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Research Article

Keywords: Trade facilitation, women's empowerment, governance, democracy

Posted Date: September 24th, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-10820086/v1>

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Additional Declarations: No competing interests reported.

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Abstract:

Since the implementation of trade facilitation policies and the entry into force of the WTO Trade Facilitation Agreement, African countries have undertaken trade reforms that may transform women's economic opportunities. This article analyzes the relationship between trade facilitation and women's empowerment in sub-Saharan Africa, emphasizing the role of governance and democratic institutions. The study covers a panel of 32 countries over 2014–2022. The empirical analysis primarily uses the two-step System GMM method, with PCSE estimates for robustness. The results reveal differentiated effects across empowerment dimensions. Trade facilitation reduces the gender wage gap and promotes women's political empowerment, particularly in countries with better governance and stronger democratic institutions. However, it widens the vulnerable employment gap. These findings show that the inclusive effects of trade facilitation depend strongly on institutional quality. They highlight the need to complement trade reforms with policies that strengthen governance, women's participation, and access to better-quality employment.

Keywords: Trade facilitation, women's empowerment, governance, democracy

JEL Code : F13, J16, O43, D72

1- Introduction

The empowerment of women is now a major challenge for economic and social development. Researchers and international organizations highlight its critical role in economic growth, poverty reduction, and the achievement of the Sustainable Development Goals (Amalia et al., 2023; Cuberes and Teignier, 2014; Golla et al., 2011). It refers to a multidimensional process that allows women to access economic resources, participate in decision-making processes and exercise greater control over their individual and collective choices (Kabeer, 1999; Golla et al., 2011).

In this perspective, the recent literature has focused on the determinants of women's empowerment, including the role of international trade (Gaddis and Pieters, 2017; Jamielaa, 2018). Among the instruments of trade policy, trade facilitation is becoming an increasing part of the economic integration strategies of developing countries. It refers to all measures aimed at reducing transaction costs related to trade procedures, simplifying customs formalities and improving the efficiency of cross-border trade (Sakyi et al., 2017). By reducing barriers to trade, it could increase women's access to markets, boost employment and increase their economic participation. However, the effects of trade facilitation on women's empowerment remain ambiguous. While several studies show that trade openness can improve women's participation in the labour market and reduce certain economic inequalities (Gaddis and Pieters, 2012; Sajid and Ullah, 2014; Juhn et al., 2014), others point out that its effects can be negative or limited depending on the productive and institutional structures of countries (Gaddis and Pieters, 2017; Spetan et al., 2024). These divergent results suggest that the benefits of trade are not automatic, but largely depend on the ability of economies to turn trade opportunities into inclusive gains.

This issue is particularly important in sub-Saharan Africa, where women continue to face significant economic and political constraints. The region is characterized by a high concentration of women in informal activities, limited access to finance, education and formal employment, as well as low representation in decision-making spheres (World Bank, 2024). Thus, despite the progress made in trade facilitation and trade integration, including under the WTO Trade Facilitation Agreement and the African Continental Free Trade Area (AfCFTA), gains from trade do not always appear to translate into a significant improvement in women's empowerment.

One possible explanation lies in the role of institutions. The institutional literature emphasizes that the quality of governance, democracy and administrative capacity are determinants of economic and social inclusion (North, 1990; Acemoglu and Robinson, 2012). Effective institutions can strengthen enforcement, reduce discrimination, foster political participation and

enable better dissemination of trade-related benefits. However, few studies analyse how trade facilitation interacts with institutions to influence the different dimensions of women's empowerment. Recent work, such as Pondie et al. (2025), focuses more on overall trade openness and pays less attention to specific mechanisms related to trade facilitation. This study therefore aims to analyse the effects of trade facilitation on women's empowerment in sub-Saharan Africa, with a focus on the moderating role of governance and democratic institutions. She makes several contributions to literature. First, it focuses on trade facilitation, a specific dimension of international trade that helps to identify effects related to trade procedures, administrative costs and market access. Second, it takes a multidimensional approach to women's empowerment by considering three dimensions: vulnerable employment, the wage gap, and political empowerment. Third, it distinguishes between export and import facilitation in order to identify differentiated trade mechanisms. Fourth, it examines the joint role of governance and democracy as factors that can enhance or limit the inclusive effects of trade.

Methodologically, unlike the static approaches often used in previous work, this research takes into account the dynamic dimension of women's empowerment. The main estimate is based on the Generalized System Moments (System-GMM) model, which allows to deal with the problems of endogeneity, reverse causality and unobserved heterogeneity. The estimates are then supplemented by the Panel-Corrected Standard Errors (PCSE) method in order to assess the robustness of the results in the face of heteroscedasticity, autocorrelation and cross-sectional dependence problems. The empirical analysis covers a panel of 32 sub-Saharan African countries covering the period 2014-2022. This period corresponds to an important phase of trade reforms marked by the gradual implementation of the WTO Trade Facilitation Agreement and the strengthening of African trade integration initiatives.

The rest of the article is structured as follows. Section 2 presents the literature review. Section 3 describes the methodology and data used. Section 4 presents and discusses the empirical results. Finally, Section 5 concludes the study and presents the policy implications.

2- Literature Review

2.1- Trade and Women's Empowerment

Trade facilitation can contribute to women's empowerment by reducing trade costs, improving market access and enhancing firms' competitiveness (Wilson et al., 2003; Portugal-Perez & Wilson, 2012). According to the heterogeneous-firm framework of Melitz (2003), lower administrative and logistical barriers reduce the fixed costs associated with exporting, allowing

more firms to formalize their activities and access international markets. Since formal employment generally offers greater job security, legal protection and income stability, this process may improve women's economic opportunities. Empirical studies support this argument, showing that trade-related reforms can increase formal employment and improve labour market outcomes, although the effects vary across sectors and worker characteristics (Ben & Bombarda, 2020; Habib et al., 2019).

The impact of trade facilitation on women's empowerment can also be understood through the lens of labour market competition. Becker's (1957) theory of discrimination argues that firms engaging in discriminatory practices incur additional costs and become less competitive. By intensifying competition and expanding firms' participation in international markets, trade facilitation may reduce gender discrimination and create better employment opportunities for women. Consistent with this view, Black and Brainerd (2004) show that increased competition reduces gender-based discrimination, while Yahmed (2023) finds that the effects of trade on gender inequality depend on the degree of competition within sectors.

Traditional trade theories provide additional insights into these mechanisms. The Heckscher–Ohlin framework predicts that countries tend to specialize in sectors intensive in their abundant factors of production. In many developing economies, where women constitute a significant share of low-skilled labour, trade integration may stimulate employment opportunities in labour-intensive industries. Similarly, Seguino (2000) argues that female labour can constitute a source of comparative advantage in export-oriented sectors. Empirical evidence partly supports these predictions. Cagatay and Ozler (1995) find that trade liberalization promotes female employment in labour-intensive manufacturing, while Juhn et al. (2014) show that trade-induced technological upgrading can improve women's employment prospects. However, these benefits are not guaranteed. Banerjee and Veeramani (2015) demonstrate that when liberalization is accompanied by skill-biased technological change, the resulting demand for skilled workers may disproportionately benefit men, thereby widening gender disparities.

The literature also highlights the ambiguous relationship between trade reforms and informality. Harris and Todaro (1970) suggest that workers may remain in informal activities when formal job creation is insufficient, a situation that often affects women in developing countries. While trade facilitation may encourage women-owned businesses to formalize, it may also disadvantage informal traders who lack the resources needed to benefit from reforms (Ranis & Stewart, 1999).

More broadly, scholars emphasize that employment gains do not automatically translate into empowerment. Kabeer (2005), Agarwal (2002) and Sen (2001) argue that empowerment depends on women's access to economic opportunities, productive resources and decision-making power. Accordingly, the empirical evidence remains mixed. While some studies report positive effects of trade openness on women's labour-force participation (Gaddis & Pieters, 2012; Sajid & Ullah, 2014), others find heterogeneous or even negative effects depending on sectoral structures, technological change and levels of development (Yin & Choi, 2023).

Overall, the literature suggests that trade facilitation can promote women's empowerment through formalization, increased competition and expanded employment opportunities. However, the magnitude and direction of these effects depend on countries' institutional quality, labour market conditions and women's ability to access the opportunities generated by international trade.

2.2- Institutions and women's empowerment

Beyond market mechanisms, institutions represent a fundamental determinant of economic and social outcomes. According to North (1990), institutions, whether formal (laws, regulations, property rights) or informal (social norms, conventions and cultural practices), shape incentives, reduce transaction costs and influence the efficiency of economic exchanges. In the context of trade, effective governance can facilitate policy implementation and improve trade performance, as non-corrupt and accountable institutions are better able to design and enforce trade-related reforms (Kumari and Bharti, 2021). However, extending this framework to gender issues requires recognizing that institutions are not gender-neutral: they can either promote or constrain women's access to economic opportunities.

Indeed, the interaction between formal rules and informal norms plays a central role in determining women's empowerment outcomes. While improvements in governance may strengthen women's access to markets, resources and decision-making, persistent social norms can continue to reproduce gender inequalities. This perspective is consistent with Acker's (1990) theory of gendered organisations, which highlights how institutional structures and organizational practices may embed implicit gender biases, even when formal rules appear neutral. Similarly, feminist institutionalism (Mackay et al., 2010) argues that institutions reflect broader social power relations, meaning that identical institutional reforms may generate different outcomes for women depending on prevailing cultural norms and gender relations.

Jennings (1993) reinforces this argument by showing that economic institutions cannot be separated from the gendered organization of social and economic life.

Empirical evidence supports this complex and conditional relationship between institutions and women's empowerment. While effective governance, political stability, rule of law and anti-corruption measures generally contribute to improving women's human capital and economic opportunities (Ouedraogo et al., 2022; Kurum, 2025), institutional quality does not always translate automatically into greater empowerment. For instance, Bayanpourtehrani and Sylwester (2013) show that some non-democratic countries may record relatively high female labour-force participation, while Qaiser et al. (2023) find that improvements in governance can coexist with persistent gender gaps when labour-market constraints remain. Similarly, Branisa et al. (2013) demonstrate that discriminatory social institutions limit women's educational opportunities, whereas Stockemer and Kolodziejczyk (2026) show that corruption reduces women's access to political positions.

In developing countries, and particularly in Africa, the effectiveness of institutions appears strongly dependent on their interaction with social and economic conditions. Ouedraogo et al. (2022) emphasize that governance quality improves women's empowerment by strengthening human capital accumulation, while Gimenez-Jimenez et al. (2020) show that supportive policies, such as childcare services and parental leave, enhance female entrepreneurship only when they are accompanied by favourable social norms. In the informal sector, Islam and Amin (2023) further reveal that women's productivity remains constrained by limited access to education, capital and legal protection. Conversely, Rios et al. (2023) highlight a potential virtuous cycle in which good governance encourages women's political participation, which in turn contributes to institutional improvement.

Overall, the literature suggests that institutions constitute an essential channel through which trade facilitation may influence women's empowerment. However, their effect is neither automatic nor homogeneous: it depends on the quality of governance, the strength of gender norms, sectoral characteristics and the broader development context. Therefore, analysing the relationship between trade facilitation and women's empowerment requires considering institutions not only as a direct determinant but also as a conditioning factor capable of amplifying or limiting the benefits of trade openness for women. Figure 1 sets out the conceptual framework

Figure 1- Here

However, a review of the literature reveals that the relationship between trade facilitation and women's empowerment remains ambiguous. Indeed, although it can promote female employment, improve incomes and reduce inequalities, it can also, in certain local and technological configurations, reinforce discrimination.

3- Methodology

3.1- Description of variables and data sources

This study examines the relationship between trade facilitation and women's empowerment, as well as the role of governance and democratic institutions, from a panel of 32 countries in sub-Saharan Africa over the period 2014-2022. The selection of the sample is based on the availability of the data required for the analysis.

3.1.1- Dependent variable

The dependent variable is women's empowerment, measured through three indicators. The first is the vulnerable employment gap between men and women, calculated from their respective share in vulnerable employment (Kilolo et al., 2023; Nassani et al., 2019). This indicator reflects the disparities in precariousness and informality in the labour market (Amponsah et al., 2021). The second is the wage gap between male and female employees, measured by the difference in average pay between the two sexes (Kilolo et al., 2023; Yin and Choi, 2023). Finally, political empowerment is measured by the Women's Political Empowerment Index, ranging from 0 to 1, which combines civil liberties, civil participation, and political participation (Sundström et al., 2017).

3.1.2- Variable of interest

In this study, the main variable of interest is trade facilitation, as measured by the World Bank's cross-border trade score from the Doing Business reports, as well as by two specific indicators relating to export and import operations. This composite indicator assesses the time and costs associated with customs procedures, documentation requirements and inland transport. It

ranges from 0 to 100, with a high value reflecting better logistics efficiency and a higher level of trade facilitation, in line with the DB16-20 methodology.

In addition, this study integrates two major institutional variables that may condition the effects of trade facilitation on women's empowerment: democracy and governance. Democracy is seen as a factor that can enhance women's participation in economic and political processes by promoting representation, protection of rights and inclusion in decision-making spheres. However, the literature emphasizes that its effects can vary according to institutional contexts. Bayanpourtehrani and Sylwester (2013) show in particular that the relationship between democracy and women's economic participation is not always linear, with some non-democratic regimes may have high levels of female participation in the labour market. Governance is also integrated to measure the capacity of public institutions to ensure administrative efficiency, transparency, the rule of law and the quality of public policies. Better governance can empower women by strengthening enforcement, reducing discrimination, and improving their access to economic and political opportunities. However, the effects of governance may also depend on the structural characteristics of economies. Qaiser et al. (2023) and Ofori et al. (2023) show that improving institutional quality can have differentiated effects on women's empowerment depending on national contexts. Table 1 provides a summary of the variables used in the econometric estimates, as well as their definitions and sources.

Table 1 -Here

3.2- Model specification

The objective of this study is to analyze the effect of trade facilitation on women's empowerment in sub-Saharan Africa, with a particular focus on the moderating role of governance and democratic institutions. In line with previous work (Shami et al., 2019; Asongu et al., 2020; Jaysawal and Saha, 2023; Ashraf et al., 2025 etc.), this study specifies and adjusts the model in order to integrate all relevant control variables. Thus, the empirical model adopted is as follows:

$$Wemp_{it} = \alpha + \beta_1 Wemp_{it-1} + \beta_2 Trade_{it} + \beta_3 Inst_{it} + \theta CV_{it} + \gamma_i + \eta_t + \varepsilon_{it} \quad (2)$$

Where $Wemp_{it}$ represents women's empowerment; $Trade_{it}$ refers to trade facilitation; $Inst_{it}$ represents institutional variables, including the quality of governance and the level of

democracy and CV_{it} the control variables that influence women's empowerment. γ_i , η_t and ε_{it} denote the fixed effects of the country and the year, respectively, as well as the error term.

In order to examine the moderating role of institutions, an interaction equation is then estimated:

$$Wemp_{it} = \alpha + \beta_1 Wemp_{it-1} + \beta_2 Tradefac_{it} + \beta_3 Inst_{it} + \beta_4 (Tradefac_{it} \times Inst_{it}) + \theta CV_{it} + \gamma_i + \eta_t + \varepsilon_{it} \quad (3)$$

With $Tradefac_{it} \times Inst_{it}$ stands for the term interaction between trade facilitation and institutions.

3.3- Estimation technique

Estimating equation (1) by ordinary least squares (OLS) or by fixed-effects and random-effects panel models can lead to biased and inconsistent estimators. Indeed, women's empowerment is a cumulative and persistent phenomenon whose current level depends largely on its past achievements. In this context, the introduction of the delayed dependent variable creates a correlation between it and the error term, thus generating a dynamic endogeneity bias known as the Nickell bias (Nickell, 1981). As a result, traditional estimators do not adequately identify the effects of trade facilitation and institutional quality on women's empowerment.

In order to overcome these limitations, this study uses the Generalized System Moments (System-GMM) method developed by Arellano and Bover (1995) and Blundell and Bond (1998). According to Roodman (2009), this method is one of the most appropriate estimators for panels characterized by a large number of individuals and a relatively small time dimension, a situation frequently observed in studies of developing countries. It is particularly suitable for the analysis of long-term dynamic processes in which current performance is highly dependent on past conditions. In this case, women's empowerment is the result of progressive accumulations in education, access to employment, economic and political participation and social inclusion, which fully justifies the introduction of a dynamic dimension into the model.

In addition, the relationship between trade facilitation, institutions and women's empowerment is likely to be affected by several sources of endogeneity. On the one hand, trade facilitation improves women's access to markets, employment, and entrepreneurial opportunities by reducing trade costs and administrative barriers (World Bank, 2020). On the other hand, higher levels of women's empowerment can foster more inclusive economic policies and strengthen the demand for institutional reforms. This bidirectional causality can lead to simultaneity bias

if not properly accounted for. Similarly, the quality of governance and democratic institutions influences women's access to economic resources, education and human rights (Branisa et al., 2013; Ouedraogo et al., 2022), while increased participation of women in economic and political life can help improve the quality of the institutions themselves (Rios et al., 2023).

In addition, some unobserved variables such as socio-cultural norms, discriminatory practices, the level of institutional development or the historical specificities of countries can simultaneously affect trade facilitation and women's empowerment. The omission of these factors is likely to bias the estimates. As Bond (2002) and Baltagi (2021) point out, System-GMM makes it possible to simultaneously address problems of reverse causality, simultaneity and omitted variables through the use of internal instruments constructed from the delays of the level and difference variables. In addition, this method has the advantage of being robust to heteroscedasticity, autocorrelation and unobserved heterogeneity between countries (Arellano and Bond, 1991; Blundell and Bond, 1998). These properties are particularly important in the context of sub-Saharan Africa, where countries have significant differences in economic structures, institutional quality, and level of development. The use of System-GMM thus makes it possible to obtain consistent and efficient estimators even when the classical assumptions of linear models are violated.

Finally, in accordance with the recommendations of Arellano and Bond (1991) and Roodman (2009), the validity of the results is assessed through several diagnostic tests. The suitability of the instruments is examined using the tests of Hansen (1982) and Sargan (1958), while the absence of second-order autocorrelation of the residuals is verified through the Arellano-Bond AR(1) and AR(2) tests. These tests ensure the robustness and reliability of the estimates obtained.

4- Results and discussions

4.1- Descriptive statistics

The descriptive statistics are presented in the table below. It shows that the average gap in vulnerable employment between men and women is 14.55%, with a standard deviation of 8.20%. In comparison, the average gender pay gap is 12.08%, with a standard deviation of 8.16%. The women's political empowerment index ranges from 0.07 to 0.85, with an average of 0.47, reflecting a relatively low level of political empowerment in sub-Saharan Africa. The overall index has an average of 50.60, with values ranging from 1.25 to 91.85 (see Table 2).

Table 2-Here

Following the descriptive analysis, several econometric tests were performed to examine the properties of the panel data. Heteroscedasticity, autocorrelation, cross-sectional dependence, correlation and variance inflation factor (VIF) analyses, confirm the consistency of the data used. The detailed results are presented in the appendix (see Tables A1, A2, A3, A4, A5, A6 and A7).

4.2- Results and discussion

Table 3 presents the analysis of the effects of trade facilitation on women's empowerment in sub-Saharan Africa. The results indicate that trade facilitation contributes to reducing women's vulnerable employment, reducing the gender wage gap and strengthening their political empowerment. These results highlight the potential role of trade integration as a mechanism for greater economic and social inclusion of women. However, the effects of trade facilitation on women's empowerment depend largely on the productive structures, the functioning of the labour market and the institutional environment of countries.

The reduction in vulnerable employment associated with trade facilitation can be explained by improving the efficiency of trade through reduced transaction costs, simplification of customs procedures, improved trade infrastructure, and improved connectivity to international markets. These transformations promote the development of export-oriented formal sectors and the gradual integration of women into more stable wage jobs. In African economies where women are highly concentrated in informal and precarious activities, better integration into sectors exposed to international trade can help reduce their professional vulnerability. These results are consistent with the analyses of Çağatay (2005), who points out that trade integration can influence the sectoral distribution of female employment, as well as the predictions of the Heckscher-Ohlin-Samuelson model according to which trade openness modifies the productive structure and affects the relative demand for factors of production (Wood, 1997; Bussmann, 2009).

In addition, the results show that trade facilitation also contributes to reducing the gender pay gap. This can be explained by the expansion of formal sectors exposed to international competition, which are generally associated with greater formalization of labour relations, the adoption of international employment standards and increased pressure for fairer wage practices. Integration into global value chains can also increase the demand for skilled labour and improve women's employment opportunities. These findings are consistent with the work

of Juhn et al. (2014) and Oostendorp (2009), who show that trade openness can reduce gender wage gaps in sectors integrated into international markets. They also agree with Becker's (1957) hypothesis that increased competition reduces discriminatory behaviour by firms by increasing the economic cost of discrimination.

In addition, trade facilitation has a positive effect on women's political empowerment. Although trade is generally associated with economic transformations, its effects can also manifest themselves through institutional and social mechanisms. Indeed, trade integration often promotes the dissemination of international standards on human rights, gender equality and inclusive participation in decision-making processes. Trade agreements and international organizations can also exert pressure for institutional reforms that strengthen women's representation. These findings are in line with the analyses of Dollar and Gatti (1999) and Tetteh et al. (2024), which highlight the role of globalization in the spread of gender-responsive norms

Analysis of institutional variables also reveals an important role of democracy in enhancing women's empowerment. The results indicate that democracy reduces vulnerable employment, narrows the wage gap, and improves women's political empowerment. These effects can be attributed to the fact that democratic regimes further promote the protection of economic and social rights, strengthen mechanisms of representation and facilitate the adoption of gender-sensitive public policies. Democracy can thus improve women's access to formal economic opportunities while strengthening their participation in decision-making processes. These findings are consistent with the work of Beer (2009) and Philemon (2023), who show that democratic institutions contribute to improving women's economic and political rights. They are also consistent with Duflo (2012), who emphasizes that political institutions play a critical role in reducing gender discrimination.

Regarding governance, the results show a differentiated effect according to the dimensions of empowerment considered. The quality of governance does not have a significant effect on women's vulnerable employment, suggesting that improving public institutions is not necessarily sufficient to rapidly change the deep structures of the labour market, especially in African countries characterized by high informality and a concentration of women in low-productivity activities. On the other hand, governance contributes significantly to reducing the wage gap and strengthening women's political empowerment. Improved institutional effectiveness, greater public transparency, reduced corruption and better respect for the rule of law can create a more conducive environment for equal economic opportunities and women's participation in decision-making spaces. These results confirm the findings of Ouedraogo et al.

(2022), who show that institutional quality improves women's human capital and economic empowerment, as well as those of Rios et al. (2023), who highlight a positive relationship between governance and women's political participation.

Overall, these findings underscore that trade facilitation, democracy and governance are complementary mechanisms for promoting women's empowerment in sub-Saharan Africa. However, their effects vary according to the dimensions analysed. While trade facilitation acts primarily through improved economic integration and professional opportunities, democracy plays a broader role in simultaneously enhancing economic and political inclusion. Governance, on the other hand, seems to contribute more to the reduction of wage inequality and political participation than to the immediate transformation of vulnerable employment structures. These results highlight the importance of an enabling institutional framework to convert the benefits of trade integration into sustainable gains in women's empowerment.

Following the overall analysis, the study distinguishes the effects of export facilitation (Table 4) and import facilitation (Table 5) on the different dimensions of women's empowerment. The results broadly confirm previous estimates. Facilitating exports and imports helps to reduce the gender wage gap, suggesting an improvement in women's economic integration in the formal sectors. These results are consistent with the work of Goldberg and Pavcnik (2007) and Juhn et al. (2014), who show that trade openness can promote a reduction in gender wage disparities in sectors exposed to international competition. In addition, import facilitation reduces the vulnerable employment gap, indicating that better access to intermediate goods, technology, and equipment can improve business productivity and promote the creation of more stable jobs for women. This finding is consistent with the literature on trade and structural transformation, which highlights access to productive resources as a key factor in improving women's employment conditions (World Bank, 2020).

However, import facilitation is associated with a decrease in women's political empowerment. This result suggests that the economic gains from trade openness do not automatically translate into greater political participation, which is more dependent on institutions, social norms, and mechanisms of representation (Dollar and Gatti, 1999; World Bank, 2020). It is consistent with institutional approaches that the effects of trade on social and political outcomes are conditioned by the ability of institutions to transform economic opportunities into social inclusion (Acemoglu and Robinson, 2012). Overall, the results show that trade facilitation mainly promotes women's economic empowerment through the reduction of wage gaps and the improvement of job quality, but that its effects on political empowerment remain ambiguous.

Thus, trade openness must be accompanied by institutional and social policies that promote women's participation in decision-making spaces, in line with the objectives of SDGs 5 and 8.

Table 3- Here

Table 4- Here

Table 5- Here

After examining the impact of trade facilitation on women's empowerment and the impact of governance and democratic institutions, it is appropriate to analyse the moderating role of institutional quality in the relationship between trade facilitation and women's empowerment.

Table 6 -Here

Table 7 -Here

Table 8 -Here

The results of the interactions between trade facilitation and institutions are presented in tables 6, 7 and 8. Table 6 analyses the moderating effect of governance and democracy in the relationship between comprehensive trade facilitation and the different dimensions of women's empowerment. Table 7 examines these interactions in the context of export facilitation, while Table 8 examines import facilitation.

The results show that the interaction between comprehensive trade facilitation and governance reduces the vulnerable employment gap and the wage gap, while improving women's political empowerment. Similarly, the interaction between trade facilitation and democracy has positive effects on all three dimensions. These results indicate that effective and inclusive institutions can better transform trade-based opportunities into economic and political gains for women. They are in line with institutional approaches according to which the benefits of trade openness depend largely on the ability of institutions to protect economic rights, reduce discrimination and promote social inclusion (Acemoglu and Robinson, 2012; World Bank, 2020). Better governance, through the strengthening of the rule of law, transparency and public efficiency, thus contributes to improving the conditions for women's economic integration and their participation in decision-making processes. These findings are consistent with Ouedraogo et al. (2022) and Rios et al. (2023), who highlight the critical role of institutional quality in women's economic and political empowerment. In addition, democracy promotes political representation, the protection of rights and the inclusion of women in decision-making spaces, in line with the analyses of Beer (2009) and Duflo (2012).

However, the effects become more contrasted when trade facilitation is disaggregated by its export or import component. The interaction between export facilitation and institutions is associated with an increase in the vulnerable employment gap, the wage gap and women's political empowerment. This result suggests that the expansion of export activities, even when accompanied by a favourable institutional environment, does not necessarily benefit all categories of women in an equal way. Export-oriented sectors can foster women's visibility and political participation through their exposure to international standards, but the economic

benefits can remain concentrated on women who already have the skills and resources to access formal jobs. This confirms the heterogeneity of the effects of trade on women's employment, especially in developing economies characterized by strong labor market segmentation (Góes et al., 2023).

The interaction between import facilitation and governance appears to be more favourable, reducing the wage gap and strengthening women's political empowerment. This finding suggests that better institutional quality can convert increased access to technology, intermediate goods, and productive resources into economic and social opportunities for women. Effective governance thus facilitates the adaptation of local businesses and promotes a better inclusion of women in productive activities and decision-making spaces. However, the interplay between import facilitation and democracy has ambivalent effects: it reduces the wage gap, but widens the vulnerable employment gap while enhancing women's political empowerment. The narrowing of the wage gap can be explained by the intensification of competition associated with imports, which limits discriminatory behaviour by firms in line with Becker's (1957) hypothesis. However, the increase in vulnerable employment indicates that openness to imports may also put pressure on some low-productivity domestic activities where women have a strong presence. At the same time, democratic institutions appear to promote their political participation, even when economic gains remain partially uneven.

Overall, these results confirm that institutions are a key mechanism in the relationship between trade facilitation and women's empowerment. They also show that the effects of trade are neither automatic nor homogeneous, but depend on the type of trade considered and the ability of institutions to ensure a more equitable distribution of benefits. Thus, trade facilitation policies must be accompanied by institutional and social reforms in education, access to productive resources, formalization of employment and political participation in order to fully contribute to the achievement of SDGs 5, 8 and 16.

4.3- Robustness analysis

In order to evaluate the robustness of the results obtained from the main estimator, namely the Generalized System Moments (System-GMM) method, we also estimate the model using the Panel-Corrected Standard Errors (PCSE) approach. This method, proposed by Beck and Katz (1995), is particularly suitable for macroeconomic panels characterized by cross-sectional dependence, heteroscedasticity and autocorrelation of errors. Unlike System-GMM, which mainly addresses problems of endogeneity and model dynamics, the PCSE approach provides

a complementary check of the stability of the coefficients when the errors present complex correlation structures. The results from the PCSE estimates remain broadly consistent with those obtained by the System-GMM, thus confirming the robustness of the empirical relationships identified. Detailed estimates obtained by this method are presented in Tables 9, 10, 11, 12, 13 and 14.

Table 9- Here

Table 10- Here

Table 11- Here

Table 12- Here

Table 13- Here

Table 14- Here

Conclusion

Against the backdrop of intensified trade facilitation reforms in sub-Saharan Africa and persistent gender inequalities, this study analyzes the effects of trade facilitation on women's empowerment, with a particular focus on the role of governance and democratic institutions. Using a sample of 32 countries in sub-Saharan Africa over the period 2014-2022, the study uses the Generalized System Moments Estimator (System-GMM) to address endogeneity and dynamics issues, while the PCSE approach is used to test the robustness of the results.

The results show that trade facilitation is an important lever for women's empowerment in sub-Saharan Africa. It helps to reduce vulnerable female employment and the gender pay gap, while strengthening women's political empowerment. These findings suggest that improving trade procedures, reducing transaction costs, and better integrating into international markets can foster greater economic and social inclusion of women. However, the effects of trade facilitation remain differentiated according to the dimensions of empowerment considered and depend largely on the structural characteristics of economies. The analysis of trade components also reveals that export and import facilitation mainly acts on reducing wage gaps, while import facilitation also contributes to reducing vulnerable employment. However, the effects on political empowerment appear to be less systematic, indicating that the economic opportunities generated by trade do not automatically translate into increased participation of women in decision-making spaces.

A major contribution of this study lies in highlighting the decisive role of institutions. The results show that democracy is a key factor in promoting women's empowerment, reducing vulnerable employment and wage gaps, while strengthening their political participation. Governance, on the other hand, contributes significantly to reducing wage inequality and improving political empowerment, although its effect on vulnerable employment remains limited. These findings underscore that effective, transparent and inclusive institutions are needed to turn the potential gains of trade integration into sustainable benefits for women. The interaction effects analysis also confirms that institutions play a catalytic role in the relationship between trade facilitation and women's empowerment. The combination of trade facilitation, governance and democracy leads to more favourable outcomes on the economic and political dimensions of empowerment. However, these effects remain heterogeneous depending on the nature of the trade considered, indicating that trade does not automatically produce inclusive outcomes. The capacity of institutions to reduce structural constraints, foster access to productive resources, and promote political inclusion remains essential.

In terms of public policies, particularly in the context of the implementation of the African Continental Free Trade Area (AfCFTA), the results highlight the need to combine trade facilitation policies with institutional reforms aimed at strengthening governance, democracy and women's economic inclusion. Investments in education, access to finance, employment formalization and political participation are essential to maximize the benefits of trade on women's empowerment. Despite these contributions, this study has some limitations, mainly related to the availability of data and the length of the analysis period. Future research could further explore this issue by mobilizing microeconomic, sectoral, and global value chain data to better identify the mechanisms by which trade and institutions influence women's economic and political trajectories.

Declaration of Competing Interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

The authors further confirm that no funding source had any involvement in the study design, data collection, data analysis, interpretation of the results, writing of the manuscript, or the decision to submit the article for publication.

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CRedit Author Statement

Kouakou Martinien KOFFI : Methodology, Formal analysis, Investigation, Writing – original draft.

Yapo Kambo Paul Rodrigue ALLE: Data curation, Methodology, Formal analysis.

Kwami Ossadzifo WONRYA : Validation, Writing – review & editing, Project administration.

Data Availability Statement

The data used in this study are publicly available from the following sources: the World Development Indicators (WDI) of the World Bank, the Varieties of Democracy (V-Dem) dataset, the World Bank's Doing Business database, the Polity V dataset, the Worldwide Governance Indicators (WGI) of the World Bank, and the African Development Bank (AfDB) database. These datasets can be accessed through the respective institutions' official websites.

Ethics Declaration

This study uses publicly available secondary data and does not involve the collection of primary data from human participants. Therefore, ethical approval from an institutional ethics committee was not required. The study was conducted in accordance with applicable ethical standards for research using publicly available secondary data.

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Table 1: Description of variables and sources

Variables	Description	Sources
Employment gap	Vulnerable employment gap between men and women in the labor market	WDI
Wage gap	Gender pay gap in the labor market	WDI
Political empowerment	Women's Political Empowerment Index	V-Dem
TradingAcross	Cross-border trade score	Doing Business
CostExport	The score for the cost of export documentation compliance	Doing Business
CostImport	The score for the cost of compliance at import borders	Doing Business
Democracy	Democracy index ranging from 0 to 10	Polity V
Governance	Government efficiency rating between -2.5 and +2.5	WGI
GDP per capita	Gross domestic product per capita in dollars	WDI
Parliament	Proportion of seats held by women in national parliaments	WDI
FDI	Inward foreign direct investment inflows as a percentage of GDP	WDI
Infrastructure	Development Infrastructure Index	AFDB
Education Spending	Public expenditure on education (current, investment and transfer expenditure) as a percentage of GDP	WDI
Foreign aid	Net official development assistance received (in current US dollars)	WDI

Source: Authors

Table 2: Descriptive statistics

Variables	Observations	Mean	Standard deviation	Minimum	Maximum
Vulnerable employment gap	288	14.54976	8.200843	-9.610168	30.28396
Wage gap	288	12.0832	8.164399	-11.76864	28.02553
Political empowerment	288	0.4766678	.2118265	0.0746667	0.8553333
TradingAcross	192	50.60537	20.85967	1.25523	91.85633
CostExport	192	52.55786	27.3832	0	89.73046
CostImport	192	46.59192	27.24566	0	90
Governance	288	-0.7711714	0.5656988	-2.104272	1.150494
Democracy	160	4.26875	3.232543	0	10

GDP per capita	288	2047.476	2553.005	196.4671	16804.92
Parliament	284	23.74487	13.45944	3.380282	63.75
FDI	287	1.147863	4.044348	-17.29212	37.32277
Infrastructure	288	22.03262	15.78026	5.336096	81.66955
Education Spending	284	3.581136	1.801251	0.1730479	10.59279
Foreign aid	288	9.44e+08	8.76e+08	516850	4.90e+09

Source : Authors

Table 3: Trade Facilitation and Women's Empowerment (GMM System Estimates)

Variables	Vulnerable Employment gap				Wage gap				Political empowerment			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Vulnerable Employment gap (-1)	0.520*** (0.000)	0.729*** (0.000)	0.732*** (0.000)	0.692*** (0.000)								
Wage gap (-1)					0.651*** (0.000)	0.692*** (0.000)	0.585*** (0.000)	0.622*** (0.000)				
Political empowerment (-1)									0.864*** (0.000)	0.429*** (0.000)	0.628*** (0.000)	0.389*** (0.002)
TradingAcross	0.0577* (0.083)	0.152*** (0.000)	0.0687* (0.086)	0.112** (0.032)	-0.0242** (0.042)	-0.243*** (0.003)	-0.0542** (0.016)	-0.0928*** (0.001)	0.0314*** (0.003)	0.0474*** (0.004)	0.0175*** (0.001)	0.0358 (0.129)
Governance		-1.513 (0.238)	-0.772 (0.297)			-2.112* (0.066)	-0.913** (0.026)			0.160** (0.030)	0.120*** (0.000)	
Democracy		-0.359** (0.019)		-0.461** (0.038)		-0.238 (0.452)		-0.784* (0.075)		0.0501*** (0.001)		0.0639*** (0.000)
Log (GDP/capita)	2.627*** (0.000)	2.009** (0.038)	0.881* (0.098)	1.917** (0.032)	-1.221*** (0.000)	-2.394*** (0.001)	-0.980*** (0.004)	-2.939*** (0.000)	-0.0533 (0.591)	0.0177 (0.655)	0.0189 (0.167)	0.0674** (0.035)
Parliament	0.211*** (0.000)	0.0339 (0.478)	0.0735* (0.0509)	0.155*** (0.002)	-0.0715** (0.041)	0.357*** (0.007)	0.0205 (0.281)	-0.0339 (0.667)	0.000878 (0.549)	0.00109 (0.749)	-0.00365** (0.0171)	-0.0038 (0.125)
FDI	0.0050 (0.893)	0.0257*** (0.000)	0.0017 (0.536)	-0.0027 (0.892)	0.0193*** (0.000)	-0.0205 (0.269)	0.0163 (0.471)	0.0032 (0.573)	0.0036*** (0.0001)	0.0023 (0.222)	-0.0002 (0.687)	0.0013 (0.495)
Infrastructure	-0.264** (0.034)	0.233* (0.0563)	-0.160* (0.0568)	0.0892 (0.429)	0.217*** (0.000)	0.0585 (0.482)	-0.00546 (0.902)	0.0715 (0.350)	-0.0160*** (0.000)	-0.00505 (0.177)	-0.0018 (0.424)	-0.0106*** (0.004)
Education spending	-0.0296 (0.705)	0.206** (0.0483)	-0.156 (0.290)	-0.195** (0.032)	0.0180 (0.724)	-0.189* (0.0814)	-0.154*** (0.00222)	-0.157*** (4.01e-06)	0.00711** (0.0430)	0.0123** (0.042)	0.0155*** (4.60e-06)	0.0112** (0.040)
Log(Foreign aid)	-1.150*** (0.000)	-1.003** (0.026)	-0.435*** (0.001)	-0.761*** (0.000)	-0.278*** (0.000)	-0.263 (0.412)	-0.356** (0.049)	-0.782** (0.013)	0.0105* (0.098)	0.0370* (0.092)	-0.0180 (0.129)	-0.0288 (0.218)
Observations	126	126	126	126	126	126	126	126	126	126	126	126
Number of country_id	32	32	32	32	32	32	32	32	32	32	32	32
No. of instruments	21	21	21	21	21	21	21	21	21	21	21	21
AR1 p-value	0.075	0.082	0.076	0.081	0.052	0.046	0.079	0.042	0.0720	0.035	0.045	0.045
AR2 p-value	0.259	0.185	0.295	0.224	0.170	0.296	0.157	0.0975	0.156	0.769	0.199	0.220
Hansen p-value	0.814	0.626	0.568	0.475	0.549	0.505	0.680	0.975	0.626	0.836	0.959	0.648
sargan p-value	0.737	0.979	0.950	0.349	0.742	0.950	0.568	0.982	0.417	0.982	0.747	0.979
Time effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source : Authors

Notes: Symbols ***, ** and * indicate significance at the 1%, 5% and 10% threshold, respectively

Table 4: Export Facilitation and Women's Empowerment (GMM System Estimates)

Variables	Vulnerable Employment gap				Wage gap				Political empowerment			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Vulnerable Employment gap (-1)	0.546*** (0.000)	0.613*** (0.000)	0.695*** (0.000)	0.716*** (0.000)								
Wage gap (-1)					0.655*** (0.000)	0.786*** (0.000)	0.716*** (0.000)	0.759*** (0.000)				
Political empowerment (-1)									0.876*** (0.000)	0.398*** (0.001)	0.851*** (0.000)	0.328*** (0.001)
CostExport	0.542** (0.037)	0.380* (0.064)	0.0997 (0.777)	0.719* (0.092)	-0.232 (0.087)	-1.268*** (0.003)	-0.658* (0.069)	-0.855** (0.040)	0.0413** (0.022)	0.0431 (0.425)	0.0029 (0.845)	0.0889* (0.066)
Governance		1.313** (0.029)	1.710** (0.010)			0.736 (0.399)	-0.746** (0.011)			0.116* (0.093)	0.0409* (0.056)	
Democracy		-0.716** (0.0420)		0.197 (0.420)		-0.183** (0.028)		-0.198* (0.066)		0.0404*** (0.003)		0.0353** (0.029)
Log (GDP/capita)	2.696*** (0.000)	2.717*** (0.009)	1.284*** (0.000)	2.781*** (0.000)	0.776*** (0.000)	0.907* (0.058)	0.907*** (0.000)	0.0968 (0.846)	0.00826 (0.403)	0.0617** (0.027)	0.00795 (0.172)	0.0583* (0.059)
Parliament	0.184*** (0.000)	0.112** (0.042)	0.110*** (0.002)	0.172*** (0.001)	0.0244 (0.114)	0.0450 (0.340)	0.00443 (0.720)	0.0219 (0.500)	0.00322* (0.055)	-0.00424 (0.217)	-0.0040*** (0.000)	-0.0085*** (0.000)
FDI	0.0075 (0.842)	-0.0003 (0.985)	0.0137 (0.430)	-0.0348 (0.128)	-0.0004 (0.908)				0.0023** (0.013)	0.0028 (0.281)	0.0009 (0.527)	-0.0001 (0.919)
Infrastructure	-0.274** (0.030)	0.0289 (0.851)	-0.202** (0.010)	-0.0091 (0.875)	-0.0792** (0.025)	0.115 (0.148)	0.144*** (0.002)	0.145** (0.030)	-0.0215*** (0.000)	-0.0045 (0.243)	-0.0038** (0.038)	-0.0002 (0.968)
Education spending	-0.0615 (0.425)	-0.138* (0.078)	-0.124* (0.092)	-0.295*** (0.003)	-0.129*** (0.000)	-0.264*** (0.000)	-0.173*** (0.000)	-0.378*** (0.000)	0.0180*** (0.000)	0.0143** (0.035)	0.0080*** (0.000)	0.0164** (0.0271)
Log(Foreign aid)	-1.174*** (0.000)	-0.619** (0.014)	-0.740** (0.011)	-1.001*** (0.000)	-0.355*** (0.000)	-0.977*** (0.000)	-0.125* (0.087)	-0.483* (0.082)	0.0116 (0.204)	-0.0493** (0.049)	-0.0043 (0.145)	-0.0284 (0.192)
Observations	126	126	126	126	126	126	126	126	126	126	126	126
Number of country_	32	32	32	32	32	32	32	32	32	32	32	32
No. of instruments	21	21	21	21	21	21	21	21	21	21	21	21
AR1 p-value	0.0655	0.0775	0.0392	0.0621	0.0513	0.0899	0.0409	0.0873	0.0846	0.0320	0.0686	0.0633
AR2 p-value	0.219	0.346	0.157	0.239	0.230	0.166	0.222	0.170	0.644	0.440	0.339	0.875
Hansen p-value	0.705	0.375	0.640	0.193	0.672	0.967	0.979	0.999	0.663	0.988	0.966	0.793
sargan p-value	0.737	0.240	0.611	0.225	0.986	0.957	0.953	0.995	0.991	0.998	0.794	0.994
Time effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source : Authors

Notes: Symbols ***, ** and * indicate significance at the 1%, 5% and 10% threshold, respectively

Table 5: Import Facilitation and Women's Empowerment (System GMM Estimates)

VARIABLES	Vulnerable Employment gap				Wage gap				Political empowerment			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Vulnerable Employment gap (-1)	0.557***	0.948***	0.696***	0.935***								
	(0.000)	(0.000)	(0.000)	(0.000)								
Wage gap (-1)					0.784***	0.763***	0.537***	0.799***				
					(0.000)	(0.000)	(0.000)	(0.000)				
Political empowerment (-1)									0.845***	0.478***	0.997***	0.443***
									(0.000)	(0.000)	(0.000)	(0.000)
CostImport	-0.0569**	-0.0302*	-0.0440**	-0.0263*	-0.0080***	-0.0126	-0.0109**	0.0186*	-0.0028**	0.0019	-0.0027**	-0.0008*
	(0.016)	(0.058)	(0.016)	(0.059)	(0.000)	(0.759)	(0.033)	(0.085)	(0.042)	(0.348)	(0.010)	(0.093)
Governance		-0.0878	1.933***			1.064**	0.954***			0.122**	0.0714***	
		(0.838)	(0.005)			(0.038)	(0.000)			(0.0346)	(0.001)	
Democracy		0.301**		0.350***		-0.0613		0.344*		0.0367***		0.0430***
		(0.020)		(0.002)		(0.801)		(0.075)		(0.000)		(0.001)
Log (GDP/capita)	1.661	0.272	1.000***	-0.645	0.573***	0.524	0.967***	0.770	0.0184	0.0716**	0.0255	0.0459*
	(0.141)	(0.704)	(0.005)	(0.224)	(0.002)	(0.249)	(0.000)	(0.423)	(0.135)	(0.011)	(0.278)	(0.075)
Parliament	0.191***	0.207***	0.0923***	0.225***	0.0021	0.0628	0.0423***	0.0464	0.0036*	-0.0047	-0.0042***	-0.0066***
	(0.000)	(0.000)	(0.009)	(0.000)	(0.867)	(0.109)	(0.003)	(0.303)	(0.097)	(0.223)	(0.000)	(0.000)
FDI	0.0149	0.0314	0.0003	0.0543*	0.0047*		0.0025		0.0023**	0.0019	0.0015**	0.0019
	(0.646)	(0.309)	(0.983)	(0.062)	(0.099)		(0.810)		(0.035)	(0.315)	(0.0331)	(0.142)
Infrastructure	-0.0967	-0.0451	-0.151*	-0.0321	-0.115***	-0.0875	0.0898***	0.155***	-0.0238***	-0.0044	-0.0051	-0.0007
	(0.552)	(0.546)	(0.0586)	(0.611)	(0.002)	(0.225)	(0.005)	(0.0025)	(0.000)	(0.314)	(0.269)	(0.774)
Education spending	-0.156**	-0.0893	-0.112*	-0.120**	-0.140***	-0.217***	-0.129***	-0.200***	0.0146***	0.0149**	0.0066**	0.0037**
	(0.046)	(0.168)	(0.055)	(0.045)	(0.000)	(0.000)	(0.000)	(0.009)	(0.000)	(0.039)	(0.018)	(0.0276)
Log(Foreign aid)	-1.179***	-0.521***	-0.593**	-0.397***	-0.247***	-0.688***	-0.180*	0.249	0.0046	-0.0551**	-0.0006	0.0002
	(0.000)	(0.000)	(0.037)	(0.000)	(0.000)	(0.005)	(0.080)	(0.244)	(0.511)	(0.0154)	(0.884)	(0.976)
Observations	126	94	126	126	126	126	126	126	126	126	126	126
Number of country_id	32	32	32	32	32	32	32	32	32	32	32	32
No. of instruments	21	21	21	21	21	23	21	21	21	21	21	21
AR1 p-value	0.0875	0.0841	0.0502	0.0654	0.0482	0.0927	0.0918	0.0921	0.0768	0.0348	0.0924	0.0562
AR2 p-value	0.232	0.174	0.136	0.184	0.241	0.126	0.221	0.135	0.740	0.573	0.986	0.796
Hansen p-value	0.457	0.972	0.704	0.875	0.567	0.987	0.771	0.674	0.740	0.932	0.486	0.677
sargan p-value	0.585	0.683	0.609	0.739	0.989	0.997	0.677	0.964	0.999	0.998	0.695	0.929
Time effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source : Authors

Notes: Symbols ***, ** and * indicate significance at the 1%, 5% and 10% threshold, respectively

Table 6: Role of Institutions in the Relationship Between Trade Facilitation and Women's Empowerment (GMM System Estimates)

Variables	Vulnerable Employment gap		Wage gap		Political empowerment	
	(1)	(2)	(3)	(4)	(5)	(6)
Vulnerable Employment gap (-1)	0.686*** (0.000)	0.645*** (0.000)				
Wage gap (-1)			0.429*** (0.000)	0.671*** (0.000)		
Political empowerment (-1)					0.621*** (0.000)	0.275** (0.013)
TradingAcross	0.0397* (0.074)	-0.0462 (0.405)	-0.0607** (0.039)	-0.0285** (0.049)	-0.0110*** (0.001)	-0.00145 (0.308)
Governance	-2.126 (0.120)		3.961** (0.047)		0.431*** (0.000)	
Democracy		-2.007*** (0.000)		-1.608*** (0.000)		0.0258* (0.074)
Log (GDP/capita)	0.926*** (0.007)	1.074** (0.034)	2.970*** (0.000)	0.241 (0.294)	0.0544* (0.053)	0.0228 (0.352)
Parliament	0.0615*** (0.005)	0.117* (0.060)	0.0510 (0.118)	0.0460 (0.146)	-0.0149*** (0.002)	-0.0097*** (0.000)
FDI	0.0219 (0.207)	-0.0158 (0.201)	0.0303 (0.200)	-0.0001 (0.976)	0.0004 (0.265)	0.0012 (0.325)
Infrastructure	-0.250*** (0.000)	-0.0432 (0.724)	0.202* (0.051)	-0.00986 (0.801)	-0.0051 (0.419)	-0.0059*** (0.000)
Education spending	-0.181* (0.052)	-0.0285 (0.875)	-0.0150 (0.842)	-0.0372 (0.400)	0.0250*** (0.000)	0.0090*** (0.000)
Log(Foreign aid)	-0.524** (0.048)	-0.491** (0.043)	-0.557** (0.042)	-0.498** (0.049)	0.0186 (0.262)	0.0117* (0.098)
TradingAcross_Gov	-0.0516** (0.040)		-0.0564** (0.023)		0.0083*** (0.003)	
TradingAcross_Demo		-0.0410*** (0.000)		-0.0279*** (0.000)		0.0006*** (0.009)
Observations	126	94	126	94	126	94
Number of country_id	32	32	32	32	32	32
No. of instruments	21	22	21	21	21	21
AR1 p-value	0.0620	0.0667	0.0787	0.0950	0.0826	0.0645
AR2 p-value	0.195	0.241	0.230	0.186	0.369	0.248
Hansen p-value	0.689	0.571	0.999	0.833	0.581	0.704
sargan p-value	0.940	0.662	0.985	0.871	0.956	0.786
Time effect	Yes	Yes	Yes	Yes	Yes	Yes

Source : Authors

Notes: Symbols ***, ** and * indicate significance at the 1%, 5% and 10% threshold, respectively

Table 7: Role of Institutions in the Relationship Between Export Facilitation and Women's Empowerment (GMM System Estimates)

Variables	Vulnerable Employment gap		Wage gap		Political empowerment	
	(1)	(2)	(3)	(4)	(5)	(6)
Vulnerable Employment gap (-1)	0.687*** (0.000)	0.927*** (0.000)				
Wage gap (-1)			0.687*** (0.000)	0.728*** (0.000)		
Political empowerment (-1)					0.592*** (0.000)	0.302*** (0.000)
CostExport	0.112 (0.920)	0.412 (0.864)	-0.130 (0.971)	-0.628 (0.749)	0.145*** (0.007)	-0.0510** (0.011)
Governance	-1.329 (0.280)		2.990** (0.036)		-0.145** (0.0172)	-0.144 (0.037)
Democracy		-2.959 (0.139)		-2.278 (0.528)		0.232*** (0.000)
Log (GDP/capita)	1.096*** (0.000)	1.294** (0.032)	1.399* (0.068)	2.243*** (0.005)	0.0159 (0.293)	0.0186*** (0.005)
Parliament	0.121** (0.015)	0.171*** (0.001)	0.0232 (0.474)	0.123 (0.108)	0.000301 (0.861)	-0.0011 (0.420)
FDI	0.0088 (0.708)	-0.0325 (0.394)			0.00685*** (0.0045)	-0.00104* (0.057)
Infrastructure	-0.425*** (0.004)	-0.384*** (3.84e-06)	0.0464 (0.472)	-0.268* (0.081)	-0.00750* (0.099)	-0.00413*** (0.009)
Education spending	-0.164** (0.012)	-0.261*** (0.006)	-0.105* (0.069)	-0.305*** (0.000)	0.0128*** (0.000)	0.0034*** (0.000)
Log(Foreign aid)	-0.598* (0.062)	-0.787*** (5.95e-05)	-0.292* (0.051)	-1.446*** (0.002)	-1.41e-05 (0.998)	-0.0056 (0.253)
CostExport_Gov	0.0509* (0.060)		0.0524* (0.095)		0.0042*** (0.000)	
CostExport_Demo		0.0534* (0.073)		0.0381* (0.067)		0.0023*** (0.005)
Observations	126	126	126	126	126	126
Number of country_id	32	32	32	32	32	32
No. of instruments	21	21	21	21	21	21
AR1 p-value	0.0566	0.0797	0.0416	0.0790	0.0594	0.0513
AR2 p-value	0.180	0.199	0.266	0.158	0.119	0.533
Hansen p-value	0.622	0.565	0.935	0.701	0.770	0.560
Sargan p-value	0.995	0.831	0.966	0.997	0.964	0.356
Time effect	Yes	Yes	Yes	Yes	Yes	Yes

Source : Authors

Notes: Symbols ***, ** and * indicate significance at the 1%, 5% and 10% threshold, respectively

Table 8: Role of Institutions in the Relationship Between Import Facilitation and Women's Empowerment (GMM System Estimates)

Variables	Vulnerable Employment gap		Wage gap		Political empowerment	
	(1)	(2)	(3)	(4)	(5)	(6)
Vulnerable Employment gap (-1)	0.660*** (0.000)	0.966*** (0.000)				
Wage gap (-1)			0.553*** (0.000)	0.703*** (0.000)		
Political empowerment (-1)					0.748*** (0.000)	0.152* (0.058)
CostImport	0.0424* (0.099)	-0.0009 (0.982)	-0.0147 (0.613)	0.0966 (0.311)	0.0023 (0.306)	0.0054*** (0.000)
Governance	0.223* (0.056)		2.528* (0.066)		0.164* (0.0661)	
Democracy		-0.525 (0.474)		-1.358** (0.035)		0.0007* (0.074)
Log (GDP/capita)	1.398*** (0.000)	-1.514** (0.0478)	1.051** (0.0162)	0.314 (0.778)	-0.0836*** (0.0019)	0.0403* (0.0876)
Parliament	0.157*** (0.000)	0.253*** (0.003)	0.0759** (0.026)	-0.0666* (0.082)	-0.00582*** (0.000)	-0.0066*** (0.000)
FDI	-0.0122 (0.672)	0.0173 (0.590)	-0.0020 (0.830)		-0.00380 (0.141)	0.00136*** (0.0021)
Infrastructure	-0.126* (0.081)	0.0974** (0.022)	0.101 (0.285)	0.306*** (0.000)	0.0007 (0.901)	0.0008 (0.863)
Education spending	-0.174*** (0.003)	-0.130*** (0.006)	-0.149*** (0.000)	-0.278*** (0.000)	0.0142** (0.016)	0.0021 (0.729)
Log(Foreign aid)	-0.850*** (0.000)	-0.466*** (0.000)	-0.446*** (0.004)	-0.263 (0.324)	0.0143* (0.076)	0.0068 (0.550)
CostImport_Gov	0.0136 (0.544)		-0.0216** (0.041)		0.0023* (0.067)	
CostImport_Demo		0.0163* (0.0505)		-0.0183** (0.031)		0.0010*** (0.003)
Observations	126	126	126	126	126	126
Number of country_id	32	32	32	32	32	32
No. of instruments	21	21	21	21	21	21
AR1 p-value	0.0786	0.0856	0.0845	0.0906	0.0757	0.0405
AR2 p-value	0.173	0.163	0.155	0.141	0.973	0.729
Hansen p-value	0.730	0.892	0.981	0.976	0.958	0.227
Sargan p-value	0.785	0.922	0.181	0.775	0.969	0.566
Time effect	Yes	Yes	Yes	Yes	Yes	Yes

Source : Authors

Notes: Symbols ***, ** and * indicate significance at the 1%, 5% and 10% threshold, respectively

Table 9: Results of the analysis of the relationship between trade facilitation and women's empowerment (PCSE estimate)

Source : Authors

Variables	Vulnerable Employment Gap				Wage Gap				Political empowerment			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Trading Across	0.0239 (0.293)	0.0299** (0.034)	0.0291 (0.268)	0.0307** (0.012)	-0.0700*** (0.000)	-0.0354** (0.015)	-0.0586*** (0.000)	-0.0288** (0.022)	0.0004 (0.622)	0.0003 (0.420)	0.0005 (0.631)	0.0013 (0.142)
Governance		1.7933* (0.088)	2.8671*** (0.007)			-0.4080 (0.632)	-1.0151 (0.458)			0.1746*** (0.000)	0.0720** (0.0245)	
Democracy		0.3461*** (0.0005)		0.3718*** (0.000)		-0.3954*** (0.004)		-0.4110*** (0.009)		0.0330*** (0.000)		0.0412*** (0.000)
Log (GDP/capita)	1.6560** (0.016)	1.9410*** (0.000)	1.3766** (0.020)	1.3112*** (0.002)	-1.0410*** (0.003)	-0.5840 (0.296)	-0.8358** (0.013)	-0.4878 (0.374)	0.0212 (0.529)	0.0331** (0.042)	0.0153 (0.654)	0.0504*** (0.008)
Parliament	0.0527 (0.300)	0.1060*** (0.006)	0.0977* (0.099)	0.1011*** (0.004)	-0.0387*** (0.004)	-0.0789*** (0.000)	-0.0315*** (0.006)	-0.0768*** (0.000)	-0.0020* (0.062)	-0.0019** (0.015)	-0.0009 (0.364)	0.0008* (0.070)
FDI	-0.0081 (0.510)	-0.0143 (0.452)	-0.0178 (0.212)	-0.0133 (0.326)	0.0275 (0.817)	0.0115 (0.554)	0.0306 (0.793)	0.0119 (0.633)	0.0003 (0.233)	0.0005 (0.160)	0.0001 (0.805)	-0.0001 (0.643)
Infrastructure	0.0457 (0.679)	-0.0453 (0.605)	0.0529 (0.657)	0.0353 (0.708)	-0.1787*** (0.000)	-0.1665*** (0.000)	-0.1610*** (0.000)	-0.1533*** (0.000)	0.0061*** (0.000)	-0.0017*** (0.001)	0.0064*** (0.000)	0.0001 (0.935)
Education spending	-0.1558** (0.040)	-0.1746** (0.012)	-0.1384* (0.080)	-0.1957*** (0.001)	-0.4162* (0.052)	-0.0167 (0.849)	-0.3987* (0.087)	-0.0337 (0.725)	0.0069** (0.010)	0.0049* (0.077)	0.0073*** (0.003)	0.0029 (0.241)
Log(Foreign aid)	-1.0581** (0.016)	-0.5514* (0.085)	-1.1471 (0.006)	-0.5430* (0.091)	-0.4462*** (0.004)	-0.0193 (0.940)	-0.3171 (0.120)	0.0670 (0.806)	0.0142* (0.075)	0.0189*** (0.000)	0.0125* (0.090)	0.0169** (0.039)
Constant	2.0046 (0.8644)	-9.5443 (0.2944)	3.1895 (0.7545)	-9.7942 (0.2600)	37.239*** (0.000)	25.4797*** (0.003)	31.2402*** (0.0001)	22.5887*** (0.007)	-0.1094 (0.805)	-0.1045 (0.616)	-0.1050 (0.809)	6.3094 (0.125)
R ²	0.67	0.68	0.67	0.67	0.68	0.65	0.67	0.67	0.65	0.63	0.55	0.57
N	187	155	187	155	187	155	187	155	187	155	187	155
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Symbols ***, ** and * indicate significance at the 1%, 5% and 10% threshold, respectively

Table 10 : Results of the analysis of the relationship between export facilitation and women's empowerment (PCSE estimate)

Variables	Vulnerable Employment Gap				Wage Gap				Political empowerment			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
CostExport	0.0320 (0.318)	0.0286 (0.377)	0.0588 (0.352)	0.0042 (0.795)	-0.0439*** (0.000)	-0.0419*** (0.000)	-0.0344*** (0.000)	-0.0402*** (0.000)	0.0015** (0.041)	0.0027*** (0.000)	0.0016 (0.141)	0.0031*** (0.000)
Governance		1.9504* (0.078)	2.8972*** (0.004)			0.3712 (0.591)	-2.0699* (0.069)			0.0196 (0.522)	0.0686** (0.025)	
Democracy		0.3429*** (0.000)		0.4073*** (0.000)		-0.4200*** (0.003)		-0.4129*** (0.006)		0.0397*** (0.000)		0.0411*** (0.000)
Log (GDP/capita)	1.7057** (0.012)	1.9554*** (0.000)	1.4414** (0.013)	1.3928*** (0.000)	-0.8817*** (0.009)	-0.6999 (0.115)	-0.5663** (0.043)	-0.6213 (0.180)	0.0365 (0.103)	0.0492*** (0.008)	0.0145 (0.654)	0.0542*** (0.004)
Parliament	0.0421 (0.344)	0.0988** (0.011)	0.0842* (0.092)	0.0972*** (0.004)	-0.0350*** (0.008)	-0.0783*** (0.000)	-0.0217* (0.058)	-0.0747*** (0.000)	-0.0024* (0.072)	0.0006 (0.365)	-0.0010 (0.364)	0.0005 (0.311)
FDI	-0.0083 (0.506)	-0.0169 (0.406)	-0.0180 (0.209)	-0.0199 (0.226)	0.0585 (0.620)	0.0120 (0.521)	0.0480 (0.679)	0.0114 (0.612)	0.0003 (0.293)	-0.0002 (0.360)	0.0001 (0.810)	-0.0001 (0.401)
Infrastructure	0.0612 (0.550)	-0.0257 (0.769)	0.0717 (0.517)	0.0731 (0.387)	-0.1851*** (0.000)	-0.1629*** (0.000)	-0.1457*** (0.000)	-0.1528*** (0.000)	0.0041*** (0.007)	-0.0022 (0.343)	0.0067*** (0.000)	0.0007 (0.612)
Education spending	-0.1646** (0.043)	-0.1876*** (0.007)	-0.1481* (0.079)	-0.2492*** (0.000)	-0.4970** (0.011)	-0.0013 (0.988)	-0.4101* (0.079)	-0.0188 (0.834)	0.0089*** (0.002)	0.0030 (0.160)	0.0069*** (0.003)	0.0024 (0.292)
Log(Foreign aid)	-1.0691** (0.014)	-0.5828* (0.068)	-1.1609*** (0.004)	-0.5548* (0.091)	-0.1597 (0.169)	0.0681 (0.777)	0.0038 (0.974)	0.1240 (0.626)	0.0156* (0.076)	0.0127* (0.056)	0.0121* (0.090)	0.0159** (0.044)
Constant	0.7986 (0.944)	-10.1813 (0.253)	1.1492 (0.908)	-12.3111 (0.168)	29.5578*** (0.000)	24.9829*** (0.000)	20.5080*** (0.000)	22.9635*** (0.001)	-0.0633 (0.892)	-0.0490 (0.836)	-0.0435 (0.920)	6.0052* (0.099)
R ²	0.67	0.68	0.67	0.68	0.67	0.65	0.68	0.67	0.66	0.67	0.57	0.67
N	187	155	187	155	187	155	187	155	187	155	187	155
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source : Authors

Notes: Symbols ***, ** and * indicate significance at the 1%, 5% and 10% threshold, respectively

Table 11: Results of analysis of the relationship between import facilitation and women's empowerment (PCSE estimate)

Variables	Vulnerable Employment gap				Wage Gap				Political empowerment			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
CostImport	0.0158	0.0088	0.0184	0.0079*	-0.0625***	-0.0486***	-0.0375***	-0.0366***	-0.0007**	-0.0006*	-0.0008***	-0.0006**
Governance	-1.0556**	-0.5905*	-1.1690***	-0.5629*	-0.2460**	0.5524**	-0.0714	0.0993	0.0159*	0.0140**	0.0125*	0.0167**
	(0.012)	(0.071)	(0.004)	(0.093)	(0.027)	(0.019)	(0.608)	(0.680)	(0.070)	(0.029)	(0.076)	(0.030)
Democracy		1.8525*	2.8031***			1.0583	-0.3519			0.0236	0.0715**	
		(0.095)	(0.005)			(0.201)	(0.702)			(0.442)	(0.018)	
Log		0.3495***		0.4097***		-1.0008***		-0.3838**		0.0416***		0.0408***
(GDP/capita)	(0.450)	(0.331)	(0.467)	(0.059)	(0.000)	(0.000)	(0.009)	(0.002)	(0.012)	(0.065)	(0.009)	(0.041)
Parliament	1.3455***	1.9690***	1.4406**	1.3837***	-1.1739***	-0.3285	-0.2949	-0.6030	0.0367*	0.0545***	0.0147	0.0536***
	(0.000)	(0.000)	(0.014)	(0.000)	(0.004)	(0.444)	(0.585)	(0.313)	(0.098)	(0.004)	(0.659)	(0.004)
FDI	0.0511	0.0983**	0.0846*	0.0974**	-0.0189	-0.1298***	-0.0385**	-0.0613***	-0.0024*	0.0004	-0.0010	0.0004
	(0.263)	(0.012)	(0.089)	(0.004)	(0.106)	(0.000)	(0.034)	(0.009)	(0.069)	(0.579)	(0.380)	(0.413)
Infrastructure	-0.0123	-0.0168	-0.0180	-0.0199	0.0262	0.0420	-0.0010	0.0102	0.0003	-0.0001	0.0001	-0.0001
	(0.2355)	(0.4077)	(0.2096)	(0.2303)	(0.8253)	(0.6481)	(0.9383)	(0.6410)	(0.2870)	(0.6283)	(0.8138)	(0.4464)
Education spending	0.1625**	-0.0290	0.0679	0.0746	-0.1764***	-0.1318***	-0.1989***	-0.1535***	0.0041***	-0.0024	0.0069***	0.0008
	(0.024)	(0.742)	(0.546)	(0.368)	(0.000)	(0.000)	(0.000)	(0.000)	(0.004)	(0.304)	(0.000)	(0.513)
Log(Foreign aid)	-0.1785**	-0.1898***	-0.1504*	-0.2498***	-0.3033	0.4220	-0.0433	-0.0142	0.0089***	0.0035*	0.0070***	0.0026
	(0.022)	(0.008)	(0.076)	(0.000)	(0.239)	(0.219)	(0.549)	(0.899)	(0.001)	(0.097)	(0.002)	(0.243)
Constant		(0.000)		(0.000)		(0.000)		(0.012)		(0.000)		(0.000)
R ²	-3.7344	-9.4034	2.6422	-12.3585	32.7458***	13.9894	22.0863***	22.5032***	-0.0959	-0.1801	-0.0914	5.6416
	(0.663)	(0.294)	(0.790)	(0.163)	(0.000)	(0.104)	(0.000)	(0.002)	(0.832)	(0.447)	(0.825)	(0.129)
N	0.67	0.68	0.67	0.68	0.68	0.65	0.65	0.65	0.66	0.68	0.65	0.67
	187	155	187	155	187	155	187	155	187	155	187	155
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: Authors

Notes: Symbols ***, ** and * indicate significance at the 1%, 5% and 10% threshold, respectively

Table 12: Role of Institutions in the Relationship between Export Facilitation and Women's Empowerment
(PCSE estimate)

Variables	Vulnerable Employment Gap		Wage Gap		Political empowerment	
	(1)	(2)	(3)	(4)	(5)	(6)
CostExport	0.0503 (0.363)	0.0017 (0.918)	-0.0429* (0.095)	-0.0669*** (0.000)	0.0006 (0.652)	-0.0043*** (0.000)
Governance	2.0257 (0.268)		-0.7921 (0.633)		0.0044 (0.881)	
Democracy		0.2117*** (0.008)		-0.9377*** (0.0004)		0.0271** (0.011)
Log (GDP/capita)	1.2996*** (0.000)	2.0565*** (0.000)	-0.3719 (0.3998)	-0.6182 (0.166)	0.0333 (0.149)	0.0457** (0.023)
Parliament	0.0885* (0.086)	0.0820** (0.019)	-0.0444** (0.0201)	-0.0561** (0.015)	-0.0012 (0.364)	0.0008* (0.092)
FDI	-0.0168 (0.224)	-0.0172 (0.382)	-0.0004 (0.972)	0.0076 (0.608)	0.0003 (0.259)	-0.0002 (0.324)
Infrastructure	0.1728** (0.029)	-0.0321 (0.677)	-0.1933*** (0.000)	-0.1467*** (0.000)	0.0048*** (0.000)	0.0006 (0.641)
Education spending	-0.1625* (0.051)	-0.2447*** (0.0013)	-0.0511 (0.4427)	-0.0191 (0.854)	0.0095*** (0.000)	0.0022 (0.347)
Log(Foreign aid)	-1.1027*** (0.005)	-0.5256 (0.133)	-0.0735 (0.580)	0.1585 (0.542)	0.0143* (0.052)	0.0143* (0.081)
CostExport_Gov	0.0124 (0.642)		0.0033 (0.872)		0.0014** (0.021)	
CostExport_De mo		0.0034** (0.015)		0.0090*** (0.0073)		0.0002*** (0.000)
Constant	-6.0289 (0.416)	-9.4464 (0.416)	23.0220*** (0.000)	22.7559*** (0.001)	-0.1837 (0.684)	5.0496 (0.148)
R ²	0.67	0.68	0.64	0.64	0.66	0.67
N	187	155	187	155	187	155
Country	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Symbols ***, ** and * indicate significance at the 1%, 5% and 10% threshold, respectively

Source : Authors

Table 13: Role of Institutions in Relation to Import Facilitation and Women's Empowerment (PCSE estimate)

Variables	Vulnerable Employment Gap		Wage Gap		Political empowerment	
	(1)	(2)	(3)	(4)	(5)	(6)
CostImport	0.0312 (0.490)	-0.0142*** (0.002)	-0.0804** (0.010)	-0.0089 (0.252)	0.0001 (0.938)	0.0007*** (0.008)
Governance	1.6409 (0.292)		-0.7255 (0.7749)		0.0145 (0.685)	
Democracy		0.1275 (0.458)		-0.2394 (0.651)		0.0277*** (0.000)
Log (GDP/capita)	1.3192*** (0.000)	1.1523** (0.013)	-1.0908** (0.0214)	-0.3332 (0.4732)	0.0157 (0.638)	0.0538** (0.015)
Parliament	0.0911* (0.075)	0.0941*** (0.004)	-0.0182 (0.155)	-0.1471*** (0.000)	-0.0009 (0.459)	-0.0002 (0.8355)
FDI	-0.0153 (0.241)	-0.0168 (0.220)	0.0482 (0.7312)	0.0629 (0.50)	0.0002 (0.412)	0.0001 (0.657)

Infrastructure	0.1684** (0.021)	0.0764 (0.398)	-0.1671*** (0.000)	-0.1227*** (0.000)	0.0072*** (0.000)	0.0016*** (0.000)
Education spending	-0.1597* (0.057)	-0.2237*** (0.0003)	-0.2990 (0.286)	0.6828* (0.093)	0.0072*** (0.001)	0.0019 (0.590)
Log(Foreign aid)	-1.0987*** (0.005)	-0.6137* (0.0667)	-0.2757 (0.152)	0.1959 (0.315)	0.0132* (0.071)	0.0297*** (0.000)
CostImport_Gov	0.0184 (0.427)		-0.0252 (0.292)		0.0010 (0.235)	
CostImport_Demo		0.0047*** (0.000)		-0.0158*** (0.000)		0.0002*** (0.003)
Constant	-5.7340 (0.460)	-7.5795 (0.410)	33.1482*** (0.000)	17.2008*** (0.009)	-0.1684 (0.700)	-0.7381*** (0.003)
R ²	0.67	0.68	0.69	0.67	0.65	0.71
N	187	155	187	155	187	155
Country	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes

Source : Authors

Notes: Symbols ***, ** and * indicate significance at the 1%, 5% and 10% threshold, respectively

Table 14: Results of the role of institutions in the relationship between trade facilitation and women's empowerment (PCSE estimate)

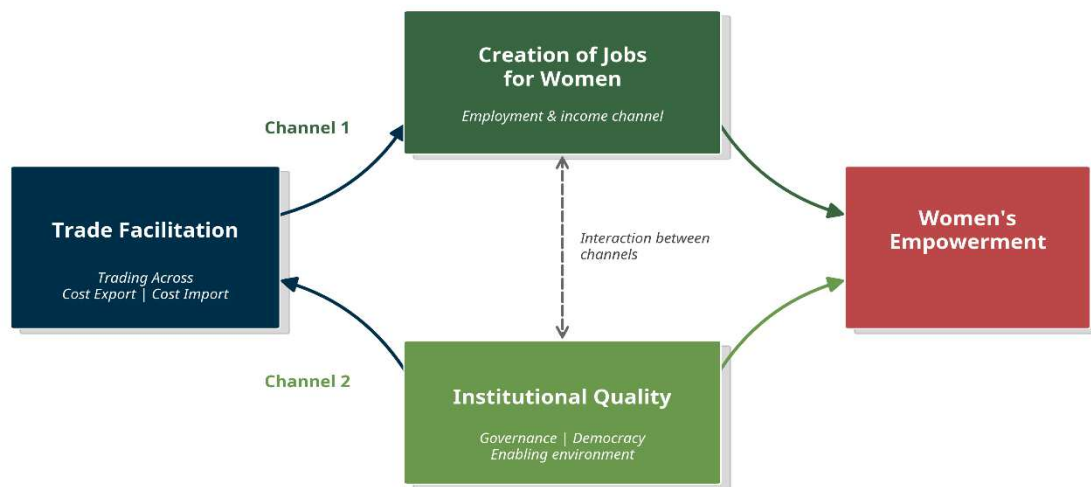
Variables	Vulnerable Employment Gap		Wage Gap		Political empowerment	
	(1)	(2)	(3)	(4)	(5)	(6)
Trading Across	0.0662* (0.078)	-0.0182 (0.313)	-0.1084*** (0.001)	0.0096 (0.493)	-0.0007 (0.418)	0.0014*** (0.002)
Governance	-0.2832 (0.899)		2.1852 (0.485)		0.3561*** (0.000)	
Democracy		-0.1347* (0.068)		-0.2507** (0.0261)		0.0289*** (0.000)
Log (GDP/capita)	1.2490*** (0.000)	1.6262*** (0.000)	-1.1621*** (0.004)	-0.0652 (0.854)	0.0339** (0.013)	0.0558*** (0.000)
Parliament	0.0923 (0.127)	0.0829*** (0.007)	-0.0452*** (0.007)	0.0644*** (0.007)	-0.0054*** (0.000)	-0.0000 (0.971)
FDI	-0.0121 (0.317)	-0.0131 (0.424)	0.0460 (0.725)	-0.0068 (0.432)	0.0003 (0.537)	0.0004 (0.171)
Infrastructure	0.1348 (0.1245)	-0.0812 (0.1646)	-0.1667*** (0.0000)	0.0507 (0.4108)	0.0010 (0.2392)	0.0016*** (0.0000)
Education spending	-0.1377* (0.086)	-0.2118*** (0.002)	-0.4416* (0.075)	-0.1830** (0.011)	0.0135*** (0.000)	0.0037 (0.474)
Log(Foreign aid)	-1.0747*** (0.005)	-0.6299* (0.0803)	-0.5688** (0.043)	-0.4622** (0.047)	0.0309*** (0.000)	0.0341*** (0.000)
TradingAcross_Gov	-0.0502 (0.148)		-0.0454* (0.050)		0.0027*** (0.000)	
TradingAcross_Demo		-0.0117*** (0.000)		-0.0117*** (0.0000)		0.0001** (0.0455)
Constant	-3.6737 (0.599)	1.7700 (0.868)	42.6371*** (0.000)	-0.8487 (0.896)	-0.1162 (0.601)	-0.8780*** (0.000)
R ²	0.67	0.68	0.68	0.68	0.66	0.70
N	187	155	187	155	187	155
Country	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes

Source: Authors

Notes: Symbols ***, ** and * indicate significance at the 1%, 5% and 10% threshold, respectively

Figure 1 Conceptual framework

Conceptual Framework: Trade Facilitation and Women's Empowerment



Source: Authors, based on literature

Supplementary Files

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