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Beyond tourism: exploring export sector contributions to Bali's regional economy

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ABSTRACT

Bali's economy has long been synonymous with tourism, yet recent global disruptions have exposed the region's vulnerability to external shocks. This study investigates the contribution of the export sector to Bali's regional economic performance, positioning it as a potential driver of growth beyond tourism. Drawing on the theoretical framework of Export-Led Growth (ELG), the research aims to assess whether export expansion significantly influences the island's Gross Regional Domestic Product (GRDP). Using a mixed-method approach, the study employs secondary time-series data from the Bali Provincial Statistics Agency (BPS) covering the period 2015–2024. A simple linear regression analysis was conducted using SPSS 26, with GRDP as the dependent variable and export value as the independent variable. The model produced a strong correlation ($R = 0.759$) and a coefficient of determination ($R^2 = 0.577$), indicating that exports explain approximately 57.7% of the variation in GRDP, with the regression coefficient being statistically significant ($p = 0.011$). The findings confirm that exports have a positive and significant effect on Bali's economic growth, providing empirical support for the ELG hypothesis at the regional level. The results underscore that export diversification particularly in high-value sectors such as fisheries, textiles, and agricultural products can serve as a stabilizing mechanism amid the volatility of global tourism. The study further highlights that policy interventions focusing on digitalization, logistics infrastructure, and SME capacity building are critical to sustaining export-led regional development.

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ABSTRAK

Perekonomian Bali selama ini identik dengan sektor pariwisata, namun berbagai gangguan global dalam beberapa tahun terakhir telah menunjukkan tingginya kerentanan daerah ini terhadap guncangan eksternal. Penelitian ini bertujuan mengkaji kontribusi sektor ekspor terhadap kinerja ekonomi regional Bali dengan menempatkannya sebagai salah satu penggerak pertumbuhan di luar pariwisata. Berlandaskan kerangka teoretis Export-Led Growth (ELG), *studi ini menganalisis sejauh mana ekspansi ekspor berpengaruh signifikan terhadap Produk Domestik Regional Bruto (PDRB) Bali. Penelitian menggunakan pendekatan metode campuran dengan memanfaatkan data sekunder deret waktu yang bersumber dari Badan Pusat Statistik (BPS) Provinsi Bali selama periode 2015–2024. Analisis regresi linear sederhana dilakukan menggunakan SPSS 26, dengan PDRB sebagai variabel dependen dan nilai ekspor sebagai variabel independen. Hasil analisis menunjukkan adanya hubungan yang kuat antara ekspor dan PDRB ($R = 0{,}759$) dengan koefisien determinasi (R^2) sebesar 0,577, yang mengindikasikan bahwa ekspor mampu menjelaskan sekitar 57,7% variasi PDRB Bali. Koefisien regresi juga terbukti signifikan secara statistik ($p = 0{,}011$). Temuan ini* *mengonfirmasi bahwa ekspor berpengaruh positif dan signifikan terhadap pertumbuhan ekonomi Bali, sekaligus memberikan dukungan empiris terhadap hipotesis ELG pada tingkat regional. Hasil penelitian menegaskan bahwa diversifikasi ekspor, khususnya pada sektor bernilai tambah tinggi seperti perikanan, tekstil, dan produk pertanian, dapat berperan sebagai mekanisme stabilisasi di tengah volatilitas sektor pariwisata global. Selain itu, studi ini menyoroti pentingnya intervensi kebijakan yang berfokus pada digitalisasi, penguatan infrastruktur logistik, serta peningkatan kapasitas usaha mikro, kecil, dan menengah (UMKM) guna menopang pembangunan ekonomi regional berbasis ekspor yang berkelanjutan.*

INTRODUCTION

Bali, often revered as a tropical paradise, has long depended on tourism as a critical pillar of its economy. Over the decades, the island's economic landscape has dramatically shifted, solidifying tourism as the primary driver of growth and development. However, this reliance raises concerns about sustainability, reflecting both social and environmental challenges that have emerged due to the influx of tourists (Krisnadi & Maharani, 2021). The interplay between tourism and local economies encapsulates a complex relationship marked by resilience and vulnerability. Critical perspectives challenge the prevailing narratives around economic growth, urging a reexamination of Bali's economic strategy in light of the pressures of global tourism (Amrullah et al., 2022). Focus on tourism has spurred an economic boom in Bali, attracting millions of visitors annually. This influx generates substantial revenue and employment opportunities (Husein & Aisyah, 2023). Yet, it simultaneously breeds dependency on a single sector, leaving the local economy vulnerable to fluctuations in tourist numbers, as poignantly highlighted during the COVID-19 pandemic. The pandemic exposed the fragile foundations of this economy, with the once-booming tourist sector seeing unprecedented drops in visitors, leading to widespread economic distress. Hence, it becomes vital to explore alternative models of economic resilience that diversify income sources and mitigate the existential risks posed by overreliance on tourism.

A crucial aspect of Bali's tourism-driven economy is its integration into global value chains (GVCs). The significance of exporting local products and services to a global market has been emphasized by scholars highlighting the untapped potential of Balinese agriculture and craftsmanship in bolstering economic resilience (Husein & Aisyah, 2023). By connecting local producers to global markets, Bali can create opportunities for economic diversification, allowing communities to thrive independent of tourism cycles. This also necessitates a comprehensive understanding of how these GVC connections can foster sustainable practices that benefit both the economy and the environment (Cole & Browne, 2015). The export-led growth (ELG) theory provides a valuable framework for understanding and capitalizing on export potential while reducing dependence on tourism. According to the ELG hypothesis, growth can be driven by increasing exports, which stimulate economic performance by enhancing productivity and investment across various sectors (Aurangzeb, 2006). This paradigm is particularly relevant for Bali, where diversifying the export base could mitigate economic risks stemming from downturns in the tourism industry. Research suggests that diversifying exports can enhance economic resilience by connecting local producers with global markets. By leveraging its unique resources such as agricultural products, handicrafts, and eco-tourism offerings, Bali can develop a more robust export framework. Notably, studies have demonstrated that countries with a diversified export portfolio, such as Ghana and Nigeria, have experienced higher economic growth levels compared to those with concentrated exports (Sarin et al., 2020; Nwosa et al., 2019). Thus, expanding beyond traditional tourism-focused exports could be a strategic move for Bali’s economic policymakers.

In particular, agricultural exports hold promise for contributing significantly to Bali's economic growth trajectory. The agricultural sector has the potential to create jobs, boost local incomes, and strengthen food security while also opening avenues for international trade. Empirical evidence supports that agricultural exports can play a crucial role in economic growth through increased employment opportunities and improved income levels for rural communities (Dawson, 2005). Therefore, enhancing agricultural productivity and supporting farmers in accessing international markets can serve as pivotal steps in diversifying Bali's economy. ELG framework suggests that enhancing exports can stimulate investment in domestic industries, leading to a self-reinforcing cycle of growth. For Bali, investing in production technologies and marketing strategies could facilitate entry into international markets, making local products more competitive (Alimi, 2013). Efforts toward improving the quality of exported goods, coupled with supportive government policies, can enhance the growth of sub-sectors related to agriculture and crafts. Investment in education and workforce development is also critical in fostering a skilled labor force capable of meeting the demands of diverse industries. Furthermore, the interplay between export expansion and domestic demand requires careful consideration in policy formulation. Studies indicate that while growing exports can contribute to increased economic growth, the relationship is not unidirectional.

Economic growth can also catalyze increased exports (Tsen, 2010; Suleiman, 2018). Consequently, fostering a balanced approach that nurtures both export and domestic markets will be essential for sustainable development. A policy framework that acknowledges this duality may significantly enhance the economy's overall resilience and capacity for continued growth.

Furthermore, recent research has underscored the importance of revitalizing local economies by integrating sustainable tourism initiatives that enhance both export capacities and contributions to GRDP (Sanjaya, 2023). The G20 Summit held in Bali emphasized these dynamics, particularly the focus on boosting Bali's creative economy through tourism and export linkages. The summit signified a commitment to positioning Bali as a key player in the global tourism industry while incorporating sustainable practices to ensure that economic growth does not compromise cultural and environmental integrity (Nisa, 2023). Local initiatives aimed at enhancing the perception and marketability of Balinese products internationally have gained momentum, reflecting a concerted effort to balance tourism expansion with sustainability goals. This includes promoting local artisanship, essential for generating export income while preserving traditional Balinese. The challenge remains for stakeholders to navigate the interconnected markets of tourism and exports, ensuring that local communities benefit economically while maintaining their unique cultural heritage (Larasdiputra et al., 2022).

This research aims to explore the contribution of export commodities to the Gross Regional Domestic Product (GRDP) of Bali. Given Bali's heavy reliance on tourism, understanding how various export commodities can support the region's economic growth is crucial for developing a more resilient economic structure. The export-led growth (ELG) theory provides a useful framework for this investigation, suggesting that increasing export activities can catalyze economic growth by enhancing productivity, investment, and job creation across different sectors. With the global market evolving, it becomes imperative to identify potential areas in Bali's export landscape that can significantly influence GRDP

METHOD

The unit of analysis for this study focuses on the Bali Province. Specifically, examine the relationship between export and Gross Regional Domestic Product within this province. This study employs a mixed-methods approach combining simple linear regression and qualitative document analysis. The quantitative analysis examines the effect of Export Value on Bali's GRDP using annual data from 2015–2024, while the qualitative analysis draws on government reports, trade statistics, and relevant literature to explain the economic mechanisms linking export performance to regional economic growth. The simple linear regression model is expressed as $y = c+bx$, where Y represents the GRDP, X represents the number of export value, c is the constant, b is the regression coefficient. This methodological approach allows for the systematic examination of the strength and direction of the relationship between export product diversification and economic growth. Data collection is conducted through the official statistical repository of the Bali Statistics Office (BPS Provinsi Bali) with boundary from 2015 to 2024. These official documents provide standardized, reliable data that has undergone rigorous validation processes by BPS statisticians, ensuring high data quality and consistency in measurement methodologies across the observation period. The data obtained are shown in table 1:

Table 1. Dataset Export & GRDP

Year	Export (US$)	GRDP (Billion Rp)
2015	498681699	176412,67
2016	505065852	194089,58
2017	536547921	213035,86
2018	595843296	233636,77
2019	591676973	251934,10
2020	456379063	224225,72
2021	508167138	220466,43
2022	616975629	245367,89
2023	581022971	274358,18
2024	634496916	298441,51

Source: Bali's Statistics Office, 2025

The analytical process begins with data cleaning and normality testing to ensure the assumptions of linear regression are met. This paper employs the Kolmogorov-Smirnov test for normality assessment. The regression analysis is conducted using SPSS software, generating key statistical measures. The significance level is set at 5% ($\alpha = 0.05$) for all statistical tests.

RESULT AND DISCUSSION

Empirical Findings

This paper use one independent variable, so it is called simple linear regression. Simple linear regression approaches can be used to test the level of influence between independent variables on the dependent variable. The hypotheses proposed in this paper are:

$H0$: There is no effect of the export value with the increase of GRDP in Bali
$H1$: There is an effect of the export value with the increase of GRDP in Bali

The basis for decision making in regression analysis by looking at the significance value (Sig.) of the SPSS output results is:

- Significance value (Sig.) / ***p-value*** is **smaller** than α of 0.05, it means that **there is an effect** of export (X) on the GRDP (Y).
- Significance value (Sig.) / ***p-value*** is **greater** than α of 0.05, it means that **there is no effect** of export (X) on the GRDP (Y).

The result as follow:

Table 2. Result Linear Regression from SPSS

Variabel	B (Unstandardized Coefficient)	Std. Error	Beta (Standardized Coefficient)	t	Sig.
Konstanta	-23.264,790	78.117,140	-	-0,298	0,773
Ekspor	0,000464	0,000	0,759	3,300	0,011

This statistical approach aims to analyze the relationship between export value as an independent variable with the increase of GRDP as the dependent variable. Linear regression analysis was conducted to model the relationship and interpret the contribution of the independent variable to the dependent variable. The results of the Coefficients based on table 2 provide information about the constants and coefficients of the independent variables. Based on the output provided, the linear regression equation can be written as follows:

$$y = -23264.79+0.000464(x)$$

Description:

- y: GRDP
- x: Export Value
- -23264.79 : Constant value, which is the value of the GRDP if there are no export activites.
- 0.000464: Regression coefficient, which indicates that every one unit increase will contribute to GRDP by 0.000464 units.

The components in this equation have the following meanings:

1. Constant (-23264.79): This value indicates that when there are no export activities (X = 0), the GRDP is estimated at -23264 billion rupiah.
2. Regression Coefficient (0.000464): The coefficient indicates that every one unit increase in the number value export (1 USD) will increase the GRDP by 0.000464 billion rupiah.

Statistical results in the Coefficients table show the Sig value. (***p-value***) = 0.011 for the variable number of exports. This value is lower than α = 0.05, which means that the relationship between **the two variables is statistically significant** at the 95% confidence level. Thus, $H1$ **(**There is an effect of the export value with the increase of GRDP in Bali) **is accepted**.

The regression analysis demonstrates that Bali's export sector exerts a statistically significant and positive effect on regional economic performance. The positive coefficient implies that increases in export value directly enhance GRDP, supporting the export-led growth (ELG) hypothesis. Although tourism has long been the dominant pillar of Bali's economy, these findings provide empirical evidence that the export sector contributes meaningfully to the island's overall economic performance. Beyond its statistical significance, this result carries profound structural and policy implications. The findings suggest that Bali's economy is not solely dependent on tourism-driven consumption but increasingly shaped by external trade linkages. In this sense, exports function as an alternative engine of growth capable of stabilizing regional income and employment, particularly during global tourism downturns such as the COVID-19 pandemic.

Exports as a Driver of Economic Diversification in Bali

The empirical findings of this study provide strong support for the Export-Led Growth (ELG) hypothesis, which posits that export expansion serves as a key driver of economic development through increased productivity, investment, and integration into international markets. The regression analysis demonstrates a positive and statistically significant relationship between export value and Bali's Gross Regional Domestic Product (GRDP), with a significance level of 0.011. Furthermore, the estimated regression coefficient indicates that every additional US$1 in export value contributes approximately IDR 0.000464 billion to regional output. These findings suggest that exports are not merely complementary economic activities but constitute an important source of regional growth capable of enhancing Bali's overall economic performance. The results also indicate that approximately 57.7% of the variation in GRDP can be explained by export performance, highlighting the strategic role of international trade in shaping regional economic outcomes. From a theoretical perspective, the findings validate the core proposition of the ELG framework that sustained export expansion stimulates economic growth through multiple transmission mechanisms. Participation in international markets encourages firms to improve efficiency, product quality, and technological capability in order to meet global standards. This process, often described as learning by exporting, promotes productivity gains and technological diffusion across domestic industries. Export growth also attracts investment into productive sectors by creating larger market opportunities, encouraging firms to expand production capacity and adopt more advanced technologies. Consequently, export-oriented development generates a self-reinforcing cycle in which higher productivity, greater competitiveness, and increased investment collectively contribute to regional economic growth (Heriqbaldi et al., 2023; Heriqbaldi et al., 2025).

The results are consistent with previous empirical studies conducted in developing economies. Dawson (2005) found that export-oriented agricultural sectors contribute significantly to economic growth through employment generation and income expansion. Similarly, Nwosa et al. (2019) demonstrated that export diversification positively affects economic growth in Nigeria by reducing dependence on a narrow range of commodities and increasing economic resilience. Sarin et al. (2020) further argued that economies with diversified export structures tend to experience more stable and sustainable growth than those relying heavily on a single sector. The evidence from Bali reflects a similar pattern. While tourism remains the dominant contributor to regional income, the export sector increasingly functions as an alternative engine of growth capable of reducing vulnerability to fluctuations in international tourist arrivals and other external shocks. This finding is particularly relevant in light of the COVID-19 pandemic, which exposed the structural risks associated with excessive dependence on tourism and highlighted the importance of economic diversification (Yuwono et al., 2024).

The positive relationship between exports and GRDP can also be explained by the performance of several export-oriented sectors that have maintained Bali's competitiveness in international markets. These sectors provide alternative sources of income and employment while strengthening Bali's integration into global value chains. In addition to their direct contribution to export revenues, these industries generate multiplier effects by stimulating demand for supporting activities such as transportation, logistics, warehousing, packaging, financial services, and trade facilitation. As a result, the economic benefits of export expansion extend beyond exporting firms and create broader value-added effects throughout the regional economy (Fadli & Mahyuni, 2025; Haryadi et al., 2021).

Nevertheless, the findings also suggest that Bali has not yet fully realized the potential benefits of export-led growth. Several structural constraints continue to limit the contribution of exports to regional development. These include relatively low technological adoption in agricultural production, limited export certification capacity, logistical inefficiencies, and the continued dependence of some industries on imported inputs. Previous studies have also identified the existence of policy mismatches between government export-support programs and the operational needs of small and medium enterprises (SMEs), resulting in the underutilization of export facilitation schemes and fiscal incentives (Revindo et al., 2019). Moreover, strengthening innovation capabilities remains essential for improving export performance and maintaining competitiveness in increasingly dynamic international markets (Mitariani et al., 2023). Addressing these structural challenges is therefore critical if Bali seeks to maximize the developmental impact of exports and accelerate its transition toward a more diversified and resilient economic structure.

Sectoral Drivers and Structural Constraints

The positive and statistically significant relationship between export value and Bali's GRDP indicates that export activities have increasingly played an important role in supporting regional economic growth beyond the tourism sector. This finding suggests that Bali's economic resilience is not solely shaped by tourism consumption but also by the performance of several export-oriented commodities that contribute directly to regional income generation and economic diversification. In this research, understanding the dynamics of Bali's leading export commodities becomes essential to explain how export growth contributes to the broader process of regional economic transformation.

Among the major sectors driving Bali's export performance, fisheries and agriculture remain highly strategic due to their strong resource base and growing international demand. The fisheries sector, in particular, has consistently been one of Bali's leading export contributors, dominated by fish, crustacean, and mollusk products (HS 03).

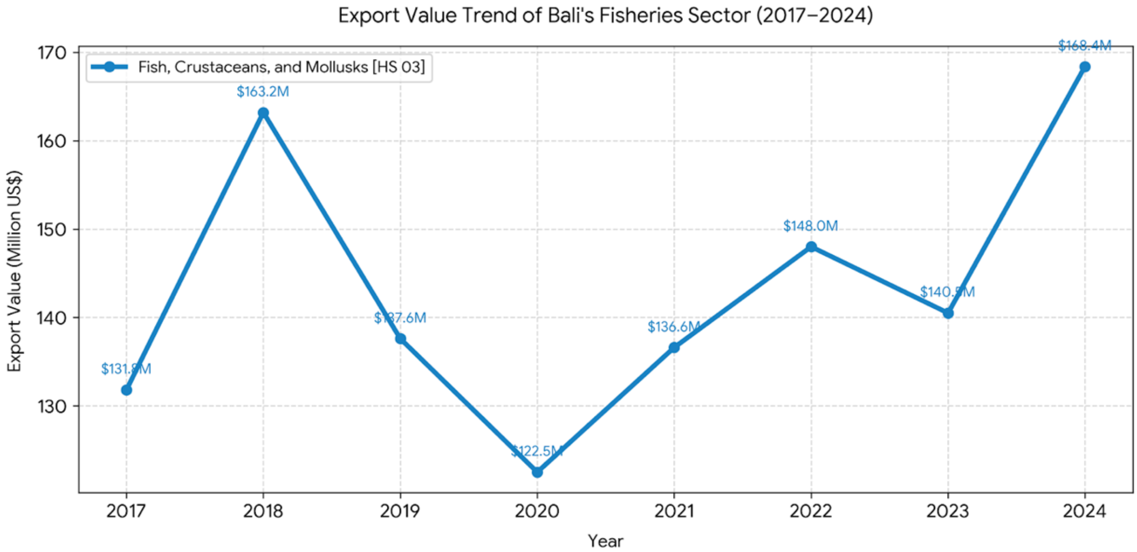

Figure 1. Export Value Trend of Bali's Fisheries Sector (2017-2024)
Source: BPS Provinsi Bali (2025a)

As shown figure 1, these commodities recorded an export value of US$12.44 million and accounted for 27.35% of Bali's total exports, highlighting the sector's significant role in generating export earnings and supporting regional economic growth (BPS Provinsi Bali, 2025a). Moreover, according to Anwar and Safitri (2025), Bali possesses substantial potential in the tuna, skipjack, and mackerel industry, which represents one of Indonesia's most important fishery export commodities. Their study found that these products were exported to 46 destination countries during 2019–2023, with Japan, the United States, and Australia emerging as the principal export markets, underscoring Bali's growing integration into global fisheries value chains. More importantly, the fisheries sector also generates substantial spillover effects across the regional economy. A study on Bali's fisheries sector found that every additional IDR 1 million of fisheries GRDP could stimulate approximately IDR 2.29 million of GRDP in other economic sectors, indicating strong intersectoral linkages and multiplier effects (Firdaus et al., 2022).

Beyond fisheries, Bali's export dynamics are also increasingly supported by the creative-based sectors, particularly handicrafts and textile industries. This is in line with the findings of Sanjaya et al. (2020), who found that the export volume of handicraft commodities has a significant positive effect on Bali Province's foreign exchange earnings, highlighting the sector's contribution to regional economic development. Moreover, Yasa (2020) argues that the strong performance of Bali's handicraft industry is closely linked to innovation capabilities among SMEs that have been shown to positively and significantly enhance business performance. This suggests that innovation serves as an important driver of the sector's competitiveness and export growth, thereby strengthening its contribution to Bali's regional economy.

This finding is further explained by Mitarani et al. (2023), who demonstrate that innovation capability positively contributes to higher export performance among Bali's woodcraft SMEs through the creation of greater product value and stronger competitive advantages, reinforcing the role of innovation as a key determinant of export-led growth (ELG) in the creative sector. Furthermore, recent evidence suggests that Bali's creative exports are increasingly diversified through value-added products such as marine wood waste crafts, which have gained strong demand in international markets and emerged as promising export commodities for strengthening the province's creative economy (Triyuni et al., 2024). Similarly, Setyowati (2022) highlights those creative industries based on recycled materials, including innovative accessories made from beverage can waste, possess significant potential to generate value-added exports and emerge as new drivers of Bali's economic growth. These findings underscore the strategic role of a circular economy-based approach in diversifying Bali's export portfolio through the creation of value-added products, which will potentially be contributing to long-term regional economic growth while simultaneously promoting environmental sustainability and strengthening the creative economy.

To sustain this momentum, Telagawathi et al. (2022) emphasize that sustaining the competitiveness of Bali's handicraft exports requires stronger collaboration among academia, industry, and government. Such collaboration is essential to address persistent challenges related to capital access, marketing capacity, human resources, and product innovation while fostering a more knowledge-based and integrated regional economy.

Parallel to the handicraft sector, the textile and garment industry stands as a major pillar of Bali's export-led creative economy, surprisingly outperforming other high-value creative commodities such as precious metals and jewelry (HS 71).

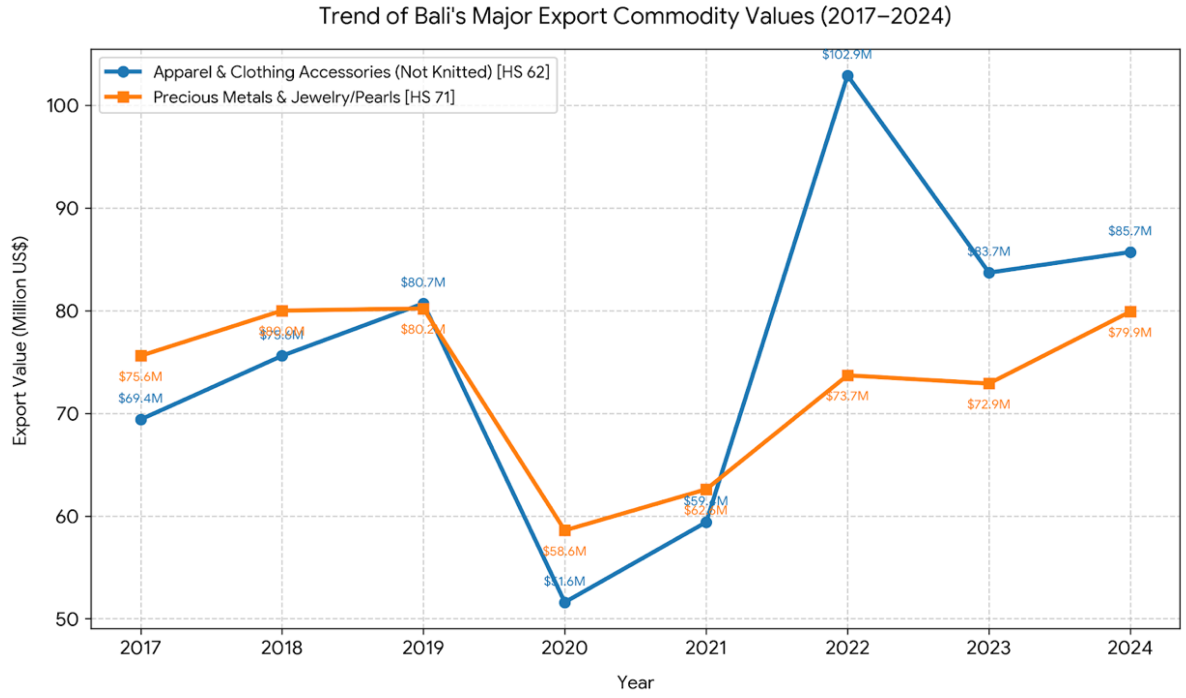

Figure 2. Export Value of Bali's Textile Compare to Precious Metals Sector 2017-2024
Source: BPS Provinsi Bali (2025a)

An empirical analysis of the trend from 2017 to 2024 as shown on figure 2 demonstrates that the textile and garment sector (HS 62) possesses a significantly higher export productivity and market velocity compared to the precious metals sector (HS 71). Although both sectors experienced a contraction in 2020 due to supply chain disruptions, the post-pandemic recovery highlighted a profound disparity in their structural growth. In 2022, textile exports experienced an explosive, high-yielding surge, peaking at an all-time high of $102.85 million, whereas the precious metals sector lagged behind at US$73.72 million. This clear data divergence proves that while precious metals represent high intrinsic material value, the textile sector acts as a more powerful engine for export volume expansion.

Beyond these macroeconomic aggregates, the foundational strength of this sector relies heavily on its socio-cultural roots. Balinese textiles, particularly traditional handwoven fabrics such as Gringsing and Songket, hold significant economic potential. These products possess strong appeal in international markets due to their historical authenticity, aesthetic value, spiritual significance, and social capital, which serve as important drivers of Bali's orange economy and the sustainability of its creative industries (Parameswara et al., 2022; Saskara et al., 2025). Through stronger collaboration among government agencies, producers, and other stakeholders, as well as the expansion of marketing strategies through digital platforms and participation in local and international exhibitions, this commodity can further enhance the global competitiveness of Bali's weaving industry while preserving its cultural heritage (Dewi & Suwendra, 2025).

Evidence from a weaving MSME case study in Buleleng further demonstrates that collaboration with local designers, the adoption of technology, and story-based marketing strategies successfully expand market reach and increase brand visibility in broader markets (Widiada, 2024). The persistent demand for traditional Balinese textiles underscores their importance as high-value creative commodities. Endek, Songket, and Gringsing fabrics continue to attract considerable market interest (Darmastuti & Diantari, 2024). From an Export-Led Growth (ELG) perspective, the strong international demand for Balinese textiles demonstrates how culturally embedded creative products can serve as a source of export earnings, stimulate production and employment, and contribute to broader regional economic growth.

Overall, the evidence suggests that exports serve as a key engine of Bali's economic transformation. Beyond their contribution to regional output, export expansion has also been associated with lower unemployment rates, indicating that export-led growth generates wider socioeconomic benefits through employment creation, income generation, and stronger household economic resilience (Pramesti, 2026).

Despite the presence of several key export-driving sectors as discussed previously, Bali's export potential and operational performance remain far from fully optimized.

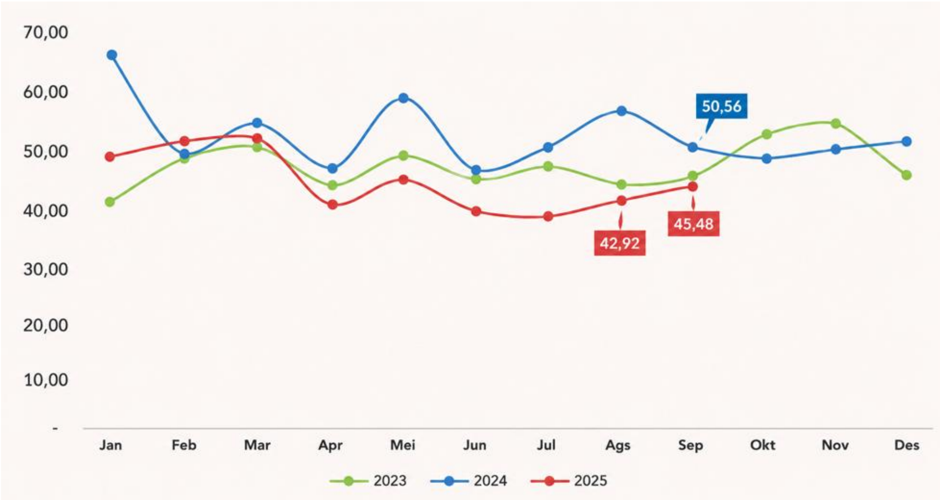

Figure 3. Trends in Bali's Merchandise Export Value, 2023–2025 (Million US$)
Source: BPS Provinsi Bali (2025b)

The empirical data clearly illustrates a noticeable weakening in Bali's sector-driven export performance (figure 3). The fisheries sector, for instance, remains a top regional export priority, with the fish, crustaceans, and mollusks commodity group. Nevertheless, these fishery products have conversely experienced a declining trend, 26.82% specifically to Japan. This decline has been further exacerbated by the high proportion of tuna catches that have not yet reached maturity, limiting both export quality and marketable supply. In international export markets, particularly within Japan and the European Union, fish size serves as a critical indicator of quality; large, mature fish command premium prices, whereas smaller fish are generally valued much lower. Consequently, although the total volume of catch remains relatively high, the dominance of undersized fish has driven down the average selling price, thereby dragging down Bali's overall fisheries export earnings (Putra et al., 2025). This finding is further supported by Najib et al. (2022), who documented declining productivity, decreasing fish sizes, and the expansion of fishing activities into more distant offshore areas in Benoa's tuna fisheries.

Likewise, the agricultural sector also warrants greater attention from policymakers. Similar to the fisheries sector, which has experienced declining export performance due to falling productivity and quality concerns, agriculture faces persistent challenges related to production fluctuations that may undermine its long-term contribution to Bali's export economy.

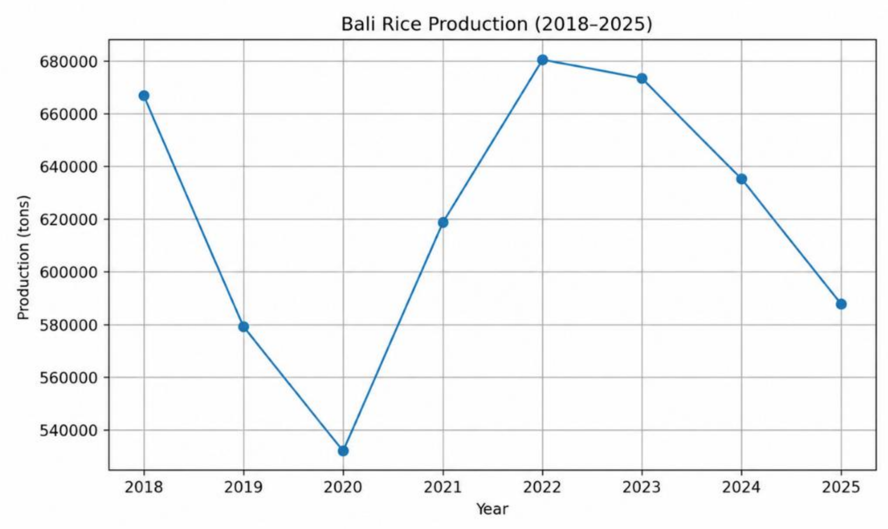

Figure 4. Bali Rice Production, 2018–2025 (Tons)
Source: BPS (2025)

Based on figure 4, Bali's rice production exhibited a fluctuating trend during 2018–2025. Production declined from 667,069 tons in 2018 to 532,168 tons in 2020, before recovering and reaching its peak of 680,602 tons in 2022. However, this recovery was not sustained, as production subsequently decreased for three consecutive years, reaching 587,866 tons in 2025. Compared to 2024, rice production fell by 47,607 tons, or 7.49%, from 635,473 tons to 587,866 tons (BPS Provinsi Bali, 2026).

This trend reflects persistent structural challenges in Bali's agricultural sector, particularly land conversion, declining irrigation water availability, and lower farmer productivity. These constraints have limited the sector's ability to sustain production growth despite temporary recoveries. Therefore, strengthening technological modernization, improving irrigation management, expanding market access, and promoting value-added agro-industrial development are essential to enhance productivity and ensure the long-term competitiveness and sustainability of Bali's agricultural sector (Widhianthini, 2022). This is further supported by Ambarini (2026), who underscores the urgent need for stricter enforcement of land-use regulations, farmer capacity building through digital technology, and improved irrigation maintenance. Hopefully, the adoption of these interventions by local authorities can enhance urban land governance, strengthen farmer livelihoods, and revitalize Bali's rice export capabilities.

On the other side, another agricultural branch that deserves greater attention is horticulture. Although Bali possesses considerable horticultural potential, the sector continues to face structural constraints, including inadequate cultivation and fertilization practices, pest management challenges, water scarcity, limited market access, and low technological adoption (Udayana et al., 2019). Another problem was also explained by Sukanteri et al. (2026), who noted that organic horticulture in Bali is still trapped by a lack of technology-driven practices, high input costs, and complex certification processes. However, organic horticulture demonstrates immense economic and ecological viability, yielding high profitability due to strong consumer demand in urban and tourist markets (see table 3).

Table 3. Bali Province Merchandise Exports by the Top 10 Commodities, September 2024, August 2025, and September 2025

No	Commodity	September 2024 (US$)	August 2025 (US$)	September 2025 (US$)	Share (%)	Change Sep 24–Sep 25 (%)	Change Aug 25–Sep 25 (%)
1	Fish, Crustaceans, and Mollusks (HS 03)	11,482,713	12,179,204	12,437,353	27.35	8.31	2.12
2	Precious Metals and Jewelry/Gemstones (HS 71)	7,223,998	4,693,422	5,885,825	12.94	-18.52	25.41
3	Paper, Paperboard, and Articles Thereof (HS 48)	2,829,065	3,474,804	3,740,465	8.22	32.22	7.65
4	Apparel and Clothing Accessories, Not Knitted or Crocheted (HS 62)	5,801,424	3,646,828	2,997,850	6.59	-48.33	-17.80
5	Wood and Articles of Wood (HS 44)	3,023,676	3,411,317	2,856,657	6.28	-5.52	-16.26
6	Furniture, Lamps, and Lighting Equipment (HS 94)	3,230,691	2,946,242	2,810,555	6.18	-13.00	-4.61
7	Coffee, Tea, and Spices (HS 09)	344,430	225,044	1,884,375	4.14	447.10	737.34
8	Apparel and Clothing Accessories, Knitted or Crocheted (HS 61)	2,298,878	1,915,221	1,217,003	2.68	-47.06	-36.46
9	Plaiting Materials and Woven Products (HS 46)	1,015,263	1,029,758	1,006,273	2.21	-0.89	-2.28
10	Beverages, Alcohol, and Vinegar (HS 22)	723,067	857,655	831,475	1.83	14.99	-3.05
11	Others	12,582,238	8,539,293	9,809,740	21.57	-22.04	14.88
Tot	**All Commodities**	**50,555,443**	**42,918,788**	**45,477,570**	**100.00**	**-10.04**	**5.96**

Source: (BPS Provinsi Bali, 2025b)

The real condition of the horticulture sector recently, for example, coffee, tea, and spices in September 2024 & 2025. These are ranked 7th compared to other commodities like fisheries, precious metals, and fashion. Value contributed only 4.14% of total exports and remained far below Bali's potential as one of Indonesia's leading specialty coffee-producing regions. This sharp yet unsustainable increase suggests that exports of this commodity are sporadic in nature, relying on temporary demand rather than being driven by a well-structured export capacity.

According to research conducted by Yudiana and Anandari (2025), one of the major barriers to coffee exports stems from farmers' practice of selling their harvest in the form of fresh coffee cherries (red cherries), which generates only around IDR 11,000 per kilogram. In contrast, the same coffee can be sold for approximately IDR 85,000 per kilogram when processed into green beans and up to IDR 120,000 per kilogram after roasting. However, due to limited processing equipment and the need for immediate income, many farmers continue to sell unprocessed cherries, thereby foregoing opportunities to capture higher value-added margins. The same challenge in Bali rice also happens to the coffee commodity, where the conversion of agricultural land has reduced coffee production, undermining Bali's ability to meet export demand consistently. These findings suggest that addressing these structural bottlenecks is crucial for enhancing productivity and competitiveness, thereby enabling the horticultural sector to play a greater role in Bali's export diversification strategy.

In addition, challenges are also evident in Bali's creative sector. Referring to Table 2, woven products (HS 46) ranked only ninth among Bali's export commodities in September 2025, contributing merely 2.21% of total exports. Despite woven high value-added, Bali's woven products remain constrained by strong international competition, inadequate product standardization, and limited access to global distribution networks, contributing to declining export performance (Budiningsih & Kusuma, 2024). Overcoming these barriers is crucial to unlocking the sector's greater contribution to Bali's GRDP.

Overall, the diversity of export commodities driving Bali's economy reflects the province's considerable potential to achieve stable and sustainable economic resilience. This argument is supported by Lee and Zhang (2022), who demonstrate that export diversification contributes significantly to economic growth while facilitating structural transformation and long-term economic development, particularly in emerging economies. Nevertheless, realizing these benefits requires further strengthening of several strategic sectors. Enhancing productivity, value addition, innovation, and market competitiveness is essential to ensure that existing export potential can be fully utilized.

CONCLUSION

The findings of this study demonstrate that the export sector exerts a statistically significant and positive influence on Bali's regional economic growth. The regression results empirically confirm that export performance explains the variation in Bali's Gross Regional Domestic Product (GRDP) during the 2015–2024 period. This result validates the core proposition of the Export-Led Growth (ELG) theory, which posits that sustained export expansion acts as a key driver of output growth, productivity improvement, and overall economic development. In the context of Bali, these statistical findings align with the island's ongoing structural transformation from a tourism-dependent economy toward a more diversified, export-oriented growth model. The export sector, particularly through high-value commodities such as fisheries, textiles, spices, and processed agricultural products, has proven to be a vital stabilizing force amid global disruptions. While tourism remains a major contributor to regional income, the resilience of Bali's export performance during periods of external shocks (such as the COVID-19 pandemic and global inflation) highlights the growing importance of international trade as an alternative source of regional economic strength.

From the perspective of the ELG framework, Bali's experience reflects a microcosm of developing economies integrating into global trade systems. Exports have not only generated foreign exchange but also fostered technological diffusion, supply chain integration, and the strengthening of local industries with competitive advantages. However, consistent with the critiques of ELG, the study also underscores that export-led development requires supportive domestic policies particularly in enhancing infrastructure, digitalization, and SME capacity to ensure that export gains translate into inclusive and sustainable regional growth.

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