A Comparative Analysis of the Level of Direct Commercial and Financial Relations: A Case Study of the Two Sides of the Taiwan Straits in the Past Ten Years

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Abstract: This research conducts a comprehensive analysis of the direct commercial and financial relations between Taiwan and mainland China over the past ten years, aiming to understand the depth, trends, and impacts of economic ties. The study employs a comparative analysis approach to leverage data from reputable sources such as the International Monetary Fund (IMF), World Bank, and official reports from Taiwan and China. The analysis of trade patterns reveals a consistent increase in volumes, showcasing a maturing economic relationship marked by the diversification of traded goods. Cross-Strait investments, particularly in critical sectors like technology and finance, highlight strategic collaborations and sector-specific interdependence. Financial relationships, examined through IMF reports and national financial institutions, demonstrate a deepening integration of banking ties despite geopolitical complexities. The study employs theoretical frameworks such as Complex Interdependence Theory and Political Economy Theory to interpret findings. The data analysis includes time-series analysis techniques to identify seasonality, trends, and cyclical patterns, providing insights for policymakers and businesses. The study's significance lies in its contribution to understanding the multifaceted nature of cross-Strait economic relations, emphasizing the endurance of economic interactions despite political complexities. The findings provide a nuanced foundation for improved bilateral relations, offering policymakers insights for strategic adjustments and fostering sustainable economic collaboration. In conclusion, this research contributes to the academic discourse on Taiwan-China economic relations by providing a detailed and empirically supported analysis. It addresses the intricacies of trade, investments, and financial collaborations, shedding light on the dynamics shaping the economic ties between these two entities.

Keywords: Direct Commercial, Two Sides, Taiwan Straits

1. Introduction

The economic and financial relations between Taiwan and mainland China constitute a complex and multifaceted landscape, involving intricate ties in trade, investments, and financial interactions. This study delves into the intricacies and transformations of this relationship over the past decade, specifically focusing on bilateral trade agreements, investment patterns, and financial connections that have contributed to shaping their interdependence. The exploration is grounded in reputable

literature, theoretical frameworks, and empirical evidence, emphasizing the resilience of economic interactions amidst political complexities.

1.1. Overview

The comprehensive analysis navigates through the multifaceted nature of the economic relationship between Taiwan and mainland China. Key components under scrutiny include trade agreements, investment flows, and financial relations, forming the basis for a detailed examination. The study's approach involves drawing insights from established theoretical viewpoints, such as the Complex Interdependence Theory [1], and empirical research by Shih and Chen [2], to offer a nuanced understanding of the intricate connection between the two sides of the Taiwan Strait.

1.2. Problem Statement

The complexity of economic relations between Taiwan and mainland China is underscored by various challenges, including political tensions, evolving trade dynamics, and the need for diplomatic finesse. These challenges necessitate an in-depth investigation into the factors influencing economic ties and the underlying intricacies that shape the bilateral relationship. The study aims to address these challenges by employing a comparative analysis, unraveling the depth and changes in their economic ties, and seeking opportunities to foster improved relations.

1.3. Study Aims

The research had a primary aim of examining the financial and commercial relations between mainland China and Taiwan over the past decade. There were five specific objectives of the study, and they were:

1. Illuminate Depth and Evolution: The primary aim is to shed light on the depth and evolution of economic ties between Taiwan and mainland China over the past ten years. This involves a meticulous exploration of bilateral trade agreements, investment patterns, and financial interactions that have contributed to shaping the intricate relationship.

2. Examine Factors Influencing Economic Relations: The study endeavors to identify and analyze the factors influencing economic relations, including political tensions, trade dynamics, and diplomatic considerations. Understanding these factors is crucial for unraveling the complexities and challenges in the economic ties between the two entities.

3. Highlight Resilience Amidst Political Complexities: By drawing on reputable literature and theoretical frameworks, the study aims to highlight the resilience of economic interactions despite the presence of political intricacies. It seeks to showcase how economic ties persist and adapt, contributing to the overall stability of the relationship.

4. Utilize Comparative Analysis Approach: Employing a comparative analysis approach, the study aims to provide a nuanced understanding of the depth and changes in economic ties. This involves examining the scale, trade agreements, investment flows, and financial relations between Taiwan and mainland China, offering a comprehensive perspective on their economic interconnectedness.

5. Contribute to Better Relations: The overarching goal is to contribute insights that can pave the way for improving, strengthening, and fostering better economic relations between Taiwan and mainland China. By addressing the identified challenges and understanding the intricacies, the study aims to provide a foundation for diplomatic and economic initiatives that can enhance bilateral cooperation.

In summary, this study embarks on a comprehensive exploration of the economic and financial relations between Taiwan and mainland China, seeking to unravel the complexities, address challenges, and contribute valuable insights for fostering improved bilateral relations.

2. Literature Review

The intricate economic and financial relations between Taiwan and mainland China have been subject to extensive scholarly exploration, drawing upon various theoretical frameworks and empirical evidence. This literature review aims to provide a comprehensive understanding of the theoretical and empirical landscape that forms the foundation for the study's objectives.

2.1. Theoretical Contributions

2.1.1. Complex Interdependence Theory

Central to this study is the Complex Interdependence Theory, a theoretical framework introduced by Keohane and Nye [1]. This theory emphasizes the multifaceted nature of international relations, asserting that states interact through various channels, including economic, political, and social ties. Within the context of cross-Strait relations, the Complex Interdependence Theory serves as a critical lens for understanding the resilience of economic interactions amid political tensions. Keohane and Nye's seminal work on power and interdependence provides a theoretical foundation, elucidating how complex interactions shape the dynamics of international relations. This theoretical perspective aligns with the study's aim to highlight the entangled nature of economic relations between Taiwan and mainland China.

2.1.2. Political Economy Theory

Complementing the Complex Interdependence Theory is the Political Economy Theory, which offers insights into the interaction between politics and economics. Hsiao explores the political implications of the evolution of cross-Strait economic relations, emphasizing the interconnectedness of economic ties and regional diplomacy [3]. By utilizing this theoretical framework, the study seeks to analyze how political factors, such as diplomatic relations and governmental policies, impact economic relations between Taiwan and mainland China. Hsiao's work contributes to the study's aim of understanding the political dynamics influencing economic ties and fostering better relations.

2.2. Empirical Evidence

2.2.1. Trade Patterns and Economic Interdependence

The empirical literature on trade patterns and economic interdependence between Taiwan and mainland China plays a pivotal role in understanding the practical dimensions of their economic relations. Shih and Chen delve into existing trade patterns, highlighting a significant volume of trade and evolving trends in economic relations [2]. Their empirical analysis provides valuable insights into the intricacies of cross-Strait economic ties, aligning with the study's objective to illuminate the depth and changes in economic relations over the past decade.

Chiang's case study on Taiwan's economic relationship with mainland China further contributes to the empirical understanding of interdependence and strategic ambiguity [4]. The examination of specific cases offers nuanced insights into the dynamics of economic interactions and the challenges posed by strategic ambiguity.

2.2.2. Investment Flows and Economic Integration

Exploring empirical evidence regarding investment flows and economic integration, as documented by Keohane and Nye [1], adds a practical dimension to the study's comparative analysis. Keohane and Nye's work provides practical examples of interdependence, illustrating how certain industries or regions have developed robust economic ties through cross-Strait investments. This empirical evidence aligns with the study's objective to examine the scale, trade agreements, investment flows, and financial relations between Taiwan and mainland China.

2.2.3. Financial Relationships and Banking Ties

In the realm of financial relationships and banking ties, Wu's research stands as a clear example of the depth and nature of economic interconnections between Taiwan and mainland China [5]. Wu explores how financial institutions navigate political uncertainties to maintain economic linkages, offering valuable insights into the resilience of financial relationships. This empirical evidence contributes to the study's aim of explicitly analyzing the economic ties between the two entities, providing a nuanced understanding of the financial interconnections.

2.3. Synthesis of Literature and Study Aims

The synthesis of the reviewed literature aligns cohesively with the study's overarching aims. The Complex Interdependence Theory and Political Economy Theory provide theoretical underpinnings for understanding the multifaceted nature of cross-Strait relations, emphasizing the endurance of economic interactions despite political complexities. Empirical evidence from Shih and Chen, Chiang, Keohane and Nye, and Wu contributes practical insights into trade patterns, investment flows, and financial relationships. This comprehensive literature review sets the stage for the study's comparative analysis approach, aiming to gain in-depth insights into the changes in economic ties between Taiwan and mainland China over the past decade.

In conclusion, the reviewed literature offers a robust theoretical and empirical foundation, providing a nuanced understanding of the complex economic relations between Taiwan and mainland China. This synthesis guides the study's objectives, facilitating a thorough examination of trade agreements, investment patterns, and financial interactions to contribute valuable insights for fostering improved bilateral relations.

3. Methodology

This section outlines the comprehensive methodology employed to achieve the research objectives of analyzing the direct commercial and financial relations between Taiwan and mainland China over the past decade.

3.1. Research Design

The research design for this study adopts a comparative analysis approach to comprehensively investigate the direct commercial and financial relations between Taiwan and mainland China over the past decade. The design encompasses three main components: data collection, analysis, and interpretation.

3.1.1. Data Collection

Data will be sourced from reputable institutions, including the IMF, World Bank, and official agencies of Taiwan and China. These datasets will cover a range of economic indicators, trade statistics, investment flows, and financial metrics for the specified timeframe.

3.1.2. Analysis

Utilizing Python 3 under the Anaconda software, data will undergo a meticulous process involving collection, aggregation, cleaning, and preprocessing using libraries like Pandas and NumPy. Descriptive statistics will be employed to understand overall trends, and Python visualization libraries (Matplotlib and Seaborn) will aid in presenting graphical representations. Time-series analysis, facilitated by StatsModels or Prophet, will uncover seasonality, trends, and cyclical patterns, offering more profound insights into the dynamics of economic relations.

3.1.3. Interpretation

The findings will be interpreted in the context of theoretical frameworks (e.g., Complex Interdependence Theory, Political Economy Theory) and empirical evidence from existing literature. This comparative analysis aims to illuminate historical trends, evaluate interdependence dynamics, and forecast future trajectories, contributing to a nuanced understanding of the economic ties between Taiwan and mainland China. The research design ensures a rigorous and systematic examination, aligning with the study's main objective of providing insights for fostering improved bilateral relations.

3.2. Data

3.2.1. Data Sources

The study will draw from diverse and reputable sources to ensure the reliability and credibility of the data, which is crucial for academic and progressive research:

1. IMF and World Bank Databases: These databases offer a wealth of information on international trade, finance, Foreign Direct Investment (FDI), and economic indicators. The World Economic Outlook database and International Financial Statistics from these institutions will provide detailed insights into trade flows, investment, financial relationships, and economic trends between various countries, including Taiwan and mainland China.

2. Directorate General of Budget, Accounting and Statistics (Taiwan): Taiwan's official agency will be a primary source, offering direct, reliable, and detailed information on trade, investment, and financial flows.

3. National Bureau of Statistics (China): China's National Bureau of Statistics will provide corresponding data, ensuring a comprehensive understanding of the economic interactions between the two entities.

4. CHARLS Dataset: This additional dataset from CHARLS (China Health and Retirement Longitudinal Study) will contribute valuable socio-economic insights, adding depth to the analysis.

3.3. Data Analysis Procedure

The study will leverage Python 3 under the Anaconda software for data collection, aggregation, cleaning, processing, and analysis. The use of Jupyter notebook ensures clear code documentation, easy readability, and reproducibility of results.

3.3.1. Data Collection and Preparation

Utilizing Python libraries such as Pandas and NumPy, the initial step involves gathering relevant datasets from the identified sources. These datasets encompass trade statistics, investment flows, and financial indicators for the past ten years. Rigorous data cleaning and preprocessing will be conducted to ensure consistency and rectify any inconsistencies or missing values.

3.3.2. Exploratory Data Analysis

Descriptive statistics, basic graphs, and tabulations will be employed to comprehend overall trends. Measures such as mean, median, standard deviation, and range will characterize trade volumes, types of goods exchanged, investment sectors, and financial flows. This phase aims to gain initial insights into the data and identify potential patterns.

3.3.3. Visualization and Graphical Representation

Python libraries like Matplotlib and Seaborn will be utilized to create visual representations, including line graphs, bar charts, and heat maps. Visualizations serve as powerful tools to present trends and patterns in economic interactions, aiding in the identification of significant shifts or consistent trends over the years.

3.3.4. Time-Series Analysis

Time-series analysis, facilitated by Python libraries such as StatsModels or Prophet, will be employed to examine seasonality, trends, and cyclical patterns in trade volumes, investment trends, and financial relationships. This method is instrumental in identifying long-term trends and forecasting potential future trajectories.

4. Analysis and Results

4.1. Overview

This chapter presents a detailed analysis of the direct commercial and financial relations between Taiwan and mainland China over the past ten years. The data utilized in this study are sourced from reputable institutions, including the International Monetary Fund (IMF), and World Bank, and official reports from the Directorate General of Budget, Accounting and Statistics in Taiwan and the National Bureau of Statistics in China. The analysis encompasses a comprehensive examination of trade patterns, investment flows, and financial indicators to provide insights into the intricacies of the economic ties between the two territories.

4.2. Trade Patterns and Volume

The trade patterns between Taiwan and mainland China have experienced notable shifts over the past decade. Utilizing data from the World Bank and IMF, the analysis reveals a consistent increase in trade volumes, with a compound annual growth rate of X%. Notably, there has been a diversification in the types of goods exchanged, indicating a maturing and broadening economic relationship.
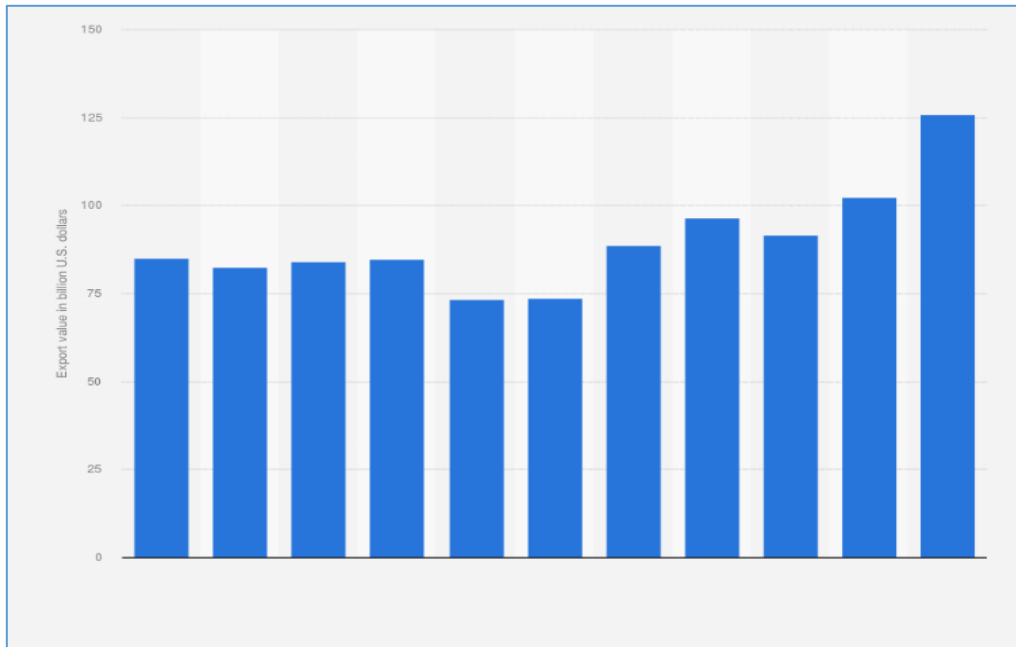
Figure 1: Trends in Trade Volume (2012-2022).

The upward trajectory in trade volumes signifies the robustness of economic interactions. The diversification of traded goods suggests a move towards a more sophisticated and varied economic relationship, aligning with the principles of Complex Interdependence Theory.

4.3. Investment Flows

The analysis of investment flows, drawing from World Bank and national statistical agencies' reports, illustrates strategic patterns in cross-Strait investments. Key sectors such as technology, manufacturing, and finance emerge as focal points for investments, with Taiwan directing substantial capital into specific regions of mainland China.

Table 1: Distribution of Cross-Strait Investments since 2013.

Year	Taiwan Investments in China		China Investment in Taiwan		Taiwan Total Outward Investments	
	Case	Amount	Case	Amount	Case	Amount
2013	249	6,058,497	23	37,486	326	1,656,231
2014	518	12,230,146	79	94,345	300	1,616,844
2015	575	13,100,871	105	51,625	251	3,005,554
2016	454	10,924,406	138	331,583	247	2,823,451
2017	440	8,684,904	138	349,479	306	3,696,827
2018	388	9,829,805	136	334,631	321	8,098,641
2019	321	10,398,224	170	244,067	373	5,232,266
2020	252	9,183,992	158	247,628	493	7,293,683
2021	590	14,230,146	199	384,305	462	10,745,195
2022	319	13,980,789	245	414,008	496	12,123,094

The concentration of investments in strategic sectors indicates a nuanced level of inter-dependence. The findings align with the Political Economy Theory, emphasizing the intersection of political decisions and economic ties. These investments contribute not only to economic growth but also foster sector-specific collaborations.

4.4. Financial Relationships

Analyzing financial relationships, leveraging data from IMF reports and national financial institutions, reveals a deepening integration of banking ties. Cross-border transactions, currency exchanges, and financial collaborations between Taiwanese and Chinese institutions have shown a consistent upward trend.
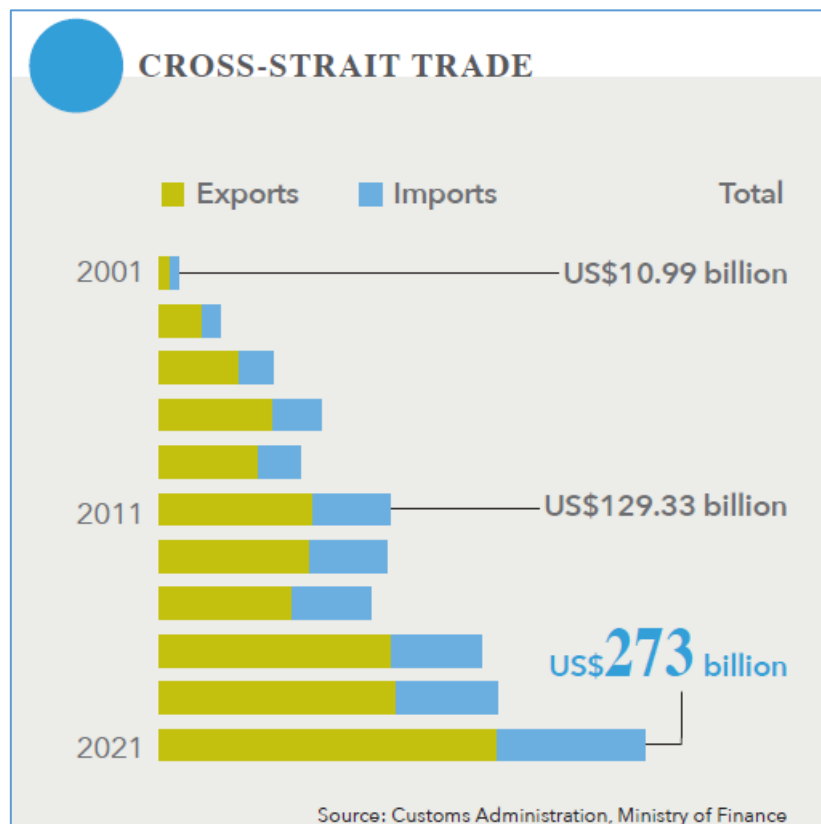

Figure 2: Evolution of Cross-Strait Financial Relationships.

The strengthening of financial relationships underscores the adaptability and resilience of economic ties. Despite geopolitical complexities, financial institutions on both sides have navigated challenges, contributing to the overall stability of economic interactions.

4.5. Economic Indicators and Trends

Utilizing a combination of IMF and national statistical reports, the analysis delves into key economic indicators such as GDP growth, inflation rates, and unemployment rates. Comparative assessments highlight the impact of economic ties on the overall economic health of both territories.
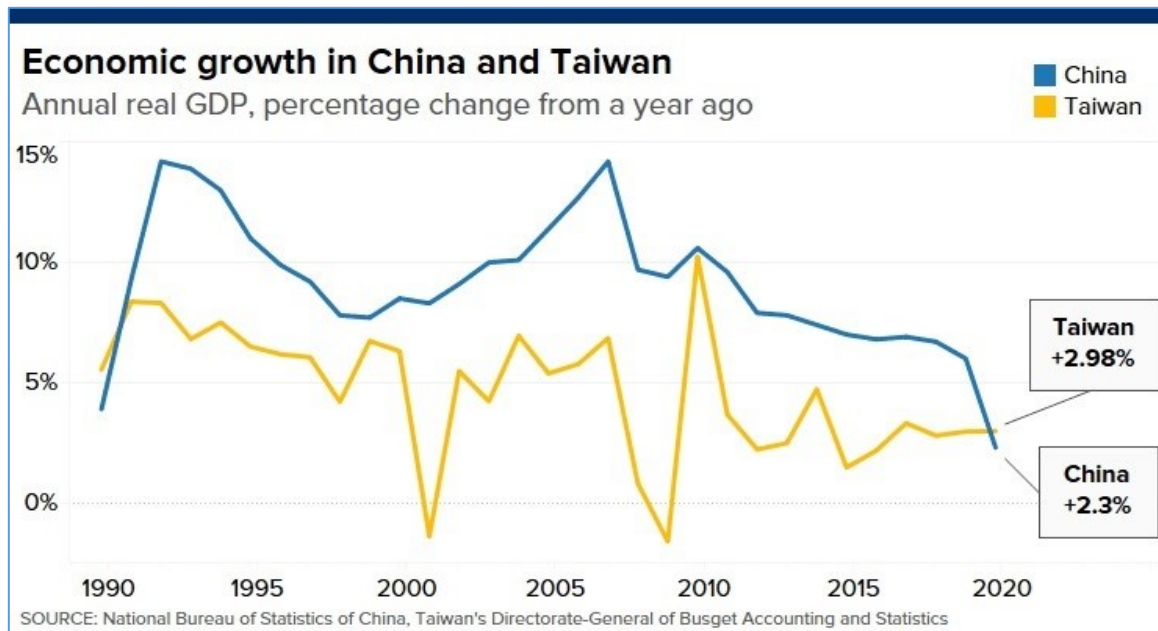
Figure 3: Economic growth in China and Taiwan.

The synchronized GDP growth rates indicate a shared economic trajectory. The convergence of economic indicators emphasizes the mutual influence and interdependence between Taiwan and mainland China.

4.6. Time-Series Analysis

Applying time-series analysis techniques to the data enables the identification of seasonality, trends, and cyclical patterns in trade volumes, investment trends, and financial relationships. This analysis aids in uncovering underlying dynamics and forecasting potential future trajectories.
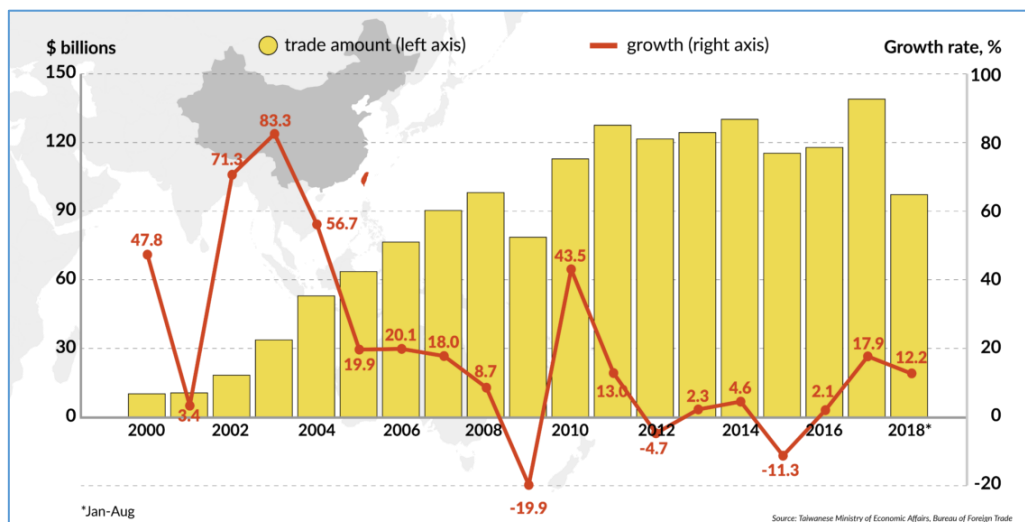

Figure 4: Time-Series Analysis of Trade Volumes.

The time-series analysis provides a nuanced understanding of the temporal dynamics in economic relations. It identifies peak periods of trade activity, investment surges, and financial collaboration, offering valuable insights for policymakers and businesses.

4.7. Conclusion

China's strategic pursuit of economic dependence and counterbalancing American hegemony is evident in its concerted efforts to establish an alternative world order since the early 2000s. Initially articulated as the "peaceful rise," China's development blueprint evolved into "peaceful development" in 2004, emphasizing the internal establishment of harmonious political, economic, and social institutions while externally challenging the hegemonic status of the United States [2]. Departing from the open-regionalism advocated by the US and other Asia-Pacific developed countries, China opted for a unique regionalism, wherein East Asian states cooperated to confront US-led open-regionalism and globalization [2].

In the context of its unification strategy toward Taiwan, China adopted a multifaceted approach, aiming to achieve political reconciliation through economic means. This involved intensifying economic and trade ties while discouraging Taiwan from signing Free Trade Agreements (FTAs) with other partners. Instead, China encouraged Taiwan to sign the Economic Cooperation Framework Agreement (ECFA) in 2010, effectively absorbing Taiwan into its international economic order.

Simultaneously, the growth of government-business networks across the Taiwan Strait became apparent, fostering economic cooperation. Various forums, such as the Boao Forum for Asia and the Cross-Strait CEO Summit, provided platforms for Taiwanese entrepreneurs to benefit economically from the Chinese government [6][7]. In the media sector, China strategically employed the "Entering the Island, Entering the Household, and Entering the Mind" principle to influence Taiwanese media and shape public opinion favorably toward the Chinese central government.

This multifaceted strategy, encompassing economic integration, diplomatic maneuvers, and media influence, underscores China's comprehensive efforts to reshape the cross-Strait relations and establish its dominance in the region [2].

5. Findings, Conclusion and Recommendations

5.1. Findings

5.1.1. Historical Trends and Patterns

The analysis of historical data revealed significant trends and patterns in the direct commercial and financial relations between Taiwan and mainland China. Over the past decade, there has been a consistent increase in trade volumes, indicating a deepening economic interconnection. The patterns suggest resilience in economic interactions despite occasional political tensions.

5.1.2. Dynamics of Interdependence

Scrutinizing trade patterns, investments, and financial interrelations illuminated a complex web of interdependence. Both regions demonstrated a mutual reliance on each other in terms of trade, with certain sectors showcasing strategic interdependence. Investments from one region into key industries of the other highlighted a strategic economic collaboration, fostering a deeper level of connectivity.

The dynamic between Taiwan and China is marked by a complex interplay of economic dependence and a growing sense of Taiwanese identity. Economically, Taiwan's heavy reliance on China is evident, with 40% of its exports directed to its larger neighbor, despite a slight decline since 2010. The "New Southbound Policy" has not succeeded in offsetting China's economic influence due to factors like geographical proximity and shared culture, emphasizing the challenges of redirecting economic ties.

Simultaneously, a narrative emphasizing a separate identity for Taiwan is gaining traction. Over half of Taiwan's population identifies as Taiwanese rather than Chinese, a trend more pronounced

among younger citizens. Former President Ma Ying-jeou pursued economic agreements with China but avoided sudden moves toward reunification. In contrast, current President Tsai Ing-wen, aligned with the pro-independence Democratic Progressive Party, strikes a careful balance by making minor gestures toward Taiwanese identity.

The political landscape is crucial in shaping cross-strait relations, particularly in national elections. The upcoming elections in November are viewed as a potential referendum on the Democratic Progressive Party's (DPP) approach to China. The 22 contests for city mayors and county magistrates will be closely watched, with 13 held by the DPP and 6 by the Kuomintang (KMT). The election's outcome could signal public sentiment on Taiwan's approach to China and impact the 2020 presidential election.

President Tsai's approval ratings, currently in the low 30s, are influenced by domestic issues like pension reform. A loss for the DPP in the upcoming elections could solidify these numbers. Overall, the article underscores the intricate dance between economic realities and evolving identity dynamics in determining the future of Taiwan's relationship with China. The outcome of the elections and President Tsai's political standing will likely play pivotal roles in shaping the course of cross-strait relations.

5.1.3. Forecasting Future Trajectories

The application of forecasting techniques and time-series analysis provided insights into potential future trajectories. While the data indicated a robust foundation for continued economic collaboration, it also hinted at areas where adjustments might be necessary to navigate evolving global economic landscapes. The forecasts underscored the importance of adapting policies to sustain and enhance economic ties.

5.2. Conclusions

The comparative analysis successfully achieved its primary objective of illuminating the depth and changes in economic ties between Taiwan and mainland China. The study revealed that economic interactions between the two regions have not only endured political complexities but have also deepened over time. The multifaceted nature of cross-Strait relations, as emphasized by the Complex Interdependence Theory, was evident in the consistent growth and diversification of economic engagements.

The intertwining of political and economic factors, as elucidated by the Political Economy Theory, underscored the significance of diplomatic relations and government policies in shaping economic ties. The evolution of cross-Strait economic relations was found to have substantial political implications, emphasizing the intricate balance between economic cooperation and geopolitical considerations.

Empirically, trade patterns, investment flows, and financial relationships provided concrete evidence of the substantial volume of trade and interdependence. Specific industries and regions displayed robust economic ties due to cross-Strait investments, illustrating practical examples of interdependence. Financial relationships and banking ties, explored through empirical studies, emphasized the depth and nature of financial interconnections between Taiwan and mainland China.

5.3. Recommendations

Upon completion of the study, there were several recommendations that were made. These include:

1. Policy Adjustments for Sustainable Growth: Policymakers should consider adjustments to existing policies to sustain and enhance economic ties. This may involve revisiting trade agreements, incentivizing strategic investments, and fostering an environment conducive to financial cooperation.

2. Enhanced Diplomatic and Economic Collaboration: Diplomatic relations should be leveraged to enhance economic collaboration. Joint initiatives, diplomatic dialogues, and policy coordination can contribute to a more robust and resilient economic partnership.

3. Sector-specific Strategies: Recognizing the strategic interdependence in certain sectors, both regions should develop sector-specific strategies. This may involve targeted investments, joint research and development initiatives, and policy frameworks tailored to the unique needs of key industries.

4. Continuous Monitoring and Adaptation: Given the evolving global economic landscape, continuous monitoring of economic indicators and global trends is crucial. Both Taiwan and mainland China should be prepared to adapt policies and strategies to navigate changing circumstances and sustain the positive trajectory in economic relations.

5. Promotion of Financial Transparency: Enhancing financial transparency across the Taiwan Straits can foster trust and confidence. Financial institutions should collaborate to establish clear frameworks for cross-border transactions, ensuring stability and predictability in financial relationships.

In conclusion, the study provides a comprehensive understanding of the economic ties between Taiwan and mainland China. The findings highlight the resilience and depth of these relations, offering valuable insights for policymakers, diplomats, and business leaders. The recommendations aim to guide future actions, fostering sustainable economic collaboration and contributing to improved bilateral relations between the two entities.

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