ESJ Social Sciences

Effecsts of Uncertainty on Domestic Private Inevestments in Kenya

Ambetsa Nelson Mmeri
Dr. Onkoba Ongeri B.
University of Nairobi, School of Economics, Kenya
David Katuta Ndolo
Tufts University, Boston Massachusetts, USA

Doi:10.19044/esj.2023.v19n16p23

Submitted: 09 January 2023
Accepted: 06 June 2023
Published: 30 June 2023

Cite As:
Mmeri N.A., Ongeri B.O. & Ndolo D.K. (2023). *Effecsts of Uncertainty on Domestic Private Inevestments in Kenya.* European Scientific Journal, ESJ, 19 (16), 23.
https://doi.org/10.19044/esj.2023.v19n16p23

Abstract

Domestic private investment serves as a prerequisite for the development and modernization of any economy. In Kenya, macroeconomic and political uncertainties play a significant role in influencing private domestic investments. This is informed by the fact that these investments allow investors to fund ventures, which creates jobs and increase government revenues through taxation. Hence, it boosts the growth of the economy and improves the living standards of the people. However, private domestic investments are severely affected by both macroeconomic and political uncertainties about how the government formulates political, economic, and regulatory policies that affect the business climate. Investors are risk-averse; hence they base investment decisions on prevailing and future conditions of the business environment. This paper focuses on analyzing the effects of uncertainty on Kenya's domestic private investments. The study estimated the Autoregressive-Distributed Lag (ARDL) bounds technique which captures both short and long-run dynamics of this relationship among the variables. Time series data from UNCTAD, the World Bank, and the Central Bank of Kenya for the period spanning 1980 to the year 2019 was used. The study results suggest that real GDP (RGDP) and real effective exchange rates (REER) have a significant and positive effect on private domestic investment

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

(PDI). In contrast, inflation (INFL), Real interest rates (RINR), Political uncertainty (PRI), and WUIKEN (economic policy uncertainty and volatility in the stock markets) have a negative and significant effect on private domestic investments. Based on these results, the most significant factors affecting private domestic investments were found to be political uncertainty (PRI), real gross domestic product (RGDP), and WUIKEN (economic policy uncertainty and volatility in the stock markets). Effectively, the study recommends that the government should enact policies that increase the ease of doing business and reduce economic and political uncertainty, such as a reduction in the tax rate, stabilization of the exchange rate, and stable political environment to reduce investor uncertainty and skepticism and also to enhance their confidence.

Keywords: Economic Uncertainty, Political Uncertainty, Private Domestic Investment

Introduction

Investment is described as the change in the stock of capital at a given time. Poliakova (2020) defines it as a capital injection into the economy by both foreign and local investors that incorporate the creation or acquisition of business entities, restructuring, and the improvement of the enterprise. Economists narrow in on the rate of investment when determining the extent of economic progress in a nation. This is informed by the fact that it is an essential determinant of economic development. According to Solow (1957), developed countries have become wealthy because of their substantial per capita stocks. The level of investments also plays a decisive role in developing the economy in the long run. Economies do rely on foreign and local investments to reduce their economic problems that run the gamut of poverty, social welfare, unemployment, and poor living standards. In Kenya, the level of investment has been modest when compared to the prerequisite 30% level, advocated by Lim (2013) and Ruiz-Nuñez and Wei (2015).

For a country to modernize and develop, domestic private investments serve as a prerequisite for development and modernization of any nation. This is necessitated by the fact that such investments allow entrepreneurs and investors to pool their resources to come up with or fund a particular venture that either provides services or produces specific products based on market needs. As a result, that creates jobs, which boosts economic growth. Private sector-led growth has a significant effect on the economy that far surpasses public investments (Coutinho & Gallo, 1991; Serven & Solimano, 1992) because, as compared to public investments, they are more efficient.

Investments are also dependent on factors such as political instability, macroeconomic volatility, and risks. Private domestic investments are

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

forward-looking undertakings that depend on the investors' expectations regarding the posterity and credence of the expected returns. Such factors discourage investments and exacerbate uncertainty. For instance, political instability disrupts production and destroys business facilities put up by investors. Studying the effect of political uncertainties on investment decisions is an arduous undertaking because of the endogeneity between uncertainty and economic growth. Elections across the globe do influence corporate decisions on investment because some of the political decisions affect the operations or performance of the firms (Rubin, 2008).

In Kenya and African economies at large, the major factors that inhibit a surge in investment inflows are that these economies, like many others, are considered high risk. They are also characterized by price elasticities, stagnant markets, lack of institutional and political stability, and mega corruption (Rogoff, 2003). Therefore, a stable political and macroeconomic environment is essential for domestic private investments. That is because investors need certainty about the macroeconomic conditions of a country before investing to mitigate risks that are associated with uncertainty (Hess, 2000). This implies that for Kenya and countries in sub-Saharan Africa at large, to attract private domestic investments, they need to stabilize the macroeconomic conditions of their countries.

Athukorala (1998) examined the relationship between lending rates and Kenya's capital formation (gross fixed). He discovered that an increment in the domestic borrowing rate utilized to fund private investment boosts savings, which are then used in future lending. Individuals and the private sector can then re-invest the interests earned. Furthermore, Lidiema (2018), while examining the effects of borrowing by the government on private domestic investments in Kenya, discovered that domestic credit to the private sector as a percentage of the GDP has a long-run and positive link with private domestic investments.

The Significance of Private Domestic Investment

Private domestic investment plays an indispensable role in sustainable development, economic growth, and poverty reduction. It also enhances job creation by increasing the productive capacity of the economy by bringing out innovations and technologies through capital accumulation. Furthermore, it also leads to improved standards of living and equitable distribution of income. This can be explained by the fact that more citizens are incorporated into the formal economy and they engage in high-quality jobs that enhance their income streams. Moreover, the state can collect more income taxes from the private sector. Besides, some of the social externalities that come about as a result of unemployment, like drug abuse, crime, and immorality, are reduced, thereby improving social welfare. Furthermore, domestic private investment

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

initiatives also attract foreign investment ventures who opt to commit their resources to nations where their domestic investors are blossoming.

Good infrastructure lowers the production costs for private investors. This also boomerangs on the price of goods and services by reducing them. In the long run, a country's exports become cheaper and more competitive in the global market, boosting their balance of trade, and reducing the current account deficit. It also enhances the country's ability to import and invest in capital goods as stated by Sánchez-Juárez and García-Almada (2016). However, domestic savings and investment levels in the least developed nations are inadequate to facilitate economic growth and boost living standards by generating high-quality jobs (Cavallo, 2018). The World Bank (2018) reports on the change working and states that a substantial percentage of the additional savings and investments needed to boost economic growth and development should come from private sources.

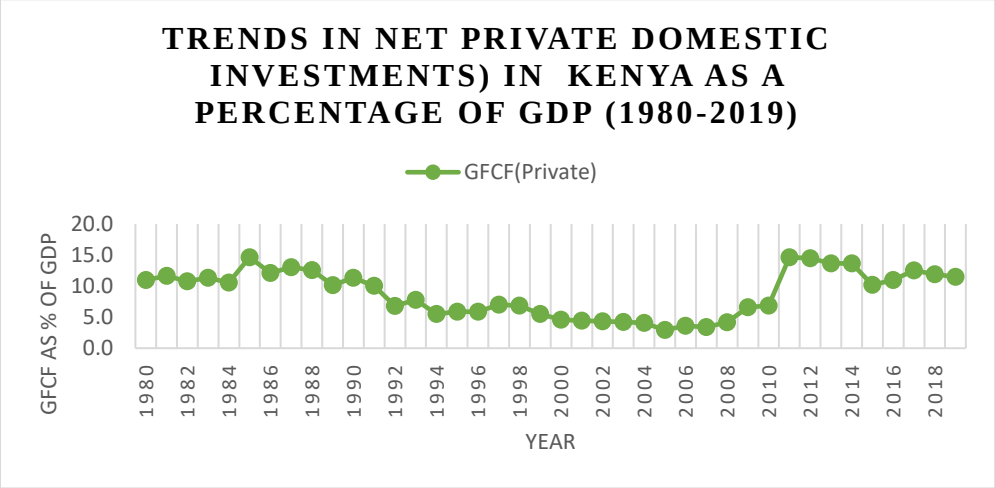
Entrepreneurship and investments facilitate and enhance a virtuous circle of sustained economic growth. The result is accentuated productivity, hence, making it tenable to invest more in the future. As the process goes on, modern technologies are introduced via investment interlinkages and international trade, which results in the creation of high-quality jobs and tax collections when more formalized enterprises are incorporated into the economy. Efficient and cut-throat markets are crucial for the expansion of private domestic investments, the reason being that they promote and reward diversification, innovations, and accentuate the firm's entries and exits, sequentially, thus leveling the business playing field for other participants. They also play an integral part in exacerbating a more socially and geographically inclusive economic development. As a result, this increases job opportunities and living standards for the poor. Pooling private domestic investment is, consequently, a precursor to economic growth and poverty reduction through the generation of employment opportunities.

The Kenyan government has put in place several policies that promote and attracts private investments since it started to implement the Structural Adjustment Programs (SAPs) in 1986. These policies include tax incentives to local and foreign investors, streamlining of investment laws and regulations, improving the business environment (infrastructure, rules, and procedures), strengthening the Export Promotion Council (EPC), Investment Promotion Centers (IPC), and the Export Processing Zones (EPZ) to enhance the monitoring and coordinating of investments in the country (National Development Plan, 1997 to 2001). In 2004, the Kenyan government formulated the Investment Climate Action Plan (ICAP) and the Private Sector Development Strategy (PSDS) to support private investments in the country. These plans were formulated to improve infrastructure, address insecurity,

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

rationalize the licensing procedures, and improve tax administration, business administration, and customs.

Figure 1. Private sector Investments as a % of GDP in Kenya.



Source: World Bank

From Figure 1 above, we can see that net private domestic investments in Kenya as a percentage of GDP had been on an uphill trajectory up until the early 1990s when private domestic investments began to fall—picking up again on an upward trajectory in the early 2000s. This can be explained by the political instability and macroeconomic uncertainty that Kenya experienced in the last decade of the 20th Century due to the introduction of multiparty politics, post-election violence, and the introduction of austerity measures due to structural adjustment programs by the World Bank which discouraged private investments.

In the late 1980s, the World Bank and IMF introduced structural adjustment programs (SAPS). These programs resulted in the steep reduction of public and private investments in developing economies until they rebounded in the late 1990s. Mbaye (2014) and Waweru and Ochieng (2017) stated that the rebound is attributed to the privatization of public entities, financial liberalizations, an efficient and lean public sector coupled with fiscal discipline, and broadening the country's tax base. In Kenya, the growth in private domestic investment recorded an upswing in 2006. This was due to the favorable policies initiated by the grand coalition government. However, it dropped gradually in 2007 due to post-election violence. Such fluctuations in domestic private investments caused by socio-political uncertainties had a detrimental impact on Kenya's economy. It impeded its long-term growth because, after the post-election violence, Kenya registered a slump in economic growth from 7% growth in the year 2007 to 1.5% growth in 2008 and 2.6% growth in 2009, respectively.

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

Economics of Uncertainty

In economics, Keynes (1921, 1936 & 1937) and Knight (1921) introduced the concept of uncertainty. The two felt that there is a distinction between uncertainty and risks. In the case of risks, all the possible future occurrences are known by the individuals; hence they are able to plan on how to tackle them beforehand, but when it comes to uncertainty, individuals do not know what will happen in the future; hence they cannot plan for them in advance. However, Knight (1921) defines uncertainty as the inability of individuals to predict the likelihood of events occurring. In his book, Keynes (1936) defined uncertainty as a state of long-term expectations upon which individuals base their decision-making process on. These individuals make their decisions concerning the future based on their level of confidence in the likelihood of their best forecasts which turns out to be wrong. Hence, according to him, uncertainty depends on the weight of individuals' arguments about the future. These individuals attach low weight to the decisions that have a high level of uncertainty, and high weight to the decisions with a low level of uncertainty. Therefore, the level of uncertainty has an inverse relationship with the weight an individual attaches to his decision-making process. Hence, when the level of uncertainty is very high, companies attach low weight to their decisions and become unwilling to invest and hire, while consumers become wary of spending.

Economic growth and development, macroeconomic stability, unemployment reduction, and improved living standards are top priorities for enhanced growth and development strategies focus according to the government. However, according to Aziz (2019), economic growth is untenable with low private domestic investments, which can only be gained to a great extent via the increment in domestic private investments by local and multinational entities. Such investments play an essential role in long-term sustainable economic growth. As a result, the least developed and emerging countries have been enhancing the liberalization efforts of their financial markets to encourage both foreign and domestic investments. The liberalization of financial markets has exacerbated the access to investment capital for the Micro Small and Medium Enterprises (MSMEs) in Kenya and emerging nations in the Sub-Saharan Africa region. Private domestic investments have also heightened financial inclusivity, more so in the marginalized stratum of the country, such as women, youths, and people living with disabilities (PWD). As a result, most of their business enterprises have prospered, hence improving the growth of the economy. However, domestic private investments are significantly influenced by both socio-political and economic uncertainties. Despite the remarkable efforts made by the state in improving the private domestic investment climate in Kenya, such investments have not been forthcoming as the government expected. Their

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

response to non-fiscal and fiscal incentives such as tax breaks, tax rebates, and capital gains tax deductions has been quite low compared to what the government expected. Such a trend in domestic private investment levels is becoming a noteworthy source of concern to the government and policymakers (King'wara, 2014). Taking that into consideration, this research study aims at examining the effects that both economic and political uncertainties have on private domestic investments in Kenya. This is because domestic private investments are significantly influenced by both political and economic uncertainties (Alesina et al., 1996; Chen & Funke, 2003; Chen & Funke, 2011; Keynes, 1936; Keynes, 1937). However, the literature on how uncertainties affect private domestic investments in Kenya is limited. Most of the studies focus on the effects of interest rates and GDP on total investments (public and private). These studies also do not distinguish the role uncertainty plays in attracting domestic private investments. This, therefore, necessitates us to examine the role that uncertainties play in influencing private domestic investments.

LIiterature review

Theoretical Literature Review

Investment Uncertainty Theory

Abel (1983), together with Abel and Eberly (1993) and Hartman (1972), developed this theory using a neoclassical model devoid of the costs associated with capital-stock adjustment. The theory was an extension of Tobin's Q (1969) investment model. This theory suggests that a firm's environment is characterized by irreversible investment decisions, namely perfect competition and constant returns to scale in the output market. The focus of this theory was on the correlation between uncertainty and capital productivity. Under the convexity of such a relationship, the incentive to invest and produce goes up when uncertainty increases. Thus, this implies that a positive link exists between uncertainty, investment, and production. When there is uncertainty in prices in the market due to positive economic shocks, firms invest more to increase their production because they expect to increase their profit margins due to an increase in sales.

This theory suggests that investors have the alternative of delaying their investment decisions when there is a lot of uncertainty on the costs, prices, government policies, and the business climate associated with the country they want to invest in. Decisions on economic investments do have three features. The first one is the irreversibility of the investment cost. The second one is that uncertainty over profits exists, and the third one is that investors can decide to postpone their decision(s) on investments when they need extra information to reduce their uncertainty (Dixit & Pindyck, 1994). When the level of uncertainty in an economy is high, most firms desist from

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

investing for fear of losing their capital because they cannot forecast their future profits with a degree of certainty due to unexpected policy changes and economic shocks. And lastly, investors hold on to new information about costs, prices, and the prevailing market conditions before committing their resources so that they can mitigate the level of risks associated with an investment in a particular country. Therefore, uncertainties exert a negative effect on investments, as it raises the opportunity costs of investing.

Flexible Accelerator Theory

Clark (1917) developed this theory. He assumed that a stable and constant relationship exists between capital stock and output. The foundation of this model states that a firm's higher investment rate depends on the magnitude of the interval between our desired and the existing stock of capital. The hypothesis of this model states that firms desire to bridge the existing interval between the actual capital stock K and our desired capital stock K in each period. When income and consumption increase in a country, more products must be produced to meet the current demands. This, therefore, means the country will require additional capital if the existing stock of capital has been exhausted. In such a scenario, consumption, and income changes will induce investments. In addition, investments will be termed induced investments because they depend on income and consumption. An accelerator is a numerical value that originated from the relationship between increments in income, which necessitates an increment in investments. The net-induced investment will have a positive value if the national income increases. While if the induced investments become zero, they will remain constant. The accelerator theory of investment states that investments are a function of economic growth and that the desirable stock of capital (K) is assumed to be directly linked with the levels of income (Y) in the long run.

$$K_t = vY_t \tag{i}$$

Where

Y_t= represents an output level, K_t= represents capital stock, v= is the capital-output ratio ($\frac{K}{Y}$), which is presumed to be a constant. When the income level at time t is Y_t, then the required stock of capital at time t will be $K_t = vY_t$. When the income level at time t-1 is Y_{t-1}, then the stock of capital at time t-1 will be $K_{t-1} = vY_{t-1}$.

Hence, an increment in the stock of capital in period t will be;

$$K_t - K_{t-1} = vY_t - vY_{t-1} \tag{ii}$$

$$K_t - K_{t-1} = v(Y_t - Y_{t-1}) \tag{iii}$$

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

Since the annual stock of capital increment $(K_t - K_{t-1})$ in time t represents investments (I), equation (iii) is rewritten as shown below:

$$I_t = v(Y_t - Y_{t-1}) \qquad (iv)$$

By subscript change in income ΔY_t in year t from the previous year, t-1 is represented by $(Y_t - Y_{t-1})$. Increment in investments is expected to be a multiple v, which is known as the capital-output ratio representing the magnitude of the accelerator (the positive effect of the growth in income on investment) of the change in income. Hence the level of net investments is proportional to the change in income, which implies that for the net investment to be positive, the income should increase. In this study, the income growth rate (ΔY_t) is assumed to be a proxy for the expectations about future returns and demand and for investments.

Therefore, investors look at the certainty of the economic growth prospects of a country before investing their capital. When an economy is growing rapidly due to the increase in income and consumption, its market size also increases due to increased aggregate demand for goods and services. This means more products have to be produced to meet the current demands and there is the need for additional capital if the existing stock of capital has been exhausted. In such a case, the magnitude of the interval between the desired and the existing stock of capital in that country is high. As a result, there is an increment in investments in that country because of the increase in the certainty that both the income and consumption of individuals will rise. The higher the increase in income and consumption, the larger the multiplier effect on investments in that country. This shows that the larger the magnitude of the interval between the desired and the existing stock of capital in that country, the higher the certainty of getting higher profit margins by investors. Thus, this explains the reason why capital moves from developed economies where it is in abundance into developing countries where it is much needed because developing countries have a larger magnitude of the interval between the desired and the existing stock. This means that when investing capital in developing countries, there is a certainty that it will attract higher interest rates than in developed countries.

Empirical Literature

Domestic private investments serve as a prerequisite for the development and modernization of any nation. This is necessitated by the fact that such investments allow entrepreneurs and investors to pool their resources to come up with or fund a particular venture that either provides services or produces specific products based on market needs. As a result, this creates jobs, which boosts economic growth. Private sector-led growth has a

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

significant effect on the economy that far surpasses public investments (Coutinho & Gallo, 1991; Serven & Solimano, 1992) because, as compared to public investments, they are more efficient. Investments are also dependent on factors such as political instability, macroeconomic volatility, and risks. Private domestic investments are forward-looking undertakings that depend on the investors' expectations regarding the posterity and credence of the expected returns. Such factors discourage investments and exacerbate uncertainty. For instance, political instability disrupts production and destroys business facilities put up by investors.

Iyoha (1999) established that when the state borrows from the domestic market, it crowds out the private sector, leaving them with less credit. Fayed (2013) examined the crowding-out impact of government debt on private investments in Egypt. He discovered that government debt negatively affected the private sector by reducing the credit available from local financial institutions. Furthermore, King'wara (2014) carried out a study in Kenya using interest rates and growth in GDP in the period spanning 1967 to 2007. He found out that the increment in the stock of domestic debt stock harmed both the current and future private investment levels in Kenya by increasing the cost of acquiring capital.

Serven and Solimano (1993) examined economic adjustment uncertainties and investment performance in developing countries from 1970-1988 in their book titled "Striving for Growth after Adjustment". They stated that specific factors affect private investments in developing economies, more so in the Sub-Saharan African region. The major ones are macroeconomic uncertainties, GDP growth, real rates of exchange, public debt, public investments, and real interest rates.

Bwire (1993) investigated the relationship amongst private investments, domestic savings, and per-capita output growth in Kenya, and how they respond to macroeconomic uncertainties in a period spanning 1972 to the year 1992 using the two-stage least squares (2SLS) model. He discovered that the indicators of macroeconomic uncertainties (expected and current inflation rate, external debt burden) and other factors that are exogenous to the policy controls (i.e., drought) negatively affected private domestic investments. However, the real interest rate, public sector investments, and the external debt ratio service payment to revenues from the exports were found to have a positive impact on investments.

According to Athukorala (2003) and Patel (2018), private domestic investments also lead to technology transfer into the economy, increasing its production factors. As stated by Ngoma, Bonga, and Nyoni (2019), the history of many developing economies showcases a robust positive correlation between a surge in private investments and economic growth. Thus, this is a result of domestic private investments adding to the productive capacity on

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

top of generating new opportunities for more efficient technologies and innovations. It also plays a critical role in gross capital accumulation, which eventually buttresses economic growth.

Many countries in the developing world, more so in Sub-Saharan Africa, experience a high degree of exchange rate volatility. This translates into a high degree of uncertainty in investments because of high levels of uncertainty in profit margins. Servén (2003) used cross-country time series data for 61 nations, spanning between 1970 to1995, to examine the link between uncertainty in the real exchange rate and private domestic investments in developing nations using the generalized autoregressive conditional heteroscedasticity (GARCH) approach. He found that volatility in the exchange rate has a significant but negative effect on private investments after controlling for other private investment determinants. The magnitude of the impact was also found to increase with increasing levels of uncertainty.

Consequently, Musyoki, Pokhariyal and Pundit (2012) investigated the impact of real exchange rate uncertainty on economic growth in Kenya in a period spanning 1993 to 2009. The study employed the computations of unconditional standard deviation and Generalized Autoregressive Condition of Heteroscedasticity (GARCH) to estimate the impact of real exchange rate uncertainty on economic growth. The study found that real exchange rate volatility hurt economic growth. Kiptoo (2007) examined real exchange rate volatility and misalignment in Kenya and its effects on investment and trade using an error correction model and multivariate cointegration approach in a period spanning 1993 to 2003. The study found that an increment in the exchange-rate volatility exerted a negative and significant effect on domestic investments in the long run.

Alesina et al. (1996), using a sample of 113 nations from 1950 to 1982, investigated the effect of political uncertainty on economic growth and domestic investments using the Amemiya Generalized Least Squares (AGLS) approach. They found out that political uncertainty retards domestic investments and economic growth. Alesina and Perotti (1996) investigated the distribution of income, investment, and political instability in 71 nations from 1960 to 1985 using a simple bivariate simultaneous equation approach. It was discovered that sociopolitical uncertainty created a substantial drag on investment. Jaspersen et al. (1995; 2000) investigated the effect of political uncertainties and private investments in Africa and other developing countries across the globe using the ordinary least squares time series approach in a period spanning 1990 to 1994. He found out that an increment in political uncertainty reduces the rate of private domestic investment in developing countries. Mwega and Ngugi (2006) examined the factors that inhibit FDI inflows in Kenya and they found out that political certainty provides a conducive business environment that encourages foreign direct investment in

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

Kenya. Dupas and Robinson (2010), in their study on the hidden costs of political instability in Kenya during the 2007 election crisis, also stated that the 2007 post-election socio-political uncertainty in Kenya affected the business environment dampening domestic private investments due to the looting and arson of private businesses.

Kingw'ara (2014) examined the effect of public debt uncertainties on private investment, GDP growth, and the interest rate from the year 1967 to the year 2007. He discovered an inverse relationship between domestic debts and private investments in Kenya. Domestic debt increases current and future investments by increasing capital costs in addition to adversely affecting the current flow of available resources in the economy.

Bhutto et al. (2018) examined the non-economic determinants of private investments in Pakistan in a period spanning 1969 to 2016 using the ARDL approach, stating that economic stability, without macroeconomic uncertainties, is the most significant determining factor of private domestic investments. They also stated that the economy's openness serves as a determinant of investments when domestic firms brace themselves for an increase in competition from foreign multinationals. Bhutto included a dummy variable to capture economic liberalization in the 1990s period, which showcases the adverse effects of liberalization uncertainties that the economy had on private investment. He found out that an increment in imports hurt private domestic investments. It also led to exchange rate uncertainties, which depreciated the local currency. He also took cognizance of the fact that an inverse relationship exists between private domestic investments and inflation. Also, Alber and Bushra (2019) investigated the impact of macroeconomic policy reforms uncertainties on private domestic investments in the energy sector in 21 Middle East and North Africa (MENA) nations in a period spanning 1990 to 2016 using the vector autoregressive (VAR) approach. They found a positive relationship that links private domestic investment to a stable private sector credit regime, the real rate of exchange, economic growth, real interest rate, foreign exchange reserves, the lagged-investment ratio, and domestic savings. However, the lagged values of real interest rates, external debt, and public investments hurt private investments.

The theoretical and empirical literature on the effect of economic and political uncertainties on private domestic investments private investment in Kenya and the Sub-Saharan African region is quite diverse. Clark's (1917) flexible accelerator theory of investment states that a stable and constant relationship exists between capital stock and output. The foundation of this model states that a firm's higher investment rate depends on the magnitude of the interval between our desired and the existing stock of capital. Dixit and Pindyck (1994) and Pindyck (1988) investment uncertainty theory suggest that investors have the alternative of delaying their investment decisions when

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

there is a lot of uncertainty on the costs, prices, government policies, and the business climate associated with the country that they want to invest in. Decisions on economic investments do have three features. The first one is the irreversibility of the investment cost. The second one is that uncertainty over profits exists, and the third one is that investors can decide to postpone their decision(s) on investments when they need extra information to reduce their uncertainty. From the review of the existing empirical literature, most of the studies on the effect of uncertainties of private domestic investments in Kenya tend to focus solely on either political uncertainty or economic uncertainties but not on a go. The study adopted the flexible accelerator model to capture the effects of both macroeconomic and political uncertainty on private domestic investments in Kenya. The model incorporates the characteristics of the flexible accelerator model, the structural model, and the neoclassical model to highlight the effect of political and macroeconomic uncertainties on private domestic investment in Kenya.

Methodology

Theoretical Model

The accelerator theory shows the relationship between the desired and the actual capital stock, which is determined by the level of income growth (the theory states that investments are a function of economic growth). Our desirable stock of capital (K) is assumed to be directly linked with the levels of income (Y) in the long run.

$$K = \alpha Y_t \tag{v}$$

Whereby α is a constant. Differentiating our equation concerning the time t, we get;

$$\Delta K_t = \alpha + \Delta Y_t \tag{vi}$$

With Δ as the difference operator. To have an equation that showcases the relationship between investment and our desired level of capital stock, capital identity's conventional accumulation is used to get Investment, I_t;

$$K_t = (1 - \partial)K_{t-1} + I_t \tag{vii}$$

∂ showcase capital depreciation. We restructure equation (iii) as follows to get;

$$K_t = K_{t-1} - \partial K_{t-1} + I_t \tag{viii}$$

Rearranging equation (iv);

$$K_t - K_{t-1} = I_t - \partial K_{t-1} \tag{ix}$$

We assume $\partial = 0$, to solve for I_t;

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

$$K_t = I_t \quad (x)$$

Substitute equation (vi) into equation (ii), we get;

$$I_t = \alpha + \Delta Y_t \quad (xi)$$

The equation (xi) above represents an investment function. To account for the slow adjustment of capital stock to the desired stock of capital, we introduce the lags to the dependent variable into the equation that yields the following equation;

$$I_t = \rho I_{t-1} + \beta_1 \Delta Y_t + \beta_2 \Delta Y_{t-1} + \varepsilon_t \quad (xii)$$

Here, $\rho 1_{t-1}$ represents the lagged investments, B_1 and B_2 represent the variable coefficients, ΔY_{t-1} represents the lagged values output growth rate, and ε_t is the error term. The final equation now becomes;

$$I_t = \rho I_{t-1} + \beta_1 \Delta Y_t + \beta_2 \Delta Y_{t-1} + X_t + \varepsilon_t \quad (xiii)$$

Here, X_t represents variables that are applicable in developing countries, such as real GDP, inflation, and real interest rate.

Model Specification and Estimation

The research utilized the neoclassical flexible accelerator model of investment, the same as that of the study of Wai and Wong (1982). The reason is that the model is very appropriate among investment theories. This part looks into the model specification for domestic private investment determinants identified in the review of the literature. The empirical model used in this study comes from the extension of Jorgensen's neoclassical flexible accelerator model of investment, which states that investments are a function of economic growth. Therefore, the study includes other variables in the model which affects private domestic investments that apply to developing nations in Sub-Saharan Africa. The study's estimation of macroeconomic uncertainties is based on the unexpected components of WUIKEN, RINR, REER, and INFL. Political uncertainty was measured by the PRI Index. However, the empirical model translates to:

$$\mathrm{PDI} = \mathrm{f}(\mathrm{WUIKEN}, \mathrm{PRI}, \mathrm{INFL}, \mathrm{RINR}, \mathrm{RGDP}, \mathrm{REER}) \quad (xiv)$$

Hence, estimating parameters of β, and including the error term, it now becomes;

$$PDI = \beta_0 + \beta_1 WUIKEN + \beta_2 PRI + \beta_3 REER + \beta_4 INFL + \beta_5 RINR + \beta_6 RGDP + \varepsilon \quad (xv)$$

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

To empirically analyze the relationship between the variables in the study (PDI, WUIKEN, PRI, INFL, RINR, RGDP, and REER), the study employed the autoregressive distributed lag (ARDL). Below is the ARDL model;

$$\Delta PDI_t = \alpha_{01} + \beta_{11} lnPDI_{t-1} + \beta_{12} lnDD_{t-1} + \beta_{13} lnPRI_{t-1} + \beta_{14} lnWUIKEN_{t-1} + \beta_{15} lnINFL_{t-1} + \beta_{16} lmRINR_{t-1} + \beta_{17} lnFOREX_{t-1} + \beta_{18} lnRGDP_{t-1} + \beta_{19} lnREER_{t-1} + \sum_{i=1}^{p} \alpha_{1i} \Delta lnY_{t-1} + \sum_{i=1}^{q} \alpha_{2i} \Delta \text{WUIKEN}_{t-1} + \sum_{i=1}^{q} \alpha_{3i} \Delta PRI_{t-1} + \sum_{i=1}^{q} \alpha_{4i} \Delta \text{INFL}_{t-1} + \sum_{i=1}^{q} \alpha_{5i} \Delta RINR_{t-1} \sum_{i=1}^{pq} \alpha_{6i} \Delta REER_{t-1} + \sum_{i=1}^{P} \alpha_{7i} lnRGDP_{t-1} + \varepsilon_{it)} \quad (xvi)$$

Δ denotes first difference operators, and the constant term is denoted by a_{01}. Parameters β_{11} to β_{21} represent the long-run coefficients of estimates, while $\alpha_{1i}\ to\ \alpha_{10i}$ represents the short-run coefficients. The ε_t is the disturbance.

Prior to estimating the ARDL model, the study carried out diagnostic test. According to Toda and Philips (1993), ignoring cointegration leads to model misspecification when it exists. The study administered an ARDL bounds cointegration test by Pesaran, Shin and Smith (2001) to ascertain whether a long-run relationship existed among variables. The test is far superior to Engle-Granger's (1990) test in that it can be utilized in multivariate cases that are interlinked by either one or more cointegration vectors. Furthermore, this study also utilized Bai and Perron's (2003) structural breaks test that identifies multiple breaks in time series, unlike the Chow and Quandt-Andrews structural break test, which identifies one structural break at a time.

Empirical findings and discussion

Descriptive Statistics and Diagnostic Test

Descriptive statistics results indicated that PDI, RGDP, REER, RINR, WUIKEN, and PRI were positively skewed toward the right, which means that their distribution's tail on the right side is further extended in comparison with the left (Mean > Median >Mode). Kusrtosis statistics established that the variables have a light-tailed distribution that is within the normal distribution range.

Multicollinearity was tested using the variance inflation factor (VIF). The results indicated that the independent variables in the study were moderately correlated since all the variables have a value ranging between 7-1 with a mean VIF of 4.53; hence, multicollinearity is not a problem in the study. The unit root test results indicated non-stationarity on all the variables, hence differenced to make them stationary. Finally, the sequential test for structural breaks result showcases that only one breakpoint exists in the year 2005.

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

Auto regressive-Distributed Lag (ARDL) Results

Table 1. Long-Run and Short-Run ARDL Results

	Long Run ARDL	**Short Run ARDL**
ADJ (ECT)	-0.8893369*	--
	(0.0155074)	--
RGDP	1.148992*	-0.708575*
	(0.0432452)	(0.0194323)
INFL	-0.109748*	-0.710617*
	(0.0095543)	(0.0400264)
REER	0.2493065*	-0.2246611*
	(0.0058929)	(0.0096406)
RINR	-0.5123098*	-0.6222277*
	(0.0228552)	(.0145977)
WUIKEN	-167.371*	-0.2675464*
	(2.626599)	(0.0115687)
PRI	-5.558784*	48.4762*
	(0.1429602)	(2.071782)
Constant	36.81435*	5.2662***
	(.3869516)	(.0652616)
Log-likelihood		119.2068
Root MSE		0.0475
Adj R-squared		0.9999

Standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The Log-Likelihood value measures the goodness of fit for any model. The Log-Likelihood coefficient can either be positive or negative. The higher the absolute log-likelihood value, the better the model. In this study, the log-likelihood value 119.20683 is very high, which indicates that the ARDL model used is a fit. The Root Mean Square Error (RMSE) is a square root of residual variance. It is an absolute measure of how the data fits the model. That is how close the data points observed are to the predicted values in the model. It is a good estimate of how accurately the model forecast the response. It is the most significant criterion used to determine the fitness of the model. The lower the values of RMSE, the better fitness of the model to the data. In our case, the Root MSE coefficient 0.0475 is very low; hence we can deduce that the ARDL model is fit to estimate the variables in the study.

From the figure above, the adj R^2 values showcase that 99.9% % of the variations in PDI were a result of RGDP, INFL, REER, RINR, WUIKEN, and PRI. ECT is an error correction term or speed of the adjustment to converge back to its long-run equilibrium). It should be negative and is between 0 and 1.

According to the linear ARDL results above, the ECT is negative and statistically significant at a 10% level of significance *ceteris paribus*.

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

Therefore, this reflects the presence of cointegration and the ability to correct the short-run errors for returning to the long-run balanced positions. The short-run coefficients estimate shows the dynamic adjustment of the variables in the study. The short-run coefficients for PDI (-0.708575) is significant at a 10% level of significance *ceteris paribus*. The short-run coefficients for Real GDP (-0.710617) were found to be significant only at a 10% level ceteris paribus. The short-run coefficients for INFL (-0.2246611) were found to be significant at a 10% level *ceteris paribu*s.

The short-run coefficients for REER (-0.6222277) were found to be significant only at the 10% level *ceteris paribus*. The short-run coefficients for RINR (-0.2675464) were found to be significant only at the 10% level *ceteris paribus*. The short-run coefficients for WUIKEN (48.4762), with a p= 0.027 value, were found to be significant at a 10% level *ceteris paribus*. The short-run coefficients for PRI (5.266236) were found to be significant only at a 10% level *ceteris paribus*.

In the long run, the estimated parameters for the relationship of variables in the ARDL model showcase that, *ceteris paribus*, a 1% increase in RGDP leads to an increase in the PDI by 1.15%, and with a p-value of 0.024, it is significant at 5% level. These findings agree with Oshikoya (2001), Blejer and Khan (1984), and Serven and Solimano (1993) who stated that an increment in real GDP increases private investments in developing countries. In addition to that, studies by Bosco and Emerence (2016) show that growth in GDP impacts private investments in both the long run and short run in Rwanda. Furthermore, Lesotlho (2006) examined the determinants of private investments in Botswana and found that real GDP had a positive and significant effect on private investments.

The study also found out that a 1% increment in INFL leads to a decline in PDI by 0.11 % *ceteris paribus*, and with a p-value of 0.055, it is significant at a 10% level. These results agree with Abbas (2004), who studied the determinants of private investments in Iran. He discovered that a negative relationship exists between inflation and private investments and that a 1 % increment in inflation, in the long run, resulted in a 1% decrease in investments in the short run.

The study also found that a 1% increment in REER leads to an increment in PDI by 0.25 % *ceteris paribus*, and with a p-value of 0.015, it is significant at a 5% level. These results agree with the study of Ogun, Egwaikhide and Ogunleye (2009), who examined how the real effective exchange rate affects domestic investments in sub-Saharan Africa. They found out that there is a positive and significant relationship between REER and PDI. The study also found out that a 1% increment in RINR leads to a decline in PDI by 0.51% *ceteris paribus*, and with a p-value of 0.028, it is significant at

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

a 5% level. These results agree with the study of Serven (1998), which shows that higher real interest rates on deposits hurt private investments.

The study also found that a 1% increment in WUIKEN leads to a decline in PDI by 167.37 % *ceteris paribus*, and with a p-value of 0.010, it is significant at the 5% level. These results agree with the study of Bloom et al. (2009), Bloom et al. (2018), Chen and Funke (2011), and Dixit and Pindyck (1994), which shows that an increment in economic policy uncertainties dampens private domestic investments. It results in surges in *economic policy uncertainty increment,* systematic risks associated with the investment, and therefore *capital costs* in the *economy*. As a result, the higher *economic policy uncertainties lower investment*, as investors become risk-averse due to the irreversibility of the investment cost.

The study also found that a 1% increment in PRI leads to a decline in PDI by 5.56% *ceteris paribus*, and with a p-value of 0.016, it is significant at a 5% level. These results agree with the study of Alesina et al. (1992), Benhabib and Spiegel (1992), Mauro (1995), and Pindyck and Solimano (1993) that the intuition that forms the basis of the fundamental relation between investment and electoral uncertainty is simple: If a national election has the potential of resulting in an adverse outcome from an investor's perspective, the alternative of waiting to invest jacks up the potential investors rationally and delay their investments until the policies that caused the political uncertainties are resolved. The incentives to either disinvest or invest depends on the likelihood that the current regime's policies will remain stable in the future. Investors cannot commit their investments in an unstable political environment. Therefore, political uncertainty reduces the inflows of both foreign and domestic capital due to the uncertainties that are associated with continually changing policies and regimes.

Conclusion and policy recommendations

Conclusion

Based on the findings, this study concludes that real GDP (RGDP) and REER have a significant and positive impact on private domestic investment (PDI). In contrast, inflation (INFL), real interest rates (RINR), political uncertainty (PRI), and WUIKEN (economic policy uncertainty and stock market volatility) all have a negative and significant impact on private domestic investments. According to the findings, the most important factors influencing private domestic investment are political uncertainty (PRI), real gross domestic investment (RGDP), and WUIKEN (economic policy uncertainty and volatility in the stock markets).

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

Policy Recommendations

Private domestic investments play an essential role in economic development in Kenya. The study recommends the following policies based on the outcome of the study: the country should enact policies such as reducing the tax and interest rates to boost the aggregate demand, which boosts economic growth and development, to attract more private domestic investments because of the broad market. It should also enact policies that reduce the cost of business and enhance the ease of doing business to encourage foreign domestic investments (FDI). Thus, this involves coming up with expansionary fiscal policies to upgrade and develop our physical infrastructure and human resource development through investment deepening in education and healthcare.

The Central Bank of Kenya should strive to maintain a desirable exchange rate regime. The central government should also stabilize the exchange rates by adopting sound monetary and fiscal policies. This will also stimulate more involvement by the private sector in economic growth, thereby increasing private domestic investments. In addition to that, the government should also enact monetary policies that enable the central bank to have sufficient backup of foreign exchange reserves to prevent exchange rate volatility and shocks due to an acute shortage in foreign exchange if the national currency rapidly devalues.

The central bank should also enact monetary policies that regulate the money supply in the economy to keep inflation in check. It should also aim to reduce the commercial bank's interest rates to enable more MSMEs and local entrepreneurs to access affordable loans for their investments.

The Kenyan government should also aim at stabilizing the political environment to prevent civil unrest and post-election violence in times of election and acts of terrorism, which destroy the economy by interfering with the production process and lowering investor confidence. The government should also avoid frequent switch of macroeconomic policies, which affects macroeconomic performance and hence exacerbate uncertainty for investors. Uncertainties about trade regimes, wages, interest rates, future prices, exchange rates, taxes, and other regulatory policies increases the risk aversion of investors. Hence, the government should enact stable macroeconomic policies that promote private domestic investments that do not often change to reduce investor skepticism and enhance their confidence.

References:

1. Abel, A. B. (1983). Optimal investment under uncertainty. The American Economic Review, 73(1), 228-233.

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

2. Abel, A. B. & Eberly, J. C. (1993). A unified model of investment under uncertainty (No. w4296). National Bureau of Economic Research.
3. Ahir, H., Bloom, N., & Furceri, D. (2018). The world uncertainty index. Available at SSRN 3275033.
4. Ajayi, IS. (1997). An Analysis of External Debt and Capital Flight in the Severely Indebted Low-Income Countries
5. Akaike, H. (1987). Factor analysis and AIC. In Selected papers of Hirotugu Akaike (pp. 371-386). Springer, New York, NY.
6. Alber, N. & Bushra Kheir, V. (2019). Public-Private Investment and Macroeconomic Determinants: Evidence from MENA Countries. International Journal of Economics and Finance, 11(1).
7. Alesina, A. & Perotti, R. (1996). Income distribution, political instability, and investment. European economic review, 40(6), 1203-1228.
8. Alesina, A., Özler, S., Roubini, N., & Swagel, P. (1996). Political instability and economic growth. Journal of Economic growth, 1(2), 189-211.
9. Athukorala, P. C. (1998). Interest rates, saving, and investment: Evidence from India. Oxford Development Studies, 26(2), 153-169.
10. Athukorala, P. C. (2003). Foreign direct investment in crisis and recovery: Lessons from the 1997–1998 Asian crisis. Australian Economic History Review, 43(2), 197-213.
11. Aziz, E. M. (2019). Globalization and Africa's Economic Development. Globalization, 4(8).
12. Bahal, G., Raissi, M., & Tulin, V. (2018). Crowding out or crowding-in? Public and private investment in India. World Development, 109, 323-333.
13. Bai, J. & Perron, P. (2003). Computation and analysis of multiple structural change models. Journal of applied econometrics, 18(1), 1-22.
14. Benhabib, J. & Rustichini, A. (1996). Social conflict and growth. Journal of Economic growth, 1(1), 125-142.
15. Benhabib, J. & Spiegel, M.M. (1997). Growth and investment across countries: are primitives all that matter?. Federal Reserve Bank of San Francisco.
16. Bernanke, B. S. (1983). Irreversibility, uncertainty, and cyclical investment. The quarterly journal of economics, 98(1), 85-106.
17. Bhutto, M., Shaikh, E. K. Z., & Parveen, S. H. A. H. (2018). Empirical analysis of non-economic determinants of private investment in Pakistan (1969-2016). Turkish Economic Review, 5(3), 256-262.

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

18. Bloom, N. (2009). The impact of uncertainty shocks. econometrica, 77(3), 623-685.
19. Bloom, N., Bond, S., & Van Reenen, J. (2007). Uncertainty and investment dynamics. The review of economic studies, 74(2), 391-415.
20. Bloom, N., Floetotto, M., Jaimovich, N., Saporta-Eksten, I., & Terry, S. J. (2018). Really uncertain business cycles. Econometrica, 86(3), 1031-1065.
21. Bosco, N. J., & Emerence, U. (2016). Effect of GDP, Interest Rate, and Inflation on Private Investment in Rwanda. International Academic Journal of Economics, 3(1), 1-17.
22. Brown, R. L., Durbin, J., & Evans, J. M. (1975). Techniques for testing the constancy of regression relationships over time. Journal of the Royal Statistical Society: Series B (Methodological), 37(2), 149-163.
23. Bwire, J. O. (1993). Savings-investment-growth interactions and micro-economic adjustment in Kenya (Doctoral dissertation).
24. Carroll, C. D. (1991). Buffer stock saving and the permanent income hypothesis (No. 114). Board of Governors of the Federal Reserve System (US).
25. Carroll, C. D., Hall, R. E., & Zeldes, S. P. (1992). The buffer-stock theory of saving: Some macroeconomic evidence. Brookings papers on economic activity, 1992(2), 61-156.
26. Cavallo, E., Eichengreen, B., & Panizza, U. (2018). Can countries rely on foreign savings for investment and economic development?. Review of World Economics, 154(2), 277-306.
27. Central Bank of Kenya (2020). Macroeconomic Statistics. Retrieved on February, 15th 2020 from www.centralbank.go.ke/index.php
28. Chakrabarti, A. (2001). The determinants of foreign direct investments: Sensitivity analyses of cross-country regressions. kyklos, 54(1), 89-114.
29. Chen, Y. F. & Funke, M. (2011). Institutional uncertainty, economic integration, and vertical foreign direct investment decisions. Open Economies Review, 22(4), 593-612.
30. Chen, Y. F. & Funke, M. (2003). Option value, policy uncertainty, and the foreign direct investment decision.
31. Clark, M. (1917). Business Acceleration and the Law of Demand: A Technical Factor in Economic Cycles. Journal of Political Economics, 217-235.
32. Coutinho, R. & Gallo, G. (1991). Do Public and Private Investment Stand in Each Other's Way. World Development Report background paper, mimeo. World Bank. Washington, DC
33. Deaton, A. (1991). Saving and liquidity constraints. Econometrica, 59, 1221-1248.

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

34. Dixit, A. K., Dixit, R. K., & Pindyck, R. S. (1994). Investment under uncertainty. Princeton university press.
35. Dixit, A. K., Dixit, R. K., & Pindyck, R. S. (1994). Investment under uncertainty. Princeton university press.
36. Dupas, P. & Robinson, J. (2010). Coping with political instability: micro evidence from Kenya's 2007 election crisis. American Economic Review, 100(2), 120-24.
37. Ericsson, N.R. (1995). Conditional and structural error correction models. Journal of Econometrics, 69(1), 159-171.
38. Ericsson, N. R. (1995). Conditional and structural error correction models. Journal of Econometrics, 69(1), 159-171.
39. Fayed, M. E. (2013). Crowding out effect of public borrowing: The case of Egypt. International Research Journal of Finance and Economics, 107(1), 28-38.
40. Fernandez, R. & Rodrik, D. (1991). Resistance to reform: Status quo bias in the presence of individual-specific uncertainty. The American economic review, 1146-1155.
41. Frank Knight, H. (2020). Risk, Uncertainty, and Profit (Boston, MA: Hart, Schaffner, and Marx; Houghton Mifflin, 1921). Retrieved 9/12/2020 from the World Wide Web: https://oll.libertyfund.org/titles/306
42. Fuller, W.A. (1976). Introduction to Statistical Time Series, New York: John Wiley. Fuller. Introduction to Statistical Time Series1976.
43. George-Anokwuru, C.C. (2017). Interest Rate and Domestic Private Investment in Nigeria. International Journal of Economics and Business Management, 3(5), 43-49.
44. George-Anokwuru, C.C. (2017). Interest Rate and Domestic Private Investment in Nigeria. International Journal of Economics and Business Management, 3(5), 43-49.
45. Glen, S. (2015). Multicollinearity: Definition, Causes, Examples, https://www.statisticshowto.datasciencecentral.com/multicollinearity/ ,Retrieved: 10/10/2020.
46. Glynn, J., Perera, N., & Verma, R. (2007). Unit root tests and structural breaks: A survey with applications.
47. Hartman, R. (1972). The effects of price and cost uncertainty on investment. Journal of economic theory, 5(2), 258-266.
48. Hendry, D. F. (1995). Dynamic econometrics. Oxford University Press on Demand.
49. Hendry, D. F. (1995). Dynamic econometrics. Oxford University Press on Demand.

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

50. Hess, R. (2000). Constraints on foreign direct investment. In Gaining from Trade in Southern Africa (pp. 89-101). Palgrave Macmillan, London.
51. Hylleberg, S., Engle, R. F., Granger, C. W., & Yoo, B. S. (1990). Seasonal integration and cointegration. Journal of econometrics, 44(1-2), 215-238.
52. Iyoha, MA. (1999). 'External Debt and Economic Growth in Sub-Saharan African countries: An Econometrics Study', AERC Research paper, Nairobi.
53. Jaspersen, F. Z., Aylward, A. H., & Knox, A. D. (2000). Risk and private investment: Africa compared with other developing areas. In Investment and risk in Africa (pp. 71-95). Palgrave Macmillan, London.
54. Jaspersen, F. Z., Aylward, A. H., & Sumlinski, M. A. (1995). Trends in private investment in developing countries: Statistics for 1970-94. The World Bank.
55. Johansen, S. (1988). Statistical analysis of cointegration vectors. Journal of economic dynamics and control, 12(2-3), 231-254.
56. Jurado, K., Ludvigson, S. C., & Ng, S. (2015). Measuring uncertainty. American Economic Review, 105(3), 1177-1216.
57. Keynes, J. M. (1936). The General Theory of Employment, Interest, and Money. New York, Prometheus Books, 1997,148.
58. Keynes, J. M. (1937).The General Theory of Employment, Quarterly Journal of Economics, 51.1, 209-223. http://dx.doi.org/10.2307/1882087
59. Keynes, J.M. (1921). A Treatise on Probability. England: Macmillan and Company.
60. King'wara, R. (2014). The impact of domestic public debt on private investment in Kenya. Developing Country Studies, 4(22), 88-96.
61. Kiptoo, C.K. (2007). Real exchange rate volatility and misalignment: effects on trade and investment in Kenya (Doctoral dissertation, University of Nairobi).
62. Le, Q.V. (2004). Political and economic determinants of private investment. Journal of International Development, 16(4), 589-604.
63. Lesotlho, P. (2006). An investigation of the determinants of private investment: The Case of Botswana.
64. Lidiema, C. (2018). Effects of government borrowing on private investments in Kenya. Journal of Finance and Economics, 6(2), 49-59.
65. Lim, J. J. (2013). Institutional and structural determinants of investment worldwide. The World Bank.

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

66. Malkiel, B. G., Von Furstenberg, G. M., & Watson, H. S. (1979). Expectations, Tobin's q, and industry investment. The Journal of Finance, 34(2), 549-561.
67. Mbaye, E.Z. (2014). Determinants of domestic private investments in Kenya (Doctoral dissertation, University of Nairobi).
68. Moro Visconti, R. (2012). Inflation risk management in project finance investments. International Journal of Finance and Accounting, 1(6).
69. Musyoki, D., Pokhariyal, G. P., & Pundit, M. (2012). The impact of real exchange rate volatility on economic growth: Kenyan evidence. Business and Economic Horizons (BEH), 7(1232-2016-101104), 59-75.
70. Mwega, F., & Ngugi, R.W. (2006). Foreign direct investment in Kenya. Foreign Direct Investment.
71. Mwenzwa, E.M. & Misati, J.A. (2014). Kenya's Social Development Proposals and Challenges: Review of Kenya Vision 2030 First Medium-Term Plan, 2008-2012.
72. Narayan, P. K. & Smyth, R. (2008). Energy consumption and real GDP in G7 countries: new evidence from panel cointegration with structural breaks. Energy Economics, 30(5), 2331-2341.
73. Ndiwulu, X. B. (2011). Uncertainty and Investment Behaviour in the Democratic Republic of Congo. AERC, 10-11.
74. Ngoma, G., Bonga, W. G., & Nyoni, T. (2019). Macroeconomic Determinants of Private Investment in Sub-Saharan Africa. DRJ's Journal of Economics & Finance, 4(3), 01-08.
75. Page, E. S. (1962). Cumulative sum schemes using gauging. Technometrics, 4(1), 97-109.
76. Patel, S. J. (2018). Technological Transformation in the Third World: Volume 1: Asia. Routledge.
77. Perron, P. & Zhu, X. (2005). Structural breaks with deterministic and stochastic trends. Journal of Econometrics, 129(1-2), 65-119.
78. Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of applied econometrics*, *16*(3), 289-326.
79. Pindyck, R. S. (1988). Capital risk and models of investment behaviour. In Economic modelling in the OECD countries (pp. 103-117). Springer, Dordrecht.
80. Pindyck, R. S. & Solimano, A. (1993). Economic instability and aggregate investment. NBER macroeconomics annual, 8, 259-303.
81. Poliakova, E., Riddle, L., & Cummings, M. E. (2020). Diaspora investment promotion via public-private partnerships: Case-study insights and IB research implications from the Succeed in Ireland initiative. Journal of International Business Policy, 3(1), 23-37.

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

82. Reinhart, M.C. & Rogoff, M.K. (2003). FDI to Africa: the role of price stability and currency instability (No. 3-10). International Monetary Fund.

83. Roubini, N. & Sala-I-Martin, X. (1991). "Financial development, the Trade Regime, and Economic Growth," Papers 646, Yale - Economic Growth Center.
84. Rubin, A. (2008). Political views and corporate decision making: The case of corporate social responsibility. Financial Review, 43(3), 337-360.
85. Ruiz-Nuñez, F. & Wei, Z. (2015). Infrastructure investment demands in emerging markets and developing economies. The World Bank.
86. Sánchez-Juárez, I. & García-Almada, R. (2016). Public debt, public investment, and economic growth in Mexico. International Journal of Financial Studies, 4(2), 6.
87. Sánchez-Juárez, I. & García-Almada, R. (2016). Public debt, public investment, and economic growth in Mexico. International Journal of Financial Studies, 4(2), 6.
88. Servén, L. (2003). Real-exchange-rate uncertainty and private investment in LDCs. Review of Economics and Statistics, 85(1), 212-218.
89. Serven, L. & Solimano, A. (1990). Private investment and macroeconomic adjustment: Theory, country experience, and policy implications. World Bank, Washington, DC.
90. Serven, L. & Solimano, A. (1992). Private investment and macroeconomic adjustment: A survey. The World Bank Research Observer, 7(1), 95-114.
91. Serven, L. & Solimano, A. (1993). Economic adjustment and investment performance in developing countries: The experience of the 1980s. Striving for Growth after Adjustment: The Role of Capital Formation, 147-79.
92. Shapiro, S.S. & Wilk, M.B. (1965). An analysis of variance test for normality (complete samples). Biometrika, 52(3/4), 591-611.
93. Solow, R.M. (1957). Technical change and the aggregate production function. The review of Economics and Statistics, 312-320.
94. The Republic of Kenya (1997). National development plan 1997–2001.
95. Thompson, C.G., Kim, R.S., Aloe, A.M., & Becker, B.J. (2017). Extracting the variance inflation factor and other multicollinearity diagnostics from typical regression results. Basic and Applied Social Psychology, 39(2), 81-90.

 ISSN: 1857-7881 (Print) e - ISSN 1857-7431

96. Tobin, J. (1969). A general equilibrium approach to monetary theory. Journal of money, credit, and banking, 1(1), 15-29.
97. Tobin's 'Q' (1918) theory. BusinessDictionary.com. Retrieved September 13, 2020, from BusinessDictionary.com website: http://www.businessdictionary.com/definition/Tobin-s-q-theory.html
98. Toda, H.Y. & Phillips, P.C. (1993). Vector autoregressions and causality. Econometrica: Journal of the Econometric Society, 1367-1393.
99. Udoh, E. & Egwaikhide, F.O. (2008). Exchange rate volatility, inflation uncertainty, and foreign direct investment in Nigeria. Botswana Journal of Economics, 5(7), 14-31.
100. Wai, U.T., & Wong, C.H. (1982). Determinants of private investment in developing countries. The Journal of Development Studies, 19(1), 19-36.
101. Waweru, G. & Ochieng, D.E. (2017). Effects of capital flow on economic growth in Kenya. African Development Finance Journal (ADFJ), 1(2).
102. World Bank Group (2018). World development report 2019: The changing nature of work. World Bank, 49-55.
103. Zainodin, H.J., Noraini, A., & Yap, S.J. (2011). An alternative multicollinearity approach in solving multiple regression problem. *Trends in Applied Sciences Research*, *6*(11), 1241-1255.