

THE IMPACT OF FINANCIAL SKILLS AND HABITS ON PERSONAL FINANCIAL STRESS

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Abstract

According to Salarify's webpage, more than 33% of Hungarians are exposed to financial-related stress. They cannot afford unexpected expenses. They did not have any option to finance these unexpected expenses, just before last year when a start-up company called Salarify started their operation. The platform which was developed by Salarify's team enables companies' employees to get access to the salaries they have earned but not received yet. This start-up was the first company to establish a platform like this in the Central European market. This start-up company wants to expand their business, and they aim to help people by teaching them to make financially conscious decisions.

The thesis aims to see whether the creation of this application is feasible and is needed by the users of Salarify. By analysing the effects of financial habits on their personal financial stress and their rating of their financial status will help to see what elements this platform should include.

The findings prove the hypothesis correct. The survey respondents would be open to using a platform which would help manage their personal finance better. It is found that using financial habits has a significant positive effect on both the rating of financial status, and by using these personal financing habits, the stress level diminishes. It can be concluded that the app must support the users in using different financial habits, to manage their personal finances better. Besides, that other different features could be introduced, which would help the user extensively.

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Introduction

As it has been proved that stress has adverse health effects (Sapolsky, 2004, p. 130). According to a study (Bailey et al., 1998, p. 204), a tremendous amount of stress is mainly derived from feeling financially insecure, which could be mitigated by being more literate in personal financial matters.

Unfortunately, even though many kinds of training exist, their results are not in balance with the amount of money that such training takes up (Fernandes et al., 2014, p. 1872). Therefore, it is clear that a new way of personal financial education method is needed. Many start-up companies aim to lighten stress of individuals with a low amount of knowledge about personal finances and who come from lower-income classes. The companies set up various platforms that ease the individuals stress by receiving a certain percentage amount of their salary before payday.

In Hungary, the FinTech start-up company has been working on their solution since 2018. They offer the chance for companies in Central Europe to set up a new benefits system for their employees. With the help of Salarify, the users of the application can receive their already earned salaries when they need it. Salarify decided that they would further want to expand their services, and they want to set up a platform which enables the users to use this platform and thus be able to manage their personal financial matters better.

The thesis aims to see whether the creation of this application is feasible and is needed by the users of Salarify. Analysing the effects of financial habits on their personal financial stress and their rating of their financial status will help to see what elements this platform should include.

Firstly, the existing literature will be analysed extensively. Then the second chapter will start by introducing the data collected. Furthermore, the methodology of empirical research is presented.

The third chapter consists of the empirical analysis of two regressions. To conclude the thesis, an all-encompassing summary of the results will be presented.

Chapter 1 - Literature review

Stress

Stress has a significant impact on people's life. It not only affects work-life balance, but it also has an impact on our professional lives. Stress can be caused by a various number of reasons, and it has many different causes. It can be instigated by various things, such as acute or chronic physical stressors, or psychological and social disruptions (Sapolsky, 2004, pp. 6–7). For humans, the main reason behind stress is psychological and social disruptions, which can cause several long-term negatively health affecting effects. In this chapter, the focus is on financial stress, and how it affects the health and our relationships. According to a survey amongst American respondents from 2019, 60% of them mentioned money as one of the main reasons for their stress (American Psychological Association, 2019, p. 6). Stress caused by worrying about money is deemed to be one of the many important factors, as humans are faced with problems that are financial management related every day in their lives (Peirce et al., 1996, p. 44).

Stress effects on health status

Being stressed is not good for one's health either. Those who come from lower socio-economical classes face chronic stress. Chronic stress can be defined as a stress state that persists over long periods. Chronic stress can also appear, as it develops into further effects, which linger for a long time. It can also be since stress might frequently ensue, consistently, or over and over again. Chronic stress happens when more and more other stressors appear, this could lead to a state of constant stress. This state could also continue even after when the cause of the stress has been solved (Cohen et al., 1998, p. 221). This condition, according to many sources of data, could also

lead to severe health problems. The human body becomes more exposed to infectious diseases as the borders of the immune system deal with the problems caused by chronic stress (McKinnon et al., 1989, pp. 397–399).

Stress effects on personal and familiar connections

Besides health effects, stress has a significant impact on personal connections. Not only financial stress affects relationships by causing conflicts, but it also affects the future life of children growing up in a family, which faces financial problems. Having stress in the family growing up has an impact on future plans and ambitions, psychological welfare, probability of choosing a path in criminal misbehaviour and attained education (Stevenson et al., 2020, p. 1). Therefore, it can be said that growing up in a household with financial stress playing the central role can be hugely harmful to the children impacted.

Martos and Kopp (2012, p. 566) researched whether financial status affects life goals and wellbeing. During their research, they gathered sample from a representative Hungarian population and found that the tendency toward following external goals might interpose to wellbeing and mood in the present, but they may be harmful in the long run. Meanwhile, when pursuing inherent goals, might arbitrarily assist in attaining a positive mindset. They have found in their study, that financial status has little to no effect on goals in life (Martos & Kopp, 2012, p. 566).

Financial literacy

Financial literacy is defined as the following: it is the understanding of information, values, beliefs and technical tools, which are highly essential to make intelligent decisions about personal financial decisions. Being highly equipped with financial literacy makes people more confident,

as they can deal with everyday financial decisions more effectively (Garman & Forque, 2010, p. 4). In order to reach financial aims, it is highly indispensable to have an understanding of suitable information. Without it, it is harder to maintain personal finance and could lead to lower financial wellbeing, which could also increase stress levels.

According to Bay (2014, pp. 42–43), financial literacy is not something people are born with, or a capability they have already. It is something, which can still be improved upon, by learning new vocabulary and skills, as well as gaining experience. In a Financial Literacy analysis, the OECD surveyed people from 14 countries in four continents, and when the publication came out in 2012, they shared alarming results. Most of the respondents have only fundamental knowledge about finances. Compound interest and diversification, and other financial concepts are considered as high-level expertise. Most people are not confident in their knowledge, but they do not want to seem obtuse. Unfortunately, this study also found that women have significantly less knowledge than their male counterparts (*OECD*, 2012, p. 56).

However, OECD also found in their study that when financial literacy was higher, the financial behaviour also increased. This relationship might not be because of causation, but it could imply, that when people are more informed about personal finances they are more inclined to participate in financial markets (*OECD*, 2012, p. 56).

Hungary was also part of this study. In the financial knowledge part of the study, the respondents from Hungary scored above then the cross-country average, meaning, that knowledge is higher in Hungary (*OECD*, 2012, p. 20). However, the behavioural scores were lower, but in the overall financial literacy part, Hungary scored in the higher overall average score section (*OECD*, 2012, p. 39).

Different means of mitigating financial stress

Financial education

There have been many studies about the effects of financial education on the financial behaviours of individuals, with mixed results. A field study by Collins (2013, p. 157) found that when classes are held within a short period can result in modest behaviour changes. Participants who were offered and participated in financial education ended up taking more debt and experienced lower net worth. The above could be viewed as an adverse effect, but it is essential to take into account that the participants involved come from limited economic backgrounds, which means, that by proper debt management, they might benefit from their new-learnt financial decisions. Another important outcome of this study was that of the participants' self-reported change in financial behaviour. The participants started to focus on financial planning by starting budgeting, predicting, and planning their expenses and paying (Collins, 2013, p. 157).

Undoubtedly, simple financial education has effects (Collins, 2013, p. 157), but Jones (2008, p. 2151) found, that by introducing innovations with financial knowledge might be a way to reach more substantial effects of financial education.

Many believe, as Fernandes et al. (2014, p. 1872) show, that it is highly crucial to teach consumers how to make better financial decisions. Businesses, companies, employers, governments, and non-governmental organisations held personal financial classes in order to improve individuals' financial decisions. These involvements are not only costly in real expenses, but they also take up large amount of time, therefore costing a considerable opportunity cost, as this time could be used differently by doing something more worthwhile. Despite the significant amount of money and time invested, it turns out that only about 0.1% of the change in financial behaviour is explained

by financial education. It was also found in the same study that when introducing financial education to lower-income classes, the average results were even weaker in samples, that are economically challenged (Fernandes et al., 2014, p. 1872).

Workplace financial education

Workplace financial education has become very popular and thriving at the end of the last decade. Employees want to be financially secure, and the employers have realised, that it is an excellent opportunity for them to teach about retirement plans and the need to save (Kim et al., 1998, p. 187; Garman et al., 1999, p. 84).

Many studies have been conducted measuring the effectiveness of workplace financial education. It was found, that they are popular amongst employees, and it would be beneficial for them to instead of a single seminar, have multiple series of the seminar, not only teaching savings for retirement but budgeting and personal financial planning (Kim et al., 1998, p. 191; Garman et al., 1999, p. 84).

FinTech solutions in Personal Finance

There are some considerable strides in FinTech in order to manage financial stress in lower-income classes: the employer-sponsored FinTech benefits. As Baker and Kumar (2018, p. 2) found in their study a so-called “salary link” provides automatic repayment by deducting the salary, which means that employees would be able to receive a certain percentage of their salaries before “pay day”. The above would mean an efficient, cheap way for employers to help their lower-income employees (Baker & Kumar, 2018, p. 2).

The benefits for using FinTech solutions such as Salarify in Hungary, Salarifinance and PayActiv in the US include the massive potential for both the employer and the employee. The financial health of the economically challenged employee could be increased. Besides, their financial stress could be reduced. For the employer, the benefits include condonement by a significant amount of turnover costs (Baker & Kumar, 2018, p. 17).

With the help of various employer sponsored FinTech products, it would become possible for employees who experience living day by day to get better solutions. The FinTech products are available at a lower price than the competitors on the market. It is a great opportunity for the people who gain lower wages to get exposure to traditional financial products. It could become a great opening for eliminating the high-cost and short-term loans, bank overdrafts and other financial options, which could be harmful in the long term (Baker & Kumar, 2018, p. 17). These solutions have been proven to be useful by an earlier research, as they also confirmed the benefits for both the employee and the employer (Shah, 2016 p. 2). It is clear, that FinTech companies have a great effect on financial wellbeing, but there is place for further improvements, which could help their customers more extensively.

Chapter 2 - Data

Sample and procedure

A survey was set up at the end of April 2020. Hira's (1997, pp. 275–276) and Heyhoe et al.'s (2000, p. 121) work was used to set up the Financial habit and Spending habit parts of the questionnaire.

At first, the primary target audience was the users of the application, Salarify, due to a newly emerged pandemic the application was less widely used than normally, resulting in only nine survey responses within the first week. With close consideration, the survey was opened to the broader public, involving the acquaintances of the author, as well as it was shared in different social media groups, to reach a big and diverse audience from all parts of Hungary. Hence, it could become an excellent representative sample. The survey was available in Hungarian on a Microsoft Forms page until the beginning of April 2020, a total of three weeks. The survey resulted in 186 respondents, representing all the regions in Hungary.

The total survey involved 100 (56%) of female respondents and 86 (46%) of male respondents. The age ranged from 19 to 75, the median age was 39, and the age average was 41.

The nationality of the respondents was also taken into account; the majority of them were Hungarian. There was an example of a double citizen, who is Hungarian-Serbian, a German and a Schwab national. Their place of residing was also asked, from which the county was matched to their city. Later on, the region was matched to the county. Their educational attainment was ranged on the following scale—less than primary school, primary school, secondary school, Bachelor

studies, Master studies and PhD. From the sample, the secondary diploma was the one, that was attained by most of the respondents.

The survey also inquired about the respondents' marital status: 118 reported that they were married, 13 of them were in a relationship, 46 of our respondents were single, 4 are widows and 5 are divorced. Besides marital status, the respondents were asked to report the number of people in their respective households, as well as the number of underage (below 18 years old) children. The average response for the average number of individuals living in one household was found to be 2.86, with 10 being the highest, and 1 being the lowest. The median of this was 3. The average number of underage children in each household was 0.63, with 5 being the highest and 0 being the lowest. Then respondents were asked to categorise their household income on the following scale: 0-150 000 HUF per month, 150 000-250 000 HUF per month, 250 000-350 000 HUF per month, 350 000-450 000 HUF per month, 450 000- 550 000 HUF per month or 550 000 HUF and above per month. Most households reported belonging to the threshold between 350 000 and 450 000 HUF per month. Respondents were asked about their employment status, whether they worked in part-, flexible- or full time. Most of those who answered the survey reported to work in full-time, 22% reported to be on flexible work schedule, and only 5% of the people have reported working part-time. The last part from the demography section inquired whether the respondents worked in a blue- or a white-collar job. 134 have reported working in a white-collar job, and 52 people said they worked in blue-collar employment.

The next section of the survey focused on the spending habits of each respondent. The first question focused on the amount of income each respondent received per month in Hungarian Forints. The average reported salary amounted 327,013.49 Forints per month. Then the respondents were asked to choose on a Likert scale how much financial stress they experienced in

their daily life. When they chose 1, it meant that they were very stressed, living day by day. Whereas when choosing 5, they indicated that they were not stressed about financial matters at all. 31.7% of the respondents chose 5, 23.7% indicated 4, 21% of respondents answered 3, and around 11-11% of people indicated 2 or 1 on the Likert scale implying that they face problems in their everyday life. The next questions in the survey focused on how much each respondent spent on regular items per month. These were accommodation, rent; utilities; paying back on loan; food; items not essential for daily life; entertainment, sport and other spendings. On Table 1, below it is visible how much the average amount was, the respondents spend on the items as mentioned earlier each month. Table 1 demonstrates that people spend the most amount of money on food, then on utilities, while they spend the least amount on entertainment and sport.

Table 1 Average spending per month in Hungarian Forint

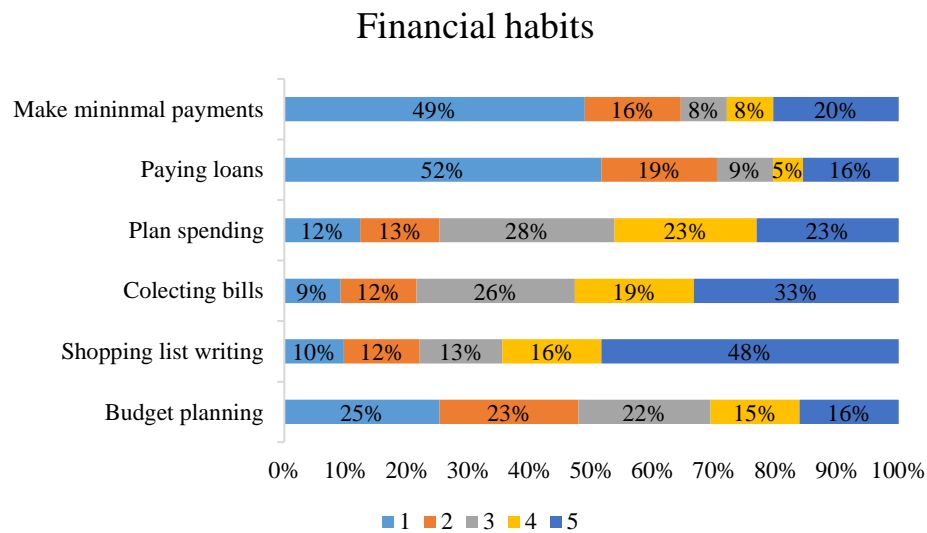
Rent	Utilities	Loan	Food	Non-essential spending	Entertainment & Sport	Other
35,556.45	58,586.02	31,809.14	84,908.6	29,572.58	16,836.07	31,371.02

Source: Author's table

The next section of the questionnaire focused on the financial habits of the respondents. At first, they were asked to give a score on a Likert scale how likely they were to use a given habit. On the scale, 1 meant, that they never uses the habit, while 5 meant that the habit was used very often by the respondent.

The financial habits that they needed to score were the following: budget writing, writing shopping lists, keeping bills and invoices after spending, planning to spend for a given period (week, month, year), paying interests (after loans) and making minimum payments. As it can be seen on Figure 1, there are some habits, that were used more widely, than others.

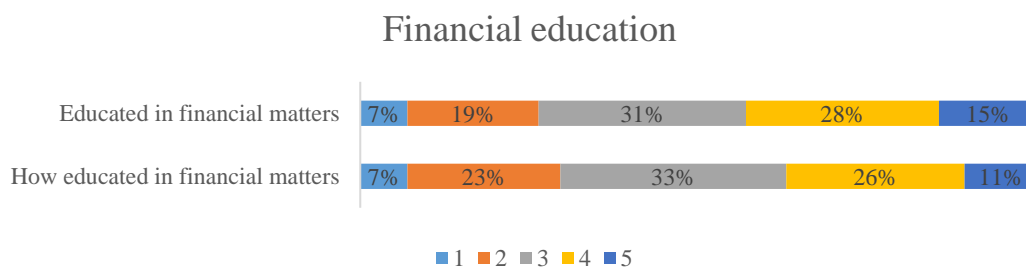
Figure 1 Financial habits of the survey respondents



Source: Author's figure

In the next section of the survey, the respondents were asked to respond to questions related to their financial education. In a Likert scale, they were asked to give points from 1-5, indicating whether they were experienced in personal financial matters and how experienced they were in their personal financial matters. In this scale, 1 meant, that they did not have any knowledge about personal financial practices. Meanwhile, 5 denoted that they were highly experienced in personal financial matters, in their opinion.

Figure 2 Financial education experience of the respondents



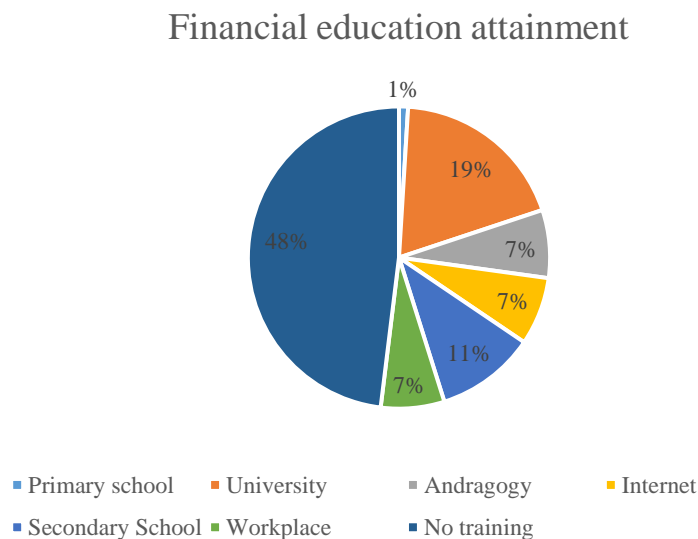
Source: Author's figure

As it is visible on Figure 2, most of the respondents rated their financial skills with 3, meaning, that they rated themselves neither good, neither bad.

They were asked whether they had attended the training, which would help them maintain their personal financial matters. 48% of the respondents have not, yet, took part in such training.

The next question focused on the place where those who have attended personal financial training occurred. They were given options such as primary or secondary school, university, the internet, or an Other option. In the other option, they could fill in where they had training about their personal financial management, in which 14 and 15 of the respondents gave a training at the workplace and training through andragogy. As it is seen on Figure 3, most of the respondents received no financial education, those who did, they had it in university mostly.

Figure 3 Where did the respondents attain financial education?



Source: Author's figure

The next question focused on asking their opinion on what would help them managing and learning about personal finances. They had the two option, education in schools or education through an online platform (either an application or a website). The respondents have also had the chance here to give the 3rd option freely. The most popular answers to this question were more salary, nothing or financial advisor.

Then they were asked if there was a platform, which would help to manage their personal finances, would they use it. 76% of the respondents have given yes as an answer to this question, which means that there definitely is a need for platforms, that help managing personal finance matters.

In the next section, the questions were inquiring about the assets and liabilities of each respondent. They were asked whether they had a car, real estate, or a loan. The Figure below summarises the answers given to this question.

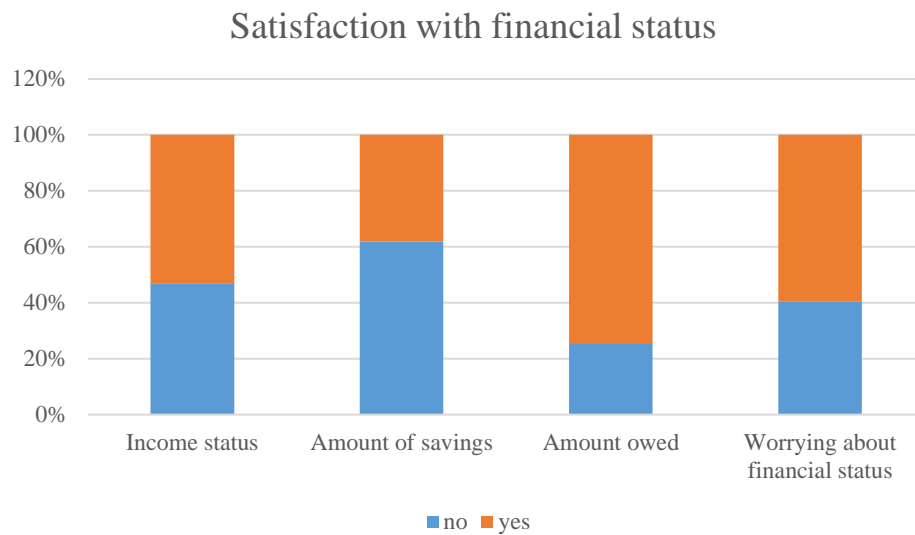
Figure 4 Assets and Liabilities of the respondents



Source: Author's figure

The next part of the questionnaire focused on the respondents' own satisfaction with their personal financial matters. They were asked whether they were satisfied with their personal financial status, whether they were satisfied with the amount of their savings, whether they were satisfied with the amount they are owing, and whether they worried about their personal finances and its management. In the figure below, their answers are visible. 53% of them are satisfied with their income status, and 62% is satisfied with their savings amount. Only 75% and 60% worry about amounts owed and their financial status, respectively.

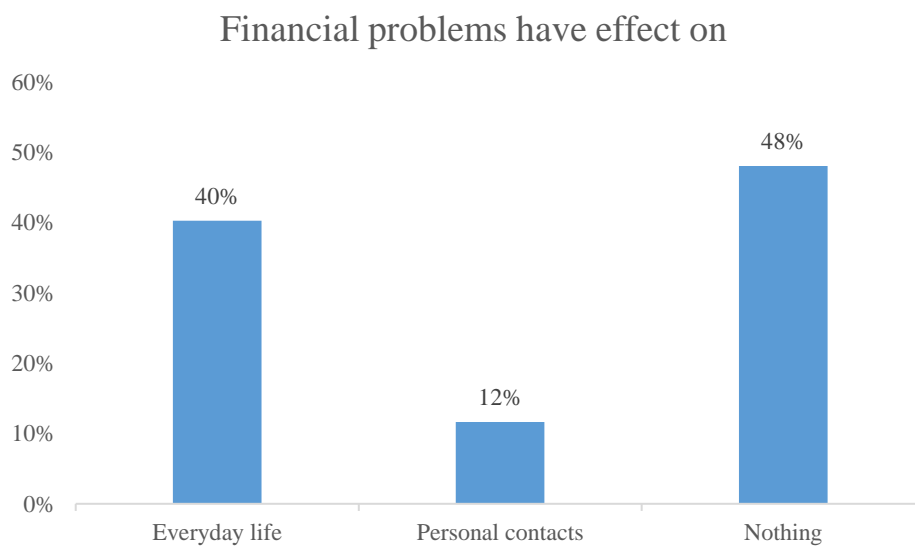
Figure 5 Are respondents satisfied with their financial status?



Source: Author's figure

They were also asked whether their personal financial problems had effects on their everyday life, their personal connections, or nothing. The results are summarised on Figure 5.

Figure 6 The effects of financial problems



Source: Author's figure

The last question in this section was about how they would rate their personal finances on a scale of 1-5. 1 being “I am not satisfied with my personal finances”, and 5 being “I am completely satisfied with my personal financial situation”.

Most respondent rated their personal financial status with a 3. From this we can understand, that they are neither satisfied, nor dissatisfied with their personal financial status.

The last section was focused on Salarify users on how they rated the application. Out of the 9 Salarify users only 2 of them have never used the application to receive a percentage of their salary. Those who have requested their salary using the application requested around 13% of their salary. Only one of the users have spent the money received all at once. Most of them rated the easiness of getting a percentage of their salary through Salarify 4.6 on average, on a scale of 1-5. They rated the whole process at a 4.1 on scale of 1-5. When they were asked on what they spent their salary advance payment most of them said food, service, there was one mention of rent, one mention of loan payback, and someone just used the application to try out how it works. The next question focused on how useful using Salarify was for them that they could receive an advance on their salary. The users have rated it on average 4.8 on a scale of 1-5. The very last question in the survey inquired whether with the help of Salarify they got better at managing their personal finances. They have rated it a 3.8 on a scale of 1-5.

Methodology

Tobit regression

The Tobit regression was introduced by James Tobin for analysing limited dependent variables (Tobin, 1958, pp. 18–20). As there is a constraint or a maximum on the dependent variable in the regression model, it is called a limited dependent variable. Such variables are also classified as Likert scales (Muthén, 1989, p. 241). For the first regression, the dependent variable the limit was 1, as the distribution skewed towards the minimum, the left side. Therefore, in the model, a minimum is given. Which resulted in the first, financial rating regression's observations being 186, 30 was left-censored, and 0 was right-censored. For the second financial stress perception's regression the dependent variable ceiling was 5, as in that distribution it skewed towards the maximum. This resulted in 59 right censored and 0 left censored observations out of the total 186.

Variable descriptions

For the regression analysis, it was analysed whether and how there is an effect of using financial practices on how people rate their financial situation. The dependent variable is the financial status rating, on a scale of 1-5. A second regression is analysed in the next chapter, where another dependent variable was analysed, which was financial stress rating, 1 being very stressed, and 5 meaning no stress. The independent variable was created from the financial habits by taking the average of the rating people gave on how often they planned their budget, how often they created shopping lists before going to the store, how often the respondents collected their bills or invoices after purchasing and finally, how often they planned to spend. The average of these ratings was calculated and used as the independent variable. It was essential to see whether having had

financial education before had any effects on the rating of one's financial education, and another variable was added which was the interaction between the financial habits average and financial education variables. To control for the financial situation the amount of salary divided by 1 000 was also introduced, as well as the amount of loan the survey population had, also divided by 1 000. The last variable for controlling for the financial situation was the real estate one, whether one owns property or not. The next set of controls were work-related. The employment type refers to whether the respondent is white- or blue-collar worker. Here, a dummy variable was also introduced, which indicates whether the respondents work in full time. The next set of controls focused on the household, there is a dummy variable for married respondents and how many people in live their household. The last set of controls are demographic. They take educational attainment, age, sex into account, as well as a dummy variable for those who live in Budapest.

Chapter 3 – Empirical analysis

Regression of rating of financial status on financial habits

From table 2, it is visible, that when using financial habits, the rating of the financial situation increases, as well as when having attended financial education. The interaction variable between having had financial education and financial habits show that those who attended educational pieces of training do not use and implement the skills that they have acquired. Having a higher salary naturally increases satisfaction with financial situations. The amount of loan has a negative effect on financial rating, understandably, as having debts, is not necessarily ideal. Those owning real estate rate their financial status in a better favour, and its impact is significantly positive. Those who work white-collar jobs are more satisfied with their financial status, but when introducing more demographic variables, the effect loses its significance. The full-time working dummy has a negative impact on the financial status rating, and this could be understood, as they work more but for lower payments, which could impact their financial status rating, but as not enough omitted variables are present, the above mentioned is merely speculation. According to our table, those who are married feel more secure in their financial status. The amount of households' impact turns negative when introducing more demographic variables, which could be their effect. Having attained higher education has a positive effect on financial ratings. Surprisingly when the respondents are younger, they feel more secure in their financial status, as age has a significant negative impact on the financial rating. Sex also has a negative impact on financial ratings, meaning that females rate their financial status worse than males. Finally, the Budapest dummy has a negative effect on financial rating, which implies that those respondents outside of Budapest rate their financial status better than those who live in Budapest.

What is essential to derive from our table is that when using financial habits, such as writing budgets, planning spending, keeping bills and writing lists has a positive impact on rating financial status by 0.36 points. Another important finding is that when the respondents earn more, they feel more secure financially and rate their financial status better by having a salary a 1 Ft more salary means, that the rating of financial status would go up by 1 point. Having a real estate boosts the feeling of financial stability as by owning a property increases the feeling of financial status rating by 0.49 points. Those who are married rated their financial status better by 0.54, more than a half a point more than the rest of the survey population, which could lead us to believe that when one is married feels more secure in their financial status too. The last significant outcome is with age, which leads us to believe that those who are younger in the survey population reported their financial status rating better 0.02 points.

Table 2 Regression on Financial status rating

VARIABLES	(1) sa_firate	(2) /	(3) sa_firate	(4) /	(5) sa_firate	(6) /	(7) sa_firate	(8) /	(9) sa_firate
fh_avg	0.3614** (0.1696)	0.3614** (0.1696)	0.3606** (0.1483)	0.3606** (0.1483)	0.3196** (0.1463)	0.3196** (0.1463)	0.3436** (0.1496)	0.3436** (0.1496)	0.3623** (0.1581)
fe_finedu	0.9606 (0.8783)	0.9606 (0.8783)	0.2703 (0.7921)	0.2703 (0.7921)	0.2333 (0.7825)	0.2333 (0.7825)	0.2625 (0.7583)	0.2625 (0.7583)	0.4136 (0.7441)
finteraction	-0.1465 (0.2371)	-0.1465 (0.2371)	0.0063 (0.2170)	0.0063 (0.2170)	0.0044 (0.2157)	0.0044 (0.2157)	0.0034 (0.2107)	0.0034 (0.2107)	-0.0465 (0.2064)
salary			0.0014*** (0.0004)	0.0014*** (0.0004)	0.0013*** (0.0004)	0.0013*** (0.0004)	0.0012*** (0.0003)	0.0012*** (0.0003)	0.0010*** (0.0004)
loan			-0.0019 (0.0018)	-0.0019 (0.0018)	-0.0017 (0.0018)	-0.0017 (0.0018)	-0.0022 (0.0017)	-0.0022 (0.0017)	-0.0020 (0.0019)
al_realestate			0.6233*** (0.2238)	0.6233*** (0.2238)	0.5810*** (0.2186)	0.5810*** (0.2186)	0.3946 (0.2415)	0.3946 (0.2415)	0.4925* (0.2615)
emp_type					0.5139*** (0.2476)	0.5139*** (0.2476)	0.5593** (0.2487)	0.5593** (0.2487)	0.3672 (0.2701)
fulldummy					-0.2106 (0.2269)	-0.2106 (0.2269)	-0.1439 (0.2245)	-0.1439 (0.2245)	-0.1273 (0.2190)
marrieddummy							0.4865** (0.2271)	0.4865** (0.2271)	0.5380** (0.2260)
hh_amnt							0.0010 (0.0668)	0.0010 (0.0668)	-0.0331 (0.0646)
edu									0.1497 (0.1554)
age									-0.0178* (0.0094)
sex									-0.3963 (0.2751)
budummy									0.0231 (0.2586)
Observations	186	186	186	186	186	186	186	186	186

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's figure

Regression of presentiment of financial stress on financial habits

The other analyses, which is summarised in Table 3, reveal that the results are similar to the previous one, but they differ in some parts. It is confirmed by this regression too, that when using financial habits, the stress rating grows. It is essential to take into consideration when analysing this table that when the rating is 1, it means highly stressed, but when the rating is 5, it means not stressed at all, therefore, when the coefficients are growing, it means that the stress level is diminishing and vice versa. It is then implied that when using financial habits, the feeling of financial stress diminishes. Those who have attended financial education class experience more financial stress in their life, but it seems when they use their skills that they learnt from financial education, they experience better stress rating. In this regression too, when they receive more salary, their stress diminishes. When having higher amount of loans, their stress level gets lower. The respondents who own properties experience better financial stress rating. When working in white-collar jobs, they also have less stress. Having a spouse has an additional positive effect on stress levels. If the number of individuals living in the same household is higher, then the stress level goes higher too. If they attained one higher education level, they seem more stressed about their personal finances. Moreover, females experience a negative impact on their stress level, meaning they are more stressed financially than males, in the population analysed. Those who live in Budapest have lower financial stress rating, which implies that they are less stressed than those who live outside of the Hungarian capital.

The significant results are the personal financial habits, which means that when using various methods that help manage our finances more often helps the financial stress rating by 0.35 points. Similarly to the previous regression, having more salary by 3 Forints positively helps stress rating. Having loans is significantly negative on the perception of financial stress. However, the

coefficient is small. Furthermore, interestingly when having a higher amount of loan, the stress will be lower. One possible reason is that when people receive loans, they do not have to worry about their consequences in the short-term, only in the long term. Another explanation could be, that when the survey was conducted a moratorium was in place in Hungary, meaning that people felt less stressed about their current liabilities. When people own properties, they feel more secure, which is proven by both regressions. Their financial stress decreases by almost 1 point when they own real estate. Whereas, as the previous regression working full-time increases financial stress levels by 0.5 points, which could be explained, that those who work full time, do not feel appreciated enough in terms of salary, and are afraid, that they are working a lot, but not getting enough compensation for their amount of work. Another reason could be as they work full time, they have more liabilities with the company. Moreover, if they are not working hard enough, they will be fired, or they have to try harder to get promotion in their career.

Being married increases the points, towards the top; therefore, those who feel secure at home, report less amount of financial stress by 0.67 points.

Table 3 Regression on Financial stress rating

VARIABLES	(1) sh_fin_stress	(2) /	(3) sh_fin_stress	(4) /	(5) sh_fin_stress	(6) /	(7) sh_fin_stress	(8) /	(9) sh_fin_stress
fh_avg	0.3271* (0.1949)	0.3271* (0.1949)	0.3448** (0.1490)	0.3448** (0.1490)	0.3164** (0.1512)	0.3164** (0.1512)	0.3376** (0.1496)	0.3376** (0.1496)	0.3557** (0.1548)
fe_finedu	0.7410 (1.1038)	0.7410 (1.1038)	-0.3501 (0.9129)	-0.3501 (0.9129)	-0.4048 (0.9086)	-0.4048 (0.9086)	-0.3498 (0.8866)	-0.3498 (0.8866)	-0.1389 (0.8627)
finteraction	-0.1198 (0.2964)	-0.1198 (0.2964)	0.1363 (0.2518)	0.1363 (0.2518)	0.1401 (0.2534)	0.1401 (0.2534)	0.1313 (0.2488)	0.1313 (0.2488)	0.0704 (0.2396)
salary			0.0033*** (0.0007)	0.0033*** (0.0007)	0.0034*** (0.0007)	0.0034*** (0.0007)	0.0032*** (0.0007)	0.0032*** (0.0007)	0.0032*** (0.0008)
loan			-0.0065** (0.0026)	-0.0065** (0.0026)	-0.0064** (0.0026)	-0.0064** (0.0026)	-0.0069*** (0.0026)	-0.0069*** (0.0026)	-0.0071*** (0.0027)
al_realestate			0.8396*** (0.2835)	0.8396*** (0.2835)	0.8851*** (0.2884)	0.8851*** (0.2884)	0.6642** (0.3238)	0.6642** (0.3238)	0.8855** (0.3469)
emp_type					0.1702 (0.3071)	0.1702 (0.3071)	0.2461 (0.3059)	0.2461 (0.3059)	0.1886 (0.3323)
fulldummy					-0.6034** (0.2972)	-0.6034** (0.2972)	-0.5197* (0.2888)	-0.5197* (0.2888)	-0.5355* (0.2843)
marrieddummy							0.5898** (0.2963)	0.5898** (0.2963)	0.6681** (0.2936)
hh_amnt							-0.0443 (0.0898)	-0.0443 (0.0898)	-0.0762 (0.0896)
edu									-0.0133 (0.1906)
age									-0.0180 (0.0115)
sex									-0.3996 (0.3009)
budummy									0.2653 (0.3403)
Observations	186	186	186	186	186	186	186	186	186

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's figure

Conclusions

The aim of this thesis was to see, whether a financial management application would be feasible to create and to identify what the potential customers need for such a platform to include. After careful considerations of the literature review, a survey was set up, which targeted Hungarian respondents from diverse backgrounds. Their responses were then analysed, and it was found that, in order for one to rate their financial situation as satisfactory, they need to use various financial habits. Besides that, naturally getting paid more plays a huge role in feeling financially satisfied. Furthermore, the security of owning real estate gives one a feeling of financial security. Another critical measure is that in the survey populations, those who reported being married, have also reported higher personal financial ratings. The younger generations have reported more financial stability when compared to their older peers, but they are more stressed about their financial matters.

There are multiple things we can derive from this study. It is understood that not everybody is entirely content with their financial status. Financial education seems to work, but as it is seen in the literature review, it costs high amounts, and the outcome is meagre, and is not attainable for all, as it can be seen from the survey results. Therefore, a new different approach is needed to be developed, which could then lead to a whole new era of financial education.

There is a need for an application created by FinTech companies, which would help and educate its users on handling their finances better. According to the survey, 76% of the respondents would use a platform which would help them manage their personal financial matters better. Therefore, this platform has to be developed. It needs to include the following features: it needs to have a budgeting platform which would help the users plan their spending for multiple types of periods,

with which it is later compared to the actual spending. The actual spending would be analysed, and personal finance tips and tricks would be suggested to the user. The application also needs to have a list feature, which would work with voice recognition which could work easier for those who have less time. It needs to have a price check alert, which would check the lowest prices of the items on the users wish list and alert the user when the price is the lowest. The application would also need a feature which allows the user to take a picture of their bills, receipts and invoices and stores them online, for future use. It would also be able to assist with possible debt and loan management. For experienced users, it could also offer an investment section, where it would be possible to learn how to and where to invest with at-the-time market conditions.

As for the future, the study could be extended to multiple countries in a comparative approach. It could enable the application to be used in various cultures. More data could be analysed in larger sample of FinTech application users.

As for policy recommendations, it is clear that supporting FinTech companies is highly essential, as they provide better financial wellbeing to many lower-income users. Therefore, more funding for future research and development of the platform would prove to be useful.

A study was conducted on the effects of using financial habits on financial status and stress rating. We could derive, that it is highly crucial, that a new application should be developed, as it would help users to experience less financial stress, as they would be able to manage their financial matters with the help of the aforementioned financial management application.

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Appendices

Questionnaire:

Questions	Type of input
Demographics	
Age:	number
Gender:	Male/Female
Nationality	free space
Place of residence (city, town)	free space
What is your highest attained education?	<ul style="list-style-type: none"> • Less than primary school • Primary school • Secondary school • Bachelor's degree • Master's degree • PhD
Which industry do you work in?	free space
Please state your employer! (The company you work for)	<ul style="list-style-type: none"> • Companies contracted with Salarify • Other
What is your marital status?	<ul style="list-style-type: none"> • Single • Married • In a relationship • Widow • Divorced
Number of people living in your household	number
From that minor	number
How much is your monthly household income?	<ul style="list-style-type: none"> • 0 – 150 000 HUF • 150 000 – 250 000 HUF • 250 000 - 350 000 HUF • 350 000- 450 000 HUF • 450 000-550 000 HUF • 550 000 + HUF
What type of employment contract are you in?	<ul style="list-style-type: none"> • Full-time • Part-time • Flexible work schedule
What kind of work are you doing?	<ul style="list-style-type: none"> • Blue-collar

	<ul style="list-style-type: none"> • White-collar
Spending habits	
How much money do you make per month?	number
Do you experience financial stress in your daily life?	Likert scale 1-5
How likely are you to use financial practices? (writing lists, budgeting, etc.)	Likert scale 1-5
How much do you spend approximately each month on the following items?	<ul style="list-style-type: none"> • Accommodation • Utilities • Loan payback • Food • Non-essential daily items • Entertainment, Sport • Other expenses
Financial habits	
How often do you write a budget for your spending?	Likert scale 1-5
How often do you write a list for your groceries?	Likert scale 1-5
How often do you keep your bills and/or receipts after spending?	Likert scale 1-5
How often do you plan on how much will you be spending in a given period?	Likert scale 1-5
How often do you pay interest?	Likert scale 1-5
How often do you make minimum payments towards you loan payback?	Likert scale 1-5
Financial education	
Would you consider yourself experienced in your financial matters?	Likert scale 1-5
How educated do you feel about financial matters?	Likert scale 1-5
Have you ever received financial education? (where they tell you about budgeting, and what to pay attention to)	yes/no
If yes by whom and where?	<ul style="list-style-type: none"> • Primary school • Secondary school • University • Internet • Did not attend such training • Other
What would make it easier for you to maintain your finances?	<ul style="list-style-type: none"> • Educational platform • Education in schools • Other
If there would be a platform, which would help you in maintaining your finances, would you use it?	yes/no
Assets/Liabilites	
Do you have a car?	<ul style="list-style-type: none"> • Yes, I rent it • Yes, I own it • No
Do you own any real estate (house, apartment, piece of land)?	<ul style="list-style-type: none"> • Yes, I rent it

	<ul style="list-style-type: none"> • Yes, I own it • No
Do you have any loan?	<ul style="list-style-type: none"> • Yes • For car • For real estate • Other
Own satisfaction with financials	
Are you satisfied with your own income status?	yes/no
Are you satisfied with amount you have saved?	yes/no
Are you satisfied with amount owe?	yes/no
Do you ever worry about your financials?	yes/no
My financial problems interfere with:	<ul style="list-style-type: none"> • My everyday life • My personal connections • Nothing • Other
How would you rate your financial status?	Likert scale 1-5
About Salarify	
Have you used Salarify before to take a certain amount from your salary?	yes/no
If yes, how much percentage of your whole salary did you receive? (percentage of their whole salary)	number
Did you spend the amount all at once?	yes/no
How easy was the process of getting a percentage of your salary?	Likert scale 1-5
How would you rate on a scale of 1 to 5 the process?	Likert scale 1-5
When you took the amount off, what did you use it for?	<ul style="list-style-type: none"> • Rent • Loan payback • Food, service • Non-essential daily items • Entertainment • Other
How useful was getting a percentage of your salary ahead of time?	Likert scale 1-5
Is using Salarify help with maintaining your finances better than before?	Likert scale 1-5