259,056
65	\$148,780	

Importance of Compound Interest - 2

Wealth 40 Years From Now

r	If you save \$1,000 today	If you save \$1,000 year
2%	\$2,208	\$60,407
4%	\$4,801	\$95,026
6%	\$10,286	\$154,762
8%	\$21,725	\$259,057
10%	\$45,259	\$442,593
⋮	⋮	⋮
20%	\$1,469,772	\$7,343,858
30%	\$36,118,865	\$120,392,883

A Basic Financial Strategy

- **Start saving early**
- **Reduce debt costs & avoid high cost debt**
- **Boost (after-tax) investment returns**
- **Delay retirement**
- **Protect yourself by**
 - Creating a reserve
 - Having appropriate insurance
 - And managing investment risks

A Basic Financial Strategy

- Start saving early
- Reduce debt costs & avoid high cost debt
- Boost (after-tax) investment returns
- Delay retirement
- Protect yourself by
 - Creating a reserve
 - Having appropriate insurance
 - And managing investment risks

Issue: How can we find the money to do this?

Key: Understanding your spending and prioritizing

Two Strategies

- Become a hard core budgeter
 - Check out “The 8 Best Budgeting Apps for 2023” at NerdWallet
 - Benefits: detail, control, feedback
 - Drawbacks
- Go the “budget lite” route
 - Understand how you are spending your money
 - Set thoughtful achievable goals
 - Deduct savings from the top
 - Spend the rest (*with a bucket for “extras”*)
 - Wash, rinse, repeat

Three Hypothetical Case Studies

- Weekly wages and rent
- Saving for a trip
- Homo Economicus

Three Hypothetical Case Studies

- Weekly wages and rent
- Saving for a trip
- **Homo Economicus**
 - **How are you currently spending your money?**
 - **What are your needs for the future?**
 - **What is the trade-off between saving now and saving later?**
 - **Are your actions today consistent with achieving your income needs?**
 - **Etc., etc.**

A Five-Step “Budget-Lite” Strategy

1. Identify your key financial goals (*e.g. your bucket list*)
 - *Envision the future*
2. Price these goals and turn them into saving rates
 - *Finding time horizons that make your goals feasible/reasonable*
3. Finding the money to reach these goals
 - *By looking at how you are currently spending your money*
4. Setting a savings goal and sensible spending buckets
5. Regular review and adjustment

Financial Goals Could Include

- Buying a car or home
- Paying off your credit cards/student debt
- Having a reserve fund
- Having a comfortable retirement
- Creating a college fund for your kids
- Living independently
- Financial freedom

Pricing These Goals

- Car or home
 - Down payment (20% car, 10-20% house)
 - Websites for estimated purchase price include
 - Car: www.Edmunds.com or Blue book
 - House: Real estate websites in your area (including Zillow)
 - Debt capacity and monthly payments (TBD)
- Reserve funds
 - Cost shock: 3 months income
 - Employment shock: 6 months income
- Paying off debt/comfortable retirement (TBD)

Annuitizing Your Goals

i.e. Converting future goals into monthly saving rates

Monthly Saving Rate Needed to Accumulate \$10,000

Years to Goal	APR (Interest Rate)					
	0%	2%	4%	6%	8%	10%
1	\$833	\$826	\$818	\$811	\$803	\$796
2	\$417	\$409	\$401	\$393	\$386	\$378
3	\$278	\$270	\$262	\$254	\$247	\$239
4	\$208	\$200	\$192	\$185	\$177	\$170
5	\$167	\$159	\$151	\$143	\$136	\$129
10	\$83	\$75	\$68	\$61	\$55	\$49
20	\$42	\$34	\$27	\$22	\$17	\$13
40	\$21	\$14	\$8	\$5	\$3	\$1½

Annuitizing Your Goals

i.e. Converting future goals into monthly saving rates

Monthly Saving Rate Needed to Pay Off \$10,000 Loan

Years to Goal	APR (Interest Rate)							
	0%	2%	4%	6%	8%	10%	20%	30%
1	\$833	\$842	\$851	\$861	\$879	\$796	\$926	\$975
2	\$417	\$425	\$434	\$443	\$452	\$461	\$509	\$559
3	\$278	\$286	\$295	\$304	\$313	\$323	\$372	\$424
4	\$208	\$217	\$228	\$235	\$244	\$254	\$304	\$360
5	\$167	\$175	\$184	\$193	\$202	\$212	\$264	\$325
10	\$83	\$92	\$101	\$111	\$121	\$132	\$193	\$263
20	\$42	\$51	\$61	\$72	\$84	\$97	\$170	\$251
40	\$21	\$32	\$42	\$55	\$70	\$85	\$167	\$250

Annuitizing Your Goals

i.e. Converting future goals into monthly saving rates

Monthly Saving Rate Needed to Pay Off \$10,000 Loan

Years to Goal	APR (Interest Rate)							
	0%	2%	4%	6%	8%	10%	20%	30%
1	\$833	\$842	\$851	\$861	\$879	\$796	\$926	\$975
2	\$417	\$425	\$434	\$443	\$452	\$461	\$509	\$559
3	\$278	\$286	\$295	\$304	\$313	\$323	\$372	\$424
4	\$208	\$217	\$228	\$235	\$244	\$254	\$304	\$360
5	\$167	\$175	\$184	\$193	\$202	\$212	\$264	\$325
10	\$83	\$92	\$101	\$111	\$121	\$132	\$193	\$263
20	\$42	\$51	\$61	\$72	\$84	\$97	\$170	\$251
40	\$21	\$32	\$42	\$55	\$70	\$85	\$167	\$250

Finding the Money: Step 1

- Understanding how you are spending your money
- For at least one month
 - Manually record every expense in a diary
 - Assign each expense to a category
 - Add up your spending in each category over the month
 - *Note: There are lots of apps to do this later on, but go “low tech” at first*
- Three comments
 - Identifying useful categories is important (*will use Kobliner’s*)
 - Right now this exercise is about building awareness, not judgment
 - Later on can do this in a way that is less time consuming

Examining Your Monthly Cash Flow

Basic Set-Up

Inflows (where the money comes from)

- Outflows (where the money goes)
-

Net cash flow

Note: It may take some time to get this right. And we will need to anticipate and annualize annual expenses

Initial Income Categories

Taken from Kobliner, "Get a Financial Life" Pages 16-17

- Salary and bonuses (before tax)
 - Additional income (before tax)
 - Financial aid (scholarships)
 - Parental support
-
- *TOTAL MONTHLY INFLOW* (before tax)

Some important distinctions

- *Pre-tax vs. after-tax income*
- *Temporary vs. permanent income sources*
- *Cash-based vs. in-kind support*

*How should you measure/
regard parental support?
(esp. if living at home)*

Initial Spending Categories - 1

Taken from Kobliner, "Get a Financial Life" Pages 16-17

Taxes

- Federal, State, Local & FICA
- Tax on investment income

Savings

- Emergency
- Retirement (IRA, 401k contributions)
- *Other goals (buckets)*

Debt

- Car loan payments
- Credit card payments
- Student loan payments

Insurance

- Auto
- Disability
- Health
- Homeowners/Renters

Initial Spending Categories - 2

Taken from Kobliner, "Get a Financial Life" Pages 16-17

Living Expenses

- Car (gas, maintenance, parking)
- Cell phone
- Groceries/basic supplies
- Home maintenance/repair
- Internet service
- Laundry
- Mortgage or rent
- Public transport
- Utilities (gas/electric/water)

The Rest

- Cable/satellite
- Child care
- Clothes & shoes
- Dry cleaning
- Eating out (including morning coffee, snacks, lunch, etc.)

The Rest - *continued*

- Entertainment (movies, concerts, *streaming*, theater, etc.)
- Furniture/home decorating
- Gifts/charity
- Gym
- Hobbies
- Medical & Dental (out of pocket)
- Nights out
- Personal care (hair, toiletries, cosmetics)
- Pet care
- Subscriptions
- Travel (flights, lodging, entertainment)
- Tuition
- Miscellaneous

- *TOTAL MONTHLY OUTFLOW*

First Take – What Do You Think?

Initial Goal: Awareness

Measurement

- Units: Monthly dollars, % of after tax income, annual vs. daily
- Groupings: e.g. eating out + entertainment + gym + nights out + ...
or car payment + insurance + gas + repairs/maintenance
- Debt costs: Minimum payments vs. desired payments
- Infrequent costs: e.g. maintenance, repairs, replacements
- In-kind support: Parental (inc. *room, board, laundry services, etc. if staying with them*)

Evaluation, Adjustment, Review & Refinement

- This is a process, not a one-time thing.
 - Can always tweak reversible expenses
 - So be careful about hard-to-change expenses
- Mindset adjustments
 - Knowing yourself, watch lists
 - Verbalize the trade-offs and own those decisions
 - Being honest about one-off vs. repeat expenses
 - Visualize the future
 - And remember how much better you feel if you are moving forward
 - Ask what money means to you, and what truly gives you pleasure
 - Housing example

Thinking About Your Goals

- Prioritizing/Sequencing
- Creating buckets
 - Put a savings bucket at the top and live on the rest
 - Be sure to include a bucket for “extras”
 - Add buckets for other goals (like down payment for a house)
- Adjusting
 - Sensible rules of thumb vs. all-encompassing strategy
 - Budgets vs. buckets
 - Key: Being able to make moderate adjustments to spending as you go along, instead of having to make huge, sudden shifts.

What If You Are A Couple?

- Good news
 - Kotlikoff Math: $1 + 1 = 1.6$
- Bad news
 - Money is one of the big issues in a relationship
 - When a saver marries a spender
 - Agreed goals, responsibilities, buckets – *including your personal bucket*, communication & control

Three Rules of Thumb To Start With

Saving

- Try go save at least 15% of your take-home pay
- Two initial goals: Building a reserve and saving for retirement

Housing

- Try to limit housing costs to 30% of your take home pay

Debt Capacity

- Make sure you are able to take on the debts you need to reach your goals
- Will discuss PITI and DTI rules later

Five Pointers From “The Old Cheap One”

- Try to have spending growth lag income growth
- Think hard about proper uses of temporary income
 - e.g. parental support
- Maintenance and care is a great expenditure saver
- Fewer, nicer things trumps lots of stuff
- Think in terms of “all-in” costs, and think especially hard about hard to change commitments.

Other Considerations

- Koblner has focused on identifying unvalued spending
- Other issues include:
 - What do you think your preferred lifestyle will cost?
 - Will the work you want to do support that lifestyle?
 - Are you doing the things needed to get that type of job/income?
 - What are my college choices signaling about me?
 - Thinking about what is truly important
 - Identifying the big ticket financial decisions and getting them right (Kotlikoff)

A Comment on Scarcity

Top 10 Recommendations From Charles Schwab

1. Figure out your net worth
2. Track your spending and make a budget
3. Reduce your debt (especially high cost debt)
4. Create an emergency fund
5. Determine if your retirement savings are on track
6. Automate your finances (auto-pay, auto-savings)
7. Review your portfolio
8. Review your insurance
9. Create/update your estate plan
10. Organize your records

Source: The Charles Schwab Guide to Finance After Fifty, by Carrie Schwab-Permantz

Digression: Importance of Compounding Interval

Growth of \$1,000 40 Years From Now

APR	Annual Compounding	Monthly Compounding*
2%	\$2,208	\$2,224
4%	\$4,801	\$4,940
6%	\$10,286	\$10,957
8%	\$21,725	\$24,273
10%	\$45,259	\$53,701
⋮	⋮	⋮
20%	\$1,469,772	\$2,790,748
30%	\$36,118,865	\$140,428,542

* $APR \equiv \text{Annual Percentage Rate}$; $\text{Monthly interest rate} = APR/12$

APR vs. Effective Interest Rate

- Banks are required to tell you the Annual Percentage Rate (APR) on a loan
- But you also need to take into account the compounding interval
- Example
 - An APR of 12%, compounded annually implies you would be charged 12% at the end of the year.
 - An APR of 12% compounded monthly means you are charged 1% at the end of each month.
 - That would grow by 13.2% by the end of the year $(1.01)^{12}$
 - Which implies an effective annual interest rate of 13.2%
- This difference can be important if the APR is high

Digression: *(Continued)*

APR	Effective Annual Interest Rate	
	Annual Compounding	Monthly Compounding
5%	5%	5.1%
6%	6%	6.2%
7%	7%	7.2%
8%	8%	8.3%
9%	9%	9.4%
10%	10%	10.5%
20%	20%	21.9%
30%	30%	34.5%