

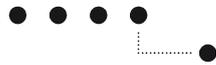


Bern University of Applied Sciences
Business

Gender & Finance

Financial profile of continuing education students according to gender

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Gender & Finance: financial profile of continuing education students according to gender

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Abstract

The discussion about the role of men and women in modern society is a current issue and has brought substantial political, social and financial changes worldwide.

Women have participated in economic activities and have been facing financial decisions. According to statistics, the economic participation of women has increased over time, and the same trend is observed in education. Nowadays, women hold a higher percentage of university places than men in a number of countries. As a consequence, it can be expected that these women will have well-paid jobs. So, women have become very attractive clients for the financial services industry. However, women and men deal differently with financial issues.

The purpose of this research is to gain insight into gender specific investment behavior of continuing education students. The paper compares the investment characteristics of male and female professionals enrolled on business education programs at the Bern University of Applied Sciences. To compare the investment behavior of female and male, data collected in a survey is analyzed. Six hypotheses were formulated and tested at the 0.1 level of significance¹. Additionally, other issues were explored in order to present a financial profile of the sample according to gender.

Findings suggest that gender plays an important role in financial matters. Men and women differ significantly in their sources of financial information and in their criteria used to make investment decisions. Significance was also found in gender specific financial risk tolerance and a female preference for socially responsible investments was observed. In addition, there was a significant difference in stocks ownership between men and women. However, differences in stock market knowledge were not statistically significant in this study.

Keywords: finance, gender, financial behavior, business students

¹ Significance levels show how likely a result is due to chance. A significance level of 0.1, means that the finding has a 90% chance of being true. In this study, chi-square tests were used.



1. Introduction

The financial industry has become increasingly active in segmenting the market in order to define strategies that better serves the needs of their clients. Meanwhile, we have seen substantial changes in the role of men and women in society: women are no longer off the political, social and financial agenda. Women have been economically and politically active and are increasingly gaining influence in the labor market. They now face financial decisions and represent a growing share of new customers for the financial service industry.

Gender equality has not yet been achieved and we still face gender differences in many areas. Nevertheless, the economic participation of women has increased over time, and the same trend is observed in education. Women's level of education is increasingly closer to men's and in a number of countries women hold a higher percentage of university places than men. Higher Education is closely linked to a range of benefits, but perhaps the most obvious are better economic opportunities and better paid jobs. Although women in Switzerland still earn on average less than men, and are more likely to work part-time, they represent a considerable force in the economy.

A substantial amount of literature suggests that women differ from men in various financial matters and many experts share this view. Women and men deal differently with financial issues, however, financial companies seem not to meet the needs of female clients. In 2009, the Boston consulting group conducted a global survey which results showed that women around the world are the most dissatisfied with the financial services industry (Silverstein & Sayre 2009). The results show that there is a powerful developing market, based on women whose needs were not being fully understood.

The purpose of this research is to gain insight into gender specific investment behavior. To investigate whether men and women differ in financial decisions, this paper compares according to gender the characteristics of professionals enrolled on business continuing education programs at the Bern University of Applied Sciences. To compare the investment behavior of women and men, survey data is analyzed. The sample consists of professionals enrolled in business continuing education. It is assumed that the individuals in the sample are familiar with issues related to finance.

This paper produces a financial profile of students according to gender. In addition six hypotheses are tested using the Chi-square test at the 10 percent significance level.

Thus, it is hypothesized that:

H1 There is a significant difference in knowledge in the stock market among men and women.

H2 There is a significant difference between men and women in managing risk.

H3 There is a significant difference in source of financial information (before making investments decisions) between men and women.

H4 There is a significant difference in the criteria for investment decisions among men and women.

H5 There is a significant difference in preferences for socially responsible investments between male and female respondents.

H6 There is a significant difference in stocks ownership in the portfolios of men and women.



A better comprehension of gender and finance would allow professionals in the area to offer more suitable products and advice to clients. Investments programs based on gender can produce better investment results. It is also of great importance for policy- makers, business leaders and researches to explore the issue in order to develop approaches to close the gender gap in wealth, income and financial knowledge.

The contents of this study are organized as follows. Chapter 2 provides a literature overview and the view of a financial expert. Chapter 3 presents a snapshot of women and Swiss society, highlighting some institutional barriers women encountered to become more involved in finance. Chapter 4 presents facts about Swiss demography. Chapter 5 describes the survey and the methodology. Chapter 6 presents results and chapter 7 provides conclusions.



2. Gender and Finance

2.1 A short literature overview

Some gender differences in finance have been explored in behavioral finance studies. Behavioral economics is considered a new area of research, but the introduction of psychology in Economics can be actually seen as far back as 1759, when Adam Smith wrote “The Theory of Moral Sentiments”².

Behavioral finance and behavioral economics are related fields that try to better understand economic decisions and how they influence market prices, market decisions, returns and the allocation of resources while considering beliefs, attitudes and individuals’ emotions towards finance. According to Lintner (1998), behavioral finance is “the study of how humans interpret and act on information to make informed investment decisions”. The difference between traditional finance and behavioral finance is explored in a number of studies. Blomfield (2010) argues that “the traditional finance researcher sees financial settings populated not by the error-prone and emotional Homo sapiens, but by the awesome Homo economicus. The latter makes perfectly rational decisions, applies unlimited processing power to any available information, and holds preferences well-described by standard expected utility theory”. Bromiley & Wade (2003) argue that investor’s decisions are influenced by internal and external factors and not by rational behavior as the Efficient Markets Hypothesis³ suggests. Thus, financial decisions are often influenced by emotional factors and not exclusively by rational economic behavior.

The subject Gender and finance has created a lot of discussions about the relationship between women, men and money. Men and women differ from each other in a number of aspects and a great number of financial studies have observed that they also deal with financial issues differently. Financial planning, investment preferences and attitudes towards risk seem to be affected by gender.

Gender differences in risk-taking, for example, have been explored in several studies. Hira and Loibl (2006) examined gender differences between highly educated and high-income households in the USA and concluded that men were more likely than women to take above-average or substantial risk with their investments. Jianakopulos and Barnesek (1998) observed in their research that a higher percentage of women than men were unwilling to face any financial risks at all.

The level of financial risk-taking of an individual is influenced by demographic (gender, age, education), socio-economic (income, profession), and personality aspects such as sensation-seeking and attitudes (Morse, 1998). It has been suggested that the difference in risk attitudes of men and women in investment decisions is often related to risk perception rather than the reactions to a given level of risk. So, the factors which influence risk perception would play an important role in financial decisions. Olsen (2001) considers that risk perception is influenced by social and cultural factors such as trust, fairness and democratic values. In addition, risk is considered to have an emotional or affective dimension (Ricciardi 2001).

It is often suggested that risk aversion and overconfidence are directly linked (Russo and Shoemaker, 1992). Therefore, an overly confident individual may underestimate risk and take excessive risk. Therefore, overconfidence relating to financial decisions influences the risk perception of investments. Some research findings demonstrate that greater confidence leads to higher trading volumes (see e.g. Deaves et al., 2009).

² In TMS, he describes the psychological factors that underlie human decision making, motivation, and interaction, which of course have strong implications on what drives consumption and savings decisions, worker productivity and effort, and market exchange.

³ According to the EFH, investors have complete knowledge about the financial markets and therefore behave rationally.



Barber and Odean (2001) observe that men tend to be more overconfident than women and, consequently, will trade more and perform worse than women. They analyzed the common stock investments of males and females and found that men trade 45 percent more than women and earn annual risk-adjusted net returns that are 1.4 percent less than those earned by women⁴.

Risk attitude has been associated to education by some researchers. Grable (2000) associates greater levels of education to higher levels of risk tolerance. Dohmen (2005) suggested that individual's risk attitude is also influenced by parent's education, meaning that individuals whose parents are highly educated are less risk averse. Hence, we may find a link here between level of education, women and risk tolerance level. The observed increasing level of education of women over time could change their risk tolerance.

Some studies have argued that there is a female preference for socially responsible investment⁵. Women tend to integrate their values into their financial plan, a fact that makes socially responsible investments more attractive to them. Tippet and Leung (2001) have compared the demographic characteristics of "ethical" and conventional investors in Australia and have found a gender effect: ethical investors were more likely to be female rather than male⁶.

The tendency of women to follow financial professional's advice is further evidence supporting gender differences in financial behavior. Female investors more often search for detailed information before taking investments decisions and appreciate a good advisory process. They tend to avoid risky investments when they feel they do not have enough information.

Why is the approach to investment decision different between men and women? A number of researchers have tried to provide reasons for such behavior. For instance, Badunenko, Barasinska and Schäfer (2010) suggest that women tend to be more cautious about investment decisions because - as a rule - they have less investment resources available than men at their disposal. The biological explanation for this fact was explored in a study which demonstrated that differences in testosterone levels influence relevant aspects of financial behavior (Sapienza, Zingales and Maestriperi, 2009).

2.2. The view of a financial expert

In order to acquire the opinion of a financial expert for this study, an interview via the internet was made with Fleur Platow⁷. She observes that women deal with money differently than men:

"When it comes to dealing with money, women are on average still more inexperienced compared to men. Since they earn less in most cases and live longer, they are more reluctant to take losses and eager to save costs". This is my observation especially in the present, in the environment of turmoil and weak markets. In general, women take their time studying, questioning and using their intuition before deciding on the various investment options. Men are less cautious and quicker in the information process."

The future of women and finance is full of opportunities and challenges for financial services companies and demand changes in the approach to female clients. According to Ms. Platow:

"To my knowledge, US-institutes are gradually changing their attitudes and paying more attention to what

⁴ "These differences are more pronounced between single men and single women; single men trade 67 percent more than single women and earn annual risk-adjusted net returns that are 2.3 percent less than those earned by single women".

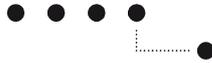
⁵ "Socially responsible investment" is the term commonly used in the United States. In the United Kingdom, the favored term is "Ethical investment".

⁶ These investors were also relatively young, highly educated and possessed small portfolios when compared to conventional investors.

⁷ Fleur Platow is the advisor of the Swiss Smart Ladies Investment Club (SLIC) and has written books on finance. She was the Swiss correspondent for the "Financial Times International Reports/New York".



their feminine clients need and want. Banks in other countries will follow. Gender differences are disappearing in a world, where more women hold jobs in leading positions, with more financial knowledge and increasing financial power. Smart business women with higher salaries or fortunes have, in my personal, experience always been more aggressive compared to men in investing money. “



3. A snapshot of Swiss society and barriers to women's financial independence

The financial sector has long been dominated by men worldwide. Changes have been observed over the years but a gender in balance still exists in diverse areas. The following brief overview of Swiss legislation highlights institutional measures which could have influenced the underrepresentation of women in finance and their financial decision making process. A look into past legislation may explain somewhat the relationship between women and finance. The different financial scenarios of women, past and present, show that women have played distinct roles in finance over time and that the improvement of independence in financial decision making requires an appropriate approach so that a more balanced scenario can be experienced in the future.

Switzerland was considered for a long time a patriarchal society, with a conservative structure. Historically, a woman's marital status influenced her ability to control assets or income in European society⁸ and Swiss legislation had for a long time a negative influence on the financial independence of women. Under the old matrimonial law, for example, the husband had the right to administer the conjugal property:

„Der Ehemann verwaltet das eheliche Vermögen.“ (Altes Eherecht, ZGB, §200)

A married woman could not be employed, take out loans or open a bank account without the consent of their husband. In addition, the wife was entitled to exercise a profession just with the express authorization of the husband:

«Mit ausdrücklicher oder stillschweigender Bewilligung des Ehemannes ist die Ehefrau unter jedem ehelichen Güterstande befugt, einen Beruf oder ein Gewerbe auszuüben.» (Altes Eherecht, ZGB, §167).

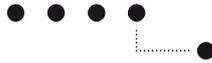
The New Swiss matrimonial law, which came into force in 1988, together with other developments in legislation (such as the introduction of female suffrage in 1971) has changed Swiss society. Women have gained political rights, independence to make financial decisions and economic power. The Federal Constitution established the principle of gender equality in 1981⁹ and, at a legal level, Switzerland has experienced development. Nevertheless, equality needs still to be achieved in many areas.

Education also plays a role in this story. The Swiss education system followed a different curriculum for boys and girls in many cantons until the 1980's. The differences in primary education were based on perceived gender differences. While lessons in writing, general reading and arithmetic skills were offered for both genders, girls had more hours of study a week than boys in home economics, cooking and handiwork classes. On the other hand, these classes were substitute for extra lessons in algebra, geometry and science for the boys (Rasmussen 1989).

Developments in legislation and in Swiss society have eliminated many inequalities and have brought new opportunities for society. Women are no longer out of the Swiss political, economic and financial agenda.

⁸ Married women could not participate in any financial transactions in their own right. History has showed that many women who became traders or head of business in Europe were widows. This was the case, for example, of French Veuve Cliquot. Madame Cliquot became a widow (Veuve in French) in 1805 and took over her husband's wine business and grew it into the famous French champagne firm (Karen Offen 2000).

⁹ Bundesverfassung. Artikel 8 Abs. 3 (neue BV): «Mann und Frau sind gleichberechtigt. Das Gesetz sorgt für ihre rechtliche und tatsächliche Gleichstellung, vor allem in Familie, Ausbildung und Arbeit. Mann und Frau haben Anspruch auf gleichen Lohn für gleichwertige Arbeit.»



4. Swiss demography¹⁰

This part of the study provides a short overview of Swiss demographics and demonstrates why women have become important actors for the financial industry and for Swiss economy.

Demographic changes in Switzerland can be observed in education, workforce and others. Women represent a slight majority (50.7 %) of the total population and experience higher life expectancy than men (women 84.7; men 80.3)¹¹. Additionally, female participation in the Swiss labor market and higher education has increased over time. One of the consequences of these developments is that women have strengthened their economic power.

Table 1: Population size and composition (end Of 2011)

Permanent resident Population (in thousands)	
Men	3 922.3
Women	4 032.4
Total	7 954.7

Source: Federal Statistical Office .Population size and population composition – Data, indicators. Online: http://www.bfs.admin.ch/bfs/portal/en/index/themen/01/02/blank/key/frauen_und_maenner.html (30.08.2012)

4.1 Women and labor market

The female participation in the Swiss labor market increased slightly in the 90's. The female activity rate starts declining in the years of family formation (30-44) and some years before retirement age (55-64). Women's activity rate is already lower than men's at age of 25 years old due to the substantial number of women leaving the labor market during the childbearing years¹².

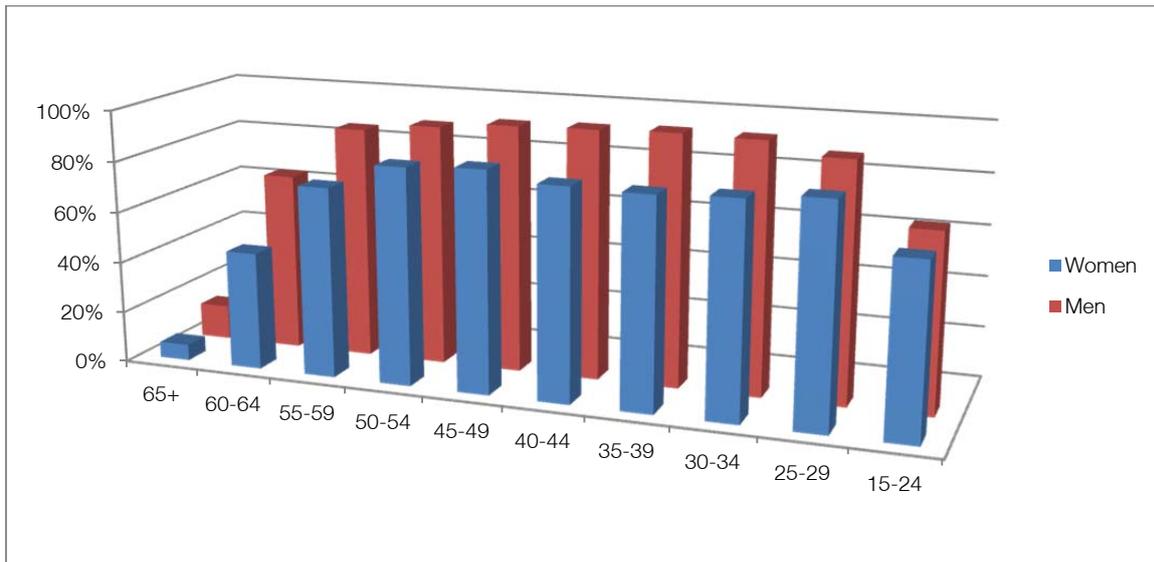
¹⁰ Demographic information was obtained from the Swiss Federal Statistical Office.

¹¹ Life expectancy at birth, 2011.Swiss Federal Statistical Office, FSO 2012

¹² Motherhood has a considerable impact on female labor market participation in Switzerland.



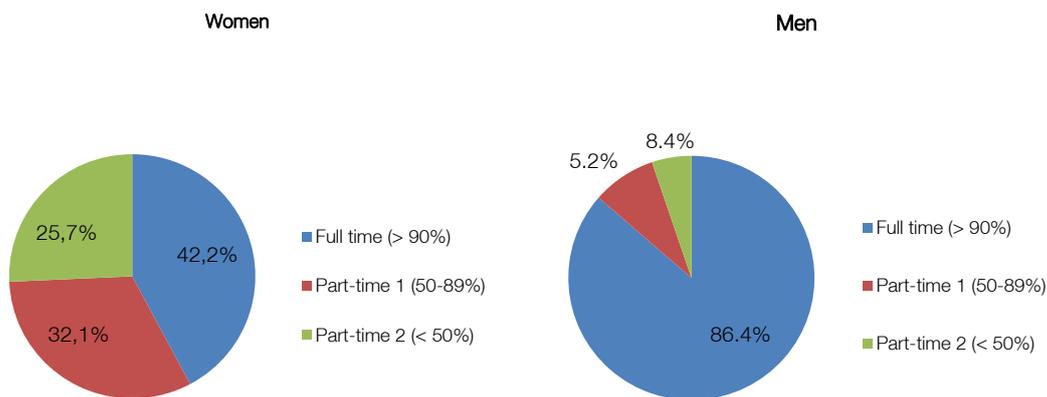
Figure 1: Activity rate by age group 2011



Source: FSO: Gleichstellung von Frau und Mann – Daten, Indikatoren; Erwerbsbeteiligung. Online: <http://www.bfs.admin.ch/bfs/portal/de/index/themen/20/05/blank/key/erwerbstaetigkeit/erwerbsbeteiligung.html%203> (06.09.2012)

The part-time employment rate of Switzerland is 33.7%, a high rate in comparison to the EU27 average of 19.5%¹³. Part-time work characterizes Swiss women’s work life: more than the half of working women have part-time jobs. Even though far more women work part time than men, part-time work has increased among men.

Figure 2: Employment level according to gender 2011



Source: FSO, Gleichstellung von Frau und Mann – Daten, Indikatoren. Teilzeitarbeit. Online: <http://www.bfs.admin.ch/bfs/portal/de/index/themen/20/05/blank/key/erwerbstaetigkeit/teilzeitarbeit.html> (06.09.2012)

¹³ Swiss Federal Statistical Office FSO, 2012



4.2 Women and education

The participation in education at upper secondary level and at tertiary level has substantially increased over the past thirty years in Switzerland for both men and women¹⁴. According to the FSO (2102), education participation rate is even expected to rise in the coming years. In the population groups aged 25 – 64, the percentage of persons with a tertiary-level qualification is expected to rise from 35% in 2009 to 50% by 2025.

There is no doubt that education is a key factor in the achievement of gender equality and financial independency, in so much that, higher education usually leads to better paid jobs. Consequently, higher participation by women in higher education should lead to higher income for women.

In Switzerland, older women are less educated than men, but women from younger generations are catching up. A significant increase in female participation level in tertiary education has been observed since 1999. At university level, the number of women has continually increased, narrowing the gap with men.

Table 2: Education overview of the Swiss population according to gender and age, 2011

	Age	Upper secondary Education (%)	Tertiary Education (%)
Total	25-64	85.6	35.3
	25-34	89.1	39.9
	35-44	87.4	39.6
	45-54	84.6	33.5
	55-64	80.7	27.2
	65-74	74.4	20.9
	75 and more	62.6	13.6
Women	25-64	82.6	29.0
	25-34	88.3	39.1
	35-44	85.2	32.5
	45-54	81.2	25.0
	55-64	74.9	18.6
	65-74	66.1	10.8
	75 and more	51.9	5.6
Men	25-64	88.5	41.5
	25-34	89.8	40.7
	35-44	89.6	46.8
	45-54	87.9	41.7
	55-64	86.5	35.7
	65-74	84.2	32.8
	75 and more	78.7	25.6

Source: FSO 2012. "Bildungsstand der Bevölkerung nach Geschlecht und Alter, 2011".

¹⁴The number of university degrees has more than doubled between 1997 and 2009 and is also related to the establishment of the universities of applied sciences in Switzerland.



Table 3: Level of Education: highest completed level of education by sex, 2011

25-64 year old resident population

	Men (%)	Women (%)
No post-compulsory education	11.5	17.4
Upper secondary education: vocational education	40.8	43.6
Upper secondary education: general education	6.2	10.0
Higher vocational education	13.9	7.3
University	27.6	21.7

Source: FSO, Education and Science. Online: <http://www.bfs.admin.ch/bfs/portal/en/index/themen/15/01/key/blank/01.html.com> (20.09.2012)

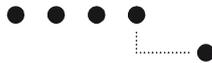
Although the number of women in higher education has grown over time, the representation of men and women varies substantially by the field of study. The proportion of men is much higher in almost all degree levels of the exact sciences, mechanical and electrical engineering, economics, as well as civil engineering and geodesy. On the other hand, women are the majority in programs as veterinary medicine, linguistics and literary studies, pharmacology, and the social sciences and humanities. In the universities of applied sciences, men are clearly the majority in the fields of architecture and construction¹⁵, engineering and IT¹⁶ while women dominate health, social work, applied linguistics and applied psychology¹⁷.

Young women in Switzerland differ considerably from previous generations. As mentioned before, they make up a significant proportion of university places and enjoy a more “gender balanced” society. Women’s financial behavior has been influenced by the societal changes and demands a new approach from the financial industry. Women represent a large potential customer base for the financial sector.

¹⁵Over 70% for admissions and graduations (Swiss Federal Statistical office 2011b).

¹⁶Over 90% for admissions and graduations (Swiss Federal Statistical office 2011b).

¹⁷Furthermore, women represent a large majority of entrants and graduates from universities of teacher education (Swiss Federal Statistical office 2011b).



5. The experiment: methodology

The data analyzed in this paper was acquired from a survey carried out at the University of Applied Sciences in Bern (Berner Fachhochschule Wirtschaft) in July 2011. The survey consisted of questionnaires containing multiple-choice questions. The questionnaires covered various financial issues: stock market knowledge, risk, sources of information, criteria for investments, concern regarding investments, SRI preferences, ethical issues, portfolio composition and financial planning responsibility. Paper questionnaires were handed out in class to encourage a higher response rate.

In order to observe the relationship between gender and some financial issues, cross tabulations and Chi-Square tests were used. The benchmark is 10 percent (90% certainty that the sample results are not due to chance), meaning that results are statistically significant at the 0.1 level (p smaller or equal to 0.1). The statistical program “Statistical Package for Social Science” (SPSS for Windows, version 16.0) was used to analyze the obtained data.

5.1 Sample

A survey, in German¹⁸, was distributed by the author to 125 business students at the BFH (Berner Fachhochschule Wirtschaft). Of these, 93 individuals filled out the questionnaire, a 74.4 percent response rate. Women account for 36.6 percent of the respondents and men 63.4 percent. This difference reflects the predominance of male students in business education at the University of Applied Sciences and consequently the underrepresentation of women¹⁹. This suggests that women do indeed choose less often business related fields of study than men.

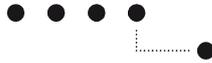
The sample characteristics are presented in figure 5, 6 and 7. The business continuing education students are active in the work market and at the same time enrolled in a business program. It is assumed that they have knowledge about financial issues and experience in dealing with money.

5.1.1 Demographic characteristics of the sample

In this part we describe the demographic characteristics of the survey’s participants with respect to gender. These characteristics include age, marital status and income.

¹⁸ Mother tongue of participants is German.

¹⁹ This topic requires further research in order to bring more gender balance to the business world. It is necessary to bring incentives and opportunity to women in order to increase the interest and possibilities for education and jobs in this area.

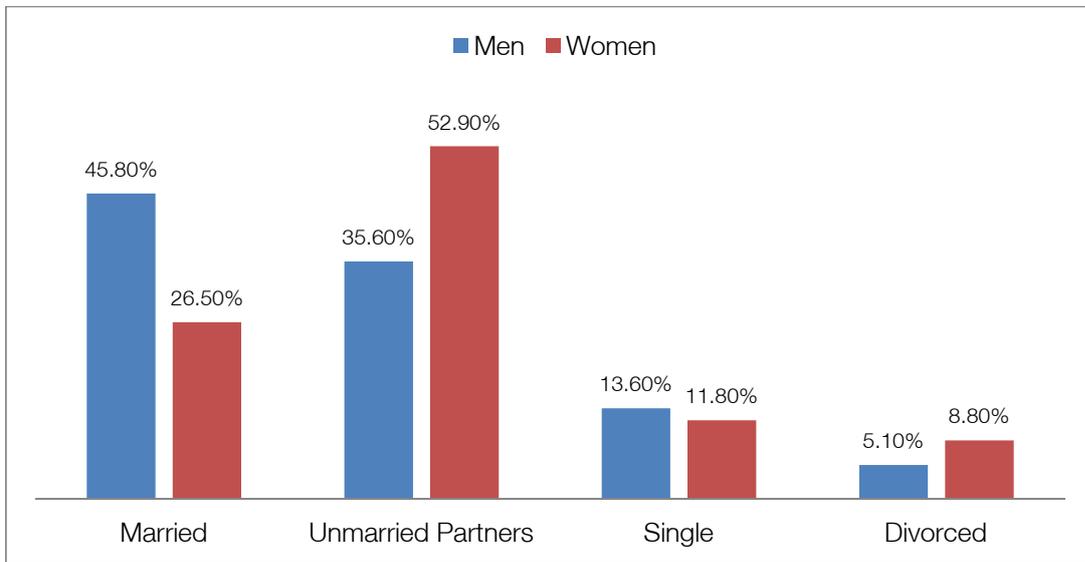


Marital Status

To indicate the marital status, participants could select one of the following options: married, living with a partner, single, divorced or widow. Overall, the highest response category was “living with a partner” (41.9%).

More men (45.8%) than women (28.6%) were married. A slightly higher percentage of the male participants were single in comparison with the females and a slighter higher percentage of the women were divorced when compared with the men.

Figure 3: Marital Status

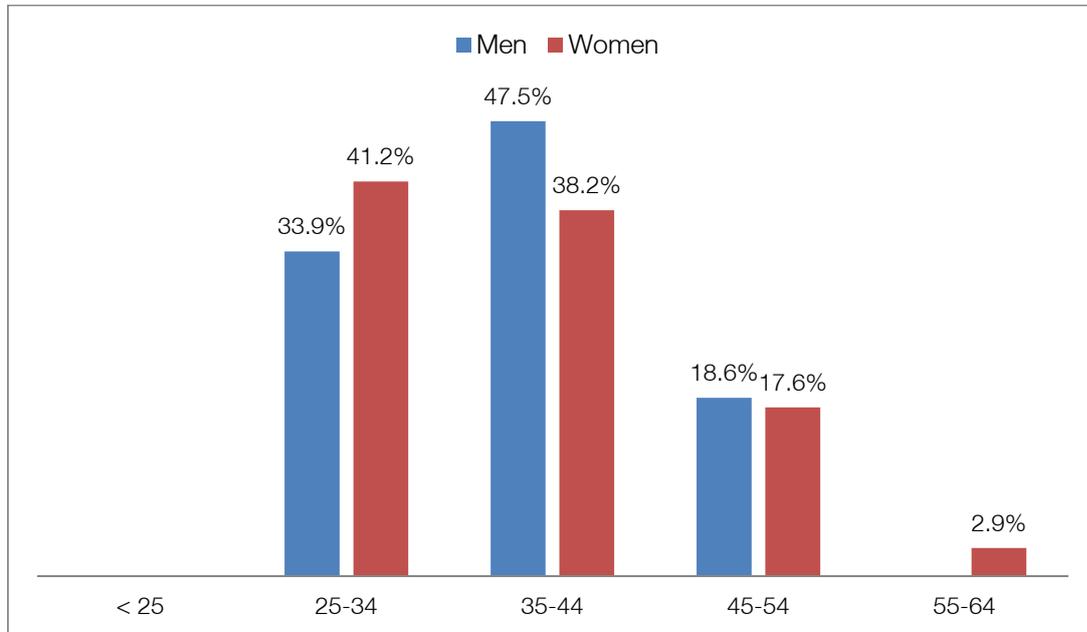




Age

The most men (47.5%) were between thirty five and forty four years old, while most women were between twenty five and thirty four years old (41.2%).

Figure 4: Age

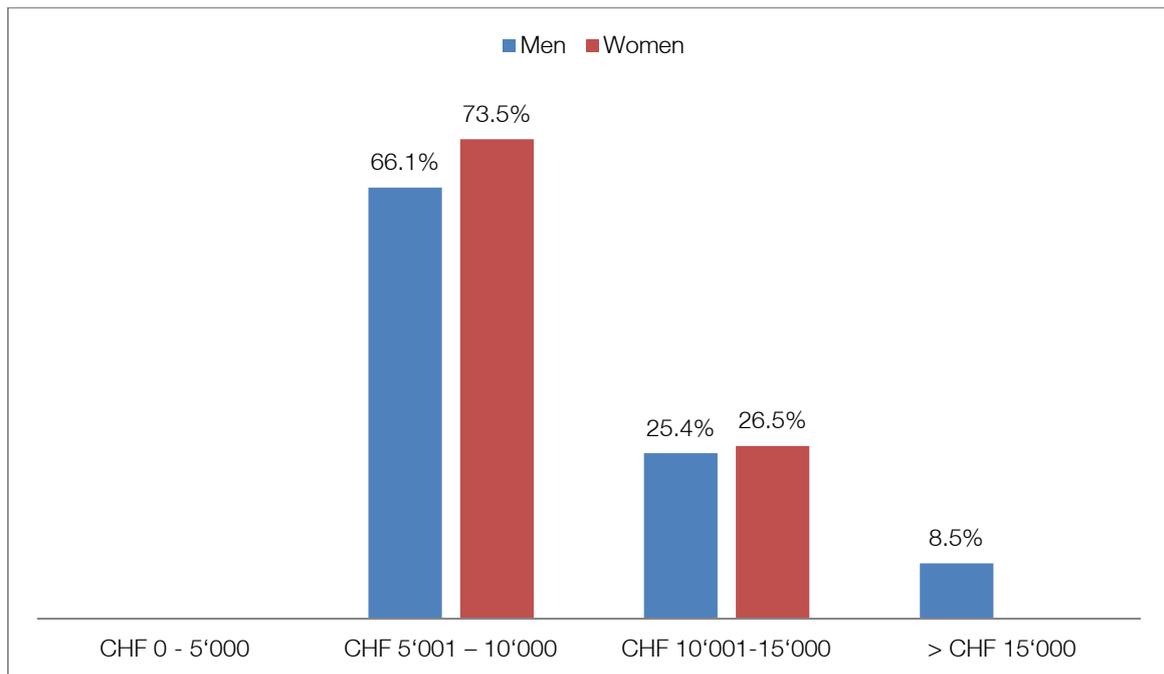




Income

Overall, the sample had a monthly income between CHF5'001-10'000. Figure 3 represents information about participants' income. A larger percentage of women reported their income to be between CHF5'001-10'000. A slightly larger percentage of women than men reported an income between CHF10'001-15'000. However, no women had a higher income than CHF 15.000, while 8.5% of the male respondents did.

Figure 5: Income per month



5.1.2 Financial planning

Respondents were asked about their financial planning. The majority of the male (88.1%) and female (85.3%) participants take care of their financial planning themselves. This is consistent with the argument that women are nowadays very attractive clients for the financial service industry; they make financial decisions and are responsible for their financial planning.

The use of a financial advisor service was not relevant. Only 1.7% of the male participants had an advisor. In comparison with men (6.8%), more women do their financial planning together with their partners (11.8%). A very small percentage of the sample delegates their financial planning to their partner.



Table 4: who takes care of your financial planning?

	Men	Women
Yourself	88.1%	85.3%
My Financial advisor	1.7%	-
My Partner	3.4%	2.9%
My partner and I	6.8%	11.8%

5.2 Limitations

In interpreting the results of this study, certain limitations need to be considered. First, the sample is rather small and it is more difficult to achieve significance with small samples. In this case, a 10% level of significance is appropriate. Furthermore, the sample, may not be representative of the population overall and the results should therefore be interpreted as exploratory. Nevertheless, this study does contribute to understanding the gender specific financial profile of business students²⁰.

²⁰Continuing education students of the Berner Fachhochschule Wirtschaft.



6. Results

This section documents the findings of the survey and provides a descriptive analysis. The results suggest that gender specific differences in financial behavior are present and therefore financial companies should market their services in a different way to female and male clients. Because women are a growing market force for this industry, a better knowledge of female needs and expectations is of great advantage when developing specific marketing strategies and services.

6.1 Stock market knowledge

Respondents were asked about their stock market knowledge and the majority of men and women reported having some experience. A larger percentage of women (26.5%) than men (13.6%) had no experience in the stock market. 54.2% of men and 41.2% of women had some experience in the stock market and an almost equal percentage of men (27.1%) and women (26.5%) reported reasonable experience. A very small percentage of the sample have extensive experience (5.1% of women and 5.9% of men).

Figure 6: Knowledge in the stock market

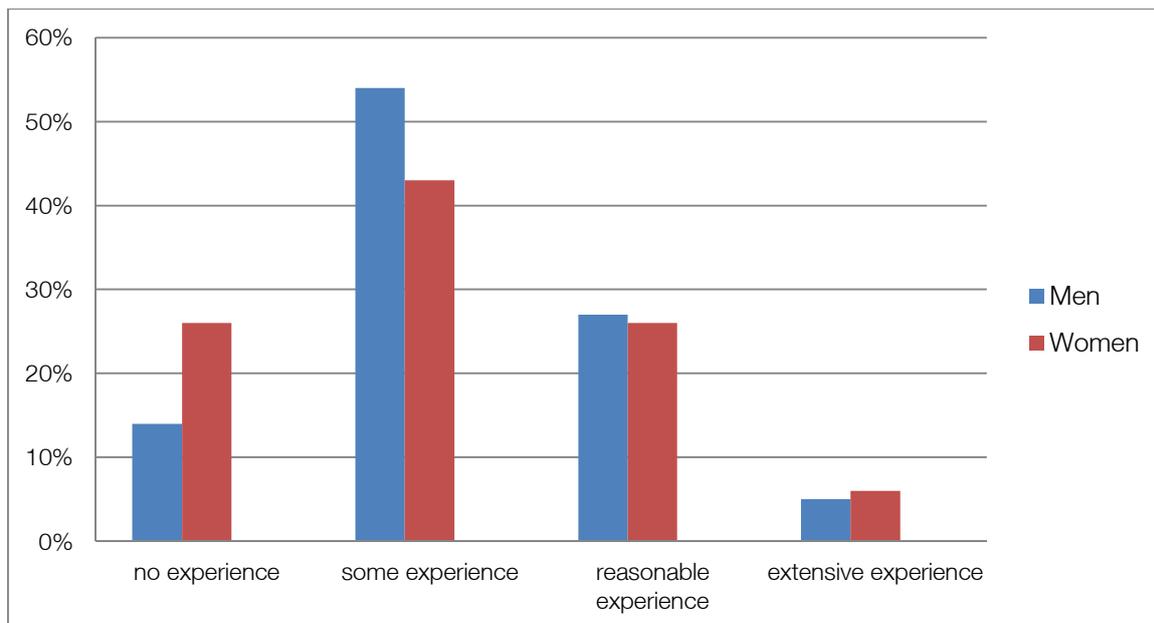


Table 5: Stock Market Experience

Experience in the stock market	Male	Female	Total
No experience	8	9	17
Some /reasonable/ extensive experience	51	25	76
Total	59	34	93

$\chi^2 = 2.407$; $p = 0.121$; $N = 93$

Results indicate that there is no statistically significant gender relationship between no experience against the other levels of experience at the 10 percent level ($p=0.121$).



6.2 View on managing risk

According to the survey, 35.3% of female's respondents are considered conservative investors, meaning that they are not prepared to expose their money to risk, in comparison to 15.3% of men. 44.1% of women and 44.1% of men were considered moderate investors and would accept minor fluctuations in order to generate a higher long-term return. Further, more growth investors were found to be men (33.9%) than women (20.6%). 6.8% of men had an aggressive investor's profile, while 0% of women were found to be in this category.

Table 6: Risk management

	Men	Women	Total
I do not like risk and I am not prepared to expose my money to risk (conservative).	15.3%	35.3%	22.6%
I would experience little fluctuations in order to generate a higher long-term return (moderate).	44.1%	44.1%	44.1%
I would experience average fluctuations in order to achieve a higher long-term return (growth).	33.9%	20.6%	29.0%
I would experience significant fluctuations in order to maximize my profit (aggressive).	6.8%	.0%	4.3%

$\chi^2 = 4.960$; $p = 0.084$; $N = 89$

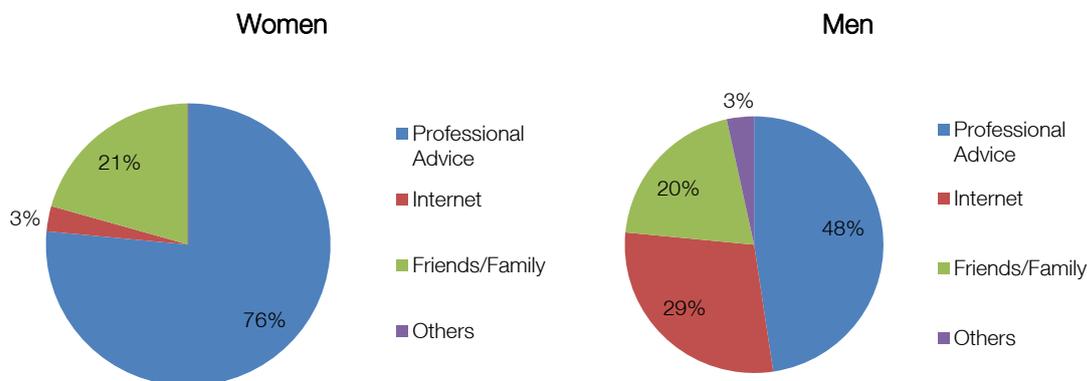
Statistically significance was found in participants view on managing risk ($p=0.084$). Differences between men and women appear to be strongest in growth and conservative.

6.3 Financial advice: source

According to figure 7, 76% of women identified professional advice as their major source of information before making investments decisions, while 48% of men selected this option. A higher rate of men (29%) than women (3%) reported to get information from the internet. Men and women showed similar interest in gathering information from "friends and family".



Figure 7: Source of financial information before making investments decisions



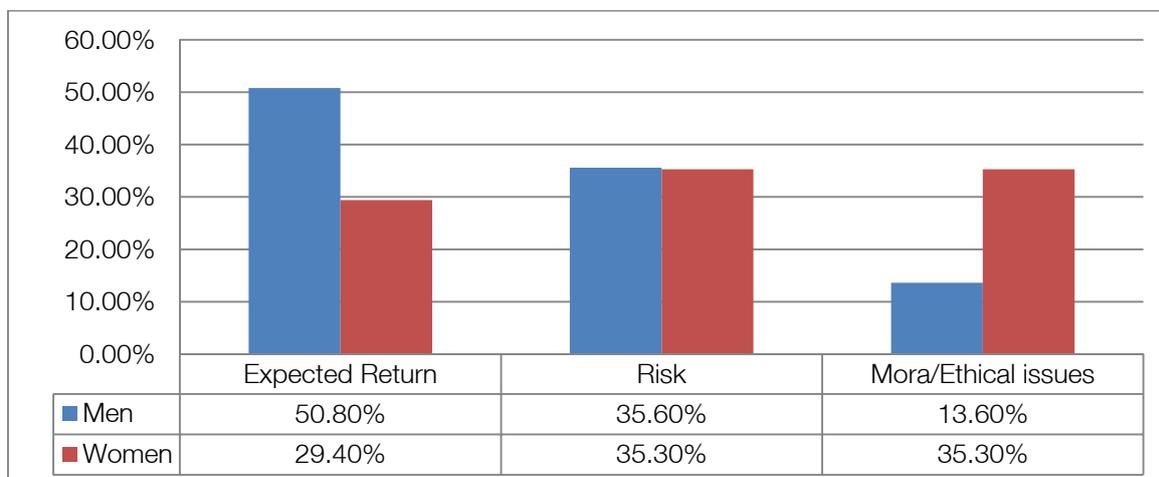
$\chi^2 = 10.468$; $p = 0.05$; $N = 93$

Results indicate that there is a statistically significant relationship between gender and the source of financial information before making investments decisions ($p = 0.05$).

6.4 Investment criteria and ethical issues

In recent years, socially responsible investments have emerged as a trend and have become a current topic in the financial services industry. These investments, also called ethical or sustainable investments consider not only financial return but also social responsibility. The introduction of personal values and social considerations into investment decisions has become important for many clients, especially women, as figure 8 shows. A higher percentage of women (35.30%) than men (13.60%) considered moral/ ethical issues as the most relevant criteria when making an investment decision. On the other hand, many more men (50.8%) than women (29.4%) selected “expected return” as their most important criteria. 35.6% of men and 35.3% of women chose risk as the most relevant criteria.

Figure 8: Most relevant criteria to investment decision



$\chi^2 = 7.043$; $p = 0.03$; $N = 93$

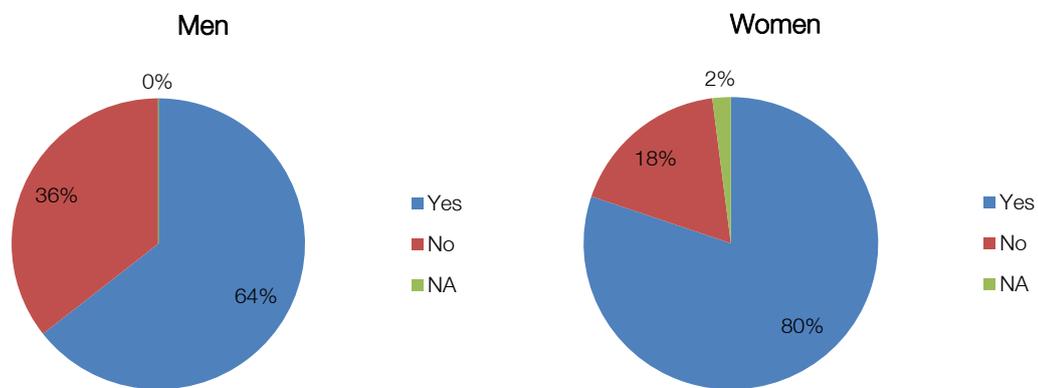


Results show that criteria for investment decision does differ significantly by gender ($p=0.03$). Differences between men and women appear to be strongest in expected return and moral/ethical issues.

In this circumstance, it would be interesting for the financial industry to consider the different criteria applied to investments by female and male clients in their services in order to improve customer satisfaction and identification.

Literature has showed that socially responsible investors seem sometimes to care less about returns when investing socially (Glac, 2009). Figure 11 demonstrates that more women in the survey (80%) than men (64%) would invest in socially responsible investments even if it means lower returns.

Figure 9: Would you invest in socially responsible investments even if it means lower returns?



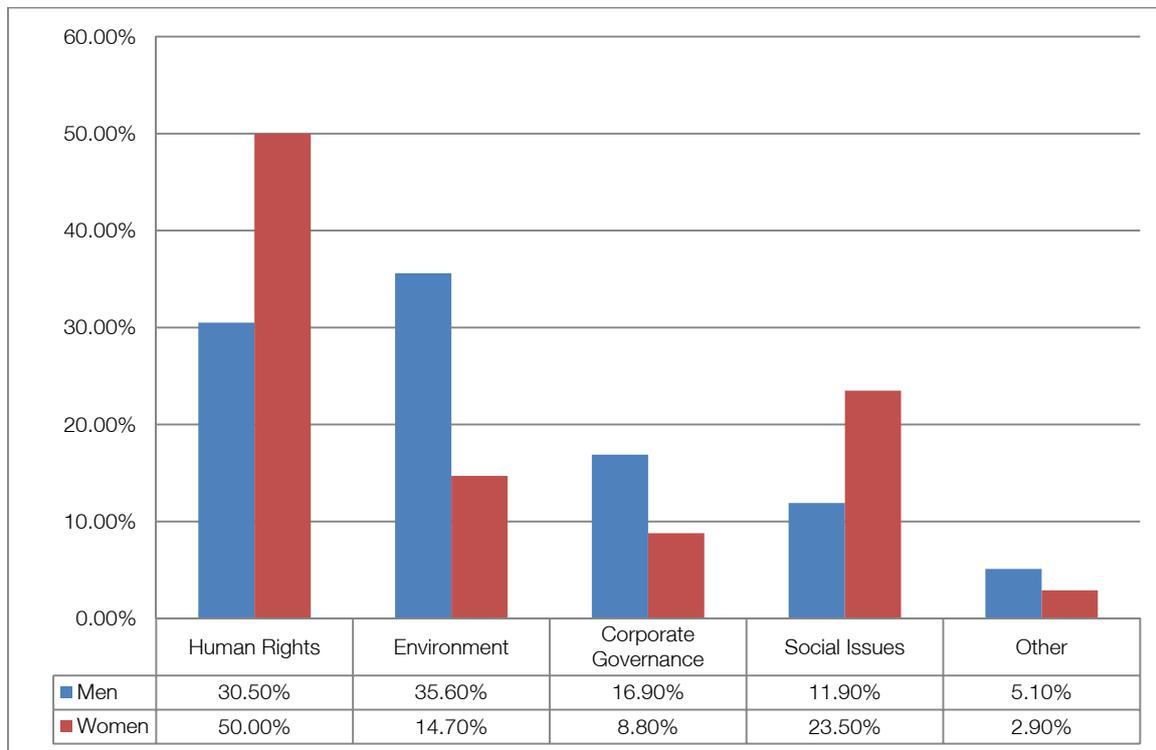
$\chi^2 = 3.094$; $p = 0.079$; $N = 92$

Statistically significance at the 90% level was found in the sample ($p=0.079$), showing the importance of this subject for the financial industry.

When asked about which ethical issues investments should address, 50% of women selected human rights in comparison to 30.5% of men. On the other hand, 35.60% of men selected environment against 14.7% of women. So, it would be relevant for the financial industry to consider the main female preference for human rights and the male one for environment when dealing with socially responsible investments. The social issues option was chosen by 23.50% of men and 11.90% of women. Corporate governance represented 8.80% of the female choice and 16.90% of male one.



Figure 10: Ethical Issues/Investments



6.5 Portfolio composition; Stocks ownership

Our survey also reveals the portfolio preferences of men and women. Participants were asked to indicate the composition of their portfolio²¹. Our findings show that a higher percentage of men than women had the following investments in their portfolio: third pillar, life insurance, stocks and structured products. In contrast, women had more property and bonds (slight difference).

²¹ All investments could be chosen independently, thus add up to more than 100%.



Figure 11: Portfolio composition

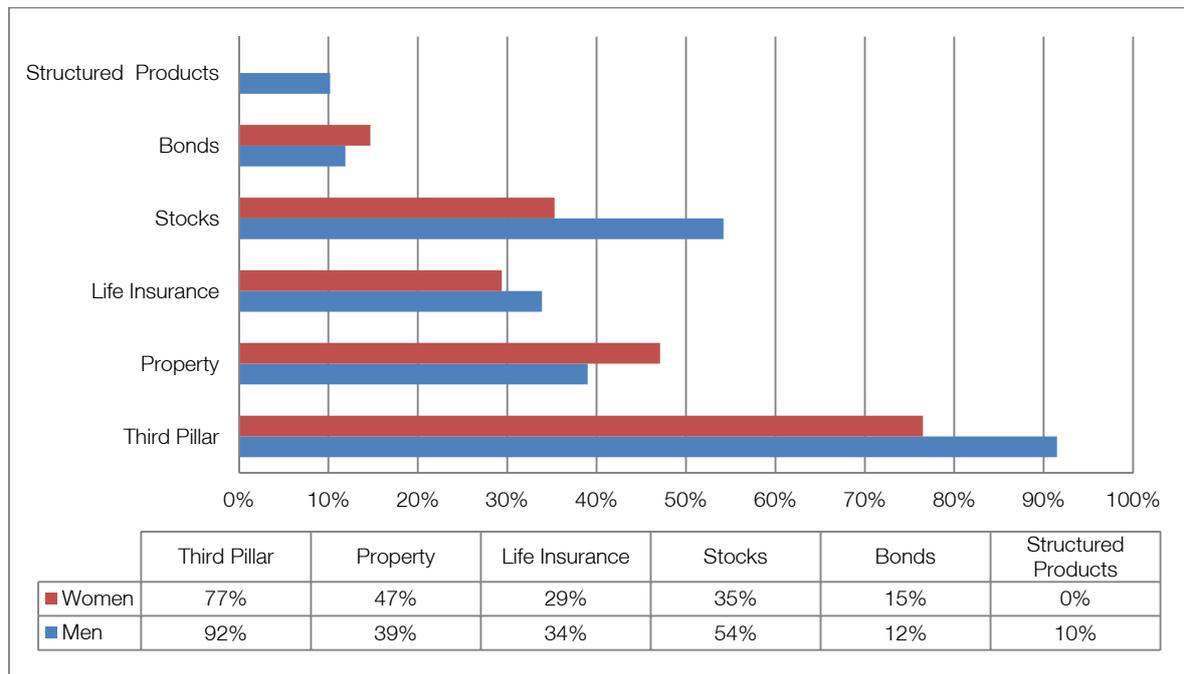


Table 7: Chi-square test per investment²²

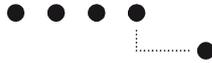
Chi-Square Test	Third Pillar	Property	Life Insurance	Stocks	Bonds	Structure Products
χ^2		0.578	0.199	3.105		
P	-	0.656	0.447	0.078	-	-
N		93	93	93		

Figure 11 illustrates that 35% of women hold stocks; the corresponding percentage among men is 54%. The difference is statistically significant at the 10% level ($p=0.078$).

Figure 11 also shows that the percentage of men which hold third pillar options in their portfolio is larger than that of women. The third pillar has become an important tool for many Swiss to save money. The third pillar allows the holders to save for retirement while reducing the individual's tax burden because of the amount paid can be deducted from taxable income.

More women (47%) than men (39%) reported having property. No significant statistical difference is found here ($p= 0.656$).

²² Chi-square test should not be calculated if the expected value in any category is less than 5. Because of that, the significance test was not performed for some of the investments (Third Pillar, Bonds and Structured products). Nevertheless, the cross tabulation results are interesting for our analysis.



Life insurance often means financial security for family members and extra cost. A higher percentage of men than women hold this kind of investment. The difference is statistically not significant ($p=0.447$).

Bonds are generally accepted as a way to receive return without posing too much risk. Although bonds can be considered a safer investment than stocks, they represent a smaller share of the portfolio of the respondents. Yet, 12% of men and 15% of women invest in bonds.

Structured products were not a popular investment in the portfolio of participants. This kind of investment finds no place in the female's portfolio and just 10% of men selected it. In this case, a Chi-square test is not appropriate. Structured products are considered a relatively new investment category held most by institutional clients and private investors, seldom by commercial clients. Switzerland's central bank (SNB) states that as of September 2011, structured products only accounted for 4.8% of the investment total managed in Switzerland.



7. Conclusions

On the whole, the paper shows gender differences in financial behavior. Hypotheses, which were tested in the context of the survey, were based on findings from research in gender and finance. The presented evidence is built on the survey results and addresses our sample. We tested six hypotheses in our experiment.

H1 There is a significant difference in knowledge in the stock market among men and women: not valid.

More women than men reported to have no knowledge in the stock market. However, the difference between men and women among this dimension is considered not statistically significant when compared to other levels of knowledge ($p=0.121$)

H2 There is a significant difference between men and women in managing risk: confirmed.

Results are statistically significant ($p=0.084$). A higher percentage of women than men reported not to be prepared to expose their finance to risk. So, women were more conservative in managing risk than men.

H3 There is a significant difference in source of financial information (before making investments decisions) between men and women: confirmed.

Findings confirm this hypothesis: the source of financial information differs among men and women and the result is statistically significant ($p=0.05$). It is observed that women are more likely to look for professional advice before making investment decisions than men. On the other hand, men are more likely to use the internet as a source of financial advice than women.

H4 There is a significant difference in the criteria for investment decisions among men and women: confirmed.

The chi-square test indicates that the finding is significant ($p=0.03$). There is indeed a difference in the criteria for investments decisions according to gender. A higher rate of women than men selected moral & ethical issues as criteria for investments decisions. On the other hand, men gave preference to expected return. Consequently, moral/ethical issues are more likely to be a female criteria and expected return is more likely to concern men.

H5 There is a significant difference in preference for socially responsible investments (SRI) between male and female respondents: confirmed.

Results confirm this hypothesis ($p=0.079$). A higher number of women than men would invest in SRI even if it meant lower returns. This result is relevant and delivers the financial industry important information about a potential female preference: Social Responsible Investments.

H6 There is a significant difference in stocks ownership in the portfolio of men and women: confirmed.

The survey shows that more men than women reported holding stocks in their portfolio and significance is observed ($p=0.078$). Men had a larger preference for stocks than women. Risk tolerance level of individuals could play a role in this case, considering that stocks are one of the riskier investment options.

It would be potentially profitable for the financial industry to explore the distinct approaches women and men have to finance. The consideration of these differences could make services and products more attractive for both genders and would probably mean higher levels of customer satisfaction. For instance, because women seek more financial advice than men, the advisory approach could be better adapted to female needs. Or,



because expected return is less important to women than moral/ethical or risk issues, advisors should offer solutions based on these concerns.

Research has showed that women are more risk averse than men. Risk tolerance is an important issue because it can affect investment decisions, goals and wealth. Considering women tend to be less prepared to accept risk, it would be relevant to understand exactly why women have lower risk tolerance levels. Financial advisors should acknowledge these factors and be prepared to adapt their advisory service. It does not necessarily mean that they should give more conservative advice to women, but more detailed information about financial risk, its advantage and disadvantages.

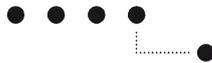
Sustainable development has become important in finance. Lately, topics such as transparency, moral and sustainability of investments have gained momentum. "Only a few years ago, buying sustainable products meant missing out on the market return, but now sustainable investments can compete with traditional products."(Swiss banking 2011). This trend is an attractive option not only for female clients. Here, it is relevant to take into consideration the ethical issues investments should address, considering that results showed that men and women differ in this aspect (a higher percentage of women than men think their investments should address human rights issues, for example). A marketing approach in this direction could be successful.

The specific needs of female clients could not be explored with the data collected in the survey, but some differences according to gender. Further research in this area would be of great importance to assist the financial industry in developing a better approach to their services in times where women play a strong role in financial matters.

While personal finance is definitely important for both genders, a focus on women is important. In order to address women's financial needs, the financial industry should consider the increasing power of women in society described in this paper. They earn more, study more and have better job prospects than in the past²³.

Furthermore, this paper has raised another important topic: fewer women than men participated in the survey, reflecting the underrepresentation of women in business education. Further research is needed to explore this issue.

²³ Nevertheless, gender equality has not yet been achieved and we still face gender differences in many areas.



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