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PUBLIC DEBT – ECONOMIC GROWTH NEXUS: A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

The purpose of this study was to present a systematic literature review on the public debt-economic growth nexus. The objective was to provide policymakers and researchers with significant insights on the impact of public debt on economic growth and to provide reliable evidence on the gaps in the literature that require their urgent attention. The study used a systematic review of the literature contained in two databases, namely Semantic Scholar and Google Scholar. The study shows that public debt above the threshold is detrimental to economic growth, while low public debt is conducive to growth, and that the degree of non-linearity in the debt-growth relationship varies considerably depending on the economic status and debt burden of the country. Policymakers in each country should identify the tipping point at which further public debt begins to impede growth. Debt policy should take into account not only fiscal constraints, but also the effectiveness of governance and the possible consequences of eroding public confidence. The study also shows that institutional quality, public investment, production expenditure, foreign direct investment and exports are among the variables that significantly affect the relationship between public debt and economic growth. Policymakers should control the level of public debt and its drivers to support longer-term economic growth. The study also recommends that countries account for public debt and ensure that such debt is acquired only to finance profitable investments that generate future returns, and not for consumption, deficit reduction, wasteful spending, or political purposes.

Keywords: Public Debt, Economic Growth, Debt Threshold, Research Gap, Systematic Literature Review

JEL: E62; H54; H55; H63; C81

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Introduction

Over the past two decades, global debt has risen sharply, raising concerns for the global economy as it could seriously jeopardize fiscal, financial and macroeconomic stability and increase uncertainty among economic agents (Morganti, 2022). According to the debt-growth nexus, external debt is seen as capital that increases investment, bridges the financing gap, and promotes growth (Tarawalie & Jalloh, 2021). Against this backdrop, countries are

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turning to external borrowing to supplement domestic revenues, strengthen their ability to finance critical infrastructure projects, and accelerate economic growth.

High debt levels can increase the volatility of GDP growth rates and hinder economic growth, especially in highly indebted economies. The debate on the potential negative impact of high debt levels on long-term economic performance is not new. However, it has received more attention in recent years as many countries and territories have become highly indebted, particularly those with questionable ability to repay their debts (Rojas et al., 2023). Many developing countries, many of which lack the resources to meet their public debt obligations, have high levels of public debt. To meet spending obligations, the government primarily borrows money (Phiri & Tembo, 2022), and developing countries, particularly those in sub-Saharan Africa (SSA), have often been criticized for what some call "reckless borrowing," and many of them are struggling to make ends meet because of debt (Haabazoka & Kaulu, 2023). An increase in public investment, a decline in tax revenues, an increase in government spending, or other fiscal adjustments can all contribute to an increase in debt.

Depending on how it is used and managed, public debt can have both positive and negative effects on economic growth. On the positive side, public debt can be used to finance health care, education, and infrastructure projects, all of which can support sustained economic expansion. However, because public debt requires a large amount of government revenue to be used for interest payments, it can also be a drag on the economy. This can reduce the amount of money available for other important industries such as infrastructure, healthcare and education. In addition, borrowed funds may be misused through corruption or allocated to pointless projects. Therefore, mismanagement of public debt can have a negative impact on economic growth.

The relationship between economic growth and external debt has been a prominent topic of discussion in the macroeconomic literature over time (Edet-Nkpubre, 2013). As expected, it has led to intense discussions in macroeconomics between the two major but diametrically opposed schools of economic thought: neoclassical and Keynesian economists. According to the former, debt growth has a positive effect and is essential for economic recovery. This perspective on the matter, which claims that external debt has a positive effect on economic growth, is supported by a number of empirical studies (Fatai, 2016; Joshua et al., 2020). Neoclassical economists, on the other hand, emphasize the negative consequences of debt overload and compare debt to a future tax. Another body of research supports their position and argues that external debt has a negative impact on economic growth (Çiftçioğlu & Sokhanvar, 2018; Dey & Taraque, 2020; Edo et al., 2020).

Determining how debt affects macroeconomic variables (growth, consumption, etc.) is an important policy issue with a long history (see Bernheim, 1987; Domar, 1944). There is little agreement on the direction and magnitude of the resulting increase in debt, even though knowing how it affects real GDP is crucial for assessing public debt sustainability (De Soyres et al., 2022).

The main purpose of this study was to analyze and evaluate recent studies published in the last three years on the public debt-economic growth nexus in order to gain insights and identify gaps that could be researched in the future, so that the comprehensive understanding of the public debt-economic growth nexus can be well established and completed, especially in this VUCA (volatility, uncertainty, complexity, and ambiguity) environment of the 21st century.

Literature Review

Some recent research on the relationship between public debt and economic growth is presented in this section.

Selected Studies on the Public Debt-Economic Growth Nexus

Several studies have examined the relationship between public debt and economic growth; some have found a positive relationship, others a negative one, and still others have found no meaningful relationship at all, regardless of the state of the economy.

A study conducted in Tanzania by Nyabakora (2023), which focused on the period between 2009 and 2019, found a positive and significant relationship between public debt and economic growth. The same result was also presented by Yusuf & Mohd (2023) who examined this relationship in Nigeria for the period 1980 to 2020. Phiri & Tembo (2022) found a significant positive relationship between public debt and economic growth when they examined this relationship in Rwanda for the period 1980 to 2018. Zuhroh & Pristiva (2022) presented that there is a positive relationship between debt and economic growth in South Asian countries for the period 2005 to 2019. The same result was presented by Orinda et al. (2022) in East African countries for the period between 2002 and 2020.

Hassan & Meyer (2021) conducted a study on 30 sub-Saharan African countries on the relationship between debt and economic growth for the period 1985 to 2019. The results of the study presented that there is a non-linear relationship between debt and economic growth. The same result was presented by Akinlo (2021) in Nigeria for the period 1970 to 2016. Tarawalie & Jalloh (2021) conducted a study on ECOWAS countries on the relationship between debt and economic growth for the period 2000 to 2019 and found a non-linear relationship between debt and economic growth. The same result was recorded in Europe by Sobczak & Radziewicz (2021) on European countries for the period 2000 to 2019. Liu & Lyu (2021) also found a non-linear relationship on the debt-growth nexus on 102 countries for the period 1980 to 2016.

Buthelezi & Nyatanga (2023) presented that there is a negative significant relationship between debt and economic growth in South Africa for the period 1979 to 2022. Nath (2023) and Rahim et al. (2023) found the same results when they examined the relationship between debt and growth for 40 developing countries and Bangladesh for the periods 2000 to 2019 and 1961 to 2021, respectively. Aya et al. (2023) and Karim & Khan (2023) also found similar results when they examined the debt-growth nexus on Asian countries and Tunisia for the periods 1991 to 2020 and 2000 to 2019, respectively.

Research Design and Methodology

A systematic review of previous studies on the relationship between public debt and economic growth served as the methodology of the study. Semantic Scholar excels in the area of scholarly publications, although Google Scholar has a huge cross-disciplinary index. The barrier of paywalled academic databases is removed as they are completely free to use. But it's important to remember that while they are really good at finding a plethora of possible sources, Semantic Scholar and Google Scholar are only the beginning of the research process. A systematic literature review (SLR) is a methodical and well-organized approach to locating, evaluating and critically assessing each and every relevant study that has been conducted on a particular topic. A SLR takes research beyond its current state, although Google Scholar and Semantic Scholar are excellent resources for getting started. According to Tranfield et al. (2003), the systematic review is an important tool for promoting discussion and sharing scientific findings from different researchers. A systematic review, according to Manatos et al. (2017), is a method for locating, evaluating, and examining previously published contributions while remaining faithful to a specific research question. A review consists of the following steps: planning, conducting, reporting, and disseminating.

Planning for Review

This study carefully examines the relationship between public debt and economic growth. Numerous studies that have used this methodology have done so by following the strategies and action plans suggested by Tranfield et al. (2003). Although their methods, which include planning the study, conducting reviews, reporting, and disseminating findings, have been used by a number of previous researchers, their databases and research topics have varied (see Chongo et al., 2023; Kigozi et al., 2019; Manatos et al., 2017; Tarí, 2011; Yangailo et al., 2024; Yangailo & Kaunda, 2021; Yangailo & Mpundu, 2023; Yangailo & Qutieshat, 2022).

An elaborate search plan was created to ensure an exhaustive and complete review. The search terms used in both Google Scholar and Semantic Scholar were "public debt- economic growth nexus," "impact of public debt on economic growth," and "public debt on economic growth." These search terms were chosen to retrieve a wide variety of relevant articles. In addition, the inclusion and exclusion criteria specified that articles had to be published in English, peer-reviewed, published between 2020 and 2024, and focused on the relationship between public debt and economic growth in order to be considered for review. Articles that did not meet these criteria were not considered for review.

Conducting the Review

The following standards were used in this phase:

- I. The paper composed of the following: public debt on economic growth.
- II. Only English peer-reviewed papers were to be taken into consideration.

Studies that met the initial screening criteria were re-screened to determine if they still met the inclusion criteria after electronic copies of the paper were obtained. Their abstracts and titles were also reviewed and considered for inclusion.

The following factors reduced the number of papers from the two databases (Semantic Scholar and Google Scholar) to 76:

I. Removed due to lack of focus on public debt and economic growth despite correct title

II. Appears in the another database

III. Exclusion determined by the abstract and title

IV. Lack of critical review of how public debt influences/impacts economic growth.

Table 1 presents a summary of the 76 reviewed articles on public debt and economic growth from 2021 to 2023.

°N N	Country	Year	Continent	Method	Author	Result of Debt- Growth Nexus	Period	Comment on Concluded Results
ij	Tanzania	2023	Africa	Quantitative	Nyabakora (2023)	Positive	2009 to 2019 (10 Years)	
2.	South Africa	2023	Africa	Quantitative	Buthelezi & Nyatanga (2023)	Negative	1979 to 2022 (43 years)	Negative on domestic debt on the GDP
'n	40 developing countries	2023	Different Continents	Quantitative	Rahim et al. (2023)	Negative	2000 to 2019 (19 years)	
4.	Bangladesh	2023	Asia	Quantitative	Nath (2023)	Negative	1961 to 2021 (60 years)	Negative in both the long and short run
ы	Indonesian	2023	Asia	Quantitative	Suryandaru et al. (2023)	Negative	2010 to 2019 (9 years)	In a long run domestic debt supports economic growth
Ö	Nigeria	2023	Africa	Quantitative	Yusuf & Mohd (2023)	Positive	1980 to 2020	External debt has a significant positive impact on economic growth in the long and short run. Domestic debt retarded growth in the short term and linear over long term
7.	Nigeria	2023	Africa	Quantitative	Babatunde et al. (2023)	Negative and Positive		External debt is negative in short run and positive in a long run whereas domestic debt is negative in both.
×.	Asian countries	2023	Asia	Quantitative	Karim and Khan (2023)	Negative	1991 to 2020	Negative in both long and short run
9.	24 Sub-Saharan African Countries	2023	Africa	Quantitative	Okwoche & Makanza (2023)	Nonlinear	1980 to 2018	Public debt becomes harmful to growth if it rises beyond a certain level.
10.	. Tunisia	2023	Africa	Quantitative	Aya et al. (2023)	Negative	2000 to 2019	External debt has a negative effect on economic growth
11.	. 44 developing countries	2023	Different Continents	Quantitative	Musa et al. (2023)	Negative	1990 to 2000 (10 years)	Governance helps to foster economic growth
12.	. Nigeria	2023	Africa	Quantitative	Uzoma et al. (2023)	Negative	1980 to 2022 (42 years)	Excessive borrowing impacts negatively on economic growth

Table 1: Summary overview of Public Debt-Economic Growth Nexus from 2021 to 2023

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No	Country	Year	Continent	Method	Author	Result of Debt- Growth Nexus	Period	Comment on Concluded Results
13.	Sub-Saharan Africa	2023	Africa	Quantitative	Daba Ayana et al. (2023)	Negative	2011 to 2021 (10 years)	External debt has a t negative impact in both the short and long run
14.	Indonesia	2023	Asia	Quantitative	Listiyani et al. (2023)	Negative	2010 to 2023 (13 years)	Negative effect in a long run
15.	Pakistan	2023	Asia	Quantitative	Ramzan et al. (2023)	Positive and Negative	1996 to 2020 (24 years)	Short run positive and long run negative. institutional quality mitigates the negative impact of public debt on economic growth
16.	ASEAN-5	2022	Asia	Quantitative	Bacay et al.(2022)	Negative	1986 to 2020 (34 years)	Negative in a long run
17.	Nigeria	2022	Africa	Quantitative	lhejirika et al. (2022)	Positive	1981 to 2020 (39 years)	Domestic debt positively impacts economic growth in a long run
18.	Uzbekistan	2022	Asia	Quantitative	Sattoriy (2022)	Negative	2010 to 2020 (10 years)	
19.	Sub-Saharan African	2022	Africa	Quantitative	Agyeman et al. (2022)	Negative	2000 to 2015 (15 years)	
20.	Indonesia	2022	Asia	Quantitative	Sari (2022)	Negative	1970 to 2018 (48 years)	Negative in short and long run
21.	Rwanda	2022	Africa	Quantitative	Phiri & Tembo (2022)	Positive	1980 to 2018 (38 years)	Negative relationship between domestic debts and GDP
22.	Uzbekistan	2022	Asia	Quantitative	Allakuliev & Sattoriy (2022)	Negative	2010 to 2020 (10 years)	
23.	115 countries	2022	Different Continents	Quantitative	Gomez-Puig et al. (2022)	Positive and Negative	1995 to 2016 (21 years)	Strong impact is moderated by the quality of institutions and proportion of productive expenditure
24.	Nigeria	2022	Africa	Quantitative	Tama & Habila (2022)	Negative	1986 to 2019 (33 years)	
25.	Sierra Leone	2022	Africa	Quantitative	Duramany-Lakkoh et al. (2022)	Positive	1986 to 2015 (29 years)	Positive in a long run
26.	South Asian countries	2022	Asia	Quantitative	Zuhroh & Pristiva (2022)	Positive	2005 to 2019 (14 years)	Exports and FDI also positively foster growth
27.	India	2022	Asia	Quantitative	Barik & Sahu (2022)	Negative	1980 to 2018 (38 years)	External and internal debt both negative in a long run

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Ñ	Country	Year	Continent	Method	Author	Result of Debt- Growth Nexus	Period	Comment on Concluded Results
28.	44 sub-Saharan African countries	2022	Africa	Quantitative	Kemoe & Lartey (2022)	Negative	1996 to 2014 (18 years)	Institutional quality plays a critical role in fostering growth
29.	East African Community (Kenya, Tanzania, Uganda, Burundi, Rwanda and South Sudan)	2022	Africa	Quantitative	Orinda et al. (2022)	Positive	2002 to 2020 (18 years)	
30.	52 European Countries	2022	Europe	Quantitative	Pradhan et al. (2022)	Positive	1990 to 2018 (28 years)	Positive in short and long run
31.	43 member countries of the Organization of Islamic Cooperation (OIC),	2022	Different Continents	Quantitative	Aurangzaib & Farooq (2022)	Negative	1996 to 2018 (22 years)	Political and economic institutional quality measures alleviate the negative impact
32.	178 Countries (Developed and Developing Countries)	2022	Different Continents	Quantitative	De Soyres et al. (2022)	Negative	1995 to 2020 (25 years)	Unanticipated increase in the public debt to GDP ratio
33.	28 EU member states	2022	Europe	Quantitative	Onofrei et al. (2022)	Negative	1995 to 2019 (24 years)	An increase in debt negatively affect growth in both the short and long run
34.	Nepal	2022	Asia	Quantitative	Upadhyaya & Pun (2022)	Nonlinear	1978 to 2020 (42 years)	
35.	Zambia	2021	Africa	Quantitative	Chikalipah (2021)	Negative	1970 to 2017 (47 years)	Tipping point for Zambia is around 40 percent of debt-to-GDP
36.	Developed and Developing Countries	2021	Different Continents	Literature Review	Salmon (2021)	Nonlinear	2010 to 2020 (10 years)	High levels of public debt
37.	Ghana	2021	Africa	Quantitative	Hilton (2021)	Positive	1978 to 2018 (40 years)	No causal relationship in the short-run but causal relationship in the long run
38.	71 (seventy-one) Developing Countries	2021	Different Continents	Quantitative	Law et al. (2021)	Negative	1984 to 2015 (31 years)	Negative at high level of public debt but insignificant effect at a low level of public debt.

3. 3. OCCD Countries 2011 Different Continuents Continuents <thcontinuents< th=""> <thcontin< th=""> Continuents<</thcontin<></thcontinuents<>	No	Country	Year	Continent	Method	Author	Result of Debt- Growth Nexus	Period	Comment on Concluded Results
102 Countries (Developed and (Developed and (Developed countries)2021Different 	39.	37 OECD Countries	2021	Different Continents	Quantitative	Abubakar & Mamman (2021)	Negative	1980 to 2018 (38 years)	Negative permanent effect (long run) but positive transitory (short run) effect on economic growth
Transition Countries2021EuropeQuantitativeMarmullaku etPositive1995 to 2017 (22 years)Irad2021AsiaQuantitativeAl-yasiri (2021)Positive1988 to 2020 (36 years)Tanzania2021AtricaQuantitativeChindengwike KiraPositive2004 to 2020 (36 years)Tanzania2021AtricaQuantitativeChindengwike KiraPositive2007 to 2019 (12 years)Tanzania2021EuropeQuantitativeMisiria & ShabanicPositive2007 to 2019 (12 years)Kosovo2021EuropeQuantitativeDoszak & RadziewiczNonlinear2007 to 2019 (12 years)Kosovo2021EuropeQuantitativeDoszak & RadziewiczNonlinear2007 to 2019 (19 years)Kosovo2021AsiaQuantitativeDoszak & RadziewiczNonlinear2007 to 2019 (19 years)Kosovo2021AsiaQuantitativeDoszak & RadziewiczNonlinear2007 to 2019 (19 years)Kosovo2021AsiaQuantitativeDostovo2021Positive2021 (16 years)Kosya Uganda and2021AfricaQuantitativeMuoki (2021)Positive2020 (16 years)Kosya2021Europe/QuantitativeMuoki (2021)Positive2020 (2019 (16 years)Kosya2021AfricaQuantitativeMuoki (2021)Positive2020 (2019 (16 years)Kosya2021AfricaQuantitativeMuoki (2021)Positive2020 (2019	40.	102 Countries (Developed and Developing Countries from different Continents)	2021	Different Continents	Quantitative	Liu & Lyu (2021)	Nonlinear	1980 to 2016 (36 years)	Result applies to developing, emerging and developed countries
Irad2021AsiaQuantitativeAl-yasiri (2021)Positive2004 to 2020 (36 years)Tanzania2021AfricaQuantitativeChindengwike & KiraNegative1988 to 2020 (32 Years)Kosovo,2021EuropeQuantitativeMisiria & ShabanicPositive2007 to 2019 (12 years)Kosovo,2021EuropeQuantitativeMisiria & ShabanicPositive2007 to 2019 (12 years)Kosovo,2021EuropeQuantitativeStobanicPositive2007 to 2019 (12 years)Selected countries in2021EuropeQuantitativeStobanic2007 to 2019 (12 years)Selected countries in2021EuropeQuantitativeStobanic2007 to 2019 (12 years)Selected countries in2021AriaQuantitativeStobanic2007 to 2019 (12 years)Selected countries in2021AriaQuantitativeDocod et al. (2021)Positive2007 to 2019 (14 years)Selected countries in2021AriaQuantitativeMuoki (2021)Positive1953 to 2019 (15 years)Senya Usania2021Europe/QuantitativeMuoki (2021)Positive2007 to 2017 (15 years)Morocco2021AriaQuantitativeCuantitativeCuantitative2007 to 2019 (14 years)Morocco2021AriaQuantitativeCuantitativeCuantitative2007 to 2019 (23 years)Morocco2021AriaQuantitativeCuantitativeCuantitative2007 to 2019 (24 yea	41.	Transition Countries	2021	Europe	Quantitative	Marmullaku et al.(2021)	Positive	1995 to 2017 (22 years)	Positive through public investment in transition countries
Tanzania2021AfricaQuantitativeChindengwike & KiraNegative1988 to 2020 (32 Years)Kosovo,2021EuropeQuantitativeMisiria & ShabanicPositive2007 to 2019 (12 years)Kosovo,2021EuropeQuantitativeSobczak & RadziewiczNonlinear2007 to 2019 (19 years)Selected countries in2021EuropeQuantitativeSobczak & RadziewiczNonlinear2000 to 2019 (19 years)Selected countries in2021EuropeQuantitativeSobczak & RadziewiczNonlinear2000 to 2019 (19 years)Asian developing and2021AsiaQuantitativeSobczak & RadziewiczNonlinear2000 to 2019 (19 years)Asian developing and2021AsiaQuantitativeDawood et al. (2021)Negative1955 to 2019 (24 years)Kenya Uganda and2021AsiaQuantitativeDawood et al. (2021)Negative1956 years)Turkey2021AfricaQuantitativeMuoki (2021)Positive1950 to 2019 (54 years)Kenya2021AfricaQuantitativeMuoki (2021)Positive2002 to 2017 (15 years)Kenya2021AfricaQuantitativeAchibane (2021)Positive2002 to 2017 (15 years)Morocco2021AfricaQuantitativeAchibane (2021)Positive2002 to 2019 (29 years)Morocco2021AsiaQuantitativeAchibane (2021)Positive2005 to 2019 (29 years)Morocco2021AsiaQua	42.	Iraq	2021	Asia	Quantitative	Al-yasiri (2021)	Positive	2004 to 2020 (36 years)	Positive link between foreign debt and GDP
Kosovo,2021EuropeQuantitativeMisiria & ShabanicPositive2007 to 2019 (12 years)Selected countries in2021Europe202120212001 to 2019 (19 years)Furope2021EuropeQuantitativeSobczak & RadziewiczNonlinear2000 to 2019 (19 years)Furope2021AsiaQuantitativeDawood et al. (2021)Negative2000 to 2019 (19 years)Kenya, Uganda and2021AsiaQuantitativeMuoki (2021)Negative1995 to 2019 (54 years)Kenya, Uganda and2021AricaQuantitativeMuoki (2021)Positive1963 to 2019 (56 years)Turkey2021EuropeQuantitativeMuoki (2021)Positive1963 to 2019 (56 years)Turkey2021Europe/QuantitativeMuoki (2021)Positive1963 to 2019 (56 years)Turkey2021Europe/QuantitativeMuoki (2021)Positive1963 to 2019 (56 years)Turkey2021Europe/QuantitativeMuoki (2021)Positive1963 to 2017 (15 years)Kenya2021AfricaQuantitativeKithinji (2021)Positive2020 to 2017 (15 years)Kenya2021AfricaQuantitativeAchibane (2021)Negative2020 to 2019 (29 years)Morocco2021AfricaQuantitativeAchibane (2021)Positive2020 to 2019 (24 years)Morocco2021AfricaQuantitativeAchibane (2021)Positive2020 to 2019 (24 years) <td>43.</td> <td>Tanzania</td> <td>2021</td> <td>Africa</td> <td>Quantitative</td> <td>Chindengwike & Kira (2021)</td> <td>Negative</td> <td>1988 to 2020 (32 Years)</td> <td>Negative permanent effect (long run) but positive transitory (short run) effect on economic growth</td>	43.	Tanzania	2021	Africa	Quantitative	Chindengwike & Kira (2021)	Negative	1988 to 2020 (32 Years)	Negative permanent effect (long run) but positive transitory (short run) effect on economic growth
Selected countries in terrope2021Nonlinear2000 to 2019 (19 years)Berope2021AsiaQuantitative20211995 to 2019 (24 years)Asian developing and transition economies2021AsiaQuantitativeDawood et al. (2021)Negative1995 to 2019 (24 years)Kenya, Uganda and Tanzania2021AfricaQuantitativeMuoki (2021)Positive1965 to 2019 (56 years)Kenya, Uganda and Tanzania2021Europe/QuantitativeMuoki (2021)Positive1970 to 2016 (46 years)Kenya2021Europe/QuantitativeHüseyin (2021)Positive1970 to 2016 (46 years)Kenya2021Europe/QuantitativeHüseyin (2021)Positive1970 to 2016 (46 years)Kenya2021AfricaQuantitativeHüseyin (2021)Positive2020 to 2017 (15 years)Kenya2021AfricaQuantitativeKithinji (2021)Positive2020 to 2017 (15 years)Morocco2021AfricaQuantitativeAchibane (2021)Negative2020	44.	Kasava,	2021	Europe	Quantitative	Misiria & Shabanic (2021)	Positive	2007 to 2019 (12 years)	Positive due to level of public debt
Asian developing and transition economies2021AsiaQuantitativeDawood et al. (2021)Negative1995 to 2019 (24 years)Kenya, Uganda and Tanzania2021AfricaQuantitativeMuoki (2021)Positive1963 to 2019 (56 years)Kenya, Uganda and Tanzania2021Europe/QuantitativeMuoki (2021)Positive1967 to 2016 (46 years)Turkey2021Europe/QuantitativeMuoki (2021)Positive1970 to 2016 (46 years)Kenya2021AfricaQuantitativeKithinji (2021)Positive2021 (15 years)Kenya2021AfricaQuantitativeKithinji (2021)Positive2020 to 2017 (15 years)Moroco2021AfricaQuantitativeAfricaQuantitative2021 (15 years)Moroco2021AfricaQuantitativeAfricaMoreal1990 to 2019 (29 years)Thailand2021AsiaQuantitativeChisaard (2021)Positive2050 to 2019 (14 years)	45.	Selected countries in Europe	2021	Europe	Quantitative	Sobczak & Radziewicz (2021)	Nonlinear	2000 to 2019 (19 years)	
Kenya, Uganda and Tanzania2021AfricaQuantitativeMuoki (2021)Positive1963 to 2019 (56 years)Turkey2021Europe/QuantitativeHüseyin (2021)Positive1970 to 2016 (46 years)Turkey2021AfricaQuantitativeKihinji (2021)Positive2002 to 2017 (15 years)Kenya2021AfricaQuantitativeKihinji (2021)Positive2002 to 2017 (15 years)Moroco2021AfricaQuantitativeKihinji (2021)Negative2002 to 2017 (15 years)Moroco2021AfricaQuantitativeAchibane (2021)Negative1990 to 2019 (29 years)Thaliand2021AsiaQuantitativeChaisaard (2021)Positive2005 to 2019 (14 years)	46.	Asian developing and transition economies	2021	Asia	Quantitative	Dawood et al. (2021)	Negative	1995 to 2019 (24 years)	Total external debt has a positive impact on economic growth.
Turkey2021Europe/ AsiaQuantitativeHüseyin (2021)Positive1970 to 2016 (46 years)Kenya2021AfricaQuantitativeKithinji (2021)Positive2002 to 2017 (15 years)Kenya2021AfricaQuantitativeAchibane (2021)Negative1990 to 2019 (29 years)Morocco2021AsiaQuantitativeChibane (2021)Negative1990 to 2019 (29 years)Thailand2021AsiaQuantitativeChisaard (2021)Positive2005 to 2019 (14 years)	47.		2021	Africa	Quantitative	Muoki (2021)	Positive	1963 to 2019 (56 years)	Domestic debt had significant negative effect on economic growth
Kenya2021AfricaQuantitativeKithinji (2021)Positive2002 to 2017 (15 years)Morocco2021AfricaQuantitativeAchibane (2021)Negative1990 to 2019 (29 years)Thailand2021AsiaQuantitativeChaisaard (2021)Positive2005 to 2019 (14 years)	48.	Turkey	2021	Europe/ Asia	Quantitative	Hüseyin (2021)	Positive	1970 to 2016 (46 years)	Positive in the long run
Morocco2021AfricaQuantitativeAchibane (2021)Negative1990 to 2019 (29 years)Thailand2021AsiaQuantitativeChaisaard (2021)Positive2005 to 2019 (14 years)	49.		2021	Africa	Quantitative	Kithinji (2021)	Positive	2002 to 2017 (15 years)	When combined with expenditure, public debt reduces its influence on economic growth.
Thailand 2021 Asia Quantitative Chaisaard (2021) Positive 2005 to 2019 (14 years)	50.	Morocco	2021	Africa	Quantitative	Achibane (2021)	Negative	1990 to 2019 (29 years)	
	51.	Thailand	2021	Asia	Quantitative	Chaisaard (2021)	Positive	2005 to 2019 (14 years)	Positive in short and long term

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52.	Nigeria	2021	Africa	Quantitative	Ajuh & Oyeanu (2021)	Negative	1985 to 2018 (33 years)	
53.	Nigeria	2021	Africa	Quantitative	Adekunle et al. (2021)	Positive	1981 to 2015 (34 years)	
54.	Ghana	2021	Africa	Quantitative	Isaac et al. (2021)	Negative	1991 to 2019 (28 years)	
55.	Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam	2021	Asia	Quantitative	Lee & Kueh (2021)	Negative	1996 to 2016 (20 years)	Negative in long term and detrimental to growth if the debt level exceeds threshold
56.	ECOWAS Countries	2021	Africa	Quantitative	Tarawalie & Jalloh (2021)	Nonlinear	2000 to 2019 (19 years)	To be positive need optimal threshold level of external debt
57.	Cameroon	2021	Africa	Quantitative	Ngangnchi & Joefendeh (2021)	Negative	1980 to 2018 (38 years)	Negative association in a long run. Public investment modulates the effect of external debt on economic growth
58.	South Africa	2021	Africa	Quantitative	Mbali (2021)	Negative	1977 to 2019 (42 years)	Positive association in short run
59.	19 European Countries	2021	Europe	Quantitative	Grácio (2021)	Negative	1995 to 2019 (24 years)	
60.	Kenya	2021	Africa	Quantitative	Kibigo & Muthinja, (2021)	Positive	1999 to 2019 (20 years)	
61.	Albania	2021	Europe	Quantitative	Fejzaj et al. (2021)	Positive and Negative	1981 to 2019	Internal sources of public debt is positive but external source is negative.
62.	Nepal	2021	Asia	Quantitative	Upadhyaya (2021)	Positive	1992/93 to 2018/19 (27 years)	
63.	Nigeria	2021	Africa	Quantitative	Akinlo (2021)	Nonlinear	1970 to 2016 (46 years)	Public external debt harms economic growth more than private external debt
64.	Nigeria	2021	Africa	Quantitative	Ezenwobi & Anisiobi (2021)	Positive	1990 to 2020 (30 years)	Both external and domestic debts had a positive effect on growth

65. Barzawle, Republic of Crogo Antional Interfacional Contentional Tendend in the offect in mpact on growth up to acterial interfacional 66. 9 Balan Countries (Mannia, Bonchi Anteriana, Corabi, Maccolonia, Maccolonia, Maccolonia, Maccolonia, Maccolonia, Maccolonia, Maccolonia, Corabi, Maccolonia, Corabi, Maccolonia, Maccoloni Maccolonia, Maccoloni Maccolonia, Maccolonia, Maccolon	٩	Country	Year	Continent	Method	Author	Result of Debt- Growth Nexus	Period	Comment on Concluded Results
9 Balkan Countries2021EuropeQuantitativeRedia (2020)Negative1996 to 2016 (20 verso)(Albania, Bosina, Sexina, Ancerolai, Cootaina, Sectia, Sovenia).2021Hirdova Redia1981 to 2019 (38 verso)Montenegro, Montenegro, Romania, Sectia, Sovenia).2021AfricaQuantitativeHiskoya & Negative1981 to 2019 (38 verso)Montenegro, Montenegro, Romania, Sectia, Sovenia).2021AfricaQuantitativeHiskoya & Negative1981 to 2019 (38 verso)Montenegro, Montenegro, Romania, Sectia,2021AfricaQuantitativeHiskoya & Negative1981 to 2019 (39 verso)Merican countries2021AsiaQuantitativeStotaina & YasaPostive2011 to 2020 (40 verso)Matcan countries2021AsiaQuantitativeStotaina & YasaPostive2010 (2020 (40 verso)Montenegro, Artican countries2021AsiaQuantitative20211980 to 2019 (39 verso)Montenegro2021AsiaQuantitative2021Disto (2021)NegativeMontenegro2021AsiaQuantitative20210Negative1990 to 2019 (29 verso)Montenegro2021AsiaQuantitative20210Negative1990 to 2019 (29 verso)Montenegro2021AsiaQuantitative2021Negative1990 to 2019 (29 verso)Montenegro2021AsiaQuantitative2021Negative1990 to 2019 (29 verso)Montenegro2021Asia <td>65.</td> <td></td> <td>2021</td> <td>Africa</td> <td>Quantitative</td> <td>Antoine et al. (2021)</td> <td>Positive</td> <td>1986 to 2015 (29 years)</td> <td>Positive in the long term up to a certain threshold but no direct impact on growth in short term</td>	65.		2021	Africa	Quantitative	Antoine et al. (2021)	Positive	1986 to 2015 (29 years)	Positive in the long term up to a certain threshold but no direct impact on growth in short term
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South Africa 2021 Africa Quantitative Saungwerne & Negative 1970 to 2017 (47 years) Odhiambo (2021)	75.		2021	Europe	Quantitative	Misztal (2021)	Negative	2006 to 2017 (11 years)	
	76.		2021	Africa	Quantitative	Saungweme & Odhiambo (2021)	Negative	1970 to 2017 (47 years)	Negative in a long run and positive in a short run

Yangailo, T.

Reporting and Dissemination

Scholarly interest in the relationship between public debt and economic growth is clearly growing, as evidenced by the fact that the previous studies reviewed in the table above cover the years 2021 to 2023. It is also evident that the employed methods in most reviewed article was quantitative approach accounting for 75 (98.68%) out of 76 reviewed publications.

Table 1 above also shows that only 23 (30.26%) of the 76 studies reviewed found a significant positive relationship between debt and economic growth; 41 (53.95%) found a negative relationship between debt and economic growth, while 8 (10.53%) found a non-linear relationship and 4(5.26%) found both positive and negative relationships depending on the period (long and short run).



The figure below summarizes the results from Table 1



Figure 1: Summary Presentation of Results

Figure 2: Summary of Results by BLOC

Table 1 also shows that findings are contradictory even when conducted in the same country or region. For example, studies conducted in Nigeria (see Ihejirika et al., 2022; Tama & Habila, 2022; Uzoma et al., 2023; Yusuf & Mohd, 2023), collective Asian countries (see

Asteriou et al., 2021; Dawood et al., 2021; Lee & Kueh, 2021; Zuhroh & Pristiva, 2022), and Tanzania (see Chindengwike & Kira, 2021; Nyabakora, 2023) produced conflicting results.

The conflicting results are particularly evident in studies conducted in regional blocs, groups of countries, etc. For example, there were five studies conducted in the European Union, and out of the five studies, one study presented a positive relationship between public debt and economic growth, three presented a negative relationship, and one presented a nonlinear relationship. Of the five studies in Sub-Saharan Africa, three presented a negative relationship between debt and economic growth and two presented a non-linear relationship. Asian countries recorded six studies and of the total studies recorded, one presented positive relationship between public debt and economic growth and the other five presented negative relationship. Figure 2 below presents a summary of the results in different blocs and regional integration groups of countries.

Discussion

Of the 76 studies, the review shows that the findings fall into three groups: those that support the Ricardian theory, the neoclassical school, and the Keynesians. Keynesians emphasize that both government debt and budget deficits have a positive impact on a nation's economic growth, primarily because of the multiplier effect of government spending. The neoclassical school of thought takes the opposite position on budget deficits and government debt, claiming that both can have a detrimental effect on economic growth. On the other hand, proponents of Ricardian equivalence argue that public debt and budget deficits have no effect on economic growth.

Despite the conflicting results of the studies from the 76 reviewed, it is evident that most studies present that public debt negatively affects economic growth in the long run and that public debt positively affects economic growth in the short run. Public debt has a short-term positive impact on economic growth and a long-term negative impact (Abubakar & Mamman, 2021). However, research on the impact of both domestic and foreign debt on economic growth in the long and short run has produced conflicting results, with some suggesting a negative relationship and others a positive one. While some studies (see Babatunde et al., 2023; Muoki, 2021) show that domestic debt has a negative impact on economic growth, other studies (see Akinlo, 2021; Aya et al., 2023; Daba Ayana et al., 2023; Fejzaj et al., 2021) show that external debt has the negative impact. Additional research on the core shows that debt, both internal and external, contributes to growth (see Ezenwobi & Anisiobi, 2021).

The complex relationship between public debt and economic growth is influenced by a number of variables, including the level of debt, the structure of the economy, fiscal policy, and the overall state of the economy. Based on the conflicting results of the reviewed studies on the debt-growth nexus, it is evident that the variation in the debt threshold for each country, the time period that each study focused on, and other moderating and mediating variables played a critical role in determining the nature of the results.

There are several reasons why studies differ and give conflicting results. One reason is the sample size. Trials with too small a sample may not accurately represent the effects in the larger population. Another factor is methodology. Differences in how a study is done, such as how data are collected or analyzed, can lead to conflicting results. Differences in the model used may also have contributed to the discrepancies. To address these discrepancies, researchers should carry out a meta-analysis, which combines data from several trials to get a more robust understanding of the effect. In addition, examining the specific methodological differences between studies with conflicting results can help identify potential sources of bias. It is also important to consider confounding variables, which are variables that affect both the independent and dependent variables in a study. Finally, assessing the risk of publication bias using statistical techniques can provide valuable insights.

A higher debt-to-GDP ratio is beneficial for low-income countries, and countries can potentially benefit more from further borrowing if they maintain a declining debt trajectory or reduce their initial debt levels. Depending on its level, public debt can have both positive and negative effects on economic growth. If kept at reasonable levels, public debt can be used to finance worthwhile investments in infrastructure, education, and other areas that support sustainable economic growth. On the other hand, if it rises too high, it can crowd out private investment, raise interest rates, and undermine investor confidence, all of which hinder economic growth. Countries with high debt-to-GDP ratios typically experience slower economic growth. The level of government debt affects consumer and investor confidence. Excessive debt can undermine confidence in the government's ability to manage its finances, especially when combined with concerns about fiscal sustainability. This can lead to less consumption, less investment and slower economic expansion. High levels of government debt can lead to higher interest rates, which can discourage private investment and consumption, thereby hampering economic expansion. This happens because, when governments borrow large amounts of money, they compete with private borrowers for funds, driving up interest rates. Participation in the Heavily Indebted Poor Countries (HIPC) Initiative expands a country's ability to benefit from additional borrowing, which is an advantageous experience to consider in future debt relief programs (De Soyres et al., 2022).

There is no single debt threshold that fits all countries. Bentour (2021) argues that there is a need to develop more theory-based models that take into account the fundamentals that differ across countries and influence the relationship between debt and growth. Since each country has its own set of conditions, including debt thresholds and other factors, it is strongly discouraged to adopt results or thresholds from other countries in aggregate. For example, Yildirim and Erdoğan's (2022) study of the relationship between public debt and economic growth in 14 European countries-Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Norway, Portugal, Spain, Sweden, and Turkey-reveals an inverse relationship between public debt and growth, except for Sweden, which is not statistically significant, and Denmark, which has a positive relationship. This simply shows that one size does not fit all. This is also consistent with the findings of Sandow et al. (2022), who argue that in countries with strong public sector management quality, the impact of external debt on economic growth is typically positive.

The review also presents that institutional quality, public investment, production expenditure, FDI, public expenditure, exports are the variables that significantly influence the public debt-economic growth nexus (see Aurangzaib & Farooq, 2022; Gomez-Puig et al., 2022; Kemoe & Lartey, 2022; Marmullaku et al., 2021; Ngangnchi & Joefendeh, 2021; Ramzan et al., 2023; Zuhroh & Pristiva, 2022). The empirical evidence in support of a nonlinear debt growth threshold suggests that, while such thresholds may exist, they may not have a standard threshold value and may instead be strongly influenced by other variables such as the degree of institutional development and the overall level of development of a country (Salmon, 2021). External factors that can affect economic growth include trade dynamics, global economic conditions, and financial market sentiment. Changes in these variables can increase or decrease the impact of government debt on economic expansion. Economic growth is also affected by how governments manage their debt and fiscal policies. Prudent fiscal policies can

boost growth and productivity by prioritizing infrastructure, innovation and human capital. On the other hand, persistent deficits and rising debt are indicators of unsustainable fiscal policies that can negatively affect economic growth.

Although some contingency variables have been taken into account in the studies reviewed, additional variables (such as mediators or moderators) need to be included in the relationship in order to fully understand the nature of the relationship between the two variables. The contradictory and ambiguous results of recent studies indicate the need for further research on the relationship between public debt and economic growth, taking into account moderating and mediating factors.

Given the dynamic nature of the environment, the political and economic uniqueness of each country and the variation in debt thresholds, it is important that studies be conducted periodically in each country to avoid generalizing and adopting the debt thresholds of other countries or regional blocs, as well as to determine the level of the debt threshold at a given time to ensure that their debt levels promote economic growth and avoid falling into debt traps.

A balance in research methodology is also needed. This imbalance is alarming. Of the total 76 articles reviewed, 95 (98.68%) employed a quantitative approach. While the nature of the relationship between debt and economic growth requires employing quantitative approach, employing and additional approach such as the qualitative approach world further review more new insights on the nature of this relationship. For a thorough and comprehensive understanding of the relationship between public debt and economic growth, there is a need for balanced research in this area, the adoption of a mixed methods approach and others.

Relevance of Bridging the Identified Gaps

If the gaps in the literature were filled, it would be possible to better understand why the literature on the relationship between public debt and economic growth produces conflicting results.

First, the relationship between public debt and economic growth can be clarified by future research using moderating and mediating variables. Any variable that has the power to change the nature, direction, strength, or other aspects of the relationship between the independent and dependent variables is a moderating variable. Moderators would shed light on the factors that can make this relationship stronger, weaker, or even disappear, giving academics and practitioners more knowledge about the relationship between public debt and economic growth in a quantitative research approach. However, future studies may benefit from the inclusion of mediating variables to better understand the mechanism and cause of the occurrence of an effect along a causal pathway. The mediating variable links the independent and dependent variables and explains the relationship between the other two variables. In a nutshell, by including moderators and mediators in their future research, scholars could provide a more comprehensive and perceptive picture of the real world of the 21st century, rather than focusing solely on the relationship between public debt and economic growth.

Second, a valid method for assessing the validity, generalizability, and reliability of research studies would be to replicate them across countries and industries. In order to verify the validity of the study's findings from a scientific perspective, replication of the study is an essential step in scientific endeavors. If the results of a study are supported by other research, they have a higher chance of being reliable sources of new data. It would be foolish for professionals or academics in our situation to simply extrapolate the results of research projects conducted in other countries to other countries. This is due to the fact that almost all research studies have used only quantitative research methods, which ignore the complex concepts and experiences of human experience in favor of a narrow focus on variables. In addition, the diverse political economies and governance systems of different nations make it difficult to generalize research findings. Although uncommon in many fields, explicit replication is an essential part of scientific endeavor.

Third, although both qualitative and quantitative research methods have advantages and disadvantages, they can work remarkably well together. Future studies should adopt a balanced research approach that incorporates a range of research methods to strengthen research findings. Through triangulation, this will help researchers gain a comprehensive understanding of the relationship between public debt and economic growth.

Conclusion

Public debt can be used to finance investments that stimulate economic growth, but excessive and unmanageable debt can be detrimental to long-term economic growth and stability. Debt used to finance current consumption or wasteful spending is typically less advantageous than debt used to finance profitable investments that generate future returns. Promoting sustainable economic growth therefore requires sound fiscal policies, structural reforms, and effective public debt management.

The complicated relationship between debt and growth depends on variables unique to each country that are likely to change over time, supporting national debt ceilings or debt reduction rates. By reducing debt, the government minimizes the distortionary impact of taxes needed to service the debt and prepares for unforeseen circumstances that may require large public borrowing in the future.

The study presents that public debt above the threshold is detrimental to economic growth, while low public debt is conducive to growth. The degree of non-linearity in the debtgrowth relationship varies considerably depending on the economic status and debt burden of the country. Countries with high debt ratios tend to grow more slowly. As a result, policymakers in each country need to identify the tipping point (the ratio of public debt to GDP) at which further public debt begins to impede growth. Debt policy should take into account not only fiscal constraints, but also the effectiveness of governance and the possible consequences of eroding public confidence. The study also shows that institutional quality, public investment, production spending, foreign direct investment, and exports are among the variables that significantly affect the relationship between public debt and economic growth.

This study provides important insights for policymakers, in particular to be aware of the negative impact of rising public debt ratios on growth as both developed and developing countries continue to increase their debt ratios. Policymakers should control the level of public debt and its drivers to support longer-term economic growth. They should also strive to keep debt ratios at sustainable levels to avoid these negative effects on growth in their countries.

The study also recommends that countries account for public debt and ensure that such debt is acquired only to finance profitable investments that generate future returns, and not for consumption, deficit reduction, wasteful spending, or political purposes.

In addition, the study has identified gaps in the previously reviewed literature on the relationship between public debt and economic growth that need to be filled immediately.

Another important contribution of this study is that researchers can use the steps, methodology, and analysis provided to identify research gaps in the future by conducting similar or even different studies.

Limitation of the Study

It is acknowledged that this study has two limitations. First, only Google Scholar and Semantic Scholar were used as sources for the study's literature review. Therefore, it is hoped that this study will stimulate further discussion and, as a result, provide data that will fill some of the gaps in the field and provide a clear understanding of the relationship between public debt and economic growth. There is no doubt that more research should be done on the use of other databases for the literature review. Secondly, only English language publications were included in the systematic literature review conducted for this study. It is suggested that more articles published in other languages be included in future research and analysis.

Future Studies

Many studies have focused only on the direct relationship between debt and growth, ignoring other contingency variables (moderators and/or mediators). Future research should prioritize contingency variables and use economic models that quantify the causal relationship between debt and growth to allay concerns that the results show only a correlation.

Declaration

I would like to declare that this article has not been pre-sponsored by any organization and there is no conflict of interest for me to disclose; I can provide data and material research upon request; I would also like to extend my sincere thanks to the editor and reviewers for their valuable time in reviewing this paper.

Conflict of Interest

I would like to declare that there is no conflict of interest to declare, as there are no significant competing financial, professional or personal interests that could have influenced the performance.

Availability of Data and Materials

Data and material searches can be provided upon request, although all materials used have been from the published materials.

Authors' Contribution

Tryson Yangailo designed the study, developed the methodology, drafted, reviewed, and edited the manuscript; Tryson Yangailo wrote the original draft.

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