Does Female Secondary Stipend Programme Effect on Women's Autonomous Decision-making in Bangladesh?

BY

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ABSTRACT

The study investigates the effects of the Female Secondary Stipend Programme on women's autonomous decision-making in households. Improving female enrollment in secondary education is a key objective of the programme which subsequently focuses on women's empowerment, upbringing their status, and decision-making notion. In my thesis, I attempt to examine how women who were exposed to the programme have impacts on their decision-making domain compared to those who were not exposed to the programme as this programme created an exogenous variation in the education. It might affect not only women's education level but also labor force participation, fertility, etc. Using the Bangladesh Demographic and Health Survey (BDHS), I apply difference-in-difference estimator. The result shows the significant positive effects of the stipend programme on women's autonomy in spending their own money, however the effect is higher for older cohorts than the younger cohorts. For the other decision-making domains, the findings are positive but not significant. Based on the result, as an important step to improve women' s autonomy in decision-making, ensuring education is an important aspect but not sufficient. Therefore, measures such as introducing leadership facilities, female role model, community engagement, and non-formal education might help in improving the value of women's autonomy in decision-making in households.

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LIST OF ABBREVIATIONS

- **ADB**: The Asian Development Bank
- **BACE**: Bangladesh Association for Community Education
- **BDHS**: Bangladesh Demographic and Health Survey
- **CCTs**: Conditional Cash Transfers
- **DiD**: Difference-in-Difference
- **FSP**: Female Secondary Stipend Programme
- **FSSAP**: Female Secondary School Assistance
- **GoB**: The government of Bangladesh
- **NORAD**: Norwegian Agency for Development Cooperation
- **OLS**: Ordinary Least Square

CHAPTER 1

INTRODUCTION

Women's autonomy in the decision-making domain in intrahousehold has been studied to understand women's participation at the micro and the macro level. It plays significant role in women's empowerment and gender equality, which was further underscored in the third Millennium Development Goals (MDGs)[1] and the fifth Sustainable Development Goals (SDGs)[2] (The United Nations, 2015). These global goals have been pushing many countries to meet certain targets in a given timeframe-which are reviewed in several development indicators. One such target is gender parity in primary and secondary schools, particularly in developing nations like Bangladesh, which has been obtained progressively[3]. Even though we focus on female education more, yet women's voices or active participation as a part of decision-making that starts at the family is overlooked.

The women's autonomy is a wide phenomenon that varies across the context and time. Dyson and Moore (1983) described autonomy as the ability to attain information and to use it for deciding own affairs (p. 45). But how it is objectified is mostly associated and framed by cultural, social, religious, and gender norms (Meurs & Ismaylov, 2019; Arends-Kuenning & Amin, 2001; Agarwal, 1997). Women's choices are limited by norms and conditions which have been normalized and favoring men over women (Arends-Kuenning & Amin, 2001). Even in a country there are found to have regional variation as well as urban versus rural (Dyson & Moore, 1983; Acharya et al., 2010). Arends-Kuenning and Amin (2001) state that "Women's

[1] "Goal 3: Promote gender equality and empower women"
[2] "Goal 5: Achieve gender equality and empower all women and girls"
[3] UNDP Bangladesh. (2015)

education in the villages has not had much impact on the capability to have control over one's environment" (p.132).

To date, women are lagging in multiple aspects. For instance, the United Nations Women Annual Report 2019 shows that women must obey their husband by laws in 19 countries, while in developing countries one-third of married women have a mere control over their healthcare (The UN Women, 2019). These constraints hamper women's right and subordinating them for many opportunities. Perception in Bangladesh towards women are mostly dominated with masculine views (Karim et. al, 2018). For instance, having an educated woman as a partner or wife supports a man to have a better social status, managing the household, and raising children. Interestingly, many families intend to provide education for girls to have a higher value in the marriage market (Arends-Kuenning and Amin, 2001).

In order to increase women's participation, bargaining power, and autonomy oftentimes affirmative actions are taken which may influence their decision-making domain. As refereed by Arends-Kuenning and Amin "Bargaining is affected by what Sen calls a person's break down position, perceived interest response, and perceived contribution. Education affects all three of these determinants of bargaining power." (2001, p.136). For such accomplishment, institutional changes are considered more suitable to implement which includes the target group directly under the benefits. As a result, other social and cultural norms might change since over time peoples' preference, perception, and perspective evolve.

To improve women's involvement in social and political aspects, policymakers have been focusing on different dimensions. For instance, gender quotas in a job, women's reservation seats in parliament, additional subsidies for female education and maternal health, etc. Typically, education has been used as an instrument to lift female participation which further

influences their personal and work-life in a direct or indirect means. In fact, education, income, and health are widely discussed to understand their status.

1.1 Rationale of the Study

As such, education policies at the primary and secondary level, particularly focusing female, are largely implemented in Bangladesh. The Government of Bangladesh (GoB) rollout the Female Secondary Stipend Programme (FSP) nationwide in 1994 mainly to increase the female enrollment and retention rate targeting the rural area which is lacking behind from urban (elaborated in Chapter 4). The other objectives subsequently added, for example, fertility rate control through delaying marriage, employment/income, enhanced status, decision-making, empowerment (Schurmann, 2009). The decision-making parameter is listed in the years 1990 and 2004. Many studies suggest that education is one of the channels in improving women's autonomy (Jejeebhoy and Sathar, 2001; Mason, 1997).

To understand the impacts of the FSP, numerous empirical studies focused on the outcome of enrollment rate, fertility rate, age in marriage, and labor force participation as an effect of higher educational level. Also, studies focused on the urban and rural areas to compare the outcome due to the intervention. The findings are positive which might have supported the programme to continue.

It is obvious to have such an increase in the above-mentioned indicators, but decision-making as a means of women's autonomy in the household is still overlooked when evaluating the programme. In reality, it is hard to measure as many other confounding factors not easy to disentangle. Keeping the positive externalities of education into consideration, it is thought-provoking to understand women's participation at the household level.

As such, the motivation of the study arises for two reasons; firstly, women who were exposed to the programme have more autonomy in household decision-making compared to those who were not as this FSP programme created an exogenous variation in education, income, and others. Secondly, as policy analysis of this study-having the existing objectives in mind, it will suggest further improvements of the programme's priorities in the long-term so that women's capacity of active involvement, interpersonal skills, and values are taken into consideration as a learning tool from the institutional level which may improve the gender roles.

This study will contribute to the body of knowledge, by using the Bangladesh Demographic and Health Survey (BDHS) 2011 to investigate the effects of the Female Secondary Stipend Programme (FSP) on women's autonomous in decision-making[4].

It is based on a secondary dataset; hence the dimensions of women's autonomy are limited as provided by the survey. I use a difference-in-difference estimator to examine the difference between the women who were exposed to the programme with those who were not. The result shows the significant positive effects of the FSP on women's autonomy in spending their own money[5]. For the cohort 1 who were exposed to the stipend for five-years and living in rural (the treatment effect) shows a significant and positive result which is having a 0.101 higher value while decision is made compared to those who were not eligible for the programme with age and division fixed effects. Similarly, the treatment effect for cohort 2- who partially exposed to the programme and living in rural area, shows positive and significant result with a value of 0.145 which means having 0.145 higher autonomy compared to those who were not exposed to

[4] Five types of household decision making: spending own money, own health care, making major household purchases, visits to her family or relatives, and using contraception.
[5] The outcome variable decision-making domain is a scale of 1 to 3 (1=if decides by husband/other, 2=jointly decided, 3=by respondent's alone)

the programme. For other decision-making domains the results showed positive but not significant.

1.2 The Overview of the Study

This paper is organized with an overview of the literature related to this topic in next Chapter 2, followed by Chapter 3 which presents a short country overview for providing the context to the readers and the details about the FSP in Chapter 4. Chapter 5 presents the data and method to describe the variables of interest with summary statistics. In Chapter 6, I will specify the identification specification, assumptions, and empirical strategy. In Chapter 7, I will present the results and discuss the findings and limitations. In the subsequent Chapter 8, I will provide the possible policy recommendations and concluding remarks of this study.

CHAPTER 2

LITERATURE REVIEW

As like the FSP, many developing countries have introduced subsidies mostly the conditional cash transfers (CCTs) for education. Countries like Colombia, Mexico, and Pakistan introduced such CCTs intervention in multiple forms for instance education voucher, free tuition, or particularly facility for low income group, minority, or girls which found to have positive impact on the education and other outcomes (Alam, Baez, & Caprio, 2011; Angrist, Bettinger, & Kremer, 2006; Behrman, Parker, & Todd, 2005). For instance, Programa de Ampliación de Cobertura de la Educación Secundaria (PACES), which is a voucher in secondary school in Colombia has found to have a positive long-term economic return and similar effect of the Mexican *Progresa* (Angrist et al., 2006; Schultz, 2004). Such interventions, therefore, have become widespread in Latin American and South Asia to meet the global targets in different aspects especially girls and women.

The Female Stipend Programme and its impact has been widely established in the literature. Most of the findings are related to education attainment, fertility rate, income or labor force participation, maternal and child health as an effect of the policy intervention (Khandker, S., Pitt, M., & Fuwa, N., 2003; Ullah, 2013; Shamsuddin, 2015). However, there are few literatures which discussed the women's autonomy in a selected decision-making domain in household as an effect of education as an exogenous variation of the FSP. Therefore, on the one hand I covered some studies which examined the impact of the FSP on completing education and labor force participation, on the other hand some studies on women's decision-making autonomy related to education and socio-economic context.

Extensive literatures are found on the increase of women's education attainment due to the FSP. The results vary across studies due to sample selection and method. One of the very first studies which evaluated the net impact of the FSP was by Fuwa (2003) in the article named "The Net Impact of the Female Secondary School Stipend Programme in Bangladesh". The study utilized the project-level Management and Information System (MIS) data from World Bank between 1994 and 1998 as well as nationwide school-level data between 1961 and 1997 to examine the female enrollment rates in secondary school. The panel data provided the information of the student enrollment by gender, class, and school facilities. Still the data set lacks information of other indicators which may affects the enrollments. Nevertheless, the empirical study controlled for unobserved school specific and *thana*[6] specific affect over time through using fixed-effect models. The estimated result showed that on average the female enrollment increased 2 percent above the usual trend rate before the stipend programme launched. Additionally, result also showed that the male enrollment had a significant negative impact (-3%) of the programme. They also included statistical information of a higher drop-out rate for female compared to male across the class with a highest 24% while transition from the class 9 to 10 for female and 18% for male without any further analysis on finding causal relationship. Yet, the nation-wide data helped to predict the trendline that revealed a 10% increase in female enrollment, and a 1% increase among male students even without the programme impact. Given the contribution of the study, however it is not possible to have a causal inference of the programme on enrollment rate since it lacks on controlling the groups who received the stipend and those who did not. Moreover, it only focused on a short period (1994-1998) which might have some effects from early pilot stipend programme started in 1982.

[6] The smallest administrative unit in Bangladesh

Later, Hong and Sarr (2012) evaluated for the first time the long-term impacts of the Free Tuition policy of the 1990 and the 1994 Female Secondary School Assistance (FSSAP) programme particularly on education attainment, age of marriage, and labor force participation. The study used the Bangladesh Demographic and Health Survey (BDHS) of the year 2007 which include information about the education level, age, residents place, year of birth, employment, household characteristics, and other socio-economic indicators. Using difference-in-difference (DiD) method and separating the treatment and control group based on residence type (urban vs. rural) and year of birth, they estimated that women's education increases by 1.6 to 2 years due to the introduction of the Female Secondary Stipend Programme, while the Free Tuition policy did not have any significant impact. Using similar specification strategy and data set[7], Sayeed (2016) added similar findings using Regression Discontinuity (RD) and DiD method. The results showed an increase of female schooling by 0.4 years while using RD method and by 1.1 years when DiD was applied. The results from each study suggests a positive increase of schooling among females due to the intervention of the programme. Again, there might be some overestimation or underestimation due to the age specification of the cohorts.

As a consequence of higher education attainment, more women are likely to be involved with income and economic activity. Hong & Sarr (2012) presented that labor force participation of married women increased between 2.4 and 5.3 percent with at least five years of education. An extensive study was done by Shamsuddin (2015) using cross-sectional Household and Expenditure Surveys (HIES) data set for four waves from 1995 to 2010. By applying DiD frameworks with similar identification strategy, but considering longer duration of the stipend programme since 1982 which minimize the estimation bias. The result illustrated that labor

[7] Sayeed (2016) includes three waves od Survey from 1993-94, 1999-2000, 2011

force participation increased by 2.2 to 6.6 percentage points due to the programme which increased the schooling year among females. However, the author found that, though education increased the supply of skilled female labor, it decreased the earning by around 5.8 to 17 percent.

In regard to women's autonomy, there is still lack of study to investigate the causal effect of education on the women's decision-making due to the stipend programme. There is one recent study which explored the causal impact of the programme similar to previous case with additional contribution on women's autonomy by Hahn, Nuzhat, and Yang (2018b) titled "The effect of female education on marital match and child health in Bangladesh". Again, they utilized the BDHS data set for three waves from 2007 to 2014. By applying DiD method and similar identification strategy, they estimated the impacts of the FSP on education. The result revealed that schooling increased for 0.55 to 1.23 years for the women who were exposed to the programme than those were not. Next, they applied 2SLS method using the Female Secondary School Stipend Programme as an instrument variable for education. The survey contains information in decision-making in few household domains[8]. They found that with a higher education level, women's independent decision-making regarding own health increases by 2.4 percentage points, while in purchasing goods it increases by 1.2, and for visiting relatives it rises by 2 percentage points. The results also indicated that women with higher education level are more likely to take measurable actions for contraception which might indicate their empowerment. The results also include one aspect of violence which is whether beating is justified if a wife neglects her children[9] and found to have fewer reports for those with higher

[8] Contraceptive use, own health care, large household purchase, and visiting family and relatives
[9] Hahn et al., 2018b, p. 929-930

education. A similar study titled "Education, marriage, and fertility: Long-term evidence from a female stipend programme in Bangladesh" conducted in 2018 by Hahn et al. also revealed similar findings. They particularly showed that the girls who were eligible for the stipend had more autonomy in the labor market outcomes for instance they are more likely to work in the formal sector than in informal sector or in agriculture.

Given the empirical literature, there has not been much focus on women's decision-making as a result of higher education by exploiting the FSP as exogenous variation. One of the reasons could be that it was not a direct objective of the programme. The other reasons could be strong social, cultural and gender norms which might not be as affected as education or labor force participation. Therefore, in the following paragraph, I provide some existing literatures which analyzed the women's autonomous decision-making power without any evaluation relating to the stipend programme.

In the global context, most of the literature focused on analyzing the socio-demographic factors to understand the women's autonomy in household. For example, a study in Nepal by Acharya et al. (2010) using DHS survey 2006 found a positive association between women's autonomy in four[10] household domain with age, employment, and number of living children. The study also showed that women living in rural area have less autonomy in those four areas, while rich women have less autonomy in own health care but women with higher education have higher autonomy in own health care than the remaining areas. Another study on Western Guatemala by Becker, Fanseca-Becker, and Schenck-Yglesias (2006) found that in a married household women are likely to under-report their household decision-making power on

[10] Own health care, making major household purchase, making daily household purchase, and visits to her family or relatives

four matters[11] compared to men. They also found that married couple who are educated and earn money, contributed significantly in taking final decisions together than those couple without education or without work. They also stated that "We did not find differentials in reports of women's household decision-making power by urban/rural residence and mother tongue (a proxy for ethnicity)" (p.2324). Another study by Kabeer, Mahmud, and Tasneem (2011) analyzed the factors related to women's decision-making in Bangladesh using 2008 BDHS data set. They showed that some factors are associated with most of the decisions-making measures which are age, marital status, and TV watching, while education, wealth, work have some effects on decision-making . But their result did not reveal any association between decision-making and ownership asset.

[11] "whether or not to buy household items; what to do if a child becomes ill; whether or not to buy medicine for a family member who is ill; what to do if a pregnant woman becomes very ill" (Becker et al.,2006, p. 2313)

CHAPTER 3

COUNTRY OVERVIEW

Bangladesh is in South Asia sharing border with India and Myanmar. From the historical perspective before 1947, Bangladesh was a part of Indian Subcontinent which included present India, Pakistan, and Bangladesh. Until the independence in 1971, it was a part of Pakistan known as East Pakistan. It is one of the densely populated country in the world with 162 million (2019) population living in an area of 1,47,570 square kilometers (World Bank Indicators, 2019).

The Following Table presents a brief summary of Bangladesh's Economy

Table 1
Summary of Bangladesh Economy

Indicator	Amount in USD
GDP (constant 2010 USD)	USD 194.146 Billion, 2018
GDP per capita (constant 2010 USD)	1,203.216, 2018
GDP growth (annual %)	7.86, 2018

Source: World Bank Indicators, 2019

Bangladesh's growth rate has been increasing for last two decades. Given the progress of the economy, it has been projected to graduate from the least developed countries by 2024[12]. Given the status of lower-middle income country, Bangladesh stands top one in South Asia and 50th with a score of 0.727 (0 to 1, 1 stands for parity) among 153 countries according to the latest Global Gender Gap Report 2020. These reflects the average progress in four dimensions-

[12] Rooney, K. (2019)

economic participation and opportunity, education attainment, health and survival, and political empowerment.

Education in Bangladesh:

Bangladesh education system has mainly four level: primary education (class 1 to 5), secondary education (class 6 to 10), higher secondary education (class 11 and 12), and higher education which is bachelor's degrees and beyond. In recent decades, Bangladesh has made remarkable progress in education, especially ensuring gender parity in enrollment. The Global Gender Gap Report 2020 presented that Bangladesh has over 93.7% female enrollment in primary education whereas 91.5% male, in secondary it stands 68.9% and 58.8% for female and male respectively, while only 17% female enroll in tertiary and 24% for male.

The following Figure 1 shows the trend of secondary school enrollment ratio[13] of Bangladesh:

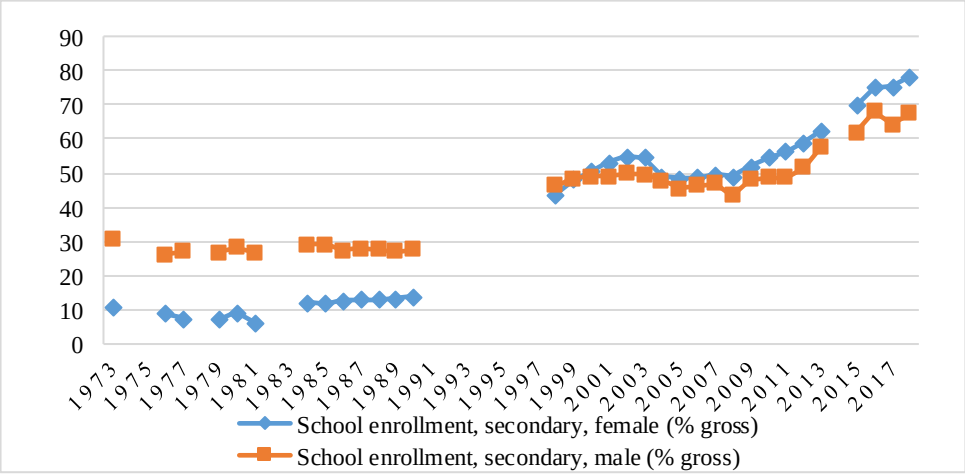

Figure 1: Gross Secondary School Enrollment ratio by Gender from 1973 to 2018

Source: Author's illustration based on World Bank Database 2019

[13] Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education

Overall, enrollment ratio for both male and female have increased. The female enrollment ratio increased from 14 % in 1990 to 78% in 2018, while the male enrollment ratio increased from 24.5% to 67.3% between 1990 to 2018. Over the decades, Bangladesh achieved gender parity in school enrollment. However, female enrollment ration surpassed the male since 1997 which was the opposite before 1991. It is also evidence that at the initial level the FSP helped to achieve gender parity in secondary education enrollment rate, but over the time the female enrollment increased more than male (Fuwa, 2001; Asadullah & Chaudhuty, 2009).

Furthermore, in Bangladesh, almost 90% of the population are Muslim followed by Hindu, Buddhist, and Christian. The religious notion is very much prevalent in the society which hinders girls and women to many extents directly and indirectly in education, marriage, fertility, using contraception which found to have very negatively affected in our findings, as well as husband's predominant behavior at the household. These attitudes go beyond the family matters which reflect in the society especially in the women's equality in exercising their voices and rights. To improve women's position, therefore, the social, cultural, and religious aspects are very important to understand the context of Bangladesh. Transforming the perception towards women, hence take a long time which comes with proper policy advocacy from the macro level.

CHAPTER 4

THE EMALE SECONDARY STIPEND PROGRAMME (FSP)

The government of Bangladesh (GoB) has taken a number of projects to improve girls' education and women's socio-economic participation of which the FSP has been widely implemented and internationally documented due to its high coverage and success of girl's enrollment rate as a part of gender parity. It received a World Bank gold medal for excellence in 2000 (Schurmann, 2009). This section describes the background of the programme, and its objectives and impacts.

4.1 Background of the FSP

In 1982, the Female Secondary School Stipend Project was started and implemented by the Bangladesh Association for Community Education (BACE), a national NGO, as a pilot project at an *upazila*[14] level in Shahrasti and Kaharole and it was supported by the USAID and Asia Foundation (Gibbons, 2018; Sayeed, 2016; Schurmann, 2009). Subsequently, seven more *upazilas* were included by 1992 as the programme cover more schools with funding from the Norwegian Agency for Development Cooperation (NORAD). The pilot project increased the girls' enrollment rate on an average of 7.9 to 14 percent with a decrease in drop-out rates from 14.7 to 3.5 percent (Raynor and Wesson, 2006).

After the success of the pilot project, in 1994, the Female Secondary Stipend Programme (FSP), a nation-wide programme introduced in Bangladesh funded by NORAD, the World Bank and GoB, and Asian Development Bank (ADB) (Schurmann, 2009). At the initial stage, it only covered the students in class six and nine, consequently in

[14] Upazila is the lowest administrative sub-unit of a district. There are 492 Upazilas and 64 districts as of 2020.

1996 it extended to class seven and eight (Schurmann, 2009). To develop the education sector, the programme was implemented in four different segments as follows[15]:

1) The Government of Bangladesh (GoB) funded the FSP in 270 upazilas;
2) The World Bank financed Female Secondary School Assistance Porgramme (FSSAP) in 118 upazilas;
3) The Asian Development Bank (ADB) covered 53 upazilas under the Secondary Education Development Project (SEDP) and the Secondary Education Sector Improvement Project (SESIP);
4) NORAD covered an additional 12 upazilas with a total of 282 upazilas covered.

[15] Adapted from Schurmann (2009) and Mahmud (2003)

The following Table 2 shows the timeline of these programme.

Table 2
Timeline of the FSP

Year	Programme Timeline
1982	FSP piloted in Shahrasti and Kaharole *upazilas* by BACE—supported by USAID and the Asia Foundation
1984	FSP introduced in Chadpur *upazila*
1986	FSP introduced in Haimchur, Baruda, Burichang and Chandina
1990	Free tuition introduced for girls in class 6 -8 in 453 *thanas*
1990	Compulsory and free Primary Education
1992	NORAD takes over funding the FSP—increased coverage to 7 *upazilas*
1994	Nation-wide FSP launched in 453 more *upazilas*, funded by NORAD, the World Bank and GoB, ADB, and GoB for students in class 6 and 9 (grade 10 included in 1995)
1996	The stipend programme extended to girls in class 7 and 8
1997	NORAD takes on another 12 *upazilas*: coverage 282 *upazilas*

Source: Adapted from Shamsuddin (2015) and Schurmann (2009)

The target group was the female students studying between grade 6 to 10 in the rural area covering 460 upazilas and 58 districts out of 64 (Syeeda, 2016). As Khandker et al. reported that "By 1998, 98 percent of all rural secondary schools that enroll girls were part of this program" (2003, p. 6). The conditions for being eligible were to be unmarried until the Secondary School Certificate (SSC), a minimum 75 percent attendance rate of the school year, and a minimum of 45 percent on average score in annual school exams (World Bank, 2002). These conditions remained for the lifetime of the projects (Raynor and Wesson, 2006). Subsequently, the benefit also extended for higher secondary Grades eleven and twelve in June 2002 with limited coverage (Schurmann, 2009; Syeeda, 2016). The amount was progressive as

per the grade level with an additional stipend given to buying books in Grade nine and fees for sitting SSC examination. Table A1 in Appendix presents the monthly stipend and tuition fees under FSP by grade. Irrespective of the several financial funding agencies, the stipend was even across the porgramme (Shamsuddin, 2015).

The project had six main components of which 77 % project cost constituted by the Stipends and Tuition Program (STP)[16]. The STP with a grant of USD 41.8 million was targeted for financing the cost of education. Secondly, the Teacher Enhancement Program with a budget of USD 5.9 million to finance the additional teacher for balancing teacher-student ratio as a rise of enrollment rates as well as to increase the proportion of female teachers with a 10% government quota for women. The third component was the "Occupational Skill Development Program with a fund of USD 5.6 million to assist the girls for self-employment or wage employment. The remaining three components were the "Female Education Awareness Program" (USD 4.7 million), the "Water Supply and Sanitation (WSS) Program" (USD 1.4 million), and the "Institutional Development Program" (USD 20.7 million). All these component's budget was reformed due to higher coverage in 1995 with a higher amount allocated for Stipend and Tuition (USD 68.1 million) than remaining program (total USD 20.3 million). The actual annual cost of the project was USD 85.8 million. Table A2 in the Appendix presents yearly cost and coverage of the programme from year 1994 to 2002.

4.2 Objective of FSP

The initial objective in 1984 of the FSP was aimed at increasing the enrollment rate, retaining the female students, and reducing fertility rate through delay in marriage. These main

[16] World Bank. 2002. *Bangladesh - Second Female Secondary School Assistance Project*. p 2-3

target goals continued for the subsequent extended projects. However, additional aspects were considered in line with socio-economic development.

In line with the previous priorities of increasing girls' enrollment in Grades 6-10 school and retention, the FSP emphasized enabling girls to participate in economic and social development of the country which will enhance their status in decision-making (World Bank, 2002). As completion of SSC examination is a gateway for further educations and a minimum requirement for employment as a schoolteacher, health and family planning workers, or any entry-level government and NGO jobs (World Bank, 2002). Additional goals were increasing the ratio of female teachers in the project-assisted schools, strengthening the infrastructure of the schools, providing occupational skills to prepare the girls for the labour market, upholding public awareness on educating the mass population to understand the benefit of the female education, and additional facilities for the community like sanitation and water supply to engage them in a healthy and safe environment (World Bank, 2002).

Table 3
Priorities of the FSP

Objective	Project dates (most projects are of 5 years' duration)												
	FESP, 1984	FESP, 1990	FESP, 1990	FESP, 1992	FSSAP 1993/1999	NWFSP, 1994	SEDP, 1995	NWFSP, 1994	FSSAP II, 2004	FESP, 2004	SESIP, 2004	FSSP, 2004	HSFSP, 2004
Enrollment	x	x	x	x	x	x	x	x	x	x	x	x	x
Retention	x	x	x	x	x	x	x	x	x	x	x	x	x
Fertility control	x		x	x		x		x		x	x	x	x
Delayed marriage		x				x		x					x
Employment/income		x	x		x	x		x		x		x	
Enhanced status		x		x		x							
Decision-making			x									x	
Socioeconomic development				x	x	x		x		x		x	x
Poverty alleviation				x									
Quality education					x			x	x		x		
Further education					x	x		x					
Female teachers					x								
Public awareness					x				x				
Health and security					x				x				
Capacity-building					x				x	x		x	
Physical infrastructure					x		x		x	x			
Empowerment/equality									x	x			x
Study science													x

Adapted from Raynor, 2004 (32) FESP=Female Education Stipend Project; FSSAP=Female Secondary School Assistance Project; HSFSP=High School Female Stipend Project; NWFSP=Nation-Wide Female Stipend Program; SEDP=Secondary Education Development Project; SESIP=Secondary Education Sector Improvement Program

Source: Schrumann (2009)

To understand a brief chronology, Professor Schrumann presented a summary objective of the projects implemented from 1984 to 2004 which clearly shows that the major goals which remain the same over the period. Furthermore, the objective of the programme also merged with national development strategies. To improve the human resources particularly women's participation to reduce the gender disparity in education.

4.3 Impacts of FSP

Statistics showed a significant surge in female enrollment in secondary school. It was reported to have a twice number of girls in Grades 6 and 9 in 1994 with a total of 1.054 million girls received the stipends[17]. As of the World Bank report on the FSP in 2002, the female enrollment was consistently low at the secondary level with a consequent percent of 33.5, 33.92, and 33.90 in 1989, 1990, and 1991 respectively. The dropout rate for girls was 65.9 percent, whereas it was 57.6 percent for boys in 1990 at the secondary level. The outcome result by the World Bank assessment report (2002) presented an increase of enrollment rate in project schools from 44.73 percent to 54.68 percent in the year 1994 to 2000. The following figure shows the total number of students' enrollment in secondary school by gender which increased faster since 1990 especially for female and surpassed at the early 2000s.

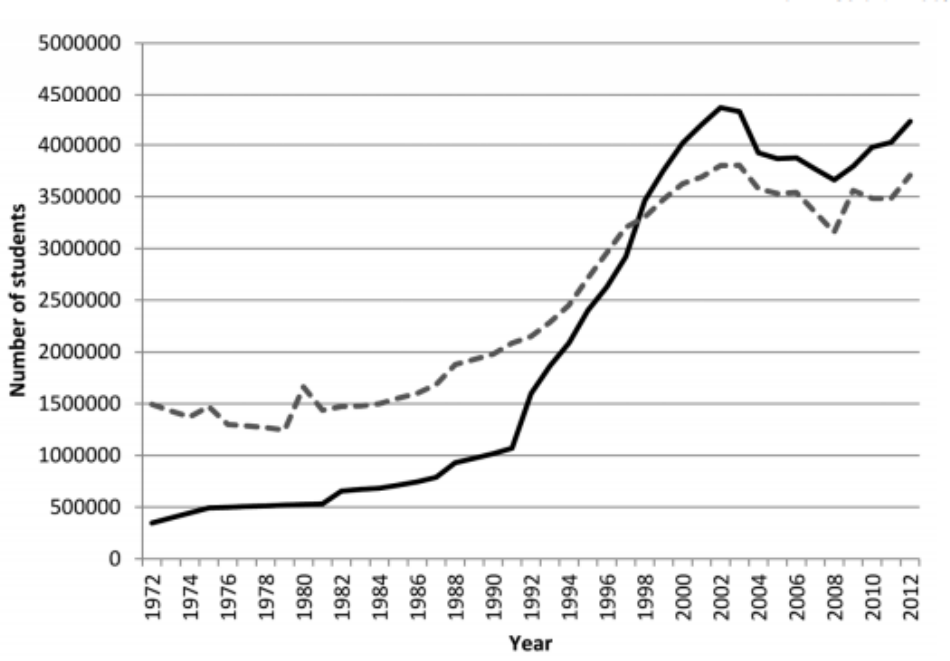

Figure 2: Secondary enrollment by gender.
(Solid line: female; dashed line : Male)
Source: Hahn et al. (2018a)

[17] World Bank. 2002. *Bangladesh - Second Female Secondary School Assistance Project* . p.3

The outcome result of the project also showed higher retention of the girls in school with only a three percent dropping out of the case (World Bank, 2002). Compared to the national rate, the success rate was 1 to 3 percent higher for completing SSC under the FSSAP.

Furthermore, the girls' enrollment ratio surpassed the boy's enrollment in the project schools. The ratio of female to male changed from 45:55 in 1994 to 55:45 in 2001 (World Bank, 2002). At the national level, the gross enrollment ratio of the secondary school was also dominated by girls from 2001 onwards. Even though the demand for secondary education increased, the girls' graduate rate of SSC remains low in a range of 20 to 22 percent (World Bank, 2002).

Moreover, girls' education reduced early marriage. The teenage girls in rural areas are predominantly found to get married, by this means one of the reasons for leaving school. The report presented findings from the National Demographic Health Survey data of 1996/97 and 1999/2000 to reveal that the girls without education had a fertility rate of 3.93 compared to 3.27 who have some primary education, 3 with a completed primary level, and 2.1 who completed secondary or beyond. Hence, there is a possibility of low fertility rates as delaying in marriage for a longer period of schooling.

Additional findings showed lower childbearing of the girls aged between 15 and 19 due to schooling. Statistics presented that, without education a girl is 54 percent likely for childbearing compared to 39 percent with some or completed primary education, and 19 percent with secondary education or beyond (World Bank, 2002). Overall, the education level also influenced the awareness of childbearing women for vaccination and information about HIV/AIDS (World Bank, 2002).

To understand the cost and benefit of the programme, the World Bank reported the standard rate of return analysis based on Household Expenditure Survey data 1995/96. The result showed a positive correlation between girls' secondary education and the quality of life. The private returns of one additional year of schooling are 19.05% for females and 10.72% for males, while the social rate of returns is 16.2 % for secondary education for females and 8.6 % for males.

As the evidence showed that the FSP instigated an increase in educational attainment, thereby it is likely to promote women's autonomy in decision-making in a direct or indirect means. With a higher education level, it is expected that girls will receive more information about socio-economic development, personal advancement, and other positive externalities leading her to be a resourceful member of a family.

CHAPTER 5

DATA AND METHOD

5.1 Dataset & Survey Descriptions

This cross-sectional study utilizes data from the Bangladesh Demographic and Health Survey (BDHS) 2011, nationally representative data at the household level. It covers the total population residing in non-institutional dwelling units in the country. The survey is based on a two-stage stratified sample of households. In the first stage of the 2011 survey covers 600 enumeration areas (EA) with probability proportional to the EA size of which 207 urban areas and 393 rural areas[18]. In the second stage of sampling, on average 30 households were selected per EA for urban and rural separately for each of the seven divisions[19]. A total of 18,000 households were selected of which about 18,000 ever-married women were interviewed for female surveys with a response rate of 98 percent and one-third of ever-married men were selected for male surveys with a 92 percent response rate.

This survey provides demographic information including background information on the women's years of birth, place of residence, type of residence, age, marital status, and years of education, occupation status, religion, and employment position. It also provides information on wealth index of a household categorizing in a scale of 1 to 5 from the poorest to the richest, other socioeconomic characteristics like the access to water, health care services, electricity, land, fertility rate, information on child and maternal health, family planning, access to information and knowledge, characteristics of husband/partner includes education, occupation, age, number of wives, employment, etc. Additional information that this study will utilize is on

[18] The primary sampling unit (PSU) for the survey is an EA that was created to have an average of about 120 households.
[19] Bangladesh has seven administrative divisions.

decision-making parameters for women in spending money they earned, purchasing major household items, the decision in using contraception, the decision in visiting family and relatives.

The purpose of using the BDHS dataset is it is publicly available with the necessary information about women's characteristics and a plausible way to separate the women who get exposed to the FSP and who are not taking into account their year of birth and type of residence. The dataset provides 17,842 observations for ever-married women aged between 15 and 49.

5.2 Descriptive Statistics

The descriptive statistics in Table 4 present the summary of the variables from the female survey. Total 17,842 observations with ever-married women in the sample. Among them 93.6 percent are currently married, 3.6 percent are widowed, and around 1.2 and 1.5 percent are divorced and separated, respectively. Moreover, in relation to the household head, most of the respondents' 65.4 percent are wife while 10.85 percent are daughter-in-law and 8.63 percent are a daughter. Approximately 7 percent reported as the female household head of which almost 65 percent are married, and 26.4 percent are widowed.

Table 4 presents that around 31 percent of girls in the survey are from cohort 1 while ten percent are in Cohort 2. Overall, the survey data has a sixty-five percent sample from the rural area and almost 90 percent are Muslim. The variable Muslim is a dummy variable values 1 for Muslim and 0 otherwise. In the context of Bangladesh, the religious phenomenon has a vital impact on women's participation and perceived norms. The average age of the respondents in the year 2011 is nearly 31 with a mean year of schooling is 4.94 years almost completion of primary level which has a duration of 5 years.

To consider the husband's characteristics, there is limited information in the survey from which education and age are listed here. The average years of completed education are 5.4 years which is at grade six of secondary education relatively higher than the women and the mean age is almost 40.

Table 4
Summary Statistics

Variables	Obs	Mean	Std.Dev.	Min	Max
Cohort 1	17842	.311	.463	0	1
Cohort 2	17842	.102	.302	0	1
Cohort 1 * Rural	17842	.204	.403	0	1
Cohort 2 * Rural	17842	.065	.246	0	1
Rural	17842	.653	.476	0	1
Division	17842	3.932	1.899	1	7
Wealth index	17842	3.148	1.419	1	5
Current age	17842	30.782	9.273	13	49
Education	17014	4.923	4.067	0	18
Muslim	17842	.888	.315	0	1
Household Size	17842	5.578	2.629	1	31
Currently working	17842	.133	.34	0	1
Husband's Education	17842	5.391	4.782	0	18
Husband's Age	16704	39.791	11.762	15	99
Women's Autonomy in Decision					
Spending own money	2101	2.267	.619	1	3
About own health care	16686	1.773	.665	1	3
Large household purchase	16686	1.674	.604	1	3
Visiting family/relatives	16671	1.73	.627	1	3
Use of Contraception	10240	2.041	.428	1	3
Average participation in decision-making	16687	2.133	.584	1	3

Note: Samples are restricted to ever-married women. Cohort 1*Rural and Cohort 2* Rural both are interaction term generated from multiplying the variable Cohort 1 with Rural and similarly Cohort 2 with Rural. Rural =1 and 0 otherwise, Muslim =1 and 0 otherwise, Wealth =1 to 5;5 is the richest. Currently working=1 if respondent's engage in work Women's autonomy in decision-making = 1 if husband or other decides; =2, if both wife and husband decide; =3, if wife decides.

Source: Author's analysis based on BDHS dataset 2011

Table 4 also presents the statistics of women's autonomy in decision-making in the household. Given the availability of the information provided by the survey data, five questions are considered for this study which is related to respondent's role. The questions were asked as "Who usually makes decisions about […]?" (details in Appendix).

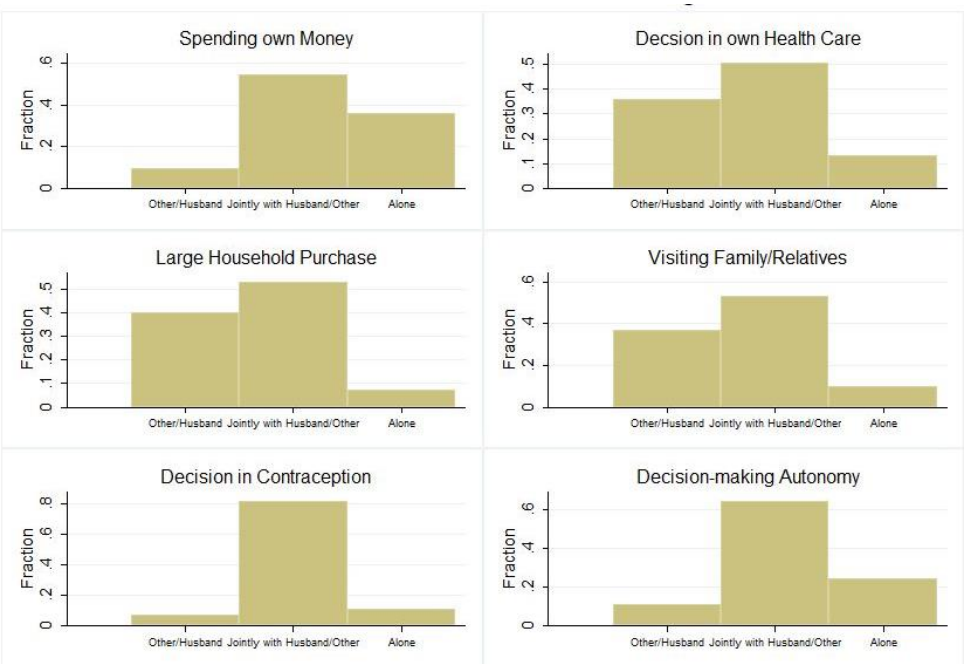

Figure 3: Distribution of Women's Autonomy in Decision-making

Source: Author's calculation and illustration based on BDHS dataset 2011

Figure 3 shows the distribution of decision-making in five domains including an average measure of decision-making. It is illustrated that more than half of the families, decisions are joint with the husband. But in using contraception the joint decision is over 80 percent. Wives decided to spend her own money 36.4 percent, 13.3 for own health care, 7.2 percent for large household purchase, 9.8 percent for visiting family, 11.3 percent for contraception, and 24.5 percent for average decision-making.

5.3 Variables of Interest

The purpose of the study is to see any difference in the women's participation in the household domain as a proxy for autonomy due to the exogenous variations created by the FSP through schooling. Several studies earlier provided evidence of the significant improvement of

women's education level, labor force participation, health, and other marital aspects as an impact of the FSP as discussed in the literature review section. Apart from the programme's perspective, many scholars discussed and presented evidence of how socio-economic factors, family and individual characteristics determine the women's autonomy [20](Acharya et al.2010; Becker et al., 2006).

As such, the BDHS survey presents on who made the decision in a household domain which is my interest in outcome variables. Such simple questions might not reveal the women's status, but it might show how women are exercising their voices and ability to negotiate with husbands or partners which can have spillover effects on the following generations. Bangladesh is a predominantly Muslim country where socio-cultural norms still shaping women's participation in every aspect. Hence, studying this aspect will present some evidence if any changes have taken place due to the government initiative of the female secondary stipend programme.

Dependent Variables

The dependent variables include five decision-making questions which are a) who made the decision's on respondent's earning i.e. women's earning b) who decides on respondent's health care c) who decides on contraception, d) who decides on purchasing large household goods, and e) who decides on visiting family and relatives (the section on this questionnaire is in Appendix). All these variables are on a scale of 1 to 3 of which 1 stands for the decision made by husband alone or other, 2 if the decision made jointly with husband/partner, 3 if respondents decide alone. To measure this scale, I followed both Meurs and Ismaulov (2019) and Li and

[20] It varies across the studies while some discuss on bargaining power while some focus on women empowerment

Wu (2011) who calculated women's role assigning a higher value if she decides alone and second lower if jointly made and the lowest if other or by the husband alone.

Then I combined the five decision-making questions into a single index "decision" on a scale of 1 to 3 as before. For this, I summed up the five questions and calculated the average which is also found in the previous literature for calculating women's participation in decision-making (Li & Wu, 2011; Mabsout & van Staveren, 2010; Meurs, Ismaulov, 2019). The purpose of taking the average is to see any difference between the general measure of decision and the individual level with the decision-making notion.

Independent Variables

The cohorts and the type of residence which is rural or urban are the independent variables. Given the year of birth, I generated three cohorts according to the time of exposure to the programme rollout. Cohort 1 consists of those females who born after 1983, Cohort 2 consists of those females born between 1980 and 1982, and cohort 3 includes those born between 1979 to 1970.

Control Variables

The control variables are held constant during the study. The additional unobserved factors can have a huge impact on the outcome variable and the relationship between the dependent and independent variables, thereby control variables are essential.

In this study, the control variables are Muslim (dummy for religion) as most of the people in Bangladesh are Muslim and religion plays a key role in a family, Wealth Index which can be a proxy for household economic status, Number of Household Members.

Additionally, it includes Working Women—whether the respondent is currently working— as it is an important factor in a household where women financially contribute and found have association with decision-making (Anderson & Eswaran, 2009; Kabeer, et. al, 2011). Furthermore, as the sample included the ever-married women, therefore, the husband's years of education are also included which might have an association in family decision with the wife. The age of the respondents and six divisions are also considering measuring the fixed effects.

Given the study objective, there are other factors that affect my variable of interest. For example, the cultural aspects, gender roles, and social norms that shape the daily life of women's role in society, their workplace, the contribution they can make, etc. However, most of these aspects are latent and not usually measurable. Hence, understanding of the context is necessary to explain the relevant unobserved factors for meaningful interpretation.

CHAPTER 6

EMPIRICAL STRATEGY

6.1 Target Method

As mentioned above, the FSP was targeted to girls residing in rural areas in 1994 nation-wide in Bangladesh. This study aims to examine whether there is any impact on women's autonomous decision-making in the household if they are exposed to this stipend programme. To investigate the causal consequence, I consider the decision-making in five types in the household domain as the variable of interest as provided by the survey data set. This study utilizes the Difference-in-Difference (DiD) method to examine the impact of the FSP programme on women's autonomy.

In this study, I did not use the Ordinary Least Square (OLS) as the estimation can be biased due to self-selection and unobserved preferences. It can be possible that because of the financial benefit of the programme, many girls are encouraged to stay in school longer than before. Social preference also evolved by this programme which affects parental preference on retaining their girls in school. As mentioned above, the programme is targeted for rural areas hence there is potential self-selection bias. Hence, there are two problems that arise in this estimation. First, the FSP is not a randomly assigned programme rather it is targeted to the rural areas for increasing girl's enrollment thereby delaying early marriage including other objectives as described above. Secondly, whoever stays in the school due to the benefits of FSP are possible to be self-selected.

To minimize this selection bias and the effect of time, I applied the DiD method. This method takes into consideration the time-invariance between the cohorts including the residence

fixed-effect for urban and rural, and regional fixed-effect in division level. The key assumption behind this method is that before the programme implemented, there was a parallel trend between the outcome of the girls who were exposed to the programme (treatment group) and who were not (control group).

6.2 Identification Strategy

We consider the year of birth and place of residence[21] of the respondents for creating the treatment and control groups. Such an identification strategy also followed previous studies on a similar area (Osili & Long, 2008; Syeed; 2016; Hahn et al., 2018a).

In Bangladesh, primary education lasts for five years (grade 1-5) and secondary education for another five years (grade 6-10). Usually, at the age of 11, the students start secondary school.

The programme was implemented in 1994 which created an exogenous variation to the recipients since it did not cover all the grades since its inception. In 1994 the programme only covered for the grades six and nine. In the following year 1995, it covered all grades except eight. Later from 1996, all eligible students (grade 6-10) received the stipend (Syeed, 2016; Schrumann, 2009; Khandker et al., 2003). Such variation is an important way for the identification strategy of the study.

Hence, not all the girls enrolled in secondary school from 1994 received the stipend for a full five years. Therefore, the girls born in and after 1980 are exposed to the programme partially or fully. Under this age range, those born between 1980 and 1982, who were between 12 to 14 years in grade 7 to 9, partly received the stipend. On the other hand, eligible girls born after

[21] As per the survey the residence is the current residence of the respondents, hence it is not possible to identify the residence when the respondent was studying in secondary level

1983, who were 11 years old and in grade 6 in 1994, received the stipend for the five-year study periods. So, the girls in grade 10 and aged 14 and beyond were not eligible for the stipend.

Considering such variation, the following three cohorts have been created as follows[22]:

Cohort 1: Girls born in and after 1983 and were eligible for a five-year stipend

Cohort 2: Girls born between 1980 and 1982 and were eligible for 2 years stipend

Cohort 3: Girls born between 1979 to 1970 and were not eligible for the stipend. To minimize the time-invariant changes by the cohort and to emphasize those females missed out of the programme, the study did not include all who born before 1979[23].

We will compare cohort 1 and 2 with cohort 3 considering the respondents' type of residence.

Treatment Group: Cohort 1 and 2 and residing in a rural area. These two-segregation was made to examine the duration exposure of the FSP for two cohorts separately.

Control Groups: Will consider all three cohorts for those residing in an urban area plus cohort 3 residing in a rural area. As these girls are assumed to not have any exposure from the programme, this can be a possible counterfactual.

Additional Limitation and Assumptions

Firstly, the age threshold while creating the cohorts can affect the estimation due to under-age and overage enrollment. Based on the previous studies and official age of the secondary school, we calculate that the girls born before 1980 are not exposed to this programme which is

[22] The strategy adapted by Hahn et al. (2018a, 2018b)
[23]Our study followed a similar approach by Hahn et al. (2018a, 2018b)

the control group (cohort 3). Using this strategy also leaves the study with a problem in the age threshold. According to the report by the UNESCO Institute of Statistics 2013, the school attendance of girls by age has found to have over-aged and under-aged enrollment both in urban and rural areas (pp. 9-11). In the context of Bangladesh, the usual age of enrollment in grade 6 is at the age of 11. As such, the threshold this study used for cohort 1 will leave some girls out due to underage enrollment which can underestimate the effect of FSP for Cohort 1. For cohort 2, the estimation also is problematic due to underage and over-age enrollment which is difficult to measure. Similarly, some students could receive a stipend in cohort 3 and some might be out of the study due to over-age enrollment[24]. An additional problem might arise if some respondents repeat the grade which takes more than five years to complete the secondary education. However, based on earlier studies, this study also assumes to have a low repetition case[25] (Shamsuddin, 2015; Hahn et al., 2018a).

The second problem arises for internal migration from rural to urban and vice-versa. For this reason, classifying the rural and urban women based on the current residence might bias the estimated results. For example, it is possible that some women migrated from rural to urban areas which might lead to underestimating the estimated effects of FSP as those women considered not receiving the stipend while in reality, they might have received. Given the dataset, there is no information to know about this. But we assume that there was not a significant internal migration rate[26]. According to the Bangladesh Bureau of Statistics, the total internal migration rate is 9.70 in 2011 of which rural to urban rate is 4.29 percent and urban to rural is 0.36 percent per 1,000 population which some studies say very low (Hahn et.al, 2018b;

[24] This problem is also listed by Sayeed (2016) and Hahn et al. (2018b)
[25] "The proportion of individuals taking more than 5 years to complete secondary education is low at 0% to 2% for most birth cohorts." (Hahn et al., 2018a)
[26] Such problem also noted by Hahn et al. (2018a, 2018b) and Sayeed (2016)

Syeed, 2016). The limitation of the survey is that-it doesn't indicate information on the old and new residence of the respondents or particular information about the migration of the respondents.

Another protentional problem could be potential spillover effects from the previous policies introduced prior to 1994. For example, in 1990 primary education was made compulsory and free and in the same year free tuition for girls in grades six to eight. Prior to the nation-wide FSP, there had been some pilot projects in few selected *upazilas* which provided a stipend for the female enrolled in secondary school first in 1982 and additional *upazilas* in 1992 as discussed in Chapter 4. Such programmes might already help some girls to complete primary education and supported in secondary education as well. As a consequence, there is a possibility to overestimate the results.

However, lack of information, unfortunately, does not allow me to find where the programme was rollout –specifically the district level. But the coverage was very low.

6.3 Difference-in-Difference (DiD) Model

The following econometric model is specified for DiD method:

$$Y_{ij} = \alpha + \beta_{1*} \text{Cohort}_{ij} + \beta_2 \text{Rural}_i + \beta_{3*}(\text{Cohort}_{ij} * \text{Rural}_i) + \beta_4 * X_{ij} + \varepsilon_i \quad \ldots (1)$$

Here, the dependent variable Y_i stands for an individual woman *i* on the outcome variable such as the decision on own's earning, own's health, contraception use, large household purchase, and visits to family/relatives.

The independent variables are:

$Cohort_j$ is a dummy variable for individual i; j= 1 for cohort 1 consists value 1 if born after 1983 and 0 otherwise; j=2 for cohort 2 equals 1 who born between 1980 and 1982 and 0 otherwise. The base category is cohort 3.

Rural is a residence dummy variable taking the value 1 for respondents residing in rural and 0 for urban.

The interaction variable ($Cohort_{ij}$ *$Rural_i$)-which I am interested in estimating β_3 that will capture the treatment effects of the recipients a) who were exposed to the FSP for 5 years (Cohort1) 2) who were exposed to the FSP for 2 years (Cohort 2) and both are residing in a rural area – compared to those who were not exposed (cohort 3). The expected sign for the β_3 is positive.

The matrix X captures the other controls such as religion (a dummy variable stands 1 for Muslim or not), wealth index (a scale of 1 to 5 of which 5 is the richest), and household size that shows the total number of household, women in work (whether the respondents are currently working or not), and husband's education. Moreover, women's age is included to control for the time-variance and division (there are six divisions) to control for the regional fixed-effects.

and ε_i is the idiosyncratic error terms that includes unobservable factors like ability, social, and cultural norms.

Assumption

The main assumption under the DiD is that without the intervention of the FSP i.e. before 1994 the trend in the outcome variables both in rural and urban areas will exhibit a parallel trend. In

other words, the treatment group and control group both will show a parallel trend before the intervention. So, if the FSP has made an impact on women's decision-making domain, then the trend for the treatment group is expected to converge with the control group. To check if the assumption hold, first I present Figure 4 that shows the trend in average decision-making autonomy on the respondent's money for urban and rural girls at different birth cohorts[27]. Before the intervention, the trend is almost parallel both in the urban and rural area. However, cohort 2 who born between 1980 to 1982 shows an increase in the decision-making domain for rural women while it decreased for urban women. For the younger cohort 1 who born in and after 1983, there is no big gap between urban and rural respondents. Overall, the rural girls exhibit a little bit of an increasing trend.

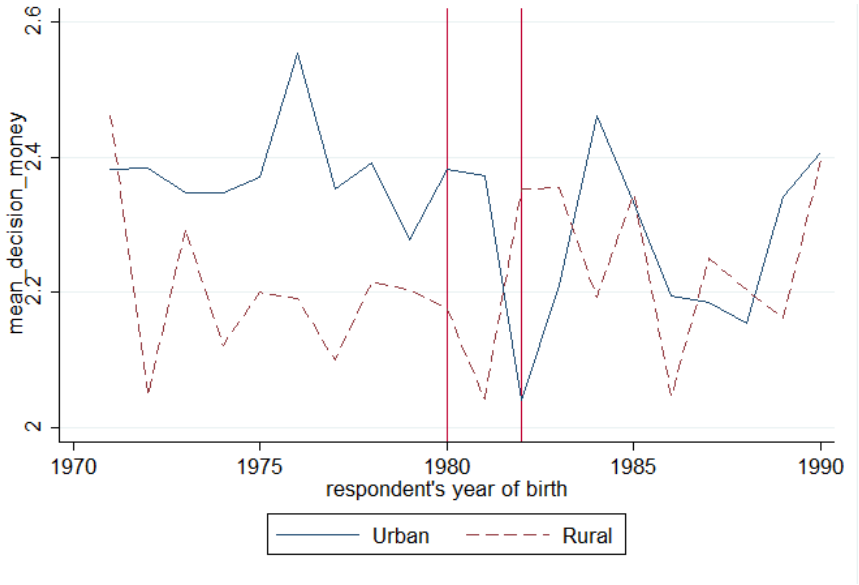

Figure 4: Average Decision-making on Spending Own Money Urban vs. Rural

Source: Author's calculation and illustration based on BDHS dataset 2011

[27] Sample includes respondents aged 41 to 21 and born between 1970 and 1990

In the following Figure 5, I also check if assumption hold for schooling which was one of the main goals of the programme. Figure 5 shows similar trends with a parallel increase of the mean year of schooling for both urban and rural girls until before the intervention. The overall trend increases for the younger cohort where the average schooling in a rural area increases more and converges with the urban area that is the gap shortens over the period.

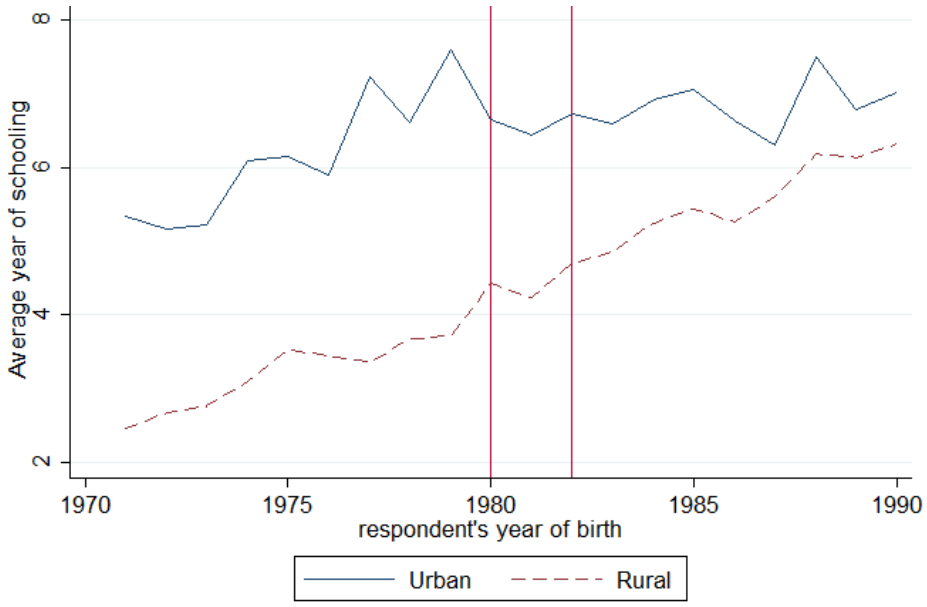

Figure 5: Average years of Schooling in Urban &. Rurral

Source: Author's calculation and illustration based on BDHS dataset 2011

CHAPTER 7

RESULTS AND DISCUSSION

7.1 Results

Table 5 presents the estimated result for the effect of the FSP on deciding on spending own money based on equation (1). Our variable of interest is the interaction term β_3, which is Cohort1*Rural and Cohort2*Rural which presents the treatment effect. The first column shows the result without control variables and fixed effects. In column 1, the coefficient (β_3) for cohort 1 shows a significant positive result that means that the cohort 1 who were exposed to five-year stipend and living in a rural area have a higher decision-making autonomy by 0.135 compared to those who were not eligible for the stipend (cohort 3). On other words, the cohort 1 has 13.5 percentage points higher autonomy than the control group that is cohort 3 However, the result is not robust for cohort 2 who were partially exposed to the stipend and living in a rural area (column 1).

Subsequently, when control variables and fixed effects are included in the regression, the treatment effects (β_3) for cohort 1 stills show a significant positive result. When I included the control variables which captures the household characteristics. the coefficient is lower but remains robust and the result is similar when age divisional fixed effect is added from column 3-5.

However, incorporating the fixed effects shows a significant and higher value of the coefficient β_3 for cohort 2 than cohort 1(column 3 and 5). Table 5, in the last column when both age and division fixed effects are counted in, the coefficient for both cohorts are significant. It is notable to mention that the coefficient β_3 for cohort 2 is 0.145 while for cohort 1 it is 0.101.

Since cohort 2 is older than cohort 1, it is likely that apart from education which is through exposure to the stipend programme, age plays a crucial rule in decision-making. Overall, the coefficient β_3 for cohort 1 exhibits a robust result in all five cases.

Table 5
Effect of the FSP on Spending Own Money

	(1)	(2)	(3)	(4)	(5)
Cohort 1	-0.080**	-0.074*	0.384***	-0.073*	0.372***
	(0.041)	(0.040)	(0.132)	(0.041)	(0.131)
Cohort 2	-0.124**	-0.133**	0.145	-0.132**	0.127
	(0.058)	(0.057)	(0.115)	(0.057)	(0.115)
Rural	-0.178***	-0.129***	-0.130***	-0.130***	-0.131***
	(0.036)	(0.040)	(0.040)	(0.040)	(0.040)
Cohort1*Rural	0.135**	0.112*	0.101*	0.111*	0.101*
	(0.060)	(0.060)	(0.060)	(0.060)	(0.060)
Cohort2*Rural	0.131	0.127	0.139*	0.131	0.145*
	(0.082)	(0.081)	(0.082)	(0.081)	(0.082)
Wealth Index		0.013	0.009	0.013	0.009
		(0.013)	(0.013)	(0.013)	(0.013)
Muslim		0.114***	0.125***	0.095**	0.106***
		(0.037)	(0.037)	(0.038)	(0.039)
Household Size		0.005	0.005	0.006	0.005
		(0.006)	(0.006)	(0.006)	(0.006)
Currently Working		-0.041	-0.047	-0.036	-0.043
		(0.044)	(0.044)	(0.044)	(0.044)
Husband's Education		0.008***	0.009***	0.007**	0.008**
		(0.003)	(0.003)	(0.003)	(0.003)
Age FE	No	No	Yes	No	Yes
Division FE	No	No	No	Yes	Yes
Observations	2,101	2,101	2,101	2,101	2,101
R-squared	0.013	0.025	0.045	0.031	0.051

Note: Sample includes respondents aged 41 to 21 and born between 1970 and 1990. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. FE=Fixed Effects. Women's decision-making […]= 1 if husband or other decides; =2, if both wife and husband decide; =3, if wife decides

While looking into the control variables which are expected to control for socio-economic characteristics of a household. For example, the husband's education is found to have positive and significant effects on deciding how to spend the wife's money and similar result for being

Muslim. Overall, it also shows that women living in a rural area has on average lower autonomy in spending their own money compared to the women living in the urban area keeping other things constant. However, it is problematic to make a causal inference with the control variables with the outcome variable due to endogeneity issue.

Table 6 shows the estimated result for the effect of the FSP on deciding for spending respondent's own money which is elaborated earlier and remaining outcome variables which are decision on health care, large household purchase, visiting family and relatives, using contraception, and average decision-making based on equation (1)[28].

Except on spending money, the remaining outcome variables shows positive effects of the programme but not a significant result considering the age and division fixed effects[29]. Second column presents the result for the effect of the FSP on taking decision for own health care. The key coefficient that is β_3 is positive for cohort 1 and negative for cohort 2 but not robust for either of the cohorts. For large household purchase, contraception use, and average decision-making, the treatment effects on these three outcome variables are positive but not significant. The magnitude of the β_3 is a little higher for cohort 2 than cohort 1. In column (4), the effects of the FSP on visiting family and relatives shows that the estimated β_3 is negative for cohort 1 while it is positive for cohort 2, but both are statistically not significant. Overall, the key coefficients are not significant.

On the one hand, the control variables notably the family size downsized the decision on women's own health care. On the other hand, other important key factors such as women who

[28] I estimated each decision-making domain (additional 4 outcome variables) separately based on the equation (1) and added the tables in the Appendix (See details in TableA3 to Table A6). The treatment effect is not significant for any of these four variables.

[29] It is found that without considering the control variables or fixed effects no robust results are found (See details in TableA3 to Table A6).

are working, husband's education level, wealth of the household, and religion have a positive effect on all these outcome variables except on contraception use. Even though I can't make a causal relation, such association reveal the socio-economic context which discussed in the following section.

Table 6
Effects of the FSP on Women's Autonomous Decision-making

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Spending own Money	Decision in Own Health Care	Large Household Purchase	Visiting Family/Relatives	Contraception Use	Average Decision-making
Cohort 1	0.372***	0.042	-0.043	-0.010	-0.000	0.039
	(0.131)	(0.056)	(0.047)	(0.053)	(0.046)	(0.049)
Cohort 2	0.127	-0.023	-0.005	-0.048	-0.024	-0.043
	(0.115)	(0.060)	(0.052)	(0.058)	(0.045)	(0.051)
Rural	-0.131***	-0.047***	-0.091***	-0.070***	-0.018	-0.049***
	(0.040)	(0.015)	(0.013)	(0.014)	(0.013)	(0.013)
Cohort1*Rural	0.101*	0.019	0.001	-0.004	0.020	0.027
	(0.060)	(0.023)	(0.021)	(0.022)	(0.019)	(0.020)
Cohort2*Rural	0.145*	-0.011	0.020	0.023	0.034	0.032
	(0.082)	(0.036)	(0.032)	(0.034)	(0.027)	(0.030)
Wealth Index	0.009	0.015***	0.007*	0.014***	-0.007*	0.010**
	(0.013)	(0.005)	(0.004)	(0.005)	(0.004)	(0.004)
Muslim	0.106***	0.062***	0.052***	0.037***	-0.028**	0.040***
	(0.039)	(0.015)	(0.013)	(0.014)	(0.012)	(0.013)
Household Size	0.005	-0.024***	-0.032***	-0.030***	-0.002	-0.014***
	(0.006)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Currently Working	-0.043	0.172***	0.166***	0.121***	0.003	0.282***
	(0.044)	(0.016)	(0.014)	(0.015)	(0.013)	(0.013)
Husband's Education	0.008**	0.004***	0.002*	0.005***	-0.006***	0.001
	(0.003)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Age FE	Yes	Yes	Yes	Yes	Yes	Yes
Division FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,101	16,686	16,686	16,671	10,240	16,687
R-squared	0.051	0.058	0.087	0.076	0.015	0.075

Note: Sample includes respondents aged 41 to 21 and born between 1970 and 1990. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. FE=Fixed Effects. Women's decision-making […]= 1 if husband or other decides; =2, if both wife and husband decide; =3, if wife decides

Table 7 shows the estimated result for the effect of the FSP on average decision-making. The result exhibits significant result for β_3 for cohort 1 in column 2 when control variables are included and while regional fixed effects is incorporated in column 4.

Table 7
The effects of the FSP on Women's autonomy on average Decision-making

	(1)	(2)	(3)	(4)	(5)
Cohort 1	-0.026	-0.030*	0.040	-0.028*	0.039
	(0.016)	(0.016)	(0.050)	(0.016)	(0.049)
Cohort 2	0.063***	0.055**	-0.044	0.056**	-0.043
	(0.024)	(0.024)	(0.051)	(0.024)	(0.051)
Rural	-0.099***	-0.050***	-0.050***	-0.050***	-0.049***
	(0.012)	(0.013)	(0.013)	(0.013)	(0.013)
Cohort1*Rural	0.033	0.038*	0.028	0.037*	0.027
	(0.021)	(0.020)	(0.020)	(0.020)	(0.020)
Cohort2*Rural	0.040	0.040	0.032	0.041	0.032
	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)
Wealth Index		0.020***	0.010**	0.020***	0.010**
		(0.004)	(0.004)	(0.004)	(0.004)
Muslim		0.035***	0.046***	0.029**	0.040***
		(0.013)	(0.013)	(0.013)	(0.013)
Household Size		-0.017***	-0.015***	-0.016***	-0.014***
		(0.002)	(0.002)	(0.002)	(0.002)
Currently Working		0.307***	0.283***	0.306***	0.282***
		(0.013)	(0.014)	(0.013)	(0.013)
Husband's Education		-0.002	0.001	-0.002*	0.001
		(0.001)	(0.001)	(0.001)	(0.001)
Age FE	No	No	Yes	No	Yes
Division FE	No	No	No	Yes	Yes
Observations	16,687	16,687	16,687	16,687	16,687
R-squared	0.007	0.044	0.074	0.045	0.075

Note: Sample includes respondents aged 41 to 21 and born between 1970 and 1990. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. FE=Fixed Effects. Women's decision-making […]= 1 if husband or other decides; =2, if both wife and husband decide; =3, if wife decides

7.2 Discussion

This study aims to investigate the effects of the FSP on women's autonomous decision-making in the household. I am focusing on how much autnomy women have in a family decision

due to the exogenous variation created by the FSP where education is one of the important factors.

Overall, the estimated result for the treatment effects shows a positive result and significant while considering the decision on spending money. Again, it differs between cohort 1 and 2, while cohort 1 shows the significant result with control variables including the age and regional fixed effects. One of the channels could be though education as cohort 1 was more exposed to the stipend, they are likely to attain more years of education that is also found in the previous studies (Hahn et al., 2018a, 2018b; Sayeed, 2016; Fuwa, 2001).

Women's age is an important factor in women's authority in decision-making. Usually, in a family, the husband, brother or father makes decisions as they are considered to be the guardian or breadwinner in a family in Bangladesh. Mabsout and van Staveren (2010) in their study title "What determines female autonomy? Evidence from Bangladesh shows that age is a vital feature and age difference between spouses affects the decision-making domain. However, on a similar topic, Li and Wu (2011) found no evidence for age but showed education matters in decision-making. Given this study, it is, therefore, challenging to conclude how age and education have impacts on decision-making for the different cohorts. Therefore, I control for the age fixed-effects in our estimation which account for the time-variant due to the age difference. The coefficient for treatment effect of cohort 2 exceeds cohort 1's treatment effect, even though most of the results are not significant. Hence, it shows that the elderly cohort has more autonomy in decision-making.

The estimated results also present the coefficient for the control variables which captures the household characteristics. Such socio-economic factors are very important influences in any family decision, therefore there is a possibility that woman who belongs to a wealthy family

already has the opportunity to take own decision or who are already making a decision alone or managing household wealth. Due to this reverse causality, it is difficult to make a causal inference. Overall, the wealth index in the estimation on average shows a positive and significant on the decision-making domain except contraception use which has negative effects that can attribute to the religious norms. In terms of household size, the results indicate that with a higher number of household size, it pulled down the autonomy in the family. Our findings support relevant results on women's bargaining power and autonomy by Kabeer et. al (2011) and Meurs and Ismaylov (2019). They showed that household wealth has a positive association with women's bargaining power at households while household size has a negative association with it. The findings are also similar to the study by Sather and Shahnaz (2000) who found that the nuclear family has more likely potential for women to participate in household decisions than in the extended family.

Women who are in the labor force and earning money are financially more solvent. The estimation has a control variable for the women who work and found to have a positive and significant effect on most of the decision-making domain. A similar finding also found by Hahn et.al (2018b). A study was done on autonomy in earning by Anderson and Eswaran (2009) present that women who earn money are likely to have more autonomy in their earning. Several other scholars also presented the evidence supporting the effect of women's education and earning on decision-making in the household (Mason, 1986; Jejeebhoy, 2002).

Also, husband characteristics effects on married women's participation in a family. Our study only considers the husband's education which has a positive and significant impact on most of the outcomes. Earlier study reveals a similar association, for example, Becker et. al (2006) who studied the women's decision-making in Guatemala found that educated and

employed husbands are more likely to participate in the final decisions which mean more joint decision. It is possible that in a household it is more likely have a joint decision and according to Becker et al. that "It is true that if both spouses participate in a decision, a better outcome may result than if either member alone takes the decision, simply because it is likely that more options were explored when there is joint decision-making" (2006).

Considering the divisional variation is important as it allows women culturally to have different roles[30], hence I controlled for the regional variation across six divisions. Also, there might be variations in preference and choices between urban and rural areas. The variable rural in the estimated results in all regression shows a negative and significant coefficient. It is possible that in rural areas women are more likely to depend on their husbands and in-laws where they are mostly limited social and cultural norms. In a study Mason (1986) described the gender inequality in the life cycle, especially for Asian cultures, is that " the position of the new bride in family politics tends to be quite different from the position of her mother-in-law, the new bride typically being powerless, while her mother-in-law exercises considerable domestic control over other women and children."(p. 290). It is also likely that women get married early and live with an extended family where women's voices are neglected.

Overall, the decision-making phenomenon is a challenging area to understand the power struggle of women regardless of living in a rural and urban area. Though in both areas educating the girls became prevalent but cultural norms and practices are embedded for centuries that lack women's participation. According to Arends-Kuenning and Amin "Increasing the average level of women's education does not necessarily improve women's status or challenge the norms of

[30] Dyson and Moore (1983)

patriarchy. Women who are educated might be more empowered than women who are uneducated, but their choices are still constrained and shaped by patriarchy. The choices that educated women then make as a result of their empowerment could make circumstances worse for women in general" (2001, pp. 137).

7.3 Robustness Check

The study focuses on receiving the stipend for which age cohort is a very sensitive issue. To check the robustness of the previous findings, I estimate again with the similar identification strategy but using a narrower age range of women born between 1972 to 1986 compared to the original sample which includes women born between 1970 to 1990[31]. The sample includes women aged 25 to 38 years born between 1973 to 1986. We narrow the age range from the cohort 1 who are the younger cohort and from the cohort 3 who are the oldest cohort. Cohort 1 (rCohort1) includes women born between 1983 and 1986 and in cohort 3 includes women born between 1979 and 1972. This approach is followed by Hahn et al. in a similar study (2018a). This restricted sample allows comparing the treatment effects on new cohorts 1 and 2 with the control group in cohort 3.

Table 8 shows the result which is almost similar to the main results. The results are only significant for decisions relates to spending money as like earlier findings. The coefficients for the remaining outcome variables exhibit the similar findings. Hence, the main findings are robust.

[31] This study followed a similar approach taken by Hahn et al. (2018a)

Table 8
Robustness check with a narrowed age cohort

VARIABLES	(1) Spending own Money	(2) Decision in Own Health Care	(3) Large Household Purchase	(4) Visiting Family/Relatives	(5) Contraception Use	(6) Average Decision-making
rCohort 1	-0.163	-0.005	-0.041	-0.059	0.035	-0.046
	(0.161)	(0.055)	(0.049)	(0.050)	(0.050)	(0.049)
rCohort 2	-0.148	-0.047	-0.004	-0.073	-0.006	-0.086*
	(0.124)	(0.060)	(0.053)	(0.057)	(0.046)	(0.051)
Rural	-0.146***	-0.049***	-0.089***	-0.070***	-0.018	-0.052***
	(0.040)	(0.015)	(0.013)	(0.014)	(0.013)	(0.013)
rCohort1*Rural	0.142**	0.024	-0.002	-0.002	0.018	0.035*
	(0.060)	(0.022)	(0.020)	(0.021)	(0.019)	(0.019)
rCohort2*Rural	0.154*	-0.009	0.019	0.024	0.034	0.034
	(0.082)	(0.036)	(0.032)	(0.033)	(0.026)	(0.030)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes
Division FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,101	16,686	16,686	16,671	10,240	16,687
R-squared	0.049	0.058	0.087	0.076	0.015	0.076

Note: rCohort 1 includes women aged 25 to 18 years (born 1983 to 1986 and receiving full stipend), and rCohort 2 consists women aged 29 to 31 years old (born between 1982 to 1980 and receiving partial stipend), and the control group is women aged 32 to 38 years (born between 1972 to 1979) in 201. The regression includes all the control variables as in Table 5. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. FE=Fixed Effects. Women's decision-making […]= 1 if husband or other decides; =2, if both wife and husband decide; =3, if wife decides

7.4 Limitation

I would like to point out some limitations of the study as these can affect the accuracy of my findings. Also, this limitation might be overcome in future research in this area. These are as follows:

1. **Data Limitations**: Lack of data availability about the recipients of the stipend is a major limitation of the study. Most of the data in Bangladesh has not been digitalized, sometimes not recorded or documented properly since the programme launched, and

some data are not made publicly available. As I have been conducting online desk research based on secondary data, it was difficult to reach the ministry to collect official data on this aspect. Therefore, I used a proxy dataset which might affect the accuracy of the results than the real ones. To conduct future research, collecting data from the government's actual records along with World Bank data that is not available publicly might provide robust results.

2. **Lack of Information**: Even I use the country representative data, there are a number of important variables needed for this study that are not available which is the residence of the respondents during the study period. Also, many relevant questions related to women's preference in households are missing including the male survey which might be useful for another counterfactual.

3. **Short time Period**: I used only one dataset for the year 2011. It might be a good idea to combine cross-sectional datasets so that the number of observations might be larger. Also, the effect of the stipend programme might take a longer time to have changes in women's autonomy in households which might not capture here.

There are several other challenging factors that limit the proper assessment of the programme as mentioned by Schurmann (2009). She mentioned that there were no baseline data collected before the programme started, hence it is difficult to compare the actual outcomes of the progamme. Therefore, necessary data and information are required for a thorough assessment of the impact of the programme.

CHAPTER 8

POLICY RECOMMENDATIONS AND CONCLUSION

8.1 Policy Recommendation

From a policy point of view this paper will suggest some policy recommendations that can be effective in improving women's autonomy and can be beneficial for the overall women empowerment in Bangladesh. As mentioned above, the large proportion of the budget from female secondary stipend programme provided for the stipend than other facilities. Given the success of female enrollment and other outcomes, the programme can add some inclusive components to simultaneously improve the women decision-making process in long run.

i. **Leadership skills**: The study finds that the FSP has positive impacts on women's decision-making domain particularly in spending money. But in other domain women are still lagging in making decision alone or along with husband. To improve the capability of the women to engage in family discussion, they need information, resources, and communication skills and institutional learning will improve their interpersonal skills. For this purpose, the FSP programme can incorporate short training sessions yearly or half yearly basis both for male and female focusing on communication and networking skills which will improve their team works, negotiation skills, thereby might reflect in personal and family decision-making.

ii. **Female Role Model**: To create female role model, increasing the female teachers in secondary school could be a achievable way for the government. It is found that female teacher helps to increase girl's enrollment and retention in school[32]. However, there is

[32] Khandker and Shahidur (1996)

still fewer female teachers in secondary education only 22.4 percent in 2019[33]. In addition to that, inviting female speakers during annual graduation ceremony, cultural and sports events will be inspirational for the girls and women to step forward.

iii. **Community engagement**: Incorporating local community can be a good way to reach out the family members as they play important role in decision-making. Most of the secondary school particularly in rural areas, community engagement is not noticeable. Combining both girls and boys in arranging activities, for example volunteer tutoring for disadvantage children's or cleanliness campaign by which more exposure outside of the school will enhance visibility through the activities.

iv. **Non-formal education**: It is also important to provide attention to those women who do not attend school or dropped out. The idea is to have a short time course regarding basic financial tool, women's health which might not provide the stipend but continue to provide information which will boost their knowledge and ability in the autonomy. It is found that married women who spend time in household chores have been missing accumulating contemporary knowledge. These can be organized as a weekend session which incorporate the different age groups of women that can help to exchange information, more communication and support as a

It is important to note that the private return to school is what individual and family are interested in. However, school as a key institution of a learning and development area that can influence in long run both in private and social aspects. These activities will not directly change the perception about women's autonomy in short run rather it will take time to develop women's

[33]Bangladesh Secondary education teachers. Trading Economics.

involvement in household sphere where gender, religious and cultural roles persist at the root level.

8.2 Conclusion

Women's autonomy in decision-making is still limited by many socio-cultural factors in Bangladesh. Many scholars were previously evident that education is one of the key ways to empower women and has a positive impact on decision-making (Acharya et al., 2010). As a developing country, Bangladesh has been investing more in education, particularly female education to achieve gender parity in primary and secondary school. Therefore, Bangladesh introduced nation-wide the Female Secondary Stipend Programme in 1994 with the main purpose of increasing the female enrollment for eligible girls in the rural area. The additional purpose of the programme such as an increase in retention rate, lower fertility by delaying the marriage, empowerment through an increase in the labor force, and other aspects as discussed above. The decision-making goal was attributed twice during the programme lifetime. Extensive studies have done on analyzing the impacts of the stipend on female enrollment, labor force participation, fertility, child health, and marital matches. However, there is little evidence of whether this project affects women's decision-making in the household.

The purpose of this paper is to investigate the effects of the FSP on women's autonomous decision-making in Bangladesh. There is a lack of official data of the programme which provides information about the socioeconomic and household characteristics of the stipend recipients. This study utilizes the Bangladesh Demographic and Health Survey (BDHS) 2011 which is a national representative data set. The survey provides limited measures for women's autonomy in households which are: spending own money, own health care, making major household purchases, visits to her family or relatives, and using contraception. This programme

created an exogenous variation in the urban and rural areas as well as the period of exposure to the female student in secondary school. I apply a difference-in-difference estimator to examine the difference between the women who were exposed to the programme with those who were not before and after the programme rollout. The result shows the significant positive effects of the FSP on women's autonomy in spending their own money. For cohort 1 who were exposed to the stipend for five-years and living in rural shows a significant and positive result which is having a 0.101 higher value while a decision is made compared to those who were not eligible for the programme with age and division fixed effects. In other words, they have a 10.1 percentage point higher autonomy than those who were not exposed to the programme. Similarly, cohort 2- who partially exposed to the programme and living in a rural area, shows the positive and significant result with a value of 0.145 which means having 0.145 higher autonomy, in other words, 14.5 percentage points higher compared to those who were not exposed to the programme. For other decision-making domains, I found a positive result but non-significant.

Our results provide evidence that the FSP has a positive effect on women's autonomous decision-making in a limited household domain. It is possible that the FSP has increased female education attainment as well as labor force participation which previous studies proved can lead to women more autonomy in decision-making. However, it is not possible to conclude from this study which channel has reinforced in this outcome. There might be other socio-economic factors that evolve and could affect the family. Also, there can be spillover effects between the groups who received the stipend and those didn't that make it difficult to generalize the overall effects of the programme.

Given the findings, the study proposes some comprehensive policy implications for future intervention. First, I recommend introducing a leadership training session which will enhance interpersonal skills and it should include both males and females which will help women in the future to take the initiative and be part of the household matters. Second, I emphasize female role mode though increasing the female teachers in secondary school and female speakers in the school events that will inspire to look forward to the future. Third, I focus on community engagement which increases the visibility of females in different roles. Last but not the least I recommend initiating non-formal learning for the women who are out of the school so that they can be exposed to the basic information regarding health, financial knowledge, and other communication skills which will encourage them to be aware of their rights and autonomy in the household decision-making. Overall, policymakers in Bangladesh should focus on the long-term outcome not only from the demand side but also from the supply side so that the overall welfare of the society is improved. As this programme not much focusing on transforming the female role in society, it should attribute implicit institutional learning tools so that it can create some impacts on society.

As this programme lack technical resources for evaluating the implications of the programme outcome, in the future, it should incorporate a baseline survey as well as digitalized documentation at the national level. To conduct further research, necessary information is crucial to have a better assessment. Therefore, using more relevant data further research should investigate how geographical variations can have different outcomes in women's autonomy. Also cost-benefit analysis including the private and social returns should take into consideration while evaluating the programme.

APPENDIX

Women's Autonomy: The following variables acquired from responses of female participants:

a. The person who mainly decides how the money earned by the respondent is used.

1. Respondent alone
2. Respondent and husband/partner
3. Respondent and other person
4. Husband/partner alone
5. Someone else

b. The person who mainly decides on respondent's health care.

1. Respondent alone
2. Respondent and husband/partner
3. Respondent and other person
4. Husband/partner alone
5. Someone else
6. other

c. The person who usually decides on large household purchases

1. Respondent alone
2. Respondent and husband/partner
3. Respondent and other person
4. Husband/partner alone
5. Someone else
6. other

d. The person who mainly decides on visits to family or relatives

1. Respondent alone
2. Respondent and husband/partner
3. Respondent and other person
4. Husband/partner alone
5. Someone else
6. other

e. The person who mainly decides on contraception use

7. Respondent alone
8. Respondent and husband/partner
9. Respondent and other person
10. Husband/partner alone
11. Someone else
12. other
13.

Table A 1
Tuition and Fees given in the form of stipend

Grade	Monthly stipend (Tk)	US$ annual	Monthly Tuition – government schools (Tk)	US$ Annual	Monthly Tuition – non-government schools	US$ Annual	Annual Books and Examinatio n Fees (Tk.)	US$ annual
6	25	5.36	10	2.14	15	3.21		
7	30	6.43	12	2.57	15	3.21		
8	35	7.50	12	2.57	15	3.21		
9	60	12.86	15	3.21	20	4.29	250	4.46
10	60	16.07	15	3.21	20	4.29	250	4.46

Source: World Bank (2003)

Table A 2
Coverage and cost of the FSP

Year	Total number of secondary schools	Number of institutions received stipend	Number of female students received stipend	Amount disbursed (Million Tk)
1994	11,488	12,713	70,886	657.79
1995	12,012	14,119	1,409,382	1116.88
1996	12,978	16,722	2,300,062	1337.14
1997	13,778	17,847	2,825,350	1625.15
1998	14,518	18,721	3,198,559	2507.68
1999	15,460	18,788	3,564,404	1895.73
2000	15,720	19,919	3,961,194	2009.46
2001	16,166	21,027	4,191,058	2202.41
2002	16,562	22,893	4,193,352	2375.01

Source: Shamsuddin (2015)

Table A 3
Effect of the FSP on Own Health Care

	(1)	(2)	(3)	(4)	(5)
Cohort 1	-0.039**	-0.042**	0.042	-0.044**	0.042
	(0.019)	(0.019)	(0.056)	(0.019)	(0.056)
Cohort 2	0.090***	0.086***	-0.020	0.085***	-0.023
	(0.029)	(0.029)	(0.060)	(0.029)	(0.060)
Rural	-0.103***	-0.046***	-0.046***	-0.047***	-0.047***
	(0.014)	(0.015)	(0.015)	(0.015)	(0.015)
Cohort1*rural	0.022	0.026	0.017	0.028	0.019
	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)
Cohort2*rural	0.001	-0.001	-0.012	0.000	-0.011
	(0.037)	(0.036)	(0.036)	(0.036)	(0.036)
Wealth Index		0.025***	0.014***	0.026***	0.015***
		(0.005)	(0.005)	(0.005)	(0.005)
Muslim		0.040***	0.053***	0.050***	0.062***
		(0.015)	(0.015)	(0.015)	(0.015)
Household Size		-0.025***	-0.023***	-0.026***	-0.024***
		(0.002)	(0.002)	(0.002)	(0.002)
Currently working		0.194***	0.170***	0.197***	0.172***
		(0.016)	(0.016)	(0.016)	(0.016)
Husband's Education		0.001	0.004***	0.001	0.004***
		(0.001)	(0.001)	(0.001)	(0.001)
Age FE	No	No	Yes	No	Yes
Division FE	No	No	No	Yes	Yes
Observations	16,686	16,686	16,686	16,686	16,686
R-squared	0.007	0.028	0.056	0.030	0.058

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
FE=Fixed Effect
Women's decision-making in spending money = 1 if husband or other decides; =2, if both wife and husband decide; =3, if wife decides

Table A4
Effect of the FSP on Large Household Purchase

	(1)	(2)	(3)	(4)	(5)
Cohort 1	-0.037**	-0.042**	-0.038	-0.042**	-0.043
	(0.017)	(0.017)	(0.047)	(0.017)	(0.047)
Cohort 2	0.050*	0.050*	-0.003	0.051*	-0.005
	(0.027)	(0.026)	(0.052)	(0.026)	(0.052)
Rural	-0.134***	-0.092***	-0.091***	-0.092***	-0.091***
	(0.013)	(0.014)	(0.013)	(0.014)	(0.013)
Cohort1 *rural	0.001	0.010	-0.001	0.011	0.001
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
Cohort2*rural	0.035	0.031	0.021	0.031	0.020
	(0.033)	(0.032)	(0.032)	(0.032)	(0.032)
Wealth Index		0.017***	0.006	0.019***	0.007*
		(0.004)	(0.004)	(0.004)	(0.004)
Muslim		0.035**	0.048***	0.039***	0.052***
		(0.014)	(0.013)	(0.014)	(0.013)
Household Size		-0.036***	-0.033***	-0.035***	-0.032***
		(0.002)	(0.002)	(0.002)	(0.002)
Currently working		0.192***	0.165***	0.193***	0.166***
		(0.014)	(0.014)	(0.014)	(0.014)
Husband's Education		-0.001	0.002*	-0.001	0.002*
		(0.001)	(0.001)	(0.001)	(0.001)
Age FE	No	No	Yes	No	Yes
Division FE	No	No	No	Yes	Yes
Observations	16,686	16,686	16,686	16,686	16,686
R-squared	0.013	0.050	0.085	0.052	0.087

Note: Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)
FE= Fixed Effects
Women's decision-making in spending money = 1 if husband or other decides; =2, if both wife and husband decide; =3, if wife decides

Table A5
Effect of the FSP on Visiting Family and Relatives

	(1)	(2)	(3)	(4)	(5)
Cohort 1	-0.048***	-0.052***	-0.005	-0.053***	-0.010
	(0.018)	(0.017)	(0.053)	(0.017)	(0.053)
Cohort 2	0.016	0.016	-0.047	0.015	-0.048
	(0.027)	(0.027)	(0.058)	(0.027)	(0.058)
Rural	-0.130***	-0.072***	-0.071***	-0.071***	-0.070***
	(0.013)	(0.014)	(0.014)	(0.014)	(0.014)
Cohort1*Rural	-0.001	0.004	-0.007	0.007	-0.004
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
Cohort2*Rural	0.035	0.031	0.021	0.034	0.023
	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)
Wealth Index		0.024***	0.012***	0.026***	0.014***
		(0.004)	(0.004)	(0.005)	(0.005)
Muslim		0.021	0.036**	0.023	0.037***
		(0.014)	(0.014)	(0.014)	(0.014)
Household Size		-0.034***	-0.031***	-0.034***	-0.030***
		(0.002)	(0.002)	(0.002)	(0.002)
Currently Working		0.146***	0.121***	0.147***	0.121***
		(0.015)	(0.015)	(0.015)	(0.015)
Husband's Education		0.003**	0.006***	0.002*	0.005***
		(0.001)	(0.001)	(0.001)	(0.001)
Age FE	No	No	Yes	No	Yes
Division FE	No	No	No	Yes	Yes
Observations	16,671	16,671	16,671	16,671	16,671
R-squared	0.011	0.040	0.074	0.042	0.076

Note: Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)
FE= Fixed Effects
Women's decision-making in spending money = 1 if husband or other decides; =2, if both wife and husband decide; =3, if wife decides

Table A 6
Effect of the FSP on Decision in Contraception

	(1)	(2)	(3)	(4)	(5)
Cohort 1	-0.014	-0.016	0.001	-0.017	-0.000
	(0.015)	(0.015)	(0.047)	(0.015)	(0.046)
Cohort 2	-0.032	-0.032	-0.022	-0.033	-0.024
	(0.020)	(0.020)	(0.045)	(0.020)	(0.045)
Rural	0.009	-0.017	-0.019	-0.016	-0.018
	(0.012)	(0.013)	(0.013)	(0.013)	(0.013)
Cohort1*Rural	0.013	0.020	0.018	0.021	0.020
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Cohort2*Rural	0.030	0.031	0.033	0.033	0.034
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
Wealth Index		-0.004	-0.006	-0.005	-0.007*
		(0.004)	(0.004)	(0.004)	(0.004)
Muslim		-0.032***	-0.028**	-0.033***	-0.028**
		(0.012)	(0.012)	(0.012)	(0.012)
Household Members		-0.002	-0.001	-0.002	-0.002
		(0.002)	(0.002)	(0.002)	(0.002)
Currently Working		0.009	0.004	0.009	0.003
		(0.013)	(0.013)	(0.013)	(0.013)
Husband's Education		-0.007***	-0.006***	-0.007***	-0.006***
		(0.001)	(0.001)	(0.001)	(0.001)
Age FE	No	No	Yes	No	Yes
Division FE	No	No	No	Yes	Yes
Observations	10,240	10,240	10,240	10,240	10,240
R-squared	0.001	0.008	0.014	0.009	0.015

Note: Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)
FE= Fixed Effects
Women's decision-making in spending money = 1 if husband or other decides; =2, if both wife and husband decide; =3, if wife decides

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