

Economic freedom and private domestic investment in sub-Saharan Africa

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Abstract

This study aims to examine the effect of economic freedom on private domestic investment in Sub-Saharan Africa. Unlike the existing literature, this study focuses only on the SSA region and considers the effect of the five components of the Fraser Institute's Index of Economic Freedom on private domestic investment. To this end, we use a panel of 41 SSA countries over the period 2000-2021 using the GMM estimation method. The results show that economic freedom and the components of the index are favorable to private investment. Specifically, it is found that in addition to the positive effect of economic freedom, dimensions such as size of government, legal system and property right, and Regulation of business, labor, and credit markets have a positive effect on private domestic investment(GFCF). While, freedom to trade internationally a negative and effect. These results suggest that SSA countries need to increase and the quality of the size of government, strengthen their legal systems, ease restrictions on capital movements and tariff barriers, and put in place a good business regulatory environment to stimulate private investment.

Keywords: Economic freedom, private domestic investment, Sub-Saharan Africa

JEL Classification : C82, E22, O43, O55, P16

1 Introduction

Investment is the engine of economic growth, according to both neoclassical and endogenous growth theory (Solow, 1956; Barro, 1991). This is due to the fact that investment increases the capacity of the means of production (factors of production) through the accumulation of physical and human capital, as well as stimulates technological development through R&D and innovation, all of which support growth. Private investment has played a crucial role in the process of creating growth in developing Asian economies (Jongwanich and Kohpaiboon, 2008).

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Sub-Saharan Africa (SSA) has the lowest average ratio of private investment to GDP (private sector investment effort) of any area, at 2%. This ratio constituted 15% of GDP on average between 2010 and 2016, compared to 22% in Asian emerging countries, 18% in Europe, 17% in Latin America, and 16% in the Middle East and North Africa. In fact, investment in the region has fallen faster than in other emerging countries since 2015, falling by 4% on average in 2015 and 2016. Within the region, the low rate of private investment stands out. From 2010 to 2016, the ratio was 14% in oil-producing nations, 17% in other resource-rich countries, and 15% in resource-poor countries (IMF, 2018). Despite SSA's underperformance, the IMF (2020) report notes that pre-pandemic COVID-19 forecasts show that sustainable and inclusive growth will require \$420 billion spending per year by 2030, which will be impossible to achieve without major private sector investment.

The institution also points out that the SSA countries that have seen a sustained rise in private investment have benefited from macroeconomic stability and stronger institutions. Over the past three decades, institutions have emerged as the key determinants of growth and investment (North, 1990; Rodrik, 2000). The literature has identified numerous types of institutions that are likely to have a direct impact on investment, such as economic institutions that ensure property rights, open markets, and so on. Economic freedom has been identified as a measure of institutional quality capable of enhancing economic performance, particularly investment, in this regard.

According to the literature, countries with greater economic freedom have substantially superior economic performance. This is because an economically free environment boosts productivity and encourages investment in human and physical capital, while also providing more opportunities for entrepreneurial activity (de Haan and Sturm, 2000; Justesen, 2008). For example, numerous studies have shown that economic freedom promotes economic growth (Doucouliagos and Ulubasoglu, 2006; Azman-Saini et al., 2010; Farhadi et al., 2015; Malanski and Póvoa, 2021), FDI in sub-Saharan Africa (Dia and Atangana Ondoa, 2023) and entrepreneurship (Bjørnskov and Foss, 2008).

Other authors have confirmed that economic freedom has a direct impact on growth, and indirectly through investment Dawson (2003). Based on the link between economic freedom and investment, Gwartney et al. (2006) isolated the independent effect of economic freedom on growth through its impact on both the level of private investment (% GDP) and investment productivity using a sample of 94 countries over the period 1980-2000 (i.e. two decades). They used the recursive method to separate the influence of economic freedom based on 1980 levels, as well as changes during the 1980s and 1990s. They found that economic freedom coefficients have a positive impact on the private investment ratio (as a percentage of GDP). Similarly, Justesen (2008). also sought to capture the direction of causality between economic freedom and its five components and economic growth on the one hand, and investment on the other. He conducted the Granger causality test using a fixed-effect model on a five-year panel of 76 countries over the period 1970-1999 (i.e., six periods). He demonstrates that economic freedom and its components have a significantly positive causal impact on investment.

The purpose of this research is to investigate the effect of economic freedom on private domestic investment in a sample of 41 SSA countries over the period 2000-2021. It differs from those few studies mentioned above in three ways. Firstly, we employ a dynamic panel that deals with endogeneity problems using the Generalized Method of Moments (GMM) estimation technique. Secondly, by the study period, because we use annual data, unlike to [Justesen \(2008\)](#) and [Gwartney et al. \(2006\)](#), which use either five-year or ten-year data. In this regard, it should be highlighted that the private investment ratio - measured by the private sector's share in GFCF - is evaluated over the course of a year. Annual data is more meaningful in this context. Finally, this empirical case focuses on SSA only, which to our knowledge has not been undertaken by any empirical investigation to date.

The rest of the paper is structured as follows: [Section 2](#) sets out the theoretical link between economic freedom and private domestic investment in SSA. [Section 3](#) highlights the methodology and Data. [Section 4](#) presents the empirical results and [section 5](#) concludes.

2 Literature review

In this section, we review the theoretical debates on the link between the five components of the Index of Economic Freedom and private domestic investment. The five components act differently on private domestic investment. They are: (1) [Size of government](#), (2) [legal system and property rights](#), (3) [Sound money](#), (4) [Freedom to trade](#) freedom to trade and (5) [regulation of business, labor and credit markets](#). We'll look at the effect of each dimension on private domestic investment.

2.1 Size of government and private investment

The effect of the size of government (through public spending and taxes) on private investment has been the subject of much debate for many years. There are two main opposing theories. Firstly, there is the (pro-neoclassical) theoretical literature, which postulates that public investment can crowding out private investment, due to increased public spending and reduced tax revenues resulting from a fiscal deficit or high level of taxation ([Buiter, 1977](#)), ([Easterly and Rebelo, 1993](#)) ([Buiter, 1977](#); [Easterly and Rebelo, 1993](#); [Nguyen and Trinh, 2018](#)). On the other hand, another part of the literature argues that public investment can crowding in private investment and stimulate the economy in the long term. Public spending on infrastructure or the supply of goods and services, creates a reliable macroeconomic environment, can therefore attract private investment through reduced investment costs, and improves the productivity of private capital produced ([Barro,1990](#); [Bahal et al., 2018](#)).

2.2 legal system and property rights

[North \(1990\)](#) states that good institutions that guarantee property rights reduce the transaction, control and contract enforcement costs that affect economic activity. According

to [Acemoglu et al. \(2005\)](#), without property rights, individuals have no incentive to invest in physical or human capital, or to adopt more efficient technologies. When property rights are weakly protected, there is a greater likelihood that politicians or other powerful groups will expropriate productive assets ([Ojah et al., 2010](#)). Similarly, [Gwartney et al. \(2006\)](#) point out that investors are reluctant to risk their capital when property rights are weakly protected, and therefore fear that the fruits of their investment will be appropriated by others. Moreover, compliance with and enforcement of contracts is necessary to attract private investors. ([Aboal et al., 2014](#)) explain that poor contract enforcement can affect investor choice on two levels. Firstly, it could directly create uncertainty around an investment project, and therefore influence investors' decisions by increasing project costs, reducing its expected returns. Secondly, it could indirectly influence the decision or capacity of agents to invest. It is likely to lead them to choose less efficient technologies, which will limit their actions to build specific assets when these depend on contracts, or amplify the negative effects of infrastructure or regulatory weaknesses.

2.3 Sound money and private investment

There is no consensus on the link between inflation and private investment. On the one hand, theories which assume that uncertainty (inflation) has a positive effect on risk-neutral private investment decisions ([Hartman, 1972](#); [Abel, 1983](#)). Nevertheless, [Caballero and Engel \(1999\)](#) relativizes and states that the relationship between uncertainty and investment depends entirely on market structure. On the other hand, inflation is perceived as a sign of macroeconomic instability that can have a negative effect on private investment ([Oshikoya, 1994](#)). Real options theory argues that firms are likely to postpone irreversible investments in a context of economic uncertainty, in order to obtain more information ([Dixit and Pindyck, 1994](#)). They add that once the investment has been made, the company will incur a significant cost so that it can be used in another project. Nevertheless, ([Keller, 2004](#)) states that in the face of irreversibility and economic uncertainty, companies consider it better to report investments unless the estimated benefits are slightly higher than the investment costs.

2.4 Freedom to trade and private investment

The effect of trade liberalization has given rise to much controversy. According to [Gwartney \(2009\)](#), lower transport and communication costs, coupled with trade liberalization, mean that production can flow more easily, even to the most remote regions of the world. He adds that this encourages investors and entrepreneurs, who have greater leeway in choosing where to locate their production. [Bhagwati \(2005\)](#) pleads for greater trade liberalization. He argues that developing countries should be compensated for the loss of tariff revenues, and funds should be made available to help these producers become competitive exporters, especially small producers who may initially lose out with trade liberalization.

Conversely, [Stiglitz \(2002\)](#) explains that trade liberalization can be detrimental to growth by preventing countries, such as those in SSA, from engaging in industrial development strategies, which can deprive them of knowledge accumulation and productivity

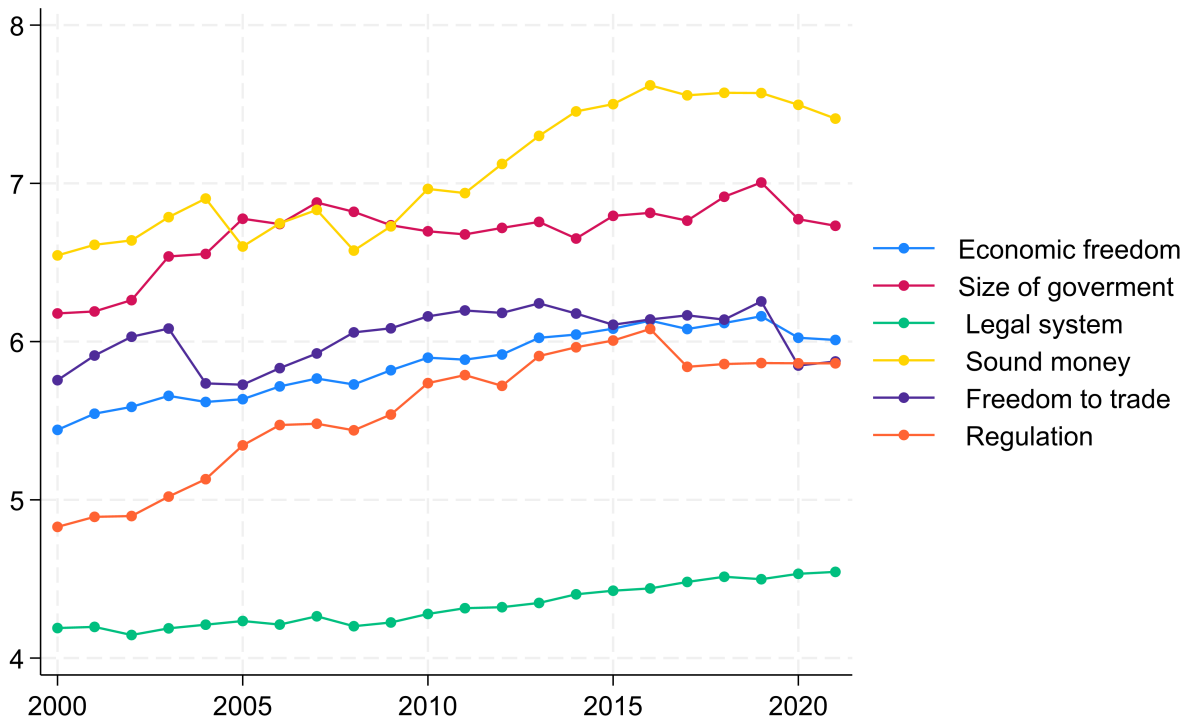
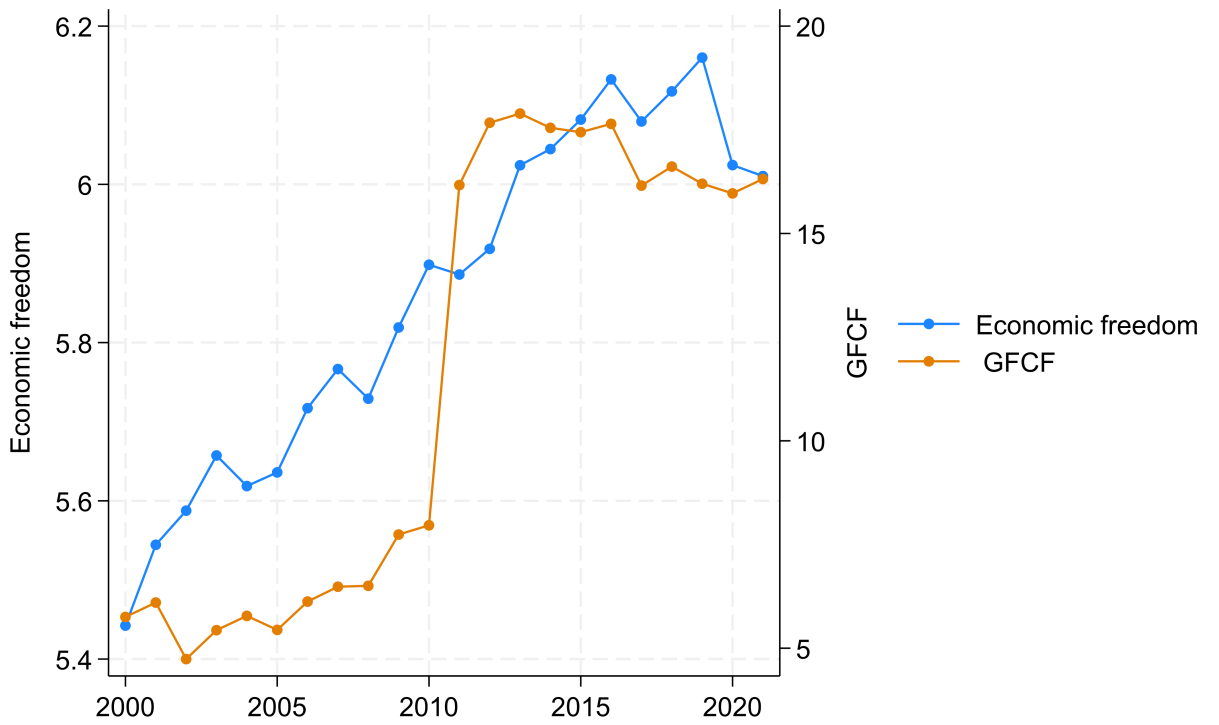
growth. In the same vein, [Greenwald and Stiglitz \(2006\)](#) indicate that to reduce the technological knowledge gap between developed and emerging economies, it is important to put in place trade restrictions to enable the emergence of a modern industrial sector.

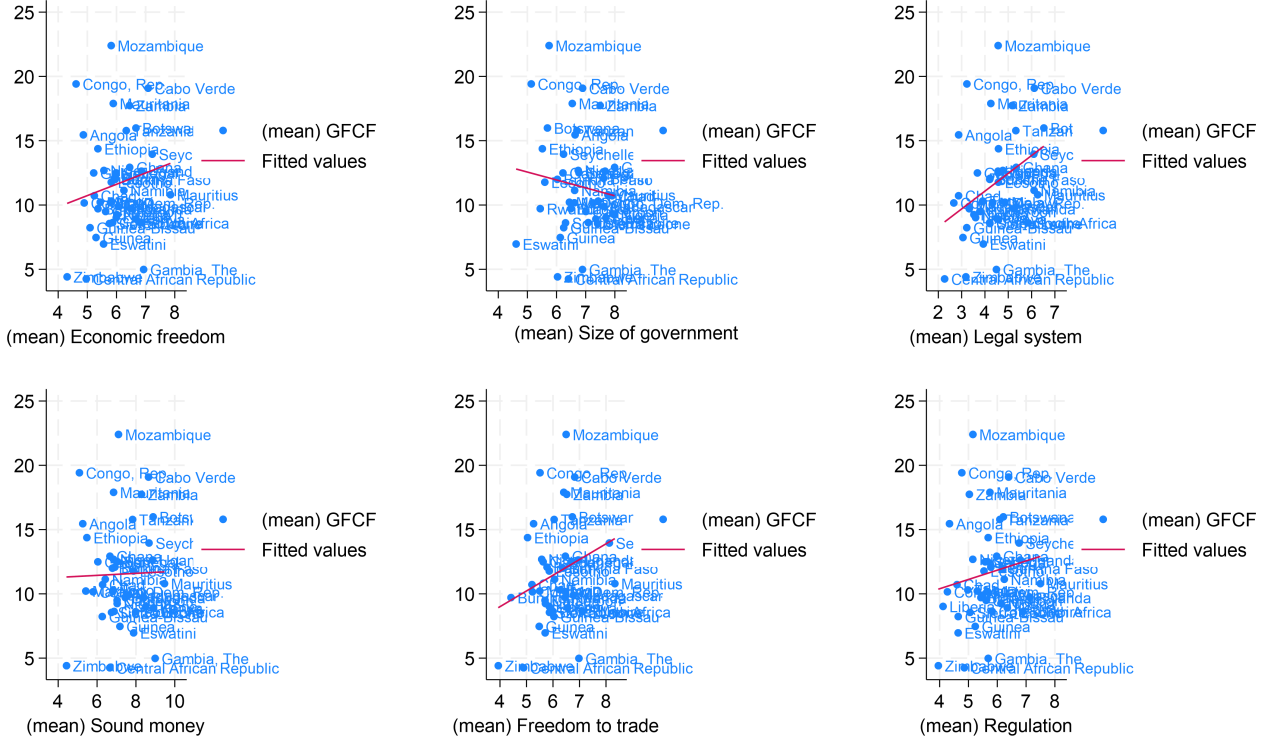
2.5 Regulation and private investment

The literature supports that excessive regulation can hamper business activity. Restrictive regulations are said to ultimately lead to higher levels of corruption, since they place officials in a position to grant favors or impose costs on businesses ([Gwartney, 2009](#)). [Bjørnskov and Foss \(2008\)](#) highlight that they can both support and hinder entrepreneurs, who need clear rules and effective enforcement. They add that too many regulations impose burdens on all businesses, especially start-ups (new businesses with high growth potential), which can lead to exorbitant start-up costs.

The development of the financial system through financial liberalization improves the effects of informational asymmetry, reduces transaction costs, and thus influences savings and investment decisions ([McKinnon, 1973](#); [Greenwood and Smith, 1997](#)). Financial instruments mitigate the effects of asymmetric information, promote the application of rules and transaction costs, which influence savings rates, investment decisions, technological innovations and steady-state growth rates ([Misati and Nyamongo, 2011](#)). However, [Stiglitz \(2002\)](#) indicates that deregulation of the credit market leads to instability in developing economies due to the free flow of speculative capital. He explains in favor of banking regulation, e.g., restrictions on lending to real estate speculation, on the growth rates of bank assets and so on, countries must ensure that the opening up of their markets does not deprive small businesses of the financing they need to carry out their investment projects.

3 Methodology and Data





Empirical model specification

The relationship between the components of economic freedom and private domestic investment is dynamic in nature. In this regard, we draw on the work of (Agosin and Machado, 2005; Su and Bui, 2017) to employ a dynamic model. We formulate the following econometric model:

$$PI_{it} = f(EF_{it}, X_{it}) \quad (1)$$

Considering the components of the index and the control variables, Equation 1 becomes:

$$PI_{it} = \alpha_1 P_{t-1} + \alpha_2 sg_{it} + \alpha_3 Lspr_{it} + \alpha_4 Smit + \alpha_5 Ftrade_{it} + \alpha_6 Reg_{it} + \alpha_7 GDP_{it} + \alpha_8 credit_private_{it} + \alpha_9 FDI_{it} + \alpha_{10} Political_stab_{it} + \phi_i + \delta_t + \epsilon_{it} \quad (2)$$

Dependent variable

We measure the dependent variable, private domestic investment, by the ratio of private-sector GFCF to GDP. This measure has been the subject of numerous empirical investigations (Cavallo and Daude, 2011; Ouédraogo et al., 2020).

Variables of interest

The variables of interest are the Fraser Institute's Aggregate Index of Economic Freedom and its five components. These are: (1) size of government (**Sg**), (2) legal system

and property rights (**Lspr**), (3) sound money (**Sm**), (4) freedom to trade internationally (**Ftrade**), and (5) regulation of credit, labor and business markets (**Reg**).

Control variables

As mentioned above, control variables are other variables that can describe the behavior of private domestic investment in SSA. The advantage of adding these variables in a model is that they help prevent bias in estimating the parameters of interest. On the basis of the literature, we present the control variables used in this study as well as the expected signs.

- **GDP Growth** in real gross domestic product. It is positively correlated with private investment. This positive relationship is the main assumption of the flexible accelerator model, which postulates that there is a proportional relationship between the desired capital stock and the level of real output. Empirical studies show that growth is positively correlated with private investment. [Munemo \(2012\)](#) found that GDP growth increases private domestic investment in Africa. Based on the almost consensual findings of the empirical literature, we expect a positive result.
- **Private_credit**: Domestic credit for the private sector as a percentage of GDP. The behavior of credit-providing financial institutions (banks) significantly affects private investment. Empirical literature shows that the ratio of credit to GDP granted to the private sector has a positive impact on private investment ([Vinod et al., 2020](#)). We expect a positive sign.
- **FDI**: is foreign direct investment. Debates on the relationship between FDI and domestic investment are contradictory. [Morrissey and Udomkerdmongkol \(2012\)](#) find that FDI supplants domestic investment in developing countries. While [Farla et al. \(2014\)](#) conclude that FDI inflows contribute positively to domestic investment levels. We expect a positive sign.
- **Political_stab**: is political stability. This variable is considered as a fundamental determinant by private investors. Indeed, without political stability, no investor will decide to invest in an unstable environment. [Ouédraogo et al. \(2020\)](#) explain that when the political violence (characterized by the risk of conflict), which imply instability, is higher, private investors are worried about the rentability of their investment and therefore may not be encouraged to invest in the country. However, [Ben-Salha and Zmami \(2019\)](#) found that political and absence of violence/terrorism has no significant effect on domestic private investment in the MENA region. We anticipate a positive sign.

3.1 Data

This study employs an annual unbalanced panel of 41 SSA countries over the period 2000-2021. Data for the variables of interest come mainly from the Fraser Institute database (the Index of Economic Freedom in the World). This index provides an almost complete and explicit description of, on the one hand, institutional quality, and on the other hand,

economic policies favorable to free enterprise. It has the advantage of presenting data over a long period. The latest version covers five components and 25 indicators; each indicator is made up of sub-indicators, making a total of 42 variables. (Gwartney et al., 2020). This index is the most widely used in the literature (Krieger and Meierrieks, 2016; Bennett et al., 2017). Data for the dependent and control variables are taken from the World Development Indicator (WDI) database of the World Bank. World Bank (2022) and the AfDB socio-economic database 1960-2019.

Table 1 presents the descriptive statistics of the sample variables for the period 2000-2018. Scores on the synthetic index of economic freedom and its components range from 0 to 10, with 0 implying less economic freedom and 10 more economic freedom. The average score of the index of economic freedom for the SSA region is 6, roughly equal to the average score for the panel of countries covered by the index over the same period. Average GDP per capita is 1.98%. On average, the private investment ratio is 15.05%, with a maximum of 117.39% and a minimum of -3.87%. Average annual GDP growth was 4.27% over the study period.

Table 1: Descriptive statistics

Variable	Mean	Std. Dev	Min	Max	N
Gross Fixed Capital Formation	11.531	8.592	-32.91	60.15	902
Economic freedom	5.884	0.809	2.9	8.23	812
Size of Government	6.681	1.162	1.87	9.26	902
legal system& property rights	4.326	1.092	2.11	7.08	902
Sound money	7.108	1.411	1.25	9.76	811
Freedom to trade internationally	6.039	0.971	1.76	8.859	805
Regulation	5.57	1.018	2.53	8.140	902
GDP growth	4.05	4.84	-36.392	33.629	901
Credit to private sector	19.922	22.966	0.002	142.422	815
FDI	4.343	8.019	-17.292	103.337	899
Political stability	-0.5	0.865	-2.699	1.283	861

Source: AfDB Socio Economic Database, 1960-2022, Gwartney et al. (2023) and World Bank (2023).

3.2 Estimation procedure

As we can see from Equation 2 , the lagged dependent variable (private domestic investment) is introduced on the right-hand side alongside the explanatory variables, its presence indicating the persistence of private investment. The introduction of the lagged dependent variable among the explanatory variables makes the model dynamic, suggesting that an endogeneity problem is likely to arise, given the high probability of correlation between the lagged dependent variable and the error term. In this case, the use of standard econometric methods, such as ordinary least squares (OLS)¹ or generalized least squares (GLS),

¹OLS or GCM estimation means that the level of private investment changes instantaneously when one of the determinants varies, but this is not a plausible assumption. For instance, as the flexible accelerator model postulates, due to the costs and uncertainties associated with any investment, the adjustment is not instantaneous. On the other hand, in the event of a change in demand, investment adjusts only partially to the desired level of capital stock. This underlines the difficulty of using static estimation methods.

is inappropriate (Baltagi, 2013). Indeed, since the lagged dependent variable $P_{i,t-1}$ is a function of the country-specific effect δ_i this implies that the dependent variable PI_{it} is a function of δ_i therefore, $P_{i,t-1}$ is correlated with the error term ϵ_{it} . To address endogeneity problems, the literature has proposed two variants of the dynamic panel generalized method of moments (GMM) estimator. On the one hand, the difference generalized method of moments (GMM) developed by Arellano and Bond (1991), and on the other, the system GMM method proposed by Blundell and Bond (1998). The method proposed by Arellano and Bond (1991) consists in taking the model in first difference in order to eliminate the specific effect, i.e., the other unobserved, time-constant factors influencing the dependent variable. They propose level-lagged explanatory variables as instruments. This is valid under two assumptions. First, the error term is not serially correlated (self-correlated). Secondly, the lagged explanatory variables are weakly exogenous (i.e., the explanatory variables are uncorrelated with future realizations of the error term). This strategy is known as difference GMM.

Regarding the existing empirical literature (Farhadi et al., 2015; Su and Bui, 2017) (Farhadi et al., 2015; Su and Bui, 2017) we use the GMM system estimator. First, it allows us to control for specific effects (unobserved heterogeneity) and deal with endogeneity biases. Secondly, system GMMs are more effective in overcoming the problems of instrument weakness associated with the difference GMM estimator.

4 Empirical results and discussion

We can observe a significant and positive effect of economic freedom on private domestic investment at the 10% level (Table 2). This positive effect can be attributed to the evolution of economic institutions and policies in the region in favor of investors in general, and domestic investors in particular. Furthermore, this link demonstrates that countries with high levels of economic freedom have higher investment-to-GDP ratios than countries with low levels of economic freedom. Gwartney (2009) indicates that between 1980 and 2005, the ratio of total investment to GDP for nations with an average economic freedom score of 7 or higher was 22.2%, compared to 18.9% for those with a score of less than 5.

When we consider the index's components, the results show that size of government, legal system and property right, and Regulation of business, labor, and credit markets have a positive and significant effect on private domestic investment (measured by GFCF) at the 10 and 5% level, respectively. However, freedom to trade with the rest of the world has a negative and significant effect. Only sound money has no significant effect.

The positive effect of the size of government can be explained by the fact that public investments in infrastructures (for instance, highways, electricity, schools and health facilities etc.) can boost the private domestic investment by increasing the marginal productivity of private capital. Our results are in line with those of Su and Bui (2017) who found that government size has a positive effect on private investment. Regarding legal system and property right, we indicate that the more private investors are insured against expropriation of their investments, the more confidence they have in the legal system. Therefore, they are inclined to invest in such a secure environment. Ojah et al. (2010) indicate that

the confidence of Ugandan and Kenyan companies in the judicial system has a positive effect on their investments, while the results for the Tanzanian one has a negative significant effect.

Regulation can affect positively the private investment ratio (% GDP) via the credit and business markets. First, we may explain it in terms of the credit market by a drop in the frequency of public borrowing in the banking sector in favor of private investors. According to [Ben-Salha and Zmami \(2019\)](#), credit market regulation has a large and favorable effect on domestic investment in the North Africa and Middle East region at the 5% threshold. Second, by streamlining administrative procedures in business operations, which will speed up and improve business formation. Combating corruption (for example, through the payment of bribes), lowering the cost of bureaucracy and the paperwork required to establish a firm are all components that boost the business environment and, as a result, can stimulate investors in general, and local investors in particular. [Cicccone and Papaioannou \(2007\)](#) argue that low barriers to entrepreneurship in terms of the number of procedures required to start a new business are particularly important for the formation of new companies in industries characterized by rapid technological change and expanding global demand. Size of Government, legal system, and sound money have a positive but insignificant effect on private GFCF. As far as the control variables are concerned, only credit granted to the private sector has a significant and negative effect on the private investment ratio. The negative effect of trade on domestic private may be due a high tariff rate or non-tariff trade barriers or capital controls. Indeed, domestic firms importing raw materials and equipments from abroad consider these commercial policy as a additional cost which harm their activity. [Ben-Salha and Zmami \(2019\)](#) has found that the coefficient associated with the mean tariff rate is negative and statistically significant at 10%, suggesting that higher tariff rates on imported goods reduce domestic investments.

Table 2: Two-step-system GMM estimates of basic model

Variables	Dependent variable: Gross fixed capital formation (GFCF) by private sector					
	(1)	(2)	(3)	(4)	(5)	(6)
GDP growth	-0.003 (0.046)	0.036 (0.075)	-0.087 (0.077)	0.035 (0.042)	0.059 (0.050)	-0.148* (0.084)
Credit to private sector	-0.053 (0.034)	-0.016 (0.016)	-0.109* (0.061)	-0.023 (0.023)	0.013 (0.021)	-0.074** (0.035)
FDI	0.053 (0.072)	0.053 (0.046)	0.079 (0.051)	0.053 (0.061)	0.116 (0.115)	0.120** (0.036)
Political stability	-0.170 (0.736)	1.348*** (0.476)	-3.130 (2.804)	0.573 (0.610)	1.602*** (0.501)	0.221 (0.633)
Economic freedom	3.635* (2.001)					
Size of government		1.542* (0.913)				
Legal system			6.146* (3.710)			
Sound money				1.419 (1.156)		
Freedom to trade					-1.584* (0.835)	
Regulation						3.965** (1.643)
Constant	-14.65 (11.42)	-5.972 (5.595)	-18.86 (16.11)	-3.484 (8.311)	16.36*** (4.969)	-14.65* (8.261)
Observations	680	740	740	680	673	740
Number of countries	41	41	41	41	41	41
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Hansen J test	0.195	0.693	0.340	0.214	0.235	0.136
AR1	0.000	0.000	0.000	0.000	0.000	0.000
AR2	0.540	0.411	0.399	0.579	0.439	0.357
Number of instruments	20	36	18	24	20	21

Robust Standard errors are in parentheses.

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

5 Conclusion

In this study, we examined the effect of economic freedom on the private domestic investment ratio (as the percentage of GDP) in a sample of 41 SSA countries over the period 2000-2021. To do so, we used the Fraser [Gwartney et al. \(2023\)](#). To test this empirical relationship, we mobilized the econometric tool using OLS estimation techniques and the System GMM method. The latter method enabled us to control for the unobserved, country-specific and time-invariant effect, and to deal with endogeneity issues.

The findings suggest that economic freedom has a favorable impact on domestic investment in SSA. This suggests that in countries with greater economic freedom, the ratio of private domestic investment is substantially larger. The quality of economic institutions is acknowledged as a key predictor of investment. Furthermore, the results reveal that the components of economic freedom such as size of government, legal system and property right, and Regulation of business, labor, and credit markets improve private investment. While freedom to trade affect it negatively.

Based on these results, we propose some recommendations to policymakers. Countries should focus more on the quality of economic institutions to improve the business environment. Specifically, they need to increase and the quality of the size of government. Furthermore, SSA countries must strengthen their legal systems, ease restrictions on capital movements and tariff barriers, and put in place a good business regulatory environment to stimulate private investment. To achieve this, countries would benefit from reducing administrative procedures and bureaucratic costs to make it easier to set up a business. Similarly, it is important to remove constraints on access to credit for domestic investors.

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Appendix

Table 3: Correlation matrix

Variables	1	2	3	4	5	6	7	8	9	10
GFCF	1.0000									
1.Economic Freedom	0.2187	1.0000								
2.Size_government	0.0035	0.3971	1.0000							
3.Legal_System	0.2239	0.7546	-0.0135	1.0000						
4.Sound Money	0.1614	0.8256	0.1858	0.4932	1.0000					
5.Freedom_trade	0.1518	0.7949	0.1884	0.5820	0.5850	1.0000				
6.Regulation	0.2484	0.8011	0.1588	0.6265	0.6038	0.5738	1.0000			
7.GDP_growth	-0.0120	0.0573	0.0010	0.0623	0.0007	0.0955	0.1098	1.0000		
8.Credit_private_sector	0.1177	0.5297	0.0096	0.5561	0.3447	0.4373	0.4927	-0.1140	1.0000	
9.FDI	0.1438	0.0505	0.0993	0.0294	0.0249	0.1191	-0.0697	0.0535	-0.0584	1.0000
10.Political_Stability	0.1418	0.4590	-0.1113	0.6825	0.2865	0.4879	0.2933	-0.0005	0.3302	0.0670

note: 1=

Economic Freedom, 2= Size of government, 3= Legal system and property right, 4= Sound money,

5= Freedom to trade internationally, 6= Regulation,

7= GDP growth, 8= Credit to private sector, 9= FDI, 10= Political stability.