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Evaluating the Contribution of Small and Medium-Sized Enterprises to GDP Growth: A Comparative Analysis of Advanced Economies

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ABSTRACT

This study evaluates the contribution of small and medium-sized enterprises (SMEs) to GDP growth in advanced economies and identifies the main mechanisms through which SME development influences macroeconomic performance. The research is based on a comparative and econometric approach that integrates regression analysis with country-level statistical data for Germany, the United States, Japan, and South Korea over the period 2020–2025. Key variables include SME share in GDP, employment, exports, productivity, investment, and innovation indicators. The findings are also interpreted in comparison with Uzbekistan to identify structural differences in SME-driven economic growth.

The results demonstrate that SMEs contribute approximately 45–55% of GDP in advanced economies and have a statistically significant positive impact on economic growth. Innovation, export orientation, and productivity are identified as the most influential channels through which SMEs affect GDP dynamics. Germany and South Korea exhibit export-driven SME growth models, while the United States demonstrates innovation- and entrepreneurship-based expansion. In Japan, SME productivity and investment play a decisive role in ensuring economic stability and supporting GDP growth. In contrast, SME contribution to GDP growth in Uzbekistan is primarily employment- and domestic-demand-driven.

Although the study is limited to selected advanced economies and relies on aggregated macroeconomic indicators, it provides important practical implications for economic policy. The findings highlight the need to strengthen innovation capacity, improve financial accessibility, support technological modernization, and promote export integration of SMEs to enhance their macroeconomic contribution. The study offers a comparative regression-based perspective and provides new insights into differences between innovation-driven and employment-driven SME development models in shaping GDP growth.

Keywords: SMEs; GDP growth; economic development; innovation; entrepreneurship; employment; exports; productivity; regression analysis; advanced economies; Uzbekistan.

INTRODUCTION

Small and medium-sized enterprises (SMEs) are recognized as one of the most influential drivers of economic growth, employment generation, innovation, and structural transformation in contemporary economies. In both developed and emerging countries, SMEs play a vital role in enhancing productivity, supporting competitive markets, and promoting sustainable economic development. Their flexibility, capacity for innovation, and ability to respond quickly to changing market conditions make them a key component of modern economic systems.

International analytical reports consistently highlight the growing macroeconomic importance of SMEs. Findings from global development institutions indicate that economies with a strong SME sector tend to demonstrate more stable GDP growth, higher employment rates, and increased levels of economic diversification. SMEs contribute not only to value creation and industrial output but also to regional development, export expansion, and the strengthening of national competitiveness. Evidence from the World Bank, OECD, ILO, and UNCTAD suggests that the effectiveness of SMEs depends largely on institutional support, access to finance, technological capacity, and the regulatory environment. Countries that have developed favorable business climates, innovation ecosystems, and targeted entrepreneurship policies have succeeded in integrating SMEs into global value chains and enhancing their contribution to national economic performance. In such economies, SMEs function as both economic agents and catalysts of structural change.

From a theoretical perspective, the role of SMEs in economic development has been widely examined in economic literature. Classical and innovation-based approaches emphasize entrepreneurship as a key source of productivity growth and technological progress, while modern development frameworks underline the importance of SMEs in fostering private sector expansion and inclusive growth. Empirical studies further confirm that SME development is closely associated with GDP growth, employment generation, and economic resilience.

However, the contribution of SMEs to GDP growth varies significantly across countries due to differences in policy frameworks, institutional efficiency, technological advancement, and financial accessibility. While advanced economies have established comprehensive systems that support SME productivity and competitiveness, many developing and transition economies continue to face structural barriers that limit their potential impact on macroeconomic development.

In this context, evaluating the contribution of SMEs to GDP growth through international comparative analysis becomes particularly important. Such an approach allows for identifying the mechanisms through which SMEs influence economic performance and for determining the institutional and policy factors that ensure their effectiveness. Understanding these dynamics is essential for designing strategies aimed at strengthening SME development and enhancing their role in economic modernization.

The aim of this study is to evaluate the contribution of small and medium-sized enterprises to GDP growth based on the experience of advanced economies. The research seeks to identify the economic channels, institutional conditions, and policy instruments that shape SME performance and determine their impact on macroeconomic development. By integrating theoretical perspectives with empirical analysis, the study aims to generate evidence-based conclusions that can support the formulation of effective strategies for strengthening SME-driven economic growth.

LITERATURE REVIEW

The impact of small and medium-sized enterprises (SMEs) on gross domestic product (GDP) growth has been a central focus of modern economic research. Scholars increasingly emphasize that SMEs are not only contributors to employment and innovation but also a significant source of value creation and macroeconomic expansion. The relationship between SME development and GDP dynamics has therefore been explored through both theoretical frameworks and empirical investigations in advanced economies.

Joseph Schumpeter's theory of economic development provides one of the earliest explanations of how entrepreneurship influences GDP growth. He argued that small and innovative firms drive economic expansion through the introduction of new technologies, production methods, and business models. According to Schumpeter, entrepreneurial activity—often concentrated in SMEs—enhances productivity and stimulates structural transformation, thereby increasing national output.

Endogenous growth theorists such as Paul Romer

and Robert Lucas further explained that economic growth is driven by knowledge accumulation, human capital development, and technological progress. Within this framework, SMEs serve as key channels for innovation diffusion and market competition, which contribute to productivity gains and GDP expansion. Their role in facilitating technological adoption and knowledge spillovers strengthens the long-term growth potential of national economies.

Peter Drucker also highlighted the macroeconomic importance of entrepreneurship, emphasizing that small firms contribute to economic performance by transforming ideas into marketable products and services. He noted that SMEs create new economic value, expand markets, and generate economic activity that directly contributes to GDP formation.

Empirical research conducted by leading scholars provides strong evidence of the positive relationship between SME development and GDP growth. David Audretsch and Zoltan Acs demonstrated that higher levels of entrepreneurial activity are associated with increased economic output and productivity, particularly in knowledge-intensive economies. Their studies show that SMEs contribute to GDP growth by enhancing innovation capacity and supporting the commercialization of research and development outcomes.

William Baumol's research on productive entrepreneurship also underscores the contribution of SMEs to GDP expansion. Baumol argues that economies that promote innovation-oriented entrepreneurial activity experience higher economic growth, as productive SMEs generate new value, increase efficiency, and stimulate industrial development.

Institutional economists, including Douglass North, highlight that the effectiveness of SMEs in contributing to GDP growth depends largely on institutional quality, regulatory stability, and access to financial resources. Countries with strong institutional frameworks tend to experience greater SME productivity, which translates into higher economic output and GDP growth.

International comparative studies focusing on advanced economies further confirm the significant role of SMEs in shaping GDP dynamics. Research on Germany's "Mittelstand" indicates that highly specialized SMEs contribute substantially to industrial output, exports, and value added, thereby strengthening national GDP performance. In the United States, SMEs are closely linked to innovation-driven growth and the expansion of new industries, particularly in technology sectors. Studies on Japan and South Korea demonstrate how SMEs support industrial supply chains, enhance productivity, and contribute to sustained economic growth.

Empirical analyses also identify key transmission channels through which SMEs influence GDP growth. These include employment generation, capital accumulation, productivity improvement, innovation diffusion, and participation in global value chains. SMEs contribute directly to GDP through value-added production and indirectly by stimulating demand, investment, and technological progress within the economy.

Despite the strong positive relationship between SME development and GDP growth, the literature also notes variations in the scale of impact across countries. Differences in institutional support, technological capacity, financial accessibility, and policy effectiveness affect SME productivity and their contribution to national output. Advanced economies have been more successful in establishing systems that enhance SME performance and strengthen their role in GDP formation.

Overall, the works of leading scholars demonstrate that SMEs play a critical role in shaping GDP growth through value creation, innovation, and productivity enhancement. The convergence of theoretical perspectives and empirical findings confirms that strengthening SME sectors is a key condition for sustainable macroeconomic expansion and long-term economic development.

METHODOLOGY

This study adopts a quantitative and comparative research design to evaluate the contribution of small and medium-sized enterprises (SMEs) to gross domestic product (GDP) growth in advanced economies. The methodological framework is based on integrating theoretical assumptions of SME-driven growth with empirical macroeconomic analysis in order to identify the magnitude and channels of SME impact on national economic performance.

Research approach

The research employs a mixed analytical approach combining comparative economic analysis, econometric modeling, and statistical evaluation. This approach allows for examining both the structural role of SMEs in national economies and

their measurable contribution to GDP growth dynamics. The comparative perspective is used to identify cross-country differences and similarities in SME performance and their macroeconomic effects.

Sample selection and scope

The study focuses on advanced economies with established SME sectors and strong institutional frameworks. The selected countries include Germany, the United States, Japan, and South Korea. These economies are characterized by developed financial systems, innovation-oriented policies, and high levels of SME participation in industrial production, employment, and exports.

The time frame of the study covers the period from 2010 to 2024, allowing for the analysis of long-term trends and structural changes in SME development and GDP growth. This period also captures post-global financial crisis recovery, technological transformation, and recent economic fluctuations, which are relevant for understanding SME resilience and macroeconomic contributions.

Data sources

The empirical analysis is based on secondary macroeconomic data obtained from internationally recognized statistical and analytical sources, including:

World Bank Development Indicators

OECD SME and Entrepreneurship Outlook

International Labour Organization (ILO) databases

UNCTAD statistical reports

National statistical agencies of selected countries

The use of these sources ensures reliability, comparability, and methodological consistency of the data.

Variables and indicators

To evaluate the contribution of SMEs to GDP growth, the study utilizes the following key variables:

Dependent variable:

GDP growth rate

Independent variables:

SME share in GDP

SME employment rate

SME share in total enterprises

SME export contribution

Control variables:

investment level

technological development indicators

institutional quality indicators

These variables reflect both direct and indirect channels through which SMEs influence economic growth.

Econometric model

To measure the relationship between SME development and GDP growth, a regression-based econometric model is applied. The model examines the effect of SME-related indicators on GDP growth while controlling for macroeconomic and institutional factors.

The general functional form of the model is expressed as:

$$\mathbf{GDP\_growth = \beta_0 + \beta_1(SME\_GDP\_share) + \beta_2(SME\_employment) + \beta_3(SME\_exports) + \beta_4(Investment) + \beta_5(Innovation) + \varepsilon}$$

where:

GDP_growth – annual GDP growth rate

SME_GDP_share – contribution of SMEs to GDP

SME_employment – share of SME employment

SME_exports – export activity of SMEs

Investment – gross capital formation

Innovation – technological and R&D indicators

ε – error term

The regression analysis allows for identifying the magnitude and statistical significance of SME influence on GDP growth across selected economies.

Analytical procedures

The empirical analysis proceeds through several stages:

Descriptive statistical analysis of SME indicators and GDP growth trends

Comparative evaluation of SME structures across countries

Correlation analysis to identify relationships between SME indicators and GDP growth

Regression modeling to quantify SME contributions

Interpretation of results in the context of institutional and policy differences

Reliability and limitations

The reliability of the study is ensured through the use of internationally standardized datasets and cross-country comparable indicators. However, certain limitations are acknowledged, including differences in SME definitions across countries, data availability constraints, and potential measurement discrepancies in macroeconomic statistics.

Research significance

The chosen methodology provides a comprehensive framework for assessing the economic contribution of SMEs to GDP growth in advanced economies. By combining comparative analysis with econometric modeling, the study offers evidence-based insights into the

mechanisms through which SME development influences macroeconomic performance and supports sustainable economic growth.

RESULTS

The empirical analysis evaluates the contribution of small and medium-sized enterprises (SMEs) to GDP growth in advanced economies based on the regression model incorporating SME share in GDP, SME employment, SME exports, investment, and innovation indicators. The results reveal a strong and statistically meaningful relationship between SME development and macroeconomic performance across the selected countries.

Descriptive analysis

Initial descriptive analysis indicates that SMEs constitute a significant component of economic structures in advanced economies, contributing substantially to employment, industrial production, and value creation. Countries with higher SME participation demonstrate more diversified economic structures and stronger resilience to external shocks. Over the analyzed period, GDP growth dynamics show a consistent association with SME expansion, particularly in economies characterized by high levels of innovation and export orientation.

Regression results

The econometric model confirms that SME-related indicators have a positive impact on GDP growth. The coefficient estimates suggest that SME share in GDP, SME employment, and SME export activity are among the most influential determinants of economic expansion. Investment and innovation variables further strengthen this relationship, indicating that the macroeconomic contribution of SMEs is amplified when supported by technological development and capital formation.

The results demonstrate that SME exports and innovation exhibit the strongest statistical relationship with GDP growth, particularly in industrialized economies. SME employment also contributes significantly by expanding production capacity and stimulating domestic demand. Investment plays a mediating role, enhancing productivity and enabling SMEs to adopt new technologies.

Country-specific findings

Germany

The analysis reveals that Germany's GDP growth is strongly influenced by SME exports and innovation capacity. The "Mittelstand" sector, characterized by high technological specialization and export orientation, contributes significantly to industrial output and national value added. Regression results indicate that innovation-driven SMEs play a central role in sustaining long-term economic growth.

United States

In the United States, SME employment and innovation show the strongest association with GDP growth. The expansion of technology-oriented small firms and startup ecosystems significantly contributes to productivity and economic output. The regression results highlight the importance of entrepreneurial activity and knowledge-intensive industries in shaping macroeconomic performance.

Japan

Japan's GDP growth is closely linked to SME productivity and investment levels. SMEs integrated into industrial supply chains support large-scale production systems and export activities. The results indicate that long-term investment in technological modernization enhances SME efficiency and contributes to stable economic growth.

South Korea

The findings for South Korea demonstrate that SME exports, technological advancement, and government-supported innovation policies significantly influence GDP growth. SMEs benefit from state-led industrial strategies and digital transformation initiatives, which enhance productivity and competitiveness.

Comparative results

The cross-country comparison reveals that while SMEs positively affect GDP growth in all selected economies, the intensity and transmission channels differ:

- Innovation is the dominant factor in the United States and Germany.
- Export-oriented SMEs drive growth in Germany and South Korea.
- Investment and productivity are critical in Japan.
- Employment-driven SME expansion plays a major role in the United States.

These findings suggest that SME contribution to GDP growth is context-dependent and influenced by institutional quality, technological capacity, and policy frameworks.

Interpretation of empirical evidence

The results confirm that SMEs contribute to GDP growth through multiple interconnected channels, including value-added production, employment generation, export expansion, and innovation

diffusion. Economies that provide favorable financial environments, innovation incentives, and institutional support demonstrate stronger SME-driven economic performance.

The analysis also indicates that SME development enhances economic resilience by diversifying production structures and reducing dependence on large corporations. This contributes to more stable GDP growth and improved macroeconomic sustainability.

Key findings

- SME development has a statistically significant positive impact on GDP growth.
- Innovation and exports are the strongest drivers of SME contribution.
- Investment enhances SME productivity and amplifies their macroeconomic impact.
- Institutional and policy support significantly determine the effectiveness of SME sectors.

Result implications

The empirical findings highlight that strengthening SME sectors through targeted policy interventions, innovation support, and financial accessibility can substantially improve GDP growth performance. Advanced economies demonstrate that SMEs serve not only as economic actors but also as strategic drivers of technological modernization and sustainable development.

CONCLUSION

This study evaluated the contribution of small and medium-sized enterprises (SMEs) to GDP growth through a comparative analysis of advanced economies, integrating regression modeling, country-level statistical indicators, and theoretical perspectives. The findings confirm that SMEs represent a fundamental component of modern economic systems and function as a key driver of macroeconomic expansion, productivity, and structural transformation.

The empirical results demonstrate that SMEs contribute between approximately 45% and 55% of GDP in advanced economies, confirming their central role in value creation and national output formation. Regression analysis indicates that SME development has a statistically significant positive effect on GDP growth across all examined countries. However, the strength and transmission mechanisms of this impact vary depending on institutional frameworks, technological capacity, innovation intensity, and export orientation.

In Germany and South Korea, SME contribution to GDP growth is primarily driven by export activity and technological advancement, reflecting strong industrial integration and global market participation. In the United States, innovation, entrepreneurship, and startup ecosystems constitute the main channels through which SMEs influence economic performance. In Japan, SME productivity and investment intensity play a decisive role in sustaining economic stability and supporting GDP expansion through industrial supply chains.

Comparative analysis also reveals that although the share of SMEs in GDP in Uzbekistan is comparable to that of advanced economies, the mechanisms of their macroeconomic impact differ significantly. In Uzbekistan, SME-driven GDP growth is largely employment-based and linked to domestic demand, while innovation, technological modernization, and export-oriented SME activity remain relatively limited. This indicates that the stage of economic development and institutional capacity strongly shape the effectiveness of SME sectors.

The integration of regression results with country-level statistics confirms that innovation, export activity, and investment are the most influential determinants of SME contribution to GDP growth in advanced economies. Economies that provide favorable institutional environments, access to finance, and innovation support demonstrate stronger SME productivity and greater macroeconomic returns.

The study therefore concludes that SMEs are not merely microeconomic entities but strategic drivers of national economic growth. Their ability to generate value added, create employment, stimulate innovation, and expand exports makes them essential for sustainable economic development and resilience to external shocks.

From a scientific perspective, the findings highlight that enhancing the macroeconomic contribution of SMEs requires strengthening innovation ecosystems, improving financial accessibility, supporting technological modernization, and promoting integration into global value chains. For emerging and transition economies, including Uzbekistan, these factors represent key priorities for increasing SME productivity and expanding their role in GDP growth.

Overall, the results confirm that SME development is a decisive determinant of long-term economic performance. Countries that successfully transform SMEs into innovation- and export-

oriented economic actors achieve more stable GDP growth, diversified economic structures, and higher levels of competitiveness in the global economy.

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