PERINTIS
Persatuan Saintis Muslim Malaysia

PERINTIS eJournal
Vol. 16, No. 1, June 2026, pp. 17-31
e-ISSN: 2232-0725, DOI: 10.5281/zenodo.20838224

Industrialisation and Export Diversification in Qatar

Shams Osama Haikal, Zera Zuryana Idris, Mohd Nizam Barom

Kulliyyah of Economics and Management Sciences, International Islamic University Malaysia, Selangor, Malaysia

Corresponding author: shamsphd92@gmail.com
https://doi.org/ 10.5281/zenodo.20838224
Received 10 31, 2025
Revised 05 28, 2026
Accepted 06 03, 2026

ABSTRACT

This study analyzes the trends of industrialisation and export diversification in Qatar over the period 1991–2022, with the aim of assessing how industrial growth has evolved alongside changes in export concentration within the context of Qatar National Vision 2030. Industrialisation was analyzed using the composite Competitive Industrial Performance (CIP) index that comprises eight sub-components both in aggregated and disaggregated forms. The findings show moderate fluctuations in industrial performance, while the disaggregated analyses revealed that Qatar's global contribution to manufacturing value added (MVA) and manufactured exports remains limited, reflecting weak integration into global production networks. Export diversification, on the other hand, was manually calculated using the Herfindahl-Hirschman Index (HHI) that measures the level of export concentration. The results show a U-shaped pattern, with concentration declining during the earlier stages of industrial expansion before increasing again; suggesting early diversification followed by re-concentration linked to specialization in few dominant sectors. Correlation analysis further indicates a negative but weak relationship between industrialisation and export diversification suggesting that industrial performance and export concentration were not strongly associated during the study period, while higher FDI inflows generally coincided with lower export concentration levels.The descriptive evidence also highlights the continuing structural importance of natural resources within Qatar's economic and industrial trajectory alongside the limited diversification impact of industrialisation. The study emphasizes the importance of broader industrial strategies beyond hydrocarbon-related activities and stronger alignment between industrialisation and export diversification objectives, in addition to enhancing the role of foreign direct investments (FDI) in supporting diversification efforts.

Keywords: Industrialisation; export diversification; Natural Resources; Foreign Direct Investment; Herfindahl-Hirschman Index

1.0 INTRODUCTION

Industrialisation has long been recognized as one of the most significant drivers of sustained economic growth [1]–[4]. It transforms economies by shifting their focus from agriculture to mechanized manufacturing, thereby increasing productivity, creating jobs, and stimulating innovation. Drawing on Endogenous Growth Theories (EGT) and structural transformation frameworks, industrialisation is often associated with complementary factors such as export diversification and technological upgrading; it also requires robust trade frameworks to support the distribution of goods and access to global markets. Trade, in turn, enables countries to consume and produce more, encourages savings and reinvestment, and fosters competitiveness among producers. Accordingly, industrialisation and international trade together constitute two of the most critical engines of economic growth [5].

Qatar has made notable strides in non-hydrocarbon sectors. The non-oil GDP grew by 3.7% in 2024, supported by progress in tourism, education, and transportation [1]. The country's CIP Index ranked 43 in 2022, approaching the national target of 40 [2]. FDI has also surged, with $2.74 billion in greenfield projects in 2024 alone, creating over 9,000 jobs [3].

Initiatives such as the second National Development Strategy (NDS) (2018–2022) and the Manufacturing Strategy (2018–2022) were launched in response to the 2017 boycott imposed by Saudi Arabia, the United Arab Emirates (UAE), Bahrain, and Egypt. The blockade that was triggered by political tensions, exposed Qatar's reliance on external trade routes, particularly via the UAE, and disrupted critical imports such as food and pharmaceuticals. In response, Qatar accelerated its domestic industrialisation efforts, expanded port infrastructure, and diversified import sources to improve self-sufficiency.

Nevertheless, several studies have noted that Qatar continues to face challenges in achieving broad-based economic diversification [4]–[6]. Export diversification remains limited. Non-hydrocarbon exports have consistently lagged behind hydrocarbon exports, with International Monetary Fund (IMF) data showing a persistent and substantial gap between the two categories [12]. This structural imbalance is especially significant given Qatar's relatively small domestic market, which constrains demand-led growth and increases the importance of export expansion, see Figure 1.

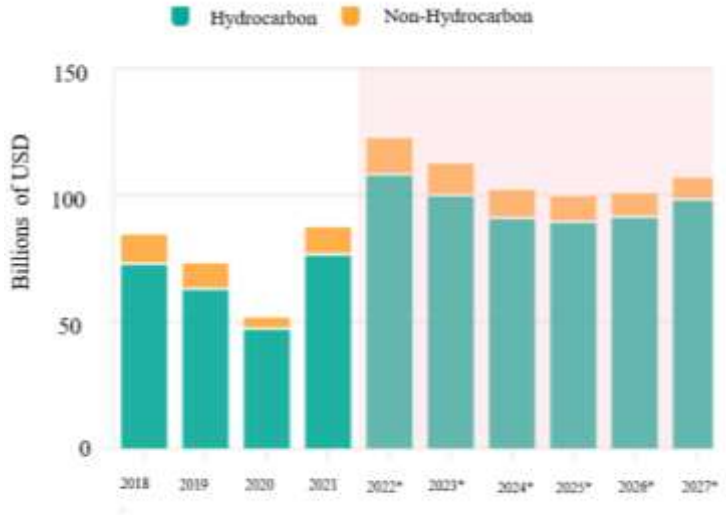


Figure 1: Hydrocarbon and Non-Hydrocarbon Exports of Qatar
Source: Adopted from the International Monetary Fund, 2024

Export diversification is a vital component of sustainable economic growth, especially for resource-rich and hydrocarbon-dependent countries like Qatar where export concentration poses significant risk. While QNV 2030 and subsequent NDSs have emphasized diversification, much of the policy implementation has focused on strengthening the domestic economy rather than expanding the country's export base [1].

Given the country's relatively small domestic market, building a strong and diversified export base remains critical to achieving sustainable growth. QNV2030 (2008) aims to achieve this diversification primarily through industrial development as it identifies key manufacturing sectors to be developed as part of the effort to reduce dependency on hydrocarbons.

This study offers a long-term descriptive and correlational assessment of industrialisation and export diversification in Qatar using two internationally recognized indicators, the CIP Index and the HHI. By examining their trends and co-movements from 1991 to 2022, the analysis provides insights into the structural evolution of Qatar's economy. Such descriptive evidence

contributes to understanding how industrial growth evolved alongside changes in export concentration, which remains a central objective under QNV2030. Moreover, the study addresses a gap in the existing literature, which often focuses on cross-country econometric models but pays limited attention to country-specific descriptive analyses. The findings serve as a policy benchmark for assessing the progress of Qatar's industrialisation and diversification strategies and provide a foundation for future empirical research on potential causal relationships between industrialisation and export diversification.

2.0 LITERATURE REVIEW

Industrialisation is regarded as structural transformation towards manufacturing [8]. Several definitions exist about industrialisation; It is defined as "a slow process through which a geographical region experiences radical transformation that emanates from changes in the method of production, while bringing about major structural changes in its political, economic and social systems" [9]. It can also be defined as "the production of all material goods not grown directly on the land," or as "the economic sector comprising mining, manufacturing and energy" [10]. Several studies have documented its positive effects on economic growth, including [11]–[13]. There is a broad consensus that industrialisation constitutes a cornerstone of modern economic development, as echoed in the works [14]–[17]. Economic growth is most sustainable when it is accompanied by structural transformation, defined as the reallocation of productive activities and resources from agriculture to industry and subsequently to services. Nevertheless, many developing countries have experienced growth without industrialisation, a phenomenon that may limit their long-term development prospects. This premature deindustrialisation poses a significant risk, particularly for countries attempting to jump ahead the industrial phase altogether [18].

Drawing on Endogenous Growth Theories (EGT) and structural transformation frameworks, industrialisation is not expected to drive economic growth in isolation; rather, its effectiveness is closely tied to complementary factors such as export diversification. Trade diversification is defined as "the process by which a business, nation, or other economic entity offers a range of products or services instead of specializing in just one." It can also be defined as "the development of policies that reduce the dependence on a single industry or primary sector such as oil in terms of its contribution to GDP, export earnings and government revenues" [9]. In the context of Qatar or the Gulf Cooperation Council (GCC) in general, it means reducing the heavy dependence on the hydrocarbon industry by increasing the dependence on non-hydrocarbon industries. Furthermore, in order for the growth to be sustainable, countries should promote tradable industries by improving their productivity and diversifying them [19].

Theoretically, diversification is seen as a strategy to reduce reliance on a narrow set of sectors or products, thereby enhancing economic stability and supporting long-term growth. The dominant theory in the literature posits that economic development and diversification follow a U-shaped pattern. Imbs & Wacziarg argue that, as income rises, countries tend to diversify their exports until they reach a certain level of development, after which a re-concentration phase begins [20]. This non-monotonic relationship has been supported by empirical studies such as [21] and [18]; they help explain the mixed outcomes observed across countries at different development stages. While diversification is generally beneficial in early stages, high-income countries often exhibit higher levels of specialisation, potentially due to comparative advantages and technological sophistication. Still, the notion of reconcentration remains contested [22].

Another strand of theoretical literature highlights the potential negative consequences of export concentration. Lederman & Maloney argue that high concentration in primary commodity exports _especially natural resources_ can hinder growth, a phenomenon often referred to as the "concentration curse" [23]. Carrère et al. on the other hand examines this hypothesis and finds it difficult to disentangle causality, noting that while concentration may correlate with underperformance, it could also be a consequence of economic success in a particular sector

[24]. He emphasizes that policy guidance on how to achieve effective export diversification remains ambiguous.

The “natural resource curse” further deepens this debate. This theory suggests that resource abundance may hinder diversification and broader development outcomes. Seminal contributions argue that countries rich in natural resources often experience slower growth due to institutional weaknesses, rent-seeking behavior, and economic volatility [25]–[27].

Industrialisation and diversification are hence regarded important components for growth especially in resource-rich countries. The IMF conducted an empirical study to assess how countries can effectively diversify their economies, concluding that “if economic diversification is the linchpin of future growth in the GCC region, then industrialisation is the blueprint” [28].

While the challenges of hydrocarbon dependence in Qatar and the GCC in general are widely discussed in the literature, existing studies often emphasize cross-country econometric analyses or broad macroeconomic indicators of diversification. Comparatively less attention has been given to long-term country-specific assessments of how industrialisation evolved alongside export concentration patterns within Qatar itself. This study contributes to the literature by providing a descriptive and correlational analysis of industrialisation and export diversification in Qatar over the period 1991–2022 using the CIP Index and HHI. The analysis combines aggregated and disaggregated industrial performance indicators with export concentration dynamics to provide additional insight into the structural characteristics of Qatar’s industrialisation and diversification process within the context of QNV 2030.

3.0 METHODOLOGY

This study employs secondary data and adopts a descriptive research design. The descriptive approach is appropriate because the study seeks to examine the dynamics, patterns, and trends of key variables over time rather than to establish causal relationships. Specifically, it analyzes the evolution of industrialisation and export concentration in Qatar, with the aim of characterizing the country’s industrial performance and export structure during the study period. This approach allows the study to identify important structural patterns, fluctuations, and long-term tendencies in Qatar’s industrialisation and export trajectory.
Industrialisaiton is proxied by the CIP index _a composite indicator comprising eight sub-components developed by United Nations Industrial Development Organization (UNIDO) (2003) that captures the competitiveness and performance of national industries. This variable is used to estimate industrialisation at time t. Each of the sub-components is then analyzed separately to provide more robust and detailed insights. Table 1 describes the eight sub-components of the CIP index.

Table 1: Sub-Components of the Competitive Industrial Performance Index

Dimensions	Indicators
Capacity to produce and export	1. Manufacturing value added per capita 2. Manufacturing export per capita
Technological upgrading and deepening	1. Share of MHT activities in total MVA 2. Share of MVA in GDP 3. Share of MHT manufactures exports 4. Share of Manufactures export in total exports
Impact on world production and trade	1. Share of the country in world MVA 2. Share of the country in world Manufactures exports

Export diversification on the other hand is analyzed using the HHI _ a widely used indicator of export concentration_ following studies by [29]–[31]. It is calculated as follows (Equation 1):

$$HHI = \sum_{i}^{t} S_i^2 \quad (1)$$

where S_i^2 is the square of each industry i's share exported by Qatar at time t.

In addition to the descriptive trend analysis, this study also conducts a Pearson correlation analysis to examine the statistical associations among industrialisation, export concentration, FDI, and natural resource share in GDP (NatRes). The purpose of this analysis is to assess the direction and strength of the linear relationships between the selected variables over the study period. This allows the study to identify whether changes in industrial performance tend to move together with changes in export concentration, FDI inflows, or NatRes. While Pearson correlation coefficients can indicate whether two variables are positively or negatively associated, they do not establish cause-and-effect relationships. Therefore, the results are interpreted only as evidence of patterns of association among the variables. This approach complements the trend analysis by providing additional insight into how Qatar's industrialisation process is statistically related to export structure, investment dynamics, and the continuing role of natural resources in the economy.

FDI is frequently associated in the literature with manufacturing expansion and economic diversification through channels such as technology transfer and knowledge spillovers [32]; [33]. Natural resources on the other hand is often discussed in relation to export concentration and structural constraints within the Dutch disease literature [34]. Accordingly, a trend analyses to both FDI share in GDP and natural resources share in GDP over the study period provide additional contextual insight into Qatar's industrial and export structure. Table 2 below shows the variables used in the analysis and their data sources.

Table 2: Variables and Data Sources

Variable	Source
HHI	UN COMTRADE
CIP	UNIDO Statistics Portal
FDI share in GDP	World Bank
Natural Resources share in GDP	World Bank

4.0 ANALYSIS AND FINDINGS

This section presents the analysis and findings of the study. The first variable of interest is industrialisation, which is proxied by the CIP index. In order to strengthen the analysis and provide a more detailed understanding of the sources of industrial performance, the study also examines each of the eight CIP sub-components separately. This disaggregated analysis allows the study to identify which specific aspects of industrialisation contribute most strongly to Qatar's overall CIP performance and which areas remain relatively weak. Figure 2 illustrates the trend of Qatar's CIP performance over the study period. Overall, the figure shows a fluctuating pattern, suggesting that Qatar's industrial performance has experienced some variation over time. However, the changes in the CIP score appear to be relatively moderate, with no substantial disparities or sharp shifts across the years under study. This indicates that while Qatar has made some progress in industrial development, its overall industrial performance has remained relatively stable rather than undergoing a major structural transformation. Interestingly, the seventh component, which measures Qatar's share in world manufacturing value added (MVA), and the eighth component, which captures Qatar's share in world manufactured exports, recorded very small and almost negligible values throughout

the study period. This indicates that, despite Qatar's domestic industrial development efforts, its contribution to global manufacturing production and manufactured trade remains limited.

Qatar performed best in 2012 with a CIP score of 0.092 and ranked 39, this can be due to the major industrial expansion projects that took place during the period 2008 to 2012 and the completion of major industrial projects. For instance, in 2011 the country launched Economic Zones Company (Manateq) in three different cities (Ras Bufontas (3.96 sq. km), Umm Al Houl (30 sq. km) and Al Wakra (4.45 sq. km), in 2011 to attract foreign investors and to operate and develop special economic zones, logistic parks and industrial zones for Small and Medium Enterprises (SMEs). The completion of several large-scale industrial projects have also taken place in this period, such as Qatalum (Qatar aluminum), QAFCO (Qatar Fertilizer Company) expansions, and QAPCO (Qatar Petrochemical Company) [35]. The weakest CIP performance on the other hand was in 2014 with a score of 0.044 and a rank of 63. Performance of all the eight components are shown in Figure 3.

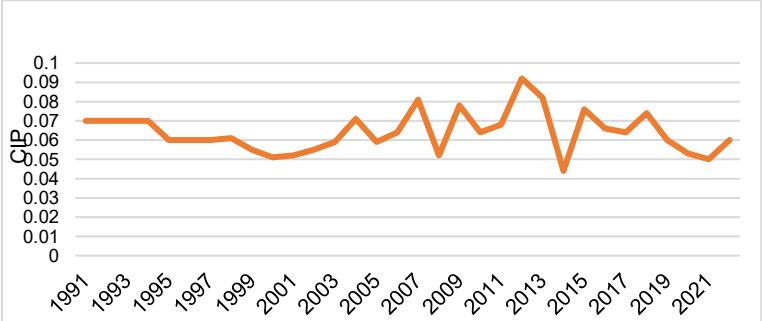
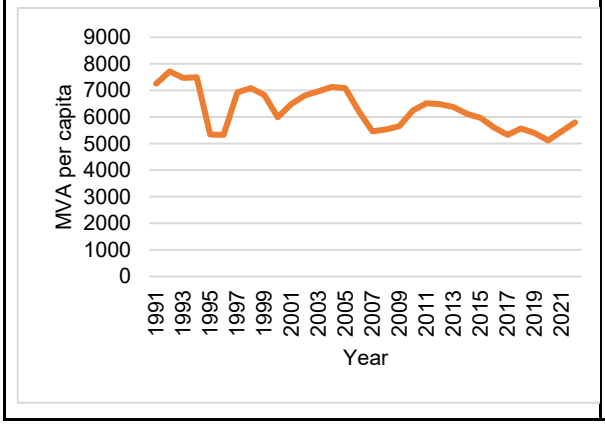
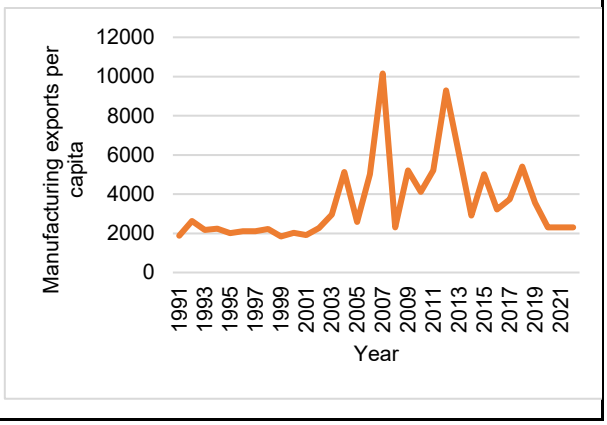


Figure 2: Dynamics of Competitive Industrial Index in Qatar
Source: UNIDO and author's calculations

Production Side (MVA Indexes)	Trade Side (Manufacturing Export Indexes)
	

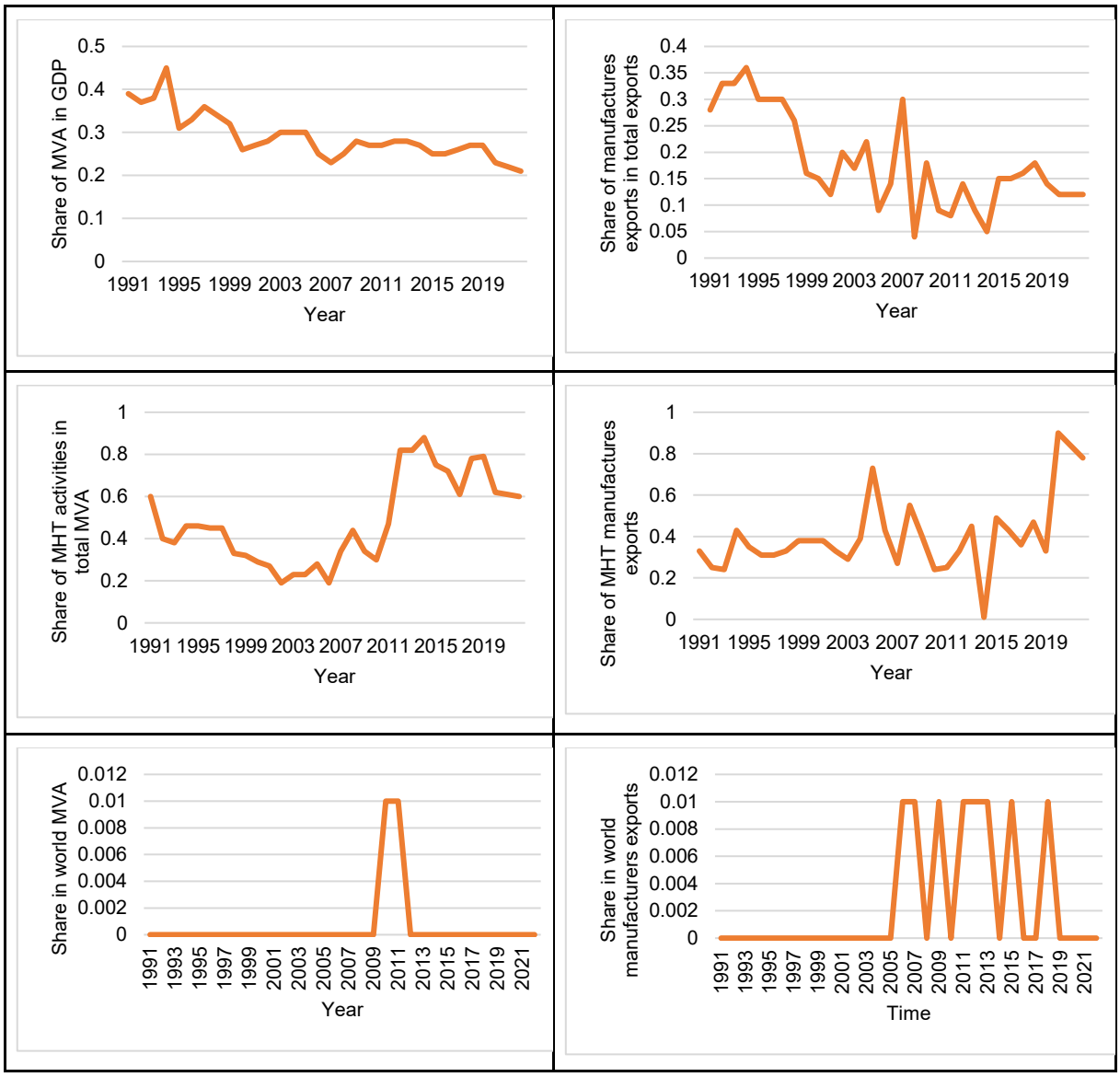


Figure 3: Dynamics of CIP Components
Source: UNIDO and author's calculations

Figure 4 compares the world performance in CIP in aggregated and component forms against Qatar's performance (the left figure). Qatar is outperforming the world average in CIP aggregate score, and the majority of CIP sub components, except for MVAsh (share of MVA in GDP, component 4), MXsh (share of manufacturers exports in total exports, component 6), MHXsh (share of MHT manufacturers exports, component 5), and MXQual (the composite index Exports Quality that combines MHXsh and MXsh). On the right hand, Qatar is compared to the high-income industrialising economies, where Qatar outperformed in all except MXsh and MXQual.

Overall, Qatar showed relatively weaker performance in components 4, 5, and 6, which fall under the category of technological upgrading and deepening, while performing comparatively better in the remaining components. This pattern suggests that although industrialisation efforts have progressed in several areas, limitations remain in expanding higher-technology manufacturing and export-oriented industrial activities. This observation is consistent with recent evidence showing that while non-hydrocarbon GDP grew by 3.7% in 2024, approaching the national 4% target, much of this growth remained concentrated in domestic sectors such as education, tourism, and transportation rather than in tradable industrial sectors [1].

Comparing the performance with the closest countries economically and geographically (GCC countries), Qatar is considered close to the majority but the Kingdom of Saudi Arabia (KSA) and UAE are outperforming most of the years especially recent years, as shown in Figure 5.

Turning to the second variable in the analysis, export concentration displays a U-shaped like pattern over the study period, as shown in Figure 6. This pattern suggests that Qatar's export structure initially became more diversified during the earlier stages of industrial expansion, before becoming more concentrated again in later years. This trend is broadly consistent with the argument that developing economies often begin with a highly concentrated export structure, particularly when they depend heavily on a narrow range of primary commodities or natural resources. As industrialisation progresses, new productive capacities emerge, export markets expand, and a wider range of goods may be produced and traded. This process can lead to a decline in export concentration and an improvement in export diversification. However, at a later stage, export concentration may increase again as the economy begins to specialise in selected sectors where it has stronger comparative or competitive advantages [20]. Diversification in Qatar started to flourish in the early 2000's as new industries were taking place like pharmaceuticals and food industries. However, even with the lowest degrees of HHI; 0.232 in 2009, the country is considered moderately concentrated, as a value above 0.25 reflects highly concentrated industry with a very high market power, while a value less than 0.15 represents a low concentrated industry, and if it falls in between then the country is moderately concentrated [36]. All the other years recorded an HHI score of above 0.25.

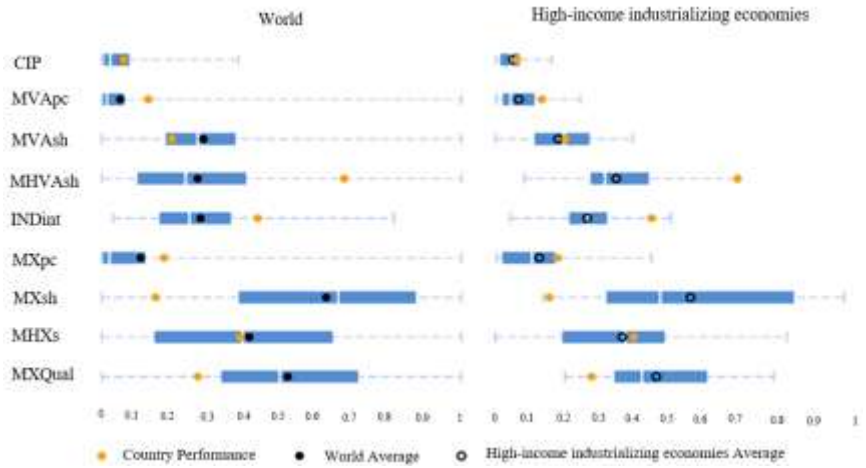


Figure 4: Comparative Competitiveness of Qatar
Source: Adopted from the UNIDO, 2022

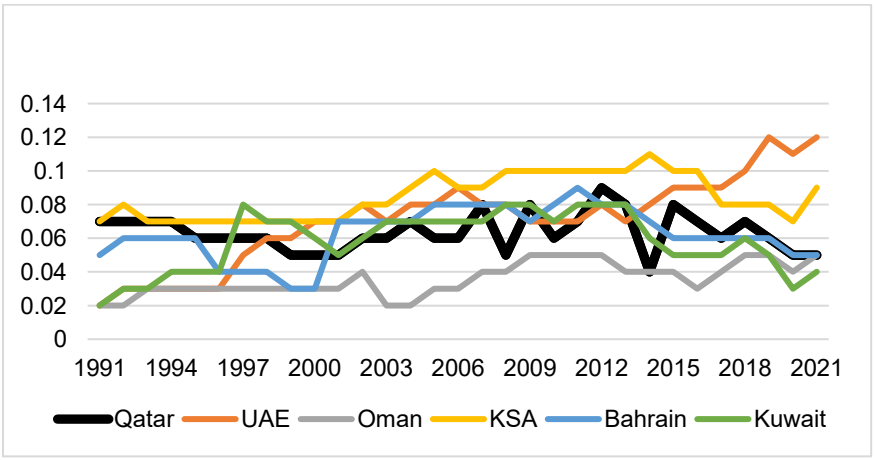


Figure 5: CIP Score for GCC Countries
Source: UNIDO

For additional insights, dynamics of FDI and NatRes were also analyzed over the study period. FDI (net inflows) dropped dramatically in 2011, and since then it did not recover again to similar values of past years, this can be referred to several reasons, including the financial crisis aftermath which led to cautious approach among international investors that affected global FDI inflows in many countries including Qatar. Furthermore, the regional instability including political tensions during the Arab spring and the 2017 blockade affected global investment in the country and posed increased risk for foreign investors. The Covid-19 pandemic also slowed down the economic cycle and increased uncertainty worldwide leading to reduction in FDI in Qatar and other countries, see Figure 7. The observed trends of FDI and HHI are generally consistent with the literature that associates higher FDI inflows with improved diversification outcomes.

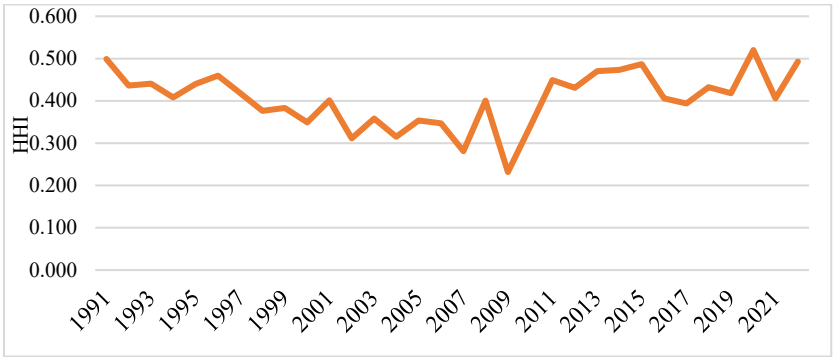


Figure 6: Dynamics of HHI for Export Concentration.
Source: COMTRADE and author's calculations

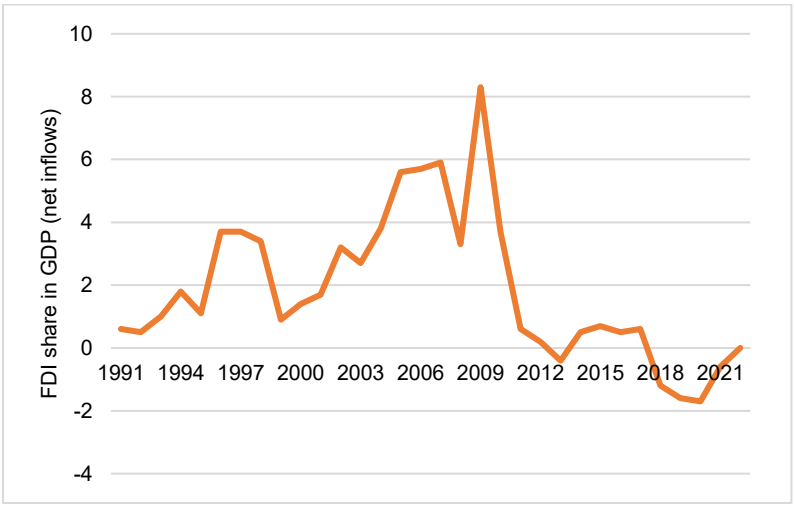


Figure 7: Dynamics of FDI (net inflows) Share in GDP
Source: World Bank

However, the dynamics of NatRes (Figure 8) suggest that periods of higher natural resource shares in GDP coincided with lower export concentration levels. This pattern may reflect the expansion of hydrocarbon-based industries and energy-intensive manufacturing activities within Qatar's industrial structure. The findings therefore suggest that industrialisation and export diversification in Qatar have largely evolved within the hydrocarbon-related value chain rather than through broad-based manufacturing diversification. While this reflects a form of structural diversification, it also highlights the continued resource-linked nature of Qatar's industrial development. Sustained progress toward the diversification goals of QNV 2030 may

therefore depend on expanding industrial activity beyond resource-based sectors toward bigger innovation-driven growth.

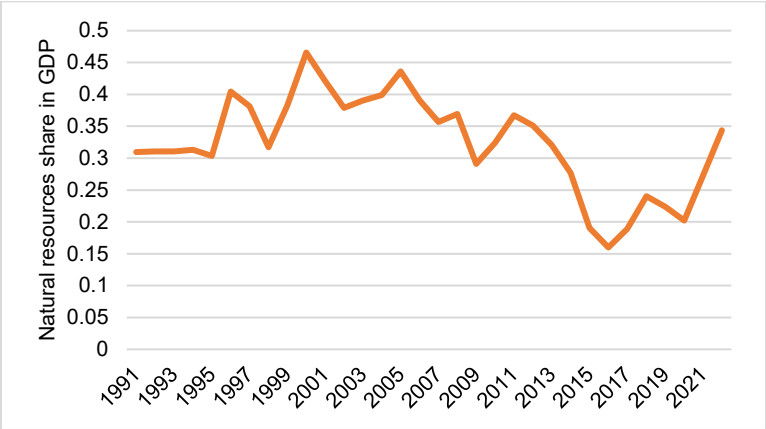


Figure 8: Dynamics of Natural Resources Share in GDP in Qatar
Source: World Bank

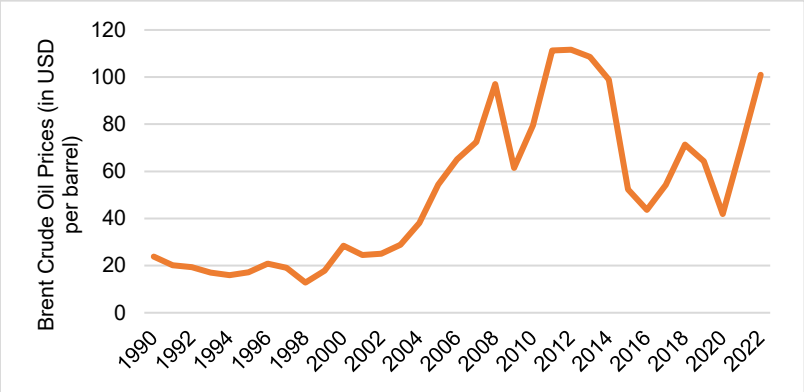


Figure 9: Dynamics of Brent Crude Oil Prices
Source: World Bank

To further examine the statistical associations among the variables, a Pearson correlation analysis was conducted between the HHI, CIP Index, FDI share in GDP, NatRes. Table 3 presents the correlation matrix.

Table 3: Matrix of Correlation

	HHI	CIP	FDI	NatRes
HHI	1	-0.086	-0.769	-0.363
CIP	-0.086	1	0.105	-0.166
FDI	-0.769	0.105	1	0.492
NatRes	-0.363	-0.166	0.492	1

The results show a very weak negative correlation between the CIP Index and HHI (-0.086), suggesting that industrial performance and export concentration were not strongly associated during the study period. This indicates that industrialisation may have contributed slightly to export diversification in Qatar, although the relationship was too weak to suggest a substantial diversification effect during the study period.

FDI exhibited a strong negative correlation with HHI (-0.769), indicating that higher FDI levels coincided with lower export concentration. Natural resources share in GDP also showed a

moderate negative correlation with HHI (-0.363). These findings may reflect the role of resource-based industrial expansion in shaping Qatar's export structure. However, the results should be interpreted cautiously, as the analysis identifies statistical associations only and does not establish causal relationships.

Finally, comparing the trends of FDI inflows and the NatRes with oil prices (Figure 9) reveals broadly similar movements over time. In an oil-dependent economy such as Qatar, fluctuations in oil prices strongly influence government revenues, investment activity, and overall economic conditions. Periods of high oil prices generally increase hydrocarbon export revenues, which can support public spending, infrastructure expansion, and industrial investment. These conditions may also improve investor confidence and contribute to higher FDI inflows, particularly in sectors linked directly or indirectly to the energy industry. Conversely, declines in oil prices are often associated with weaker economic activity and slower investment growth, which may reduce foreign investment inflows. The observed similarities in the movements of these variables therefore highlight the continued importance of the hydrocarbon sector in shaping Qatar's economic and industrial development trajectory.

Finally, to assess the contribution of individual manufacturing sectors to Qatar's export concentration, a sectoral contribtion analysis of HHI was conducted. The Herfindahl–Hirschman Index (HHI) was recalculated after excluding each sector one after another using the Standard International Trade Classification (SITC) manufacturing categories 5–8 (chemicals, manufactured goods by material, machinery and transport equipment, and miscellaneous manufactures).The results show that chemicals (SITC 5) are the main source of concentration, reflecting dependence on a few dominant products, followed by manufactured goods (SITC 6) with a moderate effect. By contrast, machinery and transport equipment (SITC 7) and miscellaneous manufactures (SITC 8) show only minimal influence on export concentration, with SITC 8 being the least concentrating. Notably, sectors 7 and 8 include many high-technology products, making them strategically important for Qatar's diversification goals. Table 4 presents the results.

Table 4: Sectoral Contribution Analysis of HHI

ΔHHI	Interpretation	SITC product
-0.001697956	Strongly concentrating (contributes the most to total concentration)	5 Chemicals and Related Products n.e.s.
-0.000811261	Moderately concentrating (significant, but less than sector 5)	6 Manufactured Goods Classified by Material
-5.56571E-05	Weakly concentrating- (small contribution to concentration)	7 Machinery and Transport Equipment
-3.38873E-05	Very weakly concentrating (almost neutral, but still adds to concentration)	8 Miscellaneous Manufactured Articles

5.0 CONCLUSION AND POLICY RECOMMENDATIONS

This study has examined the dynamics of industrialisation (proxied by the CIP index) and export diversification (proxied by the HHI) in Qatar over the period 1991 to 2022. It aimed to assess how industrialisation has evolved alongside changes in export diversification in line with Qatar's national development goals.

The analysis reveals that Qatar's industrialisation, has shown modest and fluctuating progress over the study period. While improvements in product quality and productive capacity have been observed, Qatar's global contribution to MVA and manufactured exports remains minimal, reflecting limited integration into global production networks. The country's strongest performance was recorded in 2012. Subsequent fluctuations highlight the cyclical and resource-linked nature of industrial development.

Export diversification, displays a U-shaped pattern _consistent with the structural transformation theory, whereby early stages of industrialisation are marked by high concentration, followed by diversification as new industries emerge, and eventual re-concentration linked to specialization. Although diversification improved in the early 2000s with the emergence of new manufacturing activities such as pharmaceuticals and food industries [35], Qatar's export basket remained moderately to highly concentrated throughout the study period. This indicates continued reliance on a relatively narrow range of products despite some progress in non-hydrocarbon manufacturing.

FDI trends also provide important context. The sharp decline in FDI inflows post-2011 reflects global and regional shocks _the aftermath of the global financial crisis, regional instability during the Arab Spring, and the 2017 blockade_ followed by the effects of the COVID-19 pandemic. The observed movements of FDI and HHI suggest that periods of higher FDI inflows generally coincided with lower export concentration levels, highlighting the potential importance of stable investment environments for industrial expansion and diversification.

Interestingly, the dynamics of natural resources' share in GDP indicate that periods of higher hydrocarbon revenues coincided with lower export concentration levels. This pattern may reflect the expansion of hydrocarbon-based industries and energy-intensive manufacturing activities within Qatar's industrial structure. The findings suggest that Qatar's industrialisation and diversification processes have largely evolved within the hydrocarbon-related value chain. Nonetheless, this resource-linked industrialisation highlights the importance of expanding toward more innovation-driven and technology-intensive sectors to support long-term sustainability.

The correlation analysis provides additional descriptive insight into the relationships among the variables examined in this study. The results show a very weak negative correlation between the CIP Index and the HHI (-0.086), suggesting that industrial performance and export concentration were not strongly associated during the study period. This may indicate that improvements in industrial performance were not necessarily accompanied by substantial changes in export diversification. In contrast, FDI displayed a stronger negative correlation with export concentration (-0.769), suggesting that periods of higher FDI inflows generally coincided with lower levels of export concentration. Natural resources share in GDP also showed a moderate negative relationship with HHI (-0.363). Although these findings reflect statistical associations only and do not imply causality, they provide further context for understanding the resource-linked nature of Qatar's industrialisation and export structure during the period under study.

The sectoral HHI analysis further supports this conclusion. Chemicals (SITC 5) remain the principal source of export concentration, while manufactured goods by material (SITC 6) have a moderate effect. In contrast, machinery and transport equipment (SITC 7) and miscellaneous manufactures (SITC 8) contribute little to concentration and represent potential growth areas for high-technology, knowledge-based industries. These sectors are thus critical to advancing Qatar's diversification agenda.

Overall, this study contributes to the literature by providing a long-term descriptive and correlational assessment of industrialisation and export diversification in Qatar over the period 1991–2022. The analysis draws on aggregated and disaggregated CIP indicators alongside export concentration trends measured by the HHI, offering additional insight into the structural characteristics of Qatar's industrialisation process and export structure within the context of QNV 2030.

The findings indicate that Qatar's industrialisation process has been resource-led, with diversification remaining concentrated within the hydrocarbon-related industrial complex.

Achieving the diversification and innovation objectives of QNV 2030 may therefore require broader industrial development strategies that expand productive capabilities beyond resource-based sectors while attracting more sector-diverse, export-oriented, and technology-enhancing investments.

ACKNOWLEDGEMENT

This article is derived from the author's PhD research conducted at the International Islamic University Malaysia (IIUM). The author gratefully acknowledges the guidance and support of academic supervisors and the constructive feedback received during the research process.

REFERENCES

[1] World Bank, "Qatar Economic Outlook," 2025.
[2] UNIDO, "Competitive Industrial Performance," United Nations Industrial Development Organization.
[3] Invest Qatar, "Annual Report."
[4] A. Al-Sulaiti, A. M. Hamouda, H. Al-Yafei, and G. M. Abdella, "Innovation-Based Strategic Roadmap for Economic Sustainability and Diversity in Hydrocarbon-Driven Economies: The Qatar Perspective," Sustainability (Switzerland), vol. 16, no. 9, 2024, doi: 10.3390/su16093770.
[5] H. M. Al-Dobashi, "Qatar: The Resource Curse Factor and Prospects for Economic Diversification," 2016.
[6] H. Chen *et al.*, "Optimal Industry Development Strategy Using Economic and Product Complexity," 2019. [Online]. Available: https://atlas.cid.harvard.edu/
[7] QNV2030, "Qatar National Vision 2030," Doha, Jul. 2008. [Online]. Available: www.planning.gov.qa
[8] UNCTAD, Structural Transformation and Industrial Policy. New York and Geneva: United Nations Conference on Trade and Development, 2016. [Online]. Available: http://vi.unctad.org
[9] A. Mishrif, "Industrialization and Diversification Strategies in the GCC Countries," in International Conference on Innovation and Economic Diversification in GCC's National Development Plans (IED18), Arab Open University in Kuwait, Mar. 2018, pp. 1–12. [Online]. Available: http://www.aou.edu.kw/
[10] R. Kiely, Industrialization and Development: A Comparative Analysis. UCL Press, 1998.
[11] N. Kaldor, "A Model of Economic Growth," Source: The Economic Journal, vol. 67, no. 268, pp. 591–624, Dec. 1957.
[12] C. Ndiaya and K. Lv, "Role of Industrialization on Economic Growth: The Experience of Senegal (1960-2017)," American Journal of Industrial and Business Management,2018, vol. 08, no. 10, pp. 2072–2085, 2018, doi: 10.4236/ajibm.2018.810137.
[13] G. Halkos, J. Moll de Alba, and V. Todorov, "Analyzing manufacturing sector and selected development challenges: A panel data analysis," Energy, 2021, vol. 235, 2021, doi: 10.1016/j.energy.2021.121253.
[14] E. E. O. Opoku and I. K. M. Yan, "Industrialization as driver of sustainable economic growth in Africa," Journal of International Trade and Economic Development, vol. 28, no. 1, pp. 30–56, 2019, doi: 10.1080/09638199.2018.1483416.
[15] M. Al-Kubaisi and M. Ali, "Industrial Development in Qatar: A Geographical Assessment," Durham University, Durham, 1984. [Online]. Available: http://etheses.dur.ac.uk

[16] S. Upadhyaya, “Composite Measure of Industrial Performance for Cross-Country Analysis,” UN Industrial Development Organization, Vienna, Jun. 2014, [Online]. Available: http://www.unido.org/resources/statistics/statistical-databases.html
[17] UNIDO, “Promoting Economic Diversification and Structural Transformation Through Industrialisation,” 2019, doi: 10.1787/888933953090.
[18] B. Rahul Giri, S. Noor Quayyum, and R. Joy Yin, “Understanding Export Diversification: Key Drivers and Policy Implications,” 2019.
[19] M. Cherif and C. Dreger, “Institutional Determinants of Financial Development in MENA Countries,” Review of Development Economics, vol. 20, no. 3, pp. 670–680, 2016.
[20] J. Imbs and R. Wacziarg, “Stages of Diversification,” American Economic Review, vol. 93, no. 1, pp. 63–86, 2003.
[21] O. Cadot, C. Carrere, and V. Strauss-Kahn, “Export Diversification: What’s behind the Hump?,” Review of Economics and Statistics, 2011, vol. 93, no. 2, pp. 590–605, 2011.
[22] T. Vogel, “Structural and Policy Determinants of Export Diversification in Africa: A Bilateral Panel Approach Using Bayesian Model Averaging,” 2022.
[23] D. Lederman and W. F. Maloney, Does What You Export Matter? In Search of Empirical Guidance for Industrial Policies. The World Bank Group, 2012.
[24] C. Carrère, V. Strauss-Kahn, and O. Cadot, “Trade Diversification, Income, and Growth: What Do We Know?,” Journal of Economic Surveys, vol. 27, no. 4, pp. 790–812, 2013, doi: 10.1111/j.1467-6419.2011.00719.x.
[25] R. Auty, Sustaining Development in Mineral Economies: The Resource Curse Thesis. London, U.K., 1993.
[26] J. D. Sachs and A. M. Warner, “Natural Resource Abundance and Economic Growth,” 1995.
[27] X. Sala-I-Martin and A. Subramanian, “Addressing the Natural Resource Curse: An Illustration from Nigeria,” Cambridge, Jun. 2003. [Online]. Available: http://www.nber.org/papers/w9804
[28] A. Raffoul and F. A. Z. Hewaidi, “How Industrialization Could Future-Proof MENA’s Gulf Economies.”, 2021
[29] M. Jetter and A. R. Hassan, “Want export diversification? Educate the kids first,” Economica Inquiry, vol. 53, no. 4, pp. 1765–1782, 2015, doi: 10.1111/ecin.12213.
[30] J. Mora and M. Olabisi, “Economic Development and Export Diversification: The Role of Trade Costs,” International Economics, vol. 173, pp. 102–118, 2023.
[31] S. Kaitibie, M. I. Al Jaidah, and M. M. Haq, “Export Market Concentration and the Potential for Export Market Diversification in the Oil and Gas Sector in a Small Open Economy,” International Journal of Economic Perspectives, 2016, vol. 10, no. 1, pp. 71–85, 2016. [Online]. Available: http://www.econ-society.org71
[32] E. J. Lugina, A. B. S. Mwakalobo, and F. Lwesya, “Effects of Industrialization on Tanzania’s Economic Growth: A Case of Manufacturing Sector,” Future Business Journal, 2022, vol. 8, no. 1, 2022, doi: 10.1186/s43093-022-00177-x.
[33] P. M. Romer, “Increasing Returns and Long-Run Growth,” Journal of Political Economy, vol. 94, no. 5, 1986. [Online]. Available: http://www.journals.uchicago.edu/t-and-c
[34] A. G. Metu, I. C. Igbanugo, and S. O. Okonji, “Economic Diversification, Institutional Environment and Industrialization in Nigeria,” International Journal

of Economics, Commerce and Management United Kingdom, vol. VI, no. 12, 2018, [Online]. Available: http://ijecm.co.uk/

[35] V. Krishnaswamy, A. Jakali, and A. Tayeb, “Qatar Industrial Landscape 2.0: Resilient and Stronger,” 2021.

[36] I. Pavic, F. Galetic, and D. Piplica, “Similarities and Differences between the CR and HHI as an Indicator of Market Concentration and Market Power,” British Journal of Economics, Management & Trade, vol. 13, no. 1, pp. 1–8, 2016, doi: 10.9734/bjemt/2016/23193.