Women are invisible?! A literature survey on gender gap and financial training

Maryam Sholevar and Laurence Harris
SOAS University of London, UK

Abstract
Most of the existing definitions and measurements of financial literacy have been tailored for developed countries. Although financial literacy and financial behaviour are usually assessed at the household level, the gender dimension of household agents is less explored which may overshadow the women’s low level of financial literacy. This paper is a selective systematic review aiming to survey the existing literature on financial training where the focus is on two main issues, namely, financial training and gender disparity in financial literacy. Based on a thorough literature review, we identify research gaps in each of these dimensions. The identified gaps are then used to formulate two promising research ideas. Specifically, the promising research ideas seek to investigate the gender disparity and propose a novel method for financial training.

Keywords
financial literacy, financial inclusion, gender gap, financial behaviours, measuring financial literacy, financial education

Introduction
Inequalities are unfortunately the common characters in all the societies and fighting against them is the unique symbol of the new era. In this sense, the gender difference in access and usage of financial services has become debatable among researchers. Although many efforts have been made to eliminate this inequality, it has not been reduced significantly. Unfortunately, this gap is striking in financially underdeveloped countries, and women are denied education because of socio-economic factors. Some associated this disparity to the lower level of financial literacy among women as compared to men; however, the level of financial literacy is not satisfactory even among men.

The relevance of gender to financial behaviours has been widely discussed in the literature (Fisher, 2010). There is now clear evidence that the level of financial literacy is lower among women than men (Lusardi and Mitchell, 2007a). It is believed that women do not pay enough attention to financial matters, and since they live longer, and their work life is shorter, the
possibility of encountering financial crises is higher. In general, women are less likely to have a plan for the old ages as opposed to men (Lusardi and Mitchell, 2007b). Hence, probing the roots of this difference, in order to eliminate it, is the primary way to secure the financial future of women, especially in underdeveloped countries.

In this context, the first part of this discussion paper is going to review the existing literature on gender inequality in financial literacy and financial behaviours, and its causes. If there is any gap, what is the pragmatic way to close it? How can we improve the level of financial literacy among women? And more importantly, what is financial literacy?

As Sholevar and Harris (2019) defined financial literacy as the awareness and knowledge of exploiting the available financial services from essential financial needs to potential financial inclusion, an effective programme should consider the needs and availability of financial options in every context. They argued that this concept is characterised by the demand and supply sides; awareness and need are related to the demand side, while supply-side encompasses the availability of financial services.

Financial literacy is the main player in making a good financial decision, which not only improves the level of welfare but also has a great impact on economic development. Yet, how can we identify financially literate and illiterate individuals? What kind of programmes are required to improve the process of financial decision making?

After the 2008 financial crisis, concern about the level of financial literacy among consumers has risen, and as a consequence, the number of educational programmes in various forms have been massively increased. Many of these programmes are informational and providing financial information about financial services and products. However, the key question is whether just giving information can change financial behaviours? What is the connection between ‘what to know’ and ‘what to do’? How can financial literacy programmes be more effective? More importantly, could financial literacy be taught? It is evident that a proper education or training with regard to financial matters would be necessary to reduce financial illiteracy.

It seems that financial training could assist with solving this problem; hence, the next section will be focused on financial interventions. Does improving the level of financial literacy have any impact on people’s economic well-being? The following section will discuss the effect of financial training on financial behaviour.

Finally, a conclusive outlook of all concepts is provided as a possible roadmap.

**Gender gap and its drivers**

Financial literacy and financial behaviour have a close relationship; however, this link depending on the time and circumstances would change. As a result, the disparity in the level of financial literacy among different groups of the community could be observed, especially in those with regard to gender.

**Problem statement**

In financially underdeveloped countries, the gender difference is bolder than developed ones, and rules and norms do favour men more as compared to women. The higher life expectancy, shorter working-life and rapid changes in the financial markets have made women more vulnerable as compared with men. Furthermore, the role of making financial decisions are normally played by men rather than women, which widened the gender gap in financial literacy. Notwithstanding, inequality in provided resources for financial literacy is the main cause of the gender gap. Finding
a solution to facilitate women’s access to financial services and enhance their financial knowledge could improve financial behaviour.

In general, managing money has become a common problem for everyone, considering the complexity and diversity of financial services, especially for women from under-developing countries. Although there are numerous works on financial literacy and its importance in the literature, the function of gender in this field has been neglected or at least has not received the attention this imperative matter requires.

As for financial literacy, many different organisations, through surveying, measured financial literacy around the world. It has been revealed that women are less financially literate as compared to men and they are aware of their scarcity in financial literacy (Bucher-Koenen et al., 2017). To the best of our knowledge, there is no work focusing on the assessment of their willingness to learn more. Lusardi and Mitchell (2011) suggested that age and gender influenced the level of financial knowledge, as women and older generations had lower financial literacy compared to other groups.

There are a few research teams who tried to root out the gender disparity in financial literacy. For example, an American team (Fonseca et al., 2012) used the collected data from the RAND American life panel and tried to explain the gender gap in financial literacy through the Blinder–Oaxaca (B-O) decomposition method. They argued that the channel in which women absorbed financial literacy had more effect on the gender gap in comparison with an individual’s traits. For instance, financial decision-making in the household could increase the level of financial literacy for men; nonetheless, there is no such certainty in the case of women. The way that they tried to explain the gender gap and its causes was novel and innovative; yet, in the argument, the assumption of homoskedasticity was not maintained.

**Roots of gender disparity in financial literacy**

Lusardi et al. (2017) showed that the root of differences in the level of financial literacy was related to its benefits, which varied from person to person and is influenced by gender. Typically, women in developing or even developed countries suffer from inequality in provided resources for financial literacy because of different stereotypes and beliefs (Driva et al., 2016). For the social and political factors, Cupák et al. (2018) decomposed the gender gap in financial literacy in 12 countries to determine its drivers.

They applied the revised version of B-O counterfactual decomposition method (Blinder, 1973; Oaxaca, 1973) to more than 12,000 observations from OECD/INFE (Organisation for Economic Co-operation and Development/International Network for Financial Education, 2011) survey of adult financial literacy competencies. This method, which previously was practised by Fonseca et al. (2012) to assess gender disparity in financial literacy, disintegrated this gap into two parts: explainable part and unexplainable one.

Their results implied that around 70% of the gap in their data was related to the unexplainable part, which could be associated with social and economic factors. For example, in the more developed countries, the gender gap was more extensive as compared to previously communist countries, which pointed at the social and political structure of the country. The explainable part was related to personal characteristics such as education, age and level of income. Although they enhanced the B-O method of the decomposing gender gap, due to the different sub-samples and variances, comparing the coefficients is not straightforward.

As for the context of the research, it is a well-known fact that there is fewer empirical data focusing on women from developing or underdeveloped countries. While there are recent works in the literature recording the lack of financial knowledge among women and gender gap, most of them are at the cross-country level or evaluated gender disparity in the affluent countries. There are
a few studies on socio-economic factors which cause inequality in financial literacy and access/usage of financial services within a country. Mainstreaming tribals through financial literacy by Nanda and Samanta (2018) is a good example. They reviewed the available literature and concluded that mismanaging money was the result of financial illiteracy and social exclusion.

In 2011, Mastercard Worldwide surveyed an index of financial literacy for women in 24 countries from Asia, the Middle East, North Africa and Sub-Saharan Africa. Their results revealed the level of income was not necessarily related to the level of financial literacy. For instance, women from Thailand (i.e. a developing country) had a higher level of financial literacy as compared to Korean females (i.e. a developed country). Regarding the financial access/usage, they reported that women and men from Middle East markets had relatively equal financial literacy, except for Saudi Arabia where women scored higher than men in money management and planning. In Africa, although women scored less than men, they were more or less similar in terms of financial literacy.

Considering the fact that men hold more power than women in the group-based social hierarchies (Sidanius and Pratto, 2001) and recognising that power is gendered (Pratto et al., 2011), women would inevitably suffer from inequality. The longer life expectancy, shorter employment period, and lower income or benefits (Weir and Willis, 2000) made women more vulnerable to have financial difficulties. In this context, a group of researchers from the University of Southern California (Zissimopoulos et al., 2008) stated that marital status had a significant impact on economic well-being by using the data from the RAND American life panel. They showed that unmarried, especially divorced women, had considerably lower capital as compared to married couples and unmarried men.

Allen et al. (2016) in their work confirmed that those poor women who lived in remote areas were more likely to be excluded from financial services. Ghosh and Vinod (2017) found similar evidence which attested women were more vulnerable to be excluded. Behrman et al. (2012) probed the relationship between financial literacy and wealth accumulation. They implied that investments in financial literacy probably would increase the level of economic well-being. Bulte et al. (2016) presented similar results and showed that the business training for females had a significant effect on their inclusiveness and promoted entrepreneurship among them and increased the profits.

**New perspective on gender gap**

Let us review a typical but real example, namely Asrate, an Ethiopian street seller. She supplies local people with fresh fruits and vegetables. Although barely literate, she fairly keeps an accurate account of her customers in a very accurate way. She does not have a mortgage or a complicated pension, yet she has her saving account and transfers money to her son in another country every month through a financial company named Western Union. Asrate’s situation is not uncommon in Jimma. Even in the presence of the male head of household, women like her are often the sole breadwinners. But as Asrate’s example, and that of the many other women like her, indicates, the level of financial literacy in Jimma may not be as bad as it perceived. Studies have recorded that in financially underdeveloped counties, the gender difference is more acute.

The financial rules and norms in underdeveloped and developing countries often favour men. The higher life expectancy, shorter working-life and rapid changes in the financial markets make women more vulnerable. Men typically make financial decisions, which widens the gender gap in financial literacy. The key point is that inequality begins from the availability and accessibility of resources for financial literacy. Therefore, a solution to facilitate women’s access to financial services and enhance their financial knowledge can pragmatically strengthen financial behaviour. For this purpose, the presence of detailed information on financial literacy and financial behaviour of women is essential.
Despite the existence of big data on financial inclusion and financial literacy, the absence of relevant data on women is exhibited; even in the case of existence, the impact of gender would be slipped away from the key findings in the final report. In the latest report on financial capability in the United Kingdom (https://www.fincap.org.uk/en/articles/levels-uk), which covers some data on financial literacy as well, the only gender-based provided data in the final report is related to the budgeting behaviour which demonstrated women are more conscious about the account balance than men. Unfortunately, the impact of gender on financial well-being has been neglected in this report.

As for studies concentrated on gender and its impact on financial literacy and financial behaviour, two distinct approaches were observed: measuring inequality in financial literacy and assessing the risk-taking tendency. The outcomes of those from the first category revealed that the level of financial literacy of women is lower than that of men (Lusardi and Mitchell, 2009), and those on the second group showed women have less tendency to involve in risky financial behaviour. The former was not only documented in several studies by well-known scholars (Lusardi and Mitchell, 2008; Lusardi and Mitchell, 2011; Lusardi and Mitchell, 2014; Agnew et al., 2018; Almenberg and Dreber, 2015; Bannier and Neubert, 2016; Hung et al., 2012), but also its drivers were determined through surveys mostly. There were other researchers who applied other methods such as the Oaxaca–Blinder decomposition technique (Cupák et al., 2018; Fonseca et al., 2012). The risk aversion behaviour in women was also studied widely since it has immediate relevance for many economic matters (Charness and Gneezy, 2012).

In 2015, Global Financial Literacy Excellence Center (GFLEC) published the results of the Standard & Poor’s (S&P) Ratings Services Global Financial Literacy Survey which illustrated a positive disparity in Mexico, Japan, the United Kingdom and South Africa. This phenomenon in Mexico was the result of increased access to formal financial services, which was gender-oriented. Between 2012 and 2018, the gender difference in access to financial service declined, and the proportion of adult women with access grew 2% more than that of the men during the same period (Andrade and Buvinic, 2019).

Results from S&P (GFLEC, 2015) and Findex 2014 (Demirguc-Kunt, 2015) illustrated that Japanese women had a higher level of financial literacy and saving accounts compared to Japanese men. In 2016, the Central Council for Financial Services Information conducted the second round of financial literacy survey of 25,000 individuals. There was a 14% gender gap with regard to financial literacy, and women exhibited a higher level of loss aversion, which resulted in lower investment behaviour. Kadoya and Khan (2017) used this dataset to demonstrate that although men have a higher level of financial literacy and financial knowledge, women are better decision-makers with regard to financial matters.

Concerning the access to financial services, the global Findex reported a higher percentage of the account ownership and saving in financial institutions for Japanese women between 2011 and 2014, in comparison with men. In 2017, the figure for the account ownership in financial institutions was 98% for both men and women, but men saved 3% more than women. From 2011 to 2017, men always exhibited a lower rate of owning a debit card in this country.

Although in the S&P report (GFLEC, 2015) British women had a higher level of financial literacy, in the finding from the analysis of the 2018 financial capability survey of British adults (Centre for Financial Capability in the UK, 2019), women were characterised by a lower level of financial numeracy and financial confidence, less tendency for securing the old age, and less interested in getting financial advice. Notwithstanding, the level of engagement with money and spending self-control were higher among women which led to wiser financial behaviour such as keeping track, managing credit use, and adjusting spending; all of these would increase financial resilience in the long term. Hence, similar to Japan, female residents of the United Kingdom are savvier with
regard to financial behaviour. The outcomes from the financial literacy assessment conducted by OECD in 2012 and 2016 manifested a huge gap in financial knowledge among men and women.

As for South Africa, the OECD’s financial literacy reports from 2012 (Atkinson and Messy, 2011) recorded a weak gender effect on financial literacy in South Africa. However, the second round in 2016 displayed a 6% difference between men and women. It is striking that women scored higher in financial attitude. Nanziri and Olckers (2019), by analysing the results of the National Income Dynamics Study (NIDS) survey, stated that there is no gender gap with regard to financial literacy in South Africa.

In Japan, the United Kingdom and South Africa, the portion of women who received public pension was more substantial than men according to Findex 2017 (Demirguc-Kunt, 2018). Acknowledging all facts, it is fair to say the root of gender disparity is more related to nurture rather than nature. In this context, Filipiak and Walle (2015) proved that in matrilineal (female-dominated) states of India where women are in charge of making financial decisions, there is no disparity with regard to financial literacy. The interesting point about this research is paying attention to the value system of different cultures in a country and comparing the results from matrilineal regions with patriarchal ones in India. This comparison showed there is a huge gender gap in financial literacy in the more male-dominant regions. In line with this work and based on the social-cognitive theory of gender development, Agnew et al. (2018) noticed that different financial socialisation at home is the probable reason behind the gender gap, and the family structure plays an important role in nurturing financial skills.

Hung et al. (2012) suggested that the gender gap in financial literacy staged major problems for social balance. If the human capital is considered as the primary input for social and economic growth, the participation of women will accelerate this process. Because of a significant increase in the number of educated women and changing patterns in their social position, paying attention to their social and economic rights as active members of society is of utmost importance. In these circumstances, the emerging financial markets could be viewed as a place to provide fair opportunities for women to engage in economic and social activities equally.

Financial literacy and training

As mentioned before, the level of financial literacy has not been optimised yet, and there should be a way to enhance it in order to improve the level of financial literacy and make a sound financial decision. One possible solution could be financial training. Hence, a considerable amount of money is invested in financial training and enhancing the level of financial literacy. Nonetheless, awareness is not satisfactory to exploit the available services. As a result, making the wrong financial decision is prevalent among people, and women are more at the risk of financial problems because of the disparity in financial inclusion and awareness. Furthermore, in the underdeveloped and developing countries, although women are mostly responsible for managing the family finance, they are underprivileged with regard to financial education and training.

Financial training is more efficient when it is mixed with daily life. Using financial services such as electricity payment through mobile money could be one way to facilitate paying the electricity bill for households in a remote area. Yet, does enhancing the level of financial literacy have any impact on people’s economic well-being? This part will investigate the effect of financial training on financial behaviour.

Importance of financial training

There is a common agreement among scholars and policymakers that financial literacy is one of the main components of financial well-being; hence, increasing the level of financial literacy would
improve financial wellness. According to Brascoupe et al. (2013), ‘in order to be financially well, one must be healthy, happy, secure and free from worry of financial matters’. In their literature review of indigenous financial literacy, Brascoupe et al. (2013) stated that financial wellness is composed of two group factors, namely, education/policy factors and motivation factors. The former included financial literacy, financial inclusion and income security, and the latter encompassed financial behaviour and financial attitude.

Despite the existence of a broad range of works in the literature on financial training, results are uncertain. Some empirical studies (Bernheim and Garrett, 2003) suggested that attending the training programme could improve the quality of financial decisions. Cole et al. (2012) found little evidence for the efficiency of the financial training programme in Indonesia, and Mullainathan and Shafir (2009) reported mixed results.

Concerning the impact of financial training on economic outcomes, there are mixed results, and there are many debates on whether these types of programmes are convenient. In their review of the existing literature up to 2013, Hastings et al. (2013) argued that the current literature was lacking to give guidance on designing the most efficient and cost-effective financial training. They suggested that the best way for evaluating the impact of financial training on financial literacy and economic outcomes is to pair randomised control trials and measures of financial literacy.

The common goal of all researchers in this field is to find a way for helping individuals to take healthier financial actions in order to create a financially secured future. Understanding the way individuals’ function around financial decisions should be the centre of designing financial training programmes. The key question here is, what are the characteristics of these types of training? Can a financial education course in high school serve the purpose? Should the dimension of gender be considered or not? What are the preferred sources of financial knowledge? Following parts would answer these questions.

**The impact of financial training**

Many experimental studies showed that family and friends were the first choices for getting information to make a financial decision (Bernheim, 1998; Lusardi, 2007; Lusardi and Mitchell, 2014; Van Rooij et al., 2011). Hilgert et al. (2003) used the University of Michigan’s monthly Surveys of Consumers conducted in November and December 2001 to investigate the link between financial knowledge and behaviour. They found that the most favoured and useful source of learning about money management was the media. They emphasised on the concept of ‘teachable moment’, which refers to the time when the attendee of an educational programme has a chance to instantly apply the absorbed information (Miller et al., 2015). In fact, practical methods of education, such as video game or radio, are more effective as compared to a formal course (Spader et al., 2009).

Overall, learning without practising the acquired knowledge is inefficient. Due to this fact, a researcher from South Africa (Tustin, 2010) put the locus of the study on the mechanism of turning knowledge into the actions. Tustin investigated the impact of financial literacy on saving behaviour in the rural area. That study suggested that training could improve saving, as deduced after measuring the difference between the control and treatment group. Similarly, with a more substantial sample in Mexico, Bruhn et al. (2013) confirmed that short training could have a positive short-term impact on saving behaviours.

Afterwards, Kaiser and Menkhoff (2017) reviewed 126 studies with regard to the impact of financial education on financial behaviours and concluded that financial education has a positive impact on financial literacy and financial behaviour. Still, this impact is different for various financial behaviours; for example, improving saving behaviour was more natural than that of borrowing. Furthermore, the level of income influences the effectiveness of financial education, and the
characteristics of the educational programme such as the nature of the programme (mandatory or voluntary), intensity, or considering the teachable moment influenced the outcome.

If the role of financial literacy is recognised in improving financial behaviours, planning a programme in order to enhance financial literacy should be the next step. Furthermore, since the financial world is subject to constant changes, the boundaries of financial literacy should be adjusted. Consequently, the necessity of constant education and training is evident though authors acknowledge that it is difficult to achieve.

Yet, how can we turn the theory into the practice? Jean Lave (1988), in the introduction of her book, mentioned that there is a gap between everyday life and academic perspective. As a consequence, what can be learnt in schools or universities or any principle-based systems might be subject to forgetfulness if there is no immediate use. Thus, focusing on the ‘teachable moment’ could improve the outcome.

Paying attention to the teachable moment is one part of the plan to resolve the problem of the discontinuity between the academic world and the real world. Nonetheless, the sources in which financial literacy is acquired have their roles to play. In general, family and friends are the first choices for making a financial decision (Bernheim, 1998; Lusardi and Mitchell, 2014; Van Rooij et al., 2011), and media and social networks are the most favoured and useful source of learning about money management (Hilgert et al., 2003). Thus, social interaction is of higher importance due to its role in diffusing knowledge.

**Mechanism and structure**

Turning from studies on the benefit of financial training to the structure of these programmes, the question of how to design them properly arises. At this point, it became clear that even in designing financial training programmes, there are different and sometimes controversial attitudes. Generally, researches on the financial literacy and financial training or financial education tried to estimate and measure the level of financial literacy, yet standardising the results was a tricky task. In measuring the impact of these training programmes, it is noteworthy that they vary for the duration and goals. Therefore, comparing the results might not give an accurate conclusion.

In a recent study, Carpena and Zia (2018) worked on the causal mechanism of financial education and found out that the level of complexity of financial practice plays a critical role in the causal mechanism of financial education. In their previous study (Carpena et al., 2017), they emphasised on ATE (average treatment effect), and reasoned financial education alone would not significantly improve financial behaviours. Thus, they applied three different treatments in order to investigate the channel in which financial education would improve financial practices. They concluded that financial literacy programmes have no impact on numeracy, but the level of awareness and attitude notably would improve. They also marked that numeracy has no impact on the household’s financial practices, but awareness and attitude mediate the treatment effect on financial practices.

Therefore, the structure and complexity of the programmes which aim to improve the level of economic welfare should be harmonised with the needs of individuals and circumstances. Drexler et al. (2014) assessed the effect of two different training programmes on financial practices of microentrepreneurs from the Dominican Republic by applying the randomised control trial. The treatment group received different financial training programmes, including standard accounting course and the rule-of-thumb training, which varied in structure and complexity. Their results revealed that the standard accounting course had no significant impact on economic behaviours, while the rule of thumb training with more straightforward rules and concepts to follow remarkably improved the financial management skills of its participants.

To improve the financial training programmes, Xu and Zia (2012) provided a few suggestions such as considering social interactions and peer learning to boost the training programmes, putting
more emphasis on vulnerable groups such as women and the older generations, implementing other interventions to improve the efficiency of the programme, designing programme based on the available financial services and counting motivation as the main element.

There were other studies which focused on additional factors such as programme providers/presenters, the duration, neurological/psychological aspects and so forth. For instance, Berge et al. (2014), in Tanzania, implemented business training for local entrepreneurs to compare the effect of internal training and an external one. They stated that participants in the external training programme were more satisfied and showed more financial skills in comparison with those who attended the internal training programme.

For the factor of duration, Field et al. (2010) documented insignificant changes in financial behaviours from traditional classroom education. On the contrary, Drexler et al. (2014) argued that a heuristic approach to finance is more effective than teaching financial literacy. Rule of Thumb (RoT) is based on the heuristic approach which is composed of problem-solving, learning and logical thinking (Nyhus and Webley, 2006).

RoT financial education interventions are trending due to the fact that they are light, more convenient and purpose-oriented. These kinds of training programmes could show results in the short term (Drexler et al., 2014); hence they are less time-consuming compared to other interventions.

**Women and financial training**

With regard to financial and business training for women, it is interesting to note that social restrictions would prevent their entrepreneurship activities (Field et al., 2010). Even if women could defeat all barriers to become entrepreneurs, they benefit less from business training when compared with male entrepreneurs (Berge et al., 2014).

However, such conclusions did not discourage other researchers. A recent study by Bhutoria and Vignoles (2018) on women from poor households showed that even a relatively low-cost financial programme could impact financial behaviours. They chose one-day training over the more expensive traditional classroom interventions. By applying the randomised control trial, Bhutoria and Vignoles reported some positive changes in financial behaviours of the control group. Although the results presented some positive effect on saving and some budgeting behaviours, due to the special structure of the programme, women’s interest in financial matters did not change. Attaining a considerable sample (1281 individuals) and the ability to reach individuals added to the reliability of their results and increased the generalisability of them. In the end, they concluded training based on behavioural economic such as RoT interventions have a higher rate of success compared to principle-based ones.

Concerning the impact of social training on women empowerment, Bulte et al. (2018) tried to measure the impact of gender and business training on income hiding in order to overcome poverty and raise welfare among Vietnamese women. They applied a randomised controlled trial to study how training could change the bargaining position of women in households. Authors documented the positive effect of the intervention on gender equality. They stated these types of training could encourage women to hide their income in order to improve their role in decision making. But on the downside, the results could discourage nongovernmental organisations (NGOs) who attempt to improve the level of welfare among rural women by training.

**Tailoring the training for the audiences**

To sum it up, an effective training programme could be characterised as practical, gender-oriented and rewarding, which present in the teachable moment. A programme of this kind could satisfy
financial needs. Based on the definition proposed by Sholevar and Harris (2019), financial literacy and financial inclusion have a close relationship, hence financial literacy covers the awareness of needs and availability of services and also abilities and skills to use these services. In other words, awareness links financial literacy to financial inclusion; therefore, it is fair to say that an increase in awareness would result in knowledge-based decision making and change in financial behaviours. Moreover, this change would have a spill-over effect, and financial knowledge would spread beyond the target group.

**Final remarks**

Based on experimental results from previous works, it appeared that women suffer from a lower level of financial literacy. Different factors such as cultural barriers and policy demarche cause a disparity in financial literacy and limited access to and usage of financial services among women. The common perception, which underestimates women’s skills and abilities, might change if the financial needs and availability of services are considered.

Even if there is a gender gap, financial training could be a way out in order to close it, though designing an effective programme is still challenging. In designing a financial training programme, paying attention to the financial needs and available services is of utmost importance. The definition proposed by Sholevar and Harris (2019) is well matched with the basic concepts of RoT, which focuses on accessible financial services to meet the present financial needs. RoT is, in general, favourable because of its light, low-cost and motivative nature.

**Possible approaches for closing the gap**

The first move to hinder inequality is promoting accessibility of financial services by

- Collecting gender data
- Enabling rules and policies
- Expanding and facilitating access to and usage of Fintech such as mobile money
- Advancing gender-oriented services such as women pensions
- Supporting the neutralising movements (moving from patriarchal culture towards matrilineal)
- Running women empowerment programmes such as business and entrepreneurship training
- Offering gender-sensitive education
- Repeated surveys to identify changes and promote positive ones.

**Declaration of conflicting interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

**Funding**

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Maryam Sholevar would like to thank AXA Research Fund for her PhD scholarship.

**ORCID iD**

Maryam Sholevar (ID) https://orcid.org/0000-0002-2078-9817
References

Agnew S, Maras P and Moon A (2018) Gender differences in financial socialization in the home – An exploratory study. *International Journal of Consumer Studies* 42(3): 275–282.

Allen F, Demirguc-Kunt A, Klapper L, et al. (2016) The foundations of financial inclusion: Understanding ownership and use of formal accounts. *Journal of Financial Intermediation* 27: 1–30.

Almenberg J and Dreber A (2015) Gender, stock market participation and financial literacy. *Economics Letters* 137(C): 140–142.

Andrade S and Buvinic M (2019) Mexico proves Bill & Melinda right on gender data. Centre for Global Development. Available at: https://www.cgdev.org/blog/mexico-proves-bill-melinda-right-gender-data (accessed 20 August 2019).

Atkinson A and Messy FA (2011) Assessing financial literacy in 12 countries: An OECD/INFE international pilot exercise. *Journal of Pension Economics & Finance* 10(4): 657–665.

Bannier CE and Neubert M (2016) Gender differences in financial risk taking: The role of financial literacy and risk tolerance. *Economics Letters* 145(C): 130–135.

Behrman JR, Mitchell OS, Soo CK, et al. (2012) How financial literacy affects household wealth accumulation. *American Economic Review* 102(3): 300–304.

Berge LIO, Bjorvatn K and Tungodden B (2014) Human and financial capital for microenterprise development: Evidence from a field and lab experiment. *Management Science* 61(4): 707–722.

Bernheim BD (1998) Financial illiteracy, education, and retirement saving. In: Mitchell OS and Schieber SJ (eds) *Living with Defined Contribution Pensions: Remaking Responsibility for Retirement*. Philadelphia, PA: University of Pennsylvania Press, pp.38–68.

Bernheim BD and Garrett DM (2003) The effects of financial education in the workplace: Evidence from a survey of households. *Journal of Public Economics* 87(7–8): 1487–1519.

Bhutoria A and Vignoles A (2018) Do financial education interventions for women from poor households impact their financial behaviors? Experimental evidence from India. *Journal of Research on Educational Effectiveness* 11(3): 409–432.

Blinder AS (1973) Wage discrimination: Reduced form and structural estimates. *Journal of Human Resources* 8: 436–455.

Brascoupe S, Weatherdon M and Tremblay P (2013) Literature review of indigenous financial literacy in Australia, Canada, New Zealand and the United States. *AFOA CANADA, Building a Community of Professionals*. [Online]. Available at: https://www.afoa.ca/afoadocs/Home%20Page/Full%20AFOA%20International%20Literature%20Review%20Full%20201%20Page%20Report.pdf

Bruhn M, Ibarra GL and McKenzie D (2013) Why is voluntary financial education so unpopular? Experimental evidence from Mexico. *Policy Research Working Paper* no. 6439. Washington, DC: The World Bank.

Bucher-Koenen T, Lusardi A, Alessie R, et al. (2017) How financially literate are women? An overview and new insights. *Journal of Consumer Affairs* 51(2): 255–283.

Bulte E, Lensink R and Vu N (2016) Do gender and business trainings affect business outcomes? Experimental evidence from Vietnam. *Management Science* 63(9): 2885–2902.

Bulte EH, Lensink R and Winkel AB (2018) The impact of a gender and business training on income hiding: An experimental study in Vietnam. *Journal of Economic Behavior & Organization* 148: 241–259.

Carpena F and Zia B (2018) The causal mechanism of financial education: Evidence from mediation analysis. *Policy Research Working Paper* no. 8619. Washington, DC: The World Bank.

Carpena F, Cole S, Shapiro J, et al. (2017) The ABCs of financial education: Experimental evidence on attitudes, behavior, and cognitive biases. *Management Science* 65(1): 346–369.

Centre for Financial Capability in the UK (2019) Financial capability levels in the UK. Available at: https://www.fincap.org.uk/en/articles/levels-uk (accessed 10 August 2019).

Charness G and Gneezy U (2012) Strong evidence for gender differences in risk taking. *Journal of Economic Behavior & Organization* 83: 50–58.

Cole SA, Sampson TA and Zia BH (2012) Valuing financial literacy. In: Cull R, Demirguc-Kunt A and Morduch J (eds) *Banking the World: Empirical Foundations of Financial Inclusion*. MIT Press, Cambridge, MA, pp.415–428.
Lusardi A, Michaud PC and Mitchell OS (2017) Optimal financial knowledge and wealth inequality. *Journal of Political Economy* 125(2): 431–477.

Miller M, Reicheinstein J, Salas C, et al. (2015) Can you help someone become financially capable? A meta-analysis of the literature. *The World Bank Research Observer* 30(2): 220–246.

Mullainathan S and Shafir E (2009) Savings policy and decision-making in low-income households. In: Blank R and Barr M (eds) *Insufficient Funds: Savings, Assets, Credit, and Banking Among Low-Income Households*. New York: Russell Sage, pp.121–146.

Nanda AK and Samanta S (2018) Mainstreaming tribals through financial literacy – A review of the literature. *International Journal of Social Economics* 45(2): 437–444.

Nanziri LE and Olckers M (2019) Financial literacy in South Africa. Available at: http://www.opensaldru.uct.ac.za/handle/11090/957 (accessed 12 June 2019).

Nyhus EK and Webley P (2006) Discounting, self-control, and saving. In: Altman M (ed.) *Handbook of Contemporary Behavioral Economics: Foundations and Developments*. London: M.E. Sharpe, pp.297–325.

Oaxaca R (1973) Male-female wage differentials in urban labour markets. *International Economic Review* 14: 693–709.

Organisation for Economic Co-operation and Development/International Network for Financial Education (2011) Measuring financial literacy: Questionnaire and guidance notes for conducting an internationally comparable survey of financial literacy. [Online pdf]. Available at: http://www.oecd.org/finance/financial-education/49319977.pdf (accessed 5 March 2019).

Pratto F, Lee I, Tan J, et al. (2011) Power basis theory: A psycho-ecological approach to power. In: Dunning D (ed.) *Social Motivation*. New York: Psychology Press, pp.191–222.

Sholevar M and Harris L (2019) Mind the gap: A discussion paper on financial literacy and financial behaviour: Is there any gender gap? Working Paper. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3471257

Sidanius J and Pratto F (2001) Sex and power. In: Sidanius J and Pratto F (eds) *Social Dominance: An Intergroup Theory of Social Hierarchy and Oppression*. New York: Cambridge University Press, pp.263–298.

Spader J, Ratcliffe J, Montoya J, et al. (2009) The bold and the bankable: How the Nuestro Barrio telenovela reaches Latino immigrants with financial education. *Journal of Consumer Affairs* 43(1): 56–79.

Tustin DH (2010) An impact assessment of a prototype financial literacy flagship programme in a rural South African setting. *African Journal of Business Management* 4(9): 1894–1902.

Van Rooij M, Lusardi A and Alessie R (2011) Financial literacy and stock market participation. *Journal of Financial Economics* 101(2): 449–472.

Weir DR and Willis RJ (2000) Prospects for widow poverty. In: Mitchell OS, Hammond PB and Rappaport AM (eds) *Forecasting Retirement Needs and Retirement Wealth*. Pennsylvania, PA: University of Pennsylvania Press, pp.208–234.

Xu L and Zia B (2012) Financial literacy around the world: An overview of the evidence with practical suggestions for the way forward. Policy Research Working Paper no. 6107. Washington, DC: The World Bank.

Zissimopoulos JM, Karney B and Rauer A (2008) *Marital histories and economic well-being*. Michigan Retirement Research Center Research Paper no. WP180. Ann Arbor, MI: University Michigan.