Personal Financial Management Case Study

**Question 1**

**Financial strengths**

1. The couple had a net cash surplus in the last period of more than $10,000 in the last financial year
2. The couple’s income from salaries and the sole proprietorship is expected to increase at a faster rate than inflation
3. The couple has manageable debt levels with a net worth that exceeds 70% of total assets
4. Their ownership of rental property and a bar provide the potential for capital gains

**Financial weaknesses**

1. The couple lacks a comprehensive estate plan especially with respect to contingent beneficiaries for Karl’s life insurance and beneficiaries for his IRA distributions
2. The couple spends more than 85% of their gross income, jeopardizing their retirement goals and ability to pay for children’s university education
3. Their emergency fund (12,500) cannot cover at least 6 months of living expenses considering that their monthly expenses are equal to $8,844
4. Their contributions to retirement accounts are significantly low given their earnings levels and their maximum contribution limits. Maximizing contributions to the 401(k)
5. The couple did not set aside any money for savings in 2021 (other than the cash surplus)
6. Their current investment in mutual funds does not reflect their high appetite for risk as more than half of their mutual funds are held in corporate bonds, which are of low risk, and the smallest proportion is held in growth funds, which match their current preference for high returns for increased risk levels

**Question 3**

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| --- | --- |
| Ratios | |
| Liquid assets/monthly expenses | 1.98 |
| Liquid assets/current debt payments | 0.91 |
| Net worth/total assets | 0.74 |
| Total debt/total assets | 0.26 |
| Total debt/annual total income | 1.30 |
| Housing and monthly debt payments/monthly gross income | 0.20 |
| Housing costs/monthly gross income | 1.43 |
| Investment assets/annual gross income | 2.80 |
| Monthly savings/monthly gross income | 0.09 |

**Question 4**

|  |  |
| --- | --- |
| Annual mortgage payment (principal and interest) | 10,267 |
| Monthly mortgage payment | 856 |
| Rate | 5.25% |
| Mortgage term (years) | 30 |
| Initial mortgage amount | 154,940 |

**Question 5**

The Monroes have been repaying their mortgage for 72 months (or 6 years) as of December 2021. With the monthly mortgage payment of $855.58, the couple will pay an additional $246,408 over the mortgage’s life. Refinancing with the 15-year mortgage will result in additional costs of $117,929 while the 30-year mortgage will result in savings of $1,701. The couple should refinance with the 30-year mortgage to save costs and reduce their monthly mortgage repayment amounts. They should, however, consider the higher remaining mortgage balance they will need to repay prior to retirement and make the appropriate adjustments to their retirement savings.

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| --- | --- | --- |
| REFINANCING | | |
|  | 15-year mortgage | 30-year mortgage |
| Mortgage rate | 3.50% | 4% |
| Years | 15 | 30 |
| Refinanced amount | 139,937 | 139,937 |
| PMT | $1,000.39 | $668.08 |
| Repayments over loan term | $360,138.67 | $240,509.03 |
| Closing cost | 4198.11 | 4198.11 |
| Total refinancing payments | $364,336.78 | $244,707.14 |
| Savings (costs) from refinancing | ($117,928.78) | $1,700.86 |

**Question 6**

Karl can make a deductible contribution to an individual retirement account but he would maximize his taxation benefits by making a deductible contribution to a SEP IRA or other retirement accounts designed for small business owners and self-employed persons. Carl can set up a Keogh plan without the additional cost of setting up plans for the bar’s workers since all his employees have logged less than 1,000 hours over the past three years

**Question 7**

Both the 401(k) plan and IRA contributions were below the 2021 deduction limits.

Federal adjusted gross income = Gross income – retirement contributions – deductible expenses

Deductible expenses = 50% self-employment tax

Adjusted gross income = 122,782 – (2,860 + 3,000) – 0.5\*9,043

AGI = $112,401

**Question 8**

The maximum contribution for 2022 is $61,000.

**Question 9**

Karl can borrow up to the lesser of $50,000 or half of his vested account balance. As the owner of the business, 100% of Karl’s contributions are vested on contribution. He will be able to borrow half of his account balance up to $50,000 after setting up his account.

**Question 10**

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| --- | --- | --- | --- |
|  | Current income | Annual increase | Pre-retirement income |
| Net income from bar | 64000 | 5% | 216,727 |
| Salary | 57200 | 3.50% | 135,178 |
|  |  |  |  |
| Years in retirement | 28 |  |  |
| Total pre-retirement income | 351,904 |  |  |
| Desired post-retirement income | 281,523 |  |  |
| Monthly income post-retirement | 23,460.29 |  |  |
| Earnings rate (monthly) | 0.92% |  |  |
| PV | $2,440,018.48 |  |  |

**Question 11**

The previous calculation is based on the basic annuity method where the couple is assumed to deplete the beginning retirement account balance by the end of the 28 years.

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| --- | --- | --- |
|  | Capital preservation | PP preservation |
| Monthly income post-retirement | 23,460 | 23,460 |
| Desired ending retirement account | $2,440,018.48 | $5,582,585.82 |
| Interest rate (monthly) | 0.92% | 0.92% |
| Months in retirement | 336 | 336 |
| Capital needed at retirement | $2,553,744.47 | $2,700,215.30 |
| Additional capital | $113,725.98 | $260,196.82 |

**Question 12**

For the capital preservation model, the retirement account balance at the beginning and end of the retirement period should be equal. On the other hand, the goal of the purchasing power model is for the retirement account at the end of the retirement period to have the same purchasing power as at the beginning of the retirement period. Consequently, if the inflation rate is greater than 0, the capital needs of the purchasing power model will be higher than the capital needs under the capital preservation model.

**Question 13**

Individuals under the age of 59.5 years who withdraw from a 401(k) and use the distribution for non-qualified expenses while still in service are subject to a 10% penalty amount. Expansion of the bar is not a qualified expense. The couple plans to expand Marlo’s within the next five years during which June will be less than 59.5 years. June’s 401(k) will, therefore, not be ready as a source of capital for Marlo and the couple should find an alternative for expansion.

**Question 14**

Gerdi is aged 62 meaning that she was born in 1959. Her full retirement age is 66 and 10 months. Since she is below this age, she is subject to a limit on earnings for receipt of social security benefits. In 2022, she can only receive her full social security benefits if her earnings are less than $19,560. $1 in social security benefits will be withheld for every $2 in earnings above the $19,560 threshold

**Question 15**

The IRS requires disability benefits beneficiaries to report the full amount of disability benefits as ordinary income if the disability insurance was fully covered by the employee while disability benefits received where the individual paid for all the premiums are not included in income. Karl’s disability benefits will not be taxed while half of June’s disability benefits will be taxed at the couple’s marginal tax rate

**Question 16**

Homeowner’s insurance covers the replacement value of the home and covered contents. Karl and June have a HO-3 homeowner insurance form which covers named perils and comes at a lower cost than HO-5 insurance which provides comprehensive coverage on the house and other structures. The couple’s residential property is valued at $205,000 (after excluding the fair market value of land). At the 80% coinsurance requirement, the house must be insured for no less than 80% of the property’s fair market value (80% \* 205,000). The house must be insured for no less than $164,000. The couple’s dwelling value in insurance forms is $197,000 and exceeds the minimum value above with the risk is borne solely by the insurer. Thus, the insurance policy is appropriate

**Question 17**

Karl’s basis on the rental property is equal to his aunt’s adjusted basis at the time the gift was made, $60,000. The couple will, therefore, record a gain of $24,000 if they sell to the tenant and $30,000 if they sell to the investor. Since the value of the property has appreciated since its gifting, the depreciation deduction will be recaptured as part of the gain on the sale of the investment. The depreciation recapture portion of the gain will be taxed at the recapture rate of 25% while the capital gain portion will be taxed at the long-term capital gain rate of 15% or 20% depending on the couple’s income bracket.

**Question 18**

June will relinquish property valued at $84,000 with a basis of $60,000 to receive property worth $100,000. Her realized gain will be equal to $40,000. However, none of the gain will be recognized in the current period as there is no boot making the exchange tax free. June’s basis in the property will be equal to her basis in the relinquished property of $60,000.

**Question 19**

Tax basis at inheritance = 40,000

Adjusted tax basis = 40,000 + 30,000 = $70,000

**Question 20**

The couple holds Marlo as community property meaning that the adjusted tax basis of $70,000 will be passed on to June at Karl’s death. The bar is valued at $138,000. June would be taxed on the $68,000 gain on the bar’s sale.

**Question 22**

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| --- | --- | --- | --- |
|  | Fair MV | Beta | Proportion of value |
| Balanced | 5,600 | 0.65 | 0.30 |
| Growth | 2,400 | 1.24 | 0.13 |
| Corporate bond | 10,800 | 0.55 | 0.57 |
| Total | 18,800 |  | 1.00 |
| Weighted average beta | 0.67 |  |  |

**Question 23**

Growth funds are characterized by higher risk compared to value and balanced funds. The 3rd index is the appropriate benchmark for the growth fund as it has comparable exposure to systematic risk as indicated by its beta of 1.3

**Question 24**

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| --- | --- | --- | --- |
| R^2 | 0.25 |  |  |
| r | 0.50 |  |  |
|  |  |  |  |
|  | Value | Weight | Standard deviation |
| Portfolio A | 7,000 | 0.70 | 20.0% |
| S&P | 3,000 | 0.30 | 11.5% |
| Total | 10,000 |  |  |
| Portfolio SD | 16.0% |  |  |

**Question 25**

The main shortcoming of the couple’s estate planning is the failure to name beneficiaries of retirement accounts in case of death prior to the distributions. Karl’s life insurance policy also fails to name contingent beneficiaries, which could inflate the size of his probate estate if his wife and himself die in the same incident.

**Question 26**

Karl can take steps while alive to reduce the size of his probate estate and minimize the taxes paid on property passed through probate. He should make his wife and/or children the beneficiaries of his IRA and make his children contingent beneficiaries for his life insurance policy. He could also prepare a living trust to avoid passing his will through probate. In later years, Karl could transfer his property to his mother, wife, children, and charity as gifts to benefit from the preferential tax treatment of gifts.