

Growing Up is Hard to Do or Sophia's Choices

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Sophia sat at her parent's kitchen table mulling over many thoughts. One thought was that sitting at this table would soon become a thing of the past. Another was "growing up" included a lot of tedium and decision making that wasn't as much fun as she had assumed it would be. Sophia's mind hurt. She was trying to make some important decisions and the process was difficult and exhausting.

Sophia had recently completed graduate school and would soon be starting her career as a physical therapist. Her six year old Honda Civic (valued at \$12,000) and her meager belongings (she had given away much of her college stuff to a local charity) were waiting in her parent's garage for her upcoming move. She was moving to a community approximately two hours away. Sophia was fortunate to find employment at a regional hospital and was getting excited to be on her own. She feels the annual salary of \$60,000 will provide her with a comfortable lifestyle but not quite as comfortable as she imagined this time last year. Sophia is learning that living on one's own will be costly. Even though she has a roommate, her rent will be \$1,000 per month which was the best deal she could find. Although utilities and Wi-Fi are included she still thought this was very expensive. She was shocked when she had to pay \$2,300 for first and last months' rent and a \$300 security deposit. Sophia has always been frugal and managed to save some of the proceeds from her last student loan and graduation gifts; but now all but \$4,500 has been spent on necessities.

Sophia's parents are not wealthy by any measure and to complete graduate studies Sophia had incurred student loans totaling \$40,000. She will be required to start paying \$460 per month, for ten long years, as soon as she begins working. She knows that she won't actually take home \$2,307 ($\$60,000/26$) biweekly due to taxes that will be withheld; but she doesn't know how much her net pay will actually be. Sophia's uncle, a small business owner, explained that in addition to federal taxes there is also a state income tax with an effective rate of 4%. That doesn't seem like much but she realizes it all adds up.

Sophia has estimated what she hopes are all of her expenditures in anticipation of creating a budget. She has met with a human resources representative from the hospital where she will work and has received some interesting information. For one, the hospital offers its professional employees a pre-paid health plan that provides for all medical care at its facilities for \$100 per month. This seems like a very cost effective option even compared to commercial insurance coverage with the Affordable Care Act. Also the hospital has a 401K plan in which they will match 15% of the employee's contribution up to \$10,000 per year. The 401K is administered through a national financial services firm. Although the investment offerings are somewhat limited, they appear to be adequate especially given Sophia's limited needs at present. The firm's investment offerings are:

- Money Market Fund
- S & P 500 Equity Index Fund
- International Equity Fund
- Bond Fund

Sophia anticipates spending \$400 per month for food and another \$500 for car expenses. She believes that \$3,000 annually for clothes, \$2,400 for entertainment, \$1,800 for home health and beauty aids, and \$600 for her cell phone plan should all be budgeted. Knowing that you cannot anticipate everything she believes \$50 per month for miscellaneous expenses should also be in her plan.

Sophia's uncle never married and has always been very generous to her. At her graduation he presented her with a statement from an investment firm showing a balance of \$25,000 with Sophia listed as the owner of the account. He explained that since he had never had children he had saved over the years so he could give her a meaningful start upon graduation. Sophia was ecstatic to receive the gift as she had no idea she would get more than a card and perhaps a \$100 bill. Her uncle's only stipulation was that the money could not be spent on existing debts or a car. He explained that it was his hope that she would invest it wisely for the future. Sophia intended to do just that, by adding to that amount monthly so she could finally begin to accumulate wealth instead of debt.

Sophia, after conferring with her uncle, has determined she needs to do the following and has asked you, her good friend, to assist her. Her uncle was especially interested in seeing what Sophie might have in her savings in 10 years' time.

Required:

1. Determine Sophia's approximate biweekly take-home pay assuming her effective state income tax rate is 4%.
2. Prepare a personal financial statement for Sophia using Excel or some other spreadsheet software.
3. Determine how much should Sophia should have in an emergency cash fund for unexpected expenditures.
4. Calculate how much Sophia will have for discretionary spending each month considering her estimated "budget" presented above.
5. How should the discretionary amount calculated above be spent? Assume she wants to be an aggressive saver.
6. How should Sophia allocate her investment assets and her monthly "excess (discretionary) earnings" given the four fund options presented? Justify your answers. Hint: Use the AAI web site asset allocations for someone her age.
<http://www.aaii.com/asset-allocation#aggressive?adv=yes>
7. If she invests aggressively with her \$25,000, her contributions to her 401K, and the hospital's 15% match, estimate how much will be of her investment account and her 401K in ten years. Hint: Use the AAI 10 year average return to compute her 401K balance in 10 years.

8. If Sophia keeps allocating her investments in the same manner and gets the same anticipated returns for her entire career, what will be the balance of her investment account and 401K when she retires after working forty years? Disregard any tax implications on the investment account earnings.
9. Is there anything Sophia isn't considering that she should?

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