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THE IMPACT OF GENDER INEQUALITY ON ECONOMIC GROWTH; AN EMPIRICAL CASE OF IRAQ BETWEEN 2004 AND 2021

Chrakhan Bestun OSMAN,

Business and Management Department of Tishk International University of Sulemani

shirinchera95@gmail.com

Abstract

This study delves into the intricate relationship between gender disparities and economic development in Iraq during 2004-2021. Understanding the impact of gender gaps on a nation's economic well-being is pivotal in today's global landscape. Employing Gross Domestic Product (GDP) per capita as the dependent variable, the analysis hinges on the Gender Inequality Index (GII) developed by the UNDP. This index, ranging from 0 to 1, reflects a country's gender gap, with higher values indicating greater disparity. Utilizing robust statistical methodologies such as Unit Root Tests, Cointegration Analysis, and Regression Analysis, this study unveils the nuanced facets of this connection. The empirical findings shed light on Iraq's approach to gender disparity and the potential economic benefits of addressing this pervasive issue. Notably, the research uncovers a significant negative correlation between Iraq's gender inequality level and economic growth. Such insights offer policymakers, academics, and stakeholders valuable perspectives on the pivotal role gender equality plays in shaping a nation's economic trajectory. In conclusion, this study underscores the imperative of bridging the gender gap for Iraq's socioeconomic advancement, emphasizing its profound implications for the country's economic future.

Keywords*: Gender Inequality, GDP, Economic Growth, Iraq, Women.*

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1. INTRODUCTION

As the globe becomes more globalized, a fresh discussion is being had by social scientists and policy officials about the role that gender disparity plays in economics. Financial gender imbalance may be a problem when a nation is developing, and its goals are being considered. Gender inequalities might exist in a wide range of contexts and professions. Regarding this issue, many studies have been implemented and factors that lead to the inequality between males and females in the world.

According to the World Bank (World Bank, 2021), the GDP per capita of the UN, one of the biggest peace organizations in the world that maintain international peace and security - refers to this as, predominantly, a woman being discriminated against and have fewer opportunities compared to man according to United Nations Development Programme (2015). In relation to this report, UNDP (United Nations Development Programme) in 2015 also pointed out more specifically that men have more opportunities in political, social, education and economic. Thus, gender inequality is one of the most important issues in the world the UNDP wants to reduce and made it one of its fundamental Sustainable Development Goals (SDG's). (Sustainable Development Goals, 2015) Many research and analyses have proven that boosting gender equity and eliminating gender inequality improve economic growth and development (World Bank, 2021; International Monetary Fund [IMF], 2020; McKinsey & Company, 2019). Gender inequality hinders a nation's ability to utilize its human resource efficiently, which is harmful to economic progress. A significant portion of humanity is overlooked whenever barriers prevent women from obtaining an education, finding employment, and earning earnings that are equivalent to their male counterparts (Budur *et al.,* 2023). This results in lower overall effectiveness and economic production. Additionally, gender disparity can stifle innovative thinking and variety in the workforce, making it more difficult for a nation to compete in and adapt to a quickly changing worldwide marketplace. Many research and analyses, including those from the World Bank, IMF, and McKinsey, have repeatedly demonstrated that boosting equality by gender and lowering disparities between sexes may enhance job creation and prosperity in a country. These results highlight the significance of tackling gender inequities as a key component of promoting equitable and long-term economic development.

World Bank has a group ''Women, Business and Law'' who have examined a paper about the gender gap in 50 countries all around the world (Reform of Decade). This paper showed that Iraq was in the 44th place of 50 countries. How higher the better the better the opportunities and equality are for women. The lower the rank, the worse the situation is for women. Iraq was in a very unpleasant rank, which shows a gap. (The World Bank, 2019)

Gender disparities in official financial institutions are more severe than what the statistics currently show. Based on research, women are further from men to use official financial services, by close male relatives that yield control of their finances to male family members (Demirgüç-Kunt et al., 2013). Additionally, according to academics Fox and Goodfellow

(2016), cultural conventions and gender inequalities prevent women from making monetary choices in particular countries. Even though several studies at the level of multiple countries, as well as the individual level, offer solid evidence that women are less likely than males to utilize formal financial services. Additionally, research is still lacking information on the methods used to accomplish female financial autonomy, more especially the effects of gender-inclusive legislation and regulations on women's involvement in the legal economy.

Studies on the variables that contribute to gender disparity and women's empowerment has identified several drivers in various spheres of life, including politics (Beaman et al., 2010; Chattopadhyay & Duflo, 2004; Iyer et al., 2012), education (Coleman, 2000), wages (Neumark & Stock, 2006), and elements related to expenses and prosperity (Shahriari et al., 2009). Additionally, there nevertheless exists no scientific data on how specific factors affect the gender gap in the formal financial industry and, consequently, the meager financial success of women. These factors include having a bank account, having a credit card, having funds in a bank, borrowing money from close companions or a bank, and receiving public or private sector salaries. Some of the information gaps filled in this study is the one mentioned above.

Iraq hit rock bottom many times in history, which had big consequences for males and females – but mostly females. The fall of Saddam Hussein was an opening of hope for women after 2003, but in 2014 the financial crisis came. Since then, Iraq faced massive difficulties in its economic development. From unemployment, decreasing wages, decreasing oil prices, and the war costs against the Islamic State. Many factors played a role in the male-dominated Iraq. Many gaps are visible in the economic processes. However, what if we looked more into the two variables economic growth and gender inequality in Iraq? Iraq, who shows their females at the front of war; the female Peshmerga fighters – will they show their females also at the top of work-related issues to rescue their economy?

By exposing the amount of gender discrepancies in a community and their potential influence on economic development, the Gender Inequality Index (GII) plays a vital role in boosting the economy. Significant levels of disparity between men and women, as determined by the GII, can limit women's access to opportunities for work, schooling, and medical care, which may hinder economic growth. The United Nations Development Programme (UNDP) established the Gender Inequality Index (GII) in the 20th-anniversary edition of the 2010 Human Development Report as a tool for measuring gender differences. A nation loses out on a significant amount of its human capital when women are eliminated from the labor force to

education. Reducing gender inequality may boost productivity, economic growth, and social well-being, according to studies, including the "Gender Equality, Poverty Reduction, and Inclusive Growth" study from the World Bank. Politicians and governments may build more open and equitable economies that can prosper by addressing the gaps reflected in the GII.

2. THEORETICAL BACKGROUND

Theoretical perspectives on empirical educational studies have been an important content for gender inequality on economic growth. Gender inequality and growth in economic studies is a correlation that has been around for ages. It is not only an economic study, but it also includes sociology and gender studies.

The role of women in economics and economic growth is emerging as long as the world is becoming globalized. Looking into the history of economic activities, we can immediately call a hundred names who have had an impact on the economy. Hilary Clinton, Melinda Gates, and Michelle Obama. We can list many women who have the right skills and are suitable entrepreneurs or leaders. Many people will not see the gap in this world now, but still, many studies show the massive gap in today's society impacting the economy. Is there discrimination against women? Are there wage differences?

2.1.Gross Domestic Product (GDP)

This framework for theory is essential for all variables used in this study. How does it influence the impact of gender inequality on economic growth in Iraq from 2004 to 2021? It is crucial to have many connections between the variables. The framework makes an analysis of GDP per capita, the dependent variable, and the Gender Inequality Index, the independent variable. The GDP (Gross Domestic Product) is essential for showing the economic growth within a country, and the GII will show gender inequality. According to the World Bank (World Bank, 2021), the GDP per capita of Gross Domestic Product (GDP) per capita is a dependent variable that is the standard of living that will produce the economics of a country that will make international comparisons between countries easier. Gross domestic product (GDP) is an economic indicator of the overall market worth of everything that is finally created by an entire nation or country in each time frame. GDP is most used by a single country's government to assess its financial state. Another term, GDP per Capita; shows the statics of the average wage of a person in a specific country in specific time frame. The difference is that GDP per Capita shows the standard of living of the women and men living in a specific country. GDP per capita

is calculated by dividing the total gross value contributed by all producers who are residents of the economy by the population in a specific time. GDP statistics in local currency at constant prices are used to compute growth.

GDP can measure an increase and decrease in countries annually, to make financial policies, rules, and laws for countries (Majeed, B. N. 2022). The calculation of the GDP of a country is adding all the incomes of the inhabitants of a country made in businesses and show the well-being of a country (Demir et al., 2014; Ahmed, Y., Saeed, S., Jamal, S., & Saed, H. 2013). GDP per capita is the average income per person within a country. The timetable is mostly a year, where economists calculate it. We will take the GDP of a country, and after that we will divide it by its population and get the GDP per capita.

Economic giants like Japan, Germany, the United States, China, and the United Kingdom are mostly on the list of countries with large GDPs. These countries have strong bases in business and industrial markets. GDP per Capita shows other results, countries that have considerable wealth and success per person are Luxembourg, Singapore, Qatar, and Norway.

However, regions with weak economies, like countries in Africa and some of South Asia, are frequently home to nations with low GDP. Most of the time it has political unrest, a bad healthcare system, low-quality education, and industrial reasons (Demir and Aydinli, 2016). These conditions limit the economic prospects and general standard of living for their population. Countries with low GDP per capita include Burundi, Malawi, and South Sudan.

2.2. Gender Inequality Index (GII)

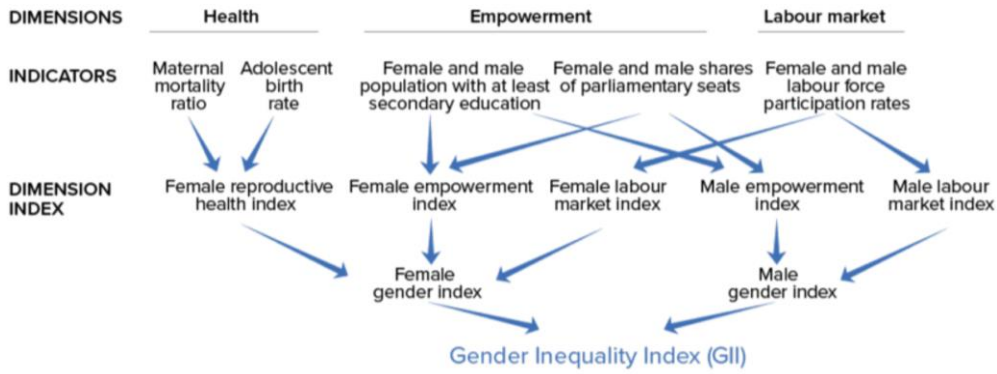
According to the Human Development Plan, UNDP in 2013 another variable is GII which stands for Gender Inequality Index, an independent variable. GII shows the divergence between males and females in many aspects. Besides economic growth, education, health, and culture play a role in GII too. The United Nations Development Programme (UNDP) has founded the GII which measures the inequalities between women and men in many countries in the world.

It has three important aspects that the GII finds crucial for gender inequality internationally: reproductive health, empowerment, and labor market. Women's labor force participation and the gender wage gap are considered when determining economic status. Indicators of reproductive health include teenage birth rates and mortality among moms. Regarding political

engagement and decision-making, as well as educational achievement, empowerment evaluates gender discrepancies.

The index is calculated very clearly, from a scale of 0 to 1. The gender Inequality Index is the perfect balance if the number is 0, and 1 is a very high inequality within a country. The GII is very important because it tracks the well-being of women in countries and follows if there is a process every year. Many Western countries in Europe, especially in Scandinavia - like Norway, Denmark, Sweden, and Finland have low scores because the lives of women are better in reproductive health, empowerment, and economic status. Countries in Africa and Asia have a high score, due to the higher levels of gender inequality. This index indicates the help countries need from politicians, organizations, and governments. This index is efficient for researchers, economists, policymakers to come to conclusions about aspects about inequality in order to make better rules and laws and track the growth of a country.

Figure 1: Dimensions and indicators of Gender Inequality Index (GII) – by UNDP.



(Source: GII by UNDP Report)

2.3. Economic Growth

We can assess a nation's economic health by looking at its economic growth. We quantify it using a particular formula known as GDP, or Gross Domestic Product. Consider adding together these four essential elements: GDP equals: C + I + G + (X-M) Consumer Spending (C): This is the amount of money that average people, meaning you and I, spend on goods we need on a daily basis, such as food, clothing, and vehicles. Business Investment (I): Businesses spend money on equipment purchases or the construction of facilities to produce additional goods. Government Spending (G): Governments invest funds into vital infrastructure projects including roadways, healthcare facilities, and institutions. Net Exports (X-M): This metric

considers the quantity that a nation provides to different nations minus how firmly it imports from other nations. These components are added up to create the GDP, which serves as a sort financial reporting memory card, letting us know if the market is strengthening (if GDP increases) or weakening (if GDP decreases). Generally speaking, increased GDP indicates that the economy is expanding; nevertheless, declining GDP may indicate that there are economic difficulties (Salih, H. A., Majeed, B. N., & Hayder, L. A. 2022; Salih, K. K., & Majeed, B. N. 2022).

In GDP we have the nominal and real GDP which can be different measure. GDP is measured using the present value of the markets to get the nominal gross domestic product. The gross domestic product (GDP) is the total value of all finished goods and services produced in a country over a specific period of time. Since the whole cost price has increased, the nominal price has changed from the real price and now includes cost price adjustments. The real GDP, also referred to as the present dollar GDP or linked dollar GDP, is often calculated by applying a gross domestic product factor to the nominal GDP (Majeed & Aziz, 2023; Ahmed et al., 2015; Budur, 2020; Demir et al., 2022; Budur et al., 2023).

Real GDP is a metric that takes inflation into account and examines the pace at which all products and services are produced in a nation for a specific year. It is frequently referred to as a set price and is indicated in the initial year's pricing. It is sometimes referred to as GDP at constant prices or GDP adjusted for inflation. The real GDP, which only takes into account output and is unaffected by currency movements, has been accepted as a trustworthy indication of a country's economic progress (Majeed & Karim, 2022; Rashid & Jaf, 2023; Budur et al., 2018).

3. LITERATURE REVIEW

Numerous studies highlight the critical link between gender inequality and economic growth. Çagatay and Ozler (1995) explored how women's workforce participation affects long-term economic development and short-term macroeconomic shifts due to structural adjustments. Klasen (2000) found a positive impact of educational parity between genders on economic growth through increased schooling and investment. Mollet (2011) showcased disparities in time allocation between genders affecting labor force participation.

Lofstrom (2009) emphasized fair labor distribution's role in enhancing productivity and satisfaction while identifying cultural norms as barriers to gender parity. Research by Brummet

(2008) and Klasen (1999) emphasized the relationship between gender discrimination and economic growth.

Seguino (2000) introduced a perspective suggesting that gender wage inequality might foster economic development in certain semi-industrialized exporting countries. Taylor (1998) analyzed various factors impacting economic development, including gender inequality.

Lagerlöf (1999) and Klasen with Lamana (2009) focused on education's impact on gender inequality and economic growth. Baliamoune-Lutz and McGillivray (2007) revealed negative correlations between economic growth and gender inequality in African and Arab countries.

Studies in Pakistan by Fatima (2010) discussed the lack of correlation between women's education and economic growth due to societal roles and low socio-economic recognition. Yumusak et.al (2013) studied Turkey, indicating reduced economic growth with lower female education.

Ali's (2015) research in Asia showcased the positive impact of balanced gender ratios on a country's economic development. Lastly, studies in finance by Lusardi & Mitchell (2011), Rashid (2023), and Jaf & Rashid (2023) outlined women's financial vulnerability, showing men's greater financial participation.

Research like Botric and Broz (2017) highlighted disparities in financial inclusion between genders across different nations and age groups, demonstrating men's greater financial involvement.

These studies collectively underscore the complexities of gender inequality's impact on economic growth, shedding light on education, labor force participation, cultural norms, and financial inclusion as crucial factors in shaping economic development.

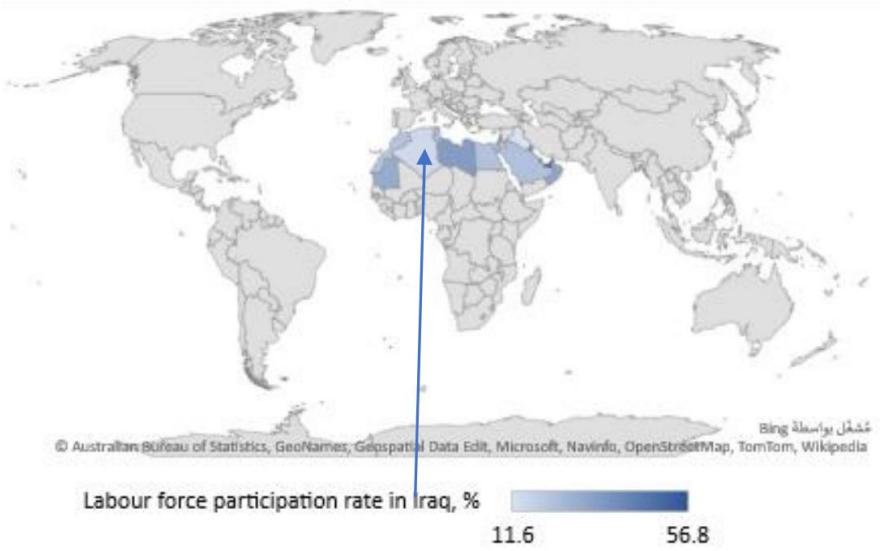
3.1. Women in the Iraqi Economy

In the pursuit of long-term development goals, the engagement of women in business activities stands as a crucial metric to gauge individual growth and overall progress. Emphasizing female empowerment, autonomy, and active involvement in various tasks aligns with core national values. Over recent years, global attention has increasingly focused on women's access to financial resources within international development agendas.

Recognizing this, both national and international bodies have set forth objectives prioritizing equal access to financial services for women. The World Bank's establishment of the Universal Financial Access (UFA) long-term goal in 2013 aims to provide men and women equal opportunities in banking services. The G20's commitment in 2015 specifically highlights equal access to finance for women as a major agenda item.

Empowering women financially not only contributes to achieving sustainable development goals, particularly gender equality but also benefits marginalized populations. Recognizing women's right to financial support is crucial in achieving the Sustainable Development Goals (SDGs), notably the fifth goal of gender equality. This commitment to empowering women and girls remains a vital part of the United Nations Post-2015 Sustainable Development Goals, guiding global initiatives until 2030.

Figure 2: Labour Force in Iraq



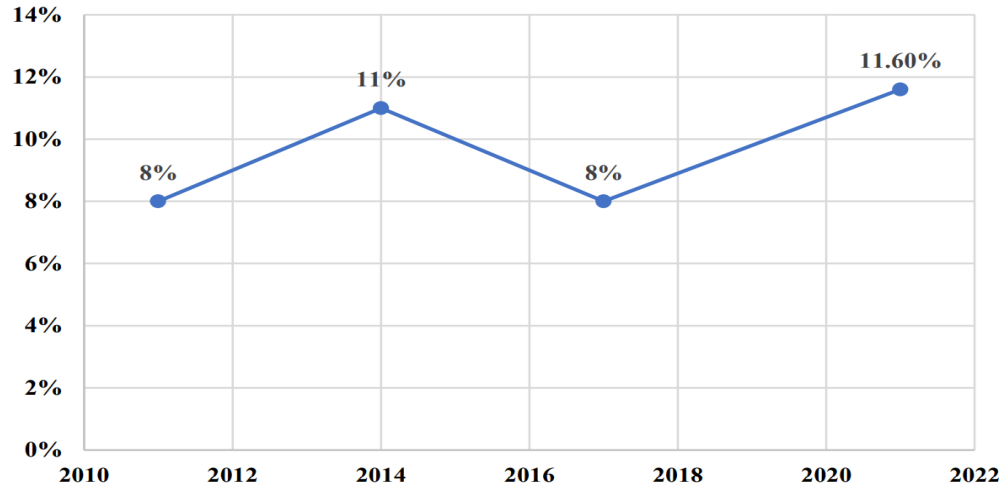
(Source: Arab Monetary Fund, Policy brief 2021, the role of financial inclusion in empowering women: lessons learned from the most prominent regional and international experiences.)

To advance the freedoms they enjoy, exert greater autonomy over their life, and engage in the community, financial independence for women entails giving them a range of financial and social possibilities, including banking amenities, real estate, employment, and other earnings (OCED, 2011). This point of view is used to examine the link between financial literacy and

the economic empowerment of women in Iraq to close the gap in understanding this important and productive area of sustainable development and to improve the country's declining economy as a result of instability in both politics and the economy. The subject is certainly addressed, concentrating on the true nature of the tension amid inclusion and strength confronting Iraqi women, thanks to thorough examination and evaluation of this topic on a regional as well as a global scale.

With regards to female labor force participation, Iraq possesses among the worst gender disparities in the world. Women remain grossly neglected in most financial sectors while making up nearly 49% of the total inhabitants of Iraq. The number of women in the workforce in Iraq is just 11.6% female, as seen in Figure 2, contrasted with Qatar, which had the highest participation rate in the MENA region at 56.8%, given the two nations' vastly varied populations and socioeconomic levels. In the Middle Eastern and North African areas, this is one of the worst rates of female labor force participation. The smallest amounts of financial involvement showed a consistent variation as the research period (2011–2021)'s focus on the employment of women in Iraq was narrowed. This calls for further study on the evaluation and discussion of the factors that contribute to this significant problem, which over the past ten years has fluctuated between 8% in 2011 and 11.6% in 2021.

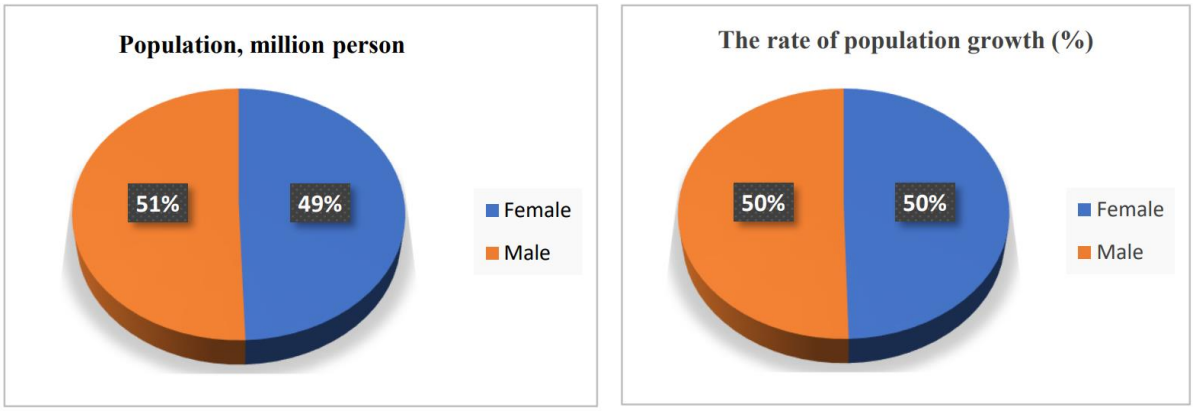
Figure 3: Female Labour % in Iraq



(Source: Arab Monetary Fund, Policy Brief 2021)

Women make up almost half percent the people living in Iraq and are crucial collaborators in accomplishing long-term growth objectives. The absence of prior studies on the contentious topic of financial equality for women around the globe and in Iraq especially is one of the most significant reasons for investigating and analyzing it. In Iraq, women make up around (49%) of the overall population, while men make up (51%) of males, Figure (4) demonstrates that the average population increase in Iraq corresponds for both males and women, demonstrating that women make up 50% of the citizenry. As a result, it is essential to give the problem of female financial autonomy and involvement a top priority, particularly considering how crucial it is for female financial security and how it aids nations in advancing toward sexual orientation and equitable economic status. Having sufficient access to an equitable financial sector for women enables the formation of an environment that provide socially and economically disadvantaged women with equal economic prospects, and thus successfully supports their financial empowerment.

Figure 4: Ratio of women to men in Iraq and ratio of population growth of women and men in Iraq.

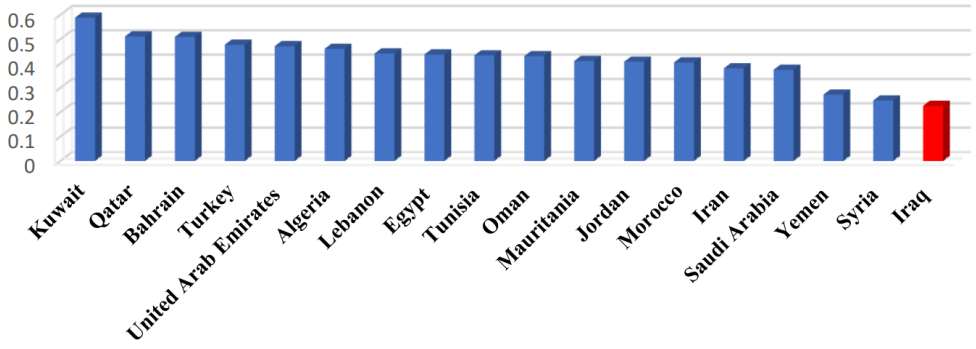


(Source: Arab Monetary Fund, Policy Brief 2021)

The sub-indices in the World Bank study (2020) on the global gender gap, which includes 153 nations, show that Iraq has the lowest possible proportion of women that have access to financial possibilities worldwide with a gender disparity score of 22.7. observing that Iraq is the least equal of the 153 nations in the globe (153) as far as gender inequalities, which excludes and marginalizes women in consideration of monetary freedom. The Arab nations, on the other side of the spectrum, place a high priority on incorporating finance in their fiscal strategies in

an effort to raise the degree of prosperity, enhance the state of the economy and society, and promote justice.

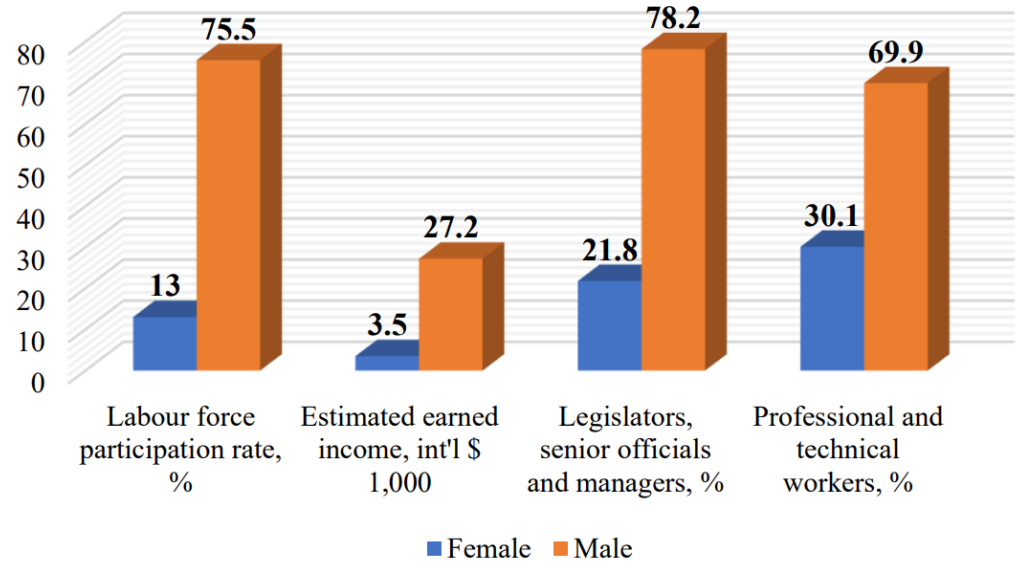
Figure 5: Gender Gap Index, Monetary Participation and Opportunity MENA 2020



(Source: World Economic Forum, Global Gender Gap Index, 2020)

Figure (6) depicts the disparity in work involvement between men and women in Iraq. Women's participation in business activities is notably low at 13%, contrasting with 75.5% for men. This stark difference highlights significant gender imbalance, a pattern that stands out even in comparison to other nations. While women represent 3.5% of the population against 27.2% for men, they hold significantly fewer leadership roles, comprising only 21.8% in management, senior positions, and legislature, whereas men dominate at 78.2%. Despite making up 30.1% of technical workers, women remain underrepresented compared to men at 69.9%. These disparities underscore the challenges in achieving equitable growth. This data emphasizes the importance of assessing female autonomy in Iraq using economic empowerment metrics tied to the proportion of women in the labor force.

Figure 6: Gender in the workforce in Iraq



(Source: World Economic Forum, Global Gender Gap Index, 2020)

In conclusion, in Iraq, there has not been implemented a study about the impact of gender inequality on economic growth. Especially in times like this in Iraq, though it is essential to implement it after the fall of Saddam Hussein, the financial crisis of 2014, and many more events that will have an effect on the economic growth of Iraq. Every little detail regarding the economic growth of Iraq is very fundamental to increasing it and research the correlation between economic growth and gender inequality.

4. **METHODOLOGY**

4.1. **Sampling**

The aim of this study is to investigate the impact of gender quality on economic growth in Iraq, an empirical study between 2004 and 2021. We have relied on secondary data for this study. We have taken the GDP per Capita of Iraq with the Gender Inequality Index of each year. The Index includes three important subjects of Gender Inequality: reproductive health, empowerment and labour market, see photo 1. If the score is low, it means the inequality is low. Higher scores in the GII mean higher inequalities in Iraq. The source and data is from UNDP, Human Development Report. The GDP per capita we have taken from the Central Bank of Iraq, only the date until 2021 was available. GDP per capita is the dependent variable, while the GII is the independent variable.

4.2. **Measures**

The measures are taken from the variables independent and dependent, in which GII the independent and the GDP per capita is the dependent variable. Our data is measured from the following equation.

$Y = B_0 + B_1 X_1 + \epsilon$

Y = Dependent variable, which is economic growth "GDP per capita"

B_0 & B_1 = Represent the beta coefficients

X = Represent the independent variable, which is the gender inequality index "GII"

Our equation is **$GDP = B_0 + B_1 GII + \epsilon$**

Therefore, this equation shows the importance of economic growth, GDP per Capita and Gender Inequality Index.

4.3. **Variables**

Dependent Variable (GDP per capita): GDP per capita signifies the economic output per person in a country, indicating its wealth based on the total economic output divided by the population. Developed nations typically exhibit higher GDP per capita compared to developing ones. The GDP per capita data for Iraq is sourced from the International Central Bank of Iraq.

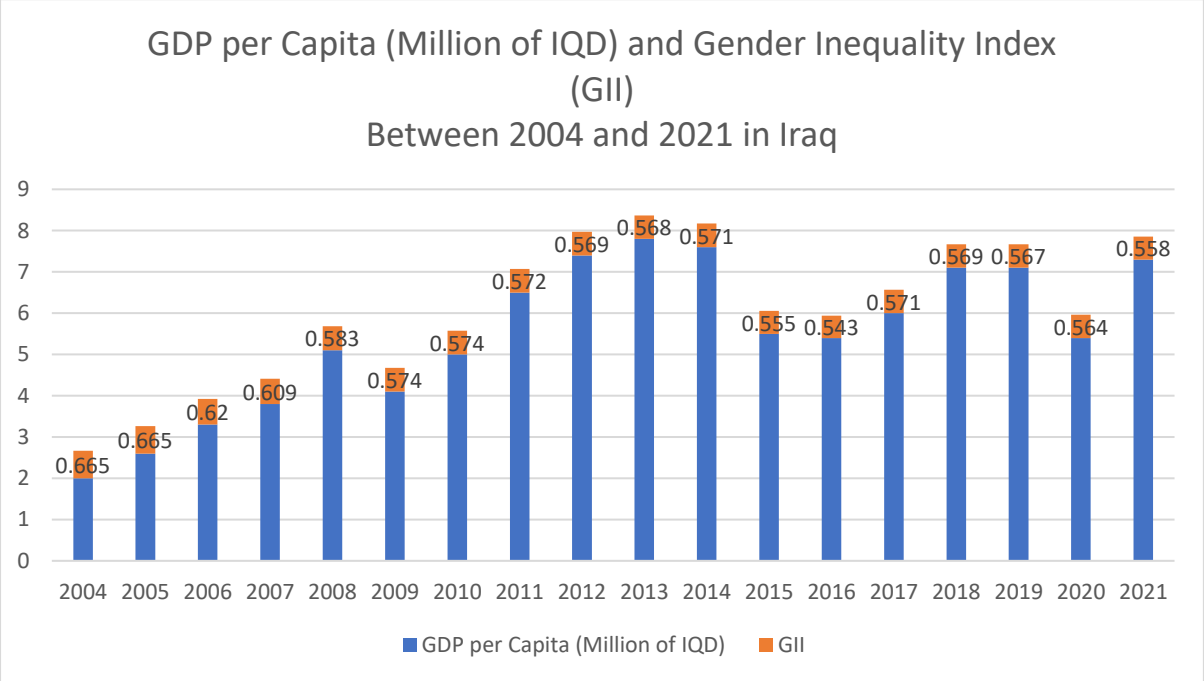
Independent Variable (Gender Inequality Index - GII): The Gender Inequality Index (GII) is a composite measure encompassing three dimensions: reproductive health, empowerment, and economic participation. A lower GII reflects lesser gender disparity, with the scale ranging from zero (indicating gender equality) to one (representing extreme gender inequality). The data source is 'Our World in Data' from the Human Development Report.

5. DATA ANALYSIS AND FINDINGS

5.1. Descriptive Data Analysis

Our data analysis is from GDP per Capita and Gender Inequality Index (GII) to measure the economic growth between 2004 and 2021.

Figure 7: Economic Growth measured by GDP per Capita and Gender Inequality Index (GII)



(Source: Central Bank of Iraq, Economic and Statics Data)

When we examine the data for Iraq from 2004 to 2021, we can spot several patterns and relationships between the GDP per capita (measured in millions of IQD) and the Gender Inequality Index (GII). GDP per Capita measures the standard of living in Iraq. We can see that there were different swings throughout time, with the peak point being in 2013 at 7.8 million IQD and the lowest point occurring in 2004 at 2 million IQD. Lower numbers indicate less disparity between sexes according to the Gender Inequality Index (GII), which evaluates gender differences in Iraq. The GII improved with time, falling from 0.665 in 2004 to 0.558 in 2021, showing modest progress.

The GII exhibited a declining trend from 2004 to 2008, while the GDP per capita climbed significantly. This implies that gender disparity tended to decline as GDP per capita rose. There were some fluctuations in GDP per capita between 2008 and 2015. The GII during this time

had an inconsistent pattern, with reductions in gender disparity up to 2011 and then a minor rise. This indicates a weaker association. In regardless of economic difficulties, disparities between genders declined after 2015, as evidenced by the fact that the GDP per capita fell and the GII kept on improving. 2004 started with 0.665 GII and 2021 ended it with 0.558 GII, which indicated a success. While the GDP per capita is also higher. There is a significant correlation between GII and GDP per capita in Iraq between 2004 and 2021.

5.2. Unit root test

The unit root tests (Augmented Dickey-Fuller and Phillips-Perron) assess whether variables like GDP per Capita and Gender Inequality Index (GII) are stationary or nonstationary over time. Dickey-Fuller detects the presence of a unit root, while Phillips-Perron provides a more robust analysis by examining data autocorrelation, especially useful for economic and financial data assessment.

Table 1: Unit Root Test

Variables	Augmented Dickey-Fuller		Phillips-Perron	
	Trend	Trend & Intercept	Trend	Trend & Intercept
GDP Per Capita	**0.0168**	**0.0645**	**0.0188**	**0.0698**
GII	**0.0174**	**0.0064**	**0.0169**	**0.0064**

(Source: Prepared by the researcher using e-views9)

In the context of the **Augmented Dickey-Fuller** for trend and trend & and intercept it shows different results. Both GDP and GII for trend show that the unit root is stationary. The value for GDP per capita is 0.0168(trend) and GII shows 0.0174, which both are less than 5% and that is why it shows that the unit root is stationary. In sum, it is likely that both GDP per Capita and GII are stationary, and this means that you reject the null hypothesis of non-stationary for both variables. This is also the case for GII in trend and intercept, which shows 0.064. Only GDP per Capita for trend and intercept shows a number greater than 5%, which is 0.0645. The data shows that this is greater than the significance number, GDP per Capita here is non-stationary - the null hypothesis of a unit root is not rejected.

Regarding the **Philips-Perron the GDP per capita** for trend is 0.0188 and trend and intercept show 0.0698. This means different results. For the trend (0.0188) of GDP per capita it is less than 5%, showing that is it stationary and rejecting the null hypothesis. For trend and intercept (0.0698) the result is more than the significance 5%, which means that it is non stationary and that it means that mean that no hypothesis is accepted. An alternative hypothesis does not have a unit root. The Gender Inequality Index (GII) shows 0.0169 for trend, and 0.0064 for trend and intercept, it can turn in the same results for the data given - which is less than 5%, rejecting the null hypothesis and it is a stationary series with no unit root.

5.3. **Cointegration**

Cointegration in statics will be used to examine variables in statics, and whether there is a long-term connection between them in non-stationary time series variables. Cointegration is essential in statistics, econometrics, and finance. Here we have Trace and Maximum Eigenvalue. None* stands for our independent variable, which is the Gender Inequality Index, and at most 1*stands for our dependent variable which is our GDP per Capita.

Table 2: Cointegration

Unrestricted Cointegration Rank Test		(Trace)			(Maximum Eigenvalue)		
	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None * GII(Independent)	0.817670	37.57542	15.49471	**0.0000**	27.23099	14.26460	**0.0003**
At most 1 * GDP Per Capita (Dependent)	0.476138	10.34443	3.841466	**0.0013**	10.34443	3.841466	**0.0013**

(Source: Prepared by the researcher using e-views9)

Our table shows Trace in None (GII), the independent variable that is 0.000(0.0%), which is a very significant percentage. Followed by at most 1 (GDP per Capita), the dependent variable which is also a very significant number 0.0013 (0.13%). The data in Trace show for both GII and GDP per Capita that there is a long-term relationship, with significant probability numbers of 0.000 and 0.0013. Maximum Eigenvalue also shows a long-term relationship between their numbers for None and at most 1, which are 0.003 (0.3%) and 0.0013 (0.13%) respectively.

5.4. **Regression**

A technique for analysing and forecasting connections between variables is called regression in statistics. This OLS Model (Ordinary Least Squares) method can show the curve for the variables in regressions, by minimizing the differences. This is a method used mainly for analysing or forecasting data in statistics.

Table 3: Regression

Dependent Variable: GDPC				
Method: Least Squares				
Sample: 2004 2021				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GII	**-40.56337**	7.902083	-5.133250	**0.0001**
C	29.15520	4.615869	6.316298	0.0000
R-squared	**0.622198**	F-statistic		26.35025
Adjusted R-squared	**0.598586**	Prob(F-statistic)		0.000100

(Source: Prepared by the researcher using e-views9)

Please see our table for regression to analyze the data even more efficiently. We will start with the R-squared that has a coefficient of 0.622198 (62.22%), the number is very significant and shows reasonably a good fit. Following to Adjusted R-squared showing 0.598586 (59.86%), this explains the variability of the independent variable to the dependent variable. This shows an acceptable and moderately good fit, the variables have an impact on each other. And the probability in this regression table is 0.0001 (0.01%). Which is a very fit model between the variables, a reasonable result. Finally, the GII coefficient is -40.56337, the estimated influence of the related independent variable on the dependent variable. The number is a negative number, any increase in Gender Inequality in Iraq leads to a decline in economic growth by 40.56%. There is an impact on GDP per capita from the GII, it's a significant impact. The prob for the F-statistic is 0.000100 which means that the data is given reliable data between the ratio of the variables.

6. **CONCLUSION**

The study examines Gender Inequality (GII) and GDP per Capita in Iraq from 2004 to 2021. The research finds that gender disparity significantly affects economic growth in Iraq. Analyzing through Unit Root Test, Cointegration, and Regression Analysis, they establish that GII and GDP per Capita impact each other, showing a long-term association. Regression

Analysis confirms GII as a statistically significant predictor of GDP per Capita, indicating that changes in gender inequality influence economic development. Surprisingly, a positive association suggests that an increase in gender inequality correlates with a rise in GDP per Capita. The study underscores the necessity of addressing gender imbalances for social and economic well-being.

Numerous factors, notably war and conflict, affected GII and GDP per Capita. The aftermath of Saddam Hussein's rule oppressed women, while post-war reconstruction activities contributed to GDP per Capita growth from 2004 to 2013, despite a decline in 2008 due to the global economic crisis. Subsequently, the invasion of ISIS in 2013 disrupted Iraq's economy and social norms, impacting both GDP per Capita and GII, heavily influenced by fluctuations in oil prices, Iraq's main revenue source.

Social, cultural, and legal factors play crucial roles in gender disparity. Efforts, including international assistance, aided Iraq's reconstruction, potentially impacting initiatives for gender equality and financial metrics. While progress is evident, challenges persist, hindering women's participation in eliminating unemployment and fostering fair development.

In Iraq's economic landscape, various monetary, governmental, and social factors significantly impact the impoverished population and young female entrepreneurs. Gender inclusion is pivotal for long-term development goals, yet a substantial gender gap remains, prompting local and international efforts to address and improve the situation.

Recommendations

The study uncovers a significant negative impact of gender disparity on Iraq's GDP per capita from 2004 to 2021, highlighting the urgency for policymakers to prioritize gender equality initiatives to bolster economic growth. Addressing gender imbalances in politics, job opportunities, and education stands as a crucial goal, requiring concerted efforts to enhance women's participation in the workforce, leadership roles, and access to education and healthcare. Encouraging women's pursuit of STEM fields and technical training emerges as a strategy to build a more knowledgeable and productive labor force, ultimately benefiting the national economy.

Equal representation in the workforce becomes pivotal for sustained economic development, necessitating policies ensuring fair treatment, equal pay, and opportunities for women in high-

level positions. Facilitating access to financial resources through small-scale loans and business funds can empower women to start enterprises, fostering job creation and economic empowerment. Additionally, enabling informed family planning decisions and providing adequate maternal health support can positively influence economic growth by fostering stronger households and expanding women's workforce participation.

Continued data collection on gender-related variables and economic outcomes remains crucial, enabling informed policy adjustments and targeted investments. Efforts to remove the 'glass ceiling' blocking women's advancement into higher positions, raising public awareness, advocating for legislative changes, and implementing specific laws are essential steps highlighted by the study to promote a fairer and economically prosperous society in Iraq.

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