

Case Study #3

November 24, 2020
AC 280 Personal Finance
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I. Introduction

Hope Form is a recent divorcee and is now a single parent of two teenagers. Form currently attends college part-time to earn her Master's Degree. In four years, Form anticipates to complete her Master's Degree, however during this time her alimony will end. Form currently has an income of \$12,000 a year, in alimony she will be receiving \$32,000 for two years, and \$21,480 for the last two years. However, from the time her alimony ends Form expects her income to triple as this will be the time she obtains her Master's Degree. Hope also advised that she would like to sell her house and purchase a condo for less than \$100,000, as she does not want to be responsible for snow removal and yard work. When she retires she would like to move into a condo in a warm inexpensive state and to be financially independent from her children. Currently Hope does not have the savings for her children to go to college, her retirement, and her future. Form has still not updated her Will since she was divorced, or changed her economic status to reflect her current status. Hope does spend more than what she makes monthly, causing her to use her alimony money to make up the difference to upkeep her lifestyle. On a positive

note, Form does have \$100,000 of whole life insurance and an employer-paid health plan (PPO), that covers both herself and her children. Her home and vehicle are also insured with \$100,000 limits. However, she does not have disability insurance. Form seeks financial advice as she is concerned about her finances and needs the assistance so she can also complete her goals.

II. Goals

After speaking with Form we were able to conclude where we can place goals in terms of time length and a targeted date. Forms short terms goals are as follows:

1. Complete her Master's Degree.
2. Sell her \$285,000 home.
3. Move into a smaller affordable dwelling.
4. Send her two children to college.
5. Save for her future.

Personal Financial Goals			
Name(s)	Hope Form	Date	2020
Short-Term Goals (1 year or less)			
Goal	Priority	Target Date	Cost Estimate
Downsize lifestyle for retirement savings	HIGH	2021	
Sell her home	MED	2021	
Move into affordable dwelling	MED	2021	
Intermediate-Term Goals (2 to 5 years)			
Goal	Priority	Target Date	Cost Estimate
Complete Master's Degree	HIGH	2024	
Save for future	HIGH	2024	
Long-Term Goals (6+ years)			
Goal	Priority	Target Date	Cost Estimate
Send her children to college		2026	
Buy a condo in a warm inexpensive state		2027	
Retire		TBD	

III. Balance Sheet

In the balance sheet, Form's assets totalled 470,254 and her liabilities are 197,000. Her total assets include 80,000 in her savings accounts that have a 1.25% interest earning rate. Form has \$5,254 invested in CD's as well as her IRA for retirement of \$67,000 . Her real property equals to \$285,000 due to her primary residence. Her personal property totalling \$33,000 for her

INCOME AND EXPENSE STATEMENT			
Name(s)	Hope Form		
For the	2020	Ended	2020
Income			
Wages and salaries	Name: Hope Form	\$	12,000.00
	Name:		
	Name:		
Self-employment income			
Bonuses and commissions			
Investment income	Interest received		
	Dividends received		
	Rents received		
	Sale of securities		
	Other		
Pensions and annuities	Alimony		32,000.00
Other income			
		(I) Total Income	\$ 44,000.00
Expenses			
Housing	Rent/mortgage payment (include insurance and taxes, if applicable)	\$	16,416.67
	Repairs, maintenance, improvements		10,000.00
Utilities	Gas, electric, water		
	Phone		14,564.00
	Cable TV and other		
Food	Groceries		
	Dining out		5,588.00
Transportation	Auto loan payments		
	License plates, fees, etc.		
	Gas, oil, repairs, tires, maintenance		6,952.00
Medical	(payroll deductions or not provided by employer)		-
	Doctor, dentist, hospital, medicines		1,000.00
Clothing	Clothes, shoes, and accessories		1,320.00
Insurance	Homeowner's (if not covered by mortgage)		
	Life (not provided by employer)		
	Auto		
Taxes	Income and social security		
	Property (if not included in mortgage)		
other major purchases	Loan payments		-
	Purchases and repairs		2,000.00
Personal care	Laundry, cosmetics, hair care		990.00
Recreation and entertainment	Vacations		
	Other recreation and entertainment		1,169.33
Other items			
		(II) Total Expenses	\$ 60,000.00
		CASH SURPLUS (OR DEFICIT) [(I)-(II)]	\$ (16,000.00)

V. Annual Cash Budget Per Month

Hope spends \$5,000 monthly or \$60,000 annually ($\$5,000 * 12 = \$60,000$), whereas her income and alimony is \$44,000 annually for the first two years ($\$12,000 + \$32,000 = \$44,000$). This means Form spends an overage of \$16,000 annually; \$1,333.33 monthly. The next two years her alimony will only decrease as she will only be receiving \$21,480 until her alimony ends completely. However, Forms does expect her income to triple once she graduates to \$36,000

(\$12,000 * 3 = \$36,000).

After going through Form's budget, some changes have been made. She was able to sell her home and find a dwelling to rent as she was not able to afford her mortgage payments. Hope decided on a 2 bedroom apartment which includes utilities. We also decided to cut any extra costs that weren't needed such as recreation, entertainment, and fun money. This ended up putting Form in a surplus. From here we decided that she should start saving for an emergency fund as well as any extra cash she has toward a savings account with a good interest earning.

ANNUAL CASH BUDGET BY MONTH													
Name(s)	Hope Form												
For the	2020											Ended	2020
INCOME	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total for the year
Take-home pay	\$ 1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	\$ 12,000.00
Bonuses and commissions													\$ -
Pensions and annuities	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	\$ 32,000.00
Investment income													\$ -
Other income													\$ -
(I) Total Income	\$ 3,666.67	\$ 3,666.67	\$ 3,666.67	\$ 3,666.67	\$ 3,666.67	\$ 3,666.67	\$ 3,666.67	\$ 3,666.67	\$ 3,666.67	\$ 3,666.67	\$ 3,666.67	\$ 3,666.67	\$ 44,000.00
EXPENSES	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total for the year
Housing (rent/mtrg. repairs)	\$ 1,641.67	1,641.67	1,641.67	1,641.67	1,641.67	1,641.67	1,641.67	1,641.67	1,641.67	1,641.67	1,641.67	1,641.67	\$ 18,700.00
Utilities (phone, elec., gas, water)	212.67	212.67	212.67	212.67	212.67	212.67	212.67	212.67	212.67	212.67	212.67	212.67	\$ 2,552.00
Food (home and away)	465.67	465.67	465.67	465.67	465.67	465.67	465.67	465.67	465.67	465.67	465.67	465.67	\$ 5,588.00
Transportation (auto/public)	416.67	416.67	416.67	416.67	416.67	416.67	416.67	416.67	416.67	416.67	416.67	416.67	\$ 5,000.00
Medical/dental, incl. insurance	297.00	297.00	297.00	297.00	297.00	297.00	297.00	297.00	297.00	297.00	297.00	297.00	\$ 3,517.00
Clothing	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	\$ 1,320.00
Insurance (life, auto, home)	128.33	128.33	128.33	128.33	128.33	128.33	128.33	128.33	128.33	128.33	128.33	128.33	\$ 1,540.00
Taxes (property)													\$ -
Appliances, furniture, and other purchases/loans													\$ -
Personal care	100.00	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	\$ 1,097.50
Recreation and entertainment	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	\$ 1,500.00
Savings and investments													\$ -
Other expenses	165.00	165.00	165.00	165.00	165.00	165.00	165.00	165.00	165.00	165.00	165.00	165.00	\$ 1,980.00
Fun money													\$ -
(II) Total Expenses	\$ 3,613.00	\$ 3,644.50	\$ 3,644.50	\$ 3,644.50	\$ 3,644.50	\$ 3,644.50	\$ 3,644.50	\$ 3,644.50	\$ 3,644.50	\$ 3,644.50	\$ 3,644.50	\$ 3,644.50	\$ 43,704.50
CASH SURPLUS (OR DEFICIT) (I)-(II)	\$ 53.67	\$ 22.17	\$ 22.17	\$ 22.17	\$ 22.17	\$ 22.17	\$ 22.17	\$ 22.17	\$ 22.17	\$ 22.17	\$ 22.17	\$ 22.17	\$ 295.50
ADJUSTIVE CASH SURPLUS (OR DEFICIT)	\$ 53.67	\$ 73.83	\$ 96.00	\$ 118.17	\$ 140.33	\$ 162.50	\$ 184.67	\$ 206.83	\$ 229.00	\$ 251.17	\$ 273.33	\$ 295.50	\$ 295.50

(Year 1 above)

For the following year after Form was able to closely monitor her spending, we were able to have Hope save 10% of her income to go towards savings and investments on top of her expenses. We advised Form it would be best to save and invest while she is receiving the extra money from alimony as it'll stop in a few years. She can use her savings and investments for either retirement, children's college tuition, or to even purchase a condo once she retires.

ANNUAL CASH BUDGET BY MONTH													
Name(s)	Hope Form												
For the	2021, Ended												2021
INCOME	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total for the year
Take-home pay	\$ 1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	\$ 12,000.00
Bonuses and commissions													\$ -
Pensions and annuities	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	2,666.67	\$ 32,000.00
Investment income													\$ -
Other income													\$ -
(I) Total Income	\$ 3,666.67	\$ 44,000.00											
EXPENSES	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total for the year
Housing (rent/mrto, repair)	\$ 900.00	\$ 900.00	\$ 900.00	\$ 900.00	\$ 900.00	\$ 900.00	\$ 900.00	\$ 900.00	\$ 900.00	\$ 900.00	\$ 900.00	\$ 900.00	\$ 10,800.00
Utilities (phone, elec., gas, water)													\$ -
Food (home and away)	485.67	485.67	485.67	485.67	485.67	485.67	485.67	485.67	485.67	485.67	485.67	485.67	\$ 5,828.00
Transportation (auto/public)	489.33	489.33	489.33	489.33	489.33	489.33	489.33	489.33	489.33	489.33	489.33	489.33	\$ 5,872.00
Medical/dental, incl. insurance	297.00	297.00	297.00	297.00	297.00	297.00	297.00	297.00	297.00	297.00	297.00	297.00	\$ 3,564.00
Clothing	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	\$ 1,320.00
Insurance (life, auto, home)	238.33	238.33	238.33	238.33	238.33	238.33	238.33	238.33	238.33	238.33	238.33	238.33	\$ 2,860.00
Taxes (property)													\$ -
Appliances, furniture, and other (purchases/loans)													\$ -
Personal care	73.33	73.33	73.33	73.33	73.33	73.33	73.33	73.33	73.33	73.33	73.33	73.33	\$ 880.00
Recreation and entertainment	124.67	124.67	124.67	124.67	124.67	124.67	124.67	124.67	124.67	124.67	124.67	124.67	\$ 1,496.00
Savings and investments	366.67	366.67	366.67	366.67	366.67	366.67	366.67	366.67	366.67	366.67	366.67	366.67	\$ 4,400.00
Other expenses	91.67	91.67	91.67	91.67	91.67	91.67	91.67	91.67	91.67	91.67	91.67	91.67	\$ 1,100.00
Fun money													\$ -
(II) Total Expenses	\$ 3,136.67	\$ 37,640.00											
CASH SURPLUS (OR DEFICIT) [(I)-(II)]	\$ 530.00	\$ 6,360.00											
RELATIVE CASH SURPLUS (OR DEFICIT)	\$ 530.00	\$ 1,960.00	\$ 2,990.00	\$ 2,220.00	\$ 2,850.00	\$ 3,380.00	\$ 3,710.00	\$ 4,240.00	\$ 4,770.00	\$ 5,300.00	\$ 5,830.00	\$ 6,360.00	\$ 6,360.00

(Year 2 above)

VI. Rent or Buy

After analysis we concluded that Form should rent as she will be unable to afford the cost of purchasing a condo. Form's monthly rent will be \$900 or \$11,440 annually. Renter's insurance will be \$600 with an cost of security deposit at \$40 (1,000*0.040). If she were to buy a condo she would need to come up with \$6,870 which she does not have. We were able to find Form a two bedroom one bath apartment including utilities for only \$900 a month. This apartment also contained one parking space.

Hope Form cost her 11,440 for the rent with a monthly rent cost of 900, renter's insurance of 600 and opportunity cost of 40(1,000*0.040) while if Hope buys a condo it would cost her 6,870. We found an apartment with 2 beds and 1 bathroom that cost 900 including the utilities and 1 parking space. The apartment was 900 square foot and near schools while we put a 100,000 mortgage payment with 5% interest payable for 120 months for her to buy a condo. After going through the analysis, we suggest Hope can buy a condo after she graduates where her income triples because she needs to pay monthly of 1,060.66 for the condo.

RENT-OR-BUY ANALYSIS	
A. COST OF RENTING	
1. Annual rental costs (12 × monthly rental \$ 900.00)	\$ 10,800.00
2. Renter's insurance	600.00
3. Opportunity cost of security deposit <u>1,000.00</u> × after-tax savings 0.040	40.00
Total cost of renting (line A.1 + line A.2 + line A.3)	\$ 11,440.00
B. COST OF BUYING	
1. Annual mortgage payments (Terms: <u>100,000.00</u> , <u>120</u> month <u>5</u> %) (12 × monthly mortgage payment \$ 1,090.66)	\$ 12,727.86
2. Property taxes (<u>2.0</u> % of price of home)	2,000.00
3. Homeowner's insurance (<u>0.5</u> % of price of home)	500.00
4. Maintenance (<u>0.8</u> % of price of home)	800.00
5. After-tax cost of interest on down payment and closing costs (\$ <u>25,000.00</u> × <u>4.0</u> % after-tax rate of return)	920.00
6. Total costs (sum of lines B.1 through B.5)	\$ 16,947.86
Less:	
7. Principal reduction in loan balance (see note below)	\$ 7,727.86
8. Tax savings due to interest deductions* (Interest portion of mortgage payments \$ 5,000.00 × tax rate c <u>5</u> %)	250.00
9. Tax savings due to property tax deductions* (line B.2 × tax rate of <u>5</u> %)	100.00
10. Total deductions (sum of lines 7 through 9)	8,077.86
11. Annual after-tax cost of home ownership (line B.6 - line B.10)	\$ 8,870.00
12. Estimated annual appreciation in value of home (<u>2</u> % of price of home)	\$ 2,000.00
Total cost of buying (line B.11 - line B.12)	\$ 6,870.00

VII. Disability Needs

The estimated currently monthly take-home pay is \$1,000 from the \$12,000 current annual income for Hope Form. Her social security benefits amounted to \$62.00 which is 6.2% of her take home pay. However, the social security benefits are expected to increase when Hope triples her income. Hope and her divorced husband were disabled that is why they did not receive any disability benefits. Form will be eligible to claim for the company disability benefits if she cannot work due to illness or disability. We advised Form to seek from her employer if they offer disability benefits as not all companies do so. In terms of other government program benefits, Form can apply for unemployment benefit if she were to lose her job at no fault of her own.

DISABILITY BENEFIT NEEDS			
Name(s)	Hope Form	Date	2020
1.	Estimate current monthly take-home pay		\$ 1,000.00
2.	Estimate existing monthly benefits:		
	a. Social Security benefits	\$ 62.00	
	b. Other government program benefits	-	
	c. Company disability benefits	-	
	d. Group disability policy benefits	-	
3.	Total existing monthly disability benefits (2a + 2b + 2c + 2d)		\$ 62.00
4.	Estimated monthly disability benefits needed ([1]-[3])		\$ 938.00

VIII. Projecting Retirement Needs

The current level of annual expenditure household of Hope was 60,000 and 80% was for her estimated annual household expense in her retirement. It will cost her 48,000 for the estimated household expenditure. On her estimated income in her retirement, Hope has a social security benefits and pension plan from her employer or company. The social security benefit cost 2,728 ($44,000 \times 0.062$) and her pension plan was 32,000 ($2,666.67 \times 12$). The annual inflation rate of 4%, anticipated return on assets held after retirement of 6% and expected rate of return of 8%. This results for Hope size of inflation adjusted annual of 28,003.02 and amount of retirement funds required size of nest egg of 466,732. This results in her to have 11,261 of Annual savings required to fund retirement nest egg. In the case of Hope, she would like to retire at the age between 59-64. So, we had a projecting retirement needs that she can have if she would retire 19 years from her age. We are able to compute it using the worksheet and come up with the fact that she needs to have 11,261 to fund saving for her retirement.

PROJECTING RETIREMENT INCOME AND INVESTMENT NEEDS		
Name(s)	Hope Form	Date
I. Estimated Household Expenditures in Retirement:		
A. Approximate number of years to retirement		19
B. Current level of annual household expenditures, excluding savings	\$	60,000.00
C. Estimated household expenses in retirement as a percent of current expenses		80 %
D. Estimated annual household expenditures in retirement (B × C)	\$	48,000.00
II. Estimated Income in Retirement:		
E. Social security, annual income	\$	2,728.00
F. Company/employer pension plans, annual amounts	\$	32,000
G. Other sources, annual amounts	\$	-
H. Total annual income (E + F + G)	\$	34,728.04
I. Additional required income, or annual shortfall (D - H)	\$	13,272.00
III. Inflation Factor:		
J. Expected average annual rate of inflation over the period to retirement		4 %
K. Inflation factor (in Appendix A) Based on 19 years to retirement (A) and an expected average annual rate of inflation (J) of 4%		2.11
L. Size of inflation-adjusted annual shortfall (I × K)	\$	28,003.92
IV. Funding the Shortfall:		
M. Anticipated return on assets held after retirement		6 %
N. Amount of retirement funds required—size of nest egg (L ÷ M)	\$	466,732.00
O. Expected rate of return on investments prior to retirement		8 %
P. Compound interest factor (in Appendix B): Based on 19 years to retirement (A) and an expected rate of retl. on investments of 8%		41.4
Q. Annual savings required to fund retirement nest egg (N ÷ P)	\$	11,261.00

Note: Parts I and II are prepared in terms of current (today's) dollars.

IX. The Last Will and Testament of Hope Form/ Tax Withholding

Hope Form stated that she has a will and that it needs to be updated due to her divorce. Thus, we referred Hope to a professional who is valid to prepare a will. Hope wrote a new will to update her previous will and changed her bequeath from her husband to her father. In her will, she states that she appoints her sister as the guardian of her two teenagers. She also stated that her shares would be equally distributed to her two teenagers and her mother while her father would be the bequest of some of her belongings. Form also had updated her tax withholding to reflect her current status as she is now a single taxpayer. Due to no changes in her capital gain she would not have to worry about any tax liability.

X. Conclusion

In conclusion, we advised Hope that she needs to invest more into the stock market, and have a

diversified portfolio of investments for extra cash flow. This would help her money grow and can incur the highest potential return. Secondly, she needs to start a bank account with a higher interest rate. As she deposits money into this account on a monthly basis this will grow and she can use these funds for either retirement, her children's college tuition, or to purchase a condo once she retires. Thirdly, we did advise she should get minimal disability insurance as this will help her if she became ill or disabled. Fourthly, Hope can also file for child support to help with her children's expenses until they are of age, she can also use the child support money to help save for college tuition on top of looking into financial aid assistance when her two children go to college. Moreover, saving her income was an important goal of Hope. Thus, Hope is able to save money through her annual budget as 10% of her income goes into savings and investment. The first step that we told Hope is to check her outgoings, needs to work out her household income, and split her spending into two which are essential and nonessential. Afterward, the second step was to cut her cost. Hope can make small changes from her expenses and really deter what works with her new lifestyle. She needs to cut some of her spending such as fun money, personal care, recreation and entertainment, so she will not have to rely heavily on her social security and pension. Because these small things can make a big difference over time. The third step is that she needs to manage unexpected bills and save for her future. Thus, we planned her spending for the first two years. Once her alimony ends and she graduates with her Master's she will be able to get a better job and have more funds. For her retirement, we suggest that Hope retires between the ages of 65 and 67, so that she can receive the full retirement benefits. If Form was to retire at the age of 62 her retirement benefit will be reduced to 70 to 80% of the full amount that she will receive. Form will also have to save much more into her savings to fund for her nest egg than retiring at a later age. Form would also need to invest for a 401K retirement plan. It was said that a reasonable goal to invest for 401K was 15% of her annual income. In terms of savings account, she needs to increase her earning interest from 1.25% into 3%. Thus, she would have \$144,488.90 of the savings in 20 years from the 80,000 cash assets that she put in the savings account. She can have a higher return from the 3% savings than the 1.25%. In this way Hope Form will be able to achieve her financial goals and be able to retire comfortably.