Managing Money for Financial Success Notes

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1 Unit 1: Money, Happiness, Financial Planning, and the Time Value of Money

1.1 Consumer Theory and Financial Planning

1.1.1 DOES MONEY = HAPPINESS

Key word: **Indirectly!** Basically 3 types of resources:

- Human Capital - Knowledge, skills, abilities
- Financial Capital - $$
- Durable Goods (lasting stuff) - Cars, houses, etc.

1.1.2 WHAT IS FINANCIAL CAPITAL?

- Money
  - Liquid Assets
- Resources
  - Unearned Assets/Income
  - Future Cashflows
- Wealth
  - Investment Assets
  - Personal Property
  - Retirement Assets

1.1.3 WHAT IS HUMAN CAPITAL?

"It is the stock of knowledge, habits, social and personality attributes, including creativity, embodied in the ability to perform labor so as to *produce economic value*"

1.1.4 MAXIMIZING HAPPINESS

The goal of the financial planning process is **NOT** to get the most money. The goal is to get the most **HAPPINESS** (Maximize total utility over the life-cycle).
"Using money, not as an end in itself, but as a tool to help achieve what is most important in life."
–Klontz, Kahler, and Klontz (2008)

1.1.5 THE FINANCIAL PLANNING PROCESS - THE 6 STEPS

Step 0: First Meeting - Define Scope of Relationship (Advice vs Planning)

1. Determine Life Goals, THEN Financial Goals
2. Evaluate Your Financial Health
3. Develop a Plan of Action
4. Implement Your Plan
5. Track Progress Using Financial Ratios
6. Review Your Progress, Reevaluate, and Revise Your Plan

1.1.6 SET SMART GOALS

- **S**pecific
  - What exactly do you want to achieve?
- **M**easurable
  - How much is it going to cost?
- **A**chievable
  - Based on your financial situation, can you achieve the goal?
- **R**ealistic
  - Even if you can achieve the goal, will you?
- **T**imely
  - What is the timeframe for achieving the goal?

1.1.7 EVALUATE YOUR FINANCIAL HEALTH

- Examples of Qualitative or Subjective Information
  - Health
  - Life expectancy
  - Family circumstances
  - Values
  - Attitudes
  - Expectations
  - Earnings potential
  - Risk tolerance
  - Goals
  - Needs
  - Priorities
  - Current course of action
- Examples of Quantitative or Objective Information
  - Age
  - Dependents
  - Other professional advisors
  - Income
  - Expenses
  - Cash flow
  - Savings
  - Assets
  - Liabilities
  - Available resources
  - Liquidity
  - Taxes
  - Employee benefits

  - Government benefits
  - Insurance coverage
  - Estate plans
  - Capacity for risk
  - Education and retirement accounts and benefits
- What resources do you have available?
- How much **human capital** do you have?
  - Do you need more to reach your goals?
  - Should you adjust your goals?
- How much **financial capital** do you have?
  - Check financial statement
  - Check ratios

1.1.8 DEVELOP PLAN

- Relect **goals**
- Informed and controlled **budget**
- Determine **investment strategy**
- Key Factors to Consider:
  - Flexibility
  - Liquidity
  - Protection
  - Minimization of Taxes

1.1.9 IMPLEMENT

- Implementing the plan means putting the plan to work
- Although you have the plan developed, it takes discipline and desire to put it into action
- Create a table of who is responsible for what action and by when.
  - Follow up with each party to ensure implementation is successful!

1.1.10 THE FINANCIAL PLANNING PROCESS

Three ways...

1. Do it yourself
2. Have someone do it for you
3. Or... have it done to you

1.2 Interest and the Time Value of Money

1.2.1 VALUE OF CONSUMPTION

When cash flow is greater than total expenses there is a **surplus.**
What three things can you do with a surplus?

1. Consume more today
2. Pay back borrowed money used to increase consumption in the past
3. Invest money to pay for more consumption in the future

Factors that influence this decision:

- Value of current consumption to you
- My ability to pay you back (perception thereof)
  - YOUR Risk Tolerance
- Your time horizon
- Opportunity Cost
- Increase in Future Consumption - INTEREST

1.2.2 BENEFITS OF COMPOUNDING

$1,000 investment earning 12% compounded annually = **$120 in interest**

$1,000 investment earning 12% compounded monthly (12%/12 months = 1% each month).
1% * $1,000 = $10 of interest in month 1
1% * $1,010 = $10.10 of interest in month 2
1% * $1,020.10 = $10.20 of interest in month 3
...
After 12 months = **$126.83 in interest**

1.2.3 YOUR FRIEND WANTS TO RETIRE A MILLIONAIRE...

Your 20-year-old friend confided in you that they want to retire a millionaire. They told you they want to retire at full retirement age (67) and they want to make monthly deposits into their checking account with their bank.
47 * 12 = 564 months
$1,000,000 / 564 = $1,773.05 (a month)
Income needed to meet **Savings Ratio** ≈ $180,000

You tell them about compound interest and how it can be used to reach a greater sum with less of a strain on cashflows. You recalculate their monthly savings need.
47 * 12 = 564 months
7% APY on portfolio
Calculated Monthly Savings need: $227.98
Income needed to meet **Savings Ratio** ≈ $25,000

1.2.4 TIME VALUE OF MONEY

- Future Value - How much it would be worth
- Present Value - How much I should play for that investment

But you can also compute:

- Payment
- Number of periods

- Interest Rate per period

Simple and Compound Interest Formula
Simple interest = PRT
Compound interest = $P(1+R)^T - P$
P = Principal
T = Term
R = Rate

1.2.5 THE PUZZLE PIECES OF TVM

- FV - Future Value
- PMT - Payment
- PV - Present Value
- I/Y - Interest (per period)
- N - Term (number of periods)

You will be given 3 or 4 pieces and need to find the 5th or 6th peice in all TVM problems

1.2.6 INFLOWS VS. OUTFLOWS

Funds moving AWAY from you are recorded as (-) and are reffered to as cash OUTFLOWS

- Cash into an investment
- Money to pay down a loan
- Monthly savings

Funds coming TO you are entered as (+) and are referred to as cash INFLOWS

- Cash from an investment
- Cash from a loan
- Cashing out your savings

1.2.7 WHEN TO USE BOTH PV AND FV

- With saving calculations where there is a starting balance
- Figuring out what interest rate is needed to grow an investment to a certain amount
- Figuring out what term (N) is needed to grow an investment to a certain amount

1.2.8 KNOWING THE TIME PERIOD

You may need to adjust your time period (N) and your rate (I/Y) depending on the frequency of compounding. This is because the standard is annual (once a year) but often you will be dealing with other time periods.
Semi-annual is compounded **twice** a year.
Quarterly is compounded **four** times a year.
Monthly is compounded **twelve** times a year.

1.2.9 ADJUSTING THE TIME PERIOD

Step 1: Adjust the time period

- To adjust your time period (N) you need to multiply N by the number of periods.

Ex. N*2, N*4, N*12

- This will ensure all of the extra compounding periods are accounted for.

Step 2: Adjust the rate

- To adjust your rate (I/Y) you need to divide I/Y by the number of periods.

Ex. (I/Y)/2, (I/Y)/4, (I/Y)/12

- This will ensure all of the extra compounding periods are accounted for.

HELPFUL TIP:

- If the information provided does not explicitly state the compounding period for the interest, but does have a PMT cashflow, **adjust the N & I/Y to match the PMT cashflow**

1.3 Net Present Value

1.3.1 CAPITAL BUDGETING

Capital Budgeting is the process of analyzing projects and deciding which are acceptable investments and which should be purchased/undertaken.

- If a firm identifies an investment opportunity with a present value that is greater than its cost, the value of the firm will increase if the investment is purchased.

Steps in Capital Budgeting

1. Estimate the cash flows expected to be generated.
2. Evaluate the riskiness of the projected cash flows to determine the appropriate rate of return to use for computing present value (PV) of cash flows. (Cost of Capital)
3. Compute the PV of the expected cash flows.
4. **Compare the PV of the future expected cashflows with the initial investment**
    - **Net Present Value (NPV)** is derived by subtracting the purchase price of the asset from the present value of its expected cash flows, the result is the net dollar value of making the purchase or otherwise engaging in the opportunity.
        - A project is acceptable if **NPV** ¿ $0
    - CF = after-tax Cash Flow "bottom line"
    - r = rate of return required to invest in the project (discount rate)
    - n = final cash flows
    - t = cumulative time periods (cash flows)

2 Unit 2: Financial Statements, Ratios, (Income) Taxation, and Money Psychology

2.1 Financial Statements and Ratios

2.1.1 EVALUATE YOUR FINANCIAL HEALTH

- **What resources do you have available**
- How much human capital do you have?
  - Do you need more to reach your goals?
  - Should you adjust your goals?
- How much financial capital do you have?
  - Check financial statements
  - Check ratios

2.1.2 ASSETS

- Monetary assets - extremely liquid
- Investment assets - Stocks, bonds, mutual funds
- Retirement assets - IRAs, 401(k)s, 403(b), SEP
- Houses and autos - Valued at fair market value

2.1.3 BOOK VALUE VS. FAIR MARKET VALUE

- **Book value** - what you originally bought the asset for, recorded in the accounting ledger
- **Fair market value** - what it would take to replace the asset in its most recent condition

2.1.4 LIABILITIES

- Current Liabilities (¡ 1 year):
  - Past-due bills
  - Credit card debt
  - Title/Payday loan
- Long-Term Liabilities (¿ 1 year):
  - Student loan debt
  - Mortgage
  - Auto loan (not leased autos)
  - Personal loan

2.1.5 WHAT QUESTIONS ARE ANSWERED USING A BALANCE SHEET?

- How am I handling my finances right now?
- Do I have an debt?
  - If so, how much?
  - Can I take on more debt?
- How much cash and cash equivalents do I have on hand?
  - What do I have set aside for emergencies?
  - What do I have to use as collateral?

2.1.6 INCOME AND EXPENSE STATEMENT

Sometimes called a cash flow statment, an income and expense statement is a statement of your financial position over a specified period of time, usually a month or a year.
What it tells you:

- Am I spending within my means?
- Am I spending too much **disposable income**
- Did I save enough last year?

2.1.7 INCOME

- Wages and salaries
- Bonuses
- Interest and dividends
- Child support
- Tax refunds
- Gifts
- Government transfer payments

Types of Income:

- Gross Income (Everything)
  - Before taxes
- Net Income (Take Home)
  - Also known as **Disposable Income**
- **Discretionary Income** (Choice)
  - What's left to spend on variable expenses
  - Calculated differently for Gov. Benefits

2.1.8 FIXED OR VARIABLE

- Mortgage Payment - Fixed
- Groceries - Variable
- Car Loan Payment - Fixed
- Utilities - Variable
- Entertainment - Variable
- Credit Card Payment - Variable
- Auto Insurance Payment - Fixed
- Past Due Bill (Paid in the last period) - Fixed

2.1.9 WHY DO I NEED A BUDGET?

- Personal control over YOUR OWN finances!
- Keeps your future on track!
- Easy to identify fraudulent charges!
- Holds you accountable - **Behavioral**
- Makes your spending more transparent

The budget controls the I&E. Stmt., Balance Sheet, and our ability to accomplish our goals

2.1.10 HOW DO I BUDGET?

- Figure out your fixed expenses versus your variable!
  - Tip: make the budget last, IE. Stmt. First
- Track the amount of cash you spend!
- Access your spending through online bill pay (utilities, phone, internet, etc.)
- Keep up with credit card statements
- Keep up with bank statements

2.1.11 USING THE BUDGET IN PLANNING

- Standard of Living Based: Less Painful
  - Start with previous I&E Stmt.
  - **Surplus**: Use Surplus to Fund Financial Goals and look for ways to increase DI.
  - **Deficit**: Look for ways to increase DI, how long has there been a deficit? Check solvency. Get Financially Well before continuing Goal Funding.
- Goals Based: More Focused

  - Start with fixed expenses
  - Add cost of goals
  - If surplus, add in Discretionary Spending
- Only three things can be done with a Surplus:
  1. Consume more today
  2. Payoff previous borrowed consumption
  3. Save to increase future consumption
- All budgets should be "Zero-Sum"
  - Allocate every dollar! (Surplus should be "0")

2.1.12 WHAT IF I NEED HELP BUDGETING?

- Download a template for excel
- Make your own template
- Help from bank?
- Websites
- Phone apps

2.2 Ratios

2.2.1 The 5 Basic Financial Ratios

1. Living Expenses Covered Ratio
2. Debt Ratio
3. Debt Service to Income Ratio
4. Saving Ratio
5. Investment Assets to Total Assets

2.2.2 Living Expenses Covered Ratio

(aka Basic Liquidity or Emergency Fund Ratio)

- Monetary Assets / Monthly Living Expenditures
- withstand income shock (recommended 3-6 months)

2.2.3 Debt Ratio

- Total Liabilities / Total Assets
- Solvency (more than 1 means insolvent, ratio should go down with age)

2.2.4 Debt Service to Income Ratio

- Annual Debt PMTs / Gross Annual Income
- debt load (recommended: less than 36%)

2.2.5 Saving Ratio

- Annual Savings / Annual Living Expenses
- degree of saving
- 10% in 20s, 11-20% in 30s, more than 30% in 40s
- Should go up with age

2.2.6 Investment Assets to Total Assets Ratio

- (Investment Assets + Retirement Assets) / Total Assets
- degree of wealth building
- 10% in 20s, 11-20% in 30s, more than 30% in 40s
- Should go up with age

2.3 Taxation

2.3.1 TAXES AND DECISION MAKING

- **Income Tax**
  - U.S. Tax Structure
  - Effective (Average) Tax Rate
  - Marginal Tax Rate
  - 1040 Breakdown
  - Tax Credits vs Tax Deductions
- **Capital Gains Tax**
  - Short vs. Long
- **Estate Tax**
  - Lifetime "Bucket"
- **Gift Tax**
  - Annual Exclusion
  - Lifetime "Bucket"

2.3.2 U.S. - PROGRESSIVE TAX SYSTEM

- Taxed at increasing rates
- The wealthy can afford to pay more
- The more you earn, the higher your marginal tax bracket

2.3.3 EFFECTIVE OR AVERAGE TAX RATE

- **Taxes paid divided by Gross Income**
- Example: John is single and made $82,450 this year. He paid $14,078.50 in taxes
- 14,078.50/82,450 = 17% effective or average rate.

- Notice his top marginal rate is 22%. He paid 22% on all his income over $38,700. On his first $9,525 he only paid 10%, then from $9,526-$38,700 he paid 12%.
- In the end he averaged 17%
- A person's average income tax rate is ALWAYS lower than their marginal income tax rate

2.3.4 MARGINAL TAX

- This is the tax paid on the next dollar made
- Useful when choosing between investments
- Useful when trying to reduce taxes

2.3.5 WHO MUST FILE FORM 709

- Everyone who makes a gift, unless gifts are:
  - Under the annual Exclusion
  - Qualified transfers (hospitals, educational institutions)
  - Transfers to spouses (generally)
  - Transfers to charities
- Remember - If gifts are split between spouses, there must be a tax return even if less than the annual exclusion

2.3.6 INCOME TAX - THE RUNDOWN

- W4 selection determines your withholdings
  - Your withholdings are your estimated annual tax per pay-period
- When you file, you estimate your tax due & weigh it against your withholdings
  - More withholdings than taxes due = refund
  - More taxes due than withheld = tax obligation

2.3.7 1040: BASIC INFORMATION & FILING STATUS

1. **STEP 1: DETERMINE GROSS INCOME**
    - Taxable income from all sources
        - Active income
        - Portfolio or investment income
        - Passive income
2. **STEP 2: CALCULATE AGI (ADJUSTED GROSS INCOME)**
    - The government allows for some adjustments that you won't have to take into income
    - You subtract these adjustments from gross income to arrive at adjusted gross income
3. **STEP 3: SUBTRACT DEDUCTIONS** WHAT CAN I ITEMIZE?
    - Medical and dental expense (above 7.5% AGI)
    - Tax expenses (real estate, state/local tax (limited to $10,000 collectively))
    - Home interest expense (but not loans against equity)
    - Gifts to charity
4. **STEP 4: CALCULATE TAXABLE INCOME**
    - Subtract your deductions from AGI to arrive at taxable
5. **STEP 5: SUBTRACT YOUR CREDIT/DETERMINE TAX**
    - Credits reduce dollar for dollar
    - (Tax Credits are ALWAYS more favorable than Tax deductions!)
    - Once you have subtracted credits you use this amount to determine your tax using the tax brackets
    - Some common tax credits for individuals include:
        - Child Tax Credit
        - Earned Income Tax Credit

- Credit for Other Dependents
- Adoption Credit
- Low-Income Housing Credit
- Premium Tax Credit (Affordable Care Act)
- American Opportunity Credit
- Lifetime Learning Credit

6. **STEP 6: PAYA OR GET YOUR REFUND!**

    - April 15th is tax day (unless on a weekend then it's the next Monday)
    - Extensions are available (you must file and pay for them)

3 Unit 3: Credit Worthiness and Navigating Credit

4 Unit 4: Borrowing for Large Purchases

5 Unit 5: Investing and Human Capital

6 Unit 6: Investment Products and Investment Strategy

7 Unit 7: Risk Management and Estate Planning