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The political implication of women and industrialisation in Africa

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Abstract

This study examines the effect of political implications of women on industrialisation in Africa. The results after controlling for cross-sectional dependency show that women political implication Granger causes industrialisation in Africa. Besides, the Fixed effect Driscoll/Kraay standard error estimator reveal that women political empowerment negatively affect industrialisation in Africa. These negative effects are nullified by high economic freedom and high female economic participation in the economy. The investment freedom thresholds require for the negative net effects to be nullified are 52.30469, 55.51639, 49.324895, and 55.594059 respectively for the women political empowerment index, women civil liberty, women political participation and women civil society participation interactions; while when women economic participation rates of 43.0777, 35.82, and 46.9 are attained for women political empowerment index, women civil liberty and women civil society participation respectively, complementary policies are needed for a positive effect on industrialisation. The study implores policy makers to improve on the economic freedom of the countries and to elaborate on policies that favour women economic inclusion, if policy towards political inclusion is foreseen in the industrialisation agenda.

Keywords: political empowerment; women; industrialisation; Africa
JEL Classification: G20; I10; I32; O40; O55

1. Introduction

It is widely accepted that industrialization is the key to economic development. In advanced economies, industrialization has been the key behind Europe's economic transformation and recently fundamental in Asia's growth miracle (Rodrik 2009; Nguimkeu and Zeufack 2019). The development of the manufacturing sector has often been considered very vital for structural transformation that engenders industrialization in developing economies (Larsen and Hansen, 2020). This is principally because; manufacturing is part of the high productive sectors that readily offer huge employment opportunities that support poverty reduction and economic growth. For Africa, though manufacturing value added has been growing above the World's average, manufacturing value added per capita has been stagnant over the last three decades and falling far below the World's average except for very few of these countries[1] (World Bank, 2020). Besides, comparing Africa to Benchmark countries (e.g., Indonesia and Thailand), Johnson, Ostry and Subramanian (2007) put into evidence that, these benchmark countries moved out of the poverty trap through manufacturing exports, and posit that the manufacturing sector may be crucial for sustained growth in Africa. At the same time, Rodrik (2016) argue that Africa and Latin America suffer from premature industrialization because manufacturing has begun to shrink at levels of income that are much lower than those at which the advanced economies started to deindustrialize. Nguimkeu and Zeufack (2019) however, argue against this deindustrialisation hypothesis in Africa. Besides, the study puts into evidence heterogeneity across Africa sub-regions, with the Southern region being the only sub-region to have witnessed deindustrialization, a result that had not appeared to be occurring prematurely.

Africa has an interest to industrialise in order to meet the 2030 agenda for sustainable development. However, African economies are still highly dependent on commodity exports whose prices are subject to frequent shocks, making these economies vulnerable (Ngouhouo and Nchofoung, 2021). Economic diversification thus holds great potentials to increase Africa's resilience, and the heavy reliance on commodities; which requires a new and important role of manufacturing industries which remain one of the most potent forces for inclusive development (Jerome and Ajakaiye, 2019). In fact, Africa's share in global manufacturing is still very low. Its share moved from 1.7% in 2005 to about 2% in 2016. At the same time, the share of the Asia Pacific region moved from 36.5% to 49.5% within the same period. Meanwhile that of Europe, Latin America and North America stood respectively

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[1]Botswana, Cape Verde, Madagascar, Namibia, Seychelles, Swaziland, South Africa and Tunisia.

at 25.1%, 6.2% and 17.4% in 2016 (UNIDO, 2017). Also, looking at the manufacturing share in GDP, Africa still lags behind, with a score of 10.5% in 2015, far below the global average of 16.1% that same year. This was a drop compared to its share of 10.6% in 2005 while the global average had rather moved from 15.3% in the same year.

This precarious situation of industrialisation in the continent has prompted a strand of research attempting to explain the determining factors of industrialisation. *Inter alia*, the documented factors are also economic (Kaya, 2010; Beji and Belhadj, 2014; Gui-Diby and Renard, 2015; Efobi et al., 2019; Asongu and Odhiambo, 2020; Nkemgha et al., 2021; Müller, 2021) and institutional (Beji and Belhadj, 2014; Oduola et al., 2021; Asongu et al., 2021). Among the reasons for the low industrialisation drive in Africa, Beji and Belhadj (2014) identified poor institutional qualities including high levels of corruption. They argued that the absence of corruption enforces entrepreneurship and industrial development in Africa. At the same time, Barnes and Beaulieu (2019) posit that women involvement in politics reduces corruption and enhances trust in the government, a claim that is corroborated by DiRienzo and Das (2019) and Ngouhouo and Njoya (2020).

The place of women in the political continuum is increasingly gaining debate in economic and political discourses. The political empowerment of women can be defined in three dimensions, notably: (i) civil liberties, (ii) participation in business and society and (iii) the political representativeness of women in decision-making bodies (Sundström et al., 2017). Women's political empowerment therefore becomes a process of increasing women's freedoms, their ability to influence political ideals and their participation in the organization of civil society (Asongu et al., 2021). Women were regarded as a pilot in achieving sustainable development. In fact, participation, equality, and empowerment for women are the bases for sustainable development (United Nations, 2015). The political lifestyle of every economy has been established as key to economic wellbeing. However, Africa has a poor track record of gender equality especially in the political sphere. Women political leadership is likely to promote policies that are conducive for female economic empowerment. This is specifically true given that gender roles in several economies submerge women to be limited to household maintenance (Pereira, 2012).

However, the quest for gender equity has become a global concern and has been set out as one of the goals of the post-2015 sustainable development agenda. Africa is not left behind. Indeed, almost all the countries in the continent have ratified the Convention on the

Elimination of All Forms of discrimination against Women; more than half have ratified the African Union's Protocol on the Rights of Women in Africa[2]. Despite these efforts, statistics are still very disappointing. As of September 2021, only 26 women were serving as head of States or head of Government[3] in 24 different countries, only 21% cabinet Ministers, with only 14 countries having achieved 50% or more women in cabinets. Only 25% of women are in national parliaments, with only 4 countries with 50% or more. Among the 4 countries is an African country (Rwanda) with 61% female representation (United Nations, 2021). Women legislative representation almost tripled between 1990 and 2015 in Africa. Increasing from 7.78% in 1990 to 22.2% in 2015 (Tripp, 2016). It is also apparent that, post conflict countries had a representation of 29% compared with countries that have not gone through conflicts (16%) in 2015 (Tripp, 2016). This figure is however still below regions like Latin America, Caribbean, and Europe and Northern America, with women representation in parliament all above 30% but high above Pacific Island states with 6% representation.

The political empowerment of women can contribute to female entrepreneurship by removing existing constraints on the economic behaviour of women (Goltz et al., 2015). Women's entrepreneurship is one important source of economic growth (Bahmani-Oskoee et al., 2012). Besides, women political implication reduces corruption and the size of the informal sector (Ngouhouo and Njoya, 2020), increases women economic participation (Ghani et al., 2013) and enhances sustainable tourism (Abou-Shouk et al., 2021). In addition, the political empowerment of women favours the distribution of resources across economic sectors (De Siano and Chiariello, 2021). Furthermore, there is a substantial body of literature that argue that female elected officials are most often than not acting for their interest than the interest of women (Weldon 2002; Celis and Childs 2008; Squires 2008; Stoffel 2008; Htun and Weldon 2010, 2011; Kodila-Tedika and Asongu, 2017). As a result, female political implications could rather yield negative outcomes or no outcome on women in the economy. Despite this demonstrated importance of the political empowerment of women on economic outcomes, no study to the best of knowledge has empirically verified the effect of women political empowerment on industrialization.

The objective of this study is thus to empirically verify the effect of women political empowerment on industrialisation in Africa. The choice of Africa is particularly due to its

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[2] UN Women (2021) available at: https://www.unwomen.org/en/where-we-are/africa
[3] There are countries wherein the head of State is different from the head of Government. A good example is Cameroon where the Prime Minister is the head of government.

high industrialisation shortcomings compared with other regions of the World and their peculiar trend in the fight against gender inequality highlighted in the previous paragraphs. At the same time, industrial drive will be beneficial for Africa firstly because of its rapid trend in population growth. In fact, according to IMF (2018), the population of Africa is expected to double by 2030. This will obviously lead to high demand of industrial outputs and the continent will obviously not hope to rely on external supply to meet up. Secondly, the continent is experiencing encouraging economic growth and most of its countries have fixed economic schemes that are geared towards emergence. The first International Conference on the Emergence of Africa (ICEA) was organized in 2015 in Abidjan by the Government of the Republic of Côte d'Ivoire and the United Nations Development Programme (UNDP), in partnership with the World Bank and the African Development Bank (AfDB) (UNDP, 2021). At the end of the conference, it was recommended to develop a strategic intelligence centre for the emergence of Africa and to organise every two years a forum on good practices including consumption and production patterns of the continent. This study is therefore to the best of knowledge a pioneer research on the political gender-inclusiveness industrialisation nexus. Besides, transmission mechanisms for this nexus are established. The rest of this paper is situated around a literature Review (Section 2), econometric strategy (Section 3) results and discussions (Section 4), and conclusion and policy implications (Section 5).

2. **Women substantive representation and macroeconomic outcomes**

Two opposing strands of literature characterise this section: the first strand of debate argues that the substantive representative of women (SRW) engenders favourable macroeconomic outcomes and the second strand argues that SRW leads to the opposite effect.

In the first strand of literature, the effects economic changes over the years have not been to limit the entry of women into labour markets, but to rather include them though most often in worse terms, pushing them into more temporary and vulnerable employment within the informal economy, as a result keeping them from the benefits of globalisation (Meagher, 2010). However, women political empowerment through their participation in politics reduces the size of the informal sector (Ngouhouo and Njoya, 2020) and increases economic development (Duflo 2012; Doepke et al., 2012; Doepke and Tertilt, 2019; Kabeer, 2020). Duflo (2012) further argues that women empowerment could influence economic development through increased work opportunities, reduced time burdens, improvements in

6

health and education, and women's rights. On its effect on health, empowerment strategies that focus on increasing membership of women in social and economic groups, easing women's access to credit, and increasing women's incomes are some that improve the health status and production capabilities of women within the economy (Ross et al., 2015). Besides, women political empowerment leads to increase in health expenditure as a result of their more representation in political decision-making bodies and thus an influence on public spending in the health sector (Tadadjeu et al., 2021).Women empowerment through the participation in household decisions, autonomy in movements, contributes in reducing child mortality (Hossain, 2015). Improvement in the health outcome leads to an enhancement in human development. In this respect, Hornset and de Soysa (2021) argue that the presence of women in politics boosts human capital development and that this link is independent of the economic conditions or institutional setup in place.

Talking of the institutional arrangement, several authors have argued that women empowerment through political representations reduces corruption (Jha and Sarangi, 2018;DiRienzo and Das, 2019; Barnes and Beaulieu, 2019;Ngouhouo and Njoya, 2020). The authors argue that females are less likely to undertake risk than men and present a certain laudable level of ethics than their male counterparts. This commendable institutional environment is favourable for industrial development (Beji and Belhadj, 2014; Samouel and Aram, 2016). Besides, a good institutional environment through less corrupt and investment freedom leads to the growth of the number of firms within the economy (Gohmann et al., 2008) that could result from foreign direct investments attractiveness, as the investment climate becomes seductive (Gangi and Abdulrazak, 2012). The presence of women in politics could increase women economic participation and enhance sustainable tourism (Ghani et al., 2013; Abou-Shouk et al., 2021). Female economic participation has been found to significantly affect some major macroeconomic indicators, including financial inclusion (Balasubramanian and Kuppusamy, 2020), economic development (Choudhry and Elhorst, 2018), economic growth (Jemiluyi and Yinusa, 2021) and tax performance of countries (Asonguet al., 2021). Moreover, economic growth, trade openness, financial development, foreign direct investments, and economic freedom among others, have been argued as the determining factors of industrialization especially in Africa (Gui-Diby and Renard, 2015).

Also, women's political leadership could enhance entrepreneurship (Al-Dajani and Marlow, 2013; Goltz et al., 2015). Goltz et al. (2015) argue that the leadership of women in politics is likely to be an important medium for them to convert resources such as surplus

income from economic participation into entrepreneurial activities. It could also increase the chances of women to acquire and mobilize resources necessary for entrepreneurship via more readily available connections to others that have access to these resources. The liberal feminist theory had earlier argued that more gender equality removes barrier for female self-employment, leading to more gender balance in the entrepreneurial activities (Fischer et al., 1993). However, equalising entrepreneurial activities is associated with unequal entrepreneurial outcomes between both genders since women are more heterogeneous in their employment preference than men (Hakim, 2000).

Despite the documented importance of women empowerment on positive economic outcomes, studies do not always agree. The second strand of literature thus focus in defending this view, as women in politics must not always represent the interest of women (Kodila-Tedika and Asongu, 2017). A large body of literature argues that female political representation is not a guarantee that women's interests will be acted upon (Weldon 2002; Celis and Childs 2008; Squires 2008; Stoffel 2008; Htun and Weldon 2010, 2011; Kodila-Tedika and Asongu, 2017). In this sense, the high women political representation could still not guarantee large economic participation which was earlier argued to enhance major macroeconomic aggregates. In this respect, the relationship between women political empowerment and economic development though enhancing, is however weak to be self-sustaining and while gender equality is a global fight with legal backups, it would be realised through gender-neutral policies because gender-affirmative policies twist the allocative process and lead to efficiency costs (Kabeer, 2020). Besides, despite women constituting an important proportion of the work force, they however lack economic mobility and decision making abilities of men (Vracheva and Stoyneva, 2020). The political involvement of women is most often reserved to participation in local government and community service engagement, and consequently they are frequently huddled in areas such as infrastructure and community development (Rivas, 2013; Xu, 2015). Key areas that lead to economic transformation are mostly avoided by women, as a result, their political involvement influence very little this sector. This view has been documented even in the African case, including the study of Kodila-Tedika and Asongu (2017) which found no significant difference in Liberia after the first female African president took the helm of that nation. Also, increasing the number of female politicians does not automatically improve female entrepreneurship. The policies of women might always project their own views concerning entrepreneurship as an acceptable or unacceptable employment option for women, as an

alternative plan for working mothers and as something men do better than women due to their heterogeneity in terms of political priority (Byrne et al., 2019). In the entrepreneurial world, in as much as men and women both settle for secured jobs, men do take risks than women in starting a new business, and there is decrease in entrepreneurship within the economy as gender equality increases (Global Entrepreneurship Monitor, 2011).

Furthermore, empirical evidence has shown that despite the claim that women political empowerment reduces corruption, neither having more women in government at a point in time nor increasing women's representation in government over time affects corruption, but consolidating liberal democratic institutions prevents and reduces corruption (Sung, 2012). On the other hand, earlier studies posit that the industrial problem of Africa is highly political and not purely technical or economic and as a result, neither natural resources abundance nor other economic factors could actually resolve the slow industrial drive in Africa (Cramer, 1999).

While the above studies argue on the SRW in macroeconomic outcomes, no study has actually established the effect of women political representation on industrialization. This study fills this research gap while establishing the transmission mechanisms.

3. Econometric Strategy
3.1. Data

The data for this study are collected from the World Bank, the Freedom house and the V-DEM databases. Each of these indicators is a subject of what follows.

Dependent variable

Several proxies have been used in literature for measuring industrialization. Gui-Diby and Renard (2015) used the value added of the manufacturing sector and employment in the manufacturing sector to proxy for industrialisation. Others like Owens and Wood (1999) approached the concept through manufacturing exports, while Nkoa (2016) used industrial employment to total employment and the industrial value added. African economies are still lagging in manufacturing, whereas, other industrial sectors like extraction and craft industries have witnessed a considerable growth in the continent, employing thousands of the labour force. Not to limit our perception of industrialisation to mean manufacturing development, we adopt two proxies for industrialisation in this study. The first is the manufacturing value

added (%GDP) while the second industrial employment (%of total employment). Figure 1 presents the trend of industrialisation in Africa within our period of study.

Figure 1: evolution of industrialisation in Africa
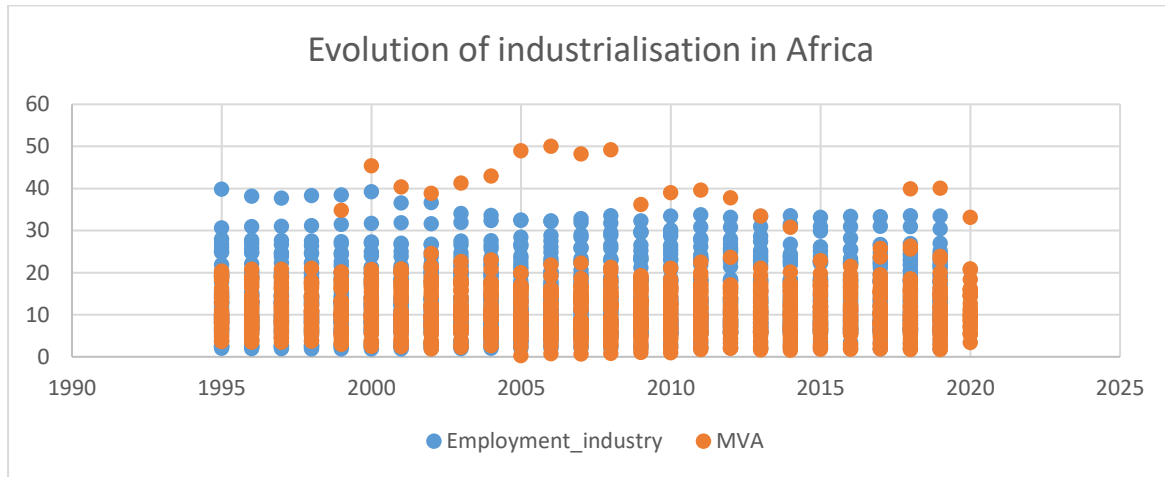
Source: Authors' computation using World Bank data

Figure 1 shows that with respect to the 1995 level, manufacturing value added had witness a drop in Africa in 2020. Industrial employment on the other hand has been very unstable moving from more than 50% of total employment in 2006 to less than 40% by 2020. This further highlights the importance of studying the determinants of industrialisation in Africa.

Independent variables of interest

The women's political empowerment index adopted for this study is the V-Dem women's political empowerment index developed by Sundström et al. (2017). According to these authors, the political empowerment of women is defined as a process of increasing capacity for women, leading to greater choice, agency, and participation in societal decision-making. This index provides information about women's political participation, women civil liberty, and women civil society participation. This index has been used in recent empirical studies including the works of Lv and Deng (2019) and Tadadjeu et al. (2021). Compared with other formal measures of women empowerment, this measure is advantageous not only for its long period and cross-sections covered; it is equally precise and explicit in measurement. The indicator, together with it sub-indexes are scaled between 0-1, with zero indicating the worst outcome (that is absence of women empowerment) and 1 representing the best outcome. In a case of the best outcome, there is the fundamental civil liberty for women. Besides, they are

involved in open discussion of political issues, participation in civil society organizations, and are highly represented in formal political positions. Before the industrial revolution of Europe, women were the main hauliers of education and knowledge in aristocratic families. Female participation in intellectual debates later on gained momentum. Besides, there existed a close cooperation between couples in handicraft enterprises and trade firms, this discourse took place within the family. The process reached its climax during the Industrial Revolution in Britain (Butschek, 2006). Women political empowerment thus enhances economic development (Duflo, 2012) and entrepreneurship (Goltz et al., 2015). Improvement in the development and entrepreneurial climate will enable the entry of new firms into the economy. Women political empowerment is thus expected to positively affect industrialisation in this study.

H01: Women political representation positively and significantly enhances industrialisation in Africa

Figure 2 presents fitted scatter plots in the relationship between women political participation and industrialisation for our sample.

Figure 2. Fitted scatter plots
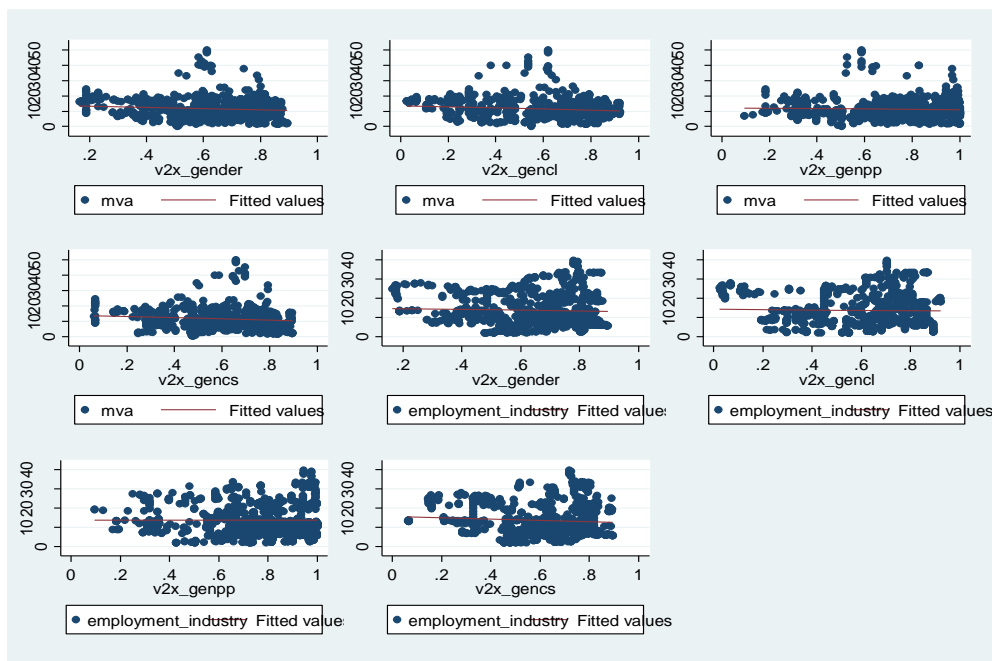
Source: Authors' computation

Figure 2 presents a perceived negative relationship between women political participation and industrialisation; though this seems insignificant in some cases, the sign confirms the correlation between the two variables in Table 2.

Control variables

In order to control for omitted variables bias and a better adjustment of our model, other determinants of industrialisation are included in the model based on extant literature. These variables include financial development (domestic credit to private sector as a % of GDP), total natural resource rents (%GDP), trade openness (%GDP), foreign direct investments inflows (%GDP), investment freedom (IF), government size (government spending), per capita growth (GDP per capita) and female economic participation(WLP), proxy by the female labour force participation rate (% total female population).

Gui-Diby and Renard (2015) argue that economic growth, financial development and import trade enhance industrialisation in Africa, whereas trade balance and freedom to enter the market are negatively related to industrialisation. Besides Nkoa (2016) shows that foreign direct investments have mixed results on industrialisation depending on the measure of industrialisation adopted, while trade openness has a positive effect on industrialisation. Bjørnskov and Foss (2008) had earlier argued that government size positively affects entrepreneurial activities. On their part, Nkemgha et al. (2021) argue of a negative effect between natural resources and industrialisation in Africa, as reliance on natural resources influence the fluctuation of the economic cycle leading to long-run negative performance. Indeed countries that are landlocked turn to witness an increase in industrialisation and higher stability provides a conducive environment for investments (Haraguchi et al., 2019). Also, gender segregation exists in the industrial sector for both men and women, as there are industrial positions that women are preferred to men and vice versa (Horton, 2002). In Europe, one of the greatest post factors of the industrial revolution was the availability of women that were ready to perform industrial job especially in the textile and clothing industry (Butschek, 2006). These steered us to our second hypothesis.

H02: economic freedom and female economic participation are the channels through which women political implication affects industrialisation in Africa.

The highlighted literature thus justifies the choice of selection of the variables to be included in the model. Table 1 presents the summary statistics of these variables as well as their expected signs.

Table 1. Descriptive Statistics

Variable	Expected sign	Obs	Mean	Std. Dev.	Min	Max
Manufacturing value added		998	11.398	6.499	.233	50.037
employment industry		1050	13.638	7.918	1.86	39.83
Women political empowerment	+	1092	.644	.172	.164	.895
Women civil liberty	+	1092	.604	.217	.025	.922
Women political participation	+	1092	.743	.208	.095	1
Women civil society participation	+	1092	.596	.191	.062	.896
Financial development	+	961	22.346	26.112	0	160.125
Resources rents	-	1039	11.624	11.307	.001	62.04
Trade openness	+	1031	70.795	36.901	20.722	347.997
foreign direct investment	+	1045	4.275	9.726	-11.625	161.824
investment freedom	+	1015	49.059	15.61	0	90
government spending	+	1015	74.274	17.458	0	99.3
Per Capita GDP	+	1062	7.178	.999	5.31	9.93
female labour participation	+	1050	58.841	17.483	12.56	89.07

Source: Authors' computation

Table 1 shows that the variables are more or less situated around the mean. The women empowerment index variable varies between 0.164 and 0.895, with an average of 0.172. This mean value shows how bad the situation still remains in Africa, though progress has been made in recent years with countries having scores as high as 0.895. At the same time, despite high levels of women labour force participation and investment freedom in some few countries, the average outcomes are still wanting, all falling below the 25th percentile. Table 2 shows the correlation between these variables.

Table 2 shows that our explanatory variables have very weak correlation between themselves. This makes it easier for the variables to be used in the same model. Our independent variables of interest have negative correlation coefficients with industrialisation. However, correlation is just a statistical point relationship between the two variables. There is need to actually examine the actual effect by taking into consideration other determinants of industrialisation. This can be done through the specification of an appropriate model. This is the object of the next sub-section.

Table 2. Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1)Manufacturing value added	1.000														
(2) employment industry	0.380	1.000													
(3) Women political empowerment	-0.132	-0.049	1.000												
(4) Women civil liberty	-0.163	-0.061	0.899	1.000											
(5) Women political participation	-0.048	0.014	0.839	0.574	1.000										
(6) Women civil society participation	-0.133	-0.078	0.906	0.785	0.641	1.000									
(7) Financial development	0.139	0.572	-0.092	-0.197	0.077	-0.114	1.000								
(8) resource rents	0.065	-0.110	-0.196	-0.280	-0.073	-0.155	-0.359	1.000							
(9) trade openness	-0.060	0.402	-0.053	-0.027	-0.020	-0.093	0.177	0.225	1.000						
(10) foreign direct investment	-0.172	-0.046	0.040	0.021	0.052	0.036	-0.056	0.152	0.316	1.000					
(11) investment freedom	-0.006	0.185	0.057	0.085	-0.051	0.125	0.303	-0.376	-0.031	-0.132	1.000				
(12) government spending	-0.131	-0.218	0.080	0.117	-0.028	0.119	-0.147	0.054	-0.274	-0.007	-0.010	1.000			
(13) per capita GDP	0.276	0.702	-0.111	-0.125	-0.027	-0.140	0.518	0.058	0.451	-0.075	0.238	-0.217	1.000		

Source: Authors' computation

3.2. Model Specification

Based on contemporary literature on the determinants of industrialisation, the following empirical model is specified.

$$INDU_{it} = \beta_0 + \beta_1 GENDER_{it} + \beta_{jt} X_{it} + \varepsilon_{it} \qquad (1)$$

Where *INDU* is industrialisation, *GENDER* is women empowerment index, X is the vector of explanatory variables earlier highlighted above, ε is the stochastic error term, i is the cross-sectional dimension while t is the time dimension of the panel, j is the number of coefficients of control variables. From Equation (1), an interactive term of women economic participation and investment freedom can be introduced in accordance with Nchofoung et al. (2021) to produce Equation (2).

$$INDU_{it} = \beta_0 + \beta_1 GENDER_{it} + \beta_2 IF_{it} + \beta_3 WEP_{it} + \beta_j X_{it} + \pi_1 (GENDER_{it} \times IF_{it})$$
$$+ \pi_2 (GENDER_{it} \times WEP_{it}) + \varepsilon_{it} \qquad (2)$$

Where β is the coefficient of the variables associated with the direct effect, π is the coefficient of the variables associated with the indirect effect. Differentiating Equation (2) in first place with respect to Gender yields Equation (3):

$$\frac{\partial INDU_{it}}{\partial GENDER_{it}} = \beta_1 + \pi_1 IF_{it} + \pi_2 WEP_{it} \qquad (3)$$

Where ∂ is the partial derivative operator. Based on the signs and significance of β_1 and π, this interactive effect could yield a net effect in Equation (4) such that:

$$Net\ effect = \begin{cases} \beta_1 + (\Omega \times \pi) & iff\ \beta_1\ and\ \pi\ are\ opposing\ in\ sign\ and\ all\ significant \\ n.a & iff\ \beta_1\ and\ \pi\ have\ the\ same\ sign \\ & or\ atleast\ one\ of\ them\ is\ non-significant \end{cases} \qquad (4)$$

Where n.a implies "not applicable" and as a result, the net effect cannot be computed. Π is the magnitude of the indirect effect, Ω is the average of the policy modulating variable(s) under consideration.

4. Estimation and discussion of results

Due to globalisation and capital movements across countries, the economic cycles of countries are cross-sectional interlinked (Njamen et al., 2020). The estimation of the model should thus not neglect this essential fact. In this respect, the test of cross-section dependency

is carried out. Table 3 presents the results of weak cross-section dependency of Pesaran (2015).

Table 3. Pesaran 2015 Test of cross-sectional dependence

Variable	Pesaran 2015 CD Test statistics
Manufacturing value added	7.116***
Employment industry	5.376***
Women political empowerment	48.017***
Women civil liberty	23.602***
Women political participation	51.307***
Women civil society participation	38.677***
Per capita GDP	50.731***
Investment freedom	14.652***
Trade openness	28.043***
Financial development	49.772***
Resources rents	32.335***
Labour participation (female)	156.132***
Labour force participation	160.269***
Foreign direct investment	16.588***

Source: Authors' computation.

The results on Table 3 show that there is cross-section dependency across the panel. To take into account this effect, the estimation method considered should be able to correct the apparent cross-section dependence which could result from financial and economic integration of economies.

Given that previous studies have focused on the effect of industrialisation on women empowerment, there is necessity to test if the reverse effect actually happens before proceeding to our regression. Table 4 presents the results of Granger non-causality recently developed by Juodis et al. (2021). The test is advantageous compared to other causality tests because it carries out pooled least-squares (fixed effects type) estimation for the model parameters only enabling a convergence rate that is identical to the square root of the total observations. Besides, the method applies the Jack-knife method to correct for the "Nickel bias". The test is equally valid for both homogenous and heterogeneous panels; as a result, slope homogeneity is not necessary for the test to be carried out. Table 4 equally present these results.

Table 4. Juodis, Karavias, and Sarafidis (2021) Test of Causality

Variable	H0: variable does not granger cause MVA	H0: variable does not granger cause industrial employment
Variable	Wald Statistics	Wald Statistics
Women political empowerment	16.684105***	9.5329261*
Women civil liberty	17.328385***	8.6041712 **
Women political participation	12.376639**	10.207872**

Women civil society participation	30.784552***	6.8341482**

Source: Authors' computation.

Table 4 shows that the null hypothesis of non-causality is rejected in all cases. As a result, women political implication granger causes industrialisation in Africa. Therefore, past values of the women political empowerment index contains information that help in predicting industrialisation in Africa beyond this contained information. We thus proceed to our linear regression that put into account the actual effect. To take into account cross-section dependence that exists among our panel, Driscoll and Kraay (1998) proposed a corrected standard error that accounts for cross-sectional dependence. It is also appropriate in panels with large cross-sectional and time dimensions. Besides, the method accounts for heteroscedasticity and autocorrelation of residuals from an appropriate lag.

4.1. Direct effect results

Table 5 shows the results of this regression. The explanatory variables are introduced one after another to see the sensitivity of the effect of women political empowerment on industrialisation with respect to our choices of control variables.

The results show that women political empowerment persistently and negatively affect industrialisation in Africa. This result is counter-intuitive. However, this corroborates the results of Kodila-Tedika and Asongu (2017). In Africa, despite more women gradually occupy political positions; they are mostly present to serve as an image effect. For women to actually influence structural transformation, they should occupy political positions that have direct effect to this. Besides, their presence in the political scene has no impact on the policies geared towards industrialisation, as they most often advocate for rather more gender inclusiveness in politics and social life than elaborating policies that are of importance for industrial development. This is because they mostly occupy political positions limited to ministerial portfolio that fight gender equality, families or the craft sector. Ministries that have a direct effect on economic policies are hardly occupied by women. For instance, in Cameroon, no female has ever occupied the position of the Minister in charge of industry, trade, economy or even public finance; rather, the Ministry of women empowerment and the family has been occupied solely by women since the creation of the portfolios.

In the cooperate world, most African companies have no women in the board of directors, with more than one third of the companies having no women in the board of

directors (AfDB, 2015). According to this organisation, while women's contribution to Africa's economy is extensive, they also form the majority of the poor. This is largely because they make up 70% of the informal sector, where work is unstable, poorly paid and invisible. Besides, they make up 70% of crop production, 50% of animal husbandry and 60% of marketing. This is highly attributed to the fact that female elected officials, in and of themselves, are not a guarantee that women's interests will be acted upon (Weldon 2002; Celis and Childs 2008; Squires 2008; Stoffel 2008; Htun and Weldon 2010, 2011), and when the interest is given towards women, it is to advocate for more political inclusiveness instead of policies that will get them take part in industrial life. This makes their labour force participation still very low and the few available are involved in the informal sector of activities. Indeed women do not really own properties in Africa; as a result, it becomes very difficult for them to have a formal source of financing for their business. They thus mostly at the end settle for the informal sector. The African working population is constituted by majority youths and most women through their cultural background in Africa prefer to settle for building a family than career at their youthfulness. This makes most firms settle for men in industrial positions than women because women will be on and off due to child bearing.

4.1.1. Robustness and Checks

The robustness of the results has been verified with respect to the alternative measures of women political empowerment, and through clusters. The clusters include colonial origins. This is principally because the educational system in Africa is largely a reflection of what the colonial masters imposed. There are systems that favour industrial development while others do not favour this tendency. Landlocked countries are further considered given that access to the sea is a comparative advantage with respect to engagement in international trade. Besides, political instability is considered because politically stable environments will attract foreign direct investment. And finally, income groups are considered. Most African countries are within the low-income countries while very few occupy the lower-middle and upper-middle income groups. More income will make funds available for infrastructural developments in view of structural transformation.

Results from Tables 6 and 7 show that the negative effect is robust across alternative measures of industrialisation and women empowerment indicators. It is equally robust across colonial origins (except for French formal colonies with an insignificant result) and in low income countries. The effect is rather positive in landlocked countries and politically unstable

countries. This is principally because, countries opened to the sea trade easily with foreign markets for the importation of manufacture goods at a relatively cheaper cost, as a result, discouraging the set-up of local manufacturing firms. This is most evident in Africa as their trade structure is dominated by export of commodities and imports of manufacture goods. The case is different in landlocked countries as the cost of international trade is high, favouring the building of local firms for domestic consumption.

In addition, given that our method of estimation corrects for heteroscedasticity and autocorrelation from a certain lag, there is risk for multicollinearity especially between economic growth and some covariates like financial development. To ensure that this potential econometric bias has not falsified our results, the model is estimated using the first period lag of all explanatory variables. The results are found in Appendix. The results indicate that the negative effect of women political implications on industrialisation is persistent. This further confirms the robustness and realness of the results earlier established.

Table 5. FE Driscoll/Kraay standard error estimator

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Women political empowerment	-3.896**	-4.583***	-4.062***	-3.291**	-2.858**	-2.905**	-2.507**	-0.773	-2.224*
	(1.404)	(1.230)	(0.996)	(1.213)	(1.167)	(1.135)	(1.047)	(0.919)	(1.176)
Financial development		0.0352***	0.0413***	0.0522***	0.0509***	0.0510***	0.0488***	0.00904	-0.000229
		(0.00851)	(0.00526)	(0.00565)	(0.00588)	(0.00477)	(0.00437)	(0.00687)	(0.0108)
Resources rents			0.0320	0.0653**	0.0775**	0.110***	0.121***	0.0758***	0.0435*
			(0.0292)	(0.0260)	(0.0312)	(0.0264)	(0.0257)	(0.0235)	(0.0247)
Trade openness				-0.0319***	-0.0249***	-0.0258***	-0.0353***	-0.0455***	-0.0607***
				(0.00507)	(0.00477)	(0.00683)	(0.00882)	(0.00743)	(0.0124)
Foreign direct investment					-0.128***	-0.133***	-0.124***	-0.0913***	-0.0718***
					(0.0227)	(0.0243)	(0.0247)	(0.0194)	(0.0231)
Investment freedom						-0.0136	-0.0105	-0.0390**	-0.0438**
						(0.0248)	(0.0214)	(0.0143)	(0.0173)
Government spending							-0.0586***	-0.0450***	-0.0461***
							(0.0169)	(0.0131)	(0.0136)
Per capita growth								1.450***	1.049***
								(0.239)	(0.220)
Labor force participation (female)									-0.169***
									(0.0142)
Constant	13.93***	13.72***	12.89***	13.98***	13.59***	14.15***	18.72***	29.64***	21.80***
	(1.001)	(0.976)	(0.712)	(0.649)	(0.617)	(1.486)	(1.694)	(0.923)	(2.178)
Observations	998	876	860	848	848	800	800	800	793
Number of countries	42	42	42	42	42	42	42	42	41
Fisher	7.697***	136.8***	154.6***	565.4***	312.3***	142.2***	223.7***	1041***	395.4***

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: Authors' computation.

Table 6. Robustness through alternative specifications of industrialization and women empowerment

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				Dependent variable				
VARIABLES	Manufacturing value added				Industrial employment			
Women political empowerment	-2.224*				-8.175***			
	(1.176)				(1.345)			
Financial development	-0.000229	-0.00305	0.00353	-0.000371	-0.0340***	-0.0463***	-0.0395***	-0.0450***
	(0.0108)	(0.0138)	(0.00690)	(0.0102)	(0.00922)	(0.00862)	(0.00926)	(0.00899)
Resources rents	0.0435*	0.0372	0.0526***	0.0465*	-0.0215**	-0.0159	-0.0234**	-0.0166
	(0.0247)	(0.0253)	(0.0187)	(0.0256)	(0.00982)	(0.00987)	(0.00961)	(0.0101)
Trade openness	-0.0607***	-0.0595***	-0.0618***	-0.0612***	0.0246***	0.0255***	0.0242***	0.0271***
	(0.0124)	(0.0135)	(0.00857)	(0.0119)	(0.00553)	(0.00515)	(0.00571)	(0.00502)
Foreign direct investment	-0.0718***	-0.0732***	-0.0725***	-0.0713***	-0.00908**	-0.00771**	-0.00920**	-0.0135***
	(0.0231)	(0.0235)	(0.0179)	(0.0232)	(0.00344)	(0.00328)	(0.00349)	(0.00420)
Investment freedom	-0.0438**	-0.0436**	-0.0461***	-0.0409**	-0.0360***	-0.0303***	-0.0330***	-0.0323***
	(0.0173)	(0.0172)	(0.0120)	(0.0168)	(0.00835)	(0.00664)	(0.00871)	(0.00812)
Government spending	-0.0461***	-0.0449***	-0.0485***	-0.0454***	-0.0211**	-0.0197**	-0.0186**	-0.0170*
	(0.0136)	(0.0142)	(0.00909)	(0.0131)	(0.00781)	(0.00842)	(0.00837)	(0.00828)
Per capita GDP	1.450***	1.492***	1.428***	1.420***	4.061***	3.503***	3.681***	3.824***
	(0.239)	(0.259)	(0.179)	(0.234)	(0.374)	(0.357)	(0.354)	(0.323)
Female labor force participation	-0.144***	-0.142***	-0.146***	-0.146***	-0.360***	-0.336***	-0.375***	-0.350***
	(0.0211)	(0.0198)	(0.0141)	(0.0225)	(0.0362)	(0.0375)	(0.0417)	(0.0390)
Women civil liberty		-1.643				-7.159***		
		(1.357)				(1.930)		
Women political participation			-1.377**				-3.362***	
			(0.614)				(0.753)	
Women civil society participation				-2.311**				-4.890***
				(1.064)				(1.012)
Constant	21.80***	20.88***	21.82***	21.89***	16.37***	17.61***	17.11***	14.62***
	(2.178)	(2.200)	(1.530)	(2.181)	(4.162)	(3.989)	(4.705)	(4.222)
Observations	793	793	793	793	827	827	827	827
Number of countries	41	41	41	41	41	41	41	41
Fisher	395.4***	189.5***	222.8***	506.6***	98.10***	73.34***	74.54***	94.12***

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: Authors' computation.

Table 7. Robustness through Clusters

VARIABLES	(1) Former French colonies	(2) Former English colonies	(3) Other formal colonies	(4) Access to the sea	(5) Landlocked	(6) Politically unstable countries	(7) Politically stable countries	(8) Low-income countries	(9) Lower-middle and Upper-middle income countries
				Dependent variable: manufacturing value added					
Women political empowerment	1.609	-2.596*	-6.603	-1.127*	2.541**	7.129***	1.109	-5.641***	5.749
	(1.971)	(1.362)	(4.043)	(0.608)	(0.950)	(2.543)	(1.168)	(0.874)	(6.580)
Financial development	0.0290	-0.0383***	0.00946	-0.0140	0.0422*	0.0248	0.0260**	0.0527**	-0.0576
	(0.0197)	(0.0125)	(0.0187)	(0.00832)	(0.0231)	(0.0202)	(0.0105)	(0.0243)	(0.0344)
Resource rents	0.0417	-0.0789**	-0.0423	0.0564	-0.314***	-0.113***	0.243***	-0.108***	0.0991
	(0.0373)	(0.0365)	(0.0826)	(0.0365)	(0.0201)	(0.0249)	(0.0322)	(0.0210)	(0.0786)
Trade openness	-0.125***	0.0173	0.00576	-0.0659***	0.0465***	0.0348***	-0.0407***	-0.0258***	-0.0367
	(0.0179)	(0.0122)	(0.0187)	(0.00609)	(0.0144)	(0.0107)	(0.0130)	(0.00886)	(0.0218)
Foreign direct investment	-0.0107	-0.0507	0.0112	-0.0666***	-0.157***	0.0177***	-0.196***	-0.0650***	0.430***
	(0.0697)	(0.0442)	(0.00782)	(0.0191)	(0.0320)	(0.00577)	(0.0695)	(0.0101)	(0.142)
Investment freedom	-0.0198	0.0769***	0.0576***	-0.0208	-0.0445**	0.0120	-0.0168	-0.0221*	0.0443
	(0.0302)	(0.0157)	(0.0138)	(0.0224)	(0.0167)	(0.0149)	(0.0175)	(0.0127)	(0.0334)
Government spending	-0.0202	0.0135	-0.0229*	-0.0548***	0.00382	0.0205	-0.0589***	-0.0478***	0.0761**
	(0.0500)	(0.0182)	(0.0131)	(0.0147)	(0.0106)	(0.0181)	(0.0139)	(0.0122)	(0.0367)
Per capita GDP	2.933***	-5.201***	-6.184***	2.288***	-4.381***	-4.450***	-0.0560	0.000504	-11.45***
	(0.568)	(0.562)	(1.046)	(0.297)	(0.287)	(0.870)	(0.408)	(0.285)	(0.966)
Female Labor force participation	-0.161**	0.0164	0.0118	-0.119***	-0.134**	0.170***	-0.180***	-0.0490***	0.609***
	(0.0700)	(0.0244)	(0.0788)	(0.0135)	(0.0585)	(0.0507)	(0.0143)	(0.0121)	(0.0856)
Constant	10.26*	46.64***	57.46***	13.64***	49.51***	20.20**	29.21***	24.50***	69.37***
	(5.438)	(3.955)	(7.275)	(1.782)	(5.876)	(7.674)	(3.004)	(2.934)	(9.542)
Observations	391	286	214	581	212	233	560	546	247
Number of countries	19	13	13	29	12	13	28	28	13
Fisher	93.03***	56.87***	43.28***	367.4***	119.2***	11.95***	419.6***	120.5***	38.54***

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Authors' computation.

4.2.Transmission Mechanism

Female economic participation and economic freedom are verified as possible transmission mechanisms. This is principally because, if politically empowered women were to work for women, more women will be readily available to settle for industrial jobs. Besides, they will advocates for legislation that favours entrepreneurship and domestic investments. Tables 8 and 9 present these results.

Table 8. Indirect effect through women economic participation

VARIABLES	(1)	(2)	(3)	(4)
	Dependent variable: Manufacturing value added			
Women political empowerment (A)	4.437**			
	(1.799)			
Financial development	-0.000615	-0.00286	0.00178	0.000139
	(0.0108)	(0.0147)	(0.00944)	(0.0107)
Resources rents	0.0573**	0.0490*	0.0628**	0.0553**
	(0.0231)	(0.0265)	(0.0256)	(0.0231)
Trade openness	-0.0608***	-0.0588***	-0.0572***	-0.0642***
	(0.0122)	(0.0124)	(0.0128)	(0.0121)
Foreign direct investment	-0.0674***	-0.0696***	-0.0739***	-0.0621***
	(0.0225)	(0.0217)	(0.0236)	(0.0217)
Investment freedom	-0.0429***	-0.0441***	-0.0450***	-0.0390**
	(0.0150)	(0.0149)	(0.0149)	(0.0148)
Government spending	-0.0434***	-0.0411***	-0.0439***	-0.0425***
	(0.0127)	(0.0135)	(0.0139)	(0.0121)
Per capita GDPP	0.982***	1.011**	0.892***	0.954***
	(0.305)	(0.369)	(0.297)	(0.291)
Female labor force participation (B)	-0.0868***	-0.120***	-0.149**	-0.0305
	(0.0236)	(0.0217)	(0.0566)	(0.0285)
A×B	-0.103***			
	(0.0252)			
Women civil liberty		1.913***		
		(0.647)		
Women civil liberty×B		-0.0534*		
		(0.0271)		
Women Political Participation			0.236	
			(3.891)	
Women Political Participation×B			-0.00760	
			(0.0616)	
Women civil society participation				9.849**
				(4.152)
Women civil society participation×B				-0.210***
				(0.0649)
Constant	20.06***	21.38***	23.21***	17.39***
	(2.209)	(2.717)	(3.858)	(1.735)
Net effect	**-1.623623**	**-1.2291094**	**----**	**-2.50761**
Threshold	**43.0777**	**35.82397**	**-----**	**46.9**
Observations	793	793	793	793
Number of countries	41	41	41	41
Fisher	343.2***	748.8***	655.8***	635.2***

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: Authors' computation.

Table 9. Indirect effect through investment freedom

VARIABLES	(1)	(2)	(3)	(4)
		Manufacturing value added		
Women political empowerment	-13.39***			
	(4.702)			
Financial development	0.00238	0.000932	-0.000338	0.00274
	(0.00774)	(0.00977)	(0.00736)	(0.00741)
Resource rents	0.0567***	0.0494**	0.0659***	0.0582***
	(0.0173)	(0.0192)	(0.0181)	(0.0172)
Trade openness	-0.0669***	-0.0606***	-0.0676***	-0.0648***
	(0.00739)	(0.00896)	(0.00680)	(0.00719)
Foreign direct investment	-0.0592***	-0.0678***	-0.0602***	-0.0595***
	(0.0156)	(0.0168)	(0.0148)	(0.0168)
Investment freedom (A)	-0.219***	-0.125**	-0.230***	-0.167***
	(0.0671)	(0.0464)	(0.0733)	(0.0465)
Government spending	-0.0479***	-0.0427***	-0.0521***	-0.0461***
	(0.00845)	(0.00890)	(0.00905)	(0.00821)
Per capita GDP	0.997***	0.963***	1.131***	0.839***
	(0.208)	(0.220)	(0.244)	(0.198)
Female labor force participation	-0.157***	-0.155***	-0.155***	-0.160***
	(0.00942)	(0.00942)	(0.00895)	(0.00999)
Women political empowerment×A	0.256***			
	(0.0892)			
Women civil liberty		-6.773**		
		(3.191)		
Women civil liberty×A		0.122*		
		(0.0614)		
Women political participation			-11.69**	
			(4.174)	
Women political participation×A			0.237***	
			(0.0828)	
Women civil society participation				-11.23***
				(3.835)
Women civil society participation×A				0.202**
				(0.0751)
Constant	32.77***	27.56***	32.05***	31.42***
	(3.161)	(2.194)	(3.080)	(2.883)
Net effect	**-0.830896**	**-0.787802**	**-0.063017**	**-1.320082**
Threshold	**52.30469**	**55.51639**	**49.324895**	**55.594059**
Observations	793	793	793	793
Number of countries	41	41	41	41
Fisher	485.3***	314.5***	326.4***	531.4***

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: Authors' computation.

The results on Table 8 show that the economic participation of women interact with women political participation producing positive direct effect and negative indirect effects. The indirect effect stands out, leading to negative net effects in all cases. Given the consistent positive unconditional effects of the female political participation dynamics and the corresponding negative conditional or interactive effects, when women economic

participation rates of 43.0777, 35.82, and 46.9 are attained for women political empowerment index, women civil liberty and women civil society participation to respectively, complementary policies are needed for have a positive effect on industrialisation.

On the other hand, Table 9 shows that investment freedom interacts with women political empowerment to produce negative net effects in all cases. The investment freedom thresholds required for this negative net effect to be nullified are 52.30469, 55.51639, 49.324895, and 55.594059 respectively for the women political empowerment index, women civil liberty, women political participation and women civil society participation interactions. These thresholds are all above the current African average of 49.059 (See Table 1). This shows that there are a lot of efforts still needed on the institutional framework as far as investment freedom is concern.

Though some countries have women labour force participation rates far above the desired threshold for effective industrialisation, the average is inflated by the very high values of some few countries while majority of the low income economies still have very low rates. For women political implications to actually benefit industrialisation in Africa, women in politics have to work first of all towards the designation of policies that should favour economic freedom through investments, and more women should be available to pick up industrial positions. Instead for women involved in politics to focus on gender equivalent, the fight should be towards elaborating of legislation that favours more women economic participation and investment freedom for all, though complementary policies are needed to maintain a positive effect on industrialisation when female economic participation has reached certain thresholds.

5. Conclusion

The objective of this study was to examine the effect of women political implications on industrialisation in Africa. The study went further to establish the modulating mechanisms for this effect. After establishing the presence of cross-sectional dependence in our model, causality was established through the recently development Granger non-causality test by Juodis et al. (2021) and the empirical model estimated through the Driscoll and Kraay (1998) standard error estimator. The results show that women political implications through political empowerment, civil liberty, political participation and civil society participation in all granger cause industrialisation in Africa. Besides, the regression results show that women

political implications negatively affect industrialisation in Africa. The justification comes from low investment freedom and low level of economic participation of women in formal economic activities. The indirect effect results indicate that women political implications interact with both economic freedom and women economic participation producing negative net effects in all cases. Minimum levels of economic freedom are provided after which, the incidence on industrialisation is positive while maximum levels of female economic participation at which complementary policies are required to maintain a positive effect on industrialisation are also provided. The maximum female economic participation thresholds for complementary policies are 43.0777, 35.82, and 46.9, respectively, for women political empowerment index, women civil liberty and women civil society participation. The minimum economic freedom thresholds required for a positive effect on industrialisation are 52.30469, 55.51639, 49.324895, and 55.594059 respectively, for the women political empowerment index, women civil liberty, women political participation and women civil society participation interactions.

As policy implications, in as much as gender inclusiveness is necessary in achieving the sustainable development goals by 2030, focus in each economy should not be only for inclusiveness in the political sphere. For political inclusiveness to actually yield results on industrialisation, there is necessity for high economic inclusiveness and investment freedom. In this respect, economic freedom threshold of 52.30469, 55.51639, 49.324895, and 55.594059 should be at least attained for the women political empowerment index, women civil liberty, women political participation and women civil society participation indexes to have positive outcome on industrialisation. At the same time, when women economic participation rates of 43.0777, 35.82, and 46.9 are attained for women political empowerment index, women civil liberty and women civil society participation respectively, complementary policies are needed for a positive effect on industrialisation..

The results of these findings are not conclusive on the subject. Future research could focus on country specific studies for more oriented policies. Besides, more modulating mechanisms could be used in future research for more elaborated policies. Studies could also focus on specific industrial sectors such as the agricultural sector.

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A 1. Results with the explanatory variables lagged by a period

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					Dependent variable			
	Manufacturing value added				Industrial employment			
Women political empowerment	-2.484**				-7.484***			
	(1.079)				(1.381)			
Financial development	-0.00809	-0.0126	-0.00426	-0.00835	-0.0428***	-0.0537***	-0.0466***	-0.0528***
	(0.0105)	(0.0119)	(0.00968)	(0.0100)	(0.00874)	(0.00930)	(0.00925)	(0.00943)
Resource rents	0.0434	0.0321	0.0539*	0.0467	-0.00822	-0.00365	-0.00995	-0.00320
	(0.0281)	(0.0256)	(0.0293)	(0.0295)	(0.00975)	(0.00957)	(0.00992)	(0.00928)
Trade openness	-0.0653***	-0.0634***	-0.0663***	-0.0659***	0.0236***	0.0243***	0.0229***	0.0255***
	(0.0124)	(0.0119)	(0.0125)	(0.0119)	(0.00472)	(0.00435)	(0.00493)	(0.00425)
Foreign direct investment	-0.0659***	-0.0671***	-0.0674***	-0.0649***	-0.00812**	-0.00639	-0.00802**	-0.0112**
	(0.0224)	(0.0204)	(0.0223)	(0.0224)	(0.00336)	(0.00379)	(0.00336)	(0.00464)
Investment freedom	-0.0423**	-0.0418***	-0.0445**	-0.0386**	-0.0350***	-0.0288***	-0.0332***	-0.0305***
	(0.0164)	(0.0146)	(0.0162)	(0.0158)	(0.00717)	(0.00593)	(0.00772)	(0.00713)
Government spending	-0.0446***	-0.0425***	-0.0471***	-0.0437***	-0.0195**	-0.0172*	-0.0179**	-0.0152*
	(0.0144)	(0.0128)	(0.0143)	(0.0140)	(0.00803)	(0.00872)	(0.00839)	(0.00846)
Per capita GDP	1.645***	1.704***	1.625***	1.611***	4.454***	3.916***	4.159***	4.099***
	(0.236)	(0.243)	(0.229)	(0.228)	(0.403)	(0.392)	(0.366)	(0.360)
Labor force participation female	-0.148***	-0.145***	-0.150***	-0.150***	-0.352***	-0.332***	-0.366***	-0.345***
	(0.0179)	(0.0151)	(0.0182)	(0.0192)	(0.0396)	(0.0385)	(0.0436)	(0.0405)
Women civil liberty		-2.248*				-6.170***		
		(1.166)				(2.043)		
Women political participation			-1.119				-3.409***	
			(0.813)				(0.693)	
Women civil society participation				-2.703**				-3.926***
				(1.072)				(1.241)
Constant	21.11***	20.16***	20.77***	21.26***	12.58***	13.74***	13.25**	11.68**
	(2.148)	(2.099)	(2.018)	(2.193)	(4.472)	(4.143)	(4.828)	(4.405)
Observations	784	784	784	784	791	791	791	791
Number of countries	41	41	41	41	41	41	41	41
Fisher	743.1***	228.9***	240.3***	573.3***	123.7***	121.8***	109.1***	171.9***

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1