



FIN 350 Project Template

Cory A. Sweitzer
Southern New Hampshire University
FIN 350: Advanced Personal Financial Planning
Professor Simmerman
25 February 2024

Part One: Client Analysis and Evaluation of Goals

Financial Health

Financial health is an important topic in the financial planning process that allows a financial planner to analyze the financial welfare of an individual and assess the overall likelihood of success for a client's goals. Analyzing the financial health of a client can be completed in numerous ways. The most common methods of approaching a financial health evaluation include the pie chart approach, the life cycle approach, the financial statement and ratios approach, and the two-step/three panel approach, and the cash flow approach, among others (Dalton, M. et al 2021). To complete a financial health assessment for the Pereira family, two approaches were used, the Life cycle approach and the pie chart approach. Both the life cycle and the pie chart approaches are considered exceptional analyses for initial meetings with the clients (Dalton, M. et al 2021).

The life cycle approach is the initial approach used for the Periera family's financial health and assisted in providing a broad overview of the family and their financial situation. Specifically, this approach allows for the collection of qualitative and quantitative data to provide the planner with essential details into the background demographics of the family and provides the overall story of the client (Brabant, M. 2019; Dalton, M. 2021). The lifecycle phase allows the family to be generically placed into one of three broad life cycle categories: the accumulation phase, the preservation phase, or the transfer phase (Brabant, M. 2019).

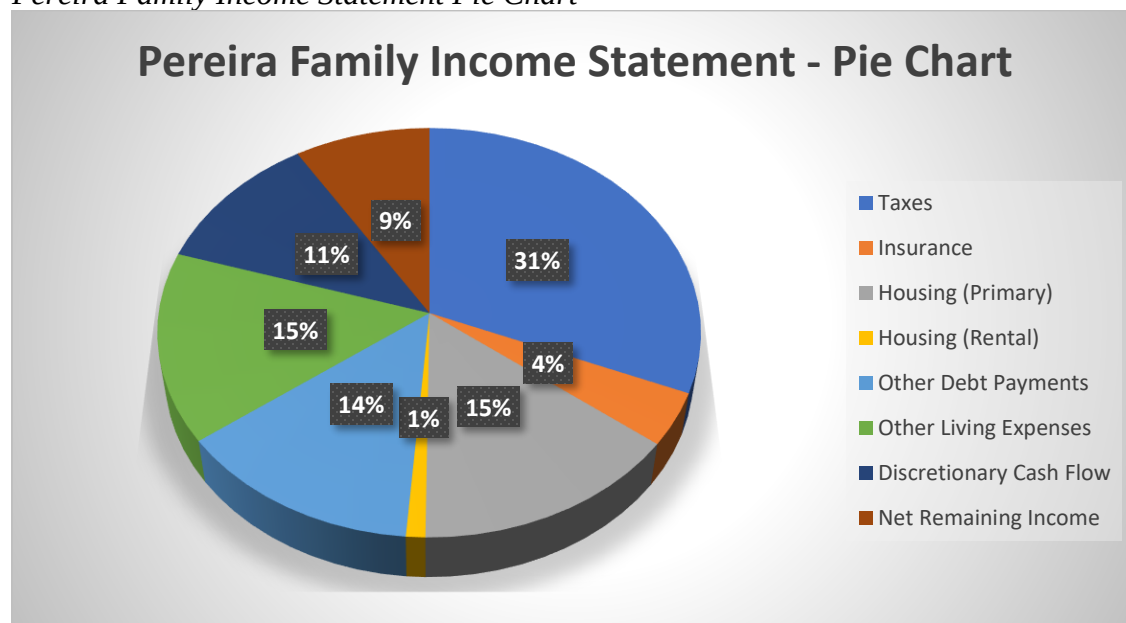
Mr. and Mrs. Pereira's life cycle approach analysis indicates the family is still in the accumulation phase of life, and slowly migrating toward the preservation phase. Mr. Periera is 37 years old, and Mrs. Pereira is 32 years old, with two young children. Assessments state that their risk tolerance is currently at a high level, with their focus on accumulating wealth to provide for retirement and education goals. Mr. and Mrs. Pereira both earn a salary that allows for the repayment of all obligations, and afforded cost of living. The family has already begun their investment process by saving for college and retirement. Furthermore, the family has mitigated substantial risk to their health and assets through appropriate insurance contracts (Dalton, M. et al 2021). It is my opinion that the family has taken the appropriate initial steps to promoting financial wellbeing. With proper planning and management, will be able to achieve their overall goals.

The analysis of the Pereira family was completed by utilizing a pie chart approach of the income statement and balance sheets to provide quantitative data on the breakdown of the financial wellbeing for the family. The pie chart approach provides a broad overview of how income is spent relative to expenses incurred, and the amount of assets held compared to liabilities and net

worth (Dalton, M. et al 2021). While this approach is a useful metric to achieve a broad understanding of the client's financial health, this approach would not be useful for a client who may be insolvent, or has negative cash flows (Dalton, M. et al 2021).

The pie chart process allowed for a broad analysis of the Pereira family's income, expenses, assets, liabilities, and net worth. Review of the income statement indicates that the Pereira's earn \$574,000 in gross income between their computer software business - \$500,000, their rental property - \$24,000, and their investment income - \$50,000. The most substantial annual expense is taxes which account for 31.23% of overall expenses to income. Secondly, other living expenses (e.g. household expenses and gas expenses) equal 14.98% of expenses for the Pereira's. Housing expenses closely follow with 14.81% of overall expenses. Other debt payments equal 13.59% followed by discretionary cash flows – 11.32%, insurance – 4.18%, and rental housing expenses of 1.05%. Net remaining cash flows equal 8.84%.

Figure 1:
Pereira Family Income Statement Pie Chart



Review of the balance sheet estimates that the Periera family has \$7.9 million in total assets with \$1.3 million in total liabilities and a net worth of \$6.6 million. Percentage breakdowns for the assets are as follows: cash and cash equivalents – 4.43%, investments - 51.9%, and personal use assets - 43.67%. Percentage breakdowns for liabilities and net worth are as follows: Current liabilities – 1.75%, long-term liabilities - 14.71%, net worth – 83.54%.

Figure 2

Pereira Family Balance Sheet Pie Chart – Assets

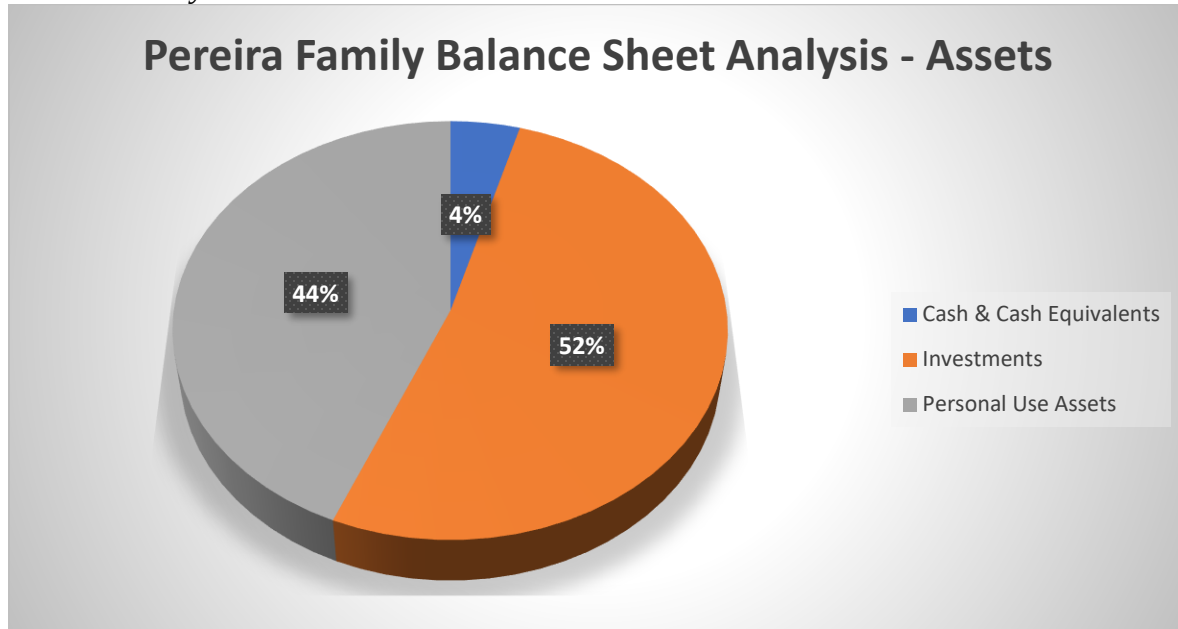
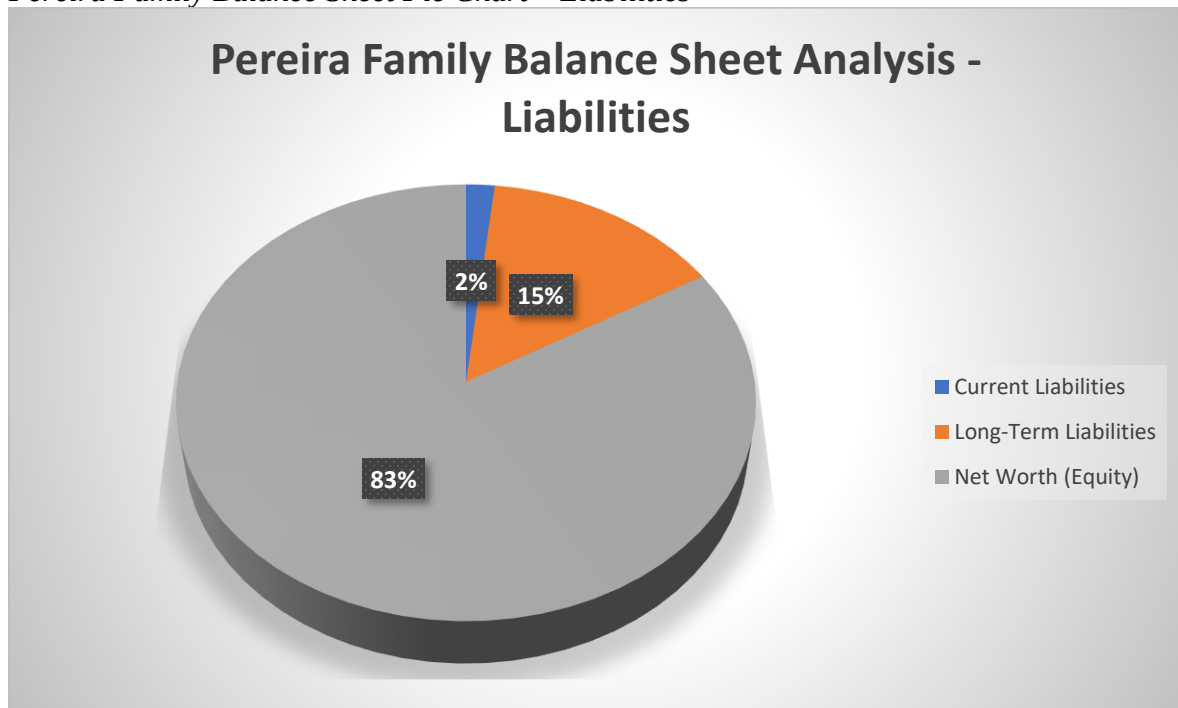


Figure 3

Pereira Family Balance Sheet Pie Chart – Liabilities



While the clients have thus far seemingly managed their finances to a reasonable degree, some shortfalls do exist. The clients currently have only 4.43% of total assets in cash and cash equivalents. If the clients were utilizing this source of assets as an emergency fund, they may be short-handed should an emergency (e.g. layoff, home repairs, health issues, etc.) happen to occur.



Currently, all cash accounts would amount to just over seven months of emergency funding; this does not consider that a percentage of these funds are likely utilized to meet debt obligations throughout the year. Furthermore, the income statement does not assess how much money annually the Pereira family utilizes as savings and investments toward their goals.

Client Psychology

Client psychology, motives, and belief systems represent a critical role in the financial health of an individual or family. Motivation can come in two forms: intrinsic and extrinsic motivation (Dalton, M. et al 2021). Intrinsic motivation aims to satisfy a direct need or desire from within, while an external motivation aims to satisfy an indirect need or external influence upon the individual (Frey, B. & Osterloh, M. 2002). Intrinsic motivation is often associated with satisfaction and enjoyment (Frey, B. & Osterloh, M. 2002), and often is a larger driving force compared to external motivation (Dalton, M. et al 2021).

In contrast, cultural and money beliefs are driving forces that are often instilled in individuals throughout life and may affect overall financial habits and how those habits direct financial decisions (Dalton, M. et al 2021). Certain cultures believe that financial matters should be private, while others may speak openly about their financial status and work together to combine resources or make financial decisions (Rodriguez, D. 2023). Furthermore, families can establish money beliefs which psychology dictate how they utilize their financial resources (Dalton, M. 2021). These beliefs may include ideals like money avoidance, or lack of thinking about money; money worship, such as compulsive buying to create happiness; and money vigilance, or the belief that money should be saved and never spent (Dalton, M. et al 2021).

Risk tolerances and sources of money conflict within the family can additionally affect client psychology. Risk capacity involves the amount of risk an individual can afford to take, while risk propensity is the amount of risk that a client is willing to accept (Dalton, M. 2021). A client may be willing to accept exuberant amounts of risk but may only be capable of affording moderate risk. In addition to risk tolerance, source of money conflicts in the family may create hurdles in optimizing the family financial plans. Money disorders such as gambling disorders or compulsive buying disorders can negatively impact financial planning (Dalton, M. et al 2021). Furthermore, conflicts on saving, spending and the prioritization of goals can have a negative impact on creating a sound financial plan (Dalton, M. et al 2021). Couples must be willing to work together and negotiate to create like-minded goals and optimize their financial plans.

In the case of Mr. and Mrs. Pereira, both parties have similar intrinsic motivators to provide for an exceptional college education for their children; to provide for a healthy and stable lifestyle in retirement; and a desire to learn how they can efficiently budget, plan accordingly for taxes, and acquire financial security. External motivators may come in the form of societal beliefs that their children must attend prestigious schools to adequately succeed. This external motivator assumption was constructed by their desire to save, specifically to send their children to ivy league schools. Furthermore, their money belief motivators are assumed to be money vigilant as the family is concerned with adequate savings, retirement funds, and ensuring their children are financially secure.



Although Mr. and Mrs. Pereira have like-minded goals, sources of money conflicts do exist. The family's risk tolerance questionnaire assumes the clients to be of a high-risk tolerance. Statements made by the clients contradict the accuracy of this assessment. Specifically, both clients have stated conflicts due to money arising in the form of selling versus holding position when asset values decline. Mr. Pereira struggles with the tolerance of short-term losses. Mr. Pereira is often inclined to sell declining securities to purchase assets that have been performing well, while Mrs. Pereira prefers to hold declining securities that have done well in the past. In addition to the risk tolerance and conflicts on the sale of securities, the clients at times have disagreed between financial wants and needs.

Goals

Client goals are the fundamental planning step that allows the financial planner and the client to base the overall planning process. These goals should be prioritized from most important to least important and can be broken down into three categories: short-term, medium-term, and long-term (Dalton, M. et al 2021). Each goal can be utilized to build onto goals further down the road and assist in achieving the overall financial goals.

In the case of the Pereira family, the short-term goals implied are the desire to refine their current budget to allow for better financial planning. Their medium-term goals include reducing tax liability, providing gifting opportunities for their children, and continued investment toward their children's education expenses. Finally, the Pereira's overall long-term goals, which can be achieved by completing the short and mid-term goals include providing an education for their children; effectively funding their retirement through investments and the sale of their business; and leaving an inheritance for their children.

Cognitive Bias

Cognitive biases are beliefs and traits that may affect the overall strategy of a financial plan. For a financial plan to be effective, planners must act as a fiduciary to the client, and the client must adhere to the financial plan, while negating any sort of bias and human emotion (Dalton, M. et al 2021). Furthermore, both the client and the planner are susceptible to emotions and bias and should work together to minimize these occurrences.

Using my personal biases as the planner, overconfidence bias and hindsight biases are biases that may affect my personal financial planning capabilities. Overconfidence bias affects financial decisions when an individual is extremely confident in their capability to make decisions based on their own self-knowledge, while hindsight bias is often associated with an individual looking at past events to assess the predictability of future events (Dalton, M. et al 2021). These two biases are especially present in financial planners. Planners are often seen as experts in their field (Dalton, M. et al 2021). As such, planners may be inclined to assess financial decisions based solely on their knowledge, and not on extensive research. Furthermore, because many analyses of the financial plan are the result of analyzing past performance metrics hindsight bias may become present when a planner focuses too much on the past performance of a plan or security.

For the clients, Mr. & Mrs. Pereira, biases include recency bias, overreaction bias, anchoring bias, and a mindset of losing v. taking losses. Mr. Pereira exhibits recency bias through his belief that he should sell losing securities for ones that have recently produced positive returns,



although there is no guarantee in the future these returns will remain positive (Dalton, M. et al 2021). Overreaction bias is also present in his need to sell securities when they begin to lose value (Dalton, M. et al 2021). Furthermore, Mrs. Pereira exhibits an anchoring bias with her tendency to anchor to losing stocks because these stocks have performed well in the past and does not see a need to change (Dalton, M. et al 2021). In addition to this anchoring bias, Mrs. Pereira exhibits a mindset of losing v. taking losses. This is because she feels that these stocks may return to a growth trend and produce positive results and may not consider the losing stocks as losses until sold (Dalton, M. et al 2021).

Retirement Savings Evaluation

To consider the impacts of retirement savings and investment options, one should cautiously consider both risk tolerance and taxation implications of savings vehicles. Retirement savings vehicles often offer tax shelters for those electing to save for retirement (Dalton, M. et al 2021). The tax advantages allow an individual to save for retirement without taxation consequences until withdrawal occurs in retirement (IRS, 2023). These vehicles include 401(k)s, IRAs, and Keogh Plans. Due to the income limitations of IRAs, the Pereira family is ineligible for IRA contributions. Furthermore, 401(k)s must typically be established and offered to the entire company, unless no other employees exist (IRS, 2023).

Keogh Plans are similar to 401(k) plans and offer tax incentives for business owners and sole proprietors. Additionally, Keogh plans typically have higher contribution limits, but with added upkeep and maintenance costs (IRS, 2023). Currently, Keogh plans allow annual contributions of up to 25% of net earnings from self-employment, up to \$66,000 (Dalton, M. et al 2021; IRS, 2023). Due to these advantages, it is recommended for the Pereira family to utilize a Keogh plan for retirement savings.

Upon establishment of a Keogh plan, investment vehicle selection and portfolio allocation must be considered. The portfolio allocation will be based on expected work life expectancy and the client's risk tolerance. Dalton M (2021) recommends that younger savers begin with a more aggressive portfolio selection and reallocate toward a conservative investment approach as retirement draws near. Because the Pereira's are a young couple with 30 years work life expectancy remaining and have asserted, they are risk tolerant individuals, a portfolio allocation of 90% stocks to 10% bonds is appropriate for their current retirement savings plan.

Education Savings and Investment Options

Similar to the retirement savings plan, one must consider the advantages of specific savings vehicles and investment options. The government allows for tax deferred educational savings through plans such as a 529b savings account or a Coverdell Education account (Dalton, M. et al 2021). For purposes of the Pereira family, it is recommended to utilize a 529b savings plan. This plan allows for tax free contributions toward the education savings of their children in the amount of \$18,000 (\$36,000 for married couples) per year. Furthermore, the family may elect to contribute up to five years' worth of contributions at one time and electing to write it off over the five-year period (Dalton, M. et al 2021).

When considering investment selection, it is advised that the couple approach a more conservative investment approach to education savings. A portfolio allocation of 60% stocks to



40% bonds is recommended for the client. Currently, \$100,000 is set aside in a savings account. It is advised that the client would benefit from rolling these funds into a portfolio of stocks and bonds to provide larger returns over a period. This will allow the funds to grow and compound throughout the savings period.

Opportunities

The client and planner must mutually agree on the financial plan, and the opportunities presented to obtain the overall achievements. By analyzing the opportunities presented in the financial and personal analysis of a client, planners can better focus on prioritizing the goals of the client and ensuring that these goals are specific, measurable, achievable, and realistic (Dalton, M. et al 2021). Opportunities for addressing and improving the problem areas of the clients include:

- Ensuring communication between the family is sound, and decisions are mutually agreed upon (Dalton, M. et al 2021).
- Creating an investor's statement to ensure that the investment plan is adhered to (Smart, S. & Zutter, C. 2020).
- Discussing the opportunity costs of refinancing from a 30-year mortgage to a 15-year mortgage (Dalton, M. et al 2021).
- Minimizing bad credit including consumer credit card debt (Dalton, M. et al 2021).
- Ensuring sources of new financing meet good or reasonable debt standards (Dalton, M. et al 2021).
- Ensuring cash flows stay net positive and all current liability obligations can be met.

Tax Planning

Taxation planning assists the client in ensuring that tax benefits are maximized while liabilities are minimized to retain maximum earnings. Currently, the Pereira family is taxed on both personal and business income, due to their LLC structured organization. Because of this, the family's income levels may be exacerbated, leaving them ineligible for multiple opportunities, such as IRA contributions. The Pereira family can elect to continue this taxation structure or elect to file as a Schedule C corporation. Schedule C filings allow a business owner to be subject to only salary taxation on a personal level but incurs a double taxation on business profits (Dalton, M. et al 2021). However, currently, it is recommended to remain an LLC or S corporation to forego the effects of double taxation on business income. The family is able to use alternative savings vehicles, and double taxation may result in excess tax accumulation in the long-term.

Alternative minimum tax subjects' high-income taxpayers to a separate tax system. This tax system levies tax on taxpayers that might otherwise escape taxation through advanced tax incentives provided by the IRS (Cruz, A. 2022). However, it should be noted that AMT only applies to individuals whose AMT tax calculation exceeds their regular tax (Cruz, A. 2022). With the enactment of the 2017 Tax act, AMT was virtually eliminated for most individuals subject to the tax requirement. This is because the highest tax bracket for regular income tax currently stands at 37% while AMT is only applied at a maximum of 28% (Cruz, A. 2022). At this time, the AMT may apply to the Pereira family due to their tax bracket of 26%.

Gifting presents opportunities for the Pereira's to provide their children with tax free gifts from their parents. The parents have multiple avenues available to provide gifts. To provide for



education, the Pereira's may elect to fund a 529b savings plan. This plan allows for tax free gifting into a tax-sheltered account for educational purposes (Dalton, M. et al 2021). Furthermore, the Pereira's could elect to utilize their lifetime gift and estate tax exemption to provide gifting opportunities to their children (Dalton, M. et al 2021). Currently the 529 gifting exclusion is \$18,000 per individual (\$36,000 per married couple) and the lifetime gifting exemption is \$13.61 million. Finally, Should the Pereira's decide not to sell their organization they could elect to transfer it into a family limited partnership. This partnership allows for the Pereira's to assume general partnership and run the organization while passing ownership rights to their children, typically tax free (Dalton, M. et al 2021).

To assist with those who itemize, charitable giving may be deducted from taxes in a year. Currently the IRS allows those who itemize to deduct up to 60% of AGI in charitable giving per year (Cruz, A. 2021). Furthermore, those who elect to take the standard deduction may deduct up to \$600 per year without the need to itemize (Cruz, A. 2021). Charitable giving will both promote prosperity in the Pereira's community while allowing for tax breaks toward their annual tax filings.

Market and Economic Trends

Although market analysis aims to provide assumptions on expected returns and impacts of inflation, such data must be considered an assumption, as economic variables may cause fluctuations in the financial plan. To analyze the effects of market and economic variables and their effects on investment activities, a sensitivity analysis may be completed to determine the outcomes of potential economic impacts. A sensitivity analysis is completed by adjusting variables such as inflation increases or less than anticipated expected returns (Dalton, M. et al 2021).

For the Pereira family, a sensitivity analysis was completed to determine the impacts of their retirement and education savings if inflation increases or expected returns decreases. The results are as follows...

Retirement Planning

Expected Returns Decrease: Should expected returns decrease 1.5% The future value of retirement needs will increase from \$14,347,704.82 to \$16,384,733.98. Furthermore, they required annual savings decrease from \$245,633.32 to \$183,905.40 While a decrease in annual savings seems counterintuitive, the decrease occurs because the Pereira Family is essentially overfunded at this time for current retirement needs.

Inflation Rate Increase: Should inflation increase 2% the future value of retirement needs will increase from \$14,347,704.82 to \$29,272,768.31. This increase will lower annual savings requirements from \$245,633.32 to \$165,964.80. Again, this decrease in annual savings is due to the Pereira family already achieving the necessary funding requirements for retirement planning.



Education Planning

Tuition Inflation Increase: Should tuition inflation rates increase by 1% the net present value for education funding will increase from \$301,096.75 to \$347,236.07. This increased net present value will require increased education payments to ensure that college educational savings can be met. College annual savings will increase from \$28,310.10 to \$34,805.53.

Part Two: Financial Plan Recommendation

Retirement Funding

Retirement funding and retirement planning are essential tasks within the financial planning process. By considering factors such as current income, current expenses, annual savings amounts, expected returns, and inflation metrics, a financial planner can assist the client in meeting the future needs for a healthy and stable retirement (Dalton, M. et al 2021). Ensuring that a client's future savings requirements are suitable for the expected retirement life expectancy will safeguard the client from incurring the risk of superannuation (Dalton, M. et al 2021).

To complete the retirement funding plan, for the Pereira family, the annuity four-step approach was utilized. This method breaks the retirement funding calculation into four steps to achieve the funding needs at retirement (Dalton, M. et al 2021). Dalton (2021 pp. 532) outlines these steps as the following:

- Step 1: Determine the funding in today's dollars.
- Step 2: Inflate the needs from step 1 to beginning of retirement.
- Step 3: Determine the funding needs at retirement age.
- Step 4: Determine the required annual savings amount.

Impact of WRR

The Pereira's are family of four with an annual income of \$574,000 and total annual expenses of \$523,240, including taxes. Specifically, the Pereira family would like to focus their retirement planning needs on an 80% WRR of total annual expenses today. This assumption implies that expenses will remain constant through the remainder of their work life expectancy phase. For an 80% WRR at the current expense rate, the Pereira family will assumably need \$418,592 annually in today's dollars, less social security.

Because it is likely that the Pereira's will qualify for Social Security benefits upon retirement, Social Security payments must be subtracted from the WRR to arrive at the real amount of savings needed at current wage levels. The Social Security Administration (n.d.) offers a social security calculator that provides estimates on benefits provided in retirement. Assuming that Alix and Eddy earn equal wages from their joint ownership in the software organization, it can be implied that each spouse receives \$287,000 annually, in compensation. Eddy anticipates retiring at 67 with full Social Security benefits, while Alix will retire at 62 and incur a decrease in her full benefit options (Social Security Administration, n.d.). Entering the appropriate information into the SSA calculator, arrives at a monthly benefit in today's dollars of \$3,983 for Eddy, and \$2,799 for Alix; total annual benefits provided amount to \$81,384 (Social Security Administration, n.d.). Subtracting benefits from the initial WRR results in an amount of \$337,208 in today's dollars needed for the required WRR.



Inflation & Expected Return Considerations

Completion of steps two and three of the annuity method requires assumptions based on future rates of inflation, and the expected returns on investment vehicles. The St. Louis branch of The Federal Reserve System provides the public with the Federal Reserve Economic Database (FRED). FRED reports on numerous metrics that can be used to analyze impacts of returns, rates of inflation, market trends, etc. Examining the Willshire 5000, ICE BofA Corporate Bond Index, and the Consumer Price Index for All Urban Goods allowed an analysis of average returns and expected inflation.

For expected returns an analysis of the Willshire 5000, an equities market index tracking the total U.S. stock market, between 1972 and 2023 was completed. Furthermore, because bonds will play a role in the investing process, the ICE Bank of America Total Corporate Bond Index was utilized to analyze average returns between 1975 and 2023. Economic data provided by the Federal Reserve System (2024a) indicates that the total U.S. stock market returns on average 11.6% annually with a standard deviation of 14% - See **Table 1** for historic data on the Willshire 5000. Additionally, the Federal Reserve System (2024b), indicates that the total corporate bond market returns on average 7.6% with a standard deviation of 7.5% - See **Table 2** for historic data on the ICE BofA U.S. Corporate Index Total Returns.

Table 1

Willshire 5000 U.S. Total Market – Annual Returns (1973-2023)

Date	Willshire 5000 Returns (%)
1972-01-01	16.4
1973-01-01	-4.8
1974-01-01	-22.4
1975-01-01	12.3
1976-01-01	23.0
1977-01-01	3.0
1978-01-01	7.7
1979-01-01	25.0
1980-01-01	18.1
1981-01-01	15.0
1982-01-01	-3.1
1983-01-01	43.0
1984-01-01	1.4
1985-01-01	22.1
1986-01-01	30.4
1987-01-01	21.0
1988-01-01	-3.9
1989-01-01	25.0
1990-01-01	3.7
1991-01-01	16.9
1992-01-01	15.2
1993-01-01	13.4
1994-01-01	4.8



Date	Willshire 5000 Returns (%)
1995-01-01	19.7
1996-01-01	25.8
1997-01-01	29.4
1998-01-01	23.2
1999-01-01	21.6
2000-01-01	11.5
2001-01-01	-16.9
2002-01-01	-13.8
2003-01-01	0.7
2004-01-01	21.0
2006-01-01	11.8
2007-01-01	14.9
2008-01-01	-15.7
2009-01-01	-19.8
2010-01-01	24.3
2011-01-01	14.0
2012-01-01	10.3
2013-01-01	22.5
2014-01-01	19.7
2016-01-01	3.3
2017-01-01	19.9
2018-01-01	14.1
2019-01-01	7.4
2020-01-01	12.2
2021-01-01	37.4
2022-01-01	-4.8
2023-01-01	5.5
Average	11.6
Std. Dev	14.0



Table 2

ICE Bank of America U.S. Corporate Index – Annual Returns (1975-2023)

Date	U.S. Corp. Bond Yield
1975-01-01	7.3
1976-01-01	18.0
1977-01-01	11.2
1978-01-01	2.7
1979-01-01	1.9
1980-01-01	-5.2
1981-01-01	-0.8
1982-01-01	19.9
1983-01-01	25.6
1984-01-01	7.4
1985-01-01	23.9
1986-01-01	27.9
1987-01-01	1.9
1988-01-01	8.1
1989-01-01	11.7
1990-01-01	7.9
1991-01-01	13.6
1992-01-01	14.2
1993-01-01	13.7
1994-01-01	0.8
1995-01-01	10.9
1997-01-01	8.4
1998-01-01	10.5
1999-01-01	2.8
2000-01-01	2.6
2001-01-01	13.0
2002-01-01	7.0
2003-01-01	12.0
2004-01-01	5.6
2005-01-01	4.2
2006-01-01	1.8
2007-01-01	5.6
2008-01-01	-0.7
2009-01-01	5.3
2010-01-01	16.5
2011-01-01	7.0
2012-01-01	9.5
2013-01-01	3.0
2014-01-01	4.8
2015-01-01	3.0
2016-01-01	4.3
2017-01-01	4.0
2018-01-01	0.1



Date	U.S. Corp. Bond Yield
2020-01-01	9.8
2021-01-01	3.6
2022-01-01	-11.4
2023-01-01	-1.3
Average	7.6
Std. Dev	7.5

To consider the impacts of inflation on purchasing power, data was obtained from the Federal Reserve System's (2024c) Consumer Price Index for All Urban Goods between 1973 and 2023. This data was then averaged and resulted in an annual average inflation rate of 4%. Although inflation may be higher or lower at distinct periods of time, it is acceptable to infer that 4% inflation will be an adequate variable to assume the inflation adjusted needs of the Periera family.

Table 3

Consumer Price Index for All Urban Consumers – Annual Change (1973-2023)

Date	CPIAUC Annual Change (%)
1973-01-01	6.3
1974-01-01	11.0
1975-01-01	9.1
1976-01-01	5.8
1977-01-01	6.5
1978-01-01	7.6
1979-01-01	11.3
1980-01-01	13.5
1981-01-01	10.4
1982-01-01	6.2
1983-01-01	3.2
1984-01-01	4.4
1985-01-01	3.5
1986-01-01	1.9
1987-01-01	3.6
1988-01-01	4.1
1989-01-01	4.8
1990-01-01	5.4
1991-01-01	4.2
1992-01-01	3.0
1993-01-01	3.0
1994-01-01	2.6
1995-01-01	2.8
1996-01-01	2.9
1997-01-01	2.3



Date	CPIAUC Annual Change (%)
1998-01-01	1.5
1999-01-01	2.2
2000-01-01	3.4
2001-01-01	2.8
2002-01-01	1.6
2003-01-01	2.3
2004-01-01	2.7
2005-01-01	3.4
2006-01-01	3.2
2007-01-01	2.9
2008-01-01	3.8
2009-01-01	-0.3
2010-01-01	1.6
2011-01-01	3.1
2012-01-01	2.1
2013-01-01	1.5
2014-01-01	1.6
2015-01-01	0.1
2016-01-01	1.3
2017-01-01	2.1
2018-01-01	2.4
2019-01-01	1.8
2020-01-01	1.3
2021-01-01	4.7
2022-01-01	8.0
2023-01-01	4.1
Average	4.0

Assuming Pereira's adhere to a portfolio consisting of 90% equities to 10% bonds, expected annual returns will be presented at a rate of 11.16%, for calculations¹. Inflation metrics will be assumed at a rate of 4% for calculation purposes.

Once the WRR in today's dollars required for retirement has been calculated, the next step requires inflating the PV of today's dollars into the future dollars required at retirement. With the consideration of a 30-year work life expectancy remaining, coupled with an inflation rate of 4%, the calculations arrived at an FV of \$1,093,699.588 of annual amount needed upon retirement. This amount will then be utilized as the PMT variable for step three in determining the funding needs at retirement age (Step 3).

¹ Expected return was calculated first using a WACC formula, resulting in 10.79%, and then reconsidered using expected returns of \$100,000 divided among equities and bonds 90% to 10%, respectively. The second method yielded a slightly higher expected return of 11.2%. given the standard deviation and other statistics 11.16% was then selected.



To complete the funding needs, one must consider the impacts of expected returns – 11.16% compared to inflation impacts – 4%, and the retirement life expectancy – 28 years for Pereira's. Utilizing these variables, as an annuity due, the PV at retirement required for adequate retirement funding equals \$14,347,704.85, less the \$5 million associated with the future sale of the software firm.

Required Savings Needs

Prior to the financial planning process, the Pereira family had already begun financing their retirement through \$2.5 million in mutual funds. Additionally, after considering the future cash flow from the sale of the family's organization, total future dollars needed to support the couple in retirement total \$9,347,704.82. Considering a 30-year remaining work life expectancy, 11.16% in expected annual returns, and a PV of 2.5 million, annual payments to the retirement fund arrive at \$245,633.32, implying the Pereira family is well above their current retirement needs, and likely will not have to continue funding retirement if current expenses remain constant.

Educational Funding Evaluation

For education planning considerations, required annual savings amounts were analyzed utilizing the uneven cash flow method. This method is a two-step approach that considers the NPV of future tuition costs, and then uses the NPV as the PV variable when considering required annual savings for education planning (Dalton, M. et al 2021). Factors that will impact the required annual savings amount include the amount already saved, the timeframe for allowable savings, expected returns on investment vehicles, and the expected inflation of tuition costs (Dalton, M. et al 2021).

The Pereira family has two young children aged two and five. The family would like to appropriately plan their future educational financing needs, by saving a specified annual amount, to provide their children with the required future tuition amounts to attend an IVY league school. The Pereira's wish to fund this account until their oldest child enters college in 13 years. The family has stated they expect an Ivy League tuition to cost \$50,000 annually in today's dollars. Furthermore, the family has saved previously saved \$100,000 toward the future tuition costs.

To begin, an assessment of expected returns and future inflation rates must be considered. Because College education is 13 years away, and market vicissitudes may erode the education funds net worth, a conservative approach of 60% equities and 40% bonds, toward education investing would be sufficient to accumulate wealth while hedging against downside risks. Utilizing the previous Federal Reserve (2023a; 2024b) data analysis of 11.6% returns on equity and 7.6% returns on bonds, an annual return of 10% was established for this fund. Additionally, statistics from FinAid (2021) estimate that tuition inflation is approximately 8% annually.

Net Present Value Analysis

Utilizing the estimates above, the NPV arrived at, for tuition charges, with two children attending Ivy League universities amounted to \$301,096.75. This NPV was then offset by the current \$100,000 previously saved, by the Pereira's, for future education costs. The resulting NPV amount for the Pereira's equaled \$201,096.75, which will be utilized as the PV variable in the required annual savings formula.



Required Annual Savings

The second step in determining an appropriate education funding plan is to consider the annual required savings that must be contributed to the fund. To achieve this, the required years of savings must be considered, along with the timing of savings contributions (Dalton, M. et al 2021). The Pereira's are intending to save for 13 years, until their oldest reaches college age. An ordinary annuity calculation will be appropriate, assuming that contributions will be made at the end of each year (Dalton, M. et al 2021).

For the Pereira's annuity calculation: 13 years is utilized as the investing timeframe, with a 10% expected return, and a PV of \$201,096.75. Considering these factors, an annual savings rate appropriate for meeting the education funding goals amounted to \$28,310.10. Over the next 13 years, the family must be willing to save the \$28,310.10 by the end of each year, to fully fund the children's educational expenses.

Budget Recommendations

Approaching the retirement and education financial plans with a striking budget, tailored specifically to the needs of The Pereira family, will enhance the implementation process of the plan, and adequately prepare the clients for success in achieving their outline goals. The implications of tax planning, account selections, investment selections, and the timeliness of implementation are critical factors that must be considered when approaching a budget. Furthermore, managing and ensuring adequate cashflows are sustainable results in a fluid planning process and reduces the probability of insolvency occurring.

The Pereira family has appropriately implemented the initial phases of financial wellbeing through regular savings and investments in wealth producing assets. These prior acts of positive financial activity have set a foundation for future growth. Set forth below is an outline of recommended budgeting decisions and the facts supporting this recommended course of action.

Retirement Budget

Current budget recommendations indicate the Pereira family has implemented a remarkable retirement plan thus far and are not currently obligated to continue contributing to retirement funding. Although current contributions are not necessary, it is simultaneously not recommended to forego the opportunity cost of retirement savings. Economic swings and market vicissitudes acquire the capacity to diminish even the soundest investments. It is thus imperative to continue seeking appropriate paths that allow for additional savings to retirement.

Although many avenues are afforded to the saver when considering retirement planning, certain tax deferred retirement accounts are unavailable to high income earners such as the Pereira family. Because of this, retirement planning considerations may become limited when considering specific investment accounts and tax deferments. While the traditional and Roth IRA accounts provide tax shelters for retirement savings, these accounts are subject to phaseouts and limitations. Phaseouts for the traditional IRA, applied to married filing jointly clients, range from \$123,000 to \$143,000 in 2024 (Reynolds, M. 2024). In contrast, the phaseouts for Roth IRAs, applied to married filing jointly clients, range from \$230,000 to \$240,000 in 2024 (Reynolds, M. 2024).



However, should the Pereira's organization provide an employer sponsored 401(k) or 403(b) plan, then it would be appropriate to contribute further additional retirement savings to this account. The family could benefit from a maximum contribution of \$23,000 per spouse in 2024 (Reynolds, M. 2024). This investment vehicle would then increase tax deferred until withdrawal in retirement.

Education Budget

Although an education budget has been appropriately established for the Pereira children, implementation of additional savings, the routine maintenance of the accounts is critical to ensuring appropriate cash flows are available upon entry into the college years for the children. Additionally, taxed deferred savings vehicles such as the 529 Savings plan and the Coverdell Education Savings account offer tax shelters for investments toward educational opportunities.

The 529 Savings plan is the more common plan allowing for education savings. The 529 Savings plan offers tax deferment on investments and withdrawals for qualified educational purposes (Dalton, M. et al 2021). Additionally, many states offer incentives such as income tax deductions for contributions made to a 529 Savings Plan (Dalton, M. et al 2021). Because deposits are considered gifts, deposits to an educational savings account can be contributed tax free, within certain limits. As of 2023, the maximum tax-free contribution to a 529 Savings Plan is \$18,000 per individual, or \$36,000 per couple (Fidelity Investments, 2023); exceeding the annual contribution needs for the Pereira family.

Similarly, the Coverdell Education Savings account offers tax havens for education savings. However, the Coverdell ESA is subject to phaseouts of \$190,000 to \$200,000, for married filing jointly clients (Dalton, M. et al 2021). The Coverdell ESA allows for a maximum contribution per beneficiary of \$2,000 per year (Dalton, M. et al 2021), making it far less popular of a savings account.

Cashflow Recommendations

Analysis of the Pereira family's income statements provide insight into cash flow considerations for the family. Balance sheet analysis indicates the family has sufficient cash & cash equivalents to meet current liabilities. Furthermore, income statement analysis indicates that the family's net discretionary income of \$50,760. However, budgeting considerations do not account for retirement savings and education savings. Therefore, it is recommended that the Pereira family utilizes \$28,310.10 of discretionary income annually to fund the education savings accounts. This will result in net discretionary income of \$23,200.59.

The Pereira's would also like to consider the cost benefits of refinancing their mortgage. Often times refinancing a current mortgage will allow for a lower loan rate, and decreased years in payments. In The Pereira's case, they would like to consider refinancing a 15-year mortgage at a lower rate. This will lower their overall interest payments and shorten the amount of time taken to repay the loan. However additional costs may apply such as closing costs (Dalton, M. et al 2021). Currently, the Wall Street Journal (2024) lists 30-year fixed rates at 7.5% with 15-year fixed rates at 6.79%. Furthermore, the Pereira's are currently paying \$60,000 a year in mortgage payments. Using the current 15-year interest rate, and calculating the new mortgage payment, the



refinancing payment of \$1,000,000 would equal an annual mortgage payment of \$108,342.80. Because of this, it is recommended not to refinance at this time, and wait until rates continue to lower.

To consider how to prioritize debt payments, the Pereira's should do the following:

- Repay all credit card debt within the current year.
- Minimize line of credit payments second.
- Continue to finance their mortgage at the current rate.

Paying down credit card and line of credit debt first should be the priority. These credit lines typically offer the highest interest rates, may cost the family thousands in extra payments if they do not repay this debt in a timely manner. Because of the current interest rate in the mortgage market, it is inadvisable to refinance. This should be approached only when interest rates decrease.



Summary.

The SNHU Finance team would like to thank the Pereira family for selecting our firm to assist with your financial planning needs. Over the past several weeks we have collected essential data and have analyzed this with multiple methods to complete your comprehensive financial plan. This summary will provide you with an outline of implementing and monitoring your financial plan, along with the next steps in promoting financial wellness for your family!

Your financial situation is off to a fantastic start, and your wellness is reflected in your prior planning to achieve financial stability. With your current income and expenses, you are able to repay all debt obligations and obtain the required annual savings while still incurring a net discretionary income of \$22,449.90. Currently, your retirement planning exceeds the funding requirements, and given your current financial standing, will be suitable for your retirement life expectancy. Furthermore, you have begun education planning for your children, and are on a path to achieving this plan. It is recommended to set aside \$28,310.10 annually to achieve your desired funding requirements for college educational purposes. This money may be obtained from your current net discretionary income.

Your current goals are as follows:

- Short-term: Refine Budget
- Medium-term: Reduce tax liability
- Long-term: Education and retirement funding.

We have begun the short-term planning goal by assessing your budget and providing savings opportunities. Medium-term goals can be achieved by itemizing deductions, charitable contributions, and funding tax deferred retirement accounts. Finally, your long-term goals will be accomplished by providing adequate savings for your children's college education.

For retirement planning we advise a portfolio of 90% stocks to 10% bonds with an education portfolio of 60% stocks to 40% bonds. It is advised to continue structuring your organization as an LLC to reduce tax liability through double taxation. You are advised to forego refinancing opportunities until interest rates are at lower levels. Furthermore, we advise you to consider the benefits of contributing to a Keogh retirement plan for tax deferred retirement savings. Finally, it is advised that credit cards and line of credit debt payments be prioritized. By removing these debts, you will save upwards of \$75,000 a year allowing for increased savings in other areas of your budget.

Moving forward, the next steps in your plan are recommended:

- Implementing the processes outlined above.
- Meeting quarterly to discuss progress.
- Reviewing market conditions and their effects on your investments.
- Discussing alternative actions as they arise.

Should you agree to this, we recommend another meeting within 30 days to assess the implementation process and discuss monitoring phases.



References

- Cruz, A. (2022). *Fundamentals of Taxation* (15th ed., p. 22, 40, 43, & 138,). McGraw-Hill. ISBN-13: 978-1-264-61753-1
- Brabant, M. (2019, September 1). *The Life-Cycle Planning Approach to Your Wealth*. Jefferies Wealth Management. Retrieved January 19, 2024, from https://www.jefferies.com/wp-content/uploads/files/WealthManagement/2019_Lifecycle_Planning.pdf
- Dalton, M., Dalton, J., Gillice, J., & Langdon, T. (2021). *Fundamentals of Financial Planning* (7th ed.). Money Education.
- Federal Reserve System (2024a, February 5). *Wilshire 5000 Total Market Index (WILL5000IND)*. Board of Governors of the Federal Reserve - St. Louis. Retrieved February 6, 2024, from <https://fred.stlouisfed.org/series/WILL5000IND>
- Federal Reserve System (2024b, February 5). *ICE BofA US Corporate Index Total Return Index Value (BAMLCC0A0CMTRIV)*. Board of Governors of the Federal Reserve - St. Louis. Retrieved February 6, 2024, from <https://fred.stlouisfed.org/series/BAMLCC0A0CMTRIV>
- Federal Reserve System (2024, February 5). *Consumer Price Index for All Urban Consumers: All Items in U.S. City Average (CPIAUCSL)*. Board of Governors of the Federal Reserve - St. Louis. Retrieved February 6, 2024, from <https://fred.stlouisfed.org/series/CPIAUCSL>
- Fidelity Investments (2023, June 15). *529 Contribution Limits for 2023*. Fidelity Investment Services. Retrieved February 8, 2024, from <https://www.fidelity.com/learning-center/smart-money/529-contribution-limits>
- FinAid (2021). *Tuition Inflation*. Finaid Gov. Retrieved February 8, 2024, from <https://finaid.org/savings/tuition-inflation/#:~:text=A%20good%20rule%20of%20thumb,college%20doubles%20every%20nine%20years.>
- Frey, B., & Osterloh, M. (2001). *Successful Management by Motivation: Balancing Intrinsic and Extrinsic Incentives* (1st ed., pp. 7-12). Springer. ISBN 3-540-42401-6
- IRS (2023, August 23). *Retirement Plans for Self-Employed People*. Internal Revenue Service. Retrieved February 22, 2024, from <https://www.irs.gov/retirement-plans/retirement-plans-for-self-employed-people>
- Reynolds, M. (2023, November 15). *2024 Retirement Plan Contribution Limits, Phase-Out Ranges, and Income Limits*. Jones & Roth CPA & Business Advisors. Retrieved February 6, 2024, from [https://www.jrcpa.com/2024-retirement-plan-contribution-limits-phase-out-ranges-and-income-limits/#:~:text=Phase%20Dout%20Ranges%20%26%20Income%20Limits&text=The%20traditional%20IRA%20phase%20Dout,%2473%2C000%20and%20%2483%2C000%20in%202023\).](https://www.jrcpa.com/2024-retirement-plan-contribution-limits-phase-out-ranges-and-income-limits/#:~:text=Phase%20Dout%20Ranges%20%26%20Income%20Limits&text=The%20traditional%20IRA%20phase%20Dout,%2473%2C000%20and%20%2483%2C000%20in%202023).)
- Rodriguez, D. (2023, September 27). *WHAT IS CULTURE, AND WHAT DOES IT HAVE TO DO WITH YOUR FINANCES?* 3rd Decade. Retrieved January 19, 2024, from



<https://3rddecade.org/what-is-culture-and-what-does-it-have-to-do-with-your-finance/#:~:text=Some%20cultures%20view%20financial%20matters,and%20community%20over%20financial%20gain.>

Smart, S., & Zutter, C. (2020). *Fundamentals of Investing* (14th ed.) Pearson Custom. ISBN-13: 978-0-13-794861-1

Social Security Administration (n.d.). *Social Security Quick Calculator*. Social Security Online. Retrieved February 7, 2024, from <https://www.ssa.gov/OACT/quickcalc/>

Wall Street Journal (2024, February 24). Market Data. *Wall Street Journal*, CCLXXXIII(45), B8.



Appendix A: Retirement Funding

Retirement Planning - Annuity Method (4-step Approach)

Step 1: Determine Funding Amount (Today's Dollars)

Salary	\$523,240
WRR	80.00%
Total Needs (Today's Dollars)	\$418,592
Less Social Security	\$81,384
Annual Amount required (Today's Dollars)	\$337,208

Step 2: Inflate needs from Step 1 to Beginning of Retirement

PV	\$337,208
N	62-32=30
I	4.00%
PMT	\$0
FV	\$1,093,699.588

Step 3: Determine Funding Needs at Retirement Key (Annuity Due)

PMT	\$1,093,699.59
N	90-62=28
I	$1.1116/1.04 - 1 * 100 = 6.8846\%$
FV	0
PV @ 62	\$14,347,704.82

Step 4: Determine Required Annual Savings

FV @ 62	$\$14,347,704.82 - \$5,000,000 = \$9,347,704.82$
N	62-32=30
I	11.16%
PV	(\$2,500,000)
PMT	\$245,633.32

Calculations were completed using the annuity 4 step approach. This approach combines both the ordinary and annuity due methods to arrive at an estimated annual savings amount required to fund the retirement savings vehicle (PMT amount highlighted in green under Step 4). A negative PMT amount assumes additional contributions are required, while a positive PMT amount assumes the retirement fund is at or above capacity to meet future retirement needs. . For this analysis, calculations were completed using the HP 12c calculator.



Appendix B: Education Funding

Education Funding Planning

Step 1: Net Present Value

CF ₀	0
CF _J	0
N _J	12
CF _J	\$50,000
N _J	2
CF _J	\$100,000
N _J	2
CF _J	\$50,000
N _J	2
I	$1.10/1.08 - 1 * 100 = 1.8519\%$
NPV	\$301,096.75

Step 2: Ordinary Annuity Formula

N	13
I	10%
PV	$\$301,096.75 - \$100,000 = \$201,096.75$
FV	0
PMT	(\$28,310.10)

Calculations for the education funding plan were completed utilizing the uneven cashflow method. This method is a simple method involving two steps to assist the client in establishing an annual payment plan to achieve the defined education needs. Calculations were completed utilizing the HP 12c calculator for this project.



Appendix C: Budget Recommendations

Refinancing Mortgage (15-Year)

N	15
I	6.79%
PV	\$1,000,000.00
FV	0
PMT	(\$108,342.80)



Appendix D: Retirement Sensitivity Analysis

Expected Returns Decrease -1.5%

Step 1: Determine Funding Amount (Today's Dollars)

Salary	\$523,240
WRR	80.00%
Total Needs (Today's Dollars)	\$418,592
Less Social Security	\$81,384
Annual Amount required (Today's Dollars)	\$337,208

Step 2: Inflate needs from Step 1 to Beginning of Retirement

PV	\$337,208
N	62-32=30
I	4.00%
PMT	\$0
FV	\$1,093,699.588

Step 3: Determine Funding Needs at Retirement Key (Annuity Due)

PMT	\$1,093,699.59
N	90-62=28
I	$1.096/1.04 - 1 * 100 = 5.442308\%$
FV	0
PV @ 62	\$16,384,733.98

Step 4: Determine Required Annual Savings

FV @ 62	$\$16,384,733.98 - \$5,000,000 = \$11,384,733.98$
N	62-32=30
I	9.66%
PV	(\$2,500,000)
PMT	\$183,905.40



Appendix E: Retirement Sensitivity Analysis

Inflation Increases 2%

Step 1: Determine Funding Amount (Today's Dollars)

Salary	\$523,240
WRR	80.00%
Total Needs (Today's Dollars)	\$418,592
Less Social Security	\$81,384
Annual Amount required (Today's Dollars)	\$337,208

Step 2: Inflate needs from Step 1 to Beginning of Retirement

PV	\$337,208
N	62-32=30
I	6.00%
PMT	\$0
FV	\$1,936,751.17

Step 3: Determine Funding Needs at Retirement Key (Annuity Due)

PMT	\$1,936,751.17
N	90-62=28
I	$1.1116/1.06 - 1 * 100 = 4.867925\%$
FV	0
PV @ 62	\$25,697,744.57

Step 4: Determine Required Annual Savings

FV @ 62	$\$25,697,744.57 - \$5,000,000 = \$20,697,744.57$
N	62-32=30
I	11.16%
PV	(\$2,500,000)
PMT	\$165,964.80



Appendix F: Education Savings Sensitivity Analysis

Tuition Inflation increases 1%

Step 1: Net Present Value

CF ₀	0
CF _J	0
N _J	12
CF _J	\$50,000
N _J	2
CF _J	\$100,000
N _J	2
CF _J	\$50,000
N _J	2
I	$1.10/1.09 - 1 * 100 = 0.91743\%$
NPV	\$347,236.07

Step 2: Ordinary Annuity Formula

N	13
I	10%
PV	$\$347,236.07 - \$100,000 = \$247,236.07$
FV	0
PMT	(\$34,805.53)