

# **Gender-Based Policies and Women's entrepreneurship: An fsQCA Analysis of sub-Saharan African Countries.**

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## **Structured Abstract**

**Purpose** – Entrepreneurship policy is a vital component of any entrepreneurial ecosystem. However, the specific policy initiatives that have a greater impact on women's entrepreneurship remain unclear in many developing economies. Therefore, this study aims to evaluate the effectiveness of entrepreneurship policies targeted at women's entrepreneurship in sub-Saharan Africa (SSA).

**Design/Methodology/Approach** – Employing fuzzy-set Qualitative Comparative Analysis (fsQCA), this paper utilises, and analyses secondary data collected by the World Bank's Women, Business, and the Law (WBL) from 1970 to 2020, encompassing 48 countries within SSA.

**Findings** – Through our analysis, we identified two configurations that sufficiently support women's entrepreneurship. First, a combination of gender-based policies focusing on enabling 'access to credit' and 'signing of contracts'; and second, a blend of policies supporting 'signing of contracts', 'business registration', and 'opening a bank account', represent significant antecedents to supporting women's entrepreneurship. These distinct pathways are crucial to fostering women's entrepreneurship in the SSA region.

**Research Implications** – The study's findings indicate that the impact and effectiveness of entrepreneurship policies targeted at women entrepreneurs in developing economies depend on the effectiveness of other policies that are in place.

**Originality/Value** – This study offers new insights into the intricate interrelationship between entrepreneurship policies and women's entrepreneurship in developing countries by considering the interdependence and combinative value of gender-based policies that effectively support women's entrepreneurship in sub-Saharan Africa.

**Keywords:** Entrepreneurship policies; women's entrepreneurship; developing economies; fsQCA, Africa

**Paper type:** Research paper

## 1. Introduction

The establishment of entrepreneurship policies is a crucial means through which governments support entrepreneurial activities in both developing and developed economies (Gilbert et al., 2004; Nziku and Henry, 2020; Rigby and Ramlogan, 2013; Smallbone, 2016). However, African female business owners were historically underrepresented in the policymaking process, particularly concerning business and human resources development (Simba et al., 2023; Ogundana et al., 2023). Unlike their counterparts in developed countries, these female business owners often operate in an environment where government policies supporting women's entrepreneurship are gender-insensitive and unsupportive due to the prevailing patriarchal nature of society, compounded by political instability, bureaucracy, and corruption (Amine and Staub, 2009; Azmat, 2013; Roomi et al., 2018; Ogundana et al., 2023). Given that entrepreneurship policies in Africa have not been supportive of women's entrepreneurship, governments have worked to implement gender-inclusive policies (Ogundana et al., 2023). For example, countries like Malawi and Namibia revised discriminatory informal institutions governing inheritance and property rights, boosting female labour force participation (United Nations Foundation, 2020). Similarly, Kenya, Tunisia, Nigeria, and South Africa, have also witnessed improved gender parity through implemented laws and regulations (PEW Research Centre, 2019). Despite recent strides to introduce gender-based policies in Africa (Ogundana et al., 2023), the Edelman Trust Barometer, a tool for assessing public trust levels in various sectors and institutions as a percentage ranging from 0% to 100%, with higher percentages indicating greater trust and lower percentages signifying less trust, highlights ongoing challenges. It reveals that government policy success in Africa remains modest, with South Africa at 15%, Nigeria at 31%, and Liberia at 32% (Edelman, 2017). Thus, given the relatively low success of gender-based policies in Africa, it remains unclear how they impact women's entrepreneurship and thus remains a crucial area of inquiry.

Extant literature on the gender-based entrepreneurship policies suggests that policy indicators, such as human capital, culture, family, institutional factors, gender, and social capital (Amine and Staub, 2009; Azmat, 2013; Roomi *et al.*, 2018) are important in promoting women's entrepreneurship. Other studies suggest the importance of contextualized factors such as geography, culture, and sectors in promoting gender awareness in women's entrepreneurship (Welter 2011; Foss *et al.*, 2019; de Bruin *et al.*, 2022). Also, the literature highlights some commonly adopted gender-based policies in sub-Saharan Africa. These include enhancing financial accessibility, implementing organised government initiatives, providing entrepreneurship education and training at both school and post-school levels, and acknowledging the impact of social and cultural norms (GEM, 2017–2018; Nziku, 2018; Kuzilwa, 2005; Nziku and Henry, 2020). For example, Nziku and Henry, (2020) in their examination of gender-based entrepreneurship policies in Tanzania highlight the gender-based policies in this country such as promoting the cultivation of entrepreneurship-friendly values and mindsets through educational initiatives, training, and various programs; evaluating and adapting school curricula to include components fostering entrepreneurship; implementing entrepreneurship-focused courses within vocational and technical training; initiating specialised entrepreneurship programs for specific groups, such as school graduates; enabling skill enhancement in entrepreneurship development; and addressing the lack of a gender-specific strategy through discussion. Overall, the extant studies that have examined the impact of gender-based policies on promoting women's entrepreneurship suggest that the success of women's entrepreneurship in a particular country is partially dependent on the presence and efficacy of supportive policies (Gilbert *et al.*, 2004; Nziku and Henry, 2020; Rigby and Ramlogan, 2013; Smallbone, 2016).

Despite the growing body of research on women's entrepreneurship it is surprising that the efficacy of gender-based policy remains largely understudied (Marlow and McAdam, 2013; Henry *et al.*, 2017; Duran-Sanchez *et al.*, 2019; Foss *et al.*, 2019), especially in developing

countries where gender-related policies face the challenge of crossing beyond base level equality (Nziku and Henry, 2021). Scholarly work on how the configuration of gender-based policies impacts women's entrepreneurship is fragmented and underdeveloped, which has two important implications. First, prior research has raised concerns about the efficacy of these policies, citing their lack of specificity and contextuality in the distinctive geographical and cultural settings where they are applied (Nziku and Henry, 2020; Smallbone, 2016). Particularly, the limited empirical studies on women's entrepreneurship in developing economies in Africa have weakened theory-based claims regarding the necessity of gender-based policies for supporting women's entrepreneurship in this context. Second, empirical studies on women's entrepreneurship in developing economies have primarily concentrated on the discrete consequences of individual policies (Baughn *et al.*, 2006; Berger and Kuckertz, 2016; Noguera *et al.*, 2013), disregarding the collective impact of multiple policies (Xie *et al.*, 2021). Against the foregoing backdrop, this study addresses the research question: *which combinations of gender-based policies can help promote women's entrepreneurship in sub-Saharan African countries?*

To address this research question, we draw on the social feminist perspective to analyse four gender-based policies – access to credit, signing contracts, business registration, and bank account – that support women's entrepreneurship in 48 sub-Saharan African countries, using fuzzy sets Qualitative Comparative Analysis (fsQCA). Essentially, our study aims to provide an integrative framework for the combinations of gender-based policies that support women's entrepreneurship in sub-Saharan African countries. Integrating social feminist theory with the literature on women's entrepreneurship, we argue that in sub-Saharan African countries, different configurations of gender-based policies (i.e., access to credit, signing contract, business registration, and bank account) are instrumental in promoting women's entrepreneurship. Specifically, our results suggest that gender-based policies on 'access to credit' and 'signing contract' on the one hand, and 'signing contract', 'business registration',

and ‘bank account’ on the other hand, constitute the most relevant gender-based policies to support female entrepreneurship. These two combinations of pathways are distinct and crucial in supporting women’s entrepreneurship in sub-Saharan African countries.

Our study contributes to the literature in the following ways: First, it advances social feminist theory and gender-based entrepreneurship policy literature, particularly in developing countries (e.g., Ogundana, et al., 2021; Pathak, Goltz and Buche, 2013; Vracheva and Stoyneva, 2020), by highlighting the ineffectiveness of gender-based policies in sub-Saharan Africa due to their lack of formalization and contextualization. Second, our study addresses the lack of research on the effectiveness of gender-based policies in developing countries (Goyal and Yadav, 2014; Ogundana et al., 2021) by shedding light on the unique combinations of gender-based policies that are effective for women’s entrepreneurship in the context of sub-Saharan African countries. Finally, our study sheds light on the overlooked configurational impact of multiple gender-based policies in existing theorising (Baughn *et al.*, 2006; Cheraghi *et al.*, 2019; Xie *et al.*, 2021) by offering a new perspective on the interdependence of various gender-based policies on women’s entrepreneurship in sub-Saharan African countries, generating valuable insights for policymakers and scholars alike.

## **2. Theoretical Background**

### *2.1. Women’s entrepreneurship in sub-Saharan Africa*

In 2015, The Global Entrepreneurship Monitoring (GEM) reports a high rate of total early-stage entrepreneurship activity (TEA) among women in Sub-Saharan Africa (SSA). Scholars emphasise the significance of women's entrepreneurial activity for economic development and social mobility in SSA countries (e.g., Quagraine, 2016; Dana and Ratten, 2017; Ogundana et al., 2023). The agricultural sector, a vital economic sector in SSA, relies on women entrepreneurs who contribute 40% to 56% of the labour in food production, serving household consumption, and commercial sales (World Bank, 2016). The GEM report on

women's entrepreneurship in Africa further reveals the substantial contribution of women-owned small and medium enterprises (SMEs) to job creation, with over 1 million jobs in Angola, 4 million in Nigeria, 1.08 million in Burkina Faso, and 1.64 million in Zambia (GEM, 2014; 2015). The GEM report (2017) also projects that women-owned SMEs in East, North, and sub-Saharan Africa have the potential to create even more jobs, with each woman entrepreneur expected to hire six or more employees between 2017 and 2025. These projections suggest that women-owned SMEs could significantly reduce unemployment in Africa by an average of 6% by the end of 2025 (GEM, 2017).

Women's entrepreneurial activities in the SSA region have not only had an impact on reducing unemployment but have also brought about various social benefits. For instance, these activities have contributed to reducing child trafficking and prostitution in Nigeria (Ogundana *et al.*, 2018), improving child education rates in Ghana and the Republic of Niger (Chea, 2008; Otoo *et al.*, 2012), increasing family nutritional rates by 33% in Botswana (Ama *et al.*, 2014), reducing crime levels by 23.3% in Ogun State, Nigeria (Iyiola and Azuh, 2014; Ogundana *et al.*, 2023), and playing a crucial role in alleviating hunger and poverty in Kenya (IFC, 2014; Misango and Ongiti, 2013). These examples demonstrate the transformative potential of women-owned SMEs within African societies, positively impacting various dimensions of social development.

There remains untapped potential, particularly in the SSA region and other parts of the developing world (Akpan *et al.*, 2022; Luo *et al.*, 2019). The OECD reports there is untapped potential in women's entrepreneurship in all geographic contexts. Policymakers are actively introducing entrepreneurship policies to encourage and support business start-ups, growth, and sustainability to harness this potential (Nziku and Henry, 2020; Rigby and Ramlogan, 2013). It is crucial to continue nurturing and empowering women entrepreneurs to fully leverage their capabilities and contributions for sustainable economic and social progress.

## 2.2. *Entrepreneurship policy*

Entrepreneurship policies are widely acknowledged as essential components of entrepreneurial ecosystems, with the aim of supporting and encouraging women's entrepreneurial activities (Nziku and Henry, 2020; Rigby and Ramlogan, 2013; Smallbone, 2016). These policies encompass various measures such as improving access to finance, reducing taxes, providing entrepreneurship education and training, supporting research and development, enhancing infrastructure, and facilitating market access (GEM, 2017; Kantis *et al.*, 2020; Nziku and Henry, 2020). While these policies have been celebrated for their potential to foster entrepreneurship and social inclusion, they have also faced criticism for their effectiveness (Arshed *et al.*, 2014; Nziku and Henry, 2020; Smallbone, 2016).

One of the challenges with entrepreneurship policies is their limited effectiveness, often due to the characteristics of the targeted enterprises. Policies may fail to have an impact when they do not address the specific needs of growth-oriented businesses, which play a crucial role in driving economic growth (Smallbone, 2016). Implementation mechanisms also play a vital role, as policies delivered by agents who lack confidence and reach within the target group are unlikely to succeed (Smallbone, 2016). Moreover, the lack of clarity in policy objectives and low awareness among the target group can undermine policy effectiveness (Gilbert *et al.*, 2004; Nziku and Henry, 2020). Additionally, the contextual nuances of developing economies, such as the SSA region, are often overlooked in entrepreneurship policies, limiting their impact (Arshed *et al.*, 2014; Nziku and Henry, 2020).

Another critical issue is the scarcity of evidence evaluating the effectiveness of entrepreneurship policies, particularly in developing economies (Edoho, 2016; Olorunshola and Odeyemi, 2023). Limited research and evaluation hinder the understanding of how policies influence entrepreneurship and the specific contexts in which they operate (Smallbone, 2016). Insufficient consultation with the target group during policy design and delivery further undermines effectiveness, as it fails to align policies with the actual needs and perspectives of

entrepreneurs (Arshed *et al.*, 2014). The lack of formal engagement between policymakers and entrepreneurship stakeholders contrasts with market research practices in the private sector, where stakeholder feedback is essential for product development (Edoho, 2016; Smallbone, 2016).

Overall, while entrepreneurship policies are widely implemented to support women's entrepreneurship, their effectiveness and impact remain uncertain. The limited focus on specific enterprise characteristics, lack of evidence-based evaluations, and insufficient stakeholder consultation pose challenges to designing and implementing policies that can truly address the needs of women entrepreneurs and foster their success.

### 2.3. *Feminism and entrepreneurship policy*

The underlying tenet of the feminist standpoint is the need to address the subordination of women (Coleman *et al.*, 2019; Nziku and Henry, 2020). Thus, the theory of feminism emphasises that entrepreneurship policies should centre on addressing women's individual-level constraints (i.e., a liberal feminist perspective) or focus on addressing systemic biases and fixing the institutional level of norms (i.e., a social feminist perspective) to engender the entrepreneurial ecosystems (Coleman *et al.*, 2019; Foss *et al.*, 2019). The challenges confronting women entrepreneurs and their businesses in the developing world are primarily two-pronged, i.e., at the individual- and macro-levels (Berger and Kuckertz, 2016; Ettl and Welter, 2012; Ogundana *et al.*, 2022). From a liberal feminist stance, women entrepreneurs are often small and disinterested in growing their enterprises, mostly because they lack skills, competencies, ambition, financial acumen/literacy and entrepreneurial attitudes (Coleman *et al.*, 2019; GEM, 2017; Ogundana *et al.*, 2022). Consistent with the liberal feminine perspective, policies and programmes are designed to address individual-level constraints (i.e., the lack of skills, financial acumen, and literacy) through training to enhance women entrepreneurs' financial literacy and skill deficiencies (Coleman *et al.*, 2019; Nziku and Henry, 2020). In other



instances, microloans or equity are provided to small or growth-oriented women-owned enterprises to compensate for institutional barriers (Ahl and Nelson, 2015; Devillard *et al.*, 2017).

The social feminist perspective emphasises that women and men are inherently different due to their early and ongoing socialisation (Foss *et al.*, 2019; Ogundana *et al.*, 2022). For instance, societal praxis often conditioned women to assume domestic roles and possess traits such as gentleness, sensitivity, compassion, submissiveness, and deference (Simba *et al.*, 2022). On the other hand, men are socialised to express toughness, stoicism, self-sufficient attitudes, a lack of emotional sensitivity, and a more dominant role in male-female relationships (Ampofo, 2001; Huq *et al.*, 2021). The gender socialisation processes are more prevalent in developing countries, where deviation from them is often frowned upon, and culprits stigmatised (Ogundana *et al.*, 2022; Simba *et al.*, 2022). In a developing country region such as Ghana, social expectations are "reinforced by direct instruction, punishments, and the observation of female acceptance of male dominance among parents" (Ampofo, 2001, P. 16). Thus, the social feminist perspective perceives and describes women's entrepreneurship as unique, valid, and vital (Coleman *et al.*, 2019; Weber and Geneste, 2014).

Based on the social feminist perspective, entrepreneurial interventions are generally designed to acknowledge intersectionality, capturing the differences among women, including age, race, ethnicity, education, and wealth (Martinez Dy and Jayawarna, 2020; Saxe, 2017). In addition, policy interventions are designed to address systemic biases and fix the institutional level of norms in entrepreneurial ecosystems (Coleman *et al.*, 2019; Edoho, 2016; Nziku and Henry, 2020). For instance, in some countries in SSA's region where women are faced with significant challenges enshrined in their sociocultural contexts (including Angola, Benin, Burundi, Gabon, Sierra Leone and Togo), laws and policies have been instituted that: allow women to open a bank account in the same way as men; prohibits gender-based discrimination in financial services from making access to credit more accessible for women; grants spouses

equal rights to immovable property and equal administrative authority over assets during the marriage; allows a woman to get a job without permission from her husband; enable a woman to choose where to live in the same way as a man; protect women from domestic violence; promote equal remuneration for work of equal value; and remove restrictions on women's employment in the construction sector (World Bank, 2018). While introducing these policies to support women entrepreneurs are commendable, especially in the developing world, prior studies have questioned the effectiveness of these regulations for lacking formality and contextualisation to their specific geographical and cultural setting (Nziku and Henry, 2020; Smallbone, 2016). Besides, many challenges that women encounter mainly emerge from the cultural-cognitive pillars of their context, which are often difficult to change (Coleman *et al.*, 2019; Nziku and Henry, 2020; Welter, 2011). Thus, many studies from the developing world continue to call for more studies to evaluate the effectiveness of entrepreneurial policies.

This study proposes to address this call by focusing on four gender based entrepreneurial policies - *business registration* (the presence of policies that allow women to register a business in the same way as men), *bank account* (the presence of policies that allow women to open bank accounts in the same way as men), *access to credit facilities* (the presence of policies that prohibit discrimination in access to credit based on gender, and *signing contract* (the presence of policies that allow women to sign contracts in the same way as men) – which have received coverage not only in the broader women's entrepreneurship literature but also in sub-Saharan Africa women's entrepreneurship research (Hyland *et al.*, 2020; Ogundana *et al.*, 2022; Olorunshola and Odeyemi, 2023; Simba *et al.*, 2023). This is perhaps because they have been recognised by entrepreneurship stakeholders, including the World Bank, Global Entrepreneurship Monitor, and the African Development Bank, as crucial for supporting the establishment and growth of women-owned businesses in the Sub-Saharan Africa (SSA) region (AFDB., 2019; GEM, 2019; World Bank, 2018). Our study also focuses on business registration, bank account opening, access to credit facilities, and signing contract policies due

to the following reasons: First, we conducted a preliminary search of policy documents on women's entrepreneurship prior to data collection, which revealed the popularity of these four women's entrepreneurship policies in sub-Saharan African countries. Most of the policy documents highlighted how policymakers in sub-Saharan African countries are looking for ways to support women-owned businesses and empower women economically, making these four entrepreneurship policies more relevant to the context of our study. Second, the literature on women's entrepreneurship consistently emphasises the significance of these four elements as fundamental building blocks for the viability of women-owned enterprises (Brush *et al.*, 2009; Coleman *et al.*, 2019; Ogundana *et al.*, 2022). Finally, these four women's entrepreneurship policies fit our theoretical framework, as they reflect an institutional-level approach to fixing the barriers to overcoming the subordination of women from a feminist perspective. Therefore, rigorous evaluation and analysis of interventions targeting these specific areas will contribute to a better understanding of their impact on supporting and empowering women entrepreneurs in the SSA region.

### *2.3.1. Access to credit*

Access to financial capital is widely recognised as a critical factor for the success and growth of women-owned enterprises (Ogundana *et al.*, 2022; Wiklund *et al.*, 2009). Money is often considered a scarce and difficult-to-replicate resource, posing challenges for women-owned enterprises seeking access to financial capital (Barney and Arikan, 2005; Bates *et al.*, 2007). While access to credit is important, it is not sufficient on its own to ensure business viability; effective utilisation of credit is crucial for generating enterprise success (Ogundana *et al.*, 2022). Therefore, the availability and effective utilisation of financial resources represent a significant determinant of business start-up, growth, and survival (Coleman *et al.*, 2019). Unfortunately, women entrepreneurs mostly face greater challenges in accessing capital compared to their male counterparts in developing economies. For instance, a 2016 report by the Organisation for Economic Co-operation and Development (OECD) revealed that less than

40% of women entrepreneurs in many developing economies, such as, the SSA regions had limited access to funding for starting or expanding their businesses (OECD, 2016).

This gender gap in access to capital can be attributed to various factors, including lower levels of financial literacy and awareness among women (Witbooi and Ukere, 2011), participation in highly competitive and low-growth sectors (Ogundana *et al.*, 2022), gender-biased credit scoring systems, and gender stereotypes in investment evaluations (Ahmad and Muhammad, 2015; Ghosh *et al.*, 2018). As a result, women entrepreneurs often rely heavily on self-financing, which is often insufficient to meet the needs of their enterprises (OECD, 2016). In fact, there is an estimated \$42 billion financing gap for African women entrepreneurs and their enterprises (AFDB, 2019). To address this issue, entrepreneurship policies generally aim to create avenues that address the gaps in women's entrepreneurial capacity, capabilities, and access to financial collateral while promoting equal opportunities for both men and women (Ahmad and Muhammad, 2015; Coleman *et al.*, 2019). From a liberal feminist perspective, policies may focus on ensuring women receive a fair share of available funding through targeted programs (Coleman *et al.*, 2019). On the other hand, policies grounded in social feminism seek to align with women entrepreneurs' personal values and goals (Coleman *et al.*, 2019). However, the effectiveness of entrepreneurship policies developed to enhance women's access to financial capital remains uncertain, especially in the context of sub-Saharan Africa developing economies. Thus,

*Proposition 1:* Gender-based policies on access to credit are associated with women's entrepreneurship in sub-Saharan Africa developing economies.

### 2.3.2. *Signing contract*

In many developing economies (including Lesotho, Jordan, the Democratic Republic of Congo and Gabon), women generally experience restrictions when signing business contracts (Azmat and Fujimoto, 2016; Banihani, 2020; Hyland *et al.*, 2020). For instance, in

some countries, such as the Democratic Republic of Congo (DRC), married women are considered legal minors, rendering them unable to sign contracts or enter into any legal obligations (World Bank, 2018). Articles 448 – 450 of the Family Code in the DRC explicitly state that women must obtain their husband's permission for any legal act, and they cannot go to court, acquire or dispose of property, or enter into binding agreements without their husband's authorization (Hyland *et al.*, 2020). Similar restrictions and sociocultural beliefs are prevalent in many developing economies, particularly in patriarchal societies, where women are considered weak and incapable of signing contracts (Azmat and Fujimoto, 2016; Banihani, 2020; Chea, 2008; Klapper and Parker, 2011). Aside from women's subjugation under their spouses by law and sociocultural norms, most women in developing economies lack self-efficacy and thus would generally avoid signing any contract because they do not believe in their abilities (Amatucci and Crawley, 2011; Madichie and Nkamnebe, 2010; Ogundana, 2022). The lack of self-confidence stems from their ongoing socialisation, which requires women to be gentle, sensitive, compassionate, submissive, and reverent (Elizabeth and Baines, 1998; Ogundana *et al.*, 2022). In addition to legal and cultural barriers, contracts signed by women are often not respected, particularly by men (Azmat and Fujimoto, 2016; Banihani, 2020). This is due to the perceived strength and power dynamics between the parties involved in the contract. As a result, women are often marginalised and disadvantaged in business contracts, as they are not taken seriously and are more likely to be cheated or face breaches of contract (Azmat and Fujimoto, 2016). Despite these challenges, policymakers continue to develop entrepreneurship policies aimed at supporting women's ability to sign contracts. However, the effectiveness of such policies in the face of ongoing restrictions on women entering into legal obligations remains uncertain in sub-Saharan Africa developing economies. Thus,

*Proposition 2:* Gender-based policies on contract signing are associated with women's entrepreneurship in developing economies in sub-Saharan Africa developing economies.

### 2.3.3. *Business registration*

There are more than 3 million unregistered businesses globally (OECD, 2016). Yet, there are conflicting conclusions regarding the impact of business registrations on the performance of an enterprise (*see, for instance*, Fajnzylber *et al.*, 2011; La Porta and Shleifer, 2014; Perry *et al.*, 2007; Williams and Kedir, 2016; Williams *et al.*, 2017). There is evidence that registered enterprises, compared to unregistered firms, generate higher self-employment income, productivity, revenue, and profit levels (Benjamin and Mbaye, 2012; Fajnzylber *et al.*, 2011; La Porta and Shleifer, 2014). Enterprises operating without formal registration display weaker subsequent performance relative to those registered from the outset (La Porta and Shleifer, 2014). For instance, Perry *et al.* (2007) observed that unregistered startups usually produce much lower output per worker after controlling for firm size, time in business, sector, and region. However, it is crucial to acknowledge that many entrepreneurs operate unregistered out of choice, prompting the exploration of potential benefits that these entrepreneurs may derive from the intentional decision to forego formal registration (Williams and Kedir, 2016; Williams and Youssef, 2015). For instance, in a study of 127 countries and controlling for other firm performance determinants, enterprises that started up unregistered and continuing to do so for an extended period, exhibited significantly higher subsequent annual sales, employment, and productivity growth rates compared to those that registered from the inception (Williams *et al.*, 2016). This is because unregistered enterprises can often save on costs associated with business registrations, including taxes, burdensome regulations, and the additional fees imposed on registered enterprises (Williams and Kedir, 2016). These costs related to the registration of businesses (including taxes and regulations) could represent a considerable cost

disadvantage compared to unregistered firms (La Porta and Shleifer, 2014). Besides, in the instance where only a few benefits are available to registered businesses, the registration costs might outweigh the benefits (Williams and Kedir, 2016). Despite the conflicting conclusions, the impact of entrepreneurship policies targeted at supporting business registration among women entrepreneurs remains unclear, especially in sub-Saharan Africa developing economies, where unregistered businesses are very prevalent. Thus,

*Proposition 3:* In sub-Saharan Africa developing economies, gender-based policies on business registration is associated with women's entrepreneurship.

#### 2.3.4. *Bank account*

Women have lower formal bank account penetration than men in every region, particularly in developing countries (World Bank, 2022). More than 32 percent of women, compared to 26 percent of men, in developing economies do not have a formal bank account (World Bank, 2022). The gender gap is highest in Sub-Saharan Africa, the Middle East, and North Africa, where there are 12 and 13 percent point gender gaps, respectively—twice as large as the developing economy average and three times larger than the global average (World Bank, 2022). A Gender-GEDI (2014) survey shows that more than 50% of women in Nigeria are unbanked. Unbanked women in developing countries face multiple barriers that limit their access to and use of financial services, including the lack of an I.D. to prove identity, mobility constraints, associated costs of opening a bank account, and limited financial literacy (Odebrecht, 2013; Trivelli *et al.*, 2018). Women might also be disinterested due to the masculine banking process within many developing economies, where men represent about 65% of banking staff and handle 80% of loan reviews and 75% of deposits (Global Banking Alliance for Women, 2018). Improving women's access to bank account and financial services would increase savings, contribute to women's autonomy, allow for better use of their personal and household resources, and reduce the vulnerability of their households and businesses

(Trivelli *et al.*, 2018). In the last decade, policymakers have instituted several policies to improve women's access to bank accounts, closing the gender gap (World Bank, 2022). Indeed, there has been an increase in the proportion of women banked globally (World Bank, 2022). Yet, there is a need to evaluate the impact of those policies on women's entrepreneurship. Doing this contributes to the monitoring and evaluation process required for a proactive government policy (Olorunshola and Odeyemi, 2023; Simba *et al.*, 2023). Thus,

*Proposition 4: In sub-Saharan Africa developing economies, gender based policies on opening a bank account is associated with women's entrepreneurship.*

#### 2.4. *Modelling the relationship between entrepreneurship policies*

The impact and effectiveness of entrepreneurship policies can be determined by other policies in place (Brewer, 1993). In many developing economies, business registrations are generally required for opening an enterprise's bank accounts (Kudakwashe *et al.*, 2016; Welter and Smallbone, 2011), as banks and financial institutions often demand formal bank accounts for access to credit facilities and financial support mechanisms (Assenova and Sorenson, 2017). Besides, registered enterprises are more likely to possess wider access to venture capital than unregistered firms (Benjamin and Mbaye, 2012; Fajnzylber *et al.*, 2011; La Porta and Shleifer, 2014). Furthermore, most registered businesses can enter into and sign a binding contract because of the legality involved (McKenzie and Sakho, 2010). Generally, businesses will require a bank account to sign and enter into a contract for the purpose of receiving contract payments (Assenova and Sorenson, 2017). However, it is unclear how these government policies might interact to influence women's entrepreneurship in sub-Saharan Africa developing economies.

Therefore, the primary focus of this research study is to address the following question: *which combinations of gender-based policies can help promote women's entrepreneurship in*



*sub-Saharan African countries?* This inquiry aims to demonstrate that the efficacy of gender-based policies in the SSA region is contingent on their unique combinations.

**[Insert figure 1 here]**

### **3. Methodology**

#### *3.1 Data and Measurement*

The data from our study comes from the World Bank's Women, Business, and Law (WBL) 2021 project. WBL is a well-known women's entrepreneurship project. Its cross-national survey includes data for 190 economies from 1970 to 2020 (reporting years 1971 to 2021). The World Bank's WBL collects data for 35 data points across 8 scored indicators: mobility, workplace, pay, marriage, parenthood, entrepreneurship, pension, and assets. The data used for our study focuses on the entrepreneurship indicator and covers 48 Sub-Saharan African countries.

The outcome condition – Women's entrepreneurship (WE) - refers to the rate of women engaged in entrepreneurial activities in a country. We measure women's entrepreneurship using the women's entrepreneurship index from the 2021 World Bank's WBL report. The Women's entrepreneurship Index provides a report card for country performance on women's entrepreneurship.

We obtained data for the antecedent condition from the World Bank survey data, including its 2021 women, business, and law report. The antecedent conditions are measured as follows: First, Access to Credit (AC) pertains to the existence of policies that prohibit discrimination in access to credit based on gender, and it is measured using a binary variable. A value of "1" signifies the presence of a law that prohibits discrimination in access to credit based on gender, while a value of "0" indicates the absence of such a law. Second, Signing Contract (SC) pertains to the presence of policies that allow women to sign contracts in the same way as men. This condition is also measured using a binary variable, with a value of "1"

indicating the presence of a law that permits women to sign contracts the same way as men, and a value of "0" indicating otherwise. Third, Business Registration (BR) pertains to the presence of policies that allow women to register a business in the same way as men. This condition is also measured using a binary variable, with a value of "1" indicating the presence of a law that permits women to register a business in the same way as men, and a value of "0" indicating otherwise. Lastly, Bank Account (BA) pertains to the presence of policies that allow women to open bank accounts in the same way as men. This condition is also measured using a binary variable, with a value of "1" indicating the presence of a policies that permits women to open bank accounts in the same way as men, and a value of "0" indicating otherwise.

### *3.2 Data Analysis: fsQCA*

We utilised fuzzy-set Qualitative Comparative Analysis (fsQCA), a technique based on fuzzy sets that has become increasingly prevalent in entrepreneurship research (Beynon, Jones, and Pickernell, 2016; 2018; Huang, *et al.*, 2022; Stroe, *et al.*, 2018; Xie, *et al.*, 2021). fsQCA employs a set-theoretic approach to analyse causality with respect to conditions and an outcome (Ragin, 2008). There are two main reasons why FsQCA is a suitable method for our study. First, by using fsQCA, we can investigate the interdependence of gender-based policies on women's entrepreneurship. Second, unlike correlational methods, which presume additive and symmetrical interactions among variables, fsQCA can explore complex correlations among contextual variables, indicating multiple pathways to outcomes (equifinality). We do not claim that fsQCA is better than traditional correlational methods, as it has its own drawbacks. For example, there is the challenge of limited diversity and logical paradoxes that may arise when utilising FsQCA in research (Cooper & Glaesser, 2011). Nevertheless, we believe that it is well suited to address our research topic (Verbeke, *et al.*, 2018; Woodside, 2015). By applying fsQCA, we can gain a better understanding of legal gender discrimination policies affecting women's entrepreneurship in sub-Saharan African countries. Additionally, the fsQCA

methodology is also useful for small N-samples (Fiss, 2011), such as our study of 48 sub-Saharan African countries.

### 3.3 Data Calibration

Calibration involves assigning a case to a set membership (Pineiro-Chousa *et al.*, 2019), where the raw data for the conditions and outcomes of cases are transformed into fuzzy membership scores ranging from 0 (non-membership) to 1 (full-membership) (Ragin, 2008). Our reason for calibrating the data is because it allows us to transform the original ratio or interval-scale values of the raw data into fuzzy membership scores using transformations based on the log odds of full membership. We follow Xi *et al.* (2021) to base our calibration on the sample since it represents the entirety of the 2021 World Bank WBL survey dataset for sub-Saharan Africa countries, which includes 48 African countries. As such, we established three thresholds: for full membership (fuzzy score = 1), the threshold for full non-membership (fuzzy score = 0), and the cross-over point (fuzzy score = 0.5).

To calibrate the outcome variable, which is women's entrepreneurship, we follow previous research (e.g., Fiss, 2011; Garcia-Castro and Francoeur, 2016; Wu *et al.*, 2019) by employing the fuzzy set, setting 1 as full membership, which represents a high presence of women's entrepreneurship and 0 as the non-membership score, which represent a low presence of women's entrepreneurship. To calibrate the condition variables (i.e., AC, SC, BR, BA), we follow Beyon *et al.*, (2016) to use the direct calibration method (see Ragin, 2008) and draw on researcher-specified threshold qualitative anchors to determine full membership (upper threshold), full non-membership (lower threshold), and the crossover point. We use the fsQCA 4.0 software for the calibration and subsequent analysis. Table 1 presents the variable description, data source, and the calibration thresholds for the conditions and outcome. The descriptive statistics for the underlying measures are shown in Table 2.

**[Insert table 1 & 2 here]**

#### 4. Results and Findings

The result includes measures of consistency and coverage for each solution term and for the solution as a whole. In fsQCA, ‘consistency’ is employed to gauge the strength of the association between configurations (or factor combinations) and an outcome, with values ranging from 0 to 1 (Ragin, 2006; Skarmeas *et al.*, 2014). To claim sufficiency for the plausible configurations examined within the constraints of our limited dataset, we utilised a consistency threshold of 0.9. When the consistency of a configuration surpassed this threshold, we assigned a value of 1 to the outcome (WE); otherwise, it was assigned a value of 0.

Coverage, on the other hand, assesses the proportion of outcome instances that can be ascribed to the antecedent combination (Ciravegna *et al.*, 2018). It basically defines how much of the results can be accounted for or clarified by a specific solution (Ragin, 2008). Raw coverage and unique coverage can be analysed to determine the empirical significance of specific solutions (Ragin 2006). Raw coverage depicts the percentage of the result explained by a given solution, while unique coverage depicts the percentage of the outcome solely explained by a particular solution (Schneider and Wagemann, 2010). Moreover, solution coverage indicates how much the collection of solutions extracted can be utilised to predict the desired outcomes. Consequently, coverage is a metric for assessing the relevance or significance of the solution. Table 3 and 4 show the plausible configurations with the chosen minimum threshold and the corresponding consistency value.

**[Insert tables 3 & 4 here]**

We found two configurations of antecedents linked to women’s entrepreneurship in the context of sub-Saharan African developing economies (Table 5). The Boolean expression for the outcome of women’s entrepreneurship is presented below:

$$AC*SC + SC*BR*BA \rightarrow WE$$

The results are summarised in Table 5, which displays various configurations or combinations of antecedents related to women's entrepreneurship. Each column represents a different configuration, and the presence or absence of specific antecedents is indicated by black circles or white squares, respectively. For instance, in configuration 1, the presence of gender-based policies on access to credit and signing contracts is linked to women's entrepreneurship, while the absence of such policies on business registration and opening bank accounts is also linked to women's entrepreneurship. In configuration 2, the presence of gender-based policies on signing contracts, registering a business, and opening a bank account is associated with women's entrepreneurship, whereas the absence of gender-based policies on access to credit is linked to women's entrepreneurship. Figure 2 illustrates the two configurations leading to women's entrepreneurship.

**[Insert table 5 & Figure 2 here]**

***Configuration 1:** sub-Saharan African countries whose gender-based policies on access to credit and the signing of contract have been effective in supporting women's entrepreneurship but whose gender-based policies on business registration and bank account are either absent or ineffective in supporting women's entrepreneurship.*

The raw coverage and unique coverage of this configuration are 78% and 12% respectively. This suggests that even in the absence of gender-based policies related to business registration and opening bank accounts, having such policies concerning access to credit and contract signing can support women's entrepreneurship. This finding is in line with existing research that emphasises the significance of access to credit for women entrepreneurs (Coleman *et al.*, 2019; Ogundana *et al.*, 2022). Studies have also shown that access to credit in developing countries can serve as a support mechanism for the growth of women-owned businesses (Dana, 1999; Farr-Wharton and Brunetto, 2007; Ogundana, 2022; Simba *et al.*, 2023). Furthermore, the existence of gender-based policies related to contract signing can enable female

entrepreneurs to participate in entrepreneurship, a finding that aligns with mainstream literature that documents the importance of gender-based policies on signing contract to female entrepreneurs (Azmat and Fujimoto, 2016).

**Configuration 2:** *sub-Saharan African countries whose gender-based policies on signing contract, registering a business, and opening a bank account support women's entrepreneurship but whose gender-based policies on access to credit is either absent or ineffective in supporting women's entrepreneurship.*

This configuration has the biggest raw coverage (85%) and unique coverage (19%); it is the relatively main path that supports women's entrepreneurship. Regardless of the absence of gender-based policies on access to credit, the presence of gender-based policies on signing contract, business registration and opening bank account supports women's entrepreneurship. This configuration also re-emphasises the importance of gender-based policies on signing contract, business registration and opening bank account that effectively support women's entrepreneurship. This implies that for African countries that want to support women's entrepreneurship, having effective gender-based policies on business registration, opening bank account and signing of contract are very important conditions (Coleman *et al.*, 2019; Edoho, 2016; Nziku and Henry, 2020).

#### *4.1 Supplemental Analysis*

We conducted a supplemental analysis to investigate the configurations sufficient for women's entrepreneurship. Initially, we conducted a necessity analysis for the outcome condition. Table 6 presents the results of this analysis, which indicate that the condition variables AC, SC, BR, and BA satisfy the condition of necessity with consistency values above 0.90. Next, we conducted a sufficiency analysis to determine where coverage and consistency situate each case in the analysis. Figure 3 illustrates the results of this analysis, with the size of the dots

representing the number of cases. Larger dots located in the upper triangle of the graph indicate that the joint set of our analysis supports the validity of the results obtained from our truth table analysis. Our findings indicate that, except for two cases, all cases fall within the upper triangle of the graph, confirming that our results support sufficiency. The lower triangle highlights the necessity of the conditions leading to the outcome. Overall, our findings demonstrate a comprehensive understanding gained from the cases, as well as the importance of the asymmetric relationship and the equifinal solution for conducting a configurational analysis of this very important research agenda.

**[Insert Figure 3 here]**

## **5. Discussion**

In this study, we examined the configurations of gender-based policies that can help promote women's entrepreneurship in sub-Saharan African countries. We found two configurations of antecedents linked to supporting women's entrepreneurship in the context of sub-Saharan African countries. Specifically, our results suggest that gender-based policies on 'access to credit' and 'signing contract' on the one hand, and 'signing contract', 'business registration' and 'bank account' on the other hand, constitute the most relevant antecedents to support women's entrepreneurship. Our findings point to useful insights. First, scholars have stressed the importance of gender-based entrepreneurship policies as an essential component of supporting and encouraging women's entrepreneurial activities (Nziku and Henry, 2020; Rigby and Ramlogan, 2013; Smallbone, 2016). In sub-Saharan African countries particularly, women gender-based entrepreneurship policies are less likely to be effective due to their lack of clarity, specificity, and contextuality to the needs and perspectives of women entrepreneurs (Arshed *et al.*, 2014; Nziku and Henry, 2020; Smallbone, 2016), as well as insufficient consultation with women during policy design, delivery, and implementation. Given the uncertainty about the effectiveness of these policies in supporting women's entrepreneurship,

policymakers in sub-Saharan African countries need to look for ways to promote the effectiveness of these gender-based policies (Edoho, 2016; Olorunshola and Odeyemi, 2023), which could include an evaluation of the existing gender-based policies such as access to credit, signing contracts, business registration, and bank account, to identify a unique configuration of gender-based policies suitable in supporting women's entrepreneurship in this social cultural contexts. Before proceeding to the theoretical contributions of this study, we discuss in detail four implications of our findings.

First, our results indicate that gender-based policies on 'access to credit' and 'signing contract' are distinct and crucial in supporting female entrepreneurship in sub-Saharan African countries. In particular, we would like to highlight the significance of gender-based policies on access to credit and signing contracts in supporting women's entrepreneurship. Extant literature suggests that access to financial capital is crucial for the success and growth of women-owned enterprises (Ogundana *et al.*, 2022; Wiklund *et al.*, 2009). The literature further suggests that the ability of women to sign contracts are crucial to supporting women's entrepreneurship (Azmat and Fujimoto, 2016; Banihani, 2020; Chea, 2008; Klapper and Parker, 2011). However, given the limited access to funding with less than 40% of women entrepreneurs in many developing economies such as Sub-Saharan Africa (OECD, 2016), and given the prevalence of inability for women to sign contracts, especially due to legal and socio-cultural norms such as women's subjugation under their spouses (Azmat and Fujimoto, 2016; Banihani, 2020), it is evident that gender-based policies on access to credit and signing contract have not had a positive impact on women's entrepreneurship. Based on the foregoing, our findings extend this stream of literature by suggesting that gender-based policies on access to credit and signing contract are effective in supporting women's entrepreneurship in sub-Saharan African countries.

Second, our study highlights the importance of gender-based policies on 'signing contract', 'business registration' and 'bank account' in supporting women's entrepreneurship.



Extant literature suggests that improving women's access to bank account and financial services (Odebrecht, 2013; Trivelli *et al.*, 2018), ease of business registration for women (La Porta and Shleifer, 2014; Williams and Kedir, 2016; Williams *et al.*, 2017) and removing institutional barriers to women's ability to sign contracts (Azmat and Fujimoto, 2016; Banihani, 2020; Chea, 2012; Klapper and Parker, 2011) are all crucial in supporting women's entrepreneurship. Indeed, in sub-Saharan African countries, we found that gender-based policies on 'signing contact', 'business registration' and 'opening bank account' are all associated with women's entrepreneurship. However, the effectiveness of these gender-based policies is not certain. For instance, in a recent study of Sub-Saharan Africa, the World Bank (2022) found that women in Sub-Saharan Africa are still underrepresented in entrepreneurship and ownership of businesses due to cultural, legal, and institutional barriers that hinder women from accessing the resources and opportunities needed to start and grow businesses. Previous works have reported that a proactive gender-based policy is required for women's entrepreneurship to be successful (Azmat and Fujimoto, 2016; Ogundana, 2022; Olorunshola and Odeyemi, 2023; Ogundana *et al.*, 2023). With a proactive gender-based policy on signing contact', 'business registration' and 'bank account', women's entrepreneurship is likely to be successful. With this configuration, our study suggests that gender-based policies on 'signing contact', 'business registration' and 'bank account' can serve as a supporting mechanism for women's entrepreneurship in sub-Saharan Africa.

Third, our study sheds light on the combined impact of gender-based policies to support women's entrepreneurship in sub-Saharan Africa (Smallbone, 2016). While previous research on women's entrepreneurship has investigated the individual impact of policies that promote women's entrepreneurship (Gilbert *et al.*, 2004; Nziku and Henry, 2020; Rigby and Ramlogan, 2013; Smallbone, 2016), there is still limited research that examines how the configuration of these policies affects women's entrepreneurship, especially in sub-Saharan African countries. Our study suggests that in sub-Saharan Africa, the right combinations of gender-based policies

can make them more effective and are very important for the success of women's entrepreneurship. As such, the combination of gender-based policies on either access to credit and signing contract or signing of contract, business registration, and opening bank account is essential to the success of women's entrepreneurship in sub-Saharan Africa (Banihani, 2020; Hyland *et al.*, 2020; Trivelli *et al.*, 2018; Williams and Kedir, 2016). Our study also suggests that for these combinations of gender-based policies to be effective, policymakers may need to consider the context. Extant research shows that the success of women's entrepreneurship in any given country is partly reliant on the existence and effectiveness of policies that support it (Nziku and Henry, 2020; Smallbone, 2016). The literature further suggests that gender-based policies are often designed to acknowledge intersectionality, which can help address systemic biases and fix institutional issues affecting women's entrepreneurship (Coleman *et al.*, 2019; Edoho, 2016; Martinez Dy and Jayawarna, 2020; Nziku and Henry, 2020; Saxe, 2017). However, cultural-cognitive barriers, which are often difficult to overcome, present challenges to implementing such policies, particularly in developing sub-Saharan African countries. Entrepreneurship policies in these regions are frequently context-neutral and do not account for unique business, social, spatial, and institutional contexts (Arshed *et al.*, 2014; Nziku and Henry, 2020). Our study suggests that the effectiveness of any combination of gender-based policies lies in their ability to address the specific needs of women entrepreneurs in their specific contexts (Arshed *et al.*, 2014; Nziku and Henry, 2020). Hence, policymakers that attempt to combine these gender-based policies must understand how to effectively tailor them to meet the specific needs of women entrepreneurs.

Lastly, our findings indicate that no single gender-based policy alone is sufficient to drive women's entrepreneurship in sub-Saharan African countries. Instead, it appears that in sub-Saharan African countries, specific configurations of gender-based policies must be present to support women's entrepreneurship, and there may be multiple configurations that lead to this outcome. While extant literature has mainly focused on the isolated effects of individual

gender-based policies (Baughn *et al.*, 2006; Berger and Kuckertz, 2016; Noguera *et al.*, 2013), it has ignored the combined effect of multiple policies (Xie, *et al.*, 2021). Our study extends this literature by examining the interdependence of various gender-based policies on women's entrepreneurship in sub-Saharan African countries, generating valuable insights for policymakers and scholars alike. These configurations can be thought of as syndromes—sets of elements working together to create a scenario - where government and policy makers can understand the most effective configuration of gender-based policies that support women's entrepreneurship in their countries.

## **6. Conclusion**

In conclusion, this study generates useful insights about the complex interrelationship between entrepreneurship policies and women's entrepreneurship, especially in African developing economies. To address the research question concerning which combinations of gender-based policies can help promote women's entrepreneurship in sub-Saharan African (SSA) countries, we employed a fuzzy set Qualitative Comparative Analysis (fsQCA) to analyse data collected from 48 countries within SSA. Our analysis provides three main insights: (1) the ineffectiveness of gender-based policies in sub-Saharan Africa is due to their lack of formalisation and contextualization; (2) the unique combinations of gender-based policies on 'access to credit' and 'signing contract' on the one hand and 'signing contract', 'business registration' and 'bank account' on the other hand are the most effective for women's entrepreneurship in SSA countries; and (3) the interdependence and combinative value of gender-based policies that effectively support women's entrepreneurship cannot be neglected. We hope that these insights will stimulate further research on entrepreneurship policies from a gender perspective, especially in developing countries.

### *6.1 Contributions*

Our study makes the following contributions to social feminism theory, women's entrepreneurship literature, and particularly to the emerging work on gender-based policies in developing countries (e.g., Ogundana, *et al.*, 2021; Pathak, *et al.*, 2013; Vranceva and Stoyneva, 2020). First, our study contributes to social feminism theory by demonstrating the significance of gender-based policies on access to credit, signing contract, business registration, and bank account in supporting women's entrepreneurship in a sub-Saharan African context. Although social feminism theory has established that these gender-based policies are crucial for women's entrepreneurship (Coleman *et al.*, 2019), and previous works on gender-based policies and women's entrepreneurship have mostly focused on empirical studies in developed countries (e.g., Ahl and Nelson, 2015; Cukier and Hassannezhad, 2020; Wang, 2019; Yadav and Unni, 2016), limited attention has been given to evaluating their effectiveness, especially in the context of developing countries (Goyal and Yadav, 2014; Ogundana, *et al.*, 2021). Our study extends the conversation and provides the empirical evidence that has been lacking. It sheds light on the value of these gender-based policies in a sub-Saharan context where the effectiveness of gender-based policies may differ due to the lack of supporting socio-cultural norms and institutions, that are often present in developed countries. According to social feminism theory, gender-based policies are designed to acknowledge intersectionality, capturing the differences among women, including age, race, ethnicity, education, and wealth (Martinez Dy and Jayawarna, 2020; Saxe, 2017), however, we found that this is not the case in sub-Saharan African countries, which lend empirical support to previous findings (e.g., Akpan *et al.*, 2022; Arshed *et al.*, 2014; Nziku and Henry, 2020; Edoho, 2016; Olorunshola and Odeyemi, 2023; Ogundana, 2022; Ogundana *et al.*, 2022). In sub-Saharan Africa, the effectiveness of gender-based policies is hampered by socio-cultural and institutional-level norms, which feed into the ongoing conversations about the lack of effectiveness of gender-based policies due to their lack of formality and contextualisation to specific geographical and cultural settings (Nziku and Henry, 2020; Smallbone, 2016).

Second, our study contributes to the women's entrepreneurship and entrepreneurship policy literature by adding to ongoing conversations about the overlooked configurational impact of multiple gender-based policies in existing theorising (Baughn *et al.*, 2006; Cheraghi *et al.*, 2019; Xie *et al.*, 2021), which has mainly focused on the net effects of a single policy on women's entrepreneurship (Baughn *et al.*, 2006; Berger and Kuckertz, 2016; Noguera *et al.*, 2013). This study therefore examined the combinative effect of four gender-based policies that are effective for women's entrepreneurship (e.g., Foss *et al.*, 2019; Ogundana *et al.*, 2023). Our study shows that a combination of gender-based policies on access to credit and signing contract, or a combination of policies on signing contract, business registration and opening bank account are the most effective in supporting women's entrepreneurship in sub-Saharan African countries. Overall, our study proposes an integrative framework that utilises a configurative approach to analyse the factors supporting women's entrepreneurship and shows that combining gender-based policies yields better effectiveness than single policies. We thus generate finer insights about the combinative value of gender-based policies used in supporting women's entrepreneurship.

Third, our study contributes to the literature on entrepreneurship by utilising the fsQCA approach to investigate the causal asymmetry in the antecedent conditions of women's entrepreneurship. Prior research has also employed the fsQCA approach to examine entrepreneurship-related issues (e.g., Aluko, *et al.*, 2022; Beynon, Jones, and Pickernell, 2016; Cervelló-Royo, *et al.*, 2020; Devece, Peris-Ortiz, and Rueda-Armengot, 2016; Mandl, Berger, and Kuckertz, 2016; Rey-Martí, Tur-Porcar, and Mas-Tur, 2015; Ribes-Giner *et al.*, 2018; Xie, *et al.*, 2021). By demonstrating how the fsQCA approach overcomes the uniform symmetry assumption of causal effect in linear regression and enhances the depiction of the combinations of conditions leading to an outcome, we highlight its relative advantage (Huarng & Yu, 2017; Kumar *et al.*, 2022). Overall, this study addresses an important research gap by providing a

more effective way to describe the configuration effect of inter-condition dependence on women's entrepreneurship (Huang *et al.*, 2022).

In addition to theoretical insights, our research holds significant practical implications for policymakers and governments in developing economies in Africa. Our findings indicate that women's entrepreneurship is impacted by the interdependence of several gender-based policies, each with an equally effective configuration. Therefore, rather than promoting all four gender-based policies equally, policymakers and governments can select a configuration that suits their country's conditions. They can allocate their limited resources to promoting the most effective gender-based policies that are presently critical, depending on the configuration they have chosen.

## *6.2 Limitations and future research*

Our study has some limitations that can be addressed in future research. First, our study focuses solely on sub-Saharan African countries, and further studies could examine the conditions that promote women's entrepreneurship in other non-sub-Saharan African countries (e.g., Egypt, Morocco, etc.) and extend it to other developing economies. Additionally, exploring other gender-based policies that affect women's entrepreneurship can help identify specific conditions that policymakers can target to support women's entrepreneurship. This would enable the identification of specific conditions that influence women's entrepreneurship, the nature of their impact, and which ones policymakers should prioritize to provide further support for women entrepreneurs. Further research should examine other antecedents relevant to the context of sub-Saharan African countries such as domestic violence, property rights that can impact women's entrepreneurship.

Second, the measurement of the conditions and outcomes in our study is based solely on the World Bank WBL database. Future research can explore other data sources to confirm the generalizability and robustness of our findings. Thirdly, our study focuses on a limited set

of four theory-derived contextual antecedents of women's entrepreneurship. Looking at other contexts could help in developing the theory further. Finally, to gain a more in-depth understanding of the relationship between gender-based policies and women's entrepreneurship, future studies could use longitudinal analysis and time-series QCA to examine how the evolution of gender-based policies in sub-Saharan African countries has influenced women's entrepreneurship over time.

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**Table 1: Variable description, calibration table, and data sources.**

<b>Variables</b>	<b>Variable Description</b>	<b>Coding gradations</b>	<b>Data Source</b>
Women Entrepreneurship (WE)	The percentage of women population who are involved in entrepreneurship	0 = No women entrepreneurship 0.3 = Some 0.5 = Moderate 0.7 = Significant 0.9 = High women entrepreneurship	World Bank's WBL project 2021
Access to credit (AC)	The presence of a law or policy that prohibits discrimination in access to credit based on gender	0 = Not present 0.25 = Some present 0.5 = Moderately present 0.75 = Significantly present 1 = Fully present	World Bank's WBL project 2021
Signing contract (SC)	The presence of a law or policy that allows a woman to sign a contract in the same way as a man	0 = Not present 0.25 = Some present 0.5 = Moderately present 0.75 = Significantly present 1 = Fully present	World Bank's WBL project 2021
Business registration (BR)	The presence of a law or policy that allows a woman to register a business in the same way as a man	0 = Not present 0.25 = Some present 0.5 = Moderately present 0.75 = Significantly present 1 = Fully present	World Bank's WBL project 2021
Bank account (BA)	The presence of a law or policy that allows a woman to open a bank account in the same way as a man	0 = Not present 0.25 = Some present 0.5 = Moderately present 0.75 = Significantly present 1 = Fully present	World Bank's WBL project 2021



**Table 2: Sample descriptive statistics.**

Variables	Mean	Std. Dev.	Min	Max	Count	Missing
WE	0.959	0.194	0.03	1	48	0
AC	0.214	0.363	0.04	0.97	48	0
SC	0.931	0.186	0.04	0.97	48	0
BR	0.893	0.257	0.04	0.97	48	0
BA	0.834	0.328	0.04	0.97	48	0

**Table 3: Truthtable with fsQCA Software**

<i>Case ID</i>	<i>AC</i>	<i>SC</i>	<i>BR</i>	<i>BA</i>	<i>Outcome</i>	<i>Number of cases with membership greater than 0.5 in this plausible combination of antecedents</i>	<i>Raw consistency</i>	<i>PRI consistency</i>	<i>SYM consistency</i>
<b>1</b>	0	1	1	1	1	31	0.999341	0.99934	0.99934
<b>2</b>	1	1	1	1	1	9	0.998056	0.998045	0.998045
<b>3</b>	0	1	1	0	1	4	0.996146	0.996101	0.996101
<b>4</b>	0	0	0	0	0	2	0.436363	0.425926	0.425926
<b>5</b>	0	1	0	0	1	1	0.991632	0.991416	0.991416
<b>6</b>	0	1	0	1	1	1	0.991667	0.991453	0.991453
<b>TOTAL</b>						<b>48</b>			

*1 – Benin, Botswana, Burkina Faso, Burundi, Central African Republic, Comoros, Congo, Rep., Côte d'Ivoire., Eritrea, Ethiopia, Gambia, The, Ghana, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Namibia, Nigeria, Rwanda, São Tomé and Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, South Sudan, Sudan, Tanzania, Togo, Uganda*

*2 – Angola, Cabo Verde, Congo, Dem. Rep., Guinea, Mauritius, Mozambique, South Africa, Zambia, Zimbabwe*

*3 – Cameroon, Chad, Gabon, Niger*

*4 - Equatorial Guinea, Eswatini*

*5 – Guinea-Bissau*

*6 - Kenya*

**Table 4: Truthtable with Tosmana - consistency values of plausible configurations**

<i>Case ID</i>	<i>AC</i>	<i>SC</i>	<i>BR</i>	<i>BA</i>	<i>Outcome</i>	<i>Number of cases with membership greater than 0.5 in this plausible combination of antecedents</i>	<i>Raw consistency</i>
<b>1</b>	0	0	0	0	1	9	0.9981
<b>2</b>	1	0	0	0	1	31	0.9993
<b>3</b>	1	0	0	1	1	4	0.9961
<b>4</b>	1	0	1	0	1	1	0.9917
<b>5</b>	1	0	1	1	1	1	0.9916
<b>6</b>	1	1	1	1	0	2	0.4364
<b>TOTAL</b>						<b>48</b>	

*1 - Angola, Cabo Verde, Congo DemRep, Guinea, Mauritius, Mozambique, South Africa, Zambia, Zimbabwe*

*2 – Benin, Botswana, Burkina Faso, Burundi, Central African Republic, Comoros, Congo, Cote d'Ivoire, Eritrea, Ethiopia, Gambia The, Ghana, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Namibia, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, Somalia, South Sudan, Sao Tom and Principe, Tanzania, Togo, Uganda*

*3 - Cameroon, Chad, Gabon, Niger*

*4 - Kenya*

*5 - Guinea-Bissau*

*6 – Equatorial Guinea, Eswatini,*

**Table 5: Configurations linked to Women Entrepreneurship**

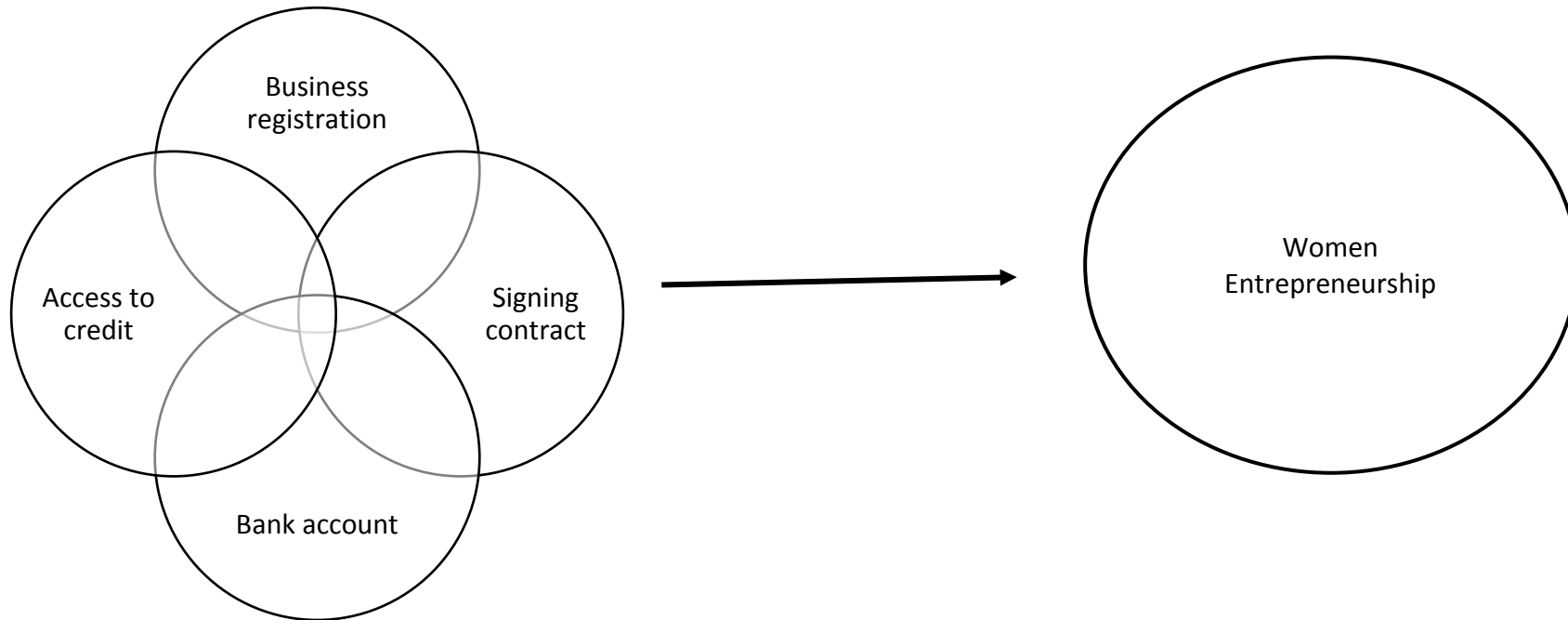
	<i>Raw coverage</i>	<i>Unique coverage</i>	<i>Consistency</i>
AC*SC	0.778332	0.119844	0.999442
SC*BR*BA	0.848893	0.190404	0.999489
Solution coverage: 0.968737			
Solution consistency: 0.999552			
<i>Antecedents</i>	<i>Configuration Solution</i>		
	Solution 1	Solution 2	
AC	●	□	
SC	●	●	
BR	□	●	
BA	□	●	
Raw coverage	0.778332	0.848893	
Unique coverage	0.119844	0.190404	
Consistency	0.999442	0.999489	
Solution coverage: 0.968737			
Solution consistency: 0.999552			

□ = Absence of an antecedent; ● = Presence of an antecedent

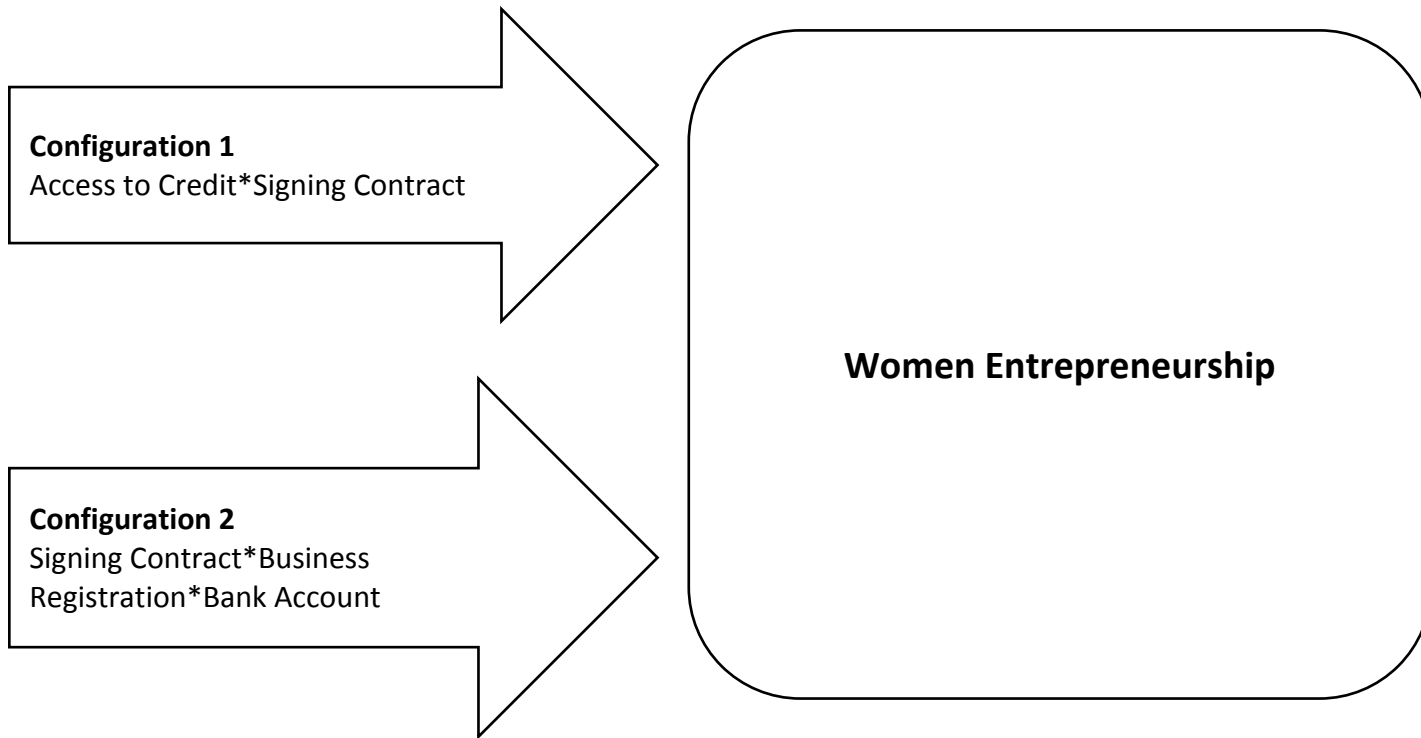
**Table 6: Necessity Analysis**

Necessity analysis	Consistency	Coverage
AC	0.998056	0.222970
SC	0.999553	0.9700039
BR	0.999533	0.929657
BA	0.999501	0.869084

**Figure 1: Theoretical model on the proposed interrelationship between gender-based policies and women entrepreneurship**

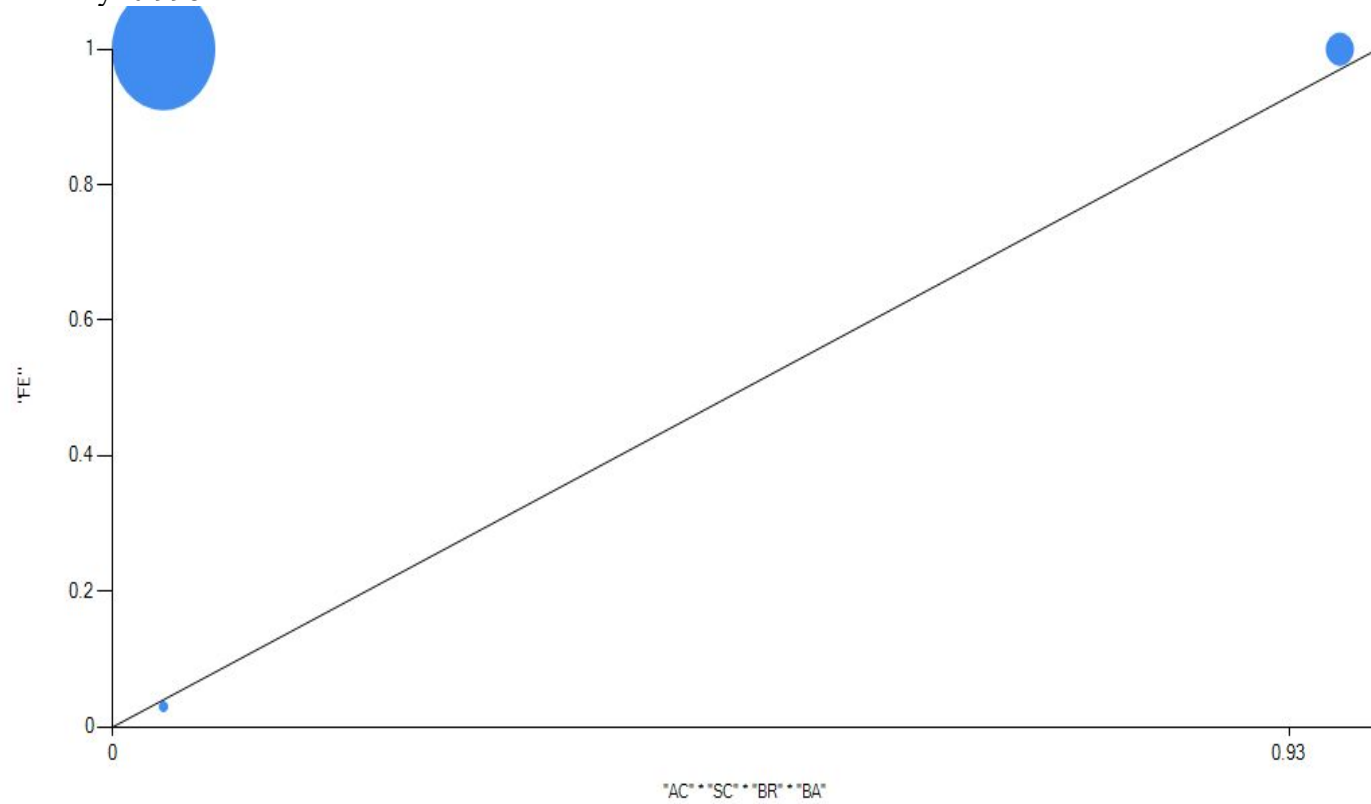


**Figure 2: Configurations leading to Women Entrepreneurship**



**Figure 3: XY-Plot for sub-Saharan African countries shows sufficiency and necessity of women entrepreneurship.**

Consistency: 0.9981



Coverage: 0.22230