FN 221 Personal Finance
Term Project

Personal Financial Planning:
The case of Joe and His Family

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I. Introduction: Joe's Current Situation

Joe is a 35-year-old, married man who is working at a leading Thai conglomerate, SCG. With this job, Joe is currently earning THB 190,000 per month and he expects to see his salary growing at the rate of 5% per annum. He also gets a two-month salary bonus, totaling THB 380,000 on average. Aside from his salary and bonus, the company provides Joe with variety of employee welfares that could aid his financial status and healthcare. He decided to contribute 12% of his monthly income to provident funds while the company tops up his contribution by the same amount. SCG is not the only source of income for Joe; He is also investing in the stock market himself where he earns return of approximately THB 45,000 per year. He plans to retire at the age of 60 and wishes to have a satisfying life afterwards.

Joe is currently living with his wife, who is 34 years old and has no source of income, in the townhouse located in a fine neighborhood near BTS. Joe has taken 15-year mortgage loan at the rate of 3.5%[1] to buy this townhouse and he has already paid a monthly installment of THB 27,165 for 10 years. The place is currently worth THB 4.2 million in the market. Joe is thinking about moving to a single house 10 years from now. The couple also owns a car whose market value is THB 500,000. Joe feels that the car is getting unfashionable and he is considering buying the new model that costs THB 2.59 million in two years time. Joe's other personal belongings, including jewelry, gold, electronic devices, and furniture, are worth THB 1.705 million in total.[2] He also has THB 1,267,200 in his provident fund and THB 750,000 in the stock market.

The couple is raising two children, Jip and Jack. Jip is going to an elementary school at St. Francis Xavier Convent with tuition fee of THB 58,000 per semester while Joe is studying at a kindergarten called Naruemontin school with tuition fee of THB 28,000 per semester. Both schools are near Joe's workplace, so Joe does not need to incur much more transportation cost, fuel in particular, in order to drive his children to school. Because Jack is finishing his kindergarten soon and Joe is planning to transfer him to St. Gabriel College School for his elementary level, Joe would need a generous amount of "Coffee money", as well as the tuition fee of 37,000 THB per semester, in the next 2 years.

All the family members are physically healthy thanks to the fact that Janie chooses to be a housewife and take care of all the housework. This also allows them to save the cost of hiring the housemate, as they would not have enough time to do the chores if Janie had a full-time job. Because their health conditions are good and the couple is still young, Joe currently does not have any life or health insurances for himself or any of his family members; he thinks it would be a waste of money as the premium paid can go unused. However, Joe starts to notice that there were some months that he had to pay significant amount of money for his children's medication cost when they were injured after playing with their friends.

Apart from mortgage installment that Joe needs to pay every month, he is also responsible for credit card debt of over THB 200,000. His wife is addicted to shopping and has a taste for luxurious goods as she comes from a wealthy family. Joe knows that he needs to pay the whole amount when it is due, otherwise he would face a huge amount of interest. Although Joe is confidence of his driving ability, he still buy a first-class motor insurance due to his passion for car; he is paying a premium of THB 30,000 per year. His other expenses, apart from mortgage, car insurance, credit card debt and tuition fees, amounted to THB 95,000 a month.[3] Joe starts to observe that his saving is lacking behind his peers' and begins to worry about his retirement and whether he will be able to meet his children's rising education expenses in the future. He was also surprised after talking to his colleagues that they are paying taxes at the amount significantly lower than him even though their earnings are comparable.

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[1] The mortgage loan is supported by Joe's employer as a part of employee's benefit.
[2] See Joe's Balance sheet in the appendix for further details.
[3] See Joe's Income statement in the appendix for further details.

II. Analysis of the current financial situation

According to Joe's Balance Sheet shown in the appendix, Joe (and his family) has net worth of THB 10 million. This figure indicates good financial health for the man at his age. His debt to equity ratio is currently 0.02, implying a strong equity position. Joe also has a sound current ratio of 23. This ratio demonstrates his ability to meet short-term debt obligation; his liquid asset, which comprise mostly of saving account, can be used to cover 23 times of his current liability. As a matter of fact, it can even be used to repay his entire remaining mortgage. Therefore, we strongly believe that Joe has strong debt repayment ability, both short and long term, and he will not have liquidity problem any time soon. However, the low debt to equity ratio and high current ratio can signal that he is under-leveraged. He will be better off using his excess liquidity to earn higher investment return.

The family's living expense coverage ratio is 29, suggesting a healthy cushion against an unfortunate lay-off. Should Joe lose his job, the family would be able to live upon their monetary assets for approximately 2.5 years. The proper ratio should lie between 3-6 months, so we strongly believe that the family can rest assure about their liquidity situation and consider putting their monetary asset in higher yielding assets.

With regard to their saving and spending habits, we think that several actions, suggested in *section V*, can be undertaken in order to improve their progress towards financial goals. Although the family has a cash surplus available to saving of over THB 200,000[4], the amount is still low considering Joe's income and their financial goals to be discussed in *section III*; They only save 10.7% of their total available income. In addition, when we look further into the source of his assets, it seems that the family's strong current financial position might be inherited from their parents, not from their own ability to save. Only 44% of their saving account comes from their own contribution, not to mention that the jewelry and gold they possess are also a gift from their parents as well.

Mortgage payment accounts for 14% of his monthly salary (or 12% of his monthly income adjusted for expected bonus). Given the rule of thumb that says that monthly mortgage payment should not be greater than 33% of monthly income, we think Joe is doing well in term of his housing finance. However, approximately one third of the family's expenses go to entertainment, clothing, beauty and children's toys. It is most likely that a significant portion of this amount goes to the unnecessary and luxurious items. This, along with their credit card debt of THB 200,000, serves as an early signal towards their luxurious lifestyle and overspending habits, which can eventually lead to financial problem in the future.

Joe's investment style is also another issue to be examined. Despite his relatively young age, Joe invests mostly in the saving account; 69%[5] of his portfolio is in saving account that earns after-tax return of 1.87% per annum.[6] This return is so little that it is likely to fall short of inflation rate, reducing his future purchasing power. In addition, despite his high tax bracket[7], Joe has no investment in tax-saving instruments such as life-insurance policy or LTF. Reallocating his portfolio would not only yield him higher potential return to keep up with the inflation but would also help him with his tax planning.

Given his responsibilities towards his family members, we suspect Joe's situation regarding risk management. While he is the only one supporting the entire family expenses, Joe currently has no life or

[4] See Joe's Income statement in the appendix for further details
[5] His investment portfolio comprises of 69% in saving account, 12% in stock and 19% in provident fund. We disregard his precious metal and gems in this case as those items are inherited from his parents as a wedding gift and he would not be able to adjust his holding of them because of subjective issues.
[6] Joe is putting his money in KK smart saving program, which offer 2.2% saving rate (as of 4th May 2015) per annum. The return is taxed at 15%.
[7] See detailed analysis of his personal income tax in the appendix.

health insurance aside from the one provided by his employer, which will be terminated once he changes his job. Should he suffer from serious illness or pass away, his wife and kids would eventually have to face some difficulties. Life insurance can mitigate those risks and would be beneficial to his family, especially his kids who are still studying. There are many types of life insurance policy available and his concern regarding a waste of premium can be alleviated by choosing the right policy.

III. Financial Goals: identification and some refinement

Short-Term Goals (Those to be achieved within one year)

- **Tax Planning:** Joe realizes from observing his peers that he does not fully utilize his allowances for tax deduction. By the end of this year (2015, age 35), he would like to study his available options to save tax payment and get started with his tax planning. He expects to save up his personal income tax payment up to the maximum amount he can afford with the minimum amount of THB 100,000 or 25% of his current tax payment.
- **Saving and Spending Habits**: By looking at the overview of the family's financial situation, Joe notices that he actually does not have much saving compared to his colleges. He found that this comes from the family's luxurious spending habits and would like to fix it. Within one year, Joe would like to see the family spending reduced by 20%. He believes that he can achieve that by limiting their spending on entertainment, credit card usage, fine dining, and beauty and clothing products.
- **Investment Strategy:** The couple decided that, within one year, they would like to reallocate their portfolio in order to gain higher return. While maintaining certain portion of their asset in saving account to meet the new budgeted expenses, they would like to invest greater proportion in equity market. Investing in mutual fund might also be his other good option as he might not have much time to monitor the stock market and Janie does not have the knowledge.

Our recommendation on his short-term goals

- **Risk Management:** Since Joe is the only one who is responsible for the entire family's expenses, the family will be facing with some financial difficulties should anything happen to him. Therefore, we strongly believe that Joe also needs to make an adjustment toward his risk management. By the end of the year, Joe should look for a way to mitigate the risk and to ensure his family's well being if he could no longer support them. This can be achieved using health and life insurance. Although the idea of having a life insurance does not sound so well to him, there are many types of life insurance available and some of them probably match his needs and concerns regarding a loss of premium. This issue will be discussed in more detail in section V.

Intermediate-Term Goals

- **Children Education**: The couple's younger child, Jack, will ascend from kindergarten to elementary school. Joe knows that he would need approximately THB 120,000 just to place Jack into to St. Gabriel College that he has planed to send him to. The tuition fee at the new school will also be higher and Joe will need additional money of THB 138,000 (disregarding education inflation), in total, to support his children's education expenses within the next two years.
- **New car purchase**: Because his car is getting unfashionable, Joe would like to buy a car, a Mercedes Benz C class that cost THB 2.59 million, in the next two years. In addition, he thinks it will be more convenient for him an Janie to have 2 cars so that Janie can use one to pick the children up when he needs to stay late at work.

Long-Term Goals

- **Family Trip**: Janie always dreams of having a family trip in Europe. Joe is planning to take her and the kids on a 7-day Europe trip in the next 8 years (when he reaches the age of 43). This would be their 15-year anniversary gift. The trip should cost approximately THB 80,000 per person, meaning that Joe would need THB 320,000 for this trip by the end of 2023.
- **Change in Housing**: Joe feels that in the next 10 years, as his children grow older and the family becomes more financially stable, he would like his family to live comfortably in a single house with some space outside the heart of Bangkok, the area like Ramintra or Ratchapruke. By then (at the beginning of the year 2025), he expects to pay a down payment of THB 4.125 million, 25% of the approximate value of the house he would like to have. He believe that he can still utilize employee's benefit plan and take out 15-year mortgage loan at 3.5% to finance the rest.

Our recommendation on his long-term goals

- **Children's Education plan**: We recommend Joe to plan about his children's further education as well. After his children graduate from high school, he plans to send them to study in an international program in Thailand which currently costs approximately THB 80,000 per semester per person. However, he realizes that the tuition fee is rising every year and he might need more than THB 700,000 to support each child until he/she graduates. He will need to use this portion of money in the next 11 and 14 years for Jib and Jack, respectively.
- **Retirement Plan**: Joe expects to retire at the age of 60 and expects to live up to the age of 70. Joe would like to continue to live in the similar condition as when he is working but is still unsure about the expense he would need.
- **Estate Planning**: According to average lifespan of man and woman, Janie is likely to continue to live longer than Joe, say, up to the age of 75. Therefore, we suggest that Joe should start thinking about his estate planning to ensure that his wife will have enough saving to live on after he passes away. Regarding his children, for whom he would like to leave some estate, Joe would need to make sure that they are able to meet estate tax obligation.

IV. Research Techniques and Findings

Having identified Joe and his family's financial goals and their current financial situations, we try to seek for methods that Joe can use to achieve those goals. We have talked to several people who are financially stable and are doing well towards their goals. An Internet is also another source that we obtain information regarding instruments that Joe can use in order to meet his financial needs. Some basic financial knowledge such as asset allocation also play significant role when it comes to the development of our prospected actions that we recommend to Joe.

We found that Joe should first establish his refined budget in order to track and contain his family expenses. This budget should be clear and easily communicate so that it will be easier to him when he need to agree with his wife on it. It should also be realistic; As an example, it would be virtually impossible for his wife and he himself to cut down entertainment and shopping budget completely. Thus, it is better for them to allocate certain proportion of his income towards these expenses and try to contain them within the limit. He can start to deposit into different funds that are targeted to meet each of his goal. These funds would then be tailored to the time base of his needs (e.g. 2-year fixed deposit for the goal he needs to meet within 2 years). We believe that doing so will allow him to better time his spending and manage his cash. On top of that, it is best if Joe can make saving behavior a routine because it will eventually become automatic and requires less effort to do. Lastly, not only should Joe reallocate his current portfolio, he should also readjust it periodically to reflect his changing life condition and risk tolerance. At this time, when he still has 26 years to build up his saving before retirement, he might be able to afford to take large amount of the risk. However, as time passes, his human capital or the value of his future income will continue to decrease, reducing the level of the risk he can afford to take.

V. Recommendations and Methods to Monitor Financial Plan

Short-Term Goals

- **Tax Planning:** Joe's current tax bracket is 30% while his effective tax rate is 15.7%. He can significantly reduce his current personal income tax payment of THB 417,761 by investing in tax-deductible instruments, namely LTF, RMF and life insurance policy. He can buy life insurance and use its premium payment to deduct tax payment up to THB 100,000. We suggest him to buy the maximum amount because not only will it lead full utilization of the tax shield but it is also in line with his risk management goal. Investment in LTF and RMF can be used for tax purpose up to THB 500,000 each. However, when deciding how much he would like to invest in LTF and RMF to utilize their tax benefit, Joe should consider the amount of cash surplus available for save after taking into account all of the expenses as well. Because the adjusted budget will allow Joe to have cash surplus for investment of THB 700,000[8] due to a proposed reduction in expenses, we suggest Joe to buy these instruments up to the maximum amount allowed for tax benefit.

  He can allocate THB 399,000, or his maximum tax allowance[9], to LTF. With his current provident fund contribution of THB 273,600, Joe can buy additional RTF up to THB 125,400[10] to be used for tax purpose. LTF is more flexible than RMF because it allows investors to take out the money in 5 calendar years, while they would need to wait until they reach 55 to get the money out from RMF. Still, RMF has a benefit of indirectly establishing Joe's saving habit and provide him with source of income after his retirement.

  These tax saving instruments not only serve as investments that generate return over the long-run, but they also yield a return from income tax payment deduction immediately. By implementing this tax planning strategy, Joe would be able to save his tax payment by THB 164,878 or 39% of his current tax payment. This means that by investing in these instruments, Joe can generate a return from tax deduction of 26% right away.[11] However, Joe will need to continually evaluate his situation in order to see if he is still doing well on his tax planning strategy. If it happens that Joe overspend and does not have money left to buy LTF, he will still need to leave his potential tax benefit unused. Therefore, tracking his spending and amount left for saving is one method that he can use to monitor his tax plan. Additionally, as time passes and his income grows, we suggest Joe to consistently revise his tax planning strategy; he can make it more automatic by setting the exact period that he will calculate his tax payment and the amount he would like to save using tax-saving instrument. He can also compare his payment with his peers' to evaluate his position.

- **Saving and Spending Habits**: As Joe plans to reduce the total family spending by 30%, he and his wife should change their spending habits by reducing some unnecessary expenses. According to the income statement shown in the appendix, there are some expenses that they can reduce. The first one is their food expense, currently totaling THB 360,000, which is equivalent to approximately THB 250 per person per day. By eating more at home, packing lunch to work and reducing the number of

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[8] Increase from THB 200,000 suggested by current budget. See the proposed income statement in the appendix for further detail.
[9] Calculated from 15% x Total Income = 0.15 x 2,660,000 = THB 399,000
[10] Calculated from 15% x Total Income – Provident fund contribution = (0.15 x 2.66 mm) - 273,600 = THB 125,400
[11] Calculated from (amount of tax saved/amount invested in tax saving instruments) = 164,878/(100,000+399,000+125,400) = 26%

fine dining meals, they should be able to reduce this expense by 30%. Secondly, they should reduce the amount they spend on clothing, beauty products and children's toys. The two children can share some of their toys and Joe and Janie can switch to domestic brands or even the toys sold in street market. Those toys can also be of high quality but are much cheaper than the imported ones offered in high-end department store. Moreover, the family should also move to lower-end beauty products. There are some domestic brands or Asian brands that offer high quality cosmetic and skincare products that cost significantly lower than high-end counter brand products like Le Mer.

Similarly, they, especially Janie, should consider buying less luxurious branded clothes. Since Janie does not have a full-time job, there is even less need for her to have expensive, brand name cloths. Janie can also start to wait until the items that she wants go on sale. All in all, after adjusting their spending behavior, the family should be able to reduce this expense by at least 50%. Joe might also want to reconsider his car insurance as his car's value has depreciated a lot. The current coverage of his car insurance might exceed the market value by now. Therefore, we believe that Joe can get an insurance that provides less coverage, but allows him to pay fewer premiums. We expect his new insurance premium to be THB 18,000. In addition, we believe that the entertainment expense of THB 100,000 is a little high and the family should able to reduce it by at least 40%. They can watch fewer movies in the cinema but create "Movie Night" at home instead. By following suggested action, Joe would be able to reduce his expense by THB 400,000 or approximately 21%. This additional amount will be added to his saving portfolio that will be used to meet his other financial goals, including his tax planning strategy.

Another line item to be noted from his current income statement is the 'Credit card payment'. Having a credit card debt of THB 200,000 can be a sign of lack of money management. Joe found that this debt was incurred when his wife decided to purchase a luxurious handbag without consulting him. Therefore, we strongly encourage Joe to talk smoothly to his wife about this issue and inform her about the current situation of the family so that the event like this would not happen again. He should also explain to her the new budget and try to convince her about the long-term benefit of them having to spend less. For this goal to be achieved, both of the couple need to cooperate and encourage each other.

With regard to the monitoring of the plan and their progress, we suggest the couple to keep track on their spending; they can make a dairy or putting a table o the refrigerator to record their spending. They should also talk to each other regularly to keep up with one another on how he or she is doing, both financially and mentally. Changing the behavior might be hard but it can still be achieved when love ones are being supportive. In addition, they should start teaching their children to save and not to spend recklessly, so that these good habits will be rooted since their young ages.

- **Investment Strategy:** According to the balance sheet, Joe's saving is mainly put into saving account, which, although regarded as very safe, yields little return and provides no tax shield. If Joe maintains his portfolio as it is, he might be facing financial problem in the future. The after-tax return on saving account lacks behind inflation rate, meaning that Joe will see his purchasing power deteriorates overtime. Therefore, his portfolio needs to be restructured in order to suit his financial goals mentioned in *section III* and to better reflect his risk tolerance.

  Currently, at the age of 35, Joe still has 26 years to accumulate his wealth before retirement. His human resource (future income) is relatively high compare to his current financial resource. Therefore, he can afford to take relatively high amount of risk in order to get potentially higher upside gain. In addition, over a long investment horizon, the extreme movements of risky instruments such as equity will average out, thus reducing the level of risk. This implies that Joe will be better of allocating greater proportion of saving into equity market. However, because Joe bears the position of breadwinner towards his family, he should also allocate some amount to safer fixed income instruments, which still yield greater return than saving account. He should still keep some of his money in liquid instruments like saving account in order to hedge against emergency events. Our suggestion will be to keep 6 times of his family's monthly expenses in saving account so that they can rest assure that they will have enough liquidity if Joe loses his job. Given Joe's high income, which leads to his high tax bracket, Joe will be better off considering tax saving instrument as suggested in his tax planning strategy. There are various types of LTF and RMF as well as other types of mutual funds; for example some funds invest heavily in equity market while some focus on fixed income instrument. Joe can tailor his purchase of these funds to reflect the portion of each asset class he would like to allocate his investment to.

Keeping his risk tolerance and tax concern in mind, we suggest Joe to allocate 40% of his investment to common stock and 20% into fixed income securities. The fixed income instruments will provide him with diversification benefit and will be more likely to survive economic crisis when stocks and equity mutual funds tend to fall. The rest of his portfolio will comprise of LTF, RMF, other mutual funds and saving account. The suggested detailed allocation of his portfolio is shown in the appendix. Using balanced fund as a benchmark, we estimate return on his portfolio to be 8.6%.

As time passes by, Joe will have to readjust his portfolio to reflect his changing stage of life. His risk tolerance will generally decrease overtime as he come closer and closer towards retirement. As a result, he should reduce proportion of investment in stocks and increase the proportion of fixed income.[12] Although this reallocation will result in lower expected return on investment, it will provide him with greater security for his retirement fund. In addition, we suggest Joe to revisit his asset allocation periodically to see if there is any movement away from its desired proportion. He can target to do this portfolio revisit every year so that the activity will be automatic. Also, we believe that after one year has passed by, there might be some changes to the family's condition and level of risk they can take. Joe can reallocate the portfolio to take into account the change in desired asset allocation at the same time.

- **Risk Management:** Since Joe concerns that he will lose his life insurance premium if there is no unfortunate event during the coverage period but still would like to mitigate the risk for his family, we suggest him to buy the insurance policy that has saving instrument attached to it. The example of such policy is Thanachart Perfect saving 10/5. Joe can allocate his saving towards the insurance premium contribution. According to this policy, he will need to pay a premium of THB 100,000 per year, which is also tax deductible, for 5 years. He will get a lump-sum amount of 600,000 at the end of year 10. This amount can be used to support his expected down payment, and should anything happen during the coverage term, his family will get a protection of up to 500% of his total contribution. Some insurance companies also offer products that provide coverage until the age of 99. If Joe is certain about his ability to pay a yearly premium, this insurance will match his concern of losing premium contribution and will also serves as his retirement fund as it also provides him benefit after retirement. In addition, his required premium payment is likely to be low because of his relatively young age and good health condition. We suggest Joe to purchase health insurance as well because it will help him better manage his family's medical expenses.

Intermediate-Term Goals

- **Children Education**: Because Joe will need to use this amount of money in a relatively short period of time, we suggest him to set aside the entire amount of THB 120,000 (coffee money he expects to pay) from saving account to a 2-year fixed deposit or into the fixed income instrument that will

[12] See illustration of the example of suggested portfolio allocation for Joe at different ages in the appendix.

mature in 2 years.[13] Note that children education is regarded as an important issue and the fund needed to pay for its related cost is required in a short period of time. Thus, we believe that Joe should limit the amount of risk that he will not be able to meet this expense by putting capital needed in a safe fixed income instruments. Joe can better manage tuition fee payment using fixed income as well. Generally, bonds pay out its coupon twice a year, matching Joe's tuition payment. Therefore, he can invest in bonds and use the coupon payments to finance his children's tuition fee. Because education cost in Thailand, and also worldwide, is rising every year at the even higher rate than inflation. We recommend Joe to consistently check if he is still able to meet his children's expenses. Keeping track of the education inflation trend can be a good start; if his income growth and investment return are lacking behind it, he might face some difficulties paying for his children's education in the future. In that case, Joe should consider finding other sources of income or boost up his investment return.

- **New car purchase**: For a new car purchase in the next two years, we strongly recommend Joe to reconsider the model that he would like to purchase. If, instead of buying a luxurious Mercedes, he chooses to buy a less high-end brand such as Honda or Toyota, he will be able to save up to THB 700,000. The maintenance and insurance cost will also be significantly lower, not to mention that the rate of depreciation of Mercedes tends to be higher. With his current stage of life where he has great responsibilities towards his family and is not yet financially secured, we believe that it is better for him to live on a less luxurious life for a more stable and brighter future of his family.

  A new model that cost THB 1.9 million gives him an option to make a down payment of 30% (THB 569,700) and make a monthly installment of THB 29,898 for 2 years. He can use the same strategy suggested in the case of his children education in order to meet the expected down payment. However, should he face any unexpected event, leading towards shortage of cash, the money from this 'Car fund' should be taken out to meet necessary expenses before the 'Education fund'. In words, Joe has to prioritize each of his goals and we believe that the new car purchase should not be of top priority. His old model can still be used and his wife (or he himself) can use public transportation. Given the location of their townhouse, they have easy access to BTS. Using those transportation methods will not only save them fuel cost, but also time and frustration from Bangkok traffic jam.

Long-Term Goals

- **Family Trip**: By the time Joe needs to pay for the family trip, he will have fully repaid the current mortgage. He can then use the additional cash surplus of roughly THB 326,000 to finance the trip and still be able to meet all other expenses. It is also a good option to deposit the additional cash released from mortgage obligation right after the mortgage term ends[14] in a yielding investment. He can choose to put it in a mutual fund and sell the units to get the money necessary for the trip in the next two years. The family can enjoy greater pocket money from the investment returns. After implementing this strategy, Joe should also check NAV of the fund regularly to see if the fund is performing well. The cost of the trip is also another issue he has to pay attention to. If the value of this fund deteriorates (the market might not be doing well) or he can no longer meet the trip expense with this investment, Joe might need to set aside more money to finance the trip.

- **Change in Housing**: Joe plans to purchase a bigger house located in suburb area that costs approximately THB 16.5 million. He will need to pay a 25-percent down payment, totaling THB

[13] For example, Joe can buy 120 units of high-grade corporate bonds whose par value is THB 1,000 and will be mature in two years. In two years time when the bonds mature it will pay back his principal of 120 x 1,000 = 120,000. He then can use that amount to pay for the coffee money.

[14] They can continue to invest the same amount as monthly mortgage payment after the mortgage ends. At the end of year 2020 he will have invested THB 325,986 in total and can continue to invest this amount for the next 2 years before he needs the money.

4.125 million, and then have a monthly installment obligation of THB 88,467 for 15 years. This amount of monthly installment is reasonable according to rule of thumb, which says it should not exceed 33% of his monthly income; by that time, Joe's salary would have grown to approximately THB 300,000. The installment will accounts for 29% of his monthly income before adjusted for bonus. The down payment can be partly financed by insurance policy repayment of THB 600,000. We advice Joe to establish his own 'Housing fund' and invest them in equity mutual fund; he can finance the rest THB 3.525 million by starting depositing money into the fund.[15] Given his long investment horizon before the use of money, relatively more risky equity market is a better option compared to fixed income because it gives greater potential return, reducing the amount of saving required to meet the payment. Also, over the long run, equity instruments outperform.

- **Children's Education plan**: Assuming the education inflation of 4% per annum, Joe will need approximately THB 2,000,000 in his children's 'College fund' in the next 11 years.[16] Provided Joe can earn an investment return of 8%[17], he has to set aside roughly THB 120,000 per year into this fund. Similar to the house purchase case presented above, equity mutual fund can be one of the suitable instruments for him to choose in this case. He still has eleven years to save up for his child. Over such a long period of time, equity market tends to do better than fixed income. Mutual funds also provide him the benefit of diversification and professional management. He can also invest directly in equity market and avoid management fee. Towards the next eleven years, we suggest Joe to monitor at least twice a year the value of this college fund as well as the education expenses. It might be that there is additional cost attached to attending a college or, because of social factors, Joe decides to send his children to study abroad instead. These unexpected events pose risk to Joe's ability to meet his children's college expenses. In that case, Joe will have to set aside additional money towards education fund and might also want to readjust his budget to take into account an increase in expected future expense.
- **Retirement Plan**: In order to plan for his retirement, Joe would first need to figure the amount of expenses that he and his wife would need.[18] This can be done by making some adjustments toward his current spending; he will no longer need to support his children or pay as much on transportation and clothing because he will not have to commute to work or to buy his working cloths. His spending will be reduced as a consequence. However, the couple's medication cost is most likely to be rising with their ages. The rule of thumb suggests that roughly 70-80 percent of their expense before retirement would be needed. Joe will also have to adjust these expenses for inflation to get the final figure for their expenses after retirement. He then have to compare this amount with income from retirement fund, benefit from his life insurance, provident funds, return from investment etc., he expects to have after retirement. Should there be any short fall, Joe would better increase his saving. These retirement planning steps we suggest Joe to follow are no one-time activity. Overtime, Joe will have to keep revising he plan to take into account the unexpected event. He need to also keep track on whether he is moving towards his retirement goals by following the same steps and checking if there is any shortfalls in income after retirement. The sooner he finds out that there is some shortfalls, the easier he can fix it. If he noticed that he was not saving enough

[15] For example, if Joe chooses to deposit his money into BCAP fund whose 10-year annualized return is approximately 14%, he will need to deposit THB 182,000 per year into this fund (assuming the same expected return as historical return). He can also adjust the early year deposit to be lower and increase the amount as his income grows and he gets a better hold of his new budget. Investment in mutual fund is rather flexible.

[16] The cost of tuition fee will rise to 80,000 x (1.04^11) = THB 123,000 per semester or around THB 250,000 mm per person per year. Each child will take 4 years in college making the total tuition fee for 2 children, calculated at the end of 2025 cost, THB 250,000 x 4 x 2 = THB 2 million.

[17] Using SET index 10-year annualized compound return as a benchmark.

[18] By that time, his children will be a grown up and will be independent of him.

towards his retirement at the age of 58 when he had only 2 years left, it would be extremely hard (and the prospected solution might be harsh as well) for him to fix and meet his goals.

- **Estate Planning**: Joe can use life insurance (assigning his wife as the beneficiary) to provide his wife with income, on top of the remaining savings, that she can live on after his death. The payment that the beneficiary receives will no longer be subjected to estate tax. He can use this strategy to transfer his wealth to his children as well. Alternatively, he can either leave each of his child certain portion of liquid asset to be used for estate tax payment or use the life insurance that provide coverage enough for his children to meet tax obligation arose from his estate. Since there is still quite a long way towards the expected date that the estate plan will come into use, Joe should periodically check his assets to be allocated to each of the family members, the legal framework regarding estate tax (information available in the news and Internet), and the ability of each member to meet the tax obligation. As his children grow up and become more financially secure, they might no longer need Joe to plan the estate tax repayment for them.

VI. Conclusion

Joe and his family are in the situation where he is making significant amount of money but also spend heftily. Their path towards retirement and other financial goals does not seem so smooth if they continue with their current habits. Therefore, we recommend them to readjust their spending behavior by starting making the budget and also reallocate their investment portfolio. Steps should be taken in order to better utilize Joe's tax allowance as well as to manage the risk. By following our suggestions, the family will become more financially secured and be better off towards retirement.

Appendix

Financial Statements

Joe's current Balance Sheet
As of January 1st, 2015

Assets	Unit: THB	Liabilities and Net Worth	Unit: THB
Liquid Assets			
Cash	20,000	**Liabilities**	
Saving account*	4,500,000	**Current Liabilities**	
Total Liquid Assets	4,520,000	Credit card debt	200,000
Real Estate Assets		**Long-term liabilities**	
Townhouse valued at market price	4,200,000	Mortgage Loan	1,629,932
Personal Belongings		**Total Liabilities**	1,829,932
Car	500,000		
Furniture	250,000	**Net Worth**	10,612,268
Electronic Devices	85,000		
Jewelry and gold	870,000		
Total Personal Belongings valued at market price	1,705,000		
Investment and retirement funds			
Provident fund at work	1,267,200		
Stocks	750,000		
Total investment and retirement assets	2,017,200		
Total Assets	12,442,200	**Total Liabilities and Net Worth**	12,442,200

**Joe and Janie received a wedding gift of THB 2.5 million from parents*

Joe's Current Income Statement (As is)

Income	*Unit: THB*
Salary (190,000x12)	2,280,000
Bonus	380,000
Salary, Gross adjusted for bonus	2,660,000
Less: Provident fund contribution (190,000x12x0.12)	273,600
Less: Social Security conribution (750x12)	9,000
Less: Personal Income Tax	417,671
Salary, Net	1,959,729
After-tax interest income (KK smart saving program @ 2.2% per annum*)	84,150
Income on investment in equity market	45,000
Total Income	**2,088,879**

Expenses	Unit: THB
Fixed Expnses	
Mortgage payment	325,986
Car insurance	30,000
Utilities	48,000
Telephone bills and internet	18,000
Credit card payment	200,000
Children tuition fees	172,000
Total Fixed Expenses	**793,986**
Variable Expenses	
Food	360,000
Entertainment	100,000
Transportation	72,000
Clothing, beauty and other children's toys	480,000
Other expenses	60,000
Total Variable expenses	**1,072,000**
Total Expenses	**1,865,986**
Net cash surplus	**222,893**

Ratio Analysis of Current financial situation

Liquidity	
Current ratio	23
Debt capacity	
Debt to equity ratio	0.02
Expenses	
Living expense coverage ratio	29

Summary of proposed actions for budgeting:

Proposed Change	
Reduction in food expenditure	30%
Reduction in clothing, beauty and toys expenditure	50%
Reduction in entertainment	40%
Reduction in credit card usage	For next year; 0
Change in car insurance	18,000

Joe's Income Statement after implementing proposed strategies

Income	Unit: THB
Salary (190,000x12)	2,280,000
Bonus	380,000
Salary, Gross adjusted for bonus	2,660,000
Less: Provident fund contribution (190,000x12x0.12)	273,600
Less: Social Security conribution (750x12)	9,000
Less: Personal Income Tax	252,792
Salary, Net	2,124,608
After-tax interest income (KK smart saving program @ 2.2% per annum*)	13,707
Income on investment in equity market	45,000
Total Income	**2,183,315**
Expenses	***Unit: THB***
Fixed Expnses	
Mortgage payment	325,986
Car insurance	*18,000*
Utilities	48,000
Telephone bills and internet	18,000
Credit card payment	200,000
Children tuition fees	172,000
Total Fixed Expenses	**781,986**
Variable Expenses	
Food	*252,000*
Entertainment	*60,000*
Transportation	72,000
Clothing, beauty and other children's toys	*240,000*
Other expenses	60,000
Total Variable expenses	**684,000**
Total Expenses	**1,465,986**
Net cash surplus	**717,328**
Total Reduction in spending	**400,000**
% Total Reduction in spending	**21.4%**

Personal Income Tax calculation

Current Situation (As is)

Current yearly income from employment	**2,660,000**
Less: Deductions	60,000
Less: Allowances	
Personal allowance	30,000
Spouse allowance	30,000
Child allowance, including education (17,000x2)	34,000
Provident fund contribution	273,600
Social security contribution	9,000
Mortgage Interest	47,831
Taxable income	**2,175,569**

Tax rate	Tax rate	Taxable income	Personal income tax payment
4,000,000	35%	-	
4,000,000	30%	175,569	52,671
2,000,000	25%	1,000,000	250,000
1,000,000	20%	250,000	50,000
750,000	15%	250,000	37,500
500,000	10%	200,000	20,000
300,000	5%	150,000	7,500
150,000	Exempt	150,000	-
Total tax payment			**417,671**
Effective tax rate			**15.7%**

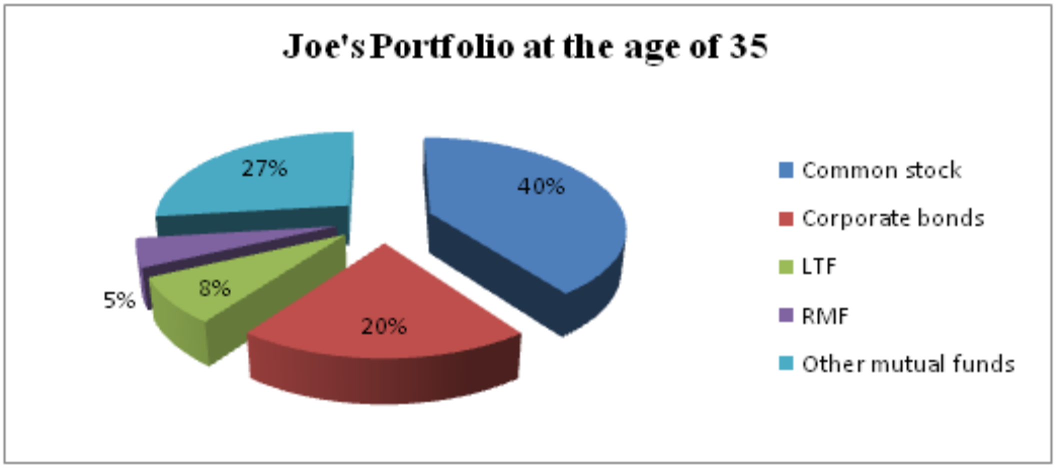
After implementing proposed tax strategy

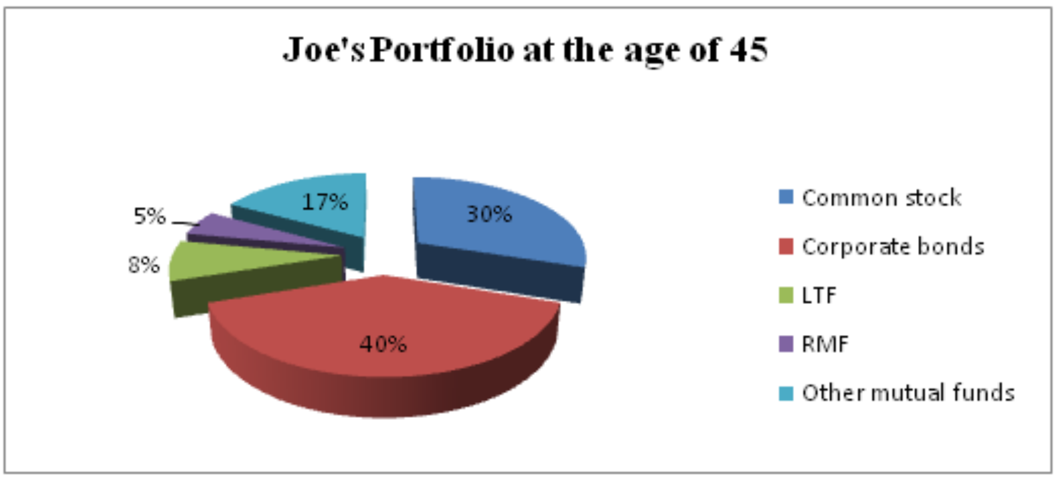
Current yearly income from employment	2660000
Less: Deductions	60,000
Less: Allowances	
Personal allowance	30,000
Spouse allowance	30,000
Child allowance, including education (17,000x2)	34,000
Provident fund contribution (max @500,000)	273,600
Social security contribution	9,000
Mortgage Interest	47,831
Life insurance premium	100,000
LTF (max 0.15xincome)	399,000
RMF (max-provident fund contribution)	125,400
Taxable income	**1,551,169**

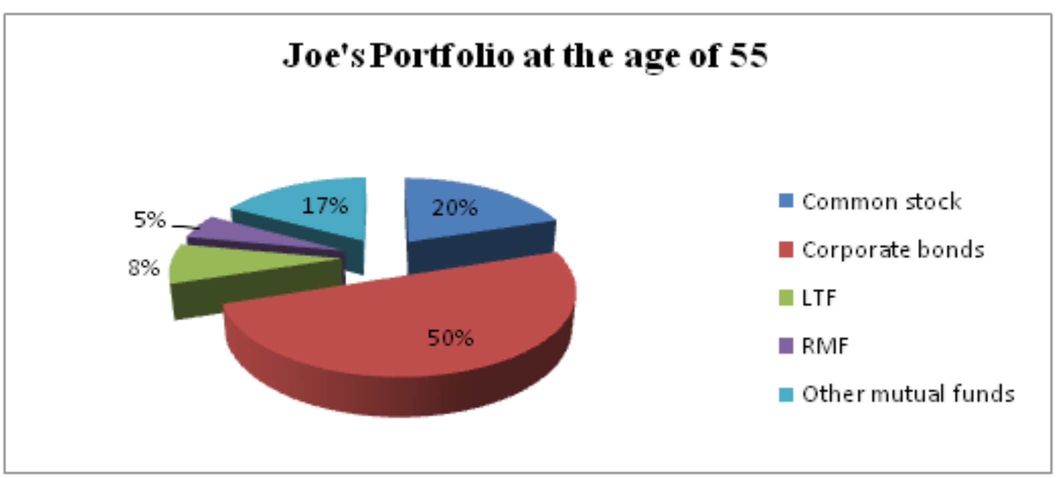
Proposed action

Tax rate	Tax rate	Taxable income	Personal income tax payment
4,000,000	35%	-	-
4,000,000	30%	-	-
2,000,000	25%	551,169	137,792
1,000,000	20%	250,000	50,000
750,000	15%	250,000	37,500
500,000	10%	200,000	20,000
300,000	5%	150,000	7,500
150,000	Exempt	150,000	-
Total tax payment			**252,792**
Effective tax rate			**9.5%**
Tax reduction			**164,878**
% Tax Reduction			**39%**
Return from tax saving instruments			**26%**

Example of Potential Portfolio Allocation at different ages







**Disregard saving account and provident funds for illustration purpose*