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Impact of Formalization on Small Firm Revenue and Profit: Evidence from Randomized Encouragement Design



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Impact of Formalization on Small Firm Revenue and Profit: Evidence from Randomized Encouragement Design

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Abstract: Governments often have strong motivation to formalize ever-growing informal firms. However, whether formalization improves the earnings of small firms is a crucial policy question. Firms choose to be formal, so the impact of evaluating formalization suffers from self-selection bias, and casual inference requires addressing this bias. This study aims to examine the impact of formalization on the revenue and profit of informal small firms using randomized encouragement design. Small firms in Malawi, one of the poorest countries, are considered the units of analysis in the present study. This study uses a dataset prepared by Campos et al. (2018), who conducted a randomized controlled trial to examine different ways to formalize small firms in Malawi. Campos et al. (2023) examined the impact of Offer for cost-free business registration, coupled with a bank account opening information session on formalization. In other words, formalization acts as an outcome variable in the study of Campos et al. (2023). In contrast, this study considers the offer for cost-free business registration, coupled with a bank account opening an information session, as an instrumental variable and formalization as the treatment variable. The results show that formalization significantly increases the revenue and profit of small firms. The heterogeneous impact analysis suggests that formalization helps only manufacturing farms earn more.

Keywords: Formalization, Informal Firms, Revenue, Profit, Heterogeneous Impact

Statements and declarations

Competing Interests: The authors declare no competing interests.

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1. Introduction:

1.1 Background

The concept of formalization has long been a pivotal policy tool aimed at linking informal firms with government-established economic frameworks (Gallien & Boogaard, 2023). In developing economies, the majority of people depend on an informal economy, as their income comes either from farming or from small unregistered firms (Blades et al., 2011). The informal economy offers employment for more than two billion people in the global economy (Dell'Anno, 2022), and approximately 40% of total economic activity is conducted under informal firms in the poorest country (Campos et al., 2023). As a result, governments in developing countries often have strong motivation to formalize ever-growing informal firms to ensure the implementation of policy initiatives, laws, taxes and information management (Nelson & Bruijn, 2004). Formalization is often associated with more profit, a customer base, access to public goods such as electricity and energy, and ultimately, formalization to protect against corruption (Tran & La, 2020; McKenzie & Sakho, 2010). Moreover, Sustainable Development Goal (SDG) 8 seeks to formulate comprehensive policies to create decent jobs, encouraging the formalization and expansion of informal firms by facilitating access to financial services (Kiaga & Leung, 2020). Formalization is supposed to increase welfare for small firms, but informality is rooted in contextual complexity and sociopolitical dynamics based on power structures (Gallien & Boogaard, 2023). Thus, examining whether formalization improves the earnings of small firms is a crucial policy question. This study aims to examine the impact of formalization on the revenue and profit of informal small firms using rigorous causal identification.

In African countries such as Malawi, 93 percent of the firms remain unregistered with the government (Campos et al., 2018). The Malawian government wants to motivate informal firms to be formalized to implement their policies. Malawi is selected as a case study of developing countries where the formalization process is difficult to implement. This research highlights whether formalization can improve welfare for small firms. The informal sector consists of small and medium-sized enterprises involved in economic activities outside of government regulation or taxation. Informal firms have less access to government-supported programs than formalized firms and may even actively

avoid accessing such programs to avoid taxation and regulation (Nguyen et al., 2014). Formalization can be defined as a process through which an organization follows the rules, laws, policies and strategies formulated by the government. The definition of formalization is relative, and this study considers having business registration and a business account as eligibility for formalization.

Firms choose to be formal, so the impact of evaluating formalization suffers from self-selection bias, and casual inference requires addressing this bias. The present study applies a randomized encouragement design to examine the causal impact of formalization using instrumental variable estimation. The randomized encouragement design addresses endogeneity bias using an instrumental variable (Sajons, 2020). The instrumental variable estimation addresses the limitations of ITT analysis, as it captures the average treatment effect of the compliers (Angrist et al., 1996). This study uses a dataset prepared by Campos et al. (2018), who conducted a randomized controlled trial to examine different ways to formalize small firms in Malawi. Campos et al. (2023) examined the impact of Offer for cost-free business registration, coupled with a bank account opening information session as one of the treatment variables and formalization as one of the outcome variables in their study. In contrast, this study considers the offer for cost-free business registration, coupled with a bank account opening an information session, as an instrumental variable and formalization as the treatment variable. The offer for cost-free business registration, coupled with a bank account opening information session, serves as an instrumental variable or randomized encouragement to estimate the local average treatment effect of formalization. Instrumental variable estimation mitigates confounding by utilizing a valid instrumental variable that must be random, relevant or exclusively restricted (Baiocchi et al., 2014). The present study has two objectives. First, this study aims to examine the causal impact of formalization on small firm profit and revenue. Second, this study aims to explore the heterogeneous impact of formalization on small-firm profit and revenue. This study has policy implications for exploring the relevance of motivating the formalization of small informal firms while considering heterogeneity issues.

1.2 Theoretical Framework

The theoretical underpinning of formalization presents diverse perspectives; each perspective offers unique insights into the motivations and impediments surrounding the formalization process. From the legalistic perspective (Lapeyre & Lemaître, 2014), issues arise from inflexible formal sectors and a plethora of taxes, prompting calls for legislative modifications aligned with economic conditions, whereas the neoliberal viewpoint (De soto, 1989)

emphasizes the role of government interference and cumbersome regulations as drivers of informal sector operation, suggesting that a streamlined legislative framework can create a conducive environment for formalization. Furthermore, the structuralist perspective (Lapeyre & Lemaître, 2014) underscores the need for robust state regulations and organizations, while the institutionalist perspective (North, 1990) focuses on overcoming institutional limitations through governmental intervention and flexible laws. Moreover, the neoclassical microeconomic approach (Bacchetta et al., 2009) posits that excessive laws and administrative constraints contribute to the emergence of the informal sector. To counter this, incentives that align with individual achievements and projected earnings are recommended. Theoretical models, including the exclusion model (De Soto, 2003 and 1990), rational exit model (Maloney, 2004), parasite model (Baily et al., 2006; Farrell, 2006), and dual economy model (La Porta and Shleifer, 2014), further enrich our understanding, offering frameworks for analyzing the complexities surrounding formalization decisions.

Empirical evidence and policy interventions are explored through various lenses, such as exclusion model policies, rational exit model policies, and parasite model policies. Insights from these studies reveal the intricate nature of the formalization process, emphasizing the nuanced impact of diverse policy interventions on informal businesses. Challenges such as unobserved heterogeneity, endogeneity concerns, and institutional variations across countries are integral aspects of the impact evaluation of formalization. Survival-oriented and growth-oriented informal activities, differences in responsiveness to policies, and variations in regulatory environments contribute to the complexity of formalization dynamics. By addressing these challenges, the present study aims to offer a comprehensive understanding of the factors influencing formalization in the specific context of small informal firms in Malawi.

1.3 Literature Review

A number of previous studies have examined different perspectives on the formalization of small firms. Most of the related studies explored only the correlation between formalization and firms' welfare. Lay and Tafese (2020) explored the positive correlation between formalization and firm productivity, whereas Berkel and Tarp (2022) failed to find any significant correlation between formalization and firm performance. Shamsuzzoha and Tanaka (2021) explored the positive correlation between the formalization and performance of manufacturing firms. Furthermore, Le et al. (2022) examined the negative correlation between formalization and bribery. Furthermore, Boly (2020) examined the formalization of small firms on tax payments. Kanbur (2019) explored the causes and

consequences of the informality of firms through a qualitative study. Similarly, Ulyssea et al. (2020) explored the causes and consequences of informality. In addition, Oltra et al. (2018) examined formalization as a moderating factor that induces innovative practices. A number of studies have conducted literature reviews to examine how diverse studies contribute to examining issues related to formality. Floridi et al. (2020) conducted a systematic literature review to examine the cost and benefit of formalization. Furthermore, Xheneti et al. (2018) conducted a literature review to examine the significance of formalization for women entrepreneurs. Thus, there is a way to contribute to the literature by estimating the causal impact of formalization.

Few studies have explored ways to promote formalization. Using an experimental design, De Giorgi et al. (2018) explored how firm visits induce formalization, whereas Campos et al. (2018) conducted randomized controlled trials to examine different ways to formalize small firms in Malawi. Moreover, Piza (2018) noted that the tax simplification programme in Brazil has no impact on the rate of formalization.

Some studies have attempted to examine the causal impact of formalization, but the findings are not conclusive on whether formalization has a positive, negative or no impact on firm welfare. Using an intention to treat (ITT) analysis, De Mel et al. (2013) examined the impact of informal firms' formalization on their profit. Similarly, Benhassine et al. (2018) used ITT analysis and found that formalization has no impact on the sales or profits of firms. However, ITT estimates only the impact of treatment assignment in place of treatment receipt. In other words, ITT analysis is free from selection bias because of random treatment assignment, but ITT is an inaccurate measure of the impact of the treatment itself (Little & Rubin, 2000). McKenzie and Sakho (2010) estimated the impact of tax registration as an indicator of formalization using the instrumental variable proximity to the tax office. Similarly, Ali and Marouani (2020) apply distance to the tax office as an instrumental variable. However, proximity to the tax office is not an instrumental variable because it does not fulfill the exogeneity condition, as some firms self-select to reside near the tax office or city center where a tax office is located. Furthermore, proximity to the tax office does not satisfy the exclusion restriction, as proximity to the tax office can have a direct impact on the welfare of a firm. The present study contributes to the literature in two ways. First, this study aims to examine the causal impact of formalization on small firm profit and revenue, aiming to ascertain whether formalization has a positive, negative or no impact on firm welfare. Second, this study examines the heterogeneous impact of formalization on small firm profit and revenue, as heterogeneity can change the direction of the impact of any intervention.

Section 2 includes the materials and methods. Section 3 includes the results and analysis, followed by discussion and conclusion in Section 4.

2. Materials and Method

2.1 Data sources

This study uses the dataset prepared by Campos et al. (2018) with 3002 informal micro- and small enterprises from urban Lilongwe and Blantyre, the major commercial cities in Malawi. To address gender disparities, female-owned enterprises are oversampled because of potential barriers to formalization and their smaller size on average. The stratified random sampling method was used to select the enterprises. This study uses data from 1,670 small and micro enterprises, 1207 of which were randomly assigned to receive an offer to cost-free business registration along with a bank account opening information session; 757 enterprises composed the control group. A total of 1038 enterprises are excluded from this study because the excluded enterprises received different treatments, which hampers obtaining the causal impact of formalization as defined in this study. The baseline survey was conducted between December 2011 and April 2012. The second data source comprised a baseline and four follow-up surveys. The offer and information session took place from June 2012 to September 2012, followed by surveys conducted approximately 4, 16, 28, and 35 months after the encouragement to formalize. This study considered the baseline data after 35 months.

The business registration process in Malawi involves completing the Application for Registration and submitting it with one passport photo or a copy of the National ID card to the Registrar General's office. The initial cost for registering as a sole trader or in partnership was MWK 200 or \$1.30, which was later increased to MWK 2000 in mid-2012 (\$8 in 2012 and \$4 in 2013), and the official processing time was 14 days, although practical experiences vary, ranging from one day to two months, with the option of expedited processing through intermediaries at a higher cost (Campos et al., 2023).

2.2 Summary statistics

Table 1 reports the summary statistics of the variables of the firms based on formality status. There are more female owners in formal firms (37%) than in informal firms (42%). The average age of the formal firm owners is 34 years, whereas the average age of informal firm owners is 33.34 years. Approximately 92% and 5% of the owners of

formal firms are literate and highly educated, respectively, whereas 90% and 6% of the owners of informal firms are literate and highly educated, respectively. 8%, 72% and 20% of the formal firms are manufacturing, retail and service, respectively, whereas 6%, 70% and 24% of the informal firms are manufacturing, retail and service, respectively. The average age of the informal firms is 8.21 years, whereas the average age of formal firms is 7.78 years. 37% of formal firms have their own space, while 32% of informal firms have their own space. The average revenue and profit of the formal firms are 446609.96 Malawian pound (1 USD = 1687.54 Malawian pound) and 97641.29 Malawian pound, respectively. On the other hand, the average revenue and profit of informal firms are 309114.10 for the Malawian pound and 70269.18 for the Malawian pounds.

Table 1: Summary statistics: Based on Formality Status

	Mean	Standard Deviation	Minimum	Maximum
<u>Treat: Formalized Firms</u>				
1= Owner is Female	0.37	0.48	0	1
Owner age	34.00	8.56	14.00	73
1= Literate	0.92	0.27	0	1
1= Higher education	0.05	0.22	0	1
1=Manufacturing	0.08	0.26	0	1
1=Retail	0.72	0.45	0	1
1=Services	0.20	0.4	0	1
Firm Age (Years)	8.21	6.9	1.00	47
1= Owns space	0.37	0.48	0	1
Revenue last month	446609.96	677515.46	0	4500000.00
Profit last month	97641.29	115376.00	0	725000.00
<u>Control: Informal Firms</u>				
1= Owner is Female	0.42	0.49	0	1
Owner age	33.34	9.29	14.00	78
1= Literate	0.90	0.30	0	1
1= Higher education	0.05	0.22	0	1
1=Manufacturing	0.06	0.24	0	1
1=Retail	0.70	0.46	0	1
1=Services	0.24	0.42	0	1
Firm Age (Years)	7.78	7.28	1	49
1= Owns space	0.32	0.47	0	1
Revenue last month	309114.10	534258.44	0	4500000.00
Profit last month	70269.18	93261.65	0	725000.00

2.3 Identification strategy

Formalization is an endogenous variable because a firm chooses to formalize it. Thus, to examine the impact of formalization, self-selection bias needs to be considered. Self-selection creates an endogeneity problem that occurs when a treatment variable is correlated with the error terms (Ullah et al., 2021). This study applies randomized encouragement design as a robust identification tool to estimate causal impact (West et al., 2008) as an alternative to randomized control trials, the gold standard. The randomized encouragement design utilizes an instrumental variable (IV) approach that addresses endogeneity issues if the conditions of the IV are satisfied (Angrist et al., 1996). Instrumental variables explore causal inferences on the impact of a treatment on an outcome (Burgess et al., 2017). The option to perform cost-free business registration along with the number of bank account opening information sessions is considered an instrumental variable or randomized encouragement variable to estimate the local average treatment effect of formalization. Offer-to-cost-free business registration, along with a bank account opening information session, fulfills the three conditions of instrumental variable setting. The offer and session are randomized to fulfill the exogeneity condition. Then, the offer and session have direct impacts on the formalization process; thus, they fulfill the relevance condition. Finally, the offer and session fulfill the exclusion restriction condition, having no direct impact on the revenue or profit of firms.

As an instrumental variable setting, this study has three types of firms: compliers, never takers and always takers. Firms are compliers if their formalization depends on the offer and the information session. In other words, complier firms become formalized if they receive an offer and an information session, whereas complier firms remain informal if they do not receive an offer or an information session. The Always Taker firms formalize whether they receive an offer and an information session. In contrast, firms are never takers if they remain informal whether they receive an offer or an information session.

The two-stage least squares method is used in randomized encouragement design to estimate the local average treatment effect (LATE). The first-stage estimation uses the following equation:

Equation for First-stage Estimation: $F_i = a_0 + \pi E_i + \mu_i$

In this case, F_i is a dummy variable for Formalization Status, taking the value 1 if the firm has business registration and a business account. E_i is the IV dummy equating 1 if a firm is offered cost-free business registration along with a bank account opening an information session.

From the first stage, the predicted F_i is estimated, after which the second-stage equation below is used to measure the local average treatment effect:

Equation for Second-Stage Estimation: $R_i = \beta_0 + \rho_c \hat{F}_i + \varepsilon_i$

R_i are the outcome variables. Here, the local average treatment effects are estimated by ρ_c . \hat{F}_i is the predicted formalization dummy. ρ_c is the main treatment effect of formalization and refers to the local average treatment effect of compliers.

3. Results and Analysis

3.1 Main Results

Table 2 reports that offering cost-free business registration along with bank account opening information sessions, as an instrumental variable, has a significant positive impact on the formalization status of small firms at the 1% significance level. The first-stage result also affirms the relevance of offering cost-free business registration along with opening a bank account as an instrumental variable. In other words, offering cost-free business registration along with providing information about bank accounts as an instrumental variable increases the formalization of small firms.

Table 2: Impact of the Offer and Information Session on Formalization

VARIABLES	(1) Formalization
Instrumental Variable	0.58*** (0.01)

Standard errors in parentheses

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

Table 3 reports that formalization has a significant positive impact on the profit and revenue of small firms at the 1% significance level. In other words, formalization increases the profit and revenue of small firms. Table 2 reports that formalization increases the profit of small firms by 22803.64 Malawian pound and the revenue of small firms by 161,777.80 Malawian pound.

Table 3: Impact of Formalization on Profit and Revenue at the Malawian Pound

VARIABLES	(1) Profit	(2) Revenue
Formalization Status (0/1)	22,803.64*** (8,206.87)	161,777.80*** (58,910.28)
Standard errors in parentheses		
*** p<0.01, ** p<0.05, * p<0.1		

Figure 1 compares the profits of formal and informal firms. The figure illustrates that the profits of formal firms are comparatively greater than those of informal firms. The average profit of formal firms is 101255.66 Malawian pounds, and the average profit of informal firms is 61261.51 Malawian pounds.

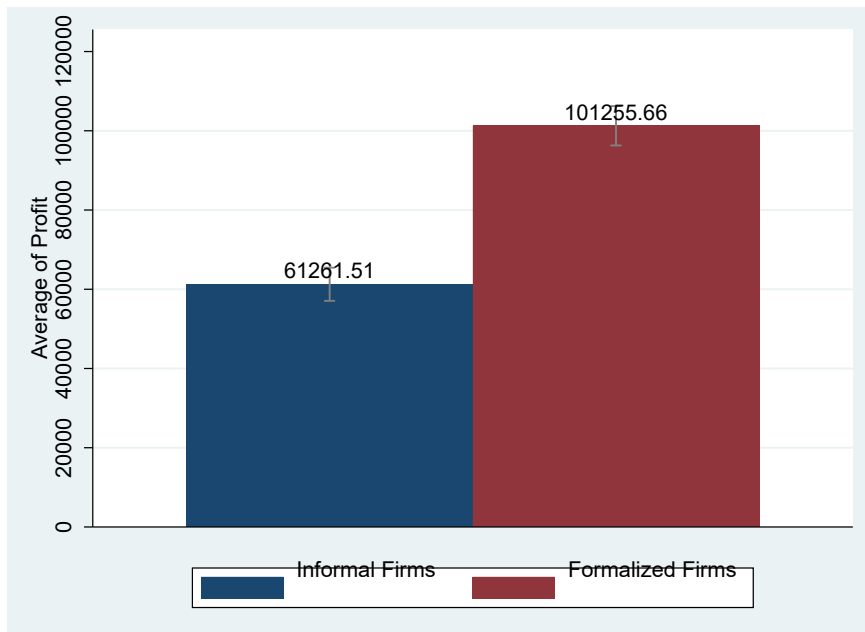


Fig 2: Comparison of Profit (Malawian pound) between Informal and Formalized Firms

Figure 2 compares the revenues of formal and informal firms. The figure illustrates that the revenues of formal firms are comparatively greater than those of informal firms. The average revenue of formal firms is 523054.41 Malawian pounds, and the average revenue of informal firms is 344326.41 Malawian pounds.

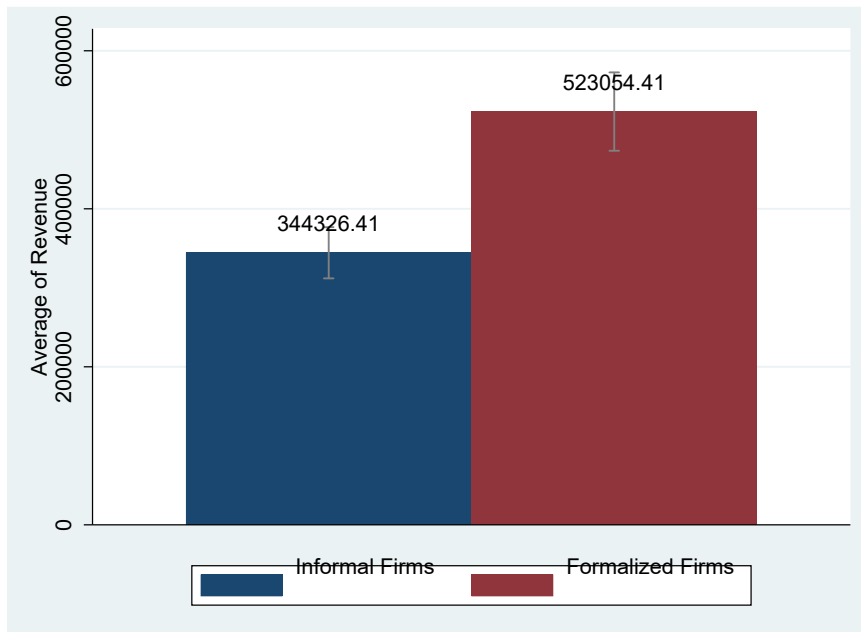


Fig 2: Comparison of Revenue (Malawian pound) between Informal and Formalized Firms

3.2 Balancing test

Table 4 reports the balancing test of pretreatment covariates of the firms based on IV status. In other words, this table reports whether pretreatment covariates of the firms were balanced based on whether a firm received an offer. The results show that none of the pretreatment covariates of the firms were significantly different between those who received offers and those who did not receive offers.

Table 4 Pretreatment Balancing Test Covariates

Variable	Treatment Assigned		Control Assigned		Difference	
1= Owner is Female	0.40	[0.49]	0.40	[0.49]	-0.01	(0.02)

Owner age	33.33	[8.82]	34.00	[9.34]	0.67	(0.42)
1= Literate	0.91	[0.29]	0.91	[0.29]	0.00	(0.01)
1= Higher education	0.05	[0.23]	0.05	[0.22]	-0.00	(0.01)
Age of firm	7.72	[7.02]	8.30	[7.32]	0.58*	(0.33)
No Employees	2.05	[1.28]	2.01	[1.17]	-0.04	(0.06)
Capital	173162.48	[490218.38]	176145.82	[756949.73]	2983.34	(28143.93)
1= Owns space	0.33	[0.47]	0.35	[0.48]	0.03	(0.02)
Revenue last month	224986.81	[2117546.77]	190317.86	[712952.13]	-34668.95	(79658.73)
Profit last month	36495.09	[57865.18]	34477.68	[39402.95]	-2017.41	(2389.56)
Observations	1207		757		1964	

Notes: Standard deviation in square brackets. The standard errors are in parentheses. * p<0.10 ** p<0.05 *** p<0.01

3.3 Heterogeneous Impact

Table 5 reports the heterogeneous impact of formalization based on business type. The results show that formalization has a significant positive impact on the profit and revenue of only manufacturing small firms. However, the impact of formalization on the profit and revenue of retail- and service-related small firms is not statistically significant. Table 4 reports that formalization increases the profit of manufacturing small firms by 27539.50 Malawian pound (1 USD = 1,687.54 Malawian pound) and the revenue of manufacturing small firms by 171352.80 Malawian pound.

Table 5: Heterogeneous Impact of Formalization Based on Type of Business

VARIABLES	(1) Profit (Retail)	(2) Profit (Manufacturing)	(3) Profit (Service)	(4) Revenue (Retail)	(5) Revenue (Manufacturing)	(6) Revenue (Service)
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Formalization Status (0/1)	36,461.89 (34,372.39)	27,539.50*** (10,091.78)	845.33 (13,615.34)	275,114.10 (252,736.20)	171,352.80** (72,980.60)	70,592.53 (93,731.79)
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Standard errors in parentheses

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

Furthermore, Table 6 reports the heterogeneous impact of formalization based on the gender of firm ownership. The results show that formalization significantly increases the profit of male-owned firms and the revenue of female-owned firms at the 5% significance level. It can be concluded that formalization improves the situation of firms irrespective of the gender of the owner. The results suggest that formalization does not have a gender-biased impact.

Table 6: Heterogeneous Impact of Formalization Based on Gender

VARIABLES	(1) Profit (Female Owner)	(2) Profit (Male Owner)	(3) Revenue (Female Owner)	(4) Revenue (Male Owner)
Formalization Status (0/1)	23,531* (12,364)	22,717** (10,644)	157,663** (72,062)	162,317* (82,980)

Standard errors in parentheses

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

4. Discussion and Conclusion

Formalization is argued to promote the growth of a firm, but the evidence of the impact of formalization remains inconclusive. This study attempts to explore the empirical evidence of the impact of formalization on the revenue and profit of small Malawi firms. Revenue and profit are considered the major indicators of the improvement of small firms. The findings of the study affirm that formalization increases the revenue and profit of small firms. This study provides empirical evidence that formalization has a significant positive impact on the revenue and profit of small firms. Formalization acts in diverse ways to promote the revenue and profit of small firms. One way is that it decreases the external pressure of being illegal, as suggested by Le et al. (2022), who explore the negative correlation between formalization and bribery. Furthermore, formalization helps to meet the financing requirements of small firms, as formalization helps them obtain external financing (Le et al., 2022). Furthermore, Haruna (2023) argues that formalization promotes access to electricity, usage of the internet, size of firms, investment, accounting procedures, supply of products, customer coverage and competition. Furthermore, Dada et al. (2022) argue that

formalization helps reduce the environmental degradation caused by informal firms, such as informal firms involved in metal work, obsolete vehicles, automotive repair and crude mining.

Interestingly, heterogeneous impact analysis reveals that formalization increases the revenue and profit of only small manufacturing firms and that formalization has no conclusive impact on the revenue and profit of retail or service-related small firms. The heterogeneous impact of formalization suggests that formalization helps manufacturing firms earn more. Our finding is supported by the study of Shamsuzzoha and Tanaka (2021), who also explored whether formalization is positively correlated with productivity. The inconclusive impact of formalization on the revenue and profit of retail or service-related small firms can be explained by the fact that formalization opens fewer opportunities for retail or service firms than for manufacturing firms (Shamsuzzoha & Tanaka, 2021). Furthermore, a heterogeneous impact analysis based on the gender of the owners shows that male-owned firms earn more profit, whereas female-owned firms earn more revenue if formalized.

The intricate relationship between formalization and economic development has been a subject of significant scholarly inquiry, particularly in the context of developing economies. Within this broader landscape, this research aims to contribute to the understanding of formalization dynamics, specifically examining its impact on the revenue and profit of small informal firms in Malawi. As a nation grappling with economic challenges, Malawi serves as an illustrative case study where a substantial portion of businesses operate in the informal sector. In conclusion, our research endeavors have illuminated various dimensions of the formalization process and its implications for small informal firms in Malawi. Through a robust methodological approach encompassing a randomized encouragement design and instrumental variable estimation, we sought to navigate the complexities inherent in studying causal relationships in the context of informal economies.

The theoretical foundations provided a rich tapestry of perspectives, offering a comprehensive understanding of the motivations and hindrances to formalization. Examining legalistic, neoliberal, structuralist, institutionalist, and neoclassical viewpoints, we found that the formalization landscape is multifaceted and requires nuanced policy interventions tailored to the specific challenges faced by informal businesses in developing economies. The empirical evidence reveals the intricate nature of formalization, highlighting the varied impacts of different policy measures on formalization rates. From the exclusion model policies to the rational exit model policies and the parasite model policies, each approach revealed the need for a context-specific understanding of formalization

dynamics. Formalization induced through policy has greater benefits than formalization induced through self-motivation, suggesting that policy initiatives need to be adopted to promote formalization (Floridi et al., 2021).

The acknowledgment of challenges, including unobserved heterogeneity, endogeneity concerns, and institutional variations, underscores the need for nuanced analyses in the study of formalization. The survival-oriented and growth-oriented nature of informal activities, coupled with differences in responsiveness to policies, emphasize the need for policies that account for the diverse characteristics influencing formalization decisions. As nations grapple with the challenges and opportunities presented by informal economies, the findings of this research offer actionable insights for designing effective policies that encourage formalization and promote sustainable economic growth. In essence, this research contributes to the ongoing discourse on formalization, providing a nuanced understanding of the dynamics at play in small informal firms in Malawi. By integrating theoretical perspectives, empirical evidence, and policy implications, this study enriches the general understanding of the factors shaping the formalization process and offers valuable insights for policymakers, practitioners, and researchers interested in fostering economic development and enhancing the well-being of small businesses in developing economies. This research provides policy implications for promoting the formalization of informal firms through information seminars, easy and free business registration procedures, reducing payroll taxes, and subsidizing registration costs (Jessen & Kluge, 2021). Moreover, governments of developing economies need to design both short-term and long-term comprehensive strategic plans. Taxation should be relaxed for small firms to sustain them. To formalize small firms, the governments of developing countries have four reasons to extend the tax base, augment access to the formal economy, reinforce the rule of law, and acquire valued economic information for policy implementation (Campos et al., 2023).

This study has certain limitations. First, the definition of formalization as a treatment variable is based on subjective judgment in the present study. Second, the study estimates only the average treatment effect of the compliers. Third, the spillover effect cannot be examined because of data unavailability. Future research needs to be conducted to examine the impact of formalization more comprehensively.

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