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Article

United Nations Sustainable Development Goals (SDGs), women empowerment and economic growth: Empirical evidence from Kuwait

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Abstract: This study aims to compare investment in human capital, equality of gender education in Kuwait before and after adopting SDG 4 and SDG 5 in 2015. It also aims to assess the effect of women's empowerment on economic growth. To achieve this objective, published data on the State of Kuwait were collected from the World Bank DataBank between 1992 and 2022 and from the Central Bank of Kuwait. The study employed autoregressive distributed lag (ARDL) to determine the impact of women's empowerment on economic development. The analysis results revealed that the State of Kuwait provided high-quality education for both genders. The results also showed that women are more educated than men. However, this was not reflected in the role of women in the country's politics, as their participation in parliament and government is still limited. Similarly, women's participation in business and economic activities is still limited. Finally, the results of the ARDL test showed that women's education and their political, business, and economic empowerment affect economic development in the short and long run.

Keywords: Women empowerment; United Nations; economic development; Kuwait

1. Introduction

Education entails developing the knowledge and abilities of the population. Education empowers individuals to acquire knowledge, skills, and attitudes that permit them to understand advances in science and changes in society. It improves individuals' efficiency and the ability to grasp new technologies. Becker (1975) indicates that training and education provide skills and knowledge to workers and increase their productivity and economic growth. Due to its significant impact on economic growth, education is referred to as human capital, and government spending on education is considered as an investment in human capital. Becker (1964) stresses that investment in education and training (human capital) impacts income, employment, economic distribution, and the level of development. Hence, education is considered an investment due to the return it generates and the ability it grants to a significant portion of the population to participate in the workforce. There is a consensus that human capital is a decisive factor in the process of economic development. The formation of human capital helps in accelerating economic growth, increasing individuals' income, and raising their living standards. Given that education is an important factor in human capital formation, it determines the levels of economic development. Education, investing in human capital through education and training is an important step towards achieving economic development. When talking about investing in human capital, it is important to emphasize the need for equality in

education between genders. Women often make up half of the population and excluding them from education will deprive many the national workforce from participating in the production process. This would reduce the State's ability to use all its potential to maximize production and achieve economic growth. In confirmation of this, all member states of the United Nations agreed to adopt "Transforming the World: the 2030 Agenda for Sustainable Development" as a plan of action for global cooperation to achieve sustainable development during the period 2015–2030". In order not to leave any of the member states of the United Nations behind, the United Nations defines 17 Sustainable Development Goals (SDGs) with 169 targets. Sustainable development goals 4 and 5 highlighted the importance of quality education and gender equality in achieving a country's sustainable development. While SDG 4 states that quality education ought to warrant comprehensive and fair quality education and promote lifelong learning opportunities for all, SDG 5 promotes gender equality and empowers all women by ensuring their representation in the national parliament and having better access to decision-making positions at the local level.

In this study, an attempt will be made to compare investment in human capital, equality of gender education in Kuwait before and after adopting SDG 4 and SDG 5 in 2015. It also aims to assess the effect of women's empowerment on economic growth. This research is particularly significant as it comes over eight years following the adoption of the sustainable development objectives agenda by United Nations member countries, including Kuwait. This study has relevance in the context of Kuwait, following the struggles of the state, alongside other countries globally, dealing with the repercussions of the corona pandemic. This crisis significantly impacted Kuwait's education system and exerted considerable strain on its resources, which were extensively redirected to mitigate the pandemic's effects. The study also comes after the occurrence of continuous changes in the Kuwaiti government that affected the implementation of its economic plans and programs.

The rest of the study is organized as follows. Studies on the relationship between economic growth and quality and gender equality will be reviewed in the following section. Data collection and research methodology are offered in the third section. While the fourth section contains the results of the study, the conclusion will be presented in the last part.

2. Previous related studies

World Economic Forum (WEF, 2016) described education as "The stock of skills, competencies, and other productivity-enhancing characteristics". Education is considered an important element of a country's human capital since it promotes efficiency and lifts the economy through the increase in productivity. Hence, education assists in the formation of human capital that inspires economic growth. Barro (1991) ascertained the importance of education and its positive impact on economic growth. Within the same framework, Benhabib and Spiegel (1994) and Gemmell (1996) emphasized the importance of human capital development to the foundation of economic growth. In empirical research, Lucas (1988) disclosed a positive link between economic growth and education. Lucas (1988) highlighted the importance of education in developing countries through the transfer of technology and technological

advancement. Bils and Klenow (2000) noticed that high school enrollment rate results prompt progress in productivity and enhancement in per capita income. Likewise, Hanushek and Kimko (2000) emphasized the significant impact of quality education on individuals' productivity and economic growth. Kakar et al. (2011) noticed a long-run relationship between education and economic growth. They stressed that education with good standards advances the labor force efficiency and productivity and attains economic development in the long run. Hanif and Arshed (2016) found tertiary education enrollment, in comparison with primary and secondary education enrollment, to have the highest impact on economic growth. Kotásková et al. (2018) also pointed to a positive connection between the levels of economic growth and education. Goczek et al. (2021) concluded that education is a significant component of economic growth. They underlined the significance of educational skills and the importance of the quality of primary and secondary education in achieving economic development. Hanushek and Woessmann (2021) claimed that the simple conclusion reached by empirical analysis of the relationship between economic growth and education established that the skills of a nation's population impact the long-run GDP growth. The researchers indicated that differences in the GDP per capita growth across countries can be clarified by international measures of math and science skills. They concluded that an extraordinarily strong relation exists between aggregate cognitive skills, the knowledge capital of a nation, and the long-run growth rate. Sebki (2021) tested the link between economic growth and education and concluded that tertiary education enrollment had a significant positive effect on economic growth, whereas secondary education enrolment results in a significant negative effect. On the other hand, Meulemeester and Rochat (1995) showed that the relationship between economic growth and education is not always positive. While the study reported a significant relationship in France, Japan, Sweden, and the UK, a similar relationship was not found in Australia and Italy. Similarly, Hamdan et al. (2020) conducted a study based on econometric instruments and did not succeed in finding a relationship between investment in higher education and economic development in Saudi Arabia. Yet, Ziberi (2022) examined the education effect on economic growth and noticed that a one-point increase in public expenditures on education positively impacts economic growth. In this respect, Al Mutairi et al. (2022) demonstrated that education spreads individuals' knowledge, promotes their skills, and boosts their competencies and efficiencies. Coman et al. (2023) examined the relationship between government expenditures on education and economic growth in 11 Eastern European countries and reported mixed results. They found a mixed relationship between the two variables in the short and long-run.

As for women's education's effect on economic growth, educated women are better prepared to work and give the nation access to a wider pool of labor force that promotes economic growth. Women's participation in the national labor force increases the level of production, productivity, and incomes that stimulate economic growth. Hill and King (1995) claimed that "countries with higher levels of women's education experience more rapid economic growth, longer life expectancy, lower population growth, and improved quality of life". Benavot (1989) noticed that, in African and Latin American countries, the effect of the rise in female primary enrollment ratios on economic growth is larger than the effect of male enrollment

ratios. Barro and Lee (1993) showed that female schooling has positive impact on GDP growth mainly through fertility reduction. Researchers such as Psacharapoulos (1994), Barro (1996), Klasen (2002), and Bloom et al. (2006) recognized a positive effect of women's education on the economic growth through reducing infant mortality and fertility rates, increasing labor participation, production and productivity, health, life expectancy and life standards. Research published by Ainsworth et al. (1996), Klasen (2002), Barro and Sala-i-Martin (2003), Lawson (2008), Pritchett (2001, 2006), and Quamrul et al. (2013) disclosed that women education results in reduced fertility, good child nutrition and health. Ainsworth et al. (1996) and Klasen (2002) reported a statistically significant association between increased women education, lower fertility rate, increase in human capital and the economic growth. Aghion et al. (2009) showed that human capital development enhances technological innovation through cognitive skills and promotes productivity, labor earnings and inspires economic growth and development. Consequently, it is vital in promoting citizens equal gender education to achieve sustainable economic growth and development. Research undertaken by Klasen (2002), Klasen and Lamanna (2008), Seguino and Were (2013) and Licumba et al. (2015) concludes that increase in gender equality in education positively affects economic growth. Klasen and Pieters (2015) and Thévenon and Del-Pero (2015) unveiled that an increase in women's education has a positive and significant effect on output per capita growth. Klasen and Pieters (2015) further revealed that women education significantly increases social development in areas such as decrease in maternal mortality rates together with fertility and infant mortality rates. King and Winthrop (2015) found that an increase in female education results in an increase in their income and their children's standard of living since women spent greater part of their income on their families than men do. El Alaoui (2016) investigated the effect of women education on economic growth. The researcher noticed that women's education has positive effect on economic growth. The researcher reached the conclusion that eradicating gender discrimination, women's tertiary education and high-quality institutional capital are the key to economic growth and development. Baba and Anumaka (2019) studied the effect of women education on the socio-economic development and reported a significant positive relation. Saâd and Assoumou Ella (2019), noticed that an increase of gender equality index at all levels of education promotes GDP per capita. Esen and Seren (2021) investigated the effect of gender education equality and employment on economic performance and reported a long-term relationship between them. Asongu and Odhiambo (2021) studied the effect of gender inclusive education on promoting inclusive economic participation and reported that gender equality in tertiary education results in unconditional economic inclusion. Agu et al. (2022) studied the effect of women education primary, secondary, and tertiary levels on economic development and child welfare. They found that an increase in women secondary and tertiary education results in better the economic growth and child welfare. Iqbal et al. (2022) examined how religious tensions, governance, economic growth, and education impact gender equality and noticed that reducing religious tensions and increasing economic growth enhance gender equality. On the other hand, Zaman (2010) noticed a unidirectional causality relationship between female enrolment and growth. Cooray and Mallick (2011) observed that while male human capital positively and

significantly affects growth, female human capital does not significantly affect. Eritobor (2017) tested whether the level of women's higher education promote their empowerment and economic development. The researcher observed that women higher level of neither empowers them nor enhances economic development. Isiaka (2019) examined the relationship between gender education and economic growth. The researcher observed that male enrolment in education and stock of human capital contribution to economic growth is greater than the contribution of female enrolment in education and human capital stock.

3. Data collection and study methodology

The study aims to compare education indicators and gender equality in Kuwait before and after the adoption of SDG 4 and SDG 5 in 2015. It also aims to assess the effect of investment on human capital and women empowerment on Kuwaiti economic growth. Consequently, data were collected from the World Bank's annual economic and social indicators for the period between 1992 and 2022. The choice of the data and the period covered in this study are mainly based on the date of the adoption of the SDGs and data availability. It was important to compare education indicators and gender equality before and after the adoption date (2015). The relationship between economic growth, investment in human capital, women empowerment, and gender equality will be identified by testing the following hypotheses:

Hypothesis (1): Economic growth is affected by investment in education.

Hypothesis (2): Economic growth is affected by gender education equality.

Hypothesis (3): Economic growth is affected by gender political equality.

Hypothesis (4): Economic growth is affected by the equality of gender business participation.

Hypothesis (5): Economic growth is affected by the equality of employers.

Hypothesis (6): Economic growth is affected by equality of employment.

Hypothesis (7): Economic growth is affected by equality of unemployment.

The above hypotheses will be tested using the autoregressive distributed lag (ARDL) model. Under this model, the dependent variable is a function of its past lagged together with the past and current values of the independent variables. Where the effects of the independent variables are distributed over several periods. This can be expressed mathematically as follows:

$$Y_t = a + \beta_1 \mathrm{IHC}_t + \beta_2 \mathrm{IHC}_{t-1} + \beta_3 \mathrm{IHC}_{t-2} + \beta_4 \mathrm{EQE}_t + \beta_5 \mathrm{EQE}_{t-1} + \beta_6 \mathrm{EQE}_{t-2} + \beta_6 \mathrm{EQP}_{t-3} + \beta_7 \mathrm{EQBG}_t + \beta_8 \mathrm{EQBG}_{t-1} + \beta_9 \mathrm{EQBG}_{t-2} + \beta_{10} \mathrm{EQGE}_t + \beta_{11} \mathrm{EQGE}_{t-1} + \beta_{12} \mathrm{EQGE}_{t-2} + \varepsilon_t$$

where:

Y_t: GDPC per capita (constant).

IHC_t: Investment in human capital is denoted by:

- GEXP: Government expenditure on education, total (% of GDP).

EQE_t: Equality of gender education is denoted by:

- LYGP: Literacy rate, youth (ages 15–24), gender parity index (GPI).

EQP_t: Equality of gender political participation is denoted by:

- PSHW: The proportion of seats held by women in national parliaments (%).

EQBG_t: Equality of gender business participation is denoted by:

- WBLI: Women Business and the Law Index Score (scale 1–100).

- EFME: Ratio of employers, female % of female employment (modeled ILO estimate).

  $EQGE_t$: Equality of gender employment is denoted by:
- RFMLP: Ratio of female to male labor force participation rate (%) (modeled ILO estimate).
- UYFM: Ratio of female to male unemployment (% of total labor force ages 15–24) (modeled ILO estimate).

  a: Constant.

  β_1–β_{12}: Parameters of the model.

  ε_t: Standard error.

A unit root test has been performed to check for stationarity in the time series. It is important to perform the unit root test before carrying out the regression analysis to ensure that the time series is stationary. The result of the unit root test presented in **Table 1** revealed that some of them are stationary at the level and others at the first difference. In his case, it is appropriate to employ the ARDL cointegration bound test. Under this test, if the *F*-statistic is greater than the value of the upper bound, this points to cointegration. If *F*-stats is between the value of upper bound and lower bound, this means the cointegration is inconclusive. If *F*-stats is less than the value of the upper bound, this shows there is no cointegration.

Table 1. Unit root test.

	At level								
		GDPC	**GEXP**	**LYGP**	**PSHW**	**WBLI**	**EFEE**	**RFMLB**	**UYFM**
With constant	*t*-statistic	−1.0821	−5.9767	−5.1736	−1.7881	−0.1666	−2.0588	−6.3067	−1.5951
	Prob.	0.7085	0.0000	0.0006	0.3770	0.9316	0.2618	0.0000	0.4689
		n0	***	***	n0	n0	n0	***	n0
With constant & trend	*t*-statistic	−1.4033	−4.9589	−3.0527	−1.6193	−3.1169	−1.5940	−7.2287	−0.9224
	Prob.	0.8376	0.0021	0.1448	0.7547	0.1219	0.7686	0.0000	0.9358
		n0	***	n0	n0	n0	n0	***	n0
Without constant & trend	*t*-statistic	−0.9421	−2.5903	2.6369	−1.1251	1.2619	0.2377	0.1282	−0.9559
	Prob.	0.3001	0.0115	0.9962	0.2292	0.9433	0.7476	0.7134	0.2927
		n0	**	n0	n0	n0	n0	n0	n0
	At first difference								
		d(GDPC)	**d(GEXP)**	**d(LYGP)**	**d(PSHW)**	**d(WBLI)**	**d(ESFM)**	**d(UFM)**	**d(UYFM)**
With constant	*t*-statistic	−4.2315	−10.3539	−3.9521	−3.6981	−4.1416	−4.9902	−5.8513	−6.0696
	Prob.	0.0027	0.0000	0.0101	0.0113	0.0035	0.0005	0.0001	0.0000
		***	***	**	**	***	***	***	***
With constant & trend	*t*-statistic	−3.9961	−10.1955	−4.5218	−3.6233	−3.9861	−4.8759	−5.5776	−6.1046
	Prob.	0.0208	0.0000	0.0141	0.0499	0.0218	0.0031	0.0008	0.0003
		**	***	**	**	**	***	***	***
Without constant & trend	*t*-statistic	−4.2778	−10.7192	−3.3277	−3.8170	−4.0032	−5.1089	−6.1051	−6.1475
	Prob.	0.0001	0.0000	0.0026	0.0005	0.0003	0.0000	0.0000	0.0000
		***	***	***	***	***	***	***	***

4. Findings

4.1. Descriptive statistics

Descriptive statistics summarized in **Table 2** showed that the average GDP per capita constant (GDPC) is around USD 31,817. It is one of the highest per capita incomes in the world. In addition, the table revealed that during the period between 1992–2022, the average government spending (GEXP) on education was 4.40 percent of the GDP (The average annual GDP and population during the period between 1994–2022 was around USD 118.0 Billion and 2.9 million respectively). By linking the GDP, government spending on education, and the population, it is obvious that the Kuwaiti Authorities spend in average around $1517 per citizen annually. The table also showed that literacy rate, youth ages (15–24), gender parity index (LYGP) females exceed males (Gender parity index for youth literacy rate is the ratio of females to males ages 15–24 who can both read and write with understanding a short simple statement about their everyday life). However, during the period 1994 and 2022, the average proportion of seats held by women (PSHW) in Kuwaiti parliaments was less than 3 percent. Similarly, women's business and the law index score (WBLI) reported in the table appeared to be low as reflected by the mean (less than 28 percent) (The index measures how laws and regulations affect women's economic opportunity. Overall scores are calculated by taking the average score of each index (mobility, workplace, pay, marriage, parenthood, entrepreneurship, assets and pension), with 100 representing the highest possible score). Employers, female-male employment (EFEME) is very low (Employers are those workers who, working on their own account or with one or a few partners, hold the type of jobs defined as a "self-employment jobs" i.e., jobs where the remuneration is directly dependent upon the profits derived from the goods and services produced), and, in this capacity, have engaged, on a continuous basis, one or more persons to work for them as employee(s)). The ratio of female to male labor force participation (RFMLP) is relatively low (Labor force participation rate is the proportion of the population ages 15 and older that is economically active: all people who supply labor for the production of goods and services during a specified period. Ratio of female to male labor force participation rate is calculated by dividing female labor force participation rate by male labor force participation rate and multiplying by 100). The table further revealed that the ratio of unemployment, youth female to unemployment compared with youth male (UYFM) is high (Youth unemployment refers to the share of the labor force ages 15–24 without work but available for and seeking employment. Definitions of labor force and unemployment differ by country).

Table 2. Descriptive statistics of the variables utilized in the study.

Variable	Mean	Median	Std. Dev.	Minimum	Maximum
GDPC	31,816.64	31,662.81	4879.94	22,580.71	41,160.99
GEXP	5.68	5.85	2.15	2.58	14.2
LYGP	0.98	1.00	0.02	0.92	1.01
PSHW	2.67	1.54	2.76	0.00	7.69
WBLI	27.56	26.25	2.03	26.25	35.00

Table 2. (*Continued*).

Variable	Mean	Median	Std. Dev.	Minimum	Maximum
EFME	0.25	0.16	0.14	0.15	0.57
RFMLP	55.29	55.98	1.78	50.93	57.08
UYFM	1.88	1.82	0.68	0.83	3.23

4.2. Kuwaiti women's education before and after the adoption of SDGs

4.2.1. Investment in human capital

Figure 1 highlights the Kuwaiti authority's commitment to promoting human capital through annual government spending on education during the period between 1992– 2022. It is evident from the figure that the average government annual spending on education doubled after adopting the SDGs rising from 3.4 billion US dollars 1992 to $8.9 billion 2015. The figure also emphasized government commitment to education during the spread of corona pandemic by allocating $6.9 billion in 2020 and $5.9 billion in 2021.

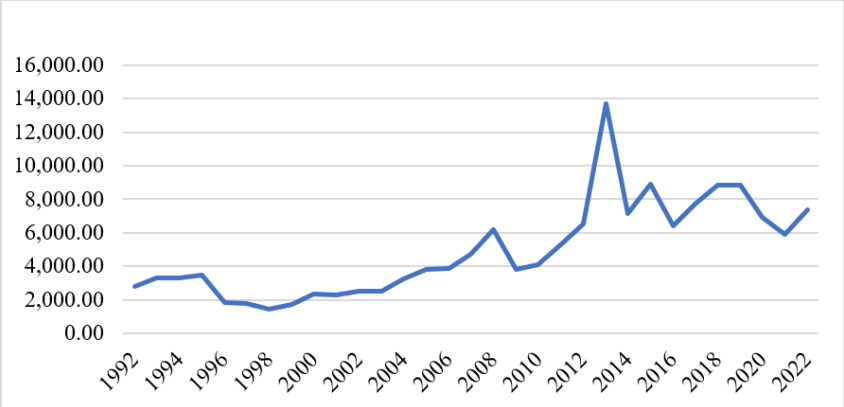

Figure 1. Government spending on education (Million USD $).

4.2.2. Quality of education and education equality

Table 3 shows the annual average literacy rate of young females increased from 97.97 percent before the adoption of the SDGs to 99.6 percent after the adoption. The literacy annual average rate of the male youth increased from 98.35 percent to 99.16. Similarly, while the average adult female's annual literacy rate increased from 90.64 percent before the adoption of the SDGs to 96.15 percent after the adoption of SDGs, the average annual adult male literacy rate increased from 93.78 percent before the adoption of the SDGs to 97.5 percent after the adoption of the SDGs. The results disclosed in **Table 3** ascertained the Kuwaiti authority's commitments towards achieving SDG 4 and SDG 5. Achieving good quality education is reflected by the increase in the literacy rate among females and males' youths and adults. The high average annual literacy youth rate that exceeded that of the males after the adoption of the SDGs affirmed the Kuwait authority's commitment to SDG 4 aims at achieving gender equality.

Table 3. Education quality and gender equality before and after the adoption of the SDGs.

Year	Literacy rate, youth female (% of females ages 15–24)	Literacy rate, youth male (% of males ages 15–24)	Literacy rate, adult female (% of females ages 15 and above)	Literacy rate, adult male (% of males ages 15 and above)	Proportion of seats held by women in national parliaments (%)
1992	..	..	..	..	..
1993	..	..	..	..	..
1994	..	..	..	..	..
1995	90.18	93.80	74.15	81.12	..
1996	..	..	..	..	..
1997	..	..	..	..	0.00
1998	..	..	..	..	0.00
1999	..	..	..	..	0.00
2000	..	..	..	..	0.00
2001	..	..	..	..	0.00
2002	..	..	..	..	0.00
2003	..	..	..	..	0.00
2004	..	..	..	..	0.00
2005	99.79	99.69	91.04	94.45	1.54
2006	98.50	98.52	90.83	94.53	1.54
2007	98.51	98.40	91.50	94.79	1.54
2008	98.74	98.57	91.78	95.02	3.08
2009	..	..	..	..	7.69
2010	98.72	99.06	92.68	95.55	7.69
2011	..	..	..	..	7.69
2012	98.84	98.74	94.97	95.84	6.15
2013	99.04	99.25	94.30	96.35	6.15
2014	..	..	..	..	1.54
2015	99.40	99.15	94.47	96.39	1.54
	97.97	98.35	90.64	93.78	3.50
2016	..	..	..		2.00
2017	99.50	99.06	94.83	96.70	3.08
2018	99.50	98.78	94.91	96.67	3.08
2019	..	..	..		4.62
2020	99.58	99.10	95.35	97.05	6.35
2021	..	..	..		1.54
2022	99.80	99.70	99.49	99.58	6.25
	99.60	99.16	96.15	97.50	3.85

4.2.3. Political equality

The proportion of seats held by women in the national parliaments is used to proxy women's political equality. A summary of women's involvement in the country's political activities before and after the adoption of the SDGs is presented in **Table 3**. The table shows that despite the progress Kuwaiti women have made in education and their superiority over men in this regard, their participation in the

country's political activities is still limited. For example, although Kuwait is the only Gulf Arab state that has held regular parliamentary elections since shortly after its independence in 1961, the representation of women within the parliamentary framework has persistently fallen short of reflecting their demographic proportion within the Kuwaiti population. However, after Kuwait adopted the United Nations SDGs that stressed in the fifth goal the need to attain equality between genders, women's participation in the Kuwaiti National Assembly improved slightly. This can be observed in **Table 3** where the average participation of women in the National Assembly during the period between 1992 and 2015 was 3.50% of the total number of representatives, and this average increased after the adoption of the Sustainable Development Goals to 3.85%. In fairness, the Kuwaiti authorities are not blamed for women's poor representation in the National Assembly. This is likely due to the nature of the Arab-Islamic culture in general and the Kuwaiti traditions in particular. This is also possibly because Kuwaiti women themselves are unable to organize themselves and take advantage of the high percentage they constitute of the total population and translate it into the membership of the National Assembly.

4.2.4. Business and economic equality

Table 4 summarizes the extent of Kuwaiti women's involvement in the national economic activities. The table revealed that the average annual women business and the law index score (This index measures how laws and regulations affect women's economic opportunity scores calculated by taking the average score of each index (mobility, workplace, pay, marriage, parenthood, entrepreneurship, assets and pension), with 100 representing the highest possible score) before the adoption of the SDGs was 27.03 percent. This average slightly improved and increased to 29.69 percent after the adoption of the SDGs. The low women business and the law index score is echoed by the female employers' percentage of female employment, which appears in **Table 4** (Employers are those workers who, working on their own account or with one or a few partners, hold the type of jobs defined as a "self-employment jobs" i.e., jobs where the remuneration is directly dependent upon the profits derived from the goods and services produced), and, in this capacity, have engaged, on a continuous basis, one or more persons to work for them as employee(s)). The percentage showed no changes during the period between 1992 and 2015 with slight improvement in the following years up to the adoption of the SDGs. The table further revealed some improvements after the adoption of the SDGs. Yet, there is still scope for future improvement in the women business and the law index score and the female employers' percentage of female employment.

Table 4 also shows that the annual average percentage of female' participation in the Kuwaiti labor force during the period between 1992 and 2015 that preceded the State of Kuwait's adoption of the United Nations SDGs was 55.2 percent of male participation. The annual average female participation in the national labor force witnessed a slight improvement during the period following Kuwait's adoption of the SDGs and reached 55.7 percent of the males' participation. The results show that there has been no significant progress in Kuwaiti women's participation in the workforce. One of the factors that contributed to this may be the COVID-19 pandemic. Also, the fact that Kuwait is an oil exporting country, and among the high-income countries,

limits women's motivation to search for job opportunities.

Table 4. Kuwaiti women involvement in the national business and economic activities.

Year	Women business and the law index score (scale 1–100)	Employers, female % of female employment) (modeled ILO estimate)	Ratio of female to male labor force participation rate (%) (modeled ILO estimate)	Ratio of Unemployment, youth female to unemployment youth male (% of female-male labor force ages 15–24) (modeled ILO estimate)
1992	26.25	0.15	50.93	3.65
1993	26.25	0.15	51.34	3.66
1994	26.25	0.15	51.87	3.62
1995	26.25	0.15	52.01	3.60
1996	26.25	0.15	52.86	3.58
1997	26.25	0.15	53.62	3.58
1998	26.25	0.15	54.34	3.59
1999	26.25	0.15	54.97	3.56
2000	26.25	0.15	55.52	3.60
2001	26.25	0.15	55.97	3.57
2002	26.25	0.15	56.35	3.59
2003	26.25	0.15	56.66	3.67
2004	26.25	0.15	56.30	3.64
2005	26.25	0.15	56.05	3.64
2006	26.25	0.16	55.94	3.62
2007	26.25	0.17	55.92	3.10
2008	26.25	0.18	55.99	3.39
2009	26.25	0.23	56.13	3.26
2010	29.38	0.30	56.37	1.99
2011	29.38	0.41	56.61	2.32
2012	29.38	0.38	56.83	2.63
2013	29.38	0.34	57.04	2.94
2014	29.38	0.30	57.08	3.29
2015	29.38	0.27	56.81	3.67
Average	27.03	0.17	55.15	3.37
2016	29.38	0.57	55.20	6.20
2017	29.38	0.50	56.46	6.07
2018	29.38	0.49	56.07	6.07
2019	26.25	0.49	55.76	6.00
2020	28.75	0.46	55.19	4.12
2021	35.00	0.45	55.03	4.85
2022	35.00	0.49	55.78	5.26
Average	29.69	0.46	55.64	6.34

What attracts attention in **Table 4** is the rate of unemployment among female'

labor force in general and among the youth in particular. The table unveils that the annual average ratio of female to male unemployment during the period between 1992 and 215, before the adoption of the SDGs, was almost 3.37 times. This ratio has increased after the adoption of the SDGs to 6.34 times. However, the annual average ratio of youth female to male youth-male unemployment before the adoption of the SDGs was 2.77%. This percentage increased to 6.35 percent after the adoption. It is important to highlight that the female unemployment rate in comparison with the male unemployment rate among the youth is less than that on the country level. The worsening of unemployment rates observed within the national female labor force, as well as among young women, after the endorsement of the Sustainable Development Goals (SDGs), can be primarily attributed to the spread of the COVID-19 pandemic.

Finally, the result of the ARDL reported in **Table 5** reveals that the model is significant as reflected by the *F*-statistic and Prob (*F*-statistic). The resulting adjusted R^2 also reflects that the explanatory variables estimated in the model are responsible for more than 97 percent of variation in economic development. This implies that women's education together with women's participation in political, business, and economic activities are important determinants of the economic development of Kuwait in the short run. To assess the long-term effect of the explanatory variables on economic development, the bounds test was undertaken and reported in **Tables 6** and **7**. The table reveals that the *F*-stat (6.463) is greater than the upper bound (5.694) and this ascertains cointegration. The table also revealed that the current economic development is affected by lagged economic development values. The table further pointed to several significant relationships between economic development, the current, and lagged values of the explanatory variables.

Table 5. The result of the ARDL test.

Variable	Coefficient	Std. error	*t*-statistic	Prob.*
LNGDPC(−1)	0.927008	0.237698	3.899944	0.0036
GEXP	0.006943	0.016962	0.409354	0.6919
LYGP	−4.873661	2.402607	−2.028488	0.0731
LYGP(−1)	7.182332	2.646853	2.713536	0.0239
LYGP(−2)	−5.320333	1.996432	−2.664921	0.0258
PSHW	−0.036568	0.008188	−4.466084	0.0016
PSHW(−1)	−0.023342	0.014594	−1.599434	0.1442
PSHW(−2)	−0.028421	0.020324	−1.398384	0.1955
WBLI	−0.034394	0.008014	−4.292022	0.0020
WBLI(−1)	−0.022158	0.015129	−1.464562	0.1771
WBLI(−2)	−0.072746	0.015957	−4.558971	0.0014
EFEE	1.438173	0.477068	3.014611	0.0146
EFEE(−1)	1.230542	0.485722	2.533426	0.0321
EFEE(−2)	0.430236	0.206887	2.079568	0.0673
RFLMB	−0.074979	0.031436	−2.385109	0.0409
RFLMB(−1)	0.092043	0.031900	2.885321	0.0180
UYFM	−0.242833	0.098295	−2.470444	0.0355

Table 5. (*Continued*).

Variable	Coefficient	Std. error	*t*-statistic	Prob.*
UYFM(−1)	−0.135636	0.077010	−1.761294	0.1120
C	6.382644	3.044469	2.096472	0.0655
R-squared	0.990318	Mean dependent var		10.37418
Adjusted *R*-squared	0.970954	S.D. dependent var		0.147646
S.E. of regression	0.025163	Akaike info criterion		−4.304707
Sum squared resid	0.005699	Schwarz criterion		−3.400711
Log likelihood	79.26590	Hannan-Quinn criter.		−4.028347
F-statistic	51.14237	Durbin-Watson stat		1.904746
Prob(*F*-statistic)	0.000001			

*Note: *p*-values and any subsequent test results do not account for model selection.

Table 6. Bounds test and bounds critical values.

Test statistic	Value
F-statistic	6.462884

Table 7. Bounds critical values.

Bounds critical values						
	10%		5%		1%	
Sample size	*I*(0)	*I*(1)	*I*(0)	*I*(1)	*I*(0)	*I*(1)
31	2.277	3.498	2.730	4.163	3.864	5.694
Asymptotic	1.920	2.890	2.170	3.210	2.730	3.900

* *I*(0) and *I*(1) are respectively the stationary and non-stationary bounds.

5. Discussion

The results of the study showed a serious commitment by the Kuwaiti authorities to providing quality education to both genders without discrimination. This commitment was confirmed by what the government spent on the education sector during the corona epidemic. Despite tremendous financial resources that were used to fight the epidemic, the government continued to assign a high percentage of its GDP to the education sector. The advancement of females over males in the education indicators used by the study indicates that the Kuwaiti authorities are serious about achieving the fourth and fifth goals of the SDGs, which aim to provide quality education and equality between genders.

The study also showed that despite providing quality education to females in Kuwait and their superiority over males, their political role represented by their representation in the National Assembly and the government, is still limited. In fairness, the Kuwaiti authorities are not blamed for women's poor representation in the National Assembly. This is likely to be due to the nature of the Arab-Islamic culture in general and the Kuwaiti traditions in particular. This is also possibly because Kuwaiti women themselves are unable to organize themselves and take advantage of the high percentage they constitute of the total population and translate it into the membership of the National Assembly. However, the Kuwaiti authorities can still

increase women representation in government leadership positions.

The results of the analyses further showed that there has been no significant progress in Kuwaiti women's participation in the workforce. One of the factors that contributed to this may be the COVID-19 pandemic. Also, the fact that Kuwait is an oil exporting country, and among the high-income countries, limits women's motivation to search for job opportunities.

Moreover, the results of the analyses revealed that female unemployment rate in comparison with the male unemployment rate among the youth is more than that on the country level. The worsening of unemployment rates observed within the national female labor force, as well as among young women, after the endorsement of the Sustainable Development Goals (SDGs), can be primarily attributed to the spread of the COVID-19 pandemic.

Finally, the results of ARDL test ascertained that women empowerment have significant effect on the country's economic growth in the short and long-run. Therefore, it is expected that granting women increased participation in political activity will help enhance their role in economic activity and facilitate the achievement of Sustainable Development Goals.

6. Limitations of the study

The is relied on secondary data published by the World Bank or Kuwaiti government agencies. This might not be enough to identify the real reasons behind the limited success of the Kuwaiti women to obtain seats in the National Assembly that reflect the number of females who are entitled to run and vote in the elections. It is also necessary to conduct a field study to find out the reasons that prevent Kuwaiti women from engaging in economic activity despite the logistical, technical and financial facilities provided by the Kuwaiti authorities to young entrepreneurs.

7. Conclusion

In 2015, all member states of the United Nations General Assembly, including the State of Kuwait, adopted the United Nations Sustainable Development Goals (SDGs). This study set out to determine the progress made by the State of Kuwait in its implementation of the fourth (quality education) and fifth (equality of gender) SDGs, Kuwaiti women empowerment, and their effect on the national economic development. To achieve this objective, data were collected from the economic and social indicators published annually by the World Bank and the Central Bank of Kuwait during the period between 1992 and 2022. The analysis results showed that the State of Kuwait made significant progress in providing high-quality education for both genders without discrimination. Women have also surpassed men in the field of education. However, this progress in the field of education was not reflected in the empowerment of women at the political and business levels and effective participation in the Kuwaiti workforce. Kuwaiti women's participation in the parliament and governmental political activity is still very limited. Women's participation in the Kuwaiti workforce and the provision of job opportunities for them is still limited. Part of the results are borne by Kuwaiti women themselves, other results are related to customs, traditions, and the nature of the Kuwaiti economy, since it is rich and built

on the large surplus in the government's revenues from oil exports. Although the annual average percentage of women to the total population of Kuwait during the period between 1992 and 2022 was more than 43 percent, the percentage of women's representation in the Kuwaiti parliament is far from less than this percentage. Therefore, Kuwaiti women are required to organize themselves and develop their political work to increase their representation in Parliament in proportion to their size in Kuwaiti society. The second problem that restricts Kuwaiti women empowerment lies in Arab and Islamic culture and traditions that encourage women to work in limited fields and limit women's entrepreneurship. Furthermore, Kuwait's status as an affluent petroleum-exporting country, coupled with the government's provision of fundamental necessities, including universal healthcare and education for all citizens, ostensibly mitigates the impetus for women to seek employment opportunities. Despite all this, the failure of a large portion of the total population in Kuwait to participate in political, business, and economic activity will have a negative impact on economic growth and will contribute to Kuwait's continued dependence on oil exports. To achieve economic growth in the short and long term, it is necessary to continue promoting the empowerment of women, incorporating them into the political system, labor force, and wider economy, fully capitalizing on their potential.

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