COMPARISON OF TWO SOCIO-CULTURALLY SIMILAR COUNTRIES IN THE CONTEXT OF GENDER INEQUALITY INDEX AND ECONOMIC GROWTH RELATION: AN ASSESSMENT ON AZERBAIJAN AND TURKIYE

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Abstract
Considering the relationship between sociocultural structure and gender, the countries with similar sociocultural systems and gender equality performance levels can be expected to be similar. In this study, the appearance of gender inequality in Azerbaijan and Turkiye, two countries of similar Turkish origin regarding sociocultural characteristics, was examined. In this context, the relationship between GDP data from the World Bank and GII values from the United Nations Development Programme (UNDP) as an indicator of economic growth in Azerbaijan and Turkiye was examined. According to the correlation analysis results of the correlation analysis, a low level of negative relationship was found between economic growth and gender inequality index values from 1991 to 2021, for which the data set can be accessed in Turkiye (r:-0.115) and Azerbaijan (r:-0.171). In other words, although gender inequality decreases as economic growth increases in both countries, the relationship is low. This shows that economic growth does not directly and strongly influence the growth and implementation of gender equality policies. In conclusion, although the sociocultural structure of a country is effective in gender inequality, the gender equality performance of countries with similar sociocultural systems may differ due to their level of economic growth, albeit at a limited level.

Keywords
Gender inequality, economic growth, socio-cultural similarity, Azerbaijan, Turkiye, correlation.

1. Introduction

Gender inequality is a phenomenon seen in different dimensions in all societies. The judgments and attitudes that underlie the differences between the socially constructed and predefined roles of men and women are closely tied to the sociocultural fabric of society. The sociocultural structure, which relates to many variables such as family, religion, language, culture, history and art, affects all areas, including the economy, workforce, education and social and political contexts. Considering the relationship between sociocultural structure and gender, the countries with similar sociocultural systems and gender equality performance levels can be expected to be similar.

In the empirical arena, most studies draw attention to the relationship between economic growth and gender equality performance, apart from sociocultural values. Gender stereotypes are associated with spiritual matters related to the superstructure, such as religion, ethnicity, morality and culture. Anthropologists refer to the concept of gender to indicate the cultural formation of anatomical differences in individuals (Delaney,

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2014). However, structural components associated with infrastructure, such as income status, welfare level, and economic growth, impact gender judgments (Marshall, 1999). Although numerous studies have examined the relationship between gender inequality and economic growth (Klasen & Lamanna, 2009; Pervaiz *et al.*, 2011; Esteve-Volart, 2004), the results are still inconclusive. Some studies describe the positive relationship between gender inequality and economic growth, while others show a negative relationship. When the research in the literature is evaluated as a whole, it is seen that the relationship between economic growth and gender inequality can vary positively or negatively according to regional conditions. However, in the current studies, it has been observed that the evaluations are mostly made based on regional comparisons. In this context, the relationship between Gross Domestic Product data and gender inequality index values as an indicator of economic growth in Azerbaijan and Turkiye was examined.

In this study, the appearance of gender inequality in Azerbaijan and Turkiye, two countries of similar Turkish origin regarding sociocultural characteristics, was examined. In the evaluation, The Gender Inequality Index (GII) data within the scope of the Human Development Reports published regularly by the United Nations Development Programme (UNDP) from 1990 to the present day were used. Despite similar sociocultural structures, when the average index values of gender inequality in 1990-2021 are compared, the average value in Turkiye (0.471) was higher than in Azerbaijan (0.348).

2. Gender Inequality Index (GII)

The concept of gender refers to society's stereotypical judgments about the sexes. Because gender focuses on the consequences of the differences between men and women in the social field (Marshall, 1999; Oakley, 2015). When the factors that determine gender stereotypes are examined, it is seen in the literature that the issue is associated with patriarchal value judgments attributed to women and men (Özateş, 2007; Korkmaz & Başer, 2019).

The Gender Inequality Index (GII), included in the Human Development Reports published regularly by the United Nations Development Programme (UNDP) since 1990, reflects the gender equality performance of countries through three main categories. Under each category, there are dimensions associated with it (Figure 1).

GII values are calculated using a measure of inequality sensitive to the relationship between dimensions. The first calculation is an interdimensional geometric mean. These averages, calculated separately for men and women, are then summed using a harmonic mean between the sexes and the index value is reached (UNDP). Gender inequality in countries takes an index value between 0 and 1. This value: Gender inequality increases as it gets closer to 1 and decreases as it gets closer to 0.

The Gender Inequality Index (GII) is a composite indicator to measure gender inequality in various dimensions, such as reproductive health, empowerment and labor market participation.

The GII is a valuable tool for policymakers, researchers, and organizations because it provides a comprehensive snapshot of gender disparities within a country. It helps identify areas where women face significant disadvantages and can guide efforts to address these disparities through policy interventions and programs. Additionally, the GII allows for comparisons between countries, making it a useful tool for assessing global progress in gender equality.
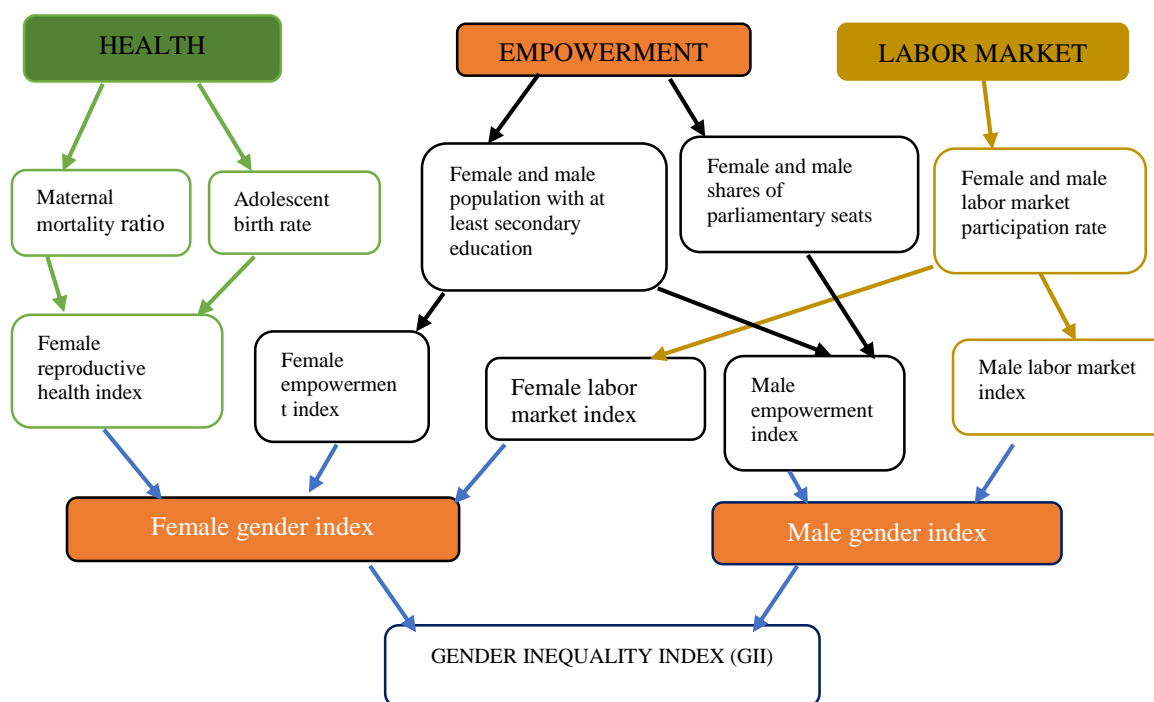
Figure 1. Gender Inequality Index Model (UNDP
Source. https://hdr.undp.org/data-center/thematic-composite-indices/gender-inequality-index#/indicies/GII

Understanding the relationship between the GII and economic growth is important because gender equality significantly affects a country's economic growth. Here are some key points explaining the relationship between the Gender Inequality Index and economic growth:

• Human Capital: The GII takes into account factors such as maternal mortality, adolescent birth rates, and educational attainment. Inadequate access to education and healthcare for women and girls can result in a less skilled and less healthy workforce, which can hinder productivity and economic growth (Galor & Weil, 1993).

• Labour Force Participation: Gender inequality in the labor market has a direct impact on economic growth. When women face barriers to labour force participation, it leads to a significant portion of the population being underutilized in the economy (Cuberes & Teignier, 2014; Klasen &Lamanna, 2009).

• Entrepreneurship and Leadership: High levels of gender inequality often result in limited opportunities for women to engage in entrepreneurship and leadership roles. This can stifle innovation and hinder economic diversification (Yang & Aldrich, 2014).

• Institutional and Policy Factors: Gender inequality is closely linked to institutional and policy factors within a society. Discriminatory laws and practices can create barriers to women's economic participation and limit their ability to access resources and opportunities (Welzel *et al*., 2002).

• Innovation and Creativity: Diverse perspectives and experiences contribute to innovation and creativity. When women are actively engaged in decision-making processes and the workforce, they bring unique insights and ideas to the table. Gender equality can enhance a country's capacity for innovation, which is a key driver of economic growth in the modern knowledge-based economy (Banks & Milestone, 2011;

Conor *et al.*, 2015).

In summary, reducing gender inequality, as measured by the Gender Inequality Index (GII), is often associated with positive economic outcomes. Greater gender equality can lead to improved human capital growth, increased labour force participation, expanded entrepreneurship and leadership opportunities and a more inclusive and dynamic economy. As a result, policies and initiatives aimed at reducing gender disparities can contribute to higher levels of economic growth and development.

3. Discussion

Gender stereotypes are associated with spiritual values associated with superstructure such as religion, ethnicity, morality and culture. Anthropologists use the concept of gender to indicate the cultural formation of anatomical differences in individuals (Delaney, 2014). In addition, it is emphasised that structural components related to infrastructure such as income status, welfare level and economic growth are effective on gender-related judgements (Marshall, 1999). Although there have been many studies in the literature examining the relationship between gender inequality and economic growth (Klasen & Lamanna 2009; Pervaiz *et. al.*, 2011; Esteve-Volart, 2004), it has been observed that the results are not conclusive.

While some studies describe a positive relationship between gender inequality and economic growth, others show a negative relationship between the two variables. Galor and Weil (1993) explain that the gender gap in education and earnings is positively associated with high fertility and low economic growth. Similar results are presented by Lagerlof (1999) within the same generations.

One of the first papers to examine the effects of economic growth on female labour supply was Becker and Lewis (1973), who argued that the income elasticity of investment in children's education is greater than the number of children. Accordingly, an increase in income should lead to a fall in fertility with an increase in investment in the human capital of each child. At the macroeconomic level, then, once a country reaches a critical income threshold, its fertility falls and this leads to an increase in the amount of resources spent on each child's education. Fertility decline and the consequent reduction in the burden of childcare facilitate women's participation in the labor market and thus reduce the gender gap in labour force participation (Cuberes & Teignier, 2014). In contrast, in South Asian countries and many African economies, children do not constitute a significant obstacle to women's labour force participation, but they do not seem to reduce the potential duration of women's working life compared to men (Tzannatos, 1999). However, given the informal labour involved in household production, childbearing and childrearing impose an additional constraint on women's employment options or girls' education.

It is recognised that women's education, fertility reduction and maternal education will have positive effects on the education of future generations, which in turn will have a positive impact on economic growth (Hill & King, 1995; Benavout, 1989; King *et. al.*, 2008). The persistent decline in fertility rates in European countries, and the evidence that this decline started at significantly different levels of per capita income, has led some researchers to seek alternative or at least complementary explanations for the declines in gender inequality (Galor, 2012).

An important study looking for other reasons why an increase in per capita income might reduce gender inequality is Greenwood, Seshadri and Yörükoğlu (2005), who argue that technological progress has led to the emergence of time-saving consumer

durables, which have enabled women to delegate gender-role-related chores such as laundry, cleaning and cooking to machines. The widespread use of these technologies encourages women to participate in the labor market instead of being confined to housework.

In contrast to the positive relationship between gender inequality and economic growth, there are also studies that draw attention to the negative relationship. Hill and King (1995) measure gender inequality through the investment gap between male and female schooling. The opposite situation has been reported in cross-country regressions of some empirical studies that gender inequality in education has a positive effect on economic growth (Barro & Lee, 2001; Barro & Sala-i-Martin, 1995). These contradictory findings were questioned by Dollar and Gatti (1999) on the grounds that the negative effect of female schooling on economic growth disappears when a number of variables are included for Latin America and East Asia, suggesting that this may be due to the combination of low economic growth and high female education in Latin America and high economic growth and low female schooling in East Asia (Dollar & Gatti, 1999).

Dollar and Gatti (1999) analyse the impact of economic growth on the gender gap in education and find strong evidence that increases in per capita income reduce gender inequality in education. In a paper written in a similar period to Dollar and Gatti, Tzannatos (1999) analysed different aspects of the relationship between economic growth and gender inequality and found that, in general, economic growth reduces the differences between men and women in the labour force. His results are important in that they show that women's labour force participation increases with income, in other words, the income effect is stronger than the substitution effect (Tzannatos, 1999).

When the studies in the literature are evaluated as a whole, it is seen that although the relationship between economic growth and gender inequality is generally positive, the relationship can also change negatively depending on regional conditions. However, it has been observed that in the existing studies, evaluations are mostly based on regional comparisons. In this context, considering the similarities and relations based on history, language, identity and culture (Kulzhanova & Aluakas, 2002; Quliyeva, 2012), it has been seen that it is important to include the relationship between economic growth and gender in Turkic States in the literature.

4. Materials and Methods

The research question is, "What kind of relationship is there between gender inequality and economic growth?".

In the research, which was structured within the framework of the quantitative method, various levels of relationship chains were created between the gender inequality index and gross domestic product by using correlation and slope calculations.

GII and GDP research have traditionally been conducted with secondary data from official records, despite the low quality and limited scope concerns (Leigh *et al*., 1997; Mital *et al*., 2000). The time series data for the period 1990-2021 were used. Data on gross domestic product (GDP) rates are taken from the World Bank's World Development Indicators. In addition, the Gender Inequality Index (GII) data, a universal criterion developed by the United Nations Development Program (UNDP), was used as an indicator of the gender equality performance of the countries.

Whether the data showed normal distribution or not was examined with the Kolmogorov-Smirnov test. It was determined that the variables showed normal

distribution; therefore, Pearson correlation analysis was used to determine the level of relationship.

For the r coefficient;

$$r = \frac{\sum(xy) - (\sum x)(\sum y)/n}{\sqrt{(\sum x^2 - (\sum x)^2/n)(\sum y^2 - (\sum y)^2/n)}}$$

The r coefficient takes values between -1 and +1. -1 indicates a perfect negative correlation and +1 indicates a perfect positive correlation. 0 means that there is no correlation between them. In our study, in the internal classification of negative and positive areas, positive and negative aspects are symmetrical, ($\pm$) low level up to 0.29, ($\pm$) 0.30 and ($\pm$) 0.69 medium level, ($\pm$) 0.70 and up were accepted as a high-level correlation.

For the Slope (b) between the variables;

$$b = \frac{\sum(x - \overline{x})(y - \overline{y})}{\sum(x - \overline{x})^2}$$

A negative value of the slope indicates that the average trend is in the direction of decreasing, while a positive value indicates that the average trend is in the direction of increasing. As the distance of the value from zero in the negative/positive direction increases, the strength of the decrease/increase trend also increases.

5. Limitations

The most comprehensive and stable data set available for all the variables in the research model can be extended until 1990. However, since the data set of each country in the World Bank starts from different years, the standards to be made in comparison, annual data containing values between 1990 and 2021, the typical observation period, were used. Therefore, the limitation of the study was determined by the range of possible observations from the data.

6. Findings

According to the results obtained; annual GII values in Turkey between 1991-2021 show a general downward trend. In Azerbaijan, although annual GII values show fluctuations, they are generally at low levels (Figure 2).

The negative trend in GII values in Turkey indicates a significant decrease in gender inequality. In Azerbaijan, this decrease is more moderate. This suggests that awareness of gender inequality in Turkey has increased and policy measures have been effective.

Analysing the trend in GDP change in relation to economic growth, it is observed that Turkey has a positive trend, while Azerbaijan has a more pronounced upward trend. Both countries are experiencing economic growth, but it is more complex to determine whether this increase is directly linked to gender inequality.

Especially in the ten years between 1990 and 2000, Azerbaijan's gender inequality average index value was 0.37, which was about 1.6 times better than Turkiye's (0.59). Considering the economic growth data of Azerbaijan in the relevant period, it is seen that the negative growth rate of GDP, which was -23.1% in 1993, reached 11.1% in 2000. The

gender inequality index value in Turkiye, which has been on a significant improvement trend since 2006, was called at the same level as Azerbaijan in 2014. Still, the improvement was not valid in all sub-components of the index. Accordingly, while it was observed that the gap between at least secondary school graduation and gender equality gaps in labour force participation increased in Turkiye, it was found that the difference between women's representation in parliament and health decreased.
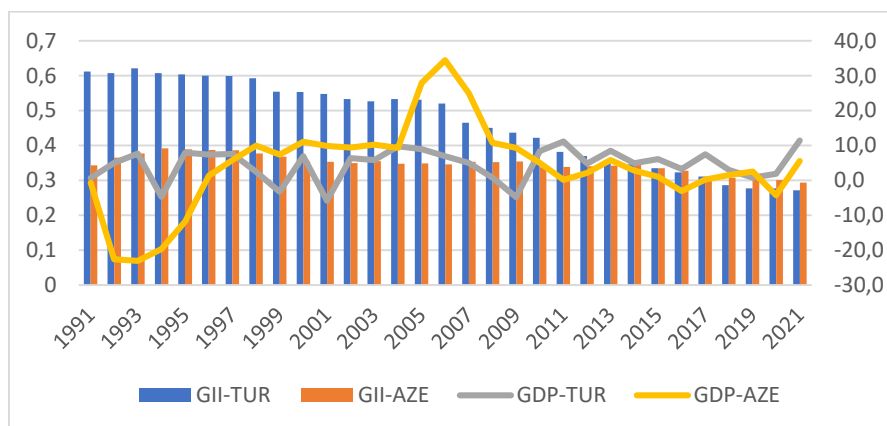

Figure 2. Trends in GII and GDP in Turkey and Azerbaijan (1991-2021)
Source. Prepared by the author by utilizing data from the World Bank and UNDP

The coefficient of change trend in the gender inequality index in Turkey shows a negative trend in the last 30 years. The GII value, which was 0.612 in 1991, decreased to 0.272 in 2021. In Azerbaijan, the coefficient of the trend of change in the gender inequality index has remained almost constant over the last 30 years. The GII value decreased from 0.343 in 1991 to 0.294 in 2021 (Figure 2).

The coefficient of variation trend in GDP in Turkey shows a positive trend in the last 30 years. The GDP value, which was 0.7 in 1991, increased to 11.4 in 2021. In Azerbaijan, the coefficient of variation trend in GDP has followed a fluctuating course over the last 30 years. The GDP value, which was -0.7 in 1991, increased to 5.6 in 2021 (Figure 2).

Table 1 shows the results of GII-GDP correlation analysis in Turkey and Azerbaijan. Accordingly, a low level of negative correlation (-0.115) was found between gender inequality and economic growth in Turkey. A similar situation is observed for Azerbaijan (-0.171). This indicates that as gender inequality increases, economic growth decreases. However, this correlation coefficient is quite low. Therefore, more data are needed to conclude that there is a relationship between gender inequality and economic growth in Turkey and Azerbaijan.

While the gender inequality index decreases in both countries, economic growth continues. This suggests that the level of economic growth does not directly and strongly influence the growth and implementation of gender equality policies.

The differences between Turkey and Azerbaijan emphasise the complexity of the relationship between gender inequality and economic growth, similar to studies in the literature. The impact of gender equality policies on economic growth should be evaluated in the interaction of many factors. In this context, more research and holistic policy approaches are needed in both countries.

Table 1. Turkey and Azerbaijan GII-GDP Correlation Analysis (1991-2021)

GII-GDP (1991-2021) Correlation (r)	
TUR	**AZE**
-0,115 (Low negative relation)	-0,171 (Low negative relation)

7. Conclusion

There is much evidence in the literature on the relationship between gender inequality and economic growth. This evidence is generally centred on how gender equality affects economic growth, as well as how economic growth affects gender equality.

It is believed that there is a positive relationship between gender equality and economic growth. This relationship stems from the fact that women's increased education and employment opportunities contribute to the increase in economic growth. Greater participation of women in education, labour force and political processes has positive effects on the expansion of labor markets, productivity and innovation. While achieving gender equality contributes to economic growth, economic growth can also enable the implementation of policies necessary for achieving gender equality. In particular, economic growth and growth can reduce gender inequality by increasing women's participation in the labor market. An increase in the labour force participation rate can increase women's economic power and improve the well-being of families. It can also help reduce gender inequality by increasing women's access to education, health and other social services.

On the other hand, economic growth may also increase gender inequality in some cases. For example, with rapid industrialisation processes, women's labour force participation may decline as it is difficult for women to deal with their traditional roles at home. Moreover, economic growth, by encouraging men to participate more in the labor market and increasing men's incomes faster than women's, may lead to a stronger substitution effect in women's choices between work and leisure. In this case, women's reservation wage (the minimum wage set by an individual to enter the labor market) increases and their labour force participation may decrease.

However, this relationship is not a simple causal relationship and may be under the influence of many factors. In particular, stereotypes about the status of women in society stemming from the socio-cultural structure alone have significant effects on gender equality. In this study, the relationship between gender inequality and economic growth is questioned through the examples of two countries, Turkey and Azerbaijan, as they are socio-culturally similar.

According to the results obtained;
- GII change trend coefficient in Turkey between 1991-2021: -4,311.
- GII change trend coefficient between 1991-2021 in Azerbaijan: -0,004.
- GDP change trend coefficient between 1991-2021 in Turkey: 0,0763.
- Trend coefficient of GDP change between 1991-2021 in Azerbaijan: 0,3192.
- Correlation coefficient between GII and GDP in Turkey: -0,115.
- Correlation coefficient between GII and GDP in Azerbaijan: -0,171.

In Turkey, annual GDP values generally increase between 1991-2021. In Azerbaijan, on the other hand, although annual GDP values follow a fluctuating course, they generally show an increasing trend.

In conclusion, despite the socio-cultural similarities between Turkey and Azerbaijan, the relationship between gender inequality index (GII) and economic growth (GDP) is different.

It is observed that gender inequality has decreased and the level of economic growth has increased steadily in Turkey in the last 30 years. However, the correlation between these two variables is weak (-0.115). In other words, there is no strong relationship between the decrease in gender inequality and economic growth.

In Azerbaijan, gender inequality has been decreasing in the last 30 years in a similar way to Turkey, but the increase in the level of economic growth has been more significant. The correlation between the two variables is weak (-0.171), similar to Turkey.

These results emphasise the complexity of the relationship between gender inequality and economic growth across countries despite socio-cultural similarities. Understanding these differences between the two countries is important for the growth of more comprehensive policies and strategies.

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