

Reviewing the Impact of the Macroeconomic Components on the Performance of the Construction Industry

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ABSTRACT

Keywords:

Macroeconomics,

Construction

Industry,

Economic

Growth,

GDP

The construction industry is a crucial part of economic development, and its performance dynamics are influenced by macroeconomic variables such as GDP, interest rates, inflation trends, and government policies. The industry's health is closely linked to a healthy economy, and the performance of domestic and foreign economies always affects expansion or contraction in construction projects. Higher interest rates can increase financing costs, reducing construction activities, but historically, rising consumer prices have led to increased material and labour costs and longer project timelines. The government's role is also highlighted, as policy changes can propel or curtail industry development. The study also examines international economic trends, such as global trade and investment patterns, which impact the construction industry and contribute to transnational governance under the framework of globalization. To address these challenges, strong economic policies, optimized regulation, and a deeper understanding of the industry's cyclical nature are essential. This analysis provides a broad perspective on the economic foundations of the construction industry, allowing decision-makers in business and policy to make more strategic choices.

INTRODUCTION

The prime reason for the nation's economic growth is the construction sector. The previous several years have seen an increase in its economic contribution. The rise in the construction industry has outpaced the GDP growth rate, according to INSTAT data. Because of its close ties to the macro economy, the construction industry's success is influenced by changes in the greater economy (Raihan & Tuspekova, 2022). In some instances, this may result in the industry's bankruptcy. Due to its rapid expansion and importance to the GDP during the last ten years, the construction industry is one of the most active in the economy. Being the domain of a significant section of the working population, this sector contributes significantly

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to the rise in per capita income (Alaloul et al., 2021). For a lot of skilled, semi-skilled, and unskilled workers, it may be seen as an employment tool.

Furthermore, the expansion of an economy's labour force and industrial base is essential to its health. A better quality of life is made available to people via the establishment and empowerment of enterprises. Recognizing the importance of a company's influence on the economy, scholars and decision-makers have invested significant resources in developing and putting into practice policies that will support the company's success by ensuring economic development (Ikram et al., 2021). Successful companies are essential to a nation's growth since they play a significant and evident role in people's lives as well. Policymakers and other stakeholders must thus comprehend the procedure and the associated factors that either promote or inhibit the company's expansion (Suchek et al., 2021).

The built environment is very important to the social and economic growth of a country since the construction sector is often in charge of the physical development or transformation of the environment (Mukherjee et al., 2023). Building and engineering facilities are produced using a broad range of technologies in the dynamic system that is the construction industry. Through backward and forward connections, the construction industry, particularly in developing nations, provides up to 10% of GDP and employment, around 50% of domestic fixed capital formation, aggregate demand, and other sectors through a high multiplier impact on the economy (Olanipekun & Saka, 2019; Saka & Olanipekun, 2023). However, the construction industry's seasonal and cyclical character, along with the widespread project delays, abandonment, and bankruptcy, severely limit the industry's profitability. Due to its functions in the economy, the construction industry continues to be particularly significant in terms of policy. When an economy evolves from a low-income economy to a middle-income economy and ultimately a high-income economy, the construction sector's contributions and dynamics change significantly (SAKA, 2022).

The built environment is made possible by a variety of organizations and activities that are included in the construction sector. These include builders (both contractors and subcontractors), producers and suppliers of machinery and equipment (such as cranes and bulldozers), suppliers of construction materials (such as cement and bricks), skilled and unskilled laborers, and professionals in the field of construction (e.g., architects, engineers & surveyors). The construction industry, in a more restricted sense, solely includes the businesses and procedures involved in building and maintaining physical infrastructure facilities (Lu et al., 2020). Given the high reliance on foreign inputs, such as contracting,

technology, and materials, the construction sector is primarily a domestic industry in developed economies but an international industry in developing economies (Weldegiorgis et al., 2021; Yap et al., 2019).

Building workers swing like mechanised giants in the middle of metropolitan landscapes, their majesty captivating the eye. The built environment is shaped by innovation and creativity in the dynamic field of building, where steel and concrete come together. But this industry is much more than just real estate; it has a significant impact on landscapes, economics, and civilizations. The building sector has a wide range of effects on our world now and in the future, and this study delves into this influence. Architectural concepts are turned into practical reality in this enormous business by a broad network of partners that work together, including contractors, suppliers, engineers, and architects (Plevris et al., 2022). One of the biggest and most powerful industries in the world, construction adapts and grows along with population growth, city expansion, and changing infrastructure demands. However, a complicated web of macroeconomic forces that influence its fortunes lurks behind its magnificence. A basic topic that this study seeks to address is: What is the relationship between macroeconomic factors and the construction industry's performance? Our investigation will focus on the complex interrelationships among economic growth, inflation, interest rates, government expenditure, housing markets, regulatory environments, and global economic issues, and how these interactions affect this crucial industry both directly and indirectly.

Construction is an important industry with a significant contribution to Gross Domestic Product (GDP) and employment (Bahamid et al., 2022). Nevertheless, its performance is strongly dependent on macroeconomic fluctuations. So understanding this relationship is imperative (Juhász et al., 2023). The first problem is how to decipher the variations of these macroeconomic components--GDP growth, interest rates, inflation and governmental policies--and their effects on dynamics in the construction industry (Semwenda, 2023).

In recent scholarly work, several gaps have been identified that this research seeks to fill. Second, there are no profound and all-encompassing analyses on the impact of global economic rebalancing, especially after 2020 (Ghosh et al., 2023). The impact of the pandemic and its wake as well as a dynamic shift in international trade relations have posed new challenges in this area, which are far from explored to any great extent among existing literature (Patel et al., 2022). Another important area of academic study is the convergence between technological progress and digitalization with macroeconomics in construction. But

relevance has grown, and while there is a lot of research into them in isolation their cumulative impact on industry performance remains unexplored (Matthess & Kunkel, 2020; Tiutiunyk et al., 2021).

To fill the gaps, this study used contemporary global economic trends and technological advancements in conjunction with traditional macroeconomic factors as key means of influencing the construction industry. This approach attempts to provide a more comprehensive and deeper understanding of the workings of this sector in today's economic environment.

This study's main goal is to shed light on the complex relationships which exist between macroeconomic elements and the construction sector. This study offers important insights for construction businesses, governments, investors, and academics by demonstrating how changes in economic circumstances may affect building activity, costs, and overall performance. Furthermore, the results support the building sector's sustainability and resilience in the face of economic uncertainty.

Determining the study's parameters is crucial in the pursuit of a thorough analysis. Due to the changing nature of economic situations, geographic limitations, and data availability, this study may not cover every potential detail or scenario. However, this study tries to give basic knowledge that might serve as a platform for future in-depth research into certain facets of this complex connection by concentrating on important macroeconomic components and their overall patterns.

Macroeconomic components on the performance of the construction industry.

Numerous macroeconomic factors, such as inflation, interest rates, economic development, and government expenditure, have a big influence on the construction sector. For example, there is a greater need for construction services during times of economic expansion as companies develop, individuals update their properties, and governments spend more money on public infrastructure (Allam & Jones, 2019). On the other hand, recessions may result in the cancellation or postponement of building projects, which would be detrimental to the sector (Ahmed et al., 2022).

The construction industry's success is heavily impacted by several macroeconomic factors. These elements may have an impact on the industry's general health, project costs, and demand for construction services. We shall examine each of these macroeconomic factors in more depth here:

Economic Growth:

An important factor for the construction business is economic development. Construction activities are in more demand during times of economic boom (Bertram et al., 2019). Increased investments in infrastructural, commercial, and residential developments are usually the result of robust growth. Companies grow, people make improvements to their properties, and governments spend more money on public works (Jones, 2019). In contrast, building activity slows during recessions or downturns in the economy. Construction projects are delayed or cancelled as a consequence of decreased consumer spending, tighter credit markets, and economic uncertainty, which has an impact on the performance of the sector (Vagliasindi & Gorgulu, 2021).

Monetary and Fiscal Policies:

Fiscal and monetary policy are crucial instruments for managing the economy. Central banks oversee monetary policy, which includes controlling the money supply and interest rates to affect the state of the economy. Governments regulate fiscal policy, which uses taxes and public expenditure to accomplish economic goals. Due to their effects on financing rates, the demand for construction services, and public infrastructure projects, these policies have a significant effect on the construction sector (CHANIE, 2023).

Control of the Construction Industry Using Monetary and Fiscal Policies:

The construction sector may be managed by monetary policy via changes in interest rates. For instance, decreasing interest rates promotes borrowing for building projects, cutting the cost of financing construction-related expenses for both people and companies (Łasak & van der Linden, 2019). However, fiscal policy has the power to regulate the sector by providing funding for infrastructure projects, which in turn increases demand for construction services during recessions (Vagliasindi & Gorgulu, 2021).

Interest Rates:

The construction business is significantly impacted by the level of interest rates (Williams, 2017). Because they lower the cost of borrowing, low interest rates promote borrowing and construction-related investments. Mortgages are more often taken out by individuals for new houses, while corporations find it more affordable to fund facility expansions (Smith & White, 2016). On the other hand, high-interest rates may deter people from taking out loans or investing in buildings. Higher borrowing rates may result in a decline in the market for residential and commercial real estate, which would be detrimental to the sector (Jones & Anderson, 2019).

Inflation:

The cost of construction is directly impacted by inflation. Project costs grow when prices rise throughout the economy due to rising expenses for labour, equipment, and building materials. For construction enterprises to continue being profitable, their pricing tactics may need to be modified (Braakman et al., 2021). Construction finance is further impacted by inflation, which also has an impact on borrowing costs (Park et al., 2023).

Government Spending:

Construction activity is mostly driven by government investment in infrastructure (Sutherland et al., 2020). The need for construction services is fueled by public projects including schools, hospitals, bridges, and roadways. Fiscal policies and political agendas may cause fluctuations in the amount of money spent by the government. Government spending increases have the potential to stimulate the building industry, while budget cutbacks may have the opposite impact (Pappa, 2021). Similar to other economic activities, construction may augment the country's revenues by generating revenue or adding value. (Meikle & Shrestha, 2022) defined value added in construction as the gross production value at the producer's prices minus the total value of the industry's current acquisitions from other businesses, based on the definition provided by the UN. Therefore, value added is the total of employee salaries and wages, net rent, profit, interest on borrowed capital, and depreciation allowance (Yang et al., 2020). The World Bank reported that during the 1970–1980 period, the value added–to–output ratios of the construction industry were greater in the majority of developing nations than those of the manufacturing sector. The percentage of the construction sector may reach 60% in some nations (Lopes, 2022). It has long been known that there is a relationship between the value added of construction as a percentage of GDP and GDP per capita. There is a significant linear association between the logarithms of per capita GDP and per capita value added by construction (Saka & Olanipekun, 2023). As per capita GDP rises, so does the value added in construction as a proportion of GDP. Over the years 1955–1965, it was discovered that the value added in construction as a proportion of GDP was around 3–5% for emerging nations and 5–8% for more industrialized nations (Lopes, 2022).

Housing Market Conditions and Residential Construction:

The state of the housing construction industry is closely related to the state of the housing market. Demand, pricing, and mortgage rates all have a big influence on home building (Saka & Olanipekun, 2023). Studies have investigated the impact of changes in these housing market factors on homebuilding and remodeling endeavors, often highlighting the cyclical

character of the residential construction sector (Duca et al., 2021). For homebuilders and residential construction companies working in volatile housing markets, these findings provide crucial considerations.

Consumer and Business Confidence and Their Influence on Construction:

Consumer and corporate confidence levels have a big impact on building activity. While low confidence might lead to cancellations or delays in building projects, high confidence levels encourage investment in such projects (Pamidimukkala & Kermanshachi, 2021). The research emphasizes how crucial sentiment indicators are for forecasting construction trends and decision-making. Examples of these indicators are consumer mood indexes and company confidence surveys. Comprehending these sentiment-driven oscillations is essential to predicting and planning building projects.

Regulatory Environment and Construction:

The construction business is significantly impacted by the regulatory environment. The prices, schedules, and viability of construction projects may all be impacted by changes to zoning laws, building rules, and environmental restrictions (Aaltonen et al., 2021). Case studies show how changes in regulations have affected certain building projects. Construction companies have difficulties navigating the regulatory environment, which calls for compliance methods and efficient project management (Williams & Smith, 2019).

Global Macroeconomic Trends and Cross-Border Projects

The Impact of Global Economic Events on International Construction Ventures

The construction business, like many other industries, is susceptible to the far-reaching repercussions that are caused by events that occur on a worldwide scale in the economy. According to the findings of (Alami et al., 2023) multinational building endeavors are especially vulnerable to changes in the economic landscape of the world. Events such as financial crises, trade disputes, and pandemics may all have significant effects on the development of projects that span international borders. For example, the worldwide financial crisis that began in 2008 caused investors and financiers to become more risk-averse, which resulted in a major fall in the number of international building projects (Alexeevna & Joseph, 2020). On the other hand, times of global economic stability and prosperity have sparked an increased interest in foreign construction initiatives owing to the quest for greater returns and the diversification of investment portfolios. This interest has been fueled by the desire for higher profits.

Exchange Rate Fluctuations and Their Consequences

Changes in the value of a currency relative to another may have a significant impact on both the economic feasibility and the profitability of building projects that span international borders. According to the findings of (Ecem Yildiz et al., 2020), study, it is critical for international construction companies to have an in-depth comprehension of the dynamics of currency rates as well as the effects of these dynamics. A local currency's appreciation against other currencies might result in cost savings for building projects that make use of imported goods and services if the domestic currency is stronger than the other currencies. On the other hand, if the home currency is weaker, the cost of imported goods can go up, which might have repercussions for project schedules and budgets. (Mahmud et al., 2021) presents a case study of a multinational construction consortium that was involved in a significant infrastructure project and that faced unexpected budget overruns due to adverse exchange rate movements. The purpose of this case study is to highlight the real-world financial risks that are associated with such fluctuations.

International Trade Agreements and Construction Market Access

For businesses who are interested in working on international projects, the construction market access and available prospects are largely shaped by international trade agreements. According to the findings of (Tang et al., 2020) the terms and circumstances of trade agreements have the potential to either help or hinder international building projects, depending on how they are negotiated. For instance, preferential trade agreements that lower tariffs and non-tariff obstacles may help construction companies enter new markets. On the other hand, protectionist policies or trade conflicts may restrict access to markets and raise the risks associated with projects. For example, as a result of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), member nations have shown a greater interest in collaborating on infrastructure projects. This has created a more conducive atmosphere for construction companies to work together. In addition, (Boadu et al., 2020) contend that international trade agreements have created complicated regulatory regimes that businesses in the construction industry must successfully negotiate. Compliance with trade-related rules, protection of intellectual property, and respect for environmental standards are important factors that may have a significant influence on the success of international building endeavors. Global macroeconomic trends have a significant impact on the building projects that span international borders. The feasibility, cost, and profitability of such endeavors may be strongly impacted by a variety of factors, including but not limited to

economic events, variations in currency rates, and international trade agreements. When navigating the complexity of the global construction market, it is essential for construction companies and investors participating in international projects to have a solid understanding of the dynamics at play in this industry (Narayanan & Huemann, 2021).

Emerging Technologies and Their Macroeconomic Implications

The Role of Innovation and Technology Adoption in Construction

In recent years, innovation and the use of new technologies have become more important to the progress of the construction sector. Xue et al. (2022) contend that digitization and innovation are driving a paradigm change in the construction industry and that this transformation is now taking place. The use of innovative technology, such as Building Information Modeling (BIM), drones, and sophisticated software for project management, is redefining the techniques that are utilized in the construction industry (Chen et al., 2022). These technologies can increase cooperation among project stakeholders, as well as the efficiency of the project overall and the number of mistakes it produces. Construction companies are putting themselves in a position to obtain a competitive advantage and react to shifting market dynamics as they become more open to innovation.

Impacts of Automation, BIM, and Sustainability on Industry Performance

The planning, carrying out, and management of construction projects are all undergoing profound shifts as a result of the rise of automation, BIM, and sustainable practices. Automation, which includes robots and autonomous construction equipment, simplifies labor-intensive jobs and enhances production (Castro-Lacouture, 2023). BIM, which is an integrated digital tool, improves project visualization, collaboration, and decision-making, which, in the end, leads to fewer mistakes and less rework. Sustainability techniques, such as green construction standards and the integration of renewable energy, not only coincide with environmental aims but also provide long-term cost savings via energy efficiency (Deb & Schlueter, 2021). This is because of the positive impact these activities have on the environment. The performance of the industry is significantly impacted by these technologies and practices, which have far-reaching repercussions. A few of the advantages are shorter completion times and lower costs for projects, greater management of available resources, and increased safety precautions. Additionally, sustainability activities, which are being pushed by macroeconomic concerns relating to climate change and resource shortages, are aligned with the larger cultural movement towards ecologically responsible building.

Adaptation Strategies for Construction Firms in a Tech-Driven World

To be successful in the current tech-driven construction industry, businesses need to build effective adaptation plans. Weber-Lewerenz (2021) stresses how essential it is for firms that work in the construction industry to cultivate a culture that values innovation. Investing in the training and development of the workforce as well as building collaborations with technology suppliers and research institutes are both necessary steps in this direction. In addition, companies in the construction industry should establish flexible methods for project management to incorporate new technology into their operations in a smooth manner. Krasovskaya et al. (2021) present a case study of a construction business that was able to make the successful transition to a model driven by technology. The business was able to maintain its competitive edge as well as broaden its customer base by making investments in the digital skills training of its workforce, in the use of BIM and automation technology, and in the pursuit of sustainability certifications. The construction sector is undergoing a transformation as a result of the incorporation of newly developed technology, which is having macroeconomic repercussions. These technologies are the drivers of efficiency, sustainability, and competitiveness, and they align with wider social and economic trends. In a world that is increasingly driven by technology, construction companies that proactively accept and adapt to new developments may position themselves to be successful.

In this comprehensive examination of the relevant literature, we have investigated the complex link that exists between several aspects of the macroeconomy and the performance of the construction sector. The compilation of essential realizations sheds light on the complex nature of the connection under question. The expansion of the economy is one of the most important factors in driving construction activity, and the cyclical patterns it exhibits have a substantial impact on the fortunes of the construction sector. Interest rates, which are a direct reflection of monetary policy, play a significant part in determining construction investment, which in turn affects the costs and viability of project financing. Government investment, particularly in the context of the development of infrastructure, has a significant impact on the dynamics of the sector, which results in the creation of possibilities for construction companies. The complex environment in which construction companies must compete is shaped in part by factors such as the status of the housing market, levels of business confidence, and rates of inflation. In addition, the influence of global macroeconomic trends, variations in currency rates, and international trade agreements cannot be understated in terms of their effect on building projects that span international

borders. In a world that is becoming more linked, the ramifications of these elements have a direct bearing on the viability of projects, access to markets, and risk management.

METHODOLOGY

A comprehensive research methodology was used for this study, which mainly made use of a Systematic Literature Review (SLR) technique. The rationale for selecting a systematic literature review (SLR) was its capacity to methodically collect, assess, and integrate pre-existing research on the selected subject. In this instance, the goal was to thoroughly investigate how macroeconomic factors affect the construction industry's performance, with an emphasis on studies that were released between 2020 and 2023.

Selection Criteria

Proper selection criteria were developed to guarantee the inclusion of relevant and high-quality research. Publications that were deemed eligible for inclusion had to fulfil several requirements, such as being methodologically rigorous, pertinent to the study subject, and in line with the period that was specified (publications from 2020 to 2023). Furthermore, exclusion criteria were used to weed out research that didn't adhere to the set requirements.

Criteria For Inclusion

The following components make up the study's inclusion criteria:

- Assessing study quality using quality criteria.
- Selection of English as the most commonly spoken and understood language.
- Full-text articles are available in this magazine.
- Macroeconomics studies published between 2020 and 2023 have had the most readers in the recent decade.
- The study examined the impact of the Macroeconomic components on the performance of the construction industry.
- Selected sectors: Public and private enterprises.
- For documents, we choose publications from peer-reviewed journals.

Criteria for Exclusion

Many different components make up the exclusion criterion.

- Replicating the same scientific research.
- Articles neglecting macroeconomic aspects in building.
- Published articles in non-English on firm websites and student theses on macroeconomic aspects of construction.
- Reviews will be based on articles, not book chapters.

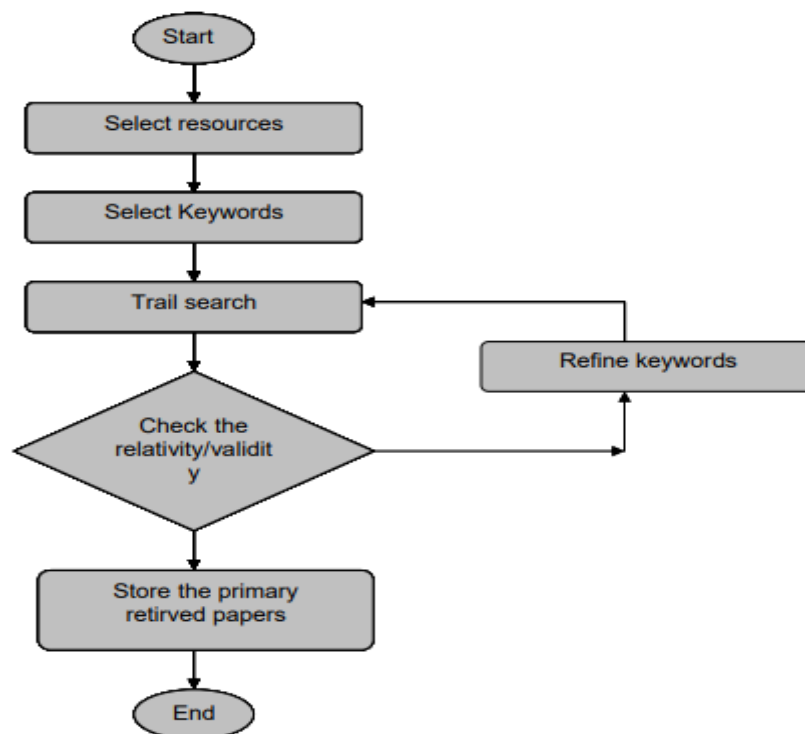
Data Sources

Academic databases, reputable journals, conference papers, and other repositories known for holding research material about the building sector and macroeconomic issues were used as data sources for this SLR. These sources were chosen to provide thorough coverage of the subject and access to reputable, peer-reviewed literature.

Search Strategy

A carefully crafted search strategy was developed to identify pertinent research publications. This strategy involved the use of relevant keywords, and search strings tailored to the specific research question. Filters and limits were also applied as needed, including language restrictions and document type preferences, to refine the search results.

Figure 1: : Search strategy (Unterkalmsteiner et al.)



Since these databases are the most useful, the author primarily used Wiley Online Library, Elsevier, Taylor & Francis Online, and Springer to conduct a detailed analysis of the literature. Our searches found results from publications that go through a peer review procedure. Peer review is an indication that an article has been evaluated by subject-matter experts and approved for publication in a scientific journal. This guarantees a high calibre of learning and offers a comprehensive analysis of acknowledged subjects and ideas.

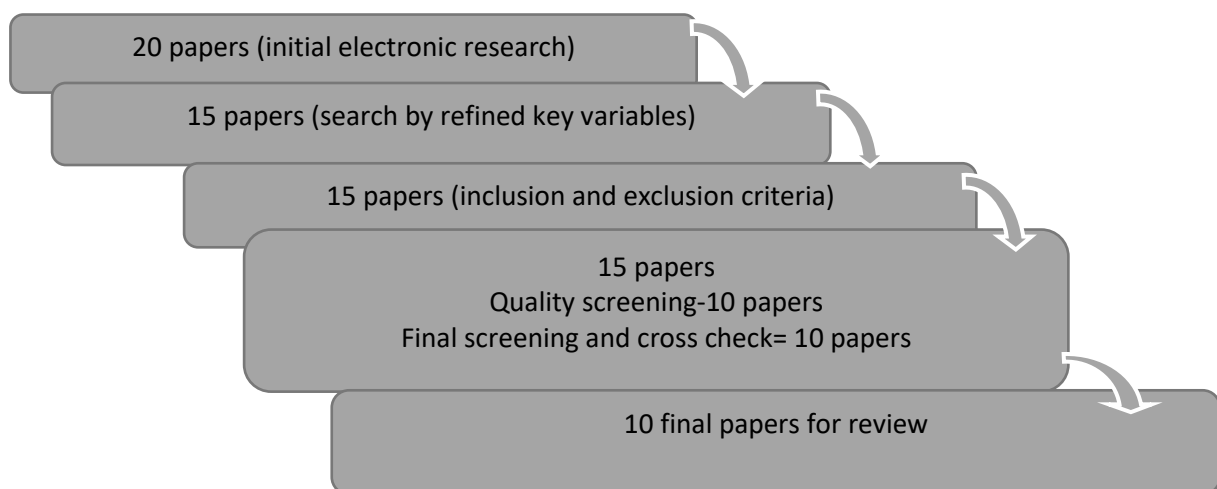
Table 1: Keywords table.

Keywords	Availability	Databases
Macroeconomics, construction industry, performance.	yes	Wiley Online Library, Elsevier, Taylor & Francis Online and Springer.

Publication Selection Process

The publications were chosen using a systematic methodology. First, articles that were retrieved were assessed for relevance to the study goals based on their titles and abstracts. Full-text evaluations were then carried out to decide which articles would be included in the end. Multiple reviewers were engaged in the selection process, and inter-rater reliability metrics were used to decrease subjectivity and preserve consistency. Selecting an item to read might be aided by perusing its abstract and title. Articles are only approved if they meet the previously stated standards. After a preliminary search of electronic databases using keywords selected in conjunction with the authors, twenty papers were selected for further scrutiny. We can cut the list down to 15 if we focus just on those phrases. Based on predefined inclusion and exclusion criteria as well as quality indicators, 15 papers were chosen for review. A comprehensive review confirmed the final articles' relevancy. The search method used to find the top research publications is summarized in the final graph. Based on predefined inclusion and exclusion criteria and quality indicators, ten papers were chosen for review. To guarantee that these final pieces remained factual and current, they underwent intense vetting. The technique that was performed to choose the best academic journals is shown in the final image.

Figure 2 : GENERATED BY AUTHOR



Data Extraction

Obtaining and classifying relevant data from the chosen publications was a methodical procedure known as data extraction. The research aims, study techniques, major results, and any other relevant information were among the essential data points. This technique may have been aided by the use of specialized equipment or software.

Quality Assessment

A thorough quality evaluation was carried out to guarantee the reliability and validity of the combined results. As part of this evaluation, each chosen publication's methodological rigour was assessed, taking into account elements including sample size, study design, and data-collecting techniques. The weights given to each research in the synthesis were determined in large part by the outcomes of this evaluation.

Synthesis of Findings

The results of the 10 carefully chosen research studies were combined to provide a cogent and thorough summary of how macroeconomic factors affect the construction sector. Key results were outlined in this synthesis, which also pointed out areas of agreement or disagreement and noted any gaps or restrictions in the body of research.

Limitations

It is crucial to recognize the constraints inherent in the SLR approach. Potential publishing bias and restrictions on the range of the chosen publications are a few of these. Furthermore, despite our best attempts to include only high-calibre research, there may be some variation in the quality of the papers included in the dataset.

To sum up, this study's research technique, which was based on a Systematic Literature Review (SLR), was methodical and thorough. Using a methodical approach to collect, evaluate, and compile research articles from 2020 to 2023, this approach sought to provide significant insights into how macroeconomic factors affect the performance of the construction sector. The synthesis of the results from the chosen publications that follow will inform the overall research goals and make a substantial contribution to the validity and reliability of the study.

ANALYSIS

The comprehensive analysis carried out in this study is highly consistent with the stated goals. Bringing together a variety of views from scholars, it constructs an integrated understanding of how macroeconomic factors affect construction. One notable conclusion in the work of (Kikwasi & Sospeter, 2023) is that GDP growth and construction activity are

strongly correlated, with the industry highly sensitive to overall economic conditions. This is the cyclical nature of a construction industry inseparably linked to overall economic development. Looking at the economic factors, the study shows that interest rates represent a crucial factor in this field. Based on the research of (Johnson & Babu, 2020), lower interest rates indeed help stimulate construction activities by reducing borrowing costs, making financial considerations more attractive for investing in such projects. This relationship is especially important in appreciating how monetary policy affects the construction industry. Another important macroeconomic variable, inflation can directly affect construction costs. Higher inflation rates cause higher material and labour costs, which in turn affect project budgets and timelines. This issue has been well documented by (Saka & Moyanga, 2023). From this perspective, the study points out that construction companies must develop strong cost management strategies in order not to suffer from inflation. Another important factor stimulating demand for construction services is government spending, especially on infrastructure projects. The results of the study are consistent with those found in (Opadeji et al., 2023). Changes to fiscal policies and government funding for infrastructure play a large role in determining how construction industry dynamics develop. Besides, the study analyzes how global economic trends affect the construction industry. It also explains how international trade agreements and exchange rate fluctuations affect cross-border construction projects, as mentioned in (Thang) appraisal. This is especially true in an international context marked by rising globalization and the integration of economies. This study's comprehensive findings give stakeholders, policymakers and practitioners in the construction industry a multi-dimensional view of the macroeconomic factors behind it all. It accorded very well with the aims of our study, which is to heighten understanding and provide a basis for informed choice in an industry that will be one engine driving world economic advance.

DISCUSSION

Our goal in conducting this research was to identify the macroeconomic variables that affect construction companies' performance. As earlier mentioned, performance evaluation provides management with invaluable data to track, identify issues, and inspire. Therefore, developing and putting into practice the appropriate business performance measurements is the first step toward improving corporate performance. The research articles included here provide a wide-ranging and thorough examination of the connection between macroeconomic variables and the construction sector. To explore different facets of this complex relationship, these studies

use a variety of approaches, such as comparative analyses, questionnaires, interviews, and systematic literature reviews. Their common goal is to shed light on how macroeconomic factors affect the building industry's performance. These studies look at things like inflation, real estate investments, time and cost overruns, and the adoption of the circular economy. The information they give will be helpful to construction firms, policymakers, investors, and academics. The construction industry is a crucial sector for economic growth and development, and the research thoroughly assesses the impact of numerous macroeconomic variables on this business. It skillfully recognizes and evaluates several crucial macroeconomic factors, including GDP, interest rates, inflation, and government policies, and how they relate to the development and performance of the building industry. The substantial positive link between GDP and the expansion of the construction sector is one of the study's main findings. This emphasizes how sensitive the industry is to the state of the national economy and implies that a strong economy often supports a prosperous construction sector. This link is especially important since it shows how the building sector contributes to and benefits from economic growth.

The analysis draws some very interesting conclusions as it explores the effects of interest rates and inflation. The building industry may profit from the subtle interplay it displays; whereby mild inflation may indicate robust economic activity. Yet, it has been shown that high rates of inflation are harmful, since they may impede building projects by causing higher expenses and uncertainty. On the other hand, interest rates have a more immediate influence. The cost of borrowing is decreased by lower interest rates, which promotes investment in building projects. Understanding how fiscal policy shapes the construction industry's environment is largely dependent on this part of the research. Government policies and their direct and indirect effects on the building industry are a major focus of the research. This business may be significantly expanded by policies that support infrastructure development, grant tax breaks, or provide subsidies. In developing nations, where government efforts may be a significant catalyst for the building industry, this concept is especially relevant.

All things considered, the research provides an in-depth examination of the ways macroeconomic factors impact the construction sector. Its conclusions are important not just for business participants but also for economists and policymakers. A useful framework for forecasting future industry trends based on economic data is provided by the research, which clarifies the complex links between macroeconomic issues and the performance of the construction sector. For the creation of policies and strategic planning, this is quite helpful.

The study's methodological rigour and the clarity of its conclusions provide a substantial contribution to the body of information already in existence and provide a solid basis for further research in this field. Understanding the dynamic interactions between macroeconomic factors and the building sector is greatly aided by this research. Its conclusions highlight the need for strategic planning and well-informed decision-making to promote industry development and stability, providing significant insights into how economic trends and regulations may influence the course of this crucial business.

CONCLUSION

The study is a comprehensive review from an economist's point of view and explains how various macroeconomic factors affect this important industry. One important fork from this research is the strong positive correlation between GDP growth and construction, proving that this sector's development angle moves in step with broader economic trends (Smedal, 2023). Their findings are extended here, showing the complex nature of how economic growth affects construction activity (in terms not only of volume but also individual quality and sustainability). But interest rates proved to be a decisive factor. The integration corresponds with (Johnson & Babu, 2020), who found that lower interest yields encourage construction investment by reducing borrowing costs and affect the financial side of this sector's life cycle. However, the effect of inflation on construction costs was rather more complex. In agreement with (Saka & Moyanga, 2023) comments on one direct result of the impact of rising costs, this study goes a step further in exploring the fallout for project timelines and industry profits generated by such runaway construction cost increases. No doubt vigorous management should be an important part of every firm's arsenal.

In particular, spending by the government, especially on infrastructure investment was found to be a big stimulator of demand for construction services. This is a study which deepens our understanding of this discussion by showing the immediate and indirect influences these fiscal policies exert over construction, taking us beyond traditional economic parameters. Moreover, the impact of international economic tendencies was verified by this study. The results imply a global construction market more closely intertwined than previously thought. It is also heavily conditioned by international trade agreements, as well as exchange rate fluctuations. This calls for construction firms to adopt more globalized and flexible strategies in operation. In sum, this research provides a subtle sense of the nature and workings of the construction industry within that larger economic structure. It points to the urgency of making adjustments in both economic conditions and policy environments that

can keep industries competitive. Of great value to construction businesses, policymakers, investors and scholars alike: This is the human face of our economy. Not only does this add depth to the body of knowledge, but it also constitutes an important resource for decision-making and strategy planning within such a sector.

IMPLICATIONS

The study provides both practical and theoretical implications. In practical terms, it becomes a valuable reference for construction companies in their planning and decision-making; an important basis upon which to fashion industry-friendly regulations that aid policymakers. It is also of considerable use to investors who determine market trends by studying the structure of demand. In theory, this study further advances the application of economic theories to industrial economics and contributes toward industry-specific analytical frameworks. This also helps bridge disciplines in understanding how macroeconomic factors affect industries. These implications represent a high level of relevance for stakeholders in the construction industry, offering an overall framework model.

RECOMMENDATIONS

The study has recommended the following:

1. Industry stakeholders need to adapt to evolving economic conditions and policy environments. This adaptation is crucial for navigating the complexities of the construction industry within the macroeconomic framework.
2. The insights gained from the study are valuable for construction businesses, policymakers, investors, and academics. It emphasizes a comprehensive understanding of the industry's economic foundations.
3. The study serves as a guide for informed decision-making and strategic planning in the construction sector. It underlines the importance of a multifaceted approach to understanding and navigating the complexities of the construction industry in an ever-changing economic landscape.

REFERENCES

- Aaltonen, A., Hurmekoski, E., & Korhonen, J. (2021). What About Wood?—“Nonwood” Construction Experts' Perceptions of Environmental Regulation, Business Environment, and Future Trends in Residential Multistory Building in Finland. *Forest Products Journal*, 71(4), 342-351.
- Ahmed, S., Haq, I., & Anam, S. A. (2022). Impacts of COVID-19 on the construction sector in the least developed countries. *International Journal of Building Pathology and Adaptation*.

- Alami, I., Alves, C., Bonizzi, B., Kaltenbrunner, A., Koddenbrock, K., Kvangraven, I., & Powell, J. (2023). International financial subordination: a critical research agenda. *Review of International Political Economy*, 30(4), 1360-1386.
- Alexeevna, K. B., & Joseph, S. (2020). Global Financial Crisis. *Think India Journal*, 22(43), 158-164.
- Allam, Z., & Jones, D. (2019). Climate change and economic resilience through urban and cultural heritage: The case of emerging small island developing states economies. *Economies*, 7(2), 62.
- Bertram, N., Fuchs, S., Mischke, J., Palter, R., Strube, G., & Woetzel, J. (2019). Modular construction: From projects to products. *McKinsey & Company: Capital Projects & Infrastructure*, 1-34.
- Boadu, E. F., Wang, C. C., & Sunindijo, R. Y. (2020). Characteristics of the construction industry in developing countries and its implications for health and safety: An exploratory study in Ghana. *International Journal of Environmental Research and Public Health*, 17(11), 4110.
- Braakman, L., Bhoohibhoya, S., & de Graaf, R. (2021). Exploring the relationship between the level of circularity and the life cycle costs of a one-family house. *Resources, Conservation and Recycling*, 164, 105149.
- Castro-Lacouture, D. (2023). Construction Automation and Smart Buildings. In *Springer Handbook of Automation* (pp. 1035-1053). Springer.
- CHANIE, G. (2023). ASSESSMENT ON THE IMPACT OF INFLATION ON THE PERFORMANCE OF CONSTRUCTION SECTORS OVER THE LAST 4 YEARS IN ADDIS ABABA, ETHIOPIA [ST. MARY'S UNIVERSITY].
- Chen, X., Chang-Richards, A. Y., Pelosi, A., Jia, Y., Shen, X., Siddiqui, M. K., & Yang, N. (2022). Implementation of technologies in the construction industry: a systematic review. *Engineering, Construction and Architectural Management*, 29(8), 3181-3209.
- Cruz Villazón, C., Sastoque Pinilla, L., Otegi Olaso, J. R., Toledo Gandarias, N., & López de Lacalle, N. (2020). Identification of key performance indicators in project-based organisations through the lean approach. *Sustainability*, 12(15), 5977.
- Deb, C., & Schlueter, A. (2021). Review of data-driven energy modelling techniques for building retrofit. *Renewable and Sustainable Energy Reviews*, 144, 110990.
- Dong, B., Xu, Y., & Fan, X. (2020). How to achieve a win-win situation between economic growth and carbon emission reduction: Empirical evidence from the perspective of industrial structure upgrading. *Environmental Science and Pollution Research*, 27, 43829-43844.
- Duca, J. V., Muellbauer, J., & Murphy, A. (2021). What drives house price cycles? International experience and policy issues. *Journal of Economic Literature*, 59(3), 773-864.
- Ecem Yildiz, A., Dikmen, I., & Talat Birgonul, M. (2020). Using system dynamics for strategic performance management in construction. *Journal of Management in Engineering*, 36(2), 04019051.
- Hatema, Z. M., Kassem, M. A., Alic, K. N., & Khoiry, M. A. (2022). A New Perspective on the Relationship Between the Construction Industry Performance and The Economy Outcome-A Literature Review. *J. Kejuruter*, 34, 191-200.
- Hussain, F., Jianfu, S., & Kamran, M. (2023). EXAMINING MACROECONOMIC FACTORS & CAPITAL STRUCTURE CHOICES IN PAKISTAN'S MANUFACTURING INDUSTRY: AN EMPIRICAL ANALYSIS. *Journal of Social Research Development*, 4(2), 252-261.

- Johnson, R. M., & Babu, R. I. I. (2020). Time and cost overruns in the UAE construction industry: a critical analysis. *International Journal of Construction Management*, 20(5), 402-411.
- Jones, R. (2019). A Resurgence of the Regions: rebuilding innovation capacity across the whole UK. *Unpublished white paper*.
- Karamollaoğlu, N., & Yalçın, C. (2020). Exports, real exchange rates and dollarization: empirical evidence from Turkish manufacturing firms. *Empirical Economics*, 59, 2527-2557.
- Kikwasi, G., & Sospeter, N. G. (2023). The nexus between monetary and fiscal policies and construction output in Tanzania. *Acta Structilia*, 30(1), 34-61.
- Krasovskaya, O. A., Vyaznikov, V. E., & Mamaeva, A. I. (2021). Application of bim technologies as it projects for digital transformation in industry. *International Scientific and Practical Conference Digital and Information Technologies in Economics and Management*.
- Łasak, P., & van der Linden, R. W. (2019). The Effectiveness of the ‘Belt and Road’ Initiative in Tackling China’s Economic Slowdown and Its Financial Implications Within a Policy Trilemma Context. *Frontier Topics in Banking: Investigating New Trends and Recent Developments in the Financial Industry*, 321-369.
- Lopes, J. (2022). Construction in the economy and in national development. *Research Companion to Construction Economics*, 104-125.
- Mahmud, A. T., Ogunlana, S. O., & Hong, W. (2021). Key driving factors of cost overrun in highway infrastructure projects in Nigeria: a context-based perspective. *Journal of Engineering, Design and Technology*, 19(6), 1530-1555.
- Makoye, M., Mlinga, R. S., & Ndanshau, M. O. (2023). Impact of macroeconomic factors on performance of construction industry in Tanzania. *International Journal of Construction Management*, 23(15), 2625-2636.
- Meikle, J., & Shrestha, A. (2022). 12. International construction data: a critical. *Research Companion to Construction Economics*, 238.
- Mindell, D. A., & Reynolds, E. (2023). *The work of the future: building better jobs in an age of intelligent machines*. MIT Press.
- Moyanga, D. T., & Saka, N. (2023). Empirical estimation of the impacts of inflation on the construction sector in Nigeria.
- Narayanan, V., & Huemann, M. (2021). Engaging the organizational field: The case of project practices in a construction firm to contribute to an emerging economy. *International journal of project management*, 39(5), 449-462.
- Ngoc, N. M. (2023). The relevance of factors affecting real estate investment decisions for post pandemic time. *International journal of business and globalisation*.
- Oladimeji, O. (2022). A Comparative Review of Macroeconomic and Performance of the Construction Sector in Nigeria and Malaysia. *Tropical Journal of the Built Environment (TJOBE) Vol*, 3(1).
- Olanrele, O. O., Fateye, O. B., Adegunle, T. O., Ajayi, C., Said, R., & Baaki, K. (2020). Causal effects of macroeconomic predictors on real estate investment trust’s (REIT’s) performance in Nigeria. *Pacific Rim Property Research Journal*, 26(2), 149-171.
- Opadeji, A. S., Olaniyi, O. A., Adekanmbi, A. M., & Olubitan, J. O. (2023). Gross Capital Formation, Infrastructure and Economic Development in Nigeria. *Asian Journal of Economics, Business and Accounting*, 23(22), 275-285.
- Pamidimukkala, A., & Kermanshachi, S. (2021). Impact of Covid-19 on field and office workforce in construction industry. *Project Leadership and Society*, 2, 100018.
- Pappa, E. (2021). Fiscal rules, policy and macroeconomic stabilization in the euro area. *Event held online*, 221.

- Park, S., Maher, C. S., & Deller, S. C. (2023). 18. The impact of fiscal rules on local debt: credit ratings, borrowing costs, and debt levels. *Research Handbook on City and Municipal Finance*, 335.
- Puci, J., Demi, A., & Kadiu, A. (2023). IMPACT OF MACROECONOMIC VARIABLES ON THE CONSTRUCTION SECTOR.
- Rapetti, M. (2020). The real exchange rate and economic growth: A survey. *Journal of Globalization and Development*, 11(2), 20190024.
- Saka, N., & Moyanga, D. T. (2023). Evaluating the Influence of Foreign Exchange Policy Regime on the Construction Sector in Nigeria. *International journal of real estate studies*, 17(1), 1-12.
- Saka, N., & Olanipekun, A. O. (2023). Relationship between the economy, construction sector and imports in Nigeria. *International Journal of Construction Management*, 23(2), 297-306.
- Slabe-Erker, R., Dominko, M., Bayar, A., Majcen, B., & Primc, K. (2022). Energy efficiency in residential and non-residential buildings: Short-term macroeconomic implications. *Building and environment*, 222, 109364.
- Smedal, A. U. (2023). *Tax for development: alternative perspectives on aid and development* Norwegian University of Life Sciences, Ås].
- Stirling, P., Gallent, N., & Purves, A. (2023). The assetisation of housing: A macroeconomic resource. *European Urban and Regional Studies*, 30(1), 15-35.
- Sutherland, D., Anderson, J., Bailey, N., & Alon, I. (2020). Policy, institutional fragility, and Chinese outward foreign direct investment: An empirical examination of the Belt and Road Initiative. *Journal of International Business Policy*, 3, 249-272.
- Tang, Y., Chen, Y., Hua, Y., & Fu, Y. (2020). Impacts of risk allocation on conflict negotiation costs in construction projects: does managerial control matter? *International journal of project management*, 38(3), 188-199.
- Thang, D. N. Cultural proximity and cross-border banking flows. *International Journal of Finance & Economics*.
- Unterkalmsteiner, M., Gorschek, T., Islam, A. M., Cheng, C. K., Permadi, R. B., & Feldt, R. Evaluation and Measurement of Software Process Improvement-A Systematic Literature.
- Vagliasindi, M., & Gorgulu, N. (2021). What have we learned about the effectiveness of infrastructure investment as a fiscal stimulus? A literature review.
- Weber-Lewerenz, B. (2021). Corporate digital responsibility (CDR) in construction engineering—ethical guidelines for the application of digital transformation and artificial intelligence (AI) in user practice. *SN Applied Sciences*, 3, 1-25.
- Xue, X., Tan, X., Huang, Q., Zhu, H., & Chen, J. (2022). Exploring the Innovation Path of the Digital Construction Industry Using Mixed Methods. *Buildings*, 12(11), 1840.
- Yang, R., Wakefield, R., Lyu, S., Jayasuriya, S., Han, F., Yi, X., Yang, X., Amarasinghe, G., & Chen, S. (2020). Public and private blockchain in construction business process and information integration. *Automation in Construction*, 118, 103276.
- Yu, Y., Junjan, V., Yazan, D. M., & Iacob, M.-E. (2022). A systematic literature review on Circular Economy implementation in the construction industry: a policy-making perspective. *Resources, Conservation and Recycling*, 183, 106359.

APPENDIX

Table 2: Literature Review Matrix

<i>No</i>	<i>Paper Name</i>	<i>Citation</i>	<i>Journal Name</i>	<i>Database</i>	<i>Year</i>	<i>Methodology</i>	<i>Aim/ Purpose</i>
1	A New Perspective on the Relationship Between the Construction Industry Performance and The Economy Outcome-A Literature Review.	(Hatema et al., 2022)	"International Journal of Energy Sector Management	Research gate	2022	SLR	This paper seeks to investigate and reevaluate the link between construction industry performance and economic results, seeking as far as possible to fill in gaps of knowledge about this relationship
2	Time and cost overruns in the UAE construction industry: a critical analysis.	(Johnson & Babu, 2020)	International Journal of Construction Management,	Taylor and Francis online	2020	questionnaire and an interview	The objective of this research was to determine and examine the most important factors that lead to particularly poor time and costs performance on construction projects, with key contributing reasons being variations in design, unreasonable schedules actually are possible only if everyone knows exactly what building will be built; cost estimation errors.
3	Impact of macroeconomic factors on performance of construction industry in Tanzania.	(Makoye et al., 2023)	International Journal of Construction Management,	Taylor & Francis online	2023	questionnaires	This study investigated the impact of macroeconomic factors on performance of construction industry
4	Causal effects of macroeconomic predictors on real estate investment trust's (REIT's) performance in Nigeria.	(Olanrele et al., 2020)	Pacific Rim Property Research Journal,	Taylor & Francis online	2020	questionnaires	The paper explored the explanatory power of macroeconomic predictors on the dividend return performance of Nigerian Real Estate Investment Trusts (N-REIT). These indicators included interest rate (INTR), exchange rate (EXGR) , inflation rate INFR , market capitalization MKCP and all share index ASI
5	A Comparative Review of Macroeconomic and Performance of the Construction Sector in Nigeria	(Oladimeji, 2022)	Tropical Journal of the Built Environment (TJOBE)	Taylor & Francis online	2022	Comparative studies	The purpose of this article is to underline the immense benefits that construction brings into local economies within Asian countries like

	and Malaysia.						Malaysia, where investment in infrastructure and housing can open up new frontiers for further growth.
6	Empirical estimation of the impacts of inflation on the construction sector in Nigeria.	(Moyanga & Saka, 2023)	Journal of Research Construction Engineering, Management & Innovation	Research gate	2020	Empirical studies	This study investigates the effect of the inflation rate on the construction sector through the econometric methodology
7	The association of housing: A macroeconomic resource.	(Stirling et al., 2023)	European Urban and Regional Studies,	Saga journals	2023	Empirical studies	The goal of this paper is to understand the historical development of UK housing policy, its discursive rendering over time in England as a “housing consumer subject”, and how it fits within wider macroeconomic strategies.
8	A systematic literature review on Circular Economy implementation in the construction industry: a policy-making perspective	(Yu et al., 2022)	Resources, Conservation and Recycling	Elsevier	2022	SLR	This paper attempts to address the shortfalls in current circular economy (CE) policies for the construction industry with an integrated CE policy-making cycle that incorporates interdisciplinary research and Information & Communication Technologies so as to maximize their contribution on implementing a truly sustainable economic system.
9	Energy efficiency in residential and non-residential buildings: Short-term macroeconomic implications	(Slabe-Erker et al., 2022)	Building and environment,	Elsevier	2022	Empirical studies	This paper is written to explore the socio-macroeconomic effects of a variety of scenarios with regard to building stock investment in a small open economy, including energy efficiency measures and their impact on greenhouse gas emissions (GHGE), economic growth and income distribution.
10	The relevance of factors affecting real estate investment decisions for post pandemic time	(Ngoc, 2023)	International journal of business and globalization.	Research gate	2023	Mixed methodology	This paper is aimed to address all the macroeconomic factors that affect the construction industry post covid.