

Modelling Financial Sector Reform and Resource Dependence Effects on Macroeconomic Stability In SSA: Re-Enacting Africa's Quest for Long-Term Development

Oluwafemi Adebajo¹, Frank Ogbeide¹, Isiaka Akande Raifu²

¹ Nigeria Deposit Insurance Corporation, Garki, Abuja FCT (Nigeria) ² Centre for the Study of the Economies of Africa (CSEA), Abuja (Nigeria)

Corresponding author: Oluwafemi Adebajo (femiadeboje@gmail.com)

Academic editor: Sheresheva M. | Received 18 June 2025 | Accepted 7 September 2025 | Published 18 December 2025

Citation: Adebajo, O., Ogbeide, F., & Raifu, I. A. (2025). Modelling Financial Sector Reform and Resource Dependence Effects on Macroeconomic Stability In SSA: Re-Enacting Africa's Quest for Long-Term Development. *BRICS Journal of Economics*, 6(4), 119–148. <https://doi.org/10.3897/brics-econ.6.e162459>

Abstract

This paper examines the influence of financial sector reform on macroeconomic stability in 14 SSA countries by employing a traditional panel, dynamic panel framework, and causality tests on data from 2000 to 2021. It explores whether income groupings of the sampled countries in line with the World Bank classification matter for the outcomes of the analysis. The results suggest that financial reform policies can both induce and prevent economic instability. They increase instability in the lower-middle and upper-middle-income countries, as seen in the overall estimated dynamic panel models, but they reduce it in low-income economies. The static panel models produced similar results. It has also been shown that the rent from natural resources had uniformly damaging effects on the macroeconomic stability of all income groups in SSA, effectively confirming the “resource curse” thesis. Yet, the findings of the panel as a whole contradicted this, suggesting that revenue from natural resources can effectively play a role in stabilizing macroeconomic conditions. The results also suggest the existence of what can be called “a human capital-misery trap”, in which higher human capital development can lead to macroeconomic instability. Inflation was found to have a detrimental effect, and the impact of government interventions appeared to be mixed. This paper emphasizes the need for robust financial reforms and comprehensive policy measures in Sub-Saharan Africa (SSA), aiming to

enhance the effectiveness, competitiveness, and stability of the financial sector and the broader economic landscape, which will require prudent management of natural resources.

Keywords

Financial Sector Reform, Macroeconomic Stability, Natural Resource Dependence, Human Capital-Misery Trap Syndrome.

JEL: E44, E59, O16, O55.

1. Introduction

Long-term development is predicated on achieving relative sustainability, according to researchers and policy-makers alike. Most African economies rely on natural resource wealth to drive fiscal stability and development, but they are often buffeted by economic instability and uncertainty due to the inelastic nature of their export commodities on the international market. Any changes in commodity prices can lead to misalignments in the economy, potentially hindering economic development (Onyekwena & Edafe, 2024).

Moreover, as globalization has made nations relatively interdependent, most national economies are becoming increasingly susceptible to external shocks that affect their growth rate, either positively or negatively (Shykina et al., 2025). The World Economic Forum's Chief Economist's Outlook (January 2025), cautions that the global growth prospects are weak, with 56% of leading economists predicting weaker economic conditions, and highlighting that increasing debt and inflation present significant risks to macroeconomic stability (World Economic Forum, 2025).

Sub-Saharan Africa's average annual GDP growth is projected to increase from 3.3% in 2024 to 3.5% in 2025, and then to 4.3% during the period 2026 to 2027, driven by stronger private consumption and investment, as inflation moderates and exchange rates stabilize (World Bank, 2025). Yet, this growth rate is not enough to significantly reduce poverty because many countries are facing high debt servicing costs, limited fiscal space, and continued exposure to climate and conflict-related shocks (World Bank, 2025; International Monetary Fund, 2024). To maintain macroeconomic stability and promote inclusive structural development, African countries need to rebuild their financial sectors, increase domestic resource mobilisation, and improve public financial management.

Recent data show that private banking credit in Sub-Saharan Africa increased from the early 1980s through to the 1990s. This was partly due to accelerated financial reform during 1986-1996 when numerous financial restrictions were removed, promoting access to long-term investment financing. Some scholars have recognized financial reform as an essential component of inclusive development, as it facilitates access to credit (Levine, 2005; Beck, 2011). Still, there are lingering concerns about the potential adverse consequences of financial liberalization, such as financial crises

and economic volatility (Demirgüç-Kunt & Detragiache, 1998; Kose et al., 2006). More recent evidence suggests that while private sector credit in SSA continued to expand in the 2000s and 2010s, its growth has been uneven across countries, and financial depth remains significantly below the global averages (World Bank, 2023; International Monetary Fund, 2024). Scholars have further emphasized the dual challenge of deepening financial systems in order to support inclusive growth while safeguarding macroeconomic stability and resilience (Beck & Poelhekke, 2023). The question is: how have policies of financial sector reform in the past three decades influenced the achievement of macroeconomic stability on the African continent? Can the current level of macroeconomic performance be linked to the depth of financial sector reform in the SSA region over the past decades? In this regard, a possible policy for a developing country seeking to achieve long-term inclusive growth and macroeconomic stability is financial reform through financial intermediation and easier access to credit for the real economy.

Numerous studies have examined the correlation between resource availability and economic growth (Sachs & Warner, 1995; Sala-i-Martin & Subramanian, 2003; Carmignani & Chowdhury, 2010; Ogbeide & Mustapha, 2013; Ogbeide & Kanwanye, 2016; Mondjeli et al., 2024; Nwani et al., 2023). According to the extended Solow growth model, the abundance of resources hinders the trajectory of growth. Several scholars have studied the phenomenon of dependence on natural resources and its potential negative impact on economic growth, institutional quality, and civil peace. Auty (1993, 2001), Obadan & Obioma (1999), Beck (2011), Collier & Hoeffler (2005), Oyefusi (2007), and Mehrara & Rezaza (2011) have contributed to the understanding of how dependence on natural resources can lead to a decline in institutional quality and aggravation of civil conflicts, showing that the voracious rent-seeking behaviour of public officials plays a key role (Adegboye et al., 2022; Denly et al., 2022; Ezirim & Nwokolo, 2021; Djimeu et al., 2024).

This study aims to determine whether the presence of natural resources has a detrimental effect on the macroeconomic stability of Sub-Saharan African countries. This study focuses on examining the Staples theory of export-led growth, which emphasizes the significance of traditional commodities or staple products in the development of resource-rich economies (Mackintosh, 1967; Innis, 1967; Hartwick, 1977; Hamilton, 1983; Sid-Ahmed, 1989; Ploeg & Poelhekke, 2009; Odhiambo, 2021). The paper seeks to establish the role of financial sector reforms¹ and natural resource dependence in achieving macroeconomic stability on the African Continent. The existing studies have not investigated the impact of SSA countries' income levels on the effects that natural resources and financial reforms can have on macroeconomic stability in the region. The present paper attempts to fill the research gap by bringing

¹ In this study, 'financial reform' and 'liberalisation' are used interchangeably, but financial reform encompasses more than just deregulation of interest rates or credit allocation. It also includes bank supervision and liberalisation of security markets, as well as policies to promote openness in current and capital account transactions.

together these two important policy variables and strategies in a modelling framework. Unlike previous studies, it does not focus on one variable or strategy.

A systematic review of recent empirical literature has not identified any study that examines directly whether a country's income level determines the combined effect of natural resources dependence and financial sector reforms on macroeconomic stability in Sub-Saharan Africa. Recent research has closely examined related moderation channels. For example, Nwani et al. (2023) investigated the role of financial development and institutions in mitigating resource-driven structural stagnation, while Taylor (2025) explored the fiscal and welfare consequences of resource dependence. These studies are relevant but they do not test income-level interactions that are the focus of our paper. This lack of exploration motivates our analysis, which specifically examines if income levels in Sub-Saharan Africa determine the impact of natural resources and financial reforms on macroeconomic stability indicators.

The paper is divided into five sections. Following this introductory section, section 2 reviews the relevant literature. Section 3 discusses the fundamental theory, methodology, and model specifications of the study. Section 4 presents the empirical results, and section 5 concludes with final remarks and policy suggestions.

2. Literature review

Financial sector reforms have long been seen as an integral part of the policy agenda in developing countries. It was previously thought that they would improve the efficiency of resource mobilization and allocation in the real economy, leading to higher growth rates. Recent research has also considered financial reforms crucial for macroeconomic stability (International Monetary Fund, 2024; World Bank, 2025). Joya (2012) identified the main elements of macroeconomic stability, and outlined the components that contributed to sustainable growth of the gross domestic product, while maintaining low levels of unemployment and moderate volatility in prices. These included internal and external balances, and predictability in broad-based indicators of macroeconomics.

Resource abundance² and financial sector development through financial reform policies have a direct impact on both economic performance and the economy's sensitivity to external events. Economists used to believe that having abundant natural resources is always advantageous. For example, Walter Rostow (1961), highlighted natural resource abundance as a requirement for taking off from the agricultural phase to industrial development in countries such as Australia, Britain, Canada, Sweden and the United States. According to Balassa (1980), the wealth of natural resources can help a country's industrial development by providing funds for investment and creating demand through market links. However, recent theoretical and empirical research suggests that these resources might prove to be a hindrance. Auty (1993 and 2001)

² See the article by Stevens (2003) and Shahbaz et al. (2019) for a discussion of the literature on the differences and measures of resource abundance and resource dependence.

coined the term 'natural resource curse' to describe this phenomenon, and econometric evidence was provided by Sachs and Warner in 1995. They showed that countries with a high proportion of natural resources in their GDP experienced lower growth rates in the 1970s and were more vulnerable to economic shocks. The negative impact of natural resources on economic development should be examined, first, in terms of its effects on economic performance and potential for increased civil unrest and, second, the extent to which these effects determine institutional quality and governance. Recent evidence specific to SSA appears to support this hypothesis. Nwani et al. present panel data showing that resource dependence impedes structural transformation unless accompanied by stronger financial intermediation and improved institutional quality. Boulat uses a shift-share method to link mineral trade shocks with increased conflict in African local areas. Meanwhile, Mondjeli disaggregates resource types and forms of corruption to demonstrate the heterogeneous impact of institutions.

Inadequate management of a single natural resource that is narrow and inelastic can lead to institutional weakness and civil conflict. It can also promote greedy rent-seeking, which often neglects poor and disadvantaged people in the economy (Sachs & Warner, 1995; Sala-i-Martin & Subramanian, 2003; Oyefusi, 2007; Mehrara & Rezaza, 2011). The resource curse theory posits a negative correlation between the abundance of natural resources and a country's long-term economic growth. The potential negative consequences associated with these resources may also be indicative of the "resource curse" phenomenon in the financial sector. This is because resource abundance and dependence can reduce the motivation for savings and investment. (Beck, 2011; Kurronen, 2015). Recent fiscal analyses (Taylor, 2025) show that resource windfalls in SSA have been linked to reduced non-resource tax effort, increased procyclical current spending, and weaker national savings rates. However, these effects can be mitigated if fiscal rules and institutional capacity are strengthened. Gravin and Hausman (1998), and Ross (2004) established a link between the abundance of natural resources and increase in poverty and inequality among the majority of the population of a country.

In contrast, Mauro (1995 and 1998) proposes a hypothesis which suggests that compensation for rent-seeking activities occurs more quickly than for productive work, leading to talent misalignment. The countries in question consistently express concerns about managing the effects of fluctuating commodity prices on macroeconomic and financial stability. Fluctuation in commodity prices poses challenges for both fiscal and monetary policymakers because of its consequential impact on exchange rates, export revenues, economic output, and employment levels. Aghion and Banerjee (2005) site empirical evidence pointing to the detrimental impact of volatility on investment and economic growth. Recent policy reviews (IMF, 2024; World Bank, 2025) emphasise that commodity-price volatility and high public debt narrow fiscal space and increase vulnerability of commodity-dependent SSA economies.

Several studies have shown that the abundance of resources has a negative impact on economic performance. These include Gelb (1988), Gylfason, Herbertsson, and Zoega (1999), Kaldor, Karl and Said (2007), Sala-i-Martin and Subramanian (2003), and Sachs and Warner (1995). There is ample evidence that countries reliant on natural

resources for economic stability often have weaker long-term rates of growth than countries with a more varied range of exports. (UNCTAD, 2012). Collier and Gunning (1999), Collier and Hoeffler (2005), Dabán and Helis (2010), and Guriev, Plekhanov, and Sonin (2010), have contributed to the academic literature on the role of institutional weaknesses in the adverse effects of resource booms. Besides, it has been argued that countries with rich natural resources often suffer from Dutch disease, as discussed in the works of Sala-I-Martin and Subramaniam (2003) and Achille (2008) and Arezky and Ismail (2010). More recent cross-country and sub-national analyses confirm existence of these relationships in SSA. Mondjeli et al (2024), provide disaggregated evidence of corruption channels that exacerbate the “resource curse” in specific contexts.

In light of these findings, Auty (1994) suggested that the resource curse theory was not an iron law, and that the availability of natural resources in huge deposits was not inherently harmful to economic growth, but rather, the government should resolve to avoid a subsequent rent-seeking behavior and institutional weaknesses through careful use of revenue from resource exports. Countries such as Australia, Botswana, Canada, Indonesia, Malaysia, Mexico and Norway are known to have avoided the resource curse by implementing pro-development policies and prudent macroeconomic measures. (Ross, 2001; Sy et al., 2012). The World Bank (2025) and IMF (2014 policy reviews) confirm that governance, fiscal framework, and institutional capacities are essential to avoid resource-related macroeconomic instability in sub-Saharan African countries.

Numerous studies in the field of finance and development have shown that countries with more advanced financial systems are likely to experience greater and faster increases in economic growth (Schumpeter, 1911; McKinnon, 1973; Shaw, 1973; Levine, 2005). Endogenous growth models emphasize the importance of financial development in promoting economic stability and growth in the real sector of the economy. Greenwood and Jovanovic (1990), Pagano (1993), King & Levine (1993), Greenwood and Smith (1997), and Acemoglu, Aghion, LeLarge, Van Rens, and Zilibotti (2006), show how a well-developed financial sector can promote economic growth by optimally allocating scarce resources to investment. Some researchers argue that financial liberalization increases economic agents’ interactions through effective mediation between savers’ decisions and investment opportunities (Levine, 2005; Demircuc-Kunt, 2006; Ahmed & Islam, 2010; Beck, 2011). According to the financial liberalization thesis, liberalizing the financial sector supports domestic financial institutions, helps improve the effectiveness of monetary policy, and enhances the efficiency of intermediation and domestic savings. Guiso, Sapienza and Zingales argue that bank deregulation can enhance lending accessibility and lower interest rates through increased competition. They caution, however, that this deregulation could also lead to an increase in bad loans, posing a hidden risk to macroeconomic stability. Recent empirical studies on SSA have shown that the depth of the financial sector and strict supervision are crucial for maintaining stability and promoting growth (International Monetary Fund, 2024; World Bank, 2025).

The process of liberalizing domestic financial sector has the potential to increase the depth and resilience of a country's financial system, making it better able to withstand various types of economic shocks (International Monetary Fund, 2008). This can help mitigate the negative effects of unfavourable terms of trade and changes in foreign interest rates on a country's output costs. The enhanced accessibility of credit brought about by financial reforms has emerged as a crucial mechanism for stabilizing the overall economy. Allen and Gale (1997) argue that a liberalised financial system can improve a country's ability to cope with shocks generated by the real economy as it strengthens the link between the real sector and the financial sector.

Chinn and Ito (2002) examined the relationship between capital account liberalization and financial development using panel data from 1977 to 1997. Their findings suggest that strong institutional quality, especially in terms of legal and property rights, is associated with a significantly positive correlation between financial development, measured by private lending and stock market activity, and the imposition of capital controls. These findings were largely consistent with data from developing and emerging countries. Chinn and Ito (2002) examined whether financial account openness promotes equity market development. They concluded that capital account openness deepened the stock market, or had a beneficial effect on it. Bekaert, Harvey and Lundblad (2005), and Tressel and Detragiache (2008), found that financial liberalization deepened the financial sector: financial reform promotes financial intermediation through improved risk management as more efficient foreign banks enter the market, increasing the availability of new financial products and services. Acemoglu and Zilibotti (1997) wrote about a potential relationship between financial depth and economic diversity, suggesting that financial depth may facilitate economic diversity, mitigate cyclical risks and thus attenuate cyclical swings. According to Greenwald and Stiglitz (1993), efficiency in financial markets helps reduce information asymmetry, which allows economic actors to process information more effectively, leading to a decrease in growth volatility. Furthermore, the study conducted by Aghion, Banerjee, and Piketty (1999) revealed a correlation between the development of the financial sector and unpredictability of economic growth, particularly in developing countries. According to Bekaert, Harvey, and Lundblad (2001), equity market liberalisation led to an average increase of 1% in real economic growth. This conclusion was drawn based on an analysis of four distinct sample sizes (28, 50, 75, and 95) spanning the period from 1980 to 1997.

Other researchers, however, have expressed skepticism regarding the veracity of the effects of financial liberalization, arguing that they have been overemphasized. Stiglitz (1993) and scholars associated with the Neo-Structuralist movement present a comprehensive analysis of potential benefits of fiscal repression for economic growth. They have identified three distinct mechanisms by which financial repression can exert a positive influence on the economy. Firstly, a decrease in interest rates can mitigate the probability of loan defaults arising from speculative actions undertaken by investors seeking to maximize their gains. Secondly, a decrease in interest rates generally leads to a reduction in the overall cost of capital. Thirdly, the implementation of selective

credit programmes — a key component of financial repression — can promote lending to targeted sectors with the potential for significant technological spillover effects and inclusive economic growth.

A body of scholarly literature establishes a connection between banking crises and financial deregulation. Moreover, recent research has progressively shown a correlation between the frequency of financial crises and the increasing resolve of monetary authorities to promote liberalization within the domestic financial system. The objective of the present study is to examine the association between banking crises and policies of financial liberalisation, as explored by Demirgüç-Kunt and Detragiache (1998). These authors use data from a sample of 53 nations spanning the period from 1980 to 1995. The data indicate that financial systems which have undergone significant liberalization are more susceptible to banking crises. Demirgüç-Kunt and Detragiache also showed that the impact of financial liberalization on a volatile banking sector is limited, even in a stable institutional environment. The binary variable serves as a representation of the financial reform indicator proposed by Demirgüç-Kunt and Detragiache (1998). The variable assumes a value of one in the inaugural year when specific interest rates underwent liberalisation and a value of zero in all other instances. According to Seck and El Nil (1993), the potential influence of financial liberalisation on intermediation margins depends on various factors. Specifically, they suggest that lack of competition, together with interest rate liberalization, reduction of reserve requirements, and ease of entry into the banking sector, may hinder the expected fall in intermediary profits. According to the findings of Caprio (2000), based on a panel analysis, the presence of government control over banks is linked to higher probability of a financial crisis.

The study conducted by Anyanwu (1995) found that the implementation of financial reforms in Nigeria led to an improvement in the country's financial sector. This conclusion was based on using M2/GNP as a proxy indicator for measuring the level of financial development. Based on the findings of Oyaromade (2005), it could be observed that financial liberalisation in Nigeria contributed to the expansion of the country's financial market, enhancing its efficacy in facilitating financial intermediation. This resulted in an increased responsiveness of savings to fluctuations in financial variables. Obamuyi and Olorunfemi (2011) investigated the potential impact of financial reform and interest rates on the economic growth of Nigeria. Cointegration and error correction modelling techniques were employed to analyse time series data spanning the period from 1970 to 2006. The results of the analysis indicate that financial reform and interest rates exert a positive influence on economic growth. Fowowe (2011) conducted a study based on unbalanced panel data spanning from 1980 to 2006. The study revealed a noteworthy positive impact of financial reform legislation on private investment in Sub-Saharan Africa (SSA), which supports the financial liberalization hypothesis. In their study, Ogbeide and Adeboje (2020) examined the impact of financial reform policy on entrepreneurship in 22 Sub-Saharan African (SSA) countries using dynamic Generalised Method of Moments (GMM) models. They found that in these countries the outcome of financial reform policy did

not have a consistent effect on entrepreneurship. The authors suggest that, to fully benefit from the growth-promoting effects of financial sector reform, comprehensive reforms should be implemented in the financial sectors of SSA countries.

In their study, Berube and Cote (2000), discovered that the coefficient associated with financial liberalization exhibited a significant positive impact on long-term savings in Canada. This suggests that the implementation of financial reform has yielded advantageous outcomes in terms of allocation of resources and mobilisation of savings. According to the empirical findings of Burkett and Dutt (1991), financial reform is associated with increased volatility in production, which in turn leads to macroeconomic instability. Obadan (2006) argues that the susceptibility to a financial crisis in a country is heightened if its financial institutions show weaknesses or lack adequate regulation. Soyibo (1994), who used the M2/GDP ratio, noted a decrease in the financial depth of Nigeria after financial deregulations were implemented, specifically between 1987 and 1989. Nevertheless, there was also an increase in the financial depths in the subsequent years, 1990-1991. Based on discriminant analysis, Ikhida and Alawode (2001) showed that Nigerian banks' health deteriorated after the introduction of financial reform policies. However, their study identified incorrect sequencing of policy initiatives as a major factor hindering the effectiveness of financial reforms. Arestis and Demetriades (1999) suggested that the banking sector instability observed in developing countries during the post-liberalization era could be attributed to an unsustainable increase in interest rates, which further intensified pre-existing information-related issues. In the absence of proper competition, financial liberalisation led to an increase in the disparity between interest rates on loans and deposits. This further exacerbated existing financial inefficiency in the region.

Demirguc-Kunt and Detragiache (1998) and Kaminsky and Smukler (2001 and 2002), have demonstrated that domestic financial liberalization has the potential to increase economic volatility and make economies more vulnerable to external shocks. One possible explanation is that financial liberalization can lead to increased risk-taking behaviors often resulting in higher default rates on loans. This happens because financial institutions may be more willing to finance businesses that are considered risky in order to have larger profits. The findings also indicate that information asymmetries arising from market distortions reduce the allocative efficiency of financial systems, thus adversely affecting economic growth. Recent analysis of Sub-Saharan Africa has found that rapid credit expansion not supported by regulatory infrastructure can sow the seeds of banking stress, as seen in Nigeria's boom-and-bust lending cycles. (International Monetary Fund, 2025; International Monetary Fund, 2014).

Loayza, Schmidt-Hebbel, and Serven (2000) assessed the impact of financial liberalisation on the savings rate. They used a time-series macroeconomic dataset covering 30 years and encompassing both developed and developing countries. The study found that the process of financial liberalisation had negative consequences for individual savings. Moreover, the expansion of the banking sector and the increase in

the real interest rate did not have a significant effect on the overall aggregate savings level. Bandiera, Caprio, Honohan, and Schiantarelli (2000) analyzed time-series data covering the period from 1970 to 1994 for eight countries. Their findings were consistent with previous research, as they also found no empirical evidence to support a positive relationship between real interest rates and savings. However, more recent studies on panel data suggest that in SSA (Sub-Saharan Africa), greater financial development can reduce macroeconomic volatility by improving the smoothness of consumption and the absorption of shocks.

Financial reform has had varying effects on macroeconomic stability in different countries. Having been successful in some of them, it could have failed in others. The Indian economy has exhibited a sustained pattern of robust development. This has helped mitigate the adverse effects of South East Asian crises, and India has accumulated substantial foreign exchange reserves. It has also proactively repaid part of its external debt and implemented measures to restructure domestic debt. Similarly, sub-Saharan African economies with prudent reserve management and fiscal buffers have fared comparatively well during the process of financial sector liberalisation (World Bank, 2025). Ikhide (1996) classified efforts to initiate change in the financial sector in Nigeria into five main areas: restructuring the financial system; reform of monetary policy; foreign exchange reform; liberalization of capital movements; and reform of the capital market. Each of these areas has yielded measurable results.

In summary, the literature provides valuable insights into the link between financial reforms, natural resource use, and economic performance. However, there is a noticeable gap in explicitly modelling these interactions within a coherent growth framework. To address this challenge, the next section outlines the theoretical framework and methodology adopted in this study.

3. Theoretical framework, methodology and model specification

Building on the insights from the literature review, which highlighted both the contributions and gaps in understanding how natural resources, financial reforms, and country-specific factors influence macroeconomic stability, this study now turns to the theoretical and methodological framework. To formally investigate these relationships, the analysis employs the standard Cobb–Douglas production function as the starting point. In line with the traditional Solow growth model, the following aggregate CD production function with two-factor inputs as specified in Equation 1:

$$Y = f(K, L) = AK_t^\alpha L_t^{1-\alpha} \text{ where } 0 < \alpha < 1 \quad (1)$$

Labour (L) and capital stock (K) as input into the production process are well known in economic theory to contribute significantly to achieving the desired level of output. In Equation (1), output (Y) denotes macroeconomic instability. We quantified

macroeconomic instability by creating a misery index³ for each country. The economic misery index is employed as the dependent variable, whereas aggregate financial reform and other control variables are used as explanatory variables, in line with extant literature. The primary objective is to determine if financial sector reform policies and resource dependence exacerbate or alleviate macroeconomic uncertainty in SSA countries.

We use an index derived from the financial reform database created by Abiad, Detragiache, and Tressel (2010), which includes data from 91 countries, to measure the extent of domestic financial reforms. The scope of our analysis was limited because only 14 sub-Saharan African countries were included in the database for the financial reform index. Financial reform or liberalization can be broadly categorised into two main types: domestic sector liberalisation and external sector liberalisation. Domestic liberalisation refers to the process of deregulating interest rates and reducing government intervention, particularly in the domestic financial sector. On the other hand, external sector liberalisation involves liberalisation of the capital account and implementation of policies in the securities market to encourage greater foreign participation in the domestic financial sector. For this study, a simple average of five elements from the financial reform database was used. These elements comprise credit controls, interest rate liberalisation, entrance and exit barriers, government ownership of banks, and prudential regulation and banking supervision. The index of securities market legislation and capital account reform were excluded from the analysis. The variable *A* represents the degree of technical advancement and is expected to remain constant.

To modify the CD function, we include a finance variable as an input to the production process to create output. The modelling technique is based on the idea that financial intermediation is a significant input that leads to widespread economic benefits. Financial reform policies play a crucial role in mobilization of savings within the financial sector, which enables the provision of essential credit to individuals and businesses seeking funds for investment purposes. These policies boost income and economic performance. Financial reform is added to the Comprehensive Development (CD) strategy to achieve macroeconomic stability. Equation (1) above has been modified to take into account the typical economic structures of most countries in SSA, which are broadly driven by revenue from natural resources (NR) that is used to finance growth-inducing economic activities.

$$Y = f(FINR, K, L, NR) \quad (2)$$

Using the dynamics of *K* and *L* in a typical economy, we know that, at time *t*, *K* is determined by savings (a function of interest rate) and income from labour, whereas

³ The 'misery index' was calculated by aggregating the inflation rate, unemployment rate, and budget deficit for each of the 14 selected nations in Sub-Saharan Africa that were included in the research analysis.

Labour, L , is determined by the population's natural growth rate. Equations (3) and (4) depict the Capital and Labour, K and L , dynamics over a 2-period case.

$$\sum_{t=1}^2 [K_t]^\alpha = S_t * R_{t-i} * L_t * W_t \quad (3)$$

$$\sum_{t=1}^2 L_t = (1+n) * L_t \approx L_t^{(1+n)} \quad (4)$$

Functional form Equation (2) is modified by introducing Capital and Labour, K and L dynamics, and our estimated model is put in a natural log-form, including an error term and a constant, which results in Equation (5):

$$Y = \alpha_0 + \alpha_1 (FinR_t) + \alpha_2 (S_t) + \alpha_3 (R_t) + \alpha_4 (W_t) + \alpha_5 (H_t) + \alpha_6 (NR_t) + \varepsilon_t \quad (5)$$

Where lnY is the extent of macroeconomic stability (captured by Misery index); $ln(FinR_t)$ represents financial reform index computed from the financial reform database for the 14 Sub-Saharan African economies. We expect policies of financial reform to positively influence macroeconomic stability outcomes for included countries; $ln(S_t)$ is national savings growth; $ln(R_t)$ is interest-rate variables; $ln(W_t)$ is growth in wealth-related variables; $ln(H_t)$ is proxy by secondary school enrolment rate, capturing human capital development at time t ; $ln(NR_t)$ is rent from natural resource export. All variables except those expressed in growth rates, which are already in percentage form, are expressed in their absolute values and then transformed using natural logarithms. The present analysis uses yearly data spanning from 2000 to 2021 for a panel of 14 African nations and their corresponding income classifications, as detailed in the Appendix.

The financial reform index was derived from a financial reform database developed by Abiad et al. (2010). This database was subsequently expanded by Ogbeide and others in (2020). The development of the financial reform index required careful examination of seven factors that have an impact on the banking sphere. These factors include stringent credit controls and reserve requirements, controls over the interest rates, barriers that hinder market entry, government ownership in the banking sector, limitations on capital accounts, regulations and supervision aimed at ensuring the stability of the banking sector, and policies related to securities markets. Each factor was evaluated and assigned scores ranging from 0 to 3, following the methodology of Abiad et al. (2010), indicating the degree of advancement on the indicators within the respective countries. In contrast to previous studies on financial liberalization (Edison & Warnock, 2003; Kaminsky & Schumkler, 2002), which had a narrow focus on the financial sector, Abiad et al. (2010) proposed a comprehensive index to assess financial reforms. This index assesses the degree of financial sector liberalisation in each country by considering seven fundamental components of the industry. The present study adopted a similar methodology. An annual calculation is performed to determine the financial reform index for each country, which involves the combination of seven

different parameters related to financial reform. Given that each of these parameters take on values ranging from 0 to 3, their sum yields a value within the range from 0 to 21. Therefore, the lowest possible financial reform score that a country can attain in a given year is 0, and the highest possible score is 21.

We used the GMM technique to obtain reliable results by including lagged dependent variables as regressors. Because highly biased and inconsistent OLS (ordinary least squares) can lead to unsatisfactory results, we employed both the fixed-effects model and random-effects model. The Hausman model specification test was conducted to determine the preferred model, which was then compared with system GMM estimates.

Furthermore, this study investigated the extent to which financial reform is associated with macroeconomic stability, by examining whether income levels matter. We accounted for the income effect by conducting independent panel data estimations for countries with different income levels. The sample used in the study covers three out of four income classes in the World Bank classification (2023). The list of countries and their income classes can be found in Appendix 1. The OLS technique was only used for South Africa, as it is the only country in the upper-middle-income group.

4. Empirical analysis

4.1. Descriptive Statistics and Correlation Analysis

Table 1 shows descriptive statistics for the variables used in this study. The average financial reform index in the table is 1.13, indicating a degree of financial liberalisation below the average on the African continent. Values range from 0 to 3. The economic misery index for the analysed countries is on average 15.51, which can be explained by the relatively high rates of inflation, unemployment, and budget deficits on the continent. Double-digit average inflation could have resulted in a relatively higher mean interest rate during the period under review. The development of human capital, as indicated by secondary school enrolment, reveals that only about 26.44 percent of the population in African countries attend secondary schools. The average natural resource rent in African countries during the period under review was approximately 7.69% of their total GDP. The positive kurtosis in all the variables suggests that they are leptokurtic, showing that higher frequencies fall on the small part of the distribution curve of the variables.

The correlations between the variables employed are reported in Table 2. It is an interesting fact that natural resource rents and secondary school enrolment are negatively correlated. This suggests a “natural resource curse”, since human capital development — as measured by enrolment — is a vital driver of economic growth. Another indication of the resource curse on the continent is the weak positive correlation between poverty and natural resource rents, corroborated by the earlier

reported correlation. Notably, inflation and financial reform are negatively correlated, suggesting the expected role of financial reform in enhancing macroeconomic dynamics on the continent.

Table 1. Descriptive Statistics of Variables

Details	Mean	Median	Skewness	Kurtosis	Jarque-Bera	Prob.
Financial reform	1.13	1	0.33	1.79	36.72	0.00
Economic Misery Index	15.51	9.46	3.96	23.4	9221.91	0.00
Real Interest Rate	12.25	10.6	4.76	46.2	37665.17	0.00
Natural Resource Rent	7.69	4.84	2.77	10.4	1565.6	0.00
Inflation	13.74	8.11	4.35	28.34	13370.41	0.00
Government Consumption Expenditure	13.79	13.25	0.29	2.49	11.01	0.00
Secondary School Enrolment	26.44	23.13	1.47	5.5	193.74	0.00

Source: Authors' Computation

Table 2. Correlation Statistics of Variables Employed

VARIABLES	FINR	NATR	INF	GCON	SSE	RINTR	MISR
Financial reform (FINR)	1	0.07	-0.21	0.07	0.43	0.14	-0.12
Natural Resource Rent (NATR)	0.07	1	0.11	-0.38	-0.02	-0.17	0.09
Inflation (INF)	-0.21	0.11	1	-0.34	-0.04	-0.35	0.25
Government Consumption (GCON)	0.07	-0.38	-0.34	1	0.16	0.36	-0.27
Secondary School Enrolment(SSE)	0.43	-0.02	-0.04	0.16	1	-0.18	0.14
Real Interest Rate (RINTR)	0.14	-0.17	-0.35	0.36	-0.18	1	-0.55
Economic Misery (MISR)	-0.12	0.09	0.25	-0.27	0.14	-0.35	1

Source: Authors' Computation

4.2. Panel Unit Root and Cointegration Tests

The Im, Pasaran, and Shin, (2003) panel unit root tests procedure was employed to examine the time series properties of the variables employed. Because it relies on average individual unit-root statistics, the IPS test can account for heterogeneity in the coefficients of the variables. The IPS method for panel data and cross-sectional analysis is unique because it allows for heterogeneity in coefficients, in contrast to Levin et al. (2002), who make a restrictive assumption of homogeneous coefficients across all countries. IPS tests are used in this study, because socio-economic and political structures vary widely between countries.

Table 3. Results of Unit Root Tests

Details	IPS (2003) Stationarity Tests		Remarks
	Value	Prob.	
MISR	-5.81	0.000	I(1)
FINR	-6.51	0.000	I(1)
NATR	-7.40	0.000	I(1)
RINTR	-15.55	0.000	I(1)
INF	-5.44	0.000	I(1)
GCON	-3.39	0.004	I(1)
SSE	-4.72	0.000	I(1)

Source: Authors' Computation

Table 3 shows that all variables are integrated at order I(1), so we proceeded to investigate if the variables have long-term co-integrating relationships using the Pedroni technique (2004). According to the Pedroni test, it is possible to have different co-integrating vectors in different parts of the panel and heterogeneous errors across different cross-sections.

The Pedroni cointegration test uses the significance of the “between” and “within” relationships to confirm the existence of a cointegrating relationship in a panel cointegration test. Table 2 shows that there is a significant cointegrating link. As demonstrated in Table 4, all AR coefficients in Panels v and Groups rho, PP, and ADF Statistics are significant at standard test levels. In order to ensure the validity of pooling countries' data and analyzing them together, a test was conducted. The results of the cointegration test in this study support the use of pooled panel techniques.

Table 4. Result of Pedroni Panel Cointegration Tests

Categories (Statistic)	Common AR Coefficients (Within Dimension)			
	Statistic	Probability	Weighted Statistic	Probability
Panel v	-1.12	0.06	-1.70	0.09
Panel rho	1.00	0.04	1.74	0.05
Panel PP	0.84	0.00	1.94	0.01
Panel ADF	0.52	0.01	1.43	0.02
Categories (Statistic)	Individual AR Coefficients (Between Dimension)			
	Statistic	Probability		
Group rho	1.87	0.06		
Group PP	2.06	0.03		
Group ADF	1.66	0.05		

Source: Authors' Computation

Using the Pedroni cointegration test, we obtained useful results that provided assurance of a long-term relationship between the variables. The Panel Within Dimension statistics, including v , ρ , PP, and ADF, were statistically significant for the common autoregressive coefficients. Similarly, the Group Between Dimension statistics, such as ρ , PP, and ADF, were also significant for the individual autoregressive coefficients at their respective significance levels. The test was conducted to evaluate the reliability of the pooled panel and the analysis of country data; its results support the use of pooled panel methods in this research.

The Hausman test, displayed in Table 5, shows that the fixed-effects model produces more consistent results than the random-effects model in this case. This is supported by a Chi-Square test of 24.87, with a 1% significance level. Although the results from the random-effects model were also reported, the Sagan test results in Table 5 indicate that the parameter instrument used in the study was valid and there was no second-order autocorrelation.

4.3. Discussions of Empirical Results

In terms of the model's fit, the R-squared values indicate that about 97.1% and 96% of the observed fluctuations in macroeconomic instability can be accounted for by the explanatory variables used in the fixed- and random-effects models, respectively. The one-step Generalized Method of Moments (GMM) and the two-step GMM models explain approximately 95.8% and 66.1%, respectively, of the changes in the dependent variable. The F-Statistics were employed to conduct an overall model specification test, which indicated that both our specified fixed-effects model and random-effects model were accurately defined. The F-statistic of 98.02 and a probability value of 0.000 indicate a high level of significance for the specified dynamic panel models. Consequently, the included variables demonstrate noteworthy joint statistical significance.

The findings of the dynamic panel model are presented in Table 5. Both the coefficients for one-period and two-period latent macroeconomic instability (MISR) are statistically significant. The findings in selected Sub-Saharan African countries support the possibility of a self-sustaining cycle of economic stagnation. The statistical significance of the coefficient of the two-period MISR lag provides additional evidence to support the notion that economic inefficiency in a period contributes to exacerbating problems in subsequent periods. We therefore argue that, similar to how an initial level of economic growth can lead to further economic progress, a flawed economic system or instability can become self-perpetuating and destructive in subsequent periods.

The coefficient of financial reform (FINR) displayed varying results when examining individual variables. In the traditional panel model, the coefficient is negative, indicating that domestic financial reforms have the potential to strengthen a country's economy's capacity to withstand financial shocks and decrease uncertainty in the business environment. However, the dynamic panel model found that the coefficient was statistically significant at a 5% significance level and is positive. This

suggests that a complete domestic financial liberalisation leads to a deterioration of 55.3% and 60.7% in the macroeconomic situation, as indicated by the results from the one-step and two-step systems GMM models, respectively.

Based on the findings from the static panel model, it can be seen that a 100% level of financial liberalization reduces macroeconomic instability in the region by 84.4%. These findings are consistent with the results from the random effects model and in line with conclusions drawn by Ngugi, Murinde, and Green (2001), who maintain that financial liberalisation leads to enhanced market efficiency and therefore mitigates economic volatility. In contrast, the presence of a positive sign in both the one-step and two-step system-GMM models means that the policies implemented by FINR may have contributed to macroeconomic instability in the countries under examination. This is consistent with previous studies conducted in various countries using panel data. In particular, the studies by Diaz-Alenjandro (1985), Demirgüç-Kunt and Detragiache (1998), Stiglitz (2000) and Kaminsky and Schmukler (2002) found a connection between financial liberalization on the one hand and banking crises, fluctuations in output, capital market volatility and other disruptive factors that can hinder economic growth on the other.

The coefficient of natural resource rent, which reflects the level of resource dependence in sub-Saharan Africa (SSA), shows a negative value in both dynamic and traditional models, suggesting that the use of revenue from natural resources has the potential to improve stability of countries in SSA. This finding contradicts the widely accepted resource-curse hypothesis but aligns with previous studies by Rostow (1961), Lewis (1989), Stevens (2003), and Ploeg and Poelhekke (2009), who have identified a positive direct impact of natural resource dependence on economic growth after adjusting for volatility. The coefficient of the real interest rate, which is considered a result of financial liberalization, shows a positive correlation. However, its significance is not observed in all estimated panel models, including dynamic panel regression. The inflation coefficient, which is a measure of macroeconomic policy, shows a positive and significant relationship at a 1% significance level in both traditional panel and dynamic panels. This finding suggests that the negative effect of inflation on savings and investment can have a detrimental impact on macroeconomic stability. The analysis indicates that government spending, which reflects public sector involvement, has varied impacts on economic stability in sub-Saharan Africa (SSA). It is observed that government financing activities can mitigate economic instability, but they can also exacerbate it. It is important to note, however, that the coefficient was statistically significant only at the 10% level in a two-step Dynamic Generalized Method of Moments model. The coefficient representing human capital development, as measured by the rate of secondary school admission, demonstrated a strong positive significance in both the traditional and dynamic panel models. This finding suggests the presence of a syndrome referred to as the human capital-misery trap, a term introduced by this study to describe the direct relationship between higher levels of human capital and macroeconomic instability.

Table 5. Estimation of the MISR Model (Static and Dynamic Panel Models)

Parameters	Fixed Effects	Random Effects	Dynamic Panel Model: (first Period Lag)	Dynamic-Panel Model: (Second Period Lagged)
	Coeff.	Coeff.	Coeff.	Coeff.
Constant term	-1.892 (-2.223**)	-0.711 (-2.503**)	-3.742 (-3.788***)	-4.865 (-5.059***)
Lagged MISR (-1)	-	-	0.051 (3.991)	0.038 (2.062**)
Lagged MISR (-2)	-	-	-	0.022 (1.821*)
Financial Reform (FINR)	-0.161 (-0.306)	-0.844 (-2.557**)	0.553 (1.914*)	0.607 (2.201**)
Real Interest Rate (RINTR)	0.001 (0.151)	0.005 (0.661)	0.002 (0.323)	0.002 (0.292)
Inflation (INF)	0.936 (9.381***)	0.941 (9.755***)	0.923 (7.236***)	0.940 (7.417***)
Government Consumption (GCON)	-0.084 (-1.224)	-0.097 (-1.494)	0.055 (0.963)	0.101 (1.904*)
Natural Resource Rent (NATR)	-0.141 (-1.905*)	-0.157 (-2.853**)	-0.025 (-0.916)	-0.018 (-0.671)
Secondary School Enrolment	0.221 (8.644***)	0.163 (7.947***)	0.129 (9.762***)	0.129 (4.161***)
R-Square	0.973	0.961	0.959	0.662
Adjusted R-Square	0.971	0.96	0.958	0.661
F-Statistics (Probability)	29.65 (0.000***)	18.49 (0.000***)	98.02 (0.000***)	134.32 (0.000***)
Hausman Tests	Chi ² (9) = 24.87 (0.0004)			
Sargan Tests	N/A	N/A	Chi ² (18) = 59.04 (0.756)	

*, **, *** indicates statistical significance at 10%, 5% and 1% levels. *Source:* Authors' Computation

For robustness checks, the study conducts panel analyses to ascertain whether the effects of income groupings matter in the relationship between financial reform, natural resource dependence and macroeconomic misery of studied countries. The results presented in Table 6 indicate that financial reform caused an increase in macroeconomic instability in both lower-middle- and upper-middle-income countries, but a decrease in low-income countries, where a 100% increase in financial liberalization intensity helped to reduce macroeconomic instability by approximately 29.18%, as shown by the fixed effects model results. However, the dependence on natural resources had a uniformly damaging effect on macroeconomic stability for all income groups in SSA, confirming the existence of the resource curse phenomenon.

Table 6. Estimation of the MISR Model: Income-Effect Analysis

Variables	Low-Income Countries			Lower Middle-Income Countries			Upper Middle Income Country
	Fixed Effect	Random Effect	Dynamic Panel	Fixed Effect	Random Effect	Dynamic Panel	OLS Estimation
Constant	1.2901 (0.76)	1.6814 (1.75)*	1.1864 (1.61)	2.1143 (0.60)	23.9210 (8.27)***	8.7816 (0.69)	9.9870 (0.57)
MISR (-1)	-	-	0.0171 (1.39)	-	-	0.0775 (1.19)	-
FINR	-0.2918 (-2.064)**	-0.1984 (-1.61)	-0.2133 (-0.69)	0.1112 (2.125)**	2.7935 (1.82)*	0.9295 (2.22)**	11.7030 (5.66)***
NATR	0.1535 (-2.46)**	-0.0391 (-1.53)	-0.0404 (-1.49)	-0.0692 (-1.73)	-0.0938 (-1.47)	-0.3281 (-1.54)	-0.5159 (-1.23)
INF	0.9827 (2.09)**	0.9963 (4.03)***	0.9848 (8.66)***	1.001 (3.35)**	0.954 (2.04)**	0.683 (1.981)*	0.7583 (1.91)*
GCON	0.0519 (0.77)	0.0402 (0.81)	0.0601 (1.69)*	0.0421 (0.47)	0.0083 (1.945)*	0.0056 (2.012)**	-2.553 (-3.36)**
SSE	0.0366 (1.08)	0.0308 (1.928)**	0.0332 (1.883)*	0.0357 (0.50)	0.1523 (1.93)*	0.6281 (2.02)**	0.4139 (3.23)**
RINTR	0.0022 (0.19)	0.0056 (0.55)	0.0050 (0.47)	0.0345 (0.88)	-1.1547 (-4.07)***	-1.295 (-3.90)**	0.2049 (0.72)
R ²	0.9862	0.9815	0.9819	0.9887	0.655	0.7636	0.7965
F-Statistics	337.55 (0.000)***	1947.47 (0.000)***	1829.45 (0.000)***	247.96 (0.000)***	75.95 (0.000)***	9.61 (0.000)***	13.98 (0.000)***

*, **, *** indicates statistical significance at 10%, 5% and 1% levels. *Source:* Authors' Computation

4.4. Granger Causality Test Results

To further appreciate the link between the reform of the financial sector and macroeconomic stability, the study conducted a causality test in a country-specific context. The Augmented Dickey-Fuller technique was employed to carry out the unit root tests for each of the 14 sampled countries; their results are presented in Table 7. It was observed that all the variables included were stationary at the first difference for all countries, indicating first-order integration. The Johansen Cointegration Test was used to confirm the existence of a long-term relationship between the variables. Table 8 presents the results, which show that both the Trace statistic and Maximum

Eigen value measure indicate no cointegration relationships for Ghana. Although no cointegrating relationship was found for Kenya using the Maximum Eigen parameter, there was one relevant cointegrating equation for the country when the Trace Statistics were employed. The rest of the countries showed varying degrees of cointegration.

The Granger causality findings in Table 9 show that financial liberalization causes macroeconomic volatility in Kenya, Madagascar, and Tanzania, suggesting that poorly designed financial sector reforms can exacerbate the risk of macroeconomic instability. In both Nigeria and Senegal, macroeconomic uncertainty and emerging macroeconomic imbalances have led to the need for financial sector reform strategies. However, for the period under review there is not enough empirical evidence to establish a definite correlation between financial reform and economic instability in the remaining states.

Table 7. Augmented Dickey-Fuller Test

S/N	Countries	Financial Reform					Macroeconomic Instability					Overall Remarks
		ADF-Statistics (t-statistic)	Prob	Critical Values			ADF Statistics (t-statistic)	Prob.	Critical Values			
				1%	5%	10%			1%	5%	10%	
1	Burkina Faso	-4.64	0.00	-4.27	-3.55	-3.21	-5.262	0.00	-4.31	-3.57	-3.22	I(1)
2	Cameroon	-3.61	0.04	-4.28	-3.56	-3.21	-7.1	0.00	-4.29	-3.56	-3.22	I(1)
3	Cote d'Ivoire	-4.43	0.007	-4.27	-3.55	-3.12	-7.889	0.00	-4.29	-3.56	-3.22	I(1)
4	Ethiopia	-3.99	0.02	-4.28	-3.56	-3.21	-8.171	0.00	-4.29	-3.56	-3.22	I(1)
5	Ghana	-5.04	0.00	-4.29	-3.56	-3.21	-6.936	0.00	-4.30	-3.57	-3.22	I(1)
6	Kenya	-4.67	0.00	-4.28	-3.56	-3.21	-8.774	0.00	-4.30	-3.57	-3.22	I(1)
7	Madagascar	-5.26	0.00	-4.31	-3.57	-3.22	-6.134	0.00	-4.30	-3.57	-3.22	I(1)
8	Mozambique	-4.67	0.00	-4.27	-3.55	-3.21	-4.667	0.00	-4.27	-3.56	-3.21	I(1)
9	Nigeria	-5.68	0.00	-4.28	-3.56	-3.21	-7.072	0.00	-4.30	-3.57	-3.22	I(1)
10	Senegal	-4.11	0.02	-4.29	-3.56	-3.21	-8.113	0.00	-4.29	-3.56	-3.22	I(1)
11	South Africa	-5.92	0.00	-4.28	-3.56	-3.21	-8.734	0.00	-4.29	-3.56	-3.22	I(1)
12	Tanzania	-5.20	0.01	-4.28	-3.56	-3.21	-5.838	0.00	-4.39	-3.56	-3.23	I(1)
13	Uganda	-4.71	0.00	-4.28	-3.56	-3.21	-3.401	0.07	-4.30	-3.57	-3.22	I(1)
14	Zimbabwe	-3.52	0.06	-4.39	-3.61	-3.24	-7.414	0.00	-4.29	-3.56	-3.22	I(1)

Source: Authors' Computation

Table 8. Johansen Cointegration Tests Results

Country	Eigen value	Trace Statistic	Critical Value (5%)	Number of CE(s)	Eigen value	Max. Eigen Statistic	5% Critical Value	No of CE(s)
Burkina Faso	0.46	42.12	47.86	1	0.46	18.67	27.58	1
Cameroon	0.54	47.80	47.86	2	0.54	23.88	27.58	2
Cote d'Ivoire	0.73	89.17	99.82	1	0.60	24.38	27.58	2
Ethiopia	0.62	39.74	39.80	2	0.62	25.44	26.13	2
Ghana	0.62	93.75	95.75	0	0.62	29.64	40.08	0
Kenya	0.67	66.26	69.82	1	0.70	37.71	40.08	0
Madagascar	0.52	36.93	47.86	1	0.52	20.80	27.58	1
Mozambique	0.13	2.95	3.84	5	0.13	2.95	3.84	5
Nigeria	0.50	43.22	47.86	2	0.67	33.12	33.88	1
South Africa	0.53	41.84	47.86	2	0.53	23.34	27.58	2
Senegal	0.45	27.91	29.80	3	0.66	33.16	33.88	1
Tanzania	0.53	29.68	29.80	3	0.53	16.03	21.13	3
Uganda	0.96	109.06	119.82	1	0.69	23.36	27.58	2
Zimbabwe	0.77	79.15	89.82	1	0.57	20.27	27.58	2

Note: CE means cointegrating equations. Source: Authors' Computation

Table 9. VAR Causality Test Results: FINR vs MIS

Country	Null Hypothesis	Chi-Square	P-Value	Conclusion
Burkina Faso	H_{01}	0.1380	0.9333	No Causality
	H_{02}	0.0679	0.9666	
Cameroon	H_{01}	1.0110	0.6032	No Causality
	H_{02}	1.2949	0.5234	
Cote d' Ivore	H_{01}	4.5858	0.1010	No Causality
	H_{02}	1.6046	0.4483	
Ethiopia	H_{01}	0.6450	0.7243	No Causality
	H_{02}	2.5150	0.2844	
Ghana	H_{01}	1.6250	0.4437	No Causality
	H_{02}	0.8333	0.6593	
Kenya	H_{01}	7.3831	0.0249	FINR \rightarrow MIS
	H_{02}	2.8863	0.2362	
Madagascar	H_{01}	5.4223	0.0665	FINR \rightarrow MIS
	H_{02}	1.3526	0.5085	
Mozambique	H_{01}	3.3146	0.1907	No Causality
	H_{02}	3.1629	0.2057	
Nigeria	H_{01}	0.6749	0.7136	FINR \leftarrow MIS
	H_{02}	5.4967	0.0640	
Senegal	H_{01}	0.0827	0.9595	FINR \leftarrow MIS
	H_{02}	5.8384	0.0540	
South Africa	H_{01}	1.5962	0.4502	No Causality
	H_{02}	1.0582	0.5891	
Tanzania	H_{01}	27.5585	0.0000	FINR \rightarrow MIS
	H_{02}	0.9794	0.6128	
Uganda	H_{01}	0.6785	0.7123	No Causality
	H_{02}	0.9574	0.6196	
Zimbabwe	H_{01}	0.4747	0.7887	No Causality
	H_{02}	1.3523	0.5086	

Source: Authors' Computation

5. Conclusion and policy recommendations

This study aimed to examine the effects of domestic financial reform on macroeconomic stability in 14 countries in Sub-Saharan Africa (SSA). To do this, it used both static and dynamic panel data modelling techniques. The sample size was determined by the number of SSA countries that have implemented gradual financial reform, as outlined in the study conducted by Abiad et al. (2010) and extended in accordance with the established approach described in the literature. The study examined the time-series characteristics of each data set and investigated whether income levels played a role in

the relationship between financial sector liberalization and macroeconomic instability in SSA countries, using World Bank income groupings. The results of this study confirm the dual and often contradictory effects of financial sector reforms on macroeconomic stability in Sub-Saharan Africa. While reforms were found to worsen instability in lower- and upper-middle-income countries, they contributed to stability in low-income economies. This outcome reflects the uneven pace of institutional development across the region, where fragile supervisory systems in middle-income economies often leave financial systems exposed to volatility. Conversely, in low-income economies, reforms that expand access to finance have created channels for resilience by promoting financial inclusion and consumption smoothing. These findings highlight the need for differentiated reform strategies that are sensitive to income levels and the maturity of financial institutions in each country.

The evidence on natural resource rents further reinforces the resource-curse thesis, as dependence on resource revenues was shown to have a generally destabilizing effect across SSA income groups. However, the overall panel results suggest that, when resource rents are effectively managed, they can serve as buffers to stabilize the economy. The contrasting effects emphasize that resource abundance in itself is not inherently harmful; rather, the quality of governance, fiscal institutions, and the capacity to implement counter-cyclical policies determine whether resource revenues translate into stability or volatility. This result is particularly relevant given recent commodity price shocks that have once again exposed the vulnerability of resource-dependent African economies.

The findings also reveal a “human capital-misery trap,” where higher levels of secondary school enrolment were associated with greater macroeconomic instability. This paradox suggests that a gap between human capital development and economic structure can lead to underemployment and frustration, contributing to economic instability. It emphasizes the importance of matching educational policies to labor market realities, promoting vocational training and technical education that can drive structural transformation and industrialization. Inflation and government consumption were also found to exert mixed but significant effects on macroeconomic stability, underscoring the critical role of prudent fiscal and monetary management.

From these results, several policy implications arise. First, financial reforms must be sequenced carefully and accompanied by stronger regulatory and supervisory frameworks. Best practices can be drawn from countries such as Kenya and Ghana, where gradual liberalization was complemented by regulatory strengthening, compared to Nigeria, where abrupt liberalization in the 1980s and 1990s heightened instability. Strengthening central bank independence, improving risk-based supervision, and deepening capital markets can help ensure that financial reforms deliver stability rather than volatility.

Second, the management of natural resource rents requires stronger institutional frameworks and fiscal rules that ensure that revenues are directed into stabilization funds, sovereign wealth funds, or productive investments. Botswana offers an example of prudent management of diamond revenues, which helped sustain macroeconomic

stability over decades, in contrast with Nigeria, where oil revenue dependence amplified instability during price downturns. SSA governments should also expand non-resource tax bases to reduce vulnerability to commodity price shocks and pursue long-term diversification through targeted investments in agriculture, manufacturing, and services.

Third, to address the human capital-misery trap, education policies should be reoriented toward demand-driven skills. Expanding vocational and technical training linked to industrial policies can provide immediate employment opportunities while aligning labor supply with productive sectors. This approach is essential to prevent underemployment of educated youth, which often contributes to social unrest and political instability.

Finally, macroeconomic stability requires coordinated policy frameworks that balance fiscal and monetary policy. Inflation management should avoid excessive reliance on monetary tightening that stifles growth; instead, governments must complement monetary policy with disciplined fiscal expenditure and measures to reduce structural inflationary pressures, such as food price volatility. Public spending should focus on social and economic infrastructure that enhances productivity while being implemented under strong accountability frameworks to minimize rent-seeking.

Therefore, this study contributes to the literature by showing that the relationship between financial reforms, natural resources, and macroeconomic stability in SSA is conditional on income levels and institutional quality. It underscores that one-size-fits-all policy prescriptions are inappropriate for the region. Effective policies must be country-specific, sequenced carefully, and accompanied by institutional strengthening. Only then can financial reforms and natural resource wealth serve as instruments of stability and long-term development rather than sources of fragility.

References

- Abiad, A., Detragiache, E., & Tressel, T. (2010). A new database of financial reforms. *IMF Staff Papers*, 57(2), 281-302.
- Acemoglu, D., Aghion, P., Lelarge, C., Van Reenen, J., & Zilibotti, F. (2006). *Technology, information and the decentralization of the firm* (NBER Working Paper No. W12206). National Bureau of Economic Research.
- Acemoglu, D., & Zilibotti, F. (1997). Was Prometheus unbound by chance? Risk, diversification, and growth. *Journal of Political Economy*, 105(4), 709-751. <https://doi.org/10.1086/262091>
- Achille, T.S. (2008). *Mineral-rich countries and Dutch disease: Understanding the macroeconomic implications of windfalls and development prospects: The case of Equatorial Guinea* (Policy Research Working Paper No. 4595). World Bank.
- Adegboye, A., Akinola, G., & Afolabi, B. (2022). Natural resource dependence and institutional quality: Evidence from Sub-Saharan Africa. *Resources Policy*, (79), 102967. <https://doi.org/10.1016/j.resourpol.2022.102967>
- Aghion, P., & Banerjee, A. (2005). *Volatility and Growth*. Oxford University Press.

- Aghion, P., Banerjee, A., & Piketty, T. (1999). Dualism and Macroeconomic Volatility. *Quarterly Journal of Economics*, (114), 1359-1397. <https://doi.org/10.1162/003355399556296>
- Ahmed, A. D., & Islam, S. M. N. (2010). *Financial liberalisation in developing countries: issues, time series analysis and policy implications*. Springer-Verlag Berlin Heidelberg.
- Allen, F., & Gale, D. (1997). Financial markets, intermediaries, and inter-temporal smoothing. *Journal of Political Economy*, 105(3), 523-546. <https://doi.org/10.1086/262081>
- Anyanwu, J. C. (1995). Structural adjustment programmes, financial deregulation and financial deepening in SSA: The Nigerian Case. *Journal of Economic and Financial Review*, (1), 1-23.
- Arestis, P., & Demetriades, P. O. (1999). Financial liberalisation: The experience of developing countries. *Eastern Economic Journal*, 25(4), 441-457.
- Arezki, R., & Ismail, K. (2010). *Boom-bust cycle, asymmetrical fiscal response and the Dutch disease* (IMF Working Paper No. 10/94). International Monetary Fund.
- Auty, R., (1993). *Sustaining Development in Mineral Economies: The Resource Curse Thesis*. Oxford University Press.
- Auty, R.M. (1994). Industrial policy reform in six large newly industrializing countries: The resource curse thesis. *World development*, 22(1), 11-26. [https://doi.org/10.1016/0305-750X\(94\)90165-1](https://doi.org/10.1016/0305-750X(94)90165-1)
- Auty, R., (2001). *Resource Abundance and Economic Development*, World Institute for Development Economics Research. Oxford University Press.
- Balassa, B. (1980). *The Process of Industrial Development and Alternate Development Strategies*. Princeton University.
- Bandiera, O., Caprio, G., Honohan, P., & Schiantarelli, F. (2000). Does a financial reform raise or reduce savings? *The Review Economics and Statistics*, 82(2): 239-263. <https://doi.org/10.1162/003465300558768>
- Beck, T., (2011). *Finance and Oil: Is There a Curse in Financial Development?* European Banking Centre Discussion Paper, No. 2011-004.
- Beck, T., & Poelhekke, S. (2023). Follow the money: Does the financial sector intermediate natural resource windfalls? *Journal of International Money and Finance*, (130), 102769. <https://doi.org/10.1016/j.jimonfin.2022.102769>
- Bekaert, G., Harvey, C.R., and Lundblad, C. (2001). Emerging equity markets and economic development. *Journal of Development Economics*, (66), 465-504. [https://doi.org/10.1016/S0304-3878\(01\)00171-7](https://doi.org/10.1016/S0304-3878(01)00171-7)
- Bekaert, G., Harvey, C.R., and Lundblad, C. (2005). Does financial liberalisation spur growth? *Journal of Financial Economics*, 77(1), 3-55. <https://doi.org/10.1016/j.jfineco.2004.05.007>
- Bérubé, G., & Côté, D. (2000). *Long-term determination of personal savings rate: Literature review and some empirical results for Canada* (Working Paper No. 2000-3). Bank of Canada.
- Boulat, R. (2024). *Conflicts and the New Scramble for African Resources – A Shift-Share Approach*. arXiv. <https://arxiv.org/abs/2408.08923>
- Burkett, P., & Dutt, A.K. (1991). Interest rate policy, effective demand and growth in LDCs. *International Review of Applied Economics*, 5(2), 127-153. <https://doi.org/10.1080/758533094>
- Caprio, G. (2000). *Avoiding disaster: Policies to reduce the risk of banking crises* (World Bank mimeo; Egyptian Centre for Economic Studies Working Paper No. 47). World Bank.

- Carmignani, F., & Chowdhury, A. (2010). *Why are natural resources a curse in Africa, but not elsewhere?* (Discussion Paper No. 406). School of Economics, University of Queensland.
- Chinn, M.D., & Ito, H. (2002). *Capital account liberalization, institutions and financial development: Cross-country evidence* (NBER Working Paper No. 8967). National Bureau of Economic Research.
- Collier, P., & Gunning, J.W. (1999). Explaining African economic performance. *Journal of Economic Literature*, XXXVII, 64-111. <https://doi.org/10.1257/jel.37.1.64>
- Collier, P., & Hoeffler, A. (2005). Resource rents, governance, and conflict. *Journal of Conflict Resolution*, 49(4), 625-33. <https://doi.org/10.1177/0022002705277551>
- Dabán, T., & Helis, J.L. (2010). *A public financial management framework for resource-producing countries* (IMF Working Paper No. WP/10/72). International Monetary Fund.
- Demirgüç-Kunt, A., & Detragiache, E. (1998). *Financial liberalization and financial fragility* (IMF Working Paper No. WP/98/83). International Monetary Fund.
- Demirgüç-Kunt, A. (2006). *Finance and economic development: Policy choices for developing countries* (World Bank Policy Research Working Paper No. 3955). World Bank.
- Denly, M., Jung, D., & Walsh, J.I. (2022). Do natural resources really cause civil conflict? Evidence from subnational data. *Journal of Conflict Resolution*, 66(12), 2214–2244. <https://doi.org/10.1177/00220027211043157>
- Diaz-Alejandro, C. (1985). Good-bye financial repression, hello financial crash. *Journal of development Economics*, 19(1-2), 1-24. [https://doi.org/10.1016/0304-3878\(85\)90036-7](https://doi.org/10.1016/0304-3878(85)90036-7)
- Djimeu, E. W., et al. (2024). Resource dependence and life expectancy in Sub-Saharan Africa. *Resources Policy*, (89), 107057. <https://doi.org/10.1016/j.resourpol.2024.105243>
- Edison, H. J., & Warnock, F. E. (2003). A simple measure of the intensity of capital controls. *Journal of Empirical Finance*, 10(1-2), 81-103. [https://doi.org/10.1016/S0927-5398\(02\)00055-5](https://doi.org/10.1016/S0927-5398(02)00055-5)
- Ezirim, G. E., & Nwokolo, C. I. (2021). Does natural resource influence conflict in Africa? Evidence from 54 countries, 2010–2019. *Resources Policy*, (74), 102279. <https://doi.org/10.1016/j.resourpol.2021.102268>
- Fowowe, B. (2011). Financial sector reforms and private investment in sub-Saharan African countries. *Journal of Economic Development*, 36(3), 79-97. <https://doi.org/10.35866/caujed.2011.36.3.004>
- Gelb, A. H. (1988). *Oil windfalls: Blessing of curse?* Oxford University Press.
- Gavin, M., & Hausmann, R. (1998). *Nature, Development, and Distribution in Latin America. Evidence on the Role of Geography, Climate, and Natural Resources* (No. 378). Working Paper.
- Greenwald, B. C., & Stiglitz, J. E. (1993). Financial Market Imperfections and Business Cycles. *The Quarterly Journal of Economics*, 108(1), 77-114. <https://doi.org/10.2307/2118496>
- Greenwood, J., & Jovanovic, B. (1990). Financial development, growth, and the distribution of income. *Journal of Political Economy*, (98), 1076-1107. <https://doi.org/10.1086/261720>
- Greenwood, J., & Smith, B. (1997). Financial market in development and the development of financial markets. *Journal of Economic Dynamics and Control*, (21), 145 – 181. [https://doi.org/10.1016/0165-1889\(95\)00928-0](https://doi.org/10.1016/0165-1889(95)00928-0)
- Guiso, L., Sapienza, P., & Zingales, L. (2006). *The cost of banking regulation* (NBER Working Paper No. 12501). National Bureau of Economic Research.

- Guriev, S., Plekhanov, A., & Sonin, K. (2009). *Development based on commodity revenues* (EBRD Working Paper No. 108). European Bank for Reconstruction and Development.
- Gylfason, T., Herbertsson, T. T., & Zoega, G., (1999). A Mixed Blessing: Natural Resources and Economic Growth. *Macroeconomic Dynamics*, (3), 204-225. <https://doi.org/10.1017/S1365100599011049>
- Hamilton, J. D. (1983). Oil and the macroeconomy since World War II. *Journal of Political Economy*, 91(2), 228–248. <https://doi.org/10.1086/261140>
- Hartwick, J. M. (1977). Intergenerational equity and the investing of rents from exhaustible resources. *American Economic Review*, 67(5), 972–974.
- Ikhide, S. I. (1998). *Financial sector reforms and monetary policy in Nigeria*. IDS working paper 68
- Ikhide, S. I., & Alawode, A. A. (2001) *Financial sector reforms, macroeconomic instability and the order of economic liberalization: The evidence from Nigeria*. AERC Research Paper 112 African Economic Research Consortium.
- Im, K. S., Pesaran, M. H., & Shin, Y. (2003). Testing for Unit Roots in Heterogeneous Panels. *Journal of Econometrics*, (115), 53–74. [https://doi.org/10.1016/S0304-4076\(03\)00092-7](https://doi.org/10.1016/S0304-4076(03)00092-7)
- Innis, H. A. (1967). The Importance of Staple Products. In: W. T. Easterbrook, & M. H. Watkinseds (Eds.), *Approach to Canadian Economic History* (pp. 5-39). Antioch Review Inc.
- International Monetary Fund. (2008). *Structural reforms and economic performance in advanced and developing countries*, IMF Research Department.
- International Monetary Fund. (2014). *Sustaining Long-Run Growth and Macroeconomic Stability in Low Income Countries-The Role of Structural Transformation and Diversification*. IMF Policy Paper.
- International Monetary Fund. (2024). *Regional Economic Outlook: Sub-Saharan Africa: A Tepid and Pricey Recovery*. <https://www.imf.org/en/Publications/REO/SSA/Issues/2024/04/19/regional-economic-outlook-for-sub-saharan-africa-april-2024>
- International Monetary Fund. (2025). *Macprudential risks and rapid credit growth in Nigeria*. IMF Working Paper.
- Joya, O. (2012) *Macroeconomic Instability in Afghanistan: Causes and Solutions*. MPRA Paper No. 37658.
- Kaldor, M., Karl, T. L., & Said, Y. (2007). Introduction. In M. Kaldor, T. L. Karl, & Y. Said (Eds.), *Oil wars* (pp. 1–40). Pluto Press.
- Kaminsky, G., & Schmukler, S. L. (2001). *On booms and crashes: Financial liberalization and stock market cycles*. The World Bank Mimeo.
- Kaminsky, G., & Schmukler, S. L. (2002). *Short-term pain, long-run gain: The effects of financial liberalization* (World Bank Working Paper No. 2912). World Bank.
- King, R. G., & R. Levine (1993), Financial and growth: Schumpeter might be right. *The Quarterly Journal of Monetary Economics*, XXXII: 513-42. <https://doi.org/10.2307/2118406>
- Kose, M. A., Prasad, E. S., Rogoff, K., & Wei, S. (2006). *Financial globalization: A reappraisal* (IMF Working Paper No. WP/06/189). International Monetary Fund.
- Kurronen, S. (2015). Financial sector in resource-dependent economies. *Emerging Markets Review*, (23), 208-229. <https://doi.org/10.1016/j.ememar.2015.04.010>
- Levin, A., Lin, C., & Chu, C. (2002). Unit root tests in panel data: Asymptotic and Finite sample properties. *Journal of Econometrics*, (108), 1–24. [https://doi.org/10.1016/S0304-4076\(01\)00098-7](https://doi.org/10.1016/S0304-4076(01)00098-7)

- Levine, R. (2005). Finance and growth: Theory and evidence. In P. Aghion & S. N. Durlauf (Eds.), *Handbook of economic growth* (Vol. 1A, pp. 865–934). Elsevier.
- Lewis, S. R. (1989). Primary exporting countries. In H. Chenery & T. N. Srinivasan (Eds.), *Handbook of development economics* (Vol. 2). North-Holland.
- Loayza, N., Schmidt-Hebbel, K., & Servén, L. (2000). What drives savings across the world? *Review of Economics and Statistics*, 82(2), 165-181.
- Mackintosh, W. A. (1967). *Economic factors in Canadian history*. Macmillan of Canada.
- Mauro, P. (1995). Corruption and growth. *Quarterly Journal of Economics*, 110(3), 681-712. <https://doi.org/10.2307/2946696>
- Mauro, P. (1998). Corruption and the composition of government expenditure. *Journal of Public Economics*, 69(2), 263-279. [https://doi.org/10.1016/S0047-2727\(98\)00025-5](https://doi.org/10.1016/S0047-2727(98)00025-5)
- Mckinnon, R. I. (1973). *Money and capital in economic development*. The Brookings Institution.
- Mehrara, M., & Rezaza, A. (2011). Oil revenues, economic growth and resource curse in Iran economy, *Journal of Social and Development Sciences*, 2(2), 73-80. <https://doi.org/10.22610/jsds.v2i2.655>
- Mondjeli, I.M. M.N., Tsopmo, P. C., & Ambassa, M.M. (2024). Re-examining the curse of natural resources in SSA: New evidence from disaggregated natural resources and types of corruption. *Journal of Economic Criminology*, (5), 100072. <https://doi.org/10.1016/j.jeconc.2024.100072>
- Ngugi, W.N., Murinde, V., & Green, C.J (2001). *How have the emerging stock exchange in Africa Responded to market reforms?* Business and Development Finance at the University of Manchester.
- Nwani, C., Okezie, B.N., Nwali, A. C., Nwokeiwu, J., Duruzor, G. I., & Eze, O.N. (2023). Natural resources, financial development and structural transformation in Sub-Saharan Africa. *Heliyon*, 9(9), e19522. <https://doi.org/10.1016/j.heliyon.2023.e19522>
- Obadan, M.I. (2006). Globalisation of finance and the challenge of national financial sector development. In A. Adenikinju & O. Olaniyan (Eds.), *Applied macroeconomics and economic development*. CEAR Ibadan University Press.
- Obadan, M. I., & Obioma, E. C. (1999). Contemporary issues in global trade and finance and their implications. *Journal of Economic Management*, 6(1), 45-59.
- Obamuyi T. M., & Olorunfemi, S. (2011). Financial reforms, interest rate behaviour and economic growth in Nigeria. *Journal of Applied Finance and Banking*, 1(4), 39-55
- Odhiambo, N.M. (2022). Is export-led growth hypothesis still valid for sub-Saharan African countries? New evidence from panel data analysis. *European Journal of Management and Business Economics*, 31(1), 77-93. <https://doi.org/10.1108/EJMBE-06-2020-0156>
- Ogbeide, F. I., & Adeboje, O. M. (2020). Effects of Financial Reform on Business Entry in Sub-saharan African Countries: Do Resource Dependence And Institutional Quality Matter?. *African Development Review*, 32(2), 188-199. <https://doi.org/10.1111/1467-8268.12427>
- Ogbeide, F. I., & Kanwanye, H. T. (2016). What drives human development in Nigeria: Do output size, financial development and resource dependence matter? *West African Journal of Monetary and Economic Integration*, 16(2), 72-94.

- Ogbeide, F. I., & Mustapha, S. A. (2013). Empirical evidence on determinants of corruption and its impact on economic growth in sub-Saharan African countries. *The Nigerian Journal of Economic and Social Studies*, 55(3), 345-369.
- Onyekwena, C., & Edafe, O. D. (2024). *Enhancing macroeconomic resilience: A comparative analysis of Nigeria and Ghana*. International Development Research Centre (IDRC) Policy Brief
- Oyaromade, R. (2005). Financial sector reforms and financial savings in Nigeria. In *Selected Papers for 46th Annual Conference* (pp. 23-25).
- Oyefusi, A. (2007). *Oil-dependence and civil conflict in Nigeria* (CSAE Working Paper No. 268). Centre for the Study of African Economies, University of Oxford.
- Pagano, M. (1993). Financial markets and growth: An overview. *European Economic Review*, (37), 613-22. [https://doi.org/10.1016/0014-2921\(93\)90051-B](https://doi.org/10.1016/0014-2921(93)90051-B)
- Pedroni, P. (2004). Panel Cointegration: Asymptotic and Finite Sample Properties of Pooled Time Series Tests with an Application to Hypothesis. *Econometric Theory*, (20), 597-625. <https://doi.org/10.1017/S0266466604203073>
- Ploeg, F. van der, & Poelhekke, S. (2009). Volatility and the natural resource curse. *Oxford Economic Papers*, 61(4), 727-760. <https://doi.org/10.1093/oep/gpp027>
- Ploeg, F., & Poelhekke, S. (2009). Volatility and the natural resource curse. *Oxford Economic Papers*, 61(4), 727-760. <https://doi.org/10.1093/oep/gpp027>
- Ross, M.L. (2004). *Mineral wealth and equitable development. A background report for the World Development Report*. World Bank.
- Rostow, W. (1961). *The Stages of Economic Growth: A Non-communist Manifesto*. Cambridge University Press.
- Sachs, J.D., & Warner, A.M. (1995). *Natural resource abundance and economic growth* (NBER Working Paper No. 5398). National Bureau of Economic Research.
- Sala-i-Martin, X., & Subramanian, A. (2003). *Addressing the natural resource curse: An illustration from Nigeria* (NBER Working Paper No. 9804). National Bureau of Economic Research.
- Schumpeter, J. (1911). *The theory of economic development: An inquiry into profits, capital, credit, interest and the business cycle*. Harvard University Press.
- Seck, D., & El Nil, Y.H. (1993). Financial liberalization in Africa. *World Development*, 21(11), 1867-1881. [https://doi.org/10.1016/0305-750X\(93\)90088-Q](https://doi.org/10.1016/0305-750X(93)90088-Q)
- Shahbaz, M., Destek, M. A., Okumus, I., & Sinha, A. (2019). An empirical note on comparison between resource abundance and resource dependence in resource abundant countries. *Resources Policy*, (60), 47-55. <https://doi.org/10.1016/j.resourpol.2018.12.002>
- Shaw, E. S. (1973). *Financial deepening in economic development*. Oxford University Press.
- Shykina, O., Makarevych, O., Hrabovyi, V., Voitiuk, O., & Yeremenko, D. (2025). Financial and Economic Impact of Globalization. *OIDA International Journal of Sustainable evelopment*, 18(10), 41-54.
- Sid-Ahmed, A. (1989). *Economics of Industrialization from Natural Resources*. Piblisud.
- Soyibo, A. (1994). *Financial liberalisation and bank restructuring in SSA: Some lessons for sequencing and policy design*. African Economic Research Consortium Workshop.
- Stevens, P. (2003). Resource impact: Curse or Blessing? A literature survey. *Journal of Energy Literature*, (9), 3-41.

- Stevens, P. (2015). *The Resource Curse Revisited Appendix: A Literature Review*. The Royal Institute of International Affairs, Chatham House.
- Stiglitz, J. E. (1993). The role of the state in financial markets. *The world bank economic review*, 7(1), 19-52.
- Stiglitz, J. E. (2000). Capital market liberalization, economic growth, and instability. *World Development*, 28(6), 1075–86. [https://doi.org/10.1016/S0305-750X\(00\)00006-1](https://doi.org/10.1016/S0305-750X(00)00006-1)
- Sy, A. N., Arezki, R., & Gylfason, T. (2012). Beyond the curse: policies to harness the power of natural resources. In *Beyond the Curse*. International Monetary Fund.
- Taylor, R. S. (2025). The fiscal effects of natural resource dependency in sub-Saharan Africa. *Natural Resources Forum*, 49(1), 384-406. <https://doi.org/10.1111/1477-8947.12400>
- Tressel, T., & Detragiache, E. (2008). *Do financial sector reforms lead to financial development? Evidence from a new dataset* (IMF Working Paper No. WP/08/265). International Monetary Fund.
- UNCTAD (2012) *Excessive commodity price volatility: Macroeconomic effects on growth and policy options*. G20 Commodity Markets Working Group.
- World Bank (2023). *Africa's Pulse, Volume 27: Leveraging resource wealth for inclusive and sustainable growth in Sub-Saharan Africa*. Washington, DC: World Bank.
- World Bank. (2025). *Africa's Pulse, No. 31*. <https://www.worldbank.org/en/publication/africa-pulse>
- World Economic Forum. (2025). *Economic outlook for 2025 weighed down by fragmentation, debt and political uncertainty*. <https://www.weforum.org/press/2025/01/economic-outlook-for-2025-weighed-down-by-fragmentation-debt-and-political-uncertainty-a05ac309f8>

Appendix 1. Sample SSA Countries and Income Group

Low-Income Economies	Lower-Middle Income Economies	Upper-Middle Income Economies
Burkina Faso	Cameroon	South Africa
Ethiopia	Cote d'Ivoire	
Kenya	Ghana	
Madagascar	Nigeria	
Mozambique	Senegal	
Tanzania		
Uganda		
Zimbabwe		

Source: World Bank.