The Impact of Financial Development and Quality of Institutions on Gender Inequality in Morocco

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Abstract

The cause-and-effect relationship between financial development, institutional quality, and gender inequality is always at the centre of debate among academic researchers and policymakers. This article aimed to analyse this relationship while highlighting the short- and long-term effects of financial development and institutional quality on gender inequalities in Morocco from 1990 to 2023 using the ARDL model. The findings reveal unidirectional causation from financial development and political institutions to gender inequalities. Furthermore, the estimated model's results confirm that financial development contributes to reducing gender disparities, but only in the long term. Similarly, the quality of economic institutions diminishes gender gaps over time, while the quality of political institutions exacerbates these inequalities in the short term. This study highlights financial development as a mechanism through which policymakers can address gender disparities and foster a more equitable society. Additionally, it offers a novel dual perspective on the impact of institutional quality, encompassing both economic and political aspects, in the Moroccan context. These results underscore the need for targeted measures to address institutional gaps and promote sustainable and inclusive development.

Introduction

Gender disparities remain a multifaceted and complex issue that persists worldwide, notably in developing countries (Cuberes & Teignier, 2013). These disparities significantly hinder the potential for human and economic development, restricting individuals' ability to exercise their rights, make life choices, and achieve their full potential, which in turn leads to social instability and injustice (Loudon et al., 2021). Addressing gender inequality is thus a significant priority for governments worldwide and is embedded in the United Nations' Sustainable Development Goals, which aim to be achieved by 2030. However, despite substantial progress in narrowing across sectors and the economic status gap between men and women in the latter half of the 20th century (Ponthieux & Meurs, 2015), these inequalities remain significant worldwide, with a score of 0.46 recorded in 2022 (UNDP, 2023).

Morocco, in turn, has realised significant progress in integrating gender considerations across all domains of life. Nonetheless, gender statistics indicate that the country continues to experience persistent imbalances. Morocco's GII score was 0.44 in 2022, a slight increase from 2021, albeit close to the global average, but below the score of Arab States (0.52). Analysis of the dimensions of Morocco's GII highlights that the most significant inequality lies in labour market participation, with the proportion of men in the workforce exceeding that of women by approximately 49 percentage points (UNDP, 2023). These disparities are often attributed to legal, cultural, economic, and institutional factors that limit opportunities, particularly for women (Canuto & Kabbach, 2023). According to Cardarelli and Koranchelian (2023), closing the gender gap could reduce Morocco's GDP per capita disparity with other regions by up to 1.5 percentage points. Thus, the underutilisation of women's capacities results in economic growth losses and hampers national development (Soudi & Yassine, 2022; European Union, 2021).

Current literature identifies financial development as a critical strategy for combating gender inequality, providing marginalised women and men with the financial resources necessary for investments in education, healthcare, and entrepreneurial activities (Rosner, 2011; Ohiomu & Ogbeide-Osaretin, 2019). Enhanced access to finance enables women to establish and expand their ventures, improve decision-making power within households, and effectively manage their economic and financial resources, thereby fostering economic empowerment (Caulfield, 2011). Empowered women gain greater influence in household and community decisions, breaking traditional barriers that have historically restricted their participation in economic and social spheres (Arshad, 2023).

Furthermore, financial development supports inclusive growth by equipping women with tools to escape poverty, thereby reducing economic disparities between genders. Consequently, incorporating financial inclusion into development policies emerges as a pivotal strategy to promote gender equality and foster broader social and economic progress (Beck et al., 2004).

Simultaneously, institutional quality is also a key driver of national development. Robust institutions reduce barriers and inequalities, notably by enhancing women's capabilities in terms of health, education, and participation in the labour market (Nam, 2024). Additionally, strong institutions improve the efficiency and productivity of social service delivery to disadvantaged populations (Perera & Lee, 2013), playing a crucial role in promoting gender equality (Barcena et al., 2020). Aligned with this trajectory, Morocco has implemented numerous reforms over the past decades, including constitutional regulations, parliamentary reforms, and the expansion of voting rights, aimed at enhancing transparency, democratic participation, and political institutional strength (MEF, 2018). These efforts hold the potential to advance gender equality. Moreover, Morocco has undertaken ambitious initiatives to enhance the quality of its economic institutions, particularly by promoting private sector growth. Consequently, in 2024, Morocco ranked 101st in the Index of Economic Freedom with a score of 56.8, making it the leader in North Africa (Heritage Foundation, 2024).

Furthermore, the relationship between institutional quality, financial development, and gender inequality has not been sufficiently explored in the Moroccan context. This study aims to bridge this gap by examining the influence of financial development and institutional quality—from both economic and political perspectives—on gender inequality in Morocco over the period 1990–2023.

First, a literature review will address the research question. The data and adopted methodology will then be presented, followed by an analysis of the results, a discussion, and a conclusion.

Literature review

Gender inequality

Gender inequality refers to significant disparities between men and women, which manifest across various aspects of life where one gender is systematically advantaged over the other (Berik, 2022). The goal of gender equality is not to make men and women identical (Milewski, 2019) but rather to ensure equal rights and opportunities for both genders while eliminating all forms of gender-based discrimination and restriction (Shang, 2022). Addressing this social problem is essential because inequalities have adverse effects on both development and economic growth, as highlighted by numerous studies (Galor & Weil, 1993; Bertay et al., 2020; Egbulonu & Eleonu, 2018).

IMF work has also demonstrated the causal link between gender inequality and industrial growth in terms of value-added and labour productivity (Bertay et al., 2020). Nam. (2024) have suggested that reducing inequalities in education can help to reduce disparities in the labour market, as education affects jobs, pay and status. The higher the educational attainment of women, the more likely they are to obtain skilled or managerial positions, which broadens the talent pool, promotes diversity and enhances economic growth (Unterhalter et al., 2022). Other authors have suggested that women's participation in the labour force helps reduce poverty and improve

economic and social well-being (Hill & King, 1995; Lagerlöf, 2003; Dormekpor, 2015; Nieuwenhuis et al., 2018). Hence, countries that prioritise investment in men over talented women face inadequate resource allocation (Onuonga, 2014) and undervaluation of high-quality human capital (Pervaiz et al., 2011). As elucidated by Esteve-Volart (2004) in her model, the exclusion of women from the labour market has adverse effects on talent stock, inefficient allocation of human resources, diminished innovation and productivity, and ultimately on economic growth.

However, while it is indisputable that women are often at a disadvantage in many areas, such as the labour market, under-representation in management positions, and education, it must not be overlooked that specific disadvantages may also be faced by men in certain contexts. For instance, research in the United States has shown that men are more prone to serious illnesses and have a shorter life expectancy than women (Courtenay, 2000; Williams, 2008; Hoyert et al., 2001). Additionally, men can encounter disadvantages in family justice, particularly in matters related to child custody (Fabricius & Hall, 2000). Thus, for genuine and sustainable development to occur, all members of society must have equal access to the same economic, social, and political opportunities. Thus, to achieve this social justice, it is essential to adopt the capability approach by promoting the capabilities of every individual, regardless of gender or status; these capabilities encompass real or substantial freedoms. These freedoms are not limited to formal rights, but rather those that enable individuals to make choices and take actions that align with their values (Sen, 2001).

Furthermore, other empirical investigations have examined the factors that explain gender inequality, with a focus on the influence of economic development (Becker & Lewis, 1973; Dopke & Tertilt, 2009), technological innovation (Greenwood et al., 2005), and trade openness (Bussmann, 2009; Meyer, 2006). Moreover, numerous studies have emphasised economic growth as a crucial mechanism for reducing gender disparities, particularly regarding labour market participation (Cuberes & Teignier, 2013; Ngai & Petrongolo, 2017).

Financial development and gender inequality

The investigation into the relationship between financial development and gender disparity has garnered significant attention from both academic and policy perspectives. However, this relationship remains inconclusive.

Financial development, as described by Huang (2006), refers to improved efficiency in the allocation of financial resources and in the monitoring of investment projects. This improvement promotes competition and consolidates the role of the financial system. Furthermore, according to Svirydzenka's (2016) definition, financial development is a multidimensional concept. It encompasses the depth of financial markets, including their size and liquidity, access to financial services for individuals and firms, and the efficiency of financial institutions in providing services at lower costs and with sustainable revenues while stimulating capital market activity.

Some research suggests that financial development reduces gender inequality and has a positive impact on income growth for both men and women, while also strengthening women's empowerment (Hda & Achour, 2020; Ameena, 2022; O'Toole & Nayak, 2023). Financial development contributes to the achievement of the Millennium Development Goals by increasing levels of private credit, liquidity and deposits in the economy, leading to progress in education, health and gender equality (Rosner, 2011; Claessens & Feijen, 2007; Pitt & Khandker, 1996; Kabeer, 2001).

Kendo et al. (2008) explained this relationship by noting that financial development has beneficial effects on the income growth of both male and female heads of households, helping to reduce gender disparities. Following this line of thought, Asongu et al. (2020) demonstrated that access to financial services offers women income opportunities through income-generating activities that stimulate investment, employment, and economic prosperity, thereby strengthening the overall economic and social fabric. However, Ohiomu and Ogbeide-Osaretin (2019) revealed that access to financial services has a greater impact on reducing gender inequality than its use. Additionally, Onuonga (2014) analysed the relationship between gender inequality, financial development, and economic growth in Kenya from 1980 to 2012, revealing a long-term link between gender inequality and financial development. Other authors have emphasised that financial sector development has a positive non-linear effect on gender poverty reduction in rural Cameroon (Tchakounte et al., 2008). Other researchers have revealed that the effectiveness of financial inclusion varies according to a country's income level, so low-income countries must prioritise financial inclusion. In contrast, wealthier countries must focus, in particular, on education and the quality of institutions to continue progressing towards gender equality (Saha, 2022).

Based on this, the first hypothesis of this research is stated as follows:

- o **H1:** *Financial development could reduce gender inequality in Morocco in the short and long term.*

Institutions and gender inequality

According to the definition provided by North and North (1992), institutions refer to "*the rules of the game in a society; more formally, they are the humanly devised constraints that shape human interaction*". Building on this, institutional theory posits that organisations function within a framework of values, norms, and assumptions that guide reasonable economic behaviour (Khan, 2022). Thus, in societies where economic agents experience security in terms of property rights, low levels of corruption, and the consistent enforcement of the rule of law, bureaucratic barriers are minimised, fostering a conducive environment for business growth and economic vitality (Maseland, 2013). These processes are crucial not only for fostering entrepreneurial spirit and improving human development but also for establishing incentive structures across political, social, and economic domains. Consequently, effective institutions play a vital role in promoting inclusive growth, including the reduction of gender

inequalities, by fostering an environment conducive to innovation, stability and skills development (Acemoglu et al., 2001; Rodrik et al., 2004).

Furthermore, Acemoglu et al. (2005) distinguished between economic and political institutions. Good economic institutions, as they are described, ensure the protection of property rights and relatively equitable access to economic resources for a large part of society, thereby influencing the structure of economic incentives within society. Regarding political institutions, they define the constraints and incentives for key actors in the political sphere. They include the form of government, such as democracy or dictatorship, and the degree of coercion imposed on politicians and elites.

The quality of a country's institutions plays a critical role in either exacerbating or mitigating gender inequalities. However, institutions frequently fail to prioritise addressing gender disparities, allowing these imbalances to persist or worsen, which can result in more profound systemic challenges (Goldin, 2014).

Equitable institutions are, therefore, essential for creating an environment that promotes gender equality by ensuring equal access to resources, opportunities, and rights for all, regardless of gender. The reduction of gender inequality heavily relies on the strength of these institutional frameworks, particularly in promoting the inclusion of women in the labour market (Ongo Nkoa & Song, 2021). By contrast, failing or discriminatory institutions can reinforce inequalities between men and women by maintaining social structures and norms that favour one specific group over another (Hossain et al., 2010; Chong & Gradstein, 2007). Thus, according to Nam (2024), poor institutional quality exacerbates gender inequality by generating uncertainty and risk, hampering innovation and investment, and disproportionately affecting women's employment opportunities. This limits their participation in the labour market, thereby widening economic disparities (Comim & Nussbaum, 2014).

In addition, Bárcena-Martín et al. (2020) examined the impact of the quality of public institutions on the gender gap in economic participation and opportunities across 74 developing and emerging countries from 2006 to 2016. Their results reveal a close relationship between public institutions and this gap. In particular, the protection of property rights, security guarantees, and government efficiency appear to be the main factors associated with closing this gap. Other previous research has specifically highlighted the effect of corruption on gender inequalities (Ellis et al., 2005; Hossain et al.,2010).

The Transparency International report (2014) indicated that women face different forms of social, cultural, political and institutional discrimination in a corrupt society. Similarly, Hossain et al. (2010) stated that the phenomenon of corruption hampers access to essential services, markets, and credit, as well as political participation. It also contributes to violations of women's rights, such as trafficking and sexual extortion, as well as neglect and mismanagement. Furthermore, other studies have suggested that the ratio of women in the legislature and the workforce is significantly associated with lower levels of corruption (Hao et al., 2017). Similar findings have suggested that women's participation in politics reduces the level of corruption (Stensöta & Wängnerud, 2018; Wängnerud, 2012).

Based on the literature, the second hypothesis is formulated as follows:

- o **H2:** *Bad-quality institutions could increase the rate of gender inequality in Morocco.*

Data and methodology

The objective of this study is to examine the impact of financial development and institutional quality on gender inequality in Morocco, using the ARDL (Auto-Regressive Distributed Lag) model over the period 1990-2023. The choice of the ARDL model was motivated by the fact that this model is suitable for time series with different levels of integration. It also allows for both short-term and long-term relationships between variables, which is relevant to this study. The data used was extracted from the IMF, V-Dem, World Bank, Fraser Institute and UNDP databases. Table 1 below summarises the variables, their measurements, and sources.

Table 1

Presentation of variables

Variable	Measure	Source
Gender inequality (GII)	Measured by the composite index developed by the UNDP. It comprises three dimensions: reproductive health, empowerment, and the labour market. A low value of the GII index suggests a reduction in gender inequality, while a high index indicates the opposite.	UNDP
Quality of Economic Institution (QEI)	Measured by a synthetic index developed by the Fraser Institute which includes five dimensions of economic freedom (namely: the size of Government, Legal System and Security of Property Rights, Sound Money, Freedom to Trade Internationally, and Regulation). and each component and sub-component is placed on a scale from 0 to 10, where a higher score indicates greater economic freedom in Morocco	Fraser Institute database
Quality of Political Institutions (QPI)	Measured by the Electoral democracy index. It assesses the degree to which political leaders are chosen through broad voting righ.ts in fair and transparent elections, with protections for freedom of expression and association in Morocco. The index ranges from 0 to 1, where 1 signifies the highest level of democracy	V-Dem
Financial development (FD)	Measured by the index developed by the IMF. This index comprises data on the depth, efficiency, and access to financial institutions and markets in Morocco.	IMF
Economic Growth Rate (GDP)	GDP per capita growth is added as a control variable.	World Bank datasets

Source: Authors

Then, the function (linear functional form) of the ARDL model to be estimated is as follows:

$$GII = f(FD, QEI, QPI, GDP) \qquad (1)$$

Given that the objective is to capture the short-term and long-term effects of the explanatory variables mentioned above on gender inequality, the ARDL representation of the function is expressed as follows:

$$\Delta GII_t = \alpha_0 + \sum_{i=1}^{p} \alpha_{1i}\Delta GII_{t-i} + \sum_{i=0}^{q} \alpha_{2i}\Delta FD_{t-i} + \sum_{i=0}^{q} \alpha_{3i}\Delta QEI_{t-i} + \sum_{i=0}^{q} \alpha_{4i}\Delta QPI_{t-i} + \sum_{i=0}^{q} \alpha_{5i}\Delta GDP_{t-i} + \beta_1 GII_{t-1} + \beta_2 FD_{t-i} + \beta_3 QEI_{t-1} + \beta_4 QPI_{t-1} + \beta_5 GDP_{t-1} + e_t \quad (2)$$

with:

Δ : first difference operator; α_0: constant; $\alpha_1 \ldots \alpha_5$: short-term effects; $\beta_1 \ldots \beta_5$: long-term dynamics of the model; (e): error term.

Results and discussion

Descriptive analysis

The figures below illustrate the comparative evolution of the gender inequality index (represented on the left scale in all these figures) in relation to financial development (Figure 1), the quality of economic institutions (Figure 2), and the quality of political institutions (Figure 3).

Figure 1

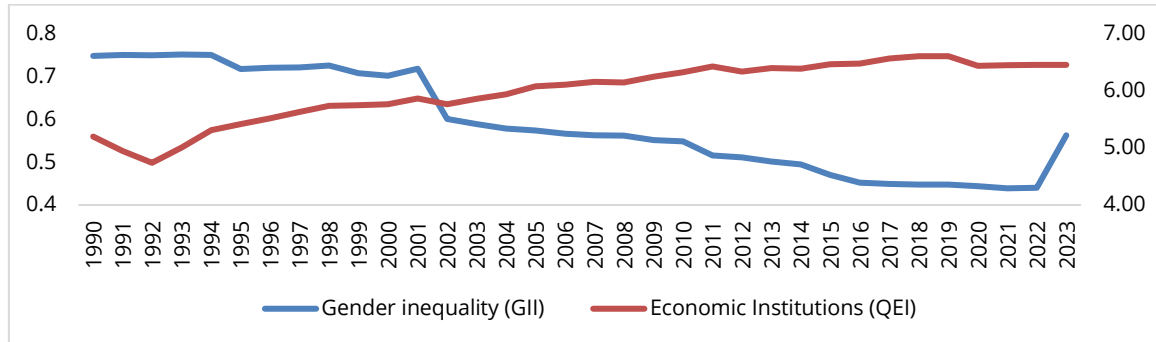Comparative Trends of Gender Inequality and Financial Development, 1990-2023
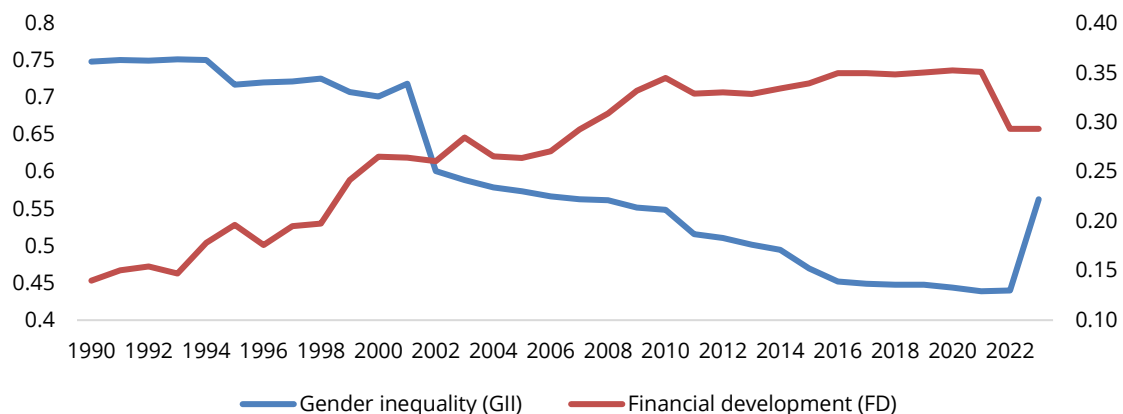
Source: Authors' elaboration, utilising data from UNDP and IMF spanning from 1990 to 2023
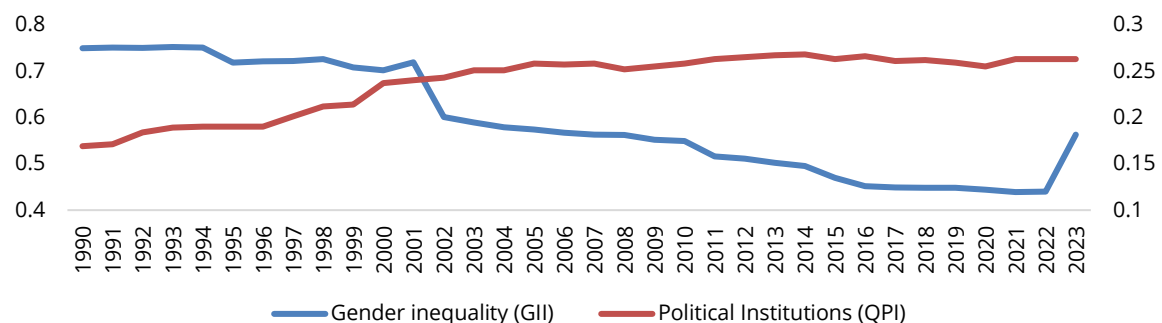
Figure 2

Comparative Trends in Gender Inequality and the Quality of Economic Institutions, 1990-2023

Source: Authors' elaboration, utilising data from UNDP and Fraser Institute spanning from 1990 to 2023

Figure 3

Comparative Trends in Gender Inequality and the Quality of Political Institutions, 1990-2023

Source: Authors' elaboration, utilising data from UNDP and V-Dem spanning from 1990 to 2023

The analysis of the data from 1990 to 2023 reveals significant trends in Morocco's progress regarding gender inequality, financial development, and institutional quality. During this period, Morocco achieved an average annual reduction of 0.70% in gender inequality, accompanied by average increases of 2.5% in financial development, 0.68% in economic freedom (reflecting economic institutions), and 1.38% in the Electoral Democracy Index (capturing political institutions). The year 2021 marked the lowest recorded gender inequality index value (0.439), while the period from 2016 to 2021 witnessed the highest financial development score (0.35). Economic institutions demonstrated peak performance in 2018–2019 with a score of 6.61, and the Electoral Democracy Index recorded its highest value (0.268) in 2014.

Notably, the downward trend in gender inequality, particularly since 2002, can be attributed to Morocco's adoption of initiatives aligned with the Millennium Development Goals and an increase in women's representation in public employment. Morocco was one of the first countries in the MENA region to adopt this approach (Kolovich & Ndoye, 2023). Furthermore, in 2014, an organic finance law was approved to reinforce this approach. It requires gender equality to be integrated into budget performance targets, and each finance bill to include a Gender Report (DEPF, 2023).

Table 2 indicates that the economic growth rate is the most volatile variable in the dataset (including Std. Dev = 3.91, the highest). Regarding the normality of the series, the results confirm that all variables follow a normal distribution (P-value of Jarque-Bera statistic > 5%). Furthermore, the statistics reveal that the series for the GII, QEI, QPI, and FD are platykurtic, characterised by relatively flat distributions with kurtosis values of 1.53, 2.61, 2.29, and 1.97, respectively, all of which are below the threshold of 3. The skewness coefficient for the GII series is positive (0.17), indicating a distribution skewed to the right, whereas the distributions of the other series are skewed to the left.

Table 2

Descriptive statistics

	GII	QEI	QPI	FD	GDP
Mean	0.591	5.990	0.238	0.273	2.187
Median	0.565	6.130	0.255	0.289	2.122
Maximum	0.752	6.610	0.268	0.353	10.674
Minimum	0.439	4.740	0.169	0.140	-8.164
Std. Dev.	0.115	0.521	0.032	0.071	3.913
Skewness	0.177	-0.783	-0.948	-0.568	-0.536
Kurtosis	1.536	2.610	2.297	1.976	3.890
Jarque-Bera	3.213	3.694	5.788	3.313	2.750
P-value of Jarque-Bera statistic	0.201	0.158	0.055	0.191	0.253
Sum	20.082	203.670	8.088	9.288	74.367
Sum Sq. Dev.	0.437	8.953	0.035	0.165	505.262
Observations	34	34	34	34	34

Source: Authors' calculations

Stationarity Analysis

Table 3 presents the unit root test of the observed variables. All study variables were subject to an augmented Dickey-Fuller (ADF) test. The results indicate that some variables are stationary at the level (QPI and GDP), while other series become stationary only after first differencing (GII, QEI, and FD). Thus, the most appropriate model for estimation is the ARDL model.

Table 3

Unit root tests

Augmented Dickey-Fuller test statistic					
Variables	**Model with Trend & Intercept**	**Intercept**	**None**	**First-difference**	**Order of integration**
GII	T-statistic = (-0.55)	T-statistic = (-1.38)	T-statistic = (-1.26)	P-value = 0.001***	**I(1)**
QEI	T-statistic = (-1.23)	T-statistic = (-1.26)	T-statistic = (-1.81)	P-value = 0.000***	**I(1)**
QPI	T-statistic = (-1.08)	T-statistic = (-3.006) **	T-statistic = (-1.95) **		**I(0)**
FD	T-statistic = (-0.18)	T-statistic = (-1.93)	T-statistic = (0.73)	P-value = 0.003***	**I1)**
GDP	T-statistic = (10.78)***	T-statistic= (-10.86) ***	T-statistic = (-2.70) ***		**I(0)**

Note: *(***) and (**) represents significant at 1% and 5% respectively*
Source: Authors' calculations

Causal Analysis

A causality test in the sense of Toda-Yamamoto was performed to analyse a possible causal relationship between the variables. The choice of this test was explained by the fact that the variables are not integrated in the same order. The hypotheses of this test are stated as follows:

H_0: P-value > 5% The absence of causality

H_1: P-value < 5% The presence of causality

The Toda-Yamamoto causality test (Table 4) reveals a unidirectional causal effect of financial development and the quality of political institutions on gender inequality. In contrast, the causal impact of other variables, such as the quality of economic institutions and GDP growth rate, is not statistically significant within this framework. However, the findings indicate that the gender inequality index causes economic growth.

Table 4

Results of the Toda-Yamamoto causal test on the variables under study

Relationship	Chi-sq	P-value
FD → GII	9.209	0.0100**
GII → FD	3.282	0.1937
QEI → GII	1.214	0.5449
GII → QEI	0.892	0.6401
QPI → GII	6.303	0.0428**
GII → QPI	5.040	0.0804
GDP → GII	3.132	0.2089

|		
GII → GDP	5.066	0.0794*

Source: Authors' calculations; Note: Null Hypothesis: Absence of causal relationships

Robustness Tests of the Estimated ARDL Model

According to the selected information criterion (Figure 4) used during the estimation of the optimal ARDL model (SIC), the ARDL model yields the smallest SIC values in this study (4, 2, 2, 3, 1).

Figure 4

Optimal model with the SIC information criterion graph
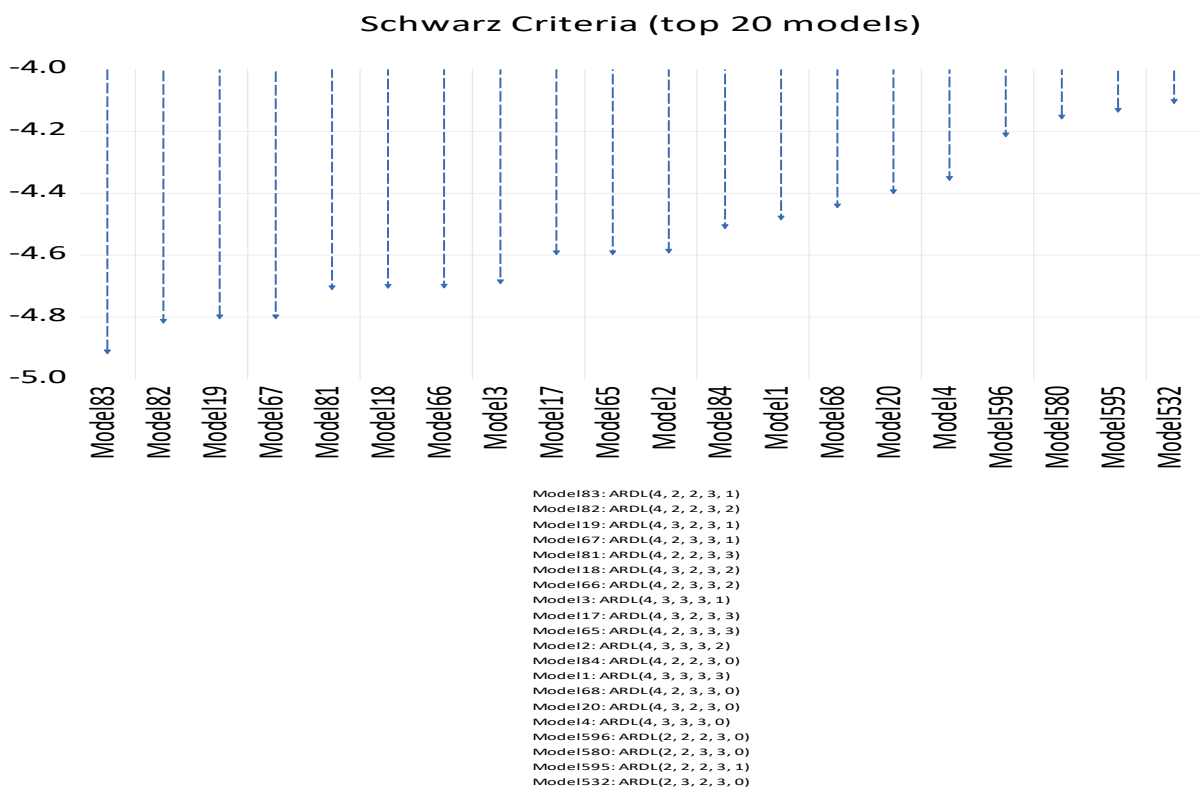
Source: Authors

A series of tests was conducted on the residuals (Table 5) to examine the validity of the estimated ARDL model. Thus, these findings indicate that the model is correctly specified, with no evidence of specification error (p-value = 0.268 > 5%). Furthermore, the residuals do not exhibit autocorrelation (p-value = 0.731> 5%) or heteroscedasticity (p-value = 0.878 > 0.05), and they follow a normal distribution (p-value = 0.236 > 0.05).

Table 5

Robustness Tests of the Estimated ARDL Model

Test	p-values	result
Breusch-Godfrey LM	0.731	Absence of autocorrelation
Breusch-Pagan-Godfrey	0.878	Homoscedasticity of residuals
Jarque-Bera	0.236	Normality of residuals
Ramsey RESET test	0.268	Model specified correctly

Source: Authors' calculations

Cointegration test

Time series analysis requires adapted cointegration tests (Kuma, 2018) since this study has variables that have different orders of integration (I (0), I (1)). Hence, the cointegration test that is useful in this case is " Bounds testing" developed by Pesaran et al. (2001). This test allows the detection of possible long-term relationships between variables.

Table 6

Bounds test

F-Bounds Test		Null Hypothesis: No levels of relationship		
Test Statistic	**Value**	**Signif.**	**I (0)**	**I (1)**
F-statistic	16.38854	10%	2.2	3.09
k	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Source: Authors' calculations

According to Table 6, the F-statistic (16.388) is greater than the critical value bounds (3.49) at the 5% significance level. Therefore, the null hypothesis was rejected, leading to the conclusion that a cointegration relationship exists between the variables.

Estimating Short and Long-Run Relationships

The results presented in Table 7 reveal that the error correction term is both statistically significant and negative, with an estimated coefficient of (-1.27). This indicates the presence of a cointegration relationship between the variables, suggesting that approximately 1.27% of deviations from equilibrium are corrected within one period. Furthermore, based on these findings, the factors contributing to the exacerbation of gender inequalities in the short term include their lags, the quality of political institutions, and financial development. Conversely, the economic growth rate contributes to reducing gender disparities.

Table 7

Short-term relationship

Variable	Coefficient	Std. Error	t-Statistic	P-value
D(GII(-1))	0.656	0.094	6.960	0.0000***
D(GII(-2))	0.224	0.089	2.509	0.0262**
D(GII(-3))	0.665	0.096	6.890	0.0000***
D(QPI)	2.789	0.420	6.643	0.0000***
D(QPI(-1))	3.942	0.437	9.021	0.0000***
D(GDP)	-0.001	0.001	-2.192	0.0471**
D(GDP(-1))	-0.007	0.001	-10.639	0.0000***
D(FD)	0.238	0.124	1.912	0.0782*
D(FD(-1))	0.090	0.165	0.545	0.5947
D(FD(-2))	1.398	0.181	7.734	0.0000***
D(QEI)	0.035	0.033	1.067	0.3052
CointEq(-1)*	-1.278	0.110	-11.668	0.0000***

Note: (***), (**) and (*) represents significant at 1%, 5% and 10% respectively
Source: Authors' calculations

Several mechanisms can explain these statistically significant results of the short-term effect. Firstly, although financial development increases economic opportunities, it initially tends to reinforce inequalities in income and opportunities due to the asymmetric access to financial services between men and women. In this context, other studies have shown that financial exclusion is more persistent among women (Amaghouss & Elmasmari, 2024). Secondly, political institutions promote inclusion policies which, although promising, often fail to produce tangible results due to persistent structural barriers, such as cultural and social norms, as shown by Cooray and Potrafke (2011).

Table 8

Long-term relationship

Variable	Coefficient	Std. Error	t-Statistic	P-value
QPI	-0.118	0.279	-0.421	0.680
GDP	0.007	0.003	3.596	0.003***
FD	-0.847	0.224	-3.788	0.002***
QEI	-0.076	0.023	-3.231	0.007***
C	1.282	0.125	10.258	0.000***

Note: (***) represents significant at 1%
Source: Authors' calculations

The results of the long-term effect estimation (Table 8) indicate that the quality of economic institutions and financial development play a significant role in reducing the gender inequality index over the long term. As a result, a one-unit improvement in the quality of economic institutions and financial development is associated with a 0.07-unit and 0.84-unit reduction in the gender inequality index, respectively, assuming all other factors remain constant. As financial development progresses, its structural

effects begin to emerge, contributing to a reduction in gender inequalities. Over time, financial infrastructures become more inclusive, offering products and services tailored to women's needs, such as microfinance and loans for female entrepreneurship. These inclusive mechanisms help bridge the initial access gap, enabling women to participate more actively in economic activities. Enhanced financial infrastructure and increased access to credit and savings empower women to invest in education and entrepreneurial ventures, thereby promoting their autonomy and integration into the labour market (Goyal & Ratna, 2023). Similarly, high-quality economic institutions play a pivotal role in dismantling gender-based barriers and discrimination. Through transparent policies and good governance, these institutions reduce administrative and regulatory obstacles, facilitating the establishment and growth of women-led enterprises. This creates an enabling environment that fosters greater gender equity, particularly in economic participation.

In contrast, the quality of political institutions exerts a negative but statistically insignificant effect, reflecting a lack of sustainability in political reforms that prevents their long-term effects from being consolidated. As for economic growth, which could theoretically help reduce inequalities, its coefficient in this estimate suggests that it exacerbates disparities between men and women in the long term. This may be due to the unequal distribution of economic benefits.

Conclusion

The relationship between financial development, institutional quality, and gender disparities remains a topic of controversy within the scientific community. A well-developed financial system can be a lever that offers economic opportunities to all segments of society through an efficient and accessible financial infrastructure, enabling individuals to access the necessary financial resources, better manage their financial transactions, projects, and protect themselves against potential risks. In parallel with this, a country with quality institutions can guarantee equal rights, enforce anti-discrimination laws and promote policies that guarantee citizens access to all services, whether educational, financial, health or other, without gender restrictions, thus reducing skills disparities, improving the integration of women into the labour market and promoting their empowerment. Following this line of thought, this article aimed to study the effect of financial development and institutional quality on gender inequality in Morocco, using the ARDL model applied to annual data from 1990 to 2023.

The findings reveal a unidirectional causal relationship between financial development, the quality of political institutions, and gender inequalities. As a result, financial development appears to be a long-term mechanism for reducing gender disparity. However, the impact of institutional quality varies, so Morocco's political institutions exacerbate gender inequality in the short term. In contrast, economic institutions significantly enhance gender equality over the long term.

The contribution of this research lies in highlighting the importance of a well-developed financial system in promoting gender equality and fostering economic and financial

well-being across all segments of society. This highlights the need for policies that eliminate barriers to women's access to financial services. Furthermore, this study uniquely analyses institutional quality from two perspectives — economic and political — offering novel insights into their distinct roles. The findings urge policymakers to address specific institutional shortcomings in order to foster a more equitable society.

Despite its contributions, this study has certain limitations. The economic freedom indices, sourced from the Fraser Institute, included some missing variables that were filled using linear interpolation. Moreover, the interaction effects between variables were not fully controlled. Cultural and social norms, which could provide critical context for understanding gender disparities, were also not incorporated into the model.

Future research could build upon this work by adopting a microeconomic and mesoeconomic perspective to explore the determinants of gender inequality further. Additionally, panel data analysis across multiple countries would allow for comparative insights, capturing cross-country variations.

References

1. Acemoglu, D., Johnson, S., & Robinson, J. A. (2001). The Colonial Origins of Comparative Development: An Empirical Investigation. *American Economic Review*, *91*(5), 1369–1401. https://doi.org/10.1257/aer.91.5.1369

2. Acemoglu, D., Johnson, S., & Robinson, J. A. (2005). Chapter 6 Institutions as a Fundamental Cause of Long-Run Growth. *Handbook of Economic Growth*, 385–472. https://doi.org/10.1016/s1574-0684(05)01006-3

3. Amaghouss, J., & Elmasmari, H. (2024). Impact of Digital Financial Services on Income Inequality: Microeconomic Evidence from Africa. *Sustainable Development Goals*, 168–188. https://doi.org/10.1201/9781003468257-10

4. Arshad, A. (2023). Nexus between financial inclusion and women empowerment: evidence from developing countries. *Gender in Management: An International Journal*, *38*(4), 561–580. https://doi.org/10.1108/gm-04-2022-0125

5. Asongu, S. A., Nnanna, J., & Acha-Anyi, P. N. (2020). Inequality and gender economic inclusion: The moderating role of financial access in Sub-Saharan Africa. *Economic Analysis and Policy*, *65*, 173–185. https://doi.org/10.1016/j.eap.2020.01.002

6. Becker, G. S., & Lewis, H. G. (1973). On the Interaction between the Quantity and Quality of Children. *Journal of Political Economy*, *81*(2, Part 2), S279–S288. https://doi.org/10.1086/260166

7. Beck, T., Demirguc-Kunt, A., & Levine, R. (2004). Finance, Inequality, and Poverty: Cross-Country Evidence. *National Bureau of Economic Research*. https://doi.org/10.3386/w10979

8. Bárcena-Martín, E., Medina-Claros, S., & Pérez-Moreno, S. (2020). Economic gender gap in the Global South: how institutional quality matters (No. 2020-

025). United Nations University-Maastricht Economic and Social Research Institute on Innovation and Technology (MERIT).

9. Berik, G. (2022). Towards improved measures of gender inequality: An evaluation of the United Nations Development Programme's Gender Inequality Index and a Proposal. UN Women Discussion Papers. https://doi.org/10.18356/25216112-41

10. Bertay, A. C., Dordevic, L., & Sever, C. (2020). Gender Inequality and Economic Growth: Evidence from Industry-Level Data. *IMF Working Papers*, *2020*(119), https://doi.org/10.5089/9781513546278.001

11. Bussmann, M. (2009). The Effect of Trade Openness on Women's Welfare and Work Life. *World Development*, *37*(6), 1027–1038. https://doi.org/10.1016/j.worlddev.2008.10.007

12. Canuto, O., & Kabbach, H. (2023). Gender inequality in the labour market: the case of Morocco (No. 2003). *Policy Center for the New South*. https://EconPapers.repec.org/RePEc:ocp:pbecon:pb_12-23

13. Cardarelli, R., & Koranchelian, T. (Eds.). (2023). Morocco's Quest for Stronger and Inclusive Growth. USA: *International Monetary Fund*. https://doi.org/10.5089/9798400225406.071

14. Chong, A., & Gradstein, M. (2007). Inequality and Institutions. *Review of Economics and Statistics*, *89*(3), 454–465. https://doi.org/10.1162/rest.89.3.454

15. Claessens, S., & Feijen, E. (2007). Financial Sector Development and the Millennium Development Goals. *In World Bank Working Papers*. https://doi.org/10.1596/978-0-8213-6865-7

16. Comim, F., & Nussbaum, M. C. (Eds.). (2014). Capabilities, Gender, Equality. *Cambridge University Press*. https://doi.org/10.1017/cbo9781139059138

17. Courtenay, W. H. (2000). Constructions of masculinity and their influence on men's well-being: a theory of gender and health. *Social Science & Medicine*, *50*(10), 1385–1401. https://doi.org/10.1016/s0277-9536(99)00390-1

18. Cooray, A., & Potrafke, N. (2011). Gender inequality in education: Political institutions or culture and religion? *European Journal of Political Economy*, *27*(2), 268–280. https://doi.org/10.1016/j.ejpoleco.2010.08.004

19. Cuberes, D., & Teignier, M. (2013). GENDER INEQUALITY AND ECONOMIC GROWTH: A CRITICAL REVIEW. *Journal of International Development*, *26*(2), 260–276. Portico. https://doi.org/10.1002/jid.2983

20. DEPF (Direction des Études et des Prévisions Financières). (2023). Rapport d'activité 2022. *Ministère de l'Économie et des Finances*. https://depf.finances.gov.ma/publications/RapportActivite2022/RapActDEPF2022.pdf

21. Dopke, M., & Tertilt, M. (2009). Women's Liberation: What's in It for Men?*. *Quarterly Journal of Economics*, *124*(4), 1541–1591. https://doi.org/10.1162/qjec.2009.124.4.1541

22. Dormekpor, E. (2015). Poverty and gender inequality in developing countries. *Developing Country Studies*, *5*(10), 76-102.

23. Egbulonu, K. G., & Eleonu, I. S. (2018). Gender inequality and economic growth in Nigeria (1990–2016). *International Journal of Gender and Women Studies*, *6*(1), 159-167. https://doi.org/10.15640/ijgws.v6n1a14

24. Ellis, A., Manuel, C., & Blackden, M. (2005). Gender and Economic Growth in Uganda. *The World Bank*. https://doi.org/10.1596/978-0-8213-6384-3

25. European Union. (2021). 2021 report on gender equality in the EU. https://commission.europa.eu/system/files/2021-05/annual_report_ge_2021_printable_en_0.pdf

26. Esteve-Volart, B. (2004). Gender discrimination and growth: Theory and evidence from India. *LSE STICERD research paper* no. DEDPS42. Available at SSRN: https://ssrn.com/abstract=1127011

27. Fabricius, W. V., & Hall, J. A. (2000). Young adults' perspectives on divorce Arrangements. *Family Court Review*, *38*(4), 446–461. Portico. https://doi.org/10.1111/j.174-1617.2000.tb00584.x

28. Galor, O., & Weil, D. (1993). The Gender Gap, Fertility, and Growth. *National Bureau of Economic Research*. https://doi.org/10.3386/w4550

29. Goldin, C. (2014). A Grand Gender Convergence: Its Last Chapter. American Economic Review, *104*(4), 1091–1119. https://doi.org/10.1257/aer.104.4.1091

30. Goyal, R., & Sahay, R. (2023). Integrating Gender into the IMF's Work. *International Monetary Fund*, *2023*(001). https://doi.org/10.5089/9798400257247.067

31. Greenwood, J., Seshadri, A., & Yorukoglu, M. (2005). Engines of Liberation. *The Review of Economic Studies*, *72*(1), 109–133. https://doi.org/10.1111/0034-6527.00326

32. Hao, Y., Chang, C.-P., & Sun, Z. (2017). Women and corruption: evidence from multinational panel data. *Quality & Quantity*, *52*(4), 1447–1468. https://doi.org/10.1007/s11135-017-0530-7

33. Hda, Z., & Achour, F. Z. (2020). Impact des institutions de microcrédit sur l'autonomisation (empowerment) des femmes (cas de la région d'Errachidia): enseignements d'une analyse économétrique. *Revue Internationale d'Economie Numérique*, *2*(2), 93-111. https://revues.imist.ma/index.php/RIEN/article/view/28083

34. The Heritage Foundation. (2024). *2024 Index of Economic Freedom: Morocco*. https://static.heritage.org/index/pdf/2024/2024_indexofeconomicfreedom_morocco.pdf

35. Hill, M. A., & King, E. (1995). Women's education and economic well-being. *Feminist Economics*, *1*(2), 21–46. https://doi.org/10.1080/714042230

36. Hossain, N., Musembi, C. N., & Hughes, J. (2010). Corruption, accountability and gender: Understanding the connections. United Nations Development Programme (UNDP) and United Nations Development Fund for Women (UNIFEM). https://www.undp.org/sites/g/files/zskgke326/files/publications/Corruption-accountability-and-gender.pdf

37. Hoyert, D. L., Arias, E., Smith, B. L., Murphy, S. L., & Kochanek, K. D. (2001). Deaths: final data for 1999. National vital statistics reports: from the Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System, 49(8), 1-113. https://www.cdc.gov/nchs/data/nvsr/nvsr49/nvsr49_08.pdf

38. Huang, W. (2006). Emerging markets financial openness and financial development. *University of Bristol Discussion Paper*, 588. http://www.bristol.ac.uk/efm/media/workingpapers/working_papers/pdffiles/dp06588.pdf

39. Kabeer, N. (2001). Conflicts Over Credit: Re-Evaluating the Empowerment Potential of Loans to Women in Rural Bangladesh. *World Development*, *29*(1), 63–84. https://doi.org/10.1016/s0305-750x(00)00081-4

40. Kendo, S., Baye, F. M., & Sikod, F. (2008). Financial sector development, gender parity and poverty reduction: Theoretical and empirical evidences. In Proceedings of the African Economic conference (pp. 89-112). https://www.afdb.org/fileadmin/uploads/afdb/Documents/Knowledge/AEC2008_English_p089-112.pdf

41. Khan, M. A. (2022). ESG disclosure and firm performance: A bibliometric and meta-analysis. *Research in International Business and Finance*, *61*, 101668.

42. Kolovich, L. L., & Ndoye, A. (2023). "CHAPTER 9: Implications of Gender Inequality for Growth in Morocco". *IMF's Report Morocco's Quest for Stronger and Inclusive Growth. Washington, DC: IMF, 167-82.* https://doi.org/10.5089/9798400225406.071

43. Kuma, J. K. (2018). Modélisation ARDL, Test de cointégration aux bornes et Approche de Toda-Yamamoto : éléments de théorie et pratiques sur logiciels. *Centre de Recherches Economiques et Quantitatives – CREQ*. https://hal.science/cel-01766214

44. Lagerlöf, N. P. (2003). Gender equality and long-run growth. *Journal of Economic Growth*, *8*, 403-426. https://doi.org/10.1023/a:1026256917489

45. Loudon, S., Goemans, C., & Koester, D. (2021). Gender equality and fragility. *OECD Development Co-operation Working Papers*. https://doi.org/10.1787/3a93832b-en.

46. Maseland, R. (2013). Parasitical cultures? The cultural origins of institutions and development. *Journal of Economic Growth*, *18*(2), 109–136. https://doi.org/10.1007/s10887-013-9089-x

47. MEF (Ministère de l'Économie et des Finances). (2018). Une démarche intégrée pour l'égalité de genre. *Centre de l'Excellence pour la Budgétisation Sensible au Genre*. https://mujeres.andaluciasolidaria.org/wp-content/uploads/BSG-Guide-institutions.pdf

48. Meyer, L. B. (2006). Trade Liberalization And Women's Integration Into National Labor Markets: A Cross-Country Analysis. *Social Indicators Research*, *75*(1), 83–121. https://doi.org/10.1007/s11205-004-6399-6

49. Milewski, F. (2019). Iii. les Inégalités Entre les Femmes et les Hommes. *Les mutations de la société française Les grandes questions économiques et sociales II* (p. 69-90). La Découverte. https://shs.cairn.info/les-mutations-de-la-societe-francaise--9782348042812-page-69?lang=fr.

50. Ongo Nkoa, B. E., & Song, J. S. (2021). Does Institutional Quality increase inequalities in Africa? *Journal of the Knowledge Economy*, *13*(3), 1896–1927. https://doi.org/10.1007/s13132-021-00771-4

51. Nam, H.-J. (2024). Institutions, Gender Inequality, and Economic Growth. Korean *Academic Society Of Business Administration*. https://www.dbpia.co.kr/Journal/articleDetail?nodeId=NODE11924353

52. Ngai, L. R., & Petrongolo, B. (2017). Gender Gaps and the Rise of the Service Economy. *American Economic Journal: Macroeconomics*, *9*(4), 1–44. https://doi.org/10.1257/mac.20150253

53. Nieuwenhuis, R., Need, A., & van der Kolk, H. (2018). Family policy as an institutional context of economic inequality. *Acta Sociologica*, *62*(1), 64–80. https://doi.org/10.1177/0001699318760125

54. North, D. C., & North, D. C. (1992). Transaction costs, institutions, and economic performance (pp. 13-15). San Francisco, CA: Ics Press. https://www.econbiz.de/Record/transaction-costs-institutions-and-economic-performance-north-douglass-cecil/10000871614

55. O'Toole, M., & Nayak, B. S. (2023). Financial Inclusion, Gender Gaps, and Development in Rwanda. *In Political Economy of Gender and Development in Africa: Mapping Gaps, Conflicts and Representation* (pp. 91-121). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-031-18829-9_4

56. Ohiomu, S., & Ogbeide-Osaretin, E. N. (2019). Financial Inclusion and Gender Inequality Reduction: Evidence from Sub-Saharan Africa. *The Indian Economic Journal*, *67*(3–4), 367–372. https://doi.org/10.1177/0019466220946411

57. Onuonga, S. M. (2014). Gender inequality, financial development and economic growth in Kenya. *African Journal of Education, Science and Technology*, *1*(4), 208-216. http://ir-library.ku.ac.ke/handle/123456789/12432

58. Perera, L. D. H., & Lee, G. H. Y. (2013). Have economic growth and institutional quality contributed to poverty and inequality reduction in Asia? *Journal of Asian Economics*, *27*, 71–86. https://doi.org/10.1016/j.asieco.2013.06.002

59. Pervaiz, Z., Chani, M. I., Jan, S. A., & Chaudhary, A. R. (2011). Gender inequality and economic growth: A time series analysis for Pakistan. https://mpra.ub.uni-muenchen.de/37176/

60. Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3), 289–326. Portico. https://doi.org/10.1002/jae.616

61. Pitt, M. M., & Khandker, S. R. (1996). Household and Intrahousehold Impact of the Grameen Bank and Similar Targeted Credit Programs in Bangladesh. In World Bank Discussion Papers. *The World Bank*. https://doi.org/10.1596/0-8213-3594-4

62. Ponthieux, S., & Meurs, D. (2015). Gender inequality. In Handbook of income distribution (Vol. 2, pp. 981-1146). *Elsevier*. https://doi.org/10.1016/b978-0-444-59428-0.00013-8

63. Rodrik, D., Subramanian, A., & Trebbi, F. (2004). Institutions Rule: The Primacy of Institutions Over Geography and Integration in Economic Development. *Journal of Economic Growth*, *9*(2), 131–165. https://doi.org/10.1023/b:joeg.0000031425.72248.85

64. Rosner, B. N. (2011). Financial development and the MDGs for education, gender equality, and health. *Undergraduate Economic Review*, *8*(1), 2. Available at: https://digitalcommons.iwu.edu/uer/vol8/iss1/2

65. Saha, S. K. (2022). Impact of Financial Inclusion on Gender Inequality: An Empirical Examination. *Social Systems Studies*, 95–112. https://ritsumei.repo.nii.ac.jp/record/17784/files/bks_45_Sumanta.pdf

66. Sen, A. (2001). The many faces of gender inequality. *New republic*, 35-39. https://prof.chicanas.com/readings/SenInequality.pdf

67. Shang, B. (2022). Tackling Gender Inequality: Definitions, Trends, and Policy Designs. *IMF Working Papers*, 2022(232), 1. https://doi.org/10.5089/9798400224843.001

68. Caulfield, T. (2011). Aradhana Sharma, Logics of Empowerment: Development, Gender, and Governance in Neoliberal India. *Minneapolis: University of Minnesota Press*. 2008. 260 pages. Rs 1,744. Indian Journal of Gender Studies, 18(3), 431–437. https://doi.org/10.1177/097152151101800308

69. Soudi, K., & Yassine, A. (2022). Indice multidimensionnel d'égalité de genre: Outil empirique pour le suivi de la parité au Maroc. *Les Cahiers du Plan*, (54), 43-53. https://doi.org/10.34874/PRSM.cahiers-du-plan-i54.42968

70. Stensöta, H., & Wängnerud, L. (Eds.). (2018). Gender and corruption: Historical roots and new avenues for research. *Springer*. https://doi.org/10.1007/978-3-319-70929-1

71. Svirydzenka, K. (2016). Introducing a New Broad-based Index of Financial Development. *IMF Working Papers*. https://doi.org/10.5089/9781513583709.001

72. Tchakounte, C. S. K., Baye, F. M., & Sikod, F. O. N. D. O. (2008). Impact du développement du secteur financier sur la pauvreté selon le genre en milieu rural camerounais. *In African Economic Conference.*

73. Transparency International. (2014). Gender, equality and corruption: What are the linkages? *Transparency International POLICY BRIEF* https://images.transparencycdn.org/images/2014_Policybrief1_GenderEquality Corruption_EN.pdf

74. UNDP (United Nations Development Programme). (2023). *Human Development Data Center: Documentation and downloads*. https://hdr.undp.org/data-center/documentation-and-downloads

75. Unterhalter, E., Longlands, H., & Peppin Vaughan, R. (2022). Gender and Intersecting Inequalities in Education: Reflections on a Framework for Measurement. *Journal of Human Development and Capabilities*, *23*(4), 509–538. https://doi.org/10.1080/19452829.2022.2090523

76. Wängnerud, L. (2012). Why Women are Less Corrupt than Men. *Good Government.* Edward Elgar Publishing. https://doi.org/10.4337/9780857934932.00019

77. Williams, D. R. (2008). The Health of Men: Structured Inequalities and Opportunities. *American Journal of Public Health*, 98(Supplement_1), S150–S157. https://doi.org/10.2105/ajph.98.supplement_1.s150

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