International Journal of Innovation, Creativity and Change. www.ijicc.net
Volume 12, Issue 11, 2020

Women's Participation in the Economic Growth of Thailand: The Role of Women in Parliament, the Labour Force and Female Literacy Rate

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The present study attempts to examine the impact of women's participation in parliament; the female labour force, female literacy rate, fertility rate and the number of female CEOs that contribute to economic growth in Thailand. The time series data has been collected in the context of Thailand over the period of 27 years from the World Bank database and the Global Economy data base. To examine the impact of incorporated variables on economic growth, an ARDL approach is incorporated in the study. Several tests were applied including: ADF and LLC for finding out the order of integration, ARDL bounds cointegration test for finding cointegration, and long run / short run relationships between variables. The results shows the significant differences in long and short run estimations. The short run results indicated that women's participation in parliament, the labour force, and the number of Female CEOs is a significant predictor of economic growth. While in the long run, the labour force, women's participation in parliament, fertility rate and number of female CEOs have significantly predicted economic growth in Thailand, whereas no impact on literacy rate was observed. Also, the study embraces several theoretical, practical and policy making implications for economists and government to encourage women's participation. In the last test, various limitations are provided, along with recommendations for in-depth findings by future researchers.

Key words: *Economic Growth, Thailand, Women Participation in Parliament, Labour Force, Female Literacy Rate.*

Introduction

In the past, the participation of Thai people in economic activities and the chance to get hired was decided by cultural gender (Webster & Haandrikman, 2017). The society of Thailand no longer confines women's participation to increase their income and efficiency. Women of Thailand increasingly play a crucial role in Thailand's economic, business and development (Webster & Haandrikman, 2017). An interesting thing about the women of Thailand, is that they were granted the right to a vote in 1932 amongst other women in Asia. Yingluck Shinawatra, was the first female prime minister from the year 2011 to 2014. Orapin Chaiyakan became the first woman that was elected to a post in the National Assembly of Thailand. The first woman army officer was also elected in Thailand's army in Nov 1996, as a Lieutenant Colonel. In the field of entrepreneurship, Thailand's female population comprised 47% of Thailand's workforce (Lawson, 2019). In all the fields of Thailand's economy, women play a crucial role.

Thailand is a country showing one of the poorest figures of gender equality in politics globally. According to the United Nations data on women, the Thai parliament is the lowest ranking in terms of female representation in parliament (Ryan & Woods, 2019). Thailand is ranked the 184th nation out of 190 in terms of women's representation in parliament. Women hold only 22% of the national parliamentary settings globally; but in Thailand, the rate is just 4.9%. In developed countries, the ratio of women's participation in parliament is relatively higher, than in developing countries. Ideal democratic countries show an adequate rate of women's participation in parliamentary politics and this will help in the economic growth of a country (Tamale, 2018).

Women's labour force participation is a crucial and important driver for the growth and development of economic activities (Burke & Dundas, 2015). In developed countries, women join the labour force in large numbers and that helps in economic growth. The female labour force is the evaluation of the proportion of a particular country's working-age population that involves workability in the labour market. According to the World Bank group of development indicators, the female labour force of Thailand was 46.6% of the total labour force reported in 2017. Women's labour force reflects the differences in economic developments of a country and also the social norms (Kabeer, 2016). The more important concern for the women's labour force is the quality of work that women are able to engage in. The women's labour force is, therefore, both an outcome and a driver of growth.

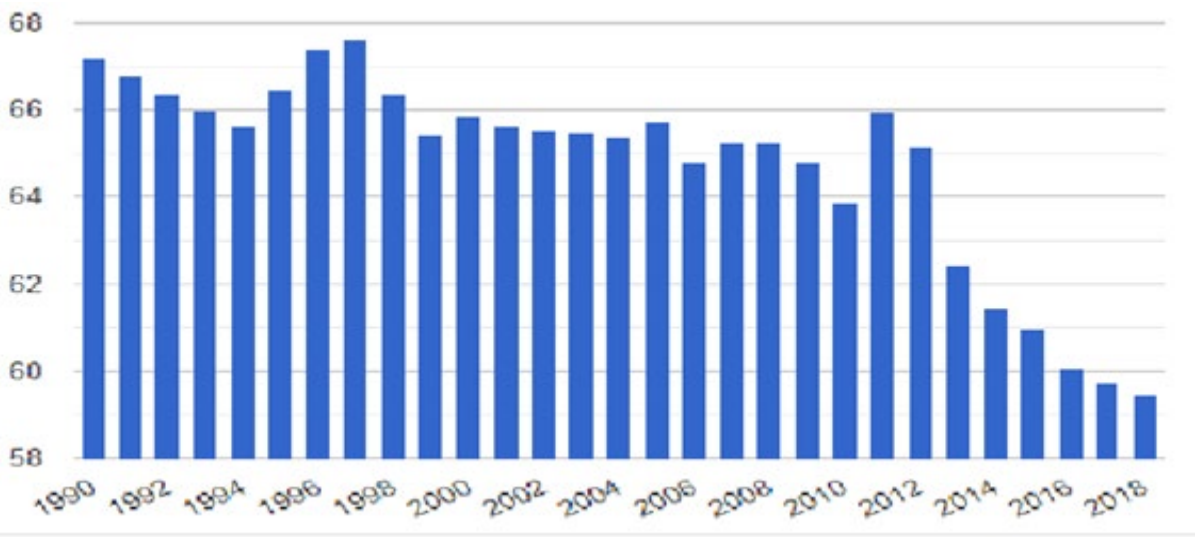

Figure 1: Percentage of Women Labour force participation from 1990-2018

Figure 1, shows a clear graph regarding labour force by % from 1990 to 2018. The graph clearly shows that women's participation in the labour force in 1990 was greater, however over time it decreases due to unemployment and other uncertain conditions of the economy. The female literacy rate is the percentage of educated females from ages 15 and above, who can both read and write about their everyday life in a particular country. According to the UNESCO the female literacy rate of Thailand is 91.19%. Female education is an important and essential factor in economic development and growth (Coale & Hoover, 2015). Increases in the ratio of female education tend to correlate with the high extent of Thailand's economic growth and development. The growth of GDP is directly related to a higher female literacy rate in Thailand. Educating females leads to many social benefits, as well as empowering women (Bayeh, 2016). Figure 1 shows that the literacy rate of females is gradually increasing from the year 1980 and peaks in 2012 as 96.42% and then it decreases to 94.19% in 2014. The female literacy rate is important for a strong and developed economy.

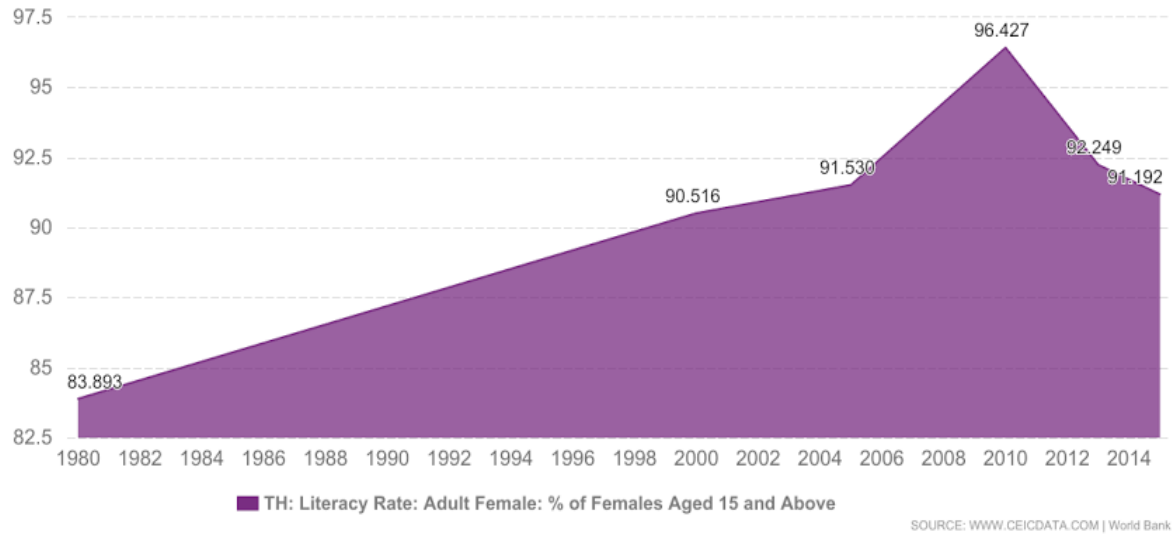

Figure 2: Literacy Rate: Adult Female as % of Females Aged 15 and above

Figure 2 summarises the specific topic and its goals; it typically includes the introduction and the concrete understanding of the document. The purpose of this research paper is to discuss the importance of the role of women's participation in parliament, the labour force and female literacy rate in the development of the economy and its growth.

The objectives or purposes of the paper are given below,

1) The primary purpose of the paper is to analyse the importance of women's participation in economic growth.
2) The second objective is to analyse the role of women's participation in parliament and the influence on economic growth and development.
3) The third objective of the paper is to analyse the role of women's participation in the labour force in enhancing economic development and growth.
4) The last objective of the paper is to analyse the role of female literacy rate in economic development and growth.

This research is significant as it describes the role of women in economic growth and development, and how it significantly reflects the outcomes on the economy in terms of women's participation in the economy and labour force. It also show the significance on the role of educating females in the economy of Thailand. This paper also signifies the contribution of females in the labour force of a country.

Literature Review

Economic Development Theory

There are various theories regarding growth that emphasises human capital. Economic development theory was firstly introduced by 'Harry Truman' in 1949 in an inaugural speech. According to Truman (Di Fabio, 2017), economic development theory is a primary process in which the economic well-being, as well as the quality of life of the nation, is discussed. The development of an economic process is done by various factors. Women's participation is one of the greatest components that helps in the development of an economy (Petushek, Sugimoto, Stoolmiller, Smith, & Myer, 2019). Currently, economic development theory is used in different contexts and aspects. However, the term has been used frequently in the 20th and 21st centuries. Originally the concept of economic development as a theory was explained in western countries (Yeager, 2018).

Economic development theory further elaborates on new phases that actively encourage development and economic participation (Schumpeter, 2017). Economic development processes develop economic changes such as; a change in GDP, GNP, and higher literacy rate as well as labour productivity. The increasing role of women, literacy rate, and technological development have firmly benefitted a knowledge-based economy (Islam, 2017). Thus, economic development theory ensures a country can be developed through different factors and amongst this, the role of women and their participation is a significant one.

Role of Women's Participation in Parliament and Economic Growth

Women's participation has an important role in economic development and growth (Verick, 2018). The equal participation of women has reduced the discriminatory attitude between men and women. A study explained that women's participation is very significant for the development of a country. The role of women in parliament is also essential because when women participate in parliament, they work for the betterment of women's rights (Bhoganadam, Malini, & Rao, 2014). The more women that participate in parliament, the more they work for the rights of girls. The participation of women in parliament is also essential to decision making (Spark & Corbett, 2018). According to a study, when women take part in parliamentary decisions, the economy develops in an effective way (Bauer, 2008). Women perform different roles when making decisions and policies regarding the rights of women. By doing this, job opportunities for women are created and the overall economy develops. Other research demonstrates that women's role in parliament is very effective, however, they are faced with various challenges and issues regarding this (Evans & Kenny, 2019). Women have to face gender discrimination, cultural belief and other limitations that restrict women's role in society, economic development and from gaining support from political parties (Lovenduski, 1998). This study explains that the role of women in parliament is beneficial to eradicate gender

inequality. When women played a greater role in developing laws, regulations and made decisions with a feminine outlook, they made and take affirmative actions regarding policies that enhance overall economic development. Therefore, the role of women is highly preferable to develop an economy and achieve women's rights (Habermas, 2018). The study findings demonstrate that the role of women in parliament is beneficial to eradicate gender inequality and that when women play a greater role in developing laws, regulations, they made decisions from a female perspective.

Furthermore, women's participation in parliament is also effective in developing leadership skills (Krause, Krause, & Bränfors, 2018). It is observed that prime ministers, presidents, and leaders of many countries are men rather than women. There are less women than men in leadership roles, therefore, women must take part in parliament to develop leadership skills and abilities. The more women that participate in parliament and leadership, the more goodwill is created and the economy grows. This study demonstrates that the rate of women represented in parliament increased incrementally from 11.8% - 17.8% and then 23.55% during 2001-2015 (Sheibani & Jalalpour, 2017). This increase relates to the theory of economic development. The findings of previous research relates to the theory of economic development. Women's participation in parliament helps to develop new ideas and innovation that simply makes a decision-making process easy (Corbett, 2018). The decision making process helps in implementing policies and regulations, and as a result, the economy moves towards development. Thus, the following research supports the economic development theory. Meaningful participation of women in parliament in local, international, or community leadership roles creates global development policies (Stein, Andreotti, & Suša, 2019). Women who are elected as policymakers, work for the betterment of all the nation's people. This shows that the role of women in parliament helps to produce various positive outcomes, as well as increase the development of an economy. The role of women's participation in parliament positively affects economic development (Cabeza-García, Del Brio, & Oscanoa-Victorio, 2018). It creates job opportunities, helps to fight for women's rights and made decisions. This study proposes the following hypothesis,

H1: The role of women in parliament has a significant impact on economic growth in Thailand.

Role of Women Participation in the Labour Force and Economic Development

The labour force in any country determines the percentage of employed and unemployed people who are looking for a job (Shin, 2018). Men's roles are important in terms of employment and at the same time the role of women's participation in the labour force is also very crucial. This study explores how the economic growth of a country measured with a GDP contribution and how the GDP of any country increases when more people work (Erdem, Yücel, & Köseoğlu, 2016). When people work, the production and manufacturing process

increases, more products are produced and through this, the labour force increases. Finally, when the labour force increases, the economy moves towards growth and development. Women's participation in the labour force has risen world wide during the last few years and due to this economic development has also increased (Verick, 2018). Research demonstrates that in most developed countries, women's participation in the labour force is high due to their GDP rate which is higher than in developing countries (Haq, Nawaz, Mahtab, & Cheema, 2012; Lechman & Kaur, 2015). For example, Norway ranks first in women's labour force participation and in 2012, women's participation in the labour force was 88%. This positively affected the economic development of that country.

Participation of women in the labour force helps to fight against gender discrimination (Verick, 2018). Moreover, women's participation in the labour force also increases earnings to assist running the family unit. For example, nowadays many men and women undertake work to run the family unit and meet the daily expenses. Women's participation in the labour force increases production, manufacturing and the industrial revolution. Finally, through the industrial revolution, the economy moves towards development, as well as growth. A previous study regarding women's participation in the labour force determines that women's participation can be observed in terms of economic sectors (Kabeer, 2016). Thailand's economic growth develops after the participation of women in the labour force. However, under section 38 of Thailand's country, females are prohibited to do some work. Such as, women cannot participate in coal, mining, construction, production of transportation and inflammable materials. This discussion demonstrates that women's participation in the labour force affects economic growth positively, because higher participation increases the GDP of the country and further enhances economic development.

The relationship of women's participation in the labour force to economic growth also demonstrates with the necessity of economic development theory (Folbre, 2018). According to theory, an economy moves towards development when the production system in the country has increased. Furthermore, the economy develops when there are higher employment opportunities for each gender (Aparicio, Urbano, & Audretsch, 2016). Thailand's economic growth developed after the participation of women in the labour force. If there is no sense of gender discrimination and youth are able to focus on the generation of new ideas, then the economy developes. The second hypothesis of the study is;

H2: There is a significant relationship between the role of women's participation in the labour force in economic growth and development.

Women Participation in Literacy Rate and Economic Development

The literacy rate determines the total number of literate people in a given age group (Batra & Memon, 2016). Commonly, the adult literacy rate is measured among people aged 15 years and over. A study demonstrates that female education positively affects growth as well as the development of a country. According to the previous study, the role of women's participation in literacy rate contributes to reducing poverty and it further contributes to sustainable economic growth (Hassan & Cooray, 2015). The more women are educated, the better they can nourish their children. As a result, a nation moves towards development. However, the participation of women in the labour force depends upon the status of women in a particular area (Verick, 2018). Moreover, female education also depends upon the presence of facilities and fertility growth rates. Research proves that the role of female education is highly essential to develop a better nation. Turanli & Cengiz (2015) describe that a higher female literacy rate increases the working employment rate. Furthermore, the employment rate was enhanced per capita income and the higher the per capita income is, the more a country is developed. Therefore, women's literacy is very significant. As the higher the literacy rate of women, the more they focus on doing the job and this increases economic development (Psacharopoulos & Patrinos, 2018). There are various government agencies and regulatory bodies that primarily focuse on investing in women's education in order to reduce the illiteracy rate and further enhance economic development.

The rate of women's literacy affects different aspects and factors (Shah et al., 2015). Based on the eight millennium development goals, female education is a major catalyst for human development. Similarly, female education helps in eradicating extreme poverty, as well as hunger (Kumar, Kumar, & Vivekadhish, 2016). Assisted by widespread female education, a developed country successfully achieves universal primary education and promotes gender equality not just in the field of education, but in every field. Moreover, a higher female literacy rate helps to reduce the child mortality rate and improving mental health. There is a great difference between an illiterate person and an educated person. Female education helps in overall humans development which enhances the country's development and growth (Britto et al., 2017). In order to enhance female education, there must be promotion of an inclusive and sustainable human development. The higher rate of sustainable development, the more the female literacy rate improves and vice versa. Based on eight-millennium development goals, female education is a major catalyst for human development. The findings of this relationship demonstrates that education helps in increasing human development and human development enhances economic development. The third hypothesis of this study is,

H3: There is a significant relationship between the role of women's participation in the literacy rate in economic growth and development.

Methodology

Data

To ensure smooth conduction and to obtain authentic results, the data for this research has been responsively collected from reliable sources such as the World Bank database and Global Economy data base. This data revolves around the core concepts of this study, which is, the importance of women's participation in parliament, the labour force and the female literacy rate as well as women's participation in economic growth of a country. The collected data has been spread over the time period of 27 years and is actually a time series data that has been collected in the context of Thailand.

Model Specification

First of all, the variables will be categorised into dependent, independent and control variables and then their measurement units will be identified. The dependent variable in this study is only one; women's participation in economic growth (WPEG). There are three independent variables; women's participation in parliament (WPP), the female labour force (FLF), and female literacy rate (FLR). In addition, it also involves two control variables; fertility rate (FER) and female CEOs (CEO). All the afore mentioned variables can be measured by different measurement units as given here. WPEG can be measured by the rate of change of real GDP; WPP can be measured by the percentage of women in parliament; FLF can be measured by one million people; FLR can be measured by the percentage of educated women; FER can be measured by the number of births per woman and finally CEO can be measured by the percentage of women in different companies. In this study, the impact of female participation in parliament, the labour force and literacy rate, is being studied in the presence of fertility rate and female CEOs. The following regression equation has been generated for this research:

$$WPEG_t = \alpha + \beta_1 WPP_t + \beta_2 FLF_t + \beta_3 FLR_t + \beta_4 FER_t + \beta_5 CEO_t + \varepsilon_t$$

In this equation, different variables have the following representations; WPEG as woman participation in economic growth; WPP as women participation in parliament; FLF as female labour force; FLR as female literacy rate; FER as fertility rate and CEO as number of female CEOs in different companies. The term ε_t at the end of the equation represents the error.

Table 1: Evidence from past studies

Authors	Country	Period	Variables	Methodology	Results
(Erdem et al., 2016)	122 countries	1990-2014	Female labour force, economic growth	Autoregressive distributed lag Approach, Solow growth model.	The results of the Panel ARDL analysis clearly prove that per capita GDP is positively affected by the share of women employment.
(Shittu, Abdullah, & Umar, 2019)	Malaysia, Singapore (comparative analysis)	1985-2015	Fertility, female labour participation	ARDL bounds test approach, ADF test of unit root, 2 stage least squares regression. Granger Casualty test	In both the countries, the findings indicated the negative association between fertility rates and female labour force participation The findings in each of the countries indicate that there is a negative relationship between fertility and female labour participation.
(Siah & Lee, 2015)	Malaysia	1970-2010	female labour force participation rate, infant mortality rate and fertility	Unit root test, Granger causality test, ARDL modelling approach.	The results shows that mortality changes had positive and significant impact on fertility rates in the long run.
(Sehrawat & Giri, 2017)	India	1970-2014	Female human capital, economic growth	Ng-Perron unit root test, ARDL-bounds testing approach, Granger's causality test,	The results suggested that Female human capital is the significant predictor of economic growth in the short and long run periods.

(Shittu & Abdullah, 2019)	ASEAN-7 countries (Malaysia, Indonesia, Brunei, Myanmar, the Philippines, Vietnam and Thailand)	1990-2015	Education, fertility, female labour participation	Pesaran's test of panel unit root series, OLS, Granger, causality test	The results revealed the negative and positive association between labour force participation and fertility rates, also no causality was found between education and participation of labour force.

Estimation Procedure

Unit Root Test

For the analysis of time series data, the application of the ARDL co-integration approach requires the investigation of integration order. This investigation is crucial because the ARDL co-integration approach demands the mixed integration order of variables. Moreover, in order to qualify for the application of bounds co-integration test, the variables must possess zero or one integration. If the order of integration is zero, the variable is considered invalid for the bounds co-integration test application (Dickey & Fuller, 1981). Hence, in order to identify the integration order and stationary properties of the data, which have been collected for the analysis, the study incorporated the ADF (Augmented Dickey Fuller) and LLC (Levin Lin Chu) test.

The discussion purposes that the test applications are evaluated on the basis of alternate and null hypothesis. The identification of null hypothesis is done on the basis of unit root and non-stationary property of data. Whereas, the absence of unit root and stationary property of the data is used as the basis for the identification of alternate hypothesis. The rejection and acceptance of these hypothesis determines the result of unit root tests. For the application of ADF and LLC unit root tests, the following equation is used by the author:

$$\Delta X_t = \alpha + \alpha X_{t-1} + \beta T + cD_t$$

$$\Delta X_t = \beta + \beta X_{t-1} + ct + bDT_t + \sum_{j=1}^{k} dj\, \Delta X_{t-j} + \varepsilon_t$$

$$\Delta X_t = \gamma + \gamma X_{t-1} + ctb + dDT_t + \sum_{j=1}^{k} dj\, \Delta X_{t-j} + \varepsilon_t$$

$$\Delta X_t = \Omega + \Omega X_{t-1} + ct + dD_t + dDT_t + \sum_{j=1}^{k} dj\, \Delta X_{t-j} + \varepsilon_t$$

Bounds Test of Cointegration

After the confirmation of the integration order of variables, the other requirement is the application of the cointegration test, in order to investigate whether there is any cointegration relationship existing among the variables. The technique of ARDL bounds cointegration is applied to explore the relationships. Two types of tests the F test and Wald test, are used for checking the cointegration among variables. The properties and evaluation criteria for both the tests are different. With these tests, not only cointegrating relationships are found among the variables, but it also identifies the long run equilibrium relationship that might exist. For accurate results and performance, several conditions should exist. Firstly, presence of the mixed order of integration should be zero or one, and not two. Secondly, the sample size of the collected data should be small for the application of these tests. More accurate results are given, with the fulfilment of these two conditions. For the Wald test or F test, the following equation is used:

$$\begin{aligned}\Delta lnEG_t = \beta_0 &+ \sum_{i=0}^{p} \beta_i \Delta lnINF_{t-i} + \sum_{k=0}^{q} \beta_k \Delta lnECO_{t-k} + \sum_{l=0}^{r} \beta_l \Delta lnGLO_{t-l} \\ &+ \sum_{m=0}^{s} \beta_m \Delta lnPOL_{t-m} + \lambda_{INF} lnINF_{t-1} + \lambda_{ECO} lnECO_{t-1} + \lambda_{GLO} lnGLO_{t-1} \\ &+ \lambda_{POL} lnPOL_{t-1} + v_t\end{aligned}$$

In the above equation, the error is represented by v_t, whereas, the first difference level is represented with Δ. With regards to the Wald test, conditions are followed for the application of Wald test, which is the availability of more than one short run variable. With the presence of more than one short run variable in the study, they possessed zero value. While, the criterion of the F test is different. This is based on value of F-statistic, and for its estimation, a specific procedure is followed. The comparison of F-statistic value is done with values of upper and lower bounds, which is the basic concept of bounds cointegration test. The values of these bounds rely on different significance levels (90%, 95% and 99%), and the upper and lower bounds are identified with these values (Enders, 2008).

Three ways are used to compare the F-statistic values: Firstly, if the value of F-statistic is greater than the upper bound, it provides the basis for the rejection of null hypothesis. Secondly, if the value of F-statistic is lower as compared to lower bound, it provides the basis for the acceptance of null hypothesis. Thirdly, if the value of F-statistic falls between the values of upper and lower bounds, then it becomes difficult to conclude the results. It is noticeable that the null and alternate hypothesis possessed specific interpretations. The absence of

cointegration among variables is indicated with null hypothesis. While the presence of cointegration among variables is indicated by alternate hypothesis. So, in view of the discussed case, it can be concluded that, if the first case is present, the cointegration exists, while in the second case, there is an absence of cointegration. After the completion of this process, the next requirement is the identification of any long run or short run coefficient elasticity for all the variables, which can be estimated by using the following equations:

$$lnEG_t = \alpha_1 + \sum_{i=1}^{p} \varphi 1_i lnINF_{t-i} + \sum_{k=1}^{q} \omega 1_k lnECO_{t-k} + \sum_{l=1}^{r} \partial 1_l lnGLO_{t-l} + \sum_{m=1}^{s} \emptyset_m lnPOL_{t-m} + \mu_t$$

The above mentioned equations can be used to estimate the long run as well as short run coefficient estimation.

Empirical Analysis

Results of Unit Root Test

It is shown from the studies that the order of integration holds greater significance in an ARDL approach in the analysis of time series data. Namely, in order to run smoothly and for effective application, it is the essential condition of the ARDL approach that variables have integration order and comprises of zero or one (mixed order). Hence, the mentioned facts emphasised the importance of order of integration. Therefore, in order to identify the integration order and stationary properties of the data which have been collected for analysis, the researcher applied the ADF (Augmented Dickey Fuller) and LLC (Levin Lin Chu) test. The results of both the tests are presented in table 2. The presented results are based on the rejection and acceptance of null hypothesis for level and 1st difference for both. In the results of ADF test, all the variables are non- stationary but R&D and internet access is stationary.

In the results of ADF test, all the variables are non-stationary except WP which is stationary. With the application of the 1st difference, all the variables become stationary in the ADF test. On the other hand, when LLC test was applied, all the variables in the level series were found to be stationary except FR, which is non-stationary. But when the 1st difference is applied, all of them become stationary. These facts and results show that all the variables that are included in this study are stationary. Therefore, it is evident from the results that data is valid for the application of bounds cointegration test.

Table 2: Unit Root Test

Constructs	ADF Test		LLC Test	
	Level	1st difference	Level	1st difference
WP	3.2871*	32.1877***	-0.7137*	-8.3861***
LF	6.3761	9.3861**	-3.3496*	-7.3871***
FL	1.3761	9.3862**	-1.9421*	-9.4387***
FR	1.2876	8.38671***	-0.0381	-4.2871***
FC	2.3871	6.3871***	-3.0471*	-5.1741***
EG	5.2397	7.3863***	-8.5508*	-12.3487***

Results of Bounds Test of Cointegration

After the analysis and identification of integration order of variables, the data is entered in another step of research. This step requires the application of bounds cointegration test in order to find out the cointegrated relationships between variable along with the long run relationships. The results of the test are presented in Table 3. It is observed that the author had used the criterion of AIC in order to select the lag length, its value can be seen clearly in the aforementioned table.

According to the above discussion, the criterion of F test is based on value of F-statistic. The comparison of F-statistic value is done with values of upper and lower bounds with different significance levels. It can be seen from the results that the value of F- statistic is larger than all of the mentioned values of the upper bound. This indicates that the null hypothesis that explains absence of cointegration between variables is rejected. If the value was lower than a lower bound, the null hypothesis is not rejected. It can be viewed that in the present case, as the null hypothesis is rejected, there is the presence of cointegration among the variables. The results also represents the long run equilibrium relationship between these variables. Therefore, after the confirmation of cointegration existence among the variables, the evaluation of long run and short run results of elasticity is done.

Table 3: Cointegration

O.P.L. length (A.I.C)	(4, 0, 0,2, 1, 0)		
F-Stat. (Bound Test)	9.271***		
V.C	1%	5%	10%
L.B.C.V.	6.21	4.98	3.86
U.B.C.V.	8.81	3.96	3.91

The results of all the short run and long run coefficient and elasticity estimations are shown in table 4. It is shown from the short run results that the elasticity of coefficient of WP is significant and positively indicates that women's participation in parliament (WP) has

significant impact on economic growth. It is indicated that when WP is changed with one unit, the change in economic growth will occur by 24.1 %. Similarly, it is shown that (LF) labour force also had a significant and positive impact on economic growth and when the change occurred by one percent in LF, the economic growth will be changed by 21.9 percent. In the same way, the last variable (FC) Female CEOs also shows positive and significant impact on economic growth and demonstrates that with a one unit percent change in number of CEOs, the economic growth will be impacted by 18.2%. Therefore, the above mentioned results indicate that these variables significantly predict economic growth in Thailand.

After the analysis of short run, the results of long run estimations are evaluated. It is indicated from the results that in the long run, the coefficient of WP is significant and indicate that women's participation in Parliament (WP), has significant impact on economic growth. It is indicated that when WP is changed with one unit, the change in economic growth will occur by 23.1 %. Similarly, it is shown that (LF) labour force also had a significant and positive impact on the economic growth and when change occurred by one percent in LF, the economic growth changes by 26.2 percent. The variable female literacy rate does not show a significant impact. Hence, the above mentioned results indicated that in the long run, labour force, women's participation in parliament, fertility rate and number of female CEOs significantly predict economic growth in Thailand. Yet there is no impact concerning literacy rate (FL). The control variable FC and FR show significant results. It is indicated that (FC) Female CEOs and Fertility rate (FR) have a significant impact on economic growth. It is shown that with a one unit percent change in number of female CEOs, the economic growth will be impacted by 26.3 percent in the long run. Also, the change in fertility rate will impact the economic growth by 27.1 percent. In comparison, it is stated that FR shows a different result in the long run, as it was insignificant in predicting the economic growth in the short run.

Therefore, it can be stated that in the short run period, all independent variables except FL show significant impact on dependent variables such as economic growth. In the long run the same pattern is followed, but the magnitude of the impact created by each variable varies in both periods.

Table 4: ARDL Results

Variable	**Short Run Results**		**Long Run Results**	
	B	**t-value**	***B***	**t-value**
EG	-	-	0.0371	
EG (-1)	-	-	0.138	
EG (-2)	-	-	0.477***	
WP	0.241	3.183**	0.231	2.542***
LF	0.219	2.101***	0.262	3.198***
FL	0.101	1.812	0.091	1.308
FR	0.028	0.237	0.271	2.246**
FC	0.182	1.981**	0.263	3.415**
C	-	-	0.373	4.371***
R^2	0.567	101.276***	0.612	23.373***
Adj. R^2	0.531	101.276***	0.582	23.373***
D.W.	2.24		2.24	
Diagnostic Test	-	-	-	-
X^2SC	2.6003 (05093)		4.2874 (0.2874)	
X^2W	1.6093 (0.3094)		3.2874 (0.2984)	
X^2AR	4.4874 (0.0792)		0.3984 (0.4087)	
X^2AR	1.36 (0.736)		0.754 (0.074)	

Discussion and Conclusion

Discussion

The present study is conducted in order to investigate factors that affect the economic growth of Thailand. For this purpose, the impact of women's participation in parliament, the female labour force, female literacy rate, fertility rate and number of female CEOs in different companies was examined, and multiple hypotheses have been formulated to investigate the relationships. For hypothesis testing the ARDL approach was applied. It was assumed that women's participation in parliament practices and activities has significant impact on the economic growth of Thailand. This hypothesis was accepted as the involvement of women in governmental decisions will impact the policies framed for women's empowerment, female literacy and health care policies. When women contribute to policy development, the chances of their involvement in economic activities increases, which ultimately increases employment and thus economic growth. The result is consistent with the study of (Hawkesworth, 2018). The next hypothesis was that literacy rate has significant impact on economic growth. This hypothesis was rejected. The other hypothesis was that the female labour force has certain significant impacts on economic growth. The author has tested this hypothesis and has declared it as accepted, which is consistent with the previous study of Hsieh, Hurst, Jones, & Klenow

(2019). When females are encouraged to take part in various economic activities, it ultimately contributed towards increasing percentage of economic growth. In addition to these variables, two control variables were also involved in the study i.e. female CEOs and fertility rate. The impacts of these two control variables in regard to economic growth has also been found as significant. These results are also in accordance with previous studies of Elango (2018) and Faccio, Marchica, & Mura (2016).

Conclusion

The motivation for this study is the investigation of factors that impact the economic growth of Thailand. This had been studied with analysing the impact of women's participation in parliament, the female labour force, female literacy rate, fertility rate and number of female CEOs on economic growth. For this research, the time series data has been collected in the context of Thailand over the period of 27 years from the World Bank database and Global Economy data base. The data is specific to employed variables. After the completion of data collection, several tests were applied in order to assess the hypotheses using the ARDL approach. The tests include unit root test, cointegration test, and ARDL estimation for short and long run. The purpose of these tests was to examine the impact of incorporated variables on economic growth. The study embraces several theoretical, practical and policy making implications in various senses and contexts, that will improve the trends of economic growth in the country with the participation of females in various sectors and the advancement of their education. In the last, various limitations have been given along with the recommendations to resolve and improve them effectively by the future researchers.

Implications

This study addresses a very important concept of any country, the different roles of females in determining economic growth of the country. The author has identified various theoretical, practical and policy making implications of this study that are described here. First of all, this study will assist other researchers and readers in knowing and understanding the core concepts that are related to females, such as women's participation in parliament, their literacy rate and the female labour force operating in different sectors of the country. Moreover, this study will specifically guide women and improve understanding of the importance of their role in the economic growth of their country. It may also encourage women to participate more in such affairs and contribute towards the enhancement of the economies of their countries. This study also has the ability to guide and encourage governments to devise policies and regulations that create ease for females to work and participate in the betterment of their country and to enhance the economic growth.

Limitations and Future Research Indications

Like many other studies, this study is also not free from certain limitations and loopholes, which can be effectively filled by future researchers to improve the quality of their research. In this context, the author has mentioned a few limitations that may be considered by other researchers. Firstly, sample size of data is very small; therefore the results may not be that comprehensive. This study is restricted to Thailand and all the results are related only to this specific country. In addition, the specific tests that have been used in this study may limit the scope of the study. In order to overcome these limitations, the researchers may increase the sample size of the collected data. Any other country, other than Thailand can also be used to increase the scope of the study. Variables other than those used in this study may be employed. Lastly, other tests that are related to time series analysis may also be used.

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