Exploring the Decline of Female Economic Participation in a Developing Economy with High Economic Growth and Surplus Supply of Labour

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Abstract

This thesis discusses a combination of possible reasons of the recent decline in women's formal economic activities in Bangladesh as an example of a developing country with high economic growth and abundance supply of labour. It uses economic growth and development theories to trace for possible combination of economic growth determinants which rationalize this decline. It applies parts from Lewis's and Goldin's economic growth theories to macro-data related to women's employment activities supporting the hypothesis that certain growth theories, when combined together, can provide rationalization and explain potential pattern for such decline. In short, the reasons rationalized are higher agricultural real-wages, declined poverty rates, lower industrial real-wages, inadequate white-collar service sector jobs, and increased female reservation-wages. The potential pattern of female economic participation (for developing states with growing economy and surplus labour supply) is then theorized to be increasing (with the presence of poverty and expansion of export-oriented feminized industries), then declining (upon the presence of the above reasons combined together), and lastly increasing again (broadly with the expansion of service sector jobs and the weakening of these reasons). In order to reverse this decline in female economic participation without any further delay, policymakers may implement measures that increase industrial real-wages and create adequate expansion of white-collar jobs.

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Acknowledgement

I would like to take the opportunity to thank the diverse community of the School of Public Policy in CEU – getting to learn and experience from the members has been my privilege. My utmost gratitude is to my supervisor for all his guidance and also to my family for their patience and encouragement throughout this endeavor. I would also like to express my sincere gratitude to my mentors, professors, and classmates whose inspirations nurtured my passion about this topic and provided me the strength to continue writing about it.

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Chapter 1: Introduction

1.1 Research Context and Contribution

Increasing formal economic participation of women has been argued as an effective tool for higher economic development and reduction in poverty for many developing countries. The existence of gender inequality in economic participation and the significance of female economic-social empowerment have been emphasized much in the academia (for instance, Ester Boserup's work with a focus in developing countries). In order to understand and increase participation of women in the economy from economic and public policy perspectives, the dominant reasons (both economic and social) for women's low economic participation in the developing countries require thorough exploration.

Speaking more precisely, to contribute productively in the country's higher economic growth, it is essential for developing but growing economies to examine reasons that may restrict women from joining labour markets. Taking Bangladesh as the case to explore the importance of female economic participation in growing developing countries, not many earlier studies have reported a recent potential decline in its female labor force participation (ADB and ILO, 2016; World Bank, 2017a). Unlike this, however, many scholars have explored and provided reasons for an increase in female employment for the past years of the country (Kabeer and Mahmud, 2004; Romke, 2014; Rahman and Siddique, 2015). Reasons for Bangladesh's recent downfall of women's economic participation have remained largely unexplored, even though granted this is a recent observation.

The thesis contributes to the literature by exploring this recent downfall of female economic participation of Bangladesh and by tracing possible factors of the decline in different coherent sets of theoretical frameworks (specifically, the models of Lewis and Goldin) related to economic

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growth. It also contributes by theorizing a potential pattern of female labour force participation for developing countries with high economic growth and surplus labour supply.

1.2 Background: Economic Growth, Poverty, and Population

Bangladesh's economic growth, poverty rate, and population statuses are important to review before introducing women's economic position. The economy has been going through large structural changes shifting from agricultural to manufacturing and services: indicators like Real GDP Growth at constant factor-prices for agricultural industry and services indicate such ongoing transformation (World Bank, 2016). The growth in agriculture was estimated to be 2.8 in 2016 and forecasted to be 4.1 in 2017 with the most reduction of 2.5 in 2018. By contrast, the industrial sector delivers 11.1 (2016), 8.9 (2017) and 8.3 (2018) growth, while services are estimated and predicted to be 6.3 (2016), 6.0 (2017), and 6.9 (2018) respectively. Higher growth in industry and services not only reflects the transitional process of the country's economy but also projects the overall high growth that Bangladesh's economy will continue to uphold (between 6.4% to 6.8% in 2017 and 2018) (World Bank, 2016). Indeed, Bangladesh has thrived in economic growth since the beginning of the new century with a rate as high as above 6% along with a successful reduction in its poverty rate (World Development Indicators). Figure-1 confirms that, from 2000, Bangladesh has effectively experienced a sharp decline of an average of 10% poverty in every 5 years.

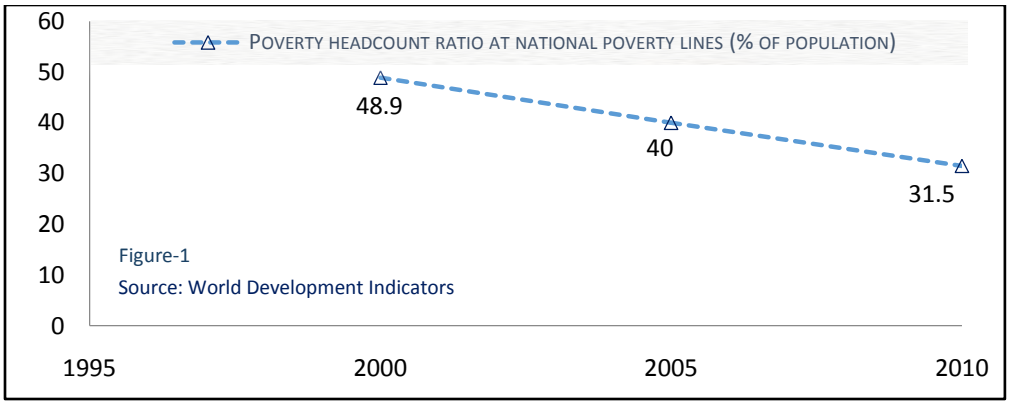

Figure-1
Source: World Development Indicators

Even though sustained economic growth has been a tool to reduce poverty, about 28 million people are still under the poverty line given that Bangladesh is one of the densely populated countries in the world with 161 million people being a labor-intensive country (World Bank, 2017a). In order to overcome the challenges of poverty and surplus labour even further, sustained economic growth in terms of increasing formal employment is considered to be critical for Bangladesh.

1.3 Background: Apparel Industry and Women Workers

In fact, the high economic growth of Bangladesh has been dominated by the export-oriented industry of ready-made garments (RMG) (80% of the total export) contributing to $22 billion dollars per year of its GDP (Ethirajan, 2017). The apparel industry of the country contributes as the second-largest (after China) apparel producers to the EU and the US (*ibid*). Contributing as the multibillion-dollar manufacturing and export industry, the ready-made garments industry in Bangladesh is not only performing towards its high economic growth, but also supporting the structural change of its socio-economic development (Rahman and Siddique, 2015). Granted along with its exceptional growth, the sector has created significant rise in formal industrial jobs. This substantial contribution has lowered the unemployment rate of Bangladesh at about 4% as of 2013 and employed above 4 million women workers leading to the feminization of the industry (ABD, 2016). However, these women workers being surplus in supply are unskilled in nature work for low minimum-wages serving as cheap labour within unfavourable safety compliances and vulnerable employment conditions (Bridges et al, 2011; Rahman and Siddique, 2015). Nonetheless, the apparel factories of the country is the main source of formal employment sector for its female labour force and has overall raised the formal female economic participation of Bangladesh significantly.

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Indeed, Bangladesh provides an interesting perspective to study female employment in terms of its high economic growth, poverty rate, and surplus labour supply statuses. It has remained a country where the traditional gendered division of labour still exists exasperating the mobility of women through the practice of 'purdah' (restrictions in public activities) (Kabeer and Mahmud, 2004). Despite this persistent patriarchal structures, Bangladesh continued to have steady increase of women's formal labour force participation from the 1980s, mostly due to the growth of the apparel industries (as mentioned above) (ILO, 2008). In spite of this positive progress "the female employment rates constitute about a third of that of the male employment rates" (Bridges et al, 2011) reflecting subsequent gender inequality in economic performance of the country. Overall, female participation in formal and paid employment remains significantly low even after its consistent steady increase over the decades.

1.4 Research Problem & Research Question

Despite the prominent growth in the economy with dominant participation of women workers in the most significant economic industry, Bangladesh has suffered from a recent decline in female labor force participation (ADB and ILO, 2016; World Bank, 2017a). Figure-2 below shows that while the male labour force participation rate has declined from 87.4% (2002) to 81.7% (2013) constantly and slowly, the female labour force participation rate was in a constant rise indeed from 1990 (14.0), 2002 (26.1%) till 2010 (36.0%). However after that, in 2013, female labour force participation rate declined to 33.5% (*ibid*) – surprising policymakers as they desired its rising pace.

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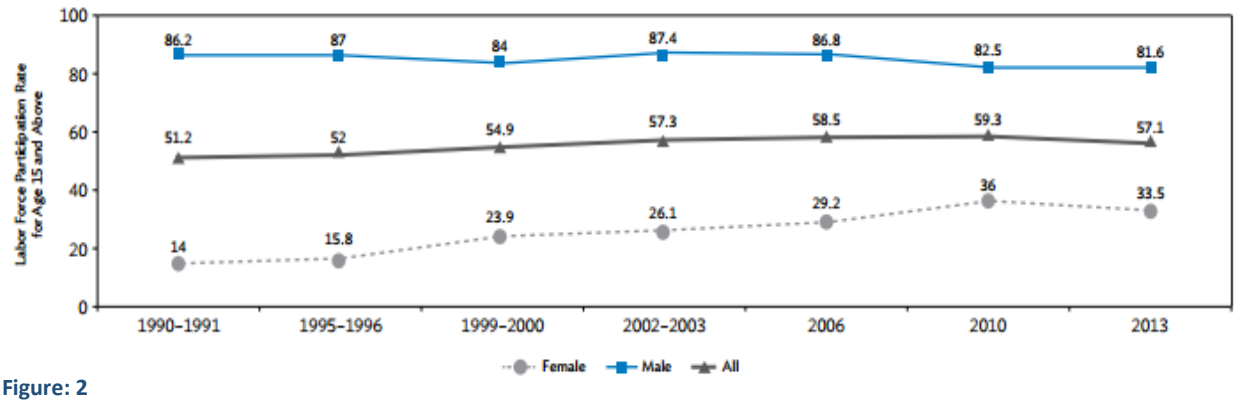

Figure: 2

Source: Bangladesh Bureau of Statistics. Labor Force Survey.

This is also appalling because with consistent high economic growth a decline in female labour force participation potentially complicates Bangladesh's challenges of vulnerable employment status, surplus labor supply, and economic growth sustainability (ADB and ILO, 2016). In fact, higher female labour force participation of Bangladesh has been recommended as an economic policy tool for the economy to grow sustainably at 7% and to improve other socio-economic indicators of the country (World Bank, 2017a). More specifically, gender equality in the labour market is thus considered to be one of the necessities for faster sustainable growing economy with the aim to terminate poverty from Bangladesh (*ibid*). Given such desired goal, the recent decline of female economic participation poses relevant threat for the country's economic growth and socio-economic development.

Henceforth, an exploration is needed to understand the possible economic factors that may explain this downfall. The most significant reasons for the gender gap in the labour force participation rate of Bangladesh are predicted to be excess burden of household responsibilities, lack of potential human capital of women workers, and discrimination in the job market (World Bank, 2017a). However, given that Bangladesh is growing with a rate higher than 6%, exploration of explanations related to pivotal economic growth and development theories are highly imperative to

reverse the country's female employment growth and overcome challenges of their economic participation. The thesis thus explores – what key potential economic growth theories can explain the decline of female labour force participation of Bangladesh? On such grounds, the thesis hypothesizes that certain growth theories on developing countries can provide possible rationalization of a declined-pattern of female labour force participation in Bangladesh.

1.5 Research Methodology and Structure

In terms of the methodology, the thesis takes a more theoretical approach than an empirical one. Most importantly, it traces economic growth and development theories that may have possible explanations for the decline in female economic participation in a growing developing economy. It then applies those models to the case of Bangladesh and provides reasoning for why the models fit the relevant case. The theoretical framework explored before the critical reasoning part of the thesis is thus inevitable to understand the construction of the reasons. In then combines the models and critical rationalization in order to identify a possible pattern of women's economic performances in growing economies with surplus labour. Evidently, the thesis follows a quantitative approach in a sense that it uses descriptive statistics in order to analyze its theoretical bodies. The data used are from multiple sources, namely from Bangladesh Bureau of Statistics (BBS) Labor Force Survey (LFS), Bangladesh Economic Reviews, World Development Indicators, and International Labour Organization as these databases combined together provides a relevant basis for the analyses part of the thesis. Moreover, no specific time-frame is considered – however, since this is a relatively new phenomenon, data after 2000 is used mostly.

As the thesis proceeds, its structure would be composed of six chapters. After the introductory chapter contextualizing the problem, it presents the endogeneity problem between gender equality

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and economic growth. In the following two chapters, the thesis discusses notable historical economic growth models containing women's employment determinants and then analyzes a conceptual framework of Lewis's and Goldin's economic development models respectively. The next chapter – the most important one – analyzes the theories with relevant data about the issue at stake and also theorizes a pattern of female economic participation. The final chapter reflects on concluding remarks drawing onto specific limitations of the study and recommendations to overcome the research problem.

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Chapter 2: Endogeneity Relationship Crisis

This chapter reflects on the relationships between women's labour market participation and economic growth. It takes into account the relationship of women's economic performances and economic growth is a problem of endogeneity as the relationship is argued in both ways.

2.1 Female Economic Participation causing Economic Growth

Is gender equality in labour markets just a matter of human rights as to shift unfair power dynamics and save half of the world population from discrimination? Or does this gender equality also have economic growth prospects to achieve?

Generally speaking, women's contribution to the economy has been connected to economic development mostly by previous studies in economics. Heightened women's rights movements over the last three decades has been an important strategy for demanding higher opportunities for women, which has slowly increased female participation in labour markets with an increasing or constant rate (Ruwanpura, 2004; Helen et al., 2015). However, the fact that female participation in formal economic productivity is still low brings to the background of women's work history. Traditionally women are considered as homemakers coordinating home activities, childcare and farm duties within households, while men are considered to work outside of home for living as primary income earners (Chaudhry & Nosheen, 2009). The traditional labour segmentations explain that women's participation formal economic productivity outside home is largely influenced by the socio-cultural norms and doing-gender performances instead of economic rationality.

Nonetheless throughout history, the traditional labour segmentation was explained as economists reasoned more or less towards the "irrational" behavior of women as decision-

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makers/consumers which makes them "relatively invisible" in economic progress and productivity (Bodkin, 1999: 55). Neo-classical economists, like Pigou, suggest that it is rather rational to keep women's wages lower to maximize the welfare of a economy as they are arguably "unfit", "weaker, and more imperfect than man" (Canon, 2012). However, one of the earliest contributions towards developing feminist-economic theories is by Ester Boserup (1971) who claims that women are significantly deprived of their productive values and functions in the economy due to the traditional division of labour. Boserup also theorizes that whenever women's functions in the economy are altered to more productive values due to modernization of agriculture, the economic development of the developing country is heightened potentially (Boserup, 1971). Even though Boserup associated less productive values to the traditional labour division of women, granted it is given less importance in terms of direct economic contribution to the labour market.

Furthermore, if a country restricts half of its population (women) within the premises of households giving least or unequal opportunities in the formal economic sectors of the country, the country surely losses full services from that half (Grown et al, 2005). Indeed, choosing from a group of people and marginalizing the other is to alienate some more talented people, not utilize the available capacity of human resources and thus negatively effecting economic performance and overall production (Klasen and Lamanna, 2009). On such note, economists may argue that gender inequality in employment may rather costs heavily in terms of economic growth instead of maximizing welfare. Most importantly, according to the Solow-growth model perspective, a higher rate of female participation in the labor market increases women's income earnings and thus shifts the power dynamics in the family leading to higher savings rate and productive investment (Klasen and Lamanna, 2009). Thus with higher savings and investment more female economic participation would contribute to higher economic growth. One other noteworthy study by Naila Kabeer and

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Luisa Natali (2013) examines the endogeneity problem specifically. They linked several indicators to the employment level of a region concluding that an increase in these three sectors would increase gender equality in overall employment resulting to higher economic development (Kabeer and Natali, 2013). Overall, higher female formal economic participation when linked to other development indicators shows promising development in economic growth.

2.2 Economic Growth causing Female Economic Performances

As the economic growth paradigms undergo several discourses (neoliberal to grassroots theories), the process of development and growth is questioned further to ensure long-term sustainable growth. W. Arthur Lewis (1955) in his study *Theory of Economic Growth* describes economic growth effect on female employment saying, "it is open to men to debate whether economic progress is good for men or not, but for women to debate the desirability of economic growth is to debate whether women should have the chance to cease to be beasts of burden, and to join the human race." Because of this ambiguous impact of economic growth on gender equality, several other studies invested on the effects of economic development on gender equality.

Opponents of positive effects of economic growth on women's economic performances argue that women's labor force participation in the agriculture sector with that of economic development and urbanization rather decreases due to the maintenance of traditional roles by the society (Boserup, 1971; Goldin, 1994). In addition, the idea that there is no guarantee in the contribution of economic growth to gender equality in employment because economic growth at times leads to higher gendered-inequalities is also prevalent (Kabeer and Natali, 2013: 22). Moreover, economic development from having abundant natural resources (like fuel production and hydrocarbon exports) may basically foster the non-traded and construction-building industries of a country. These

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sectors being less work-friendly towards women tend to employ male workers due to the nature of work environment (Ross, 2011). Henceforth, economic development of a country that results from the wealth of natural resources like that of fuel production may rather restrict women from influencing in the economy and politics.

Nonetheless, studies also connect economic development as one of such measures that have widely been associated with women's status of equality in labor market. Scholars emphasize that on one hand economic development in terms of globalization as FDI may drive women to more income opportunities (even though of low minimum wages), which in turn increases empowerment of women in the households, increases greater space of women in the public sphere, and emerges them as public figures eventually (Gray et al, 2006; Meyer, 2006). Additionally, findings on economic development in terms of capital inflow, trade ratio, and openness to international organizations and multi-national corporations conclude that these eventually lead to greater private and public influence by women in the sectors of health, literacy, government, and overall labour markets (Gray et al, 2006). One empirical study examining the relationship of job segregation by sex with neoliberal structural adjustment and economic development, finds that the modernization paradigm of economic development increases the labor market activities of women (Ball, 2008). Using an index to find out types of employment that segregate men and women in terms of their sex, it reaches the conclusion that per capita GDP has a strong relationship with job segregation and that the rate of job segregation has a decreasing effect if GDP per capita increases (*ibid*).

In short, the endogeneity crisis that the chapter discusses is vital to understand the relationship between economic growth and women's labor market participation generally. As we proceed into concrete economic growth models from here to explain the context of female economic participation in the case of Bangladesh within dynamic growth frameworks, it is essential that we

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proceed by emphasizing this endogeneity problem of gender equality in labor markets and economic growth as "mutually reinforcing" (Dollar and Gatti, 1999: 3) to each other's overall development rather than as mutually exclusive.

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Chapter 3: Economic Growth Models

3.1 Preface

In order to examine the economic growth theories to understand variations in women's economic participation (a decline in this case), bringing in traditional growth models and their explanations is fundamental for the purpose and contribution of the thesis. Henceforth, to exlain these variations certain dimensions of the economic growth theories and their stages are taken into account. Staying within the limited scope of the research, the study analyzes economic development theories with particular concentration in the growth of industrialization. With the critical assessments of the models of economic growth by the growth and development theorists, the theoretical paradigms and explanations that may influence changes in the patterns of female economic participation (particularly, the decline of female economic participation in a growing economy) are discussed in the case of Bangladesh.

3.2 Overview: Historical Growth Models

Before moving into the details of two most important seminal works (from W. Arthur Lewis and Claudia Goldin) chosen for the foundation of theoretical analysis to answer the research question, a brief overview of some historical economic growth and development models is needed to set the necessary stage. Two very first influential classical theoretical approaches stands out firmly (seminal works of Adam Smith in 1776 and David Ricardo in 1817) which contribute to 'specialization of labour' and 'diminishing returns to scale' as important factors in an economic growth process. Long way after that and with the Second World War, economists (particularly the growth-theorists) started examining the economic development process of the less-developed regions of the world thoroughly (Cypher and Dietz, 2008). One of the important models with strong implications towards the

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economic growth of the less-developed states is the classical exogenous growth model developed by Harrod (1939) and Domer (1949) known to be the Harrod-Domer model (Hagermann, 2009). The model in general claims that an increase in savings rate (which increases investment), an increase in marginal product of capital (i.e. marginal increase in output from one unit increase in capital), and a decrease in the depreciation rate of capital stock are the main tools for increasing economic growth rate (*ibid*). This particular model provides the framework for the neo-classical growth models with an edge with factors related to economic development in general.

Among the neo-classical school of economic growth theorists, the most prolific exogenous growth model is possibly the Solow-growth model by Robert Solow (1956). Solow predicts that the productivity growth of an economy grows on accumulation of capital until the accumulation turns investment equal to the depreciation (Solow, 1956). At that stage the economy is in Solow's 'steady-State' with no increase in growth and can only grow in the long-run by a technical progress of the economy (*ibid*). After Solow's model, though into a different neo-classical theoretical approach, investment and technological advancement are mentioned in W. W. Rostow's (1960) 'five-stages' of economic growth setting an overall process for achieving economic growth. The first and second stages are mostly the traditional society known as the subsistence agriculture sector with limited technology and at best commercial production of agriculture. From there the economy moves to Rostow's 'take-off' with technological advancement, industrialization and urbanization. The stages after 'take-off' is particularly related to the maturity-level of production, diversification of manufacturing industries, large-scale investment in infrastructure and mass consumption respectively (Rostow, 1960). Rostow's 'take-off' has been considered to be one of the most significant contributions to the 'theory of modernization' which also implies that structural and cultural changes can be developed in developing societies through economic growth by higher industrial production

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(Cypher and Dietz, 2008). From this stage when the society is growing from certain industrialization, women's participation in the economy (mostly in developing countries) comes into the context of economic growth.

3.3 Growth Theories Connecting Women's Employment

3.3.1 Demand-side: Export-orientation

The modernization theory of industrialization and manufacturing, with the 'Trade-Openness' and 'World-System' theories, is framed heavily to increase women's employment in the industrial sector. The 'Trade-Openness' theory is associated with large-scale export-oriented industrialization (Meyer, 2006; Ross, 2011), which in creating new industries of export-productions increases the demand for workers with new employment opportunities in these export-oriented industries. Export-orientation (especially at the initial stage) is highly correlated with the expansion of job opportunities of unskilled workers being generally favorable for women's working environment (Ross, 2011). Thus, this is generally associated with higher women's employment activities with the rise of investment for export-productions.

Moreover, the 'World-System' theory provides further explanations for this rise in demand for unskilled labour supply in the developing countries (Ackah et al, 2009). It states that due to global trade liberalization (based on Stolper-Samuelson theory) in international trade, international trade based on labour and capital intensive production among labour and capital intensive countries expands according to their comparative advantages. The relative availability of factor-abundance of labour and capital then increases the demand for supply of labour and capital respectively (*ibid*). For the case of most developing countries, it is mostly in labour-intensive production that they have comparative advantage into and so particularly increases the demand for unskilled labour for the

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manufacturing of export-oriented products. Since female-labour tend to be more unskilled in these countries and female wages tend to be lower compared to their male counterpart's, the labour-intensive industries seek to employ more female workers (Amin et al, 1994). As a result, female labour force is largely heightened in the formal sector by the growth of export-oriented manufacturing industries, while still remaining largely unskilled earning lower wages mostly.

3.3.2 Demand-side: Human Capital

In order to expand more on the examination of unskilled female labour supply, it is now essential to understand neo-classical perspectives of endogenous economic growth theories on human capital. This is particularly important from policy perspectives in development as long-run economic growth is now shifted from core market determinants to factors in social infrastructures. Studying on neoclassical models of human capital and economic growth, Paul M. Romer (1989) suggests that higher human capital on literacy and innovation is connected towards higher investment and thus associated to higher economic growth. In other neoclassical theories, the "competitive-efficient labour market" based on the "rationality of employers and workers" is emphasized (Arrow, 1973). This implies that with the concept of profit maximization, employers would tend to pay workers according to their marginal rate of product (Hamermesh, 1986). Henceforth, higher marginal rate of product is associated with higher pay and thus makes a worker more competitive and efficient. Since lower human capital indicates towards lower skill level and thus lower marginal rate of product, wages are fairly low for workers with lower human capital. Therefore, if women workers tend to hold lower human capital levels, then they may end up with lower wage rates along with lower employment opportunities even when the economy is growing.

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In addition, the existence of market and social discrimination based on gender associations may contract female employment opportunities even if female human capital may exceed that of their male counterparts in a growing economy (Ruwanpura, 2004). In that case, unfortunately, women may not have the same level of labour market opportunities compared to men. Nonetheless, when further development in the economy tends to expand the service-sector and white-collar jobs with a change in the occupational structure, employers may increase their preferences for female workers possessing higher human capital level over older male workers and thus female employment may rise with economic development (Oppenheimer, 1970). All these suggest vital aspects to conclude in terms of economic growth, human capital and female labour market. In short, positive correlation exists between higher human-capital investment and economic growth; however, increase in female labour participation through higher human capital is rather complicated and not an immediate observation with economic development.

3.3.3 Supply-side: Human Capital

Expanding more on the modernization theory now, the two important hypotheses (opportunity-cost argument and aspiration argument) indicate higher social acceptance of female labour market participation with higher economic development and human capital investment (Standing, 1981). According to the opportunity-cost hypothesis, educational investment and employment aspects are positively correlated as education raises the opportunity cost of not participating in the labour force (Bowen and Finegan, 1969). To put simply, foregoing higher wages lead by higher education is generally expensive than when wages are relatively lower. This related to women's supply of labour (especially in the developing countries where women are considered to be the primary care-takers of children, elderly family members, household-farming works and other household activities) indicates that women would join the labour market if the value of her time in the labour market tends to

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compensate more or higher than the value of her allocated time for home. On the other hand, the aspiration hypothesis claims that women holding higher educational prospects (a certain threshold considered) have higher income aspirations compared to the less-educated and so are more likely to incline to participate in the labour market (Standing, 1981). Here the issue of women's reservation wage (i.e. lowest wage at which a worker is willing to work) being higher than men's fit for further explanation (Brown et. al, 2011). Combining the opportunity-cost and aspiration arguments of human capital for higher female economic participation, it can thus be suggested that female's aspiration of reservation wage tends to go higher not only with more children or household activities, but also with acquiring higher human capital. Female workers may join the labour market of an economy (developed or developing but growing) if their reservation wage meets their expected value of accumulated human capital.

3.4 Key Summary

Overall, the historical growth and development models theorize that economic growth is achieved mostly by increased industrialization, higher savings rate, higher capital investment, lower depreciation, advanced technological advancement, and higher human capital. Female labour market participation may tend to increase for many developing countries as economic growth generally increases friendly employment opportunities for unskilled female workers due to changes from traditional to modernization production with comparative advantage in labor-intensive export-oriented production. In addition, female labour market opportunities tend to become more competitive with higher human capital as it increases their wage rates according to their increased marginal rate of product. However, they may face acute possibilities of drawbacks in formal economic participation even with economic development if gender discrimination exists in the labour market and if female reservation wage expectations rise along with their higher human

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capital. In that case, female labour force may tend to decrease even though it has increased at first and even though the economy is growing.

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Chapter 4: Growth Theories from Lewis and Goldin

The chapter emphasizes into details of W. Arthur Lewis and Claudia Goldin's economic development models. This is fundamental as major parts of the analyses of female economic participation of Bangladesh in the next chapter will be heavily based on these two economic growth models.

4.1 Lewis's Unlimited Supply of Labour

W. Arthur Lewis's paper *Economic Development with Unlimited Supplies of Labor* (1954) is one of the most referred economic development models for developing countries as it is one of the foremost to explore overpopulation with economic growth. In his growth model Lewis analyzes the contexts of national income, structural transformation, wage rates, and population determinants (Lewis, 1954). This is also why this model is acutely emphasized to investigate the case of Bangladesh. Details of few rational are presented: Lewis's framework is more accepted in the 'policy world' than academia (as noted by Gollin, 2014) which is essential for this research; it has wages and population factors that acutely fit for the case's analyses; and it fits more for the case of a developing country's growth having a transition economy. Lewis was highly aware that his model of dual-economy would only fit certain economies of the world (mostly not in Europe) – nonetheless, for the case selection of this paper, Lewis's model produces an acute base for analysis.

Expanding on structural transformation of transition economies through links of modernization, Lewis's model proposes the growth process of a developing economy which can transform to a "capitalist [modern/formal/industrial/urban]" sector by attracting required labour from the "subsistence [traditional/informal/agricultural/rural/]" sector (Lewis, 1954). He realizes that the neo-classical growth frameworks provides little knowledge for the growth of the economies with

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surplus labour, and thus offers the classical framework for analyzing such growth. According to Lewis, the key for this model's growth for the capitalist sector here is the availability of surplus labour supply in the subsistence sector. His explanation for this unlimited labour seems realistic to many developing countries in world today as he claims (Lewis, 1954; p.402):

> *An unlimited supply of labour may be said to exist in those countries where population is so large relatively to capital and natural resources and that there are large sectors of the economy where the marginal productivity of labour is negligible, zero, or even negative (eg. agricultural sector, casual jobs, occasional employment, domestic service).*

Moreover, Lewis also identifies that the employers of the capitalists sector would want to hire workers at very low wages in order to curb down their production cost and maximize their profits. But in order to expand the capitalist sector attracting the surplus labour supply, the mentioned low-wage cannot go lower than the wage offered in the subsistence sector. This is not only because of higher living and transfer costs, but also about earning social-prestige by working in the formal capitalist sector which as standard goes by higher real wages (p. 411). Therefore, Lewis recognizes, "Earnings in the subsistence sector set a floor to wages in the capitalist sector, but in practice wages have to be 30% or more between capitalist wages and subsistence earnings" (p. 410). At this higher offered-wage, the supply of labour drawn from the subsistence sector will remain surplus to the capitalist sector until it exceeds the corresponding demand (p. 412). Hence, employers can hire as much as they require from the unlimited supply of labour to their modern industrial sector at wages slightly higher than subsistence wages.

The important explanation of reaching Lewis's 'Turning-Point' comes at this stage. According to Lewis, the economic growth of the capitalist sector expands with higher share of

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profits in national income due to higher savings and investments resulting to more capital accumulation with technological progress (Lewis, 1954; p. 431). All these further expand industrialization growth with higher production in a way that increases further employment and draws in more labour from the agricultural sector, but without the need to raise wages. However, the unlimited supply of labour is no longer indefinite when ("capital accumulation has caught up with population") the supply of labour in the subsistence sector is 'exhausted' and thus the growth in the capitalist sector reaches the 'turning-point' (*ibid*). The decrease in supply of labour in the agricultural sector (along with possible other reasons) would invoke marginal product of labour to eventually increase, which further increases the subsistence wage level (Lewis, 1954; p. 432). Henceforth, reaching the 'turning-point', the industrial sector also needs to offer higher wage rates in order to attract any more labour for further expansion.

To sum, Lewis's model processes the stages of growth in an overpopulated economy by moving the underemployed workers with low productivity and low living standards out from the subsistence sector to the capitalist sector. The wages in the industrial sector remain largely constant with only a rise when labour supply in the agricultural sector becomes exhaustive with an increase in the level of wages of that sector. However, the question remains: to understand patterns of female labour participation, where does female labour supply fits in the Lewis's model? Indeed, Lewis emphasizes about it when analyzing the source of surplus labour for the transformation asking, "from what sectors would additional labour be available if new industries were created offering employment at subsistence wages" (Lewis, 1954: p. 403). One of the first sectors that Lewis mentioned as the source is the "wives and daughters of the households" from agricultural and informal areas (*ibid*). Even though there can be other limitations to women's participation in the labour force, Lewis argues that for most regions women's participation is limited only because of low employment

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opportunities (p. 404). Henceforth, he claimed that creating formal commercial employment opportunities for women in his model would increase economic development as a whole.

In addition, Lewis emphasizes that his model is only applicable for unskilled labour supply and highly applicable to expand manufacturing industries according to comparative advantages (Lewis, 1954; p. 406 & 445). On such factors, connecting unlimited supply of unskilled labour and the comparative advantages of international trade, it is visible that Lewis's model can work well with 'world-system' and 'trade-openness' theories (as mentioned before) where economic growth is achieved by expansion of labour-intensive export-oriented industries by easily employing unskilled-cheap labour force who are mostly women. As a result, these industries expand heavily as long as there is no shortage of female labour supply at subsistence wage; female employment also increases alongside. Taking light from Lewis's model, keeping other things constant, female employment tends to increase as long as capital accumulation is persistent in the capitalist sector and unlimited surplus of female labour is available in the subsistence sector at subsistence wage level.

4.2 Goldin's U-Shaped Hypothesis

Claudia Goldin's (1994) paper *The U-shaped Female Labour Force Function in Economic Development and Economic History* is a notable examination of female labour force participation and economic growth. It serves as one of the earliest platforms which not only relates female labour force participation to economic growth, but identifies changes in the female labour force participation as the economy progresses. Goldin hypothesizes the changes as a 'U-shaped' pattern of female labour force participation rate.

From the beginning of her paper, Goldin's approach is very dynamic. She emphasizes that instead of being occupied about the endogeneity crisis of female economic participation and

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economic growth, it is rather important to focus in bringing in more women in the economy for welfare purposes (Goldin, 1994). Goldin hypothesizes that there is a fall in women's participation in the labour force as a developing economy seeks modernization through manufacturing industries; but after a certain period women's participation increases as the economy grows further making it a U-shaped pattern. Theorizing the rational of income and substitution-effects, Goldin explains this downfall and upward trend of female participation. The reasons of social stigma, tradition, and discrimination in employer preference are emphasized with the rational of 'income-effect' for the initial downfall of female participation (Goldin, 1994). It is also argued that the social stigma and income-effect are strong enough to not allow women join manual-work activities in the manufacturing sector of the beginning stages of the economic process. These restrictions act as barriers together against women from joining the manufacturing sector.

In explaining the upward movement of female economic participation, increase in human capital of female labour with further rise of economic development is emphasized (Goldin, 1994). This in return makes the substitution-effect stronger over the income-effect now and so women workers tend to join the labour market. The social stigma of joining manual manufacturing jobs decreases with increase in economic growth having more diverse and white-collar jobs are now available. The employments from the white-collar jobs and women's higher educational achievement make substitution-effect increase at one stage of the economic development fostering women's labour force participation (Goldin, 1994). Henceforth, as the economy grows female labour force participation increases over time with the increase of female human capital, lessen stigma, more white-collar jobs, and stronger substitution-effect.

The 'U-shaped' female labour force participation pattern with the progress of economic development traced by Goldin serves as another pivotal point of reflection for analyses of the case

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of this research. It is important that the analyses reflect on Goldin's assumptions, economic rational, and any other economic theories that were not taken into consideration in testing the U-shaped pattern.

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Chapter 5: Analyses of the Decline in Female Economic Participation

5.1 Previous Work & Empirical Studies on Bangladesh

Some authors have explored determinants of female labour force participation in Bangladesh through quantitative frameworks. Poverty or the need for higher economic security has been staged as one of the reasons for the improved participation of female labour market in the metropolitan areas of Bangladesh, particularly in the apparel sector (Mahmud, 1997; Salway et al., 2003). Investigating the roles of poverty in slum populations of Dhaka (capital of Bangladesh), Salway et al. (2003) conclude that not only women from poor households are more into different forms of employment, but women from better-off households tend to work less. It appears that when the opportunity cost of "the luxury of purdah [covering and restriction of women inside the private sphere]" becomes too high to afford, low-income households allow women who are unskilled and cheap move out to cities and join the female workforce more easily especially in the labour-intensive industries (Mahmud, 1997). Additionally, Bridges et al. (2011) confirm this by addressing that even though socio-cultural constraints may act as barriers to women's employment, female participation in the labour market of Bangladesh has a consistent significant positive relationship with extreme poverty. This finding related to 'poverty' as a determinant of Bangladesh's female economic participation is crucial to note as it triggers the income-effect as the economy undergoes heavy industrialization.

In addition to poverty, education being another important factor is likely to influence women's employment in Bangladesh as it applies for many other countries (Hossain, 2004). The factor of education fairly dominates as Bangladesh has progressed rapidly for the last two decades in public policies that expanded basic and primary education for girls from poor households (*ibid*). Overall,

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the dominant reasons that have significantly determined female economic participation of Bangladesh in the recent past are mostly the influence of poverty, low-economic security from low-income households, and educational level (it is important to note here that other traditional, social, and customary reasons are not reflected due to the limited scope of the research).

5.2 Data & Relevant Statistics of the Case

5.2.1 More Women Workers in a Large Informal Sector:

Speaking of Bangladesh's low unemployment rate, people here are more likely to take in underemployed vulnerable activities than remain unemployed as they cannot afford to be out of the labour force (ADB and ILO, 2016). In that case, a large proportion of the employed workers end up in the informal workforce with dangerous activities along with job-instability and earning low-income. Broadly speaking, the informal labour market in Bangladesh consists of the majority percent of the workforce with 40.7%, 18.2% and 15.5% workers as self-employed, unpaid family helpers, and day-labours respectively out of the total employment adding to almost 75% workers as vulnerable (BBS, 2013). Considering women workers in this informal labour market, female workers are accounted to be the most vulnerable ones as 50% of them (as of 2013 data from BBS) work as unpaid or low-paid family helpers in the informal sector.

5.2.2 Growing Female Population:

The analysis of demographic conditions of Bangladesh produces some interesting insight regarding the female workforce. Bangladesh is undergoing a population growth of 1.5% rate per year (BBS, 2013). The growth of female population is higher than that of male and so is highly imperative to be taken into consideration for policy purposes. Due to this ongoing growth of female

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population, the working-age population for women has increased significantly from 2010-2013 expanding the overall labour force capacity of female workers (*ibid*). However as described before, Bangladesh's declined female labour force participation rate as of 2013 complicates the increase of the overall rise in female labour population. It is predictable that this expansion of female workforce population will thus be more negatively affected by employment vulnerabilities if the opportunities of female economic participation are not expanding alongside to reverse this decline.

5.2.3 Increased Female Human Capital:

Considering the causal relationships and theoretical reviews before, since education and human capital play vital roles in influencing both supply and demand of female labour force, an examination of the human capital condition for women workers in Bangladesh is essential for the analyses. About two decades before, male and female contributions on the labour force as per their educational attainments consisted of a huge gap (ADB and ILO, 2016). Even though the tertiary education contribution remained quite unchanged, the gap between male and female education contribution on the labour force substantially decreased in 2010 from 2000 (BBS, 2013). Female labor force by class I-V is 23.8% in 2000 and 22.7% in 2010, by class VI-VIII is 8.2% in 2000 and increased to 15.3% in 2010, and by class IX-X increased from 3.8% to 10.5% from 2000 to 2010 respectively (*ibid*).

On the other hand male labour force by class VI-VIII and class IX-X are 13.8% and 8.3% in 2010, which are indeed lower than compared to that of the female labour force contribution for both the class cases. This shows that female human capital acquirement not only reduced the gender gap in education but has significantly increased as well. However, female workers still lack behind in terms of their contribution with Bachelors or equivalent qualifications in tertiary education: female workers contributed to only 1.1% and 1.2% in 2000 and 2010 respectively; while male contributed to

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4.5% and 2.5% in 2000 to 2010. Overall, above data confirm the fact that Bangladesh has heavily reduced its gender discrimination in terms of education. Female workers are now more competitive and skilled taken into consideration their human capital deliveries compared to that of their male counterparts.

5.2.4 Both Increase (Agriculture) and Decrease (Industry) of Real Wages:

Analyzing real-wage earning of Bangladesh's female labour force from 2000 and onwards is essential for examining the declined female labour force participation and for explaining its connections with theories having wage determinants (especially the Lewis's model). However, since specific and separate data on real wages for both male and female workforce are not available separately, real-wage earnings of female labour force is analyzed by taking consideration of the data related to overall indexes of real-wages (estimated or projected) by sector composition and sector composition of employment contribution by gender.

Coming first to the sector composition of employment of 2000 to 2013, the Labor Force Survey data from Bangladesh Bureau of Statistics (BBS) shows that female labour dominates the agricultural sector than their male counterparts after 2000, while male labors continue to dominate the service sector. However for the manufacturing sector, the share of female and male labor force were almost evenly distributed until in 2013 when the female labour force in manufacturing (22.52%) increased to almost twice of that of male's (13.78%). Also from the Labor Force Survey data (2013), it is noticeable that even though female labor composition remained almost the same for construction and service sectors from 2010, it increased almost the same amount in the manufacturing sector that it decreased from that of the agricultural. As a whole, both agricultural and manufacturing sectors are more composed of female workers.

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In terms of real-wage according to sector composition, real-wage has generally been rising since 2000-2001 (Bangladesh Economic Review, 2010). Even though it flattened from 2003, real wages started rising again from 2007 (*ibid*). Since official real-wages for Bangladesh is unavailable for the period after 2008-2009, calculated estimations of indexes of real wages from 2006-2012 are prepared by using nominal-wages and consumer price indexes (for both urban and rural taking 2005-2006=100 as the base) (Bangladesh Economic Review, 2014). The estimations show that the real wages of both agriculture and construction from 2006-2007 to 2011-2012 are rising constantly (though a slight decrease of construction's real-wage in the middle). On the other hand, the real wages for the industrial sector have generally decreased from 2008-2009. Even though it increased in 2011-2012, the real-wages for industry are still lower than that from 2008-2009, and remained overall lower than that of the agricultural and construction sectors (data calculated by ADB and ILO, 2016). Generally speaking, it can be concluded from these estimations that real-wages for women workers has increased for the agricultural sector but decreased or remained constant for that in industry. Such estimations of the real-wages and employment sector composition by gender would now direct the analysis of real-wages pattern for female labour force of Bangladesh in general.

5.3 Critical Reasoning (Based on Growth Theories and Statistics)

5.3.1 Reasoning Based on Lewis's Model

In order to investigate the decline of female economic performance of Bangladesh with its rise in overall economic growth having surplus labour, it is crucial to situate Bangladesh's economic position according to the important growth models described in the previous chapters. As a fast growing developing country, Lewis's model particularly fits Bangladesh's heavy modernization activities of industrialization and urbanization for the last few decades by having unlimited supply of

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labour. Being one of the most overpopulated countries in the world with exhausted natural resources as required in the Lewis's model, it is needless to say that Bangladesh has comparative advantage in labour-intensive production. According to the 'world-system' and 'trade-openness' theories in terms of this comparative advantage, it is also apparent that Bangladesh's industrialization based on export-oriented manufacturing production has increased demand for its available surplus amount of unskilled labour force.

In addition, the heavy growth of export-oriented manufacturing industries in Bangladesh reflect the fact that (as per Lewis's model) these employers are accumulating capital and profits by employing workers from the subsistence sector to their capitalist sector in wages slightly higher than the subsistence wage level. As reported in the introductory chapter, since these export-oriented manufacturing sector (mostly apparel factories for Bangladesh) employ more women workers than men, it is also evident to claim that the heavy growth and profit maximization by the export-oriented industry in Bangladesh relies heavily on the female labour force, which being more unskilled are cheaper to employ in Bangladesh. It is indeed true for Bangladesh that the source of drawing labour supply from rural/informal to urban/formal sector has been (as Lewis mentioned) "wives and daughters of the households". Since now that there is a decline in the overall female labour force participation, how is this connected to Lewis's 'turning-point' in the context of Bangladesh?

In order to answer that, it is important to find out whether Bangladesh has reached or will reach Lewis's 'turning-point'. Answering this is possible by analyzing the data of real-wages in the sector compositions of the country stated just in the previous section. Bangladesh's calculated estimations of real-wages data in the industrial sector show that it has decreased or remained constant over the recent past years. Since there is no rise in the real wages in the industrial sector, it can be claimed that Bangladesh is yet to reach Lewis's 'turning-point' and thus surplus female labour supply is still

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available for the industrial sector of the country. But not reaching the 'turning-point' and not having exhaustion in the supply side with higher growth in the industrial sector also generally indicates that female labour force participation is at a rise or at least constant. However, the decline in female participation means otherwise and indicates that other factors should be taken into consideration as well.

Considering that there is an increase in real-wages of the agricultural sector (which is dominated by women), it can be claimed that productivity in the agricultural sector has also increased (possibly through higher technological progress). With higher productivity in the agricultural sector, real-wages have possibly increased constantly. However, instead of increasing participation in the agricultural sector with higher real wages, it has resulted to a decline in female economic contribution in the agricultural sector (as presented previously in the 'data' sub-section). Lower contribution of women in the subsistence sector with a rise in subsistence wages can actually further imply to Lewis's conditions prior to reaching the 'turning-point'. Higher wages with lower participation of women may indicate the fact that women are no longer or not much needed to work in the agricultural sector due to a rise in agricultural household income with higher agricultural real-wages. On such grounds, as per Lewis's model, the industrial sector may also undergo difficulties to attract more women workers without raising its real-wages now that agricultural real-wage have increased. Therefore, it is highly conclusive to say that an increase in agricultural real-wages and no sign of increase in industrial real-wages indicate the women who are unwilling to join the low-paid formal labour force now reflecting the decline in overall female labour force participation.

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However, the increased participation of women in the manufacturing sector (as shown before) is visible even without any rise in its real wages. This means that employers in the manufacturing factories can still attract some female labour surplus without increasing real-wages contrary to what

Lewis suggested in his model. One reason for this may be because of Bangladesh's overall growing female population and its growing working-age population. This directs to the fact that even though there is female labour surplus in manufacturing who are willing to work in the subsistence wage as before, there is also a bulk of working-age women who are not working and/or not willing to work in the low-paid labour force. The overall equilibrium of these two different supplies of female labour forces possibly resulted to the overall decrease in overall female economic participation of the country.

However, analyzing the statistics above and linking them to other potential theories (described in the next section), other complicated but highly economically viable reasons can also be delivered. I propose two possible reasons for this, which may also be connected with each other and to the Lewis's model above. These are: lower poverty with the availability of higher economic security, and higher reservation-wage with lower white-collar job opportunities due to higher human capital.

5.3.2 Reasoning Based on Goldin's Theory

In order to move forward with the justifications of these reasons proposed, moving back into Goldin's U-shaped hypothesis at this stage would set the stage for the explanations. Goldin's claim of the initial downfall of the female labour force with the increase in economic growth due to introduction of new markets or technology is quite contrary to this short-span analysis in the case of Bangladesh. This is because the industrialization of new export-oriented apparel manufacturing factories demanded for higher women workers since they are more unskilled and cheaper to employ. The supply of female labour force also shifted with the introduction of these factories as they are considered to offer environmentally suitable working conditions for women generally. Goldin also argues that the reason for women's downfall in participation in the manufacturing factories may be

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social stigma and the role of stronger income-effect. However, social stigma associated with female economic participation and the income-effect may become weaker if economic factors like poverty or low-household income also acts as a major determinant of female economic participation.

According to the empirical studies done for Bangladesh (mentioned in beginning of this chapter), the positive correlation of extreme poverty and low-income with female labour market participation is highly evident. Henceforth, the higher rate of poverty two decades earlier led to the increase of female labour market participation (especially in apparel production) as the income-effect in this case is relatively weaker than what Goldin assumed. However, a drastic decline in extreme poverty rate of the country today can now be associated more towards the downfall of female economic participation. If women from better-off households tend to join less in the labour market in Bangladesh (as noted before from Salway et. al, 2003 and Bridges et. al, 2011), large decrease in the poverty rate surely impacts negatively for low-paid female labour market participation. Needless to conclude at this stage that Goldin's income-effect plays much stronger role for the case of Bangladesh today with a decline in female economic participation.

Interestingly, one of the major sources of decrease in poverty rates in the male-headed households is the increase in men's wages. This is indeed one of the theoretical explanations for the decline in female labor force participation proved through empirical evidence that female economic participation is negatively associated with men's higher wages (Blau and Kahn, 2007). In cases where increase in women's real-wages encourages more women to take part in the labour market, their husband's real-wage increase mostly discourages them to participate as again it makes the income-effect stronger acutely. In short, the availability of gainful economic security may act as an important instrument for women to consider joining labor markets (Blaydes, 2008). In positions when husbands earn more (and/or enough) as the major source of economic security for women, women

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are negatively encouraged to approach towards low-paid formal jobs in the labour markets. Since increase in real-wages in Bangladesh's agriculture has decreased women's participation in agriculture, it is most likely because men are positively affected with this rise in real-wages in the agriculture sector than women. Henceforth as a consequence, there has been a potential downfall for women seeking low-paid employment in the urban sector and less willing to join the labour market.

Furthermore, the decline in female employment can also be traced by connecting endogenous growth theories to Bangladesh's increased female human capital. In her explanation of the upper trend in the 'U-shaped' female participation hypothesis, Goldin connects human capital accumulation of women workers. According to Goldin's, as the economy grows women not only receive higher education but the labour market also provides more white-collar jobs. Therefore, higher human capital and availability of more white-collar jobs together alleviates social stigma and enlarges substitution-effect to allow more women participation in labour markets. In the case of Bangladesh (from data described above) since there is a persistent reduction of female and male gap in educational attainment with the general progress in economy, as per Goldin's suggestion, female economic participation is supposed to increase with stronger substitution-effect and lower social stigma. However, the downfall of the female labour force participation suggests other possible explanations which may go contrary to Goldin's hypothesis.

Even though human capital may increase with higher economic growth along with public-policy interventions, it may be difficult to increase white-collar jobs for developing countries with the pace of the increase in female human capital. Goldin, though provided data for the rise in white-collar jobs with the rise in GDP growth, has taken the increase of white collar jobs as an obvious phenomenon. In fact, the growth of Bangladesh, the rise of its female education level, and the decline in female economic participation may suggest here that white-collar jobs are not enough in

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the labour market. This is highly likely assuming that the increase of white-collar jobs in labour markets may follow a certain point of threshold with economic progress. These jobs can be more available with the expansion of the service sector basically through more diversified employment sectors. However, Bangladesh's female contribution in the service sector (data shown before) shows that there has not been any significant increase of female participation in that sector. This also implies that even though the white-collar jobs that Goldin mentioned are there in Bangladesh' labour market, their capacity is potentially insufficient to exhaust the increased educated supply of female labour force. In other words, since female workers are now more educated in Bangladesh they are more inclined towards taking white-collar jobs, but unavailability of sufficient white-collar jobs may keep them out of the labour force or may not allow them to take low-paid manufacturing jobs resulting to a fall in their overall economic performances.

In fact, considering together the increase in agriculture real-wages and in female human capital for Bangladesh relates to the fact that, ceteris paribus, women are less inclined towards taking informal employment (like family helpers in the urban sector). This also leads to some surplus female labour in the market, while skilled and white-collar job generation in the formal market remained stagnant. While in case of the urban sector of Bangladesh, more educated women in better-off households may find it difficult to enter the labour market not only due to unavailability of white-collar jobs, but also they are unwilling to take any low-paid formal sector job. This is because of their heightened reservation-wage expectations. In case of Bangladesh, female reservation-wage may rise not only for reasons of increased number of dependents but also because of increase in their husband's wage (as discussed before), fall in the supply of informal family helpers, and higher attainment of their education level. Higher human capital triggers the aspiration

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of higher income (discussed as aspiration hypothesis previously) making the substitution-effect stronger, while the two other reasons do not make the income-effect any less weak.

Since there is also an unavailability of higher paid white-collar jobs, the higher reservation wage expectations remained unfulfilled and thus the equilibrium may restrict women's willingness to join the labour force for jobs that pay them insufficiently. All these indicate that with a rise in female human capital and a fall in female informal sector participation, industries can attract some women in subsistence wages but others are left out expecting higher reservation wages with no better opportunities of white-collar jobs. So eventually, there are women who are either withdrawing themselves from the market or not even willing to participate at any time at all reflecting to the decline of Bangladesh's female labour force participation.

5.4 Combining Growth Theories based on Bangladesh's Female Labour Market Case

It may not be one of the most frequent practices to combine theories based on a single case which may not make it robust. However, since the study traces back to different economic growth theories to understand possible economic factors that may highly possibly influence the decline in female economic participation in Bangladesh, it is presumed that going back to these growth theories and linking them together may try answer complicated questions related to a possible pattern of female economic participation in other developing economies who are growing at fast rate having a surplus labour force.

As a developing country with surplus labour supply and exhausted natural resources the overall economic growth process of Bangladesh fits Rostow's, Lewis's, and 'world-system' models more than Harrod-Domer or Solow-growth models even though they are one of the universal models of growth. With technological advancement, urbanization, and industrialization in manufacturing with

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comparative advantage in labour-intensive production, it is quite obvious to claim that Bangladesh has reached Rostow's 'take-off' stage already. However, whether it has surpassed the 'take-off' stage to Rostow's further maturity stages of the economy is potentially questionable. In fact, moving to Rostow's higher stages after 'take-off' may take a larger span of time potentially for developing countries with poverty and overpopulation like Bangladesh.

This is when the Lewis's and Goldin's models came into force and provides a micro level description. The transfer of labour force from the subsistence sector to the capitalist sector at subsistence wage level is the major part to fulfill the production demand of industrialization (especially for export production). For the purpose of profit maximization, these industries would rather prefer female labour supply which are mostly more unskilled and cheaper to employ. Given that extreme poverty and low-income households exist in the beginning of this growth process in the subsistence sector of the developing country, social stigma would not be able to restrict greater flow of female labour supply to meet the demand of the capitalist sector. These are the overall circumstances when Goldin's downward 'U-shaped' trend of female labour market participation does not fit the pattern of female economic participation in developing countries like Bangladesh. This is because in most of the cases developing countries do suffer from extreme poverty and low-household earnings. Therefore, the study claims that at an initial growth process after 'take-off' there can potentially be an upward female participation trend in the labour market as the economy of a developing country continues growing through higher export-oriented industrialization.

As the economy progresses continuing with heavy growth rates, there can be a visible downfall in the female labour participation (like that in Bangladesh). The wage level in the subsistence sector (mostly, agriculture) may rise without the exhaustion of labour force supply (female labour force supply in this case) in the industrial sector. Even though the industrial sector may continue to

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employ women workers without increasing the wages still now, many other women in the subsistence sector would withdraw themselves from other informal sectors and from joining the low-paid formal labour force given that the subsistence wage level increases but not for women workers. In this case, the industrial wage would not be increased right then – reaching Lewis's 'turning-point' would be delayed as there will still be some surplur female labour willing to work in the subsistence wage. However, the withdrawal from labour market activities by other working-age population would decrease the overall female economic participation.

Before the increase of industrial sector real-wage rates along with reaching Lewis's 'turning-point', the female labour force would undergo essential changes in terms of their human capital and their skill levels. As the economy progresses, educational attainment of the female labour force is reached faster making them more competitive with higher skill levels. However, Goldin's upward trend of women's labour force participation due to higher accumulation of human capital of women workers may be delayed as well. The delay can be basically due to fewer opportunities of white-collar jobs which women workers would prefer instead of the conventional low-paid manufacturing jobs. These fewer opportunities can be the result of fewer diversifications of products in industries or less expansion of the service sector. This delay is supposed to constitute of lower female economic participation but healthy economic growth with availability of surplus labour force (the case of Bangladesh here). As soon as the economy grows at a point of higher expansion in services and offers higher white-collar occupations, female (women whose reservation-wage has heightened due to higher human capital and higher household burdens) economic participation would rise along with the overall rise in real-wages in the capitalist sector. From here, the economy may reach Lewis's 'turning-point' with an exhaustion of surplus labour supply but greater female labour force participation overall with higher human capital and increased real-wages in the labour market.

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Overall, it is now possible to discuss a potential shape of women's labour force participation pattern that a developing but growing economy with surplus labour force may face. The economy undergoes an upward increase of female labour force not only with an expansion of manufacturing industries but also with the presence of extreme poverty. Women's economic participation then start declining as subsistence wages may increase discouraging them to participate in low-paid employments due to raise in household income level, and as their human capital level increases with higher reservation-wage expectations but not much expansion in white-collar job opportunities. Women's labour force participation tend to increase after that only when the economy grows further with an expansion of the service sector that can meet women's higher reservation-wage expectation and value their raised human capital level.

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Chapter 6: Concluding Remarks

6.1 Limitations

The thesis has investigated possible theoretical rational for a decline of female economic participation in a fast growing economy with surplus labour supply. As noted before, the fact that the study only reports on one case fails to make it robust when adjusting for theoretical frameworks. The empirical perspectives of the data are also missing because of complex need of econometrics. In this scenario, it can potentially be turned into further research initiatives. Furthermore, one important drawback that the thesis pertains is that it does not distinguish the female labour force from being married or single. Looking into theories that connect married and single women separately and differently is kept out of the scope of the research but also makes up an interesting future research scope. Additionally, theories pertaining to traditional and social factors (other than the mentioned 'social stigma' in general) are again left out of the scope of the study as it focuses more into economic growth perspective, but granted those also play large roles in many cases of female participation downfall. Hopefully, all these limitations can be taken into consideration into future researches done on the issue at stake.

6.2 Policy Recommendations

The thesis has studied the sudden recent decline of female labour force participation in Bangladesh because such a decline is unexpected as raising female economic participation has been argued to be one of the key tools to maintain sustainable economic growth for the country (and for other developing countries too). It is thus imperative and urgent that this reduction is corrected and that female economic participation starts to increase soon with the help of rational policies targeting the sources that caused the decline. The recommendations suggested here would thus target the reasons mentioned in the thesis as potential sources of the downfall of female economic

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participation and would go beyond as well. The recommendations also largely reflect the context of Bangladesh.

First of all, as mentioned in the beginning, 80% of Bangladesh's exports are contributed from the apparel factories which thus consists the most major part of the country's industrial sector. This is also the sector that employs more unskilled women than men as noted before as well. As the thesis noted that agriculture sector's real-wages increased but not that of the industrial sector which has possibly resulted to withdrawal of many women workers from the labour market and also delaying the attainment of Lewis's 'turning-point', a consequent rise in the industrial real-wage is thus imperative for Bangladesh to attract more women workers. One possible way to increase the real-wages is by increasing the minimum-wage income of these workers. Increasing minimum-wages has also been a controversial debate in literature due to its theoretical employment lay-off effects. However since Bangladesh's productivity being low has the scope to increase its capacity (Berg et al., 2011), higher minimum wages may not necessarily turn into more unemployment but rather more productivity and greater living standards with absorption of surplus women workers. It is indeed imperative that policy-makers investigate Bangladesh's export productivity, its low production-cost compared to the international market increase of cost, and its exporters' profit margins when deciding on an increase in minimum wage. Henceforth, policy-makers are urged for immediate action to increase minimum-wages for the industrial sector in order to improve female economic participation of the country from here.

One other dimension which needs prompt action to increase women's participation in the labour market is the increase of white-collar jobs as noted in the analysis of the thesis. Since Bangladesh's public-policies have reduced the gap of female educational attainment than any time before, women's reservation-wage expectations of employment opportunities other than low-paid

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manufacturing jobs has also increased (as noted before). The unavailability of adequate white-collar jobs reflected by lower contribution of women in the service sector even after their increased in human capital acquirement needs immediate attention. The expansion of the service sector industries in this part is thus crucial. Economic policies that contribute to more service-sector employment should be implemented immediately in order to diminish the delay of this expansion. Along with this expansion of the service sector, the manufacturing sector should also thrive to reach maturity stages by diversifying productions and increasing skilled employments demanding more female labour force participation.

Other actions (those can be promoted simultaneously alongside the above mentioned) are largely the increase of female tertiary education, increase of vocational training opportunities, implementations of equal employment opportunity laws, taxation cuts to service sector firms for gender equality in employment, and adequate construction of reliable day-care centers in the urban areas. Since women are still lacking behind in tertiary education, public-policies closing this gap along with other skilled vocational training facilities would raise their employment competitiveness further. Application of public-polices on implementing equal-employment acts and special tax-cuts for employment equality on the firms would establish the change in discriminatory attitudes from employers. Additionally, it is also apparent to establish greater day-care services in cities targeting women who withdraw themselves from labour markets due to higher child-care responsibilities.

In short, a diversity of measures should be taken in the economy of Bangladesh to ensure an increase of industrial wages of female workers and an expansion of the service sector confirming higher white-collar jobs for women. Along with these, other macro and micro level initiatives those target law and order, higher efficiency, and household/childcare burden of women workers should be implemented with urgency to reverse the decline of female economic participation of the country.

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6.3 Conclusion

By tracing theoretical models of economic growth processes, the thesis has explored the recent decline of female labour force participation in Bangladesh. The decline of women's economic performances is thus contextualized in theoretical growth models in order to trace back potential economic growth factors related to the decline. Given that difficulties still remain while analyzing pattern of female labour force into one typical concrete framework because of its complexity and large variation (ILO, 2016), the thesis emphasizes the fact that it is rather important to identify different parts of several theories in analyzing such complex patterns. The thesis finds that the decline in women's economic participation of Bangladesh can be explained and traced by parts from the Lewis's and Goldin's economic development models.

The decline is largely related to the delay of reaching Lewis's 'turning point' as industrial real-wage is not yet increased even though the agricultural real-wage has increased making women less likely to join the labour force along with the decline in poverty. The decline is additionally related to the delay of reaching Goldin's upward slope of 'U-shaped' hypothesis of increasing women's economic participation because of the unavailability of white-collar jobs in Bangladesh even though women are more skilled and more educated now. Additionally, higher educational attainment has likely increased female reservation-wages as many are now unwilling to join low-paid manufacturing jobs along with the increased burden of household responsibilities. Based on the analyses, the pattern of women's economic participation in case of a developing state with high economic growth and surplus labour supply is theorized to be increasing with the presence of poverty and expansion of export-oriented feminized industries, then declining upon the presence of the combination of reasons noted above, and lastly increasing with the expansion of service sectors jobs and weakening of these reasons from their own positions. The faster economic and public policies are implemented

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targeting to fix these reasons directly or through potential spillover effects, the faster the decline of women's economic participation will be reversed.

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