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Institutional Capacity and Strategic Policy Design in Building Financial Hubs in Emerging Economies

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ABSTRACT: The success of global financial centres increasingly hinges not only on favorable economic and geographic conditions but also on the strength, transparency, and adaptability of their governance frameworks. As many developing economies strive to establish themselves as competitive global financial hubs, this study provides empirical insights to guide strategic policymaking in such contexts. Utilizing Propensity Score Matching (PSM), the research investigates the relationship between national characteristics and Global Financial Centres Index (GFCI) ratings. The findings underscore the pivotal role of governance quality, with variables such as government effectiveness, political stability, and voice and accountability positively influencing GFCI performance. Additional contributors include foreign direct investment (FDI), population growth, air cargo capacity, and commercial bank density. In contrast, overly stringent regulatory quality and high levels of perceived corruption are negatively correlated with GFCI scores, highlighting the need for balanced regulatory efficiency. These measures are critical for many developing economies to enhance their competitiveness and resilience in the global financial system. Robustness checks through sensitivity analysis confirm the stability and validity of the findings, even in the presence of potential hidden biases.

KEYWORD: Global Financial Centers, Propensity Score Matching, Governance Indicators, Urban Financial Policy.
JEL CLASSIFICATION: G18, O16, R11, L52.

1. INTRODUCTION

Global financial centers (GFCs) have become pivotal nodes for global capital flows, trade, and innovation. Traditionally, the leading GFCs in developed economies, such as London, New York, Hong Kong, and Singapore, have held a strong grip on the scene, thanks to their deep markets and robust institutions (Church, 2017; Z/Yen Group, 2024). However, we're now seeing emerging-market centers stepping into the spotlight. Recent editions of the Global Financial Centres Index (GFCI) reveal that the Asia-Pacific region is becoming increasingly competitive: six cities from this region have made it into the global top 20, and every regional center has improved its score. Notably, new-generation hubs such as Hangzhou, New Delhi, Kuala Lumpur, Ho Chi Minh City, Manila, and India's GIFT City have each climbed six or more spots in the latest rankings. This shift reflects significant structural changes as economies like China, India, and the ASEAN countries are growing, and their financial centers are capturing a larger slice of global financial activity. Scholars stress that beyond market size and openness, institutional quality is central to GFC success. The World Bank's governance indicators outline six key pillars: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption. These factors are essential for economic performance. Research, such as studies by Eichengreen & Shah (2020) and Kaufmann et al. (2011), shows that higher ratings in these areas correlate with more developed capital markets and a stronger financial sector. In the Asia-Pacific region, Vo and Nguyen (2021) identify the most robust determinants of GFC emergence as international trade freedom, advanced education/training, and large market size. In essence, institutions and human capital are vital: cities that blend open trade policies, skilled workforces, and stable, transparent governance are more likely to attract investment and improve their GFC rankings. Conversely, weak institutions or corruption can deter long-term investment. Therefore, emerging economies's aspirations for its financial centers depend not just on new infrastructure and technology, but also significantly on regulatory reforms and the quality of governance. A number of emerging governments in Asia are actively fostering financial hubs. For example, India has been developing GIFT City as an international financial services enclave, and it has seen impressive gains in the Global Financial Centres Index (GFCI). So GIFT City climbing to 52nd place and Mumbai to 54th in GFCI 36. Over in Southeast Asia, Kuala Lumpur has introduced the Tun Razak Exchange as a new financial district, while Indonesian officials are exploring the idea of a "Nusantara Financial Centre" in their new capital. These examples highlight that while infrastructure and governance can differ, effective policy coordination and integration with global networks

remain essential in every case. This study positions the ambitions of aspiring financial centers in emerging economies within the larger global and regional context. We begin by examining the changing role of Global Financial Centers and highlight the emergence of new financial hubs in developing markets. Next, we compare governance and policy frameworks from key cities in emerging Asia, such as Singapore, Mumbai/GIFT City, Jakarta/Nusantara, Kuala Lumpur, and Manila, to uncover valuable insights that can be applied. Simultaneously, we conduct a quantitative analysis of 29 Asian financial centers using GFCI data from 2006 to 2023, employing techniques like propensity-score matching and regression analysis. Our empirical model assesses how institutional variables (governance indicators from the World Bank, financial sector regulations) and connectivity factors (infrastructure, FDI inflows) correlate with a city's GFCI rating. Preliminary results reinforce the qualitative narrative: higher government effectiveness, political stability, and voice/accountability significantly boost financial center performance, while corruption and excessive policy rigidity drag it down (consistent with Kaufmann et al., 2011). Physical infrastructure (air cargo capacity, ICT access, financial sector size) and openness to capital flows also show positive effects. These findings explain why cities that have improved their institutional scores tend to climb the GFCI (e.g. HCMC, Manila) and others stall when governance lags. Finally, by synthesizing lessons from peer cities with the data-driven evidence, we outline recommendations for the pathway of aspiring financial centers in emerging economies. The goal is a hybrid governance model. It could maintains the government's oversight while granting enough legal certainty and efficiency to attract international finance. For instance, simplifying licensing processes (similar to Singapore's unified Monetary Authority of Singapore), ensuring judicial predictability (like the systems in Hong Kong and the United Kingdom), and investing in digital infrastructure can all be harmonized with Vietnam's social and political goals. Throughout this process, the strategy should be gradual and flexible, targeting institutional benchmarks (like improved World Governance Indicators scores) alongside concrete projects (such as new bond markets and fintech sandboxes).

2. LITERATURE REVIEW AND COMPARATIVE GOVERNANCE FRAMEWORKS

2.1. The Role of Institutional Quality in the development of GFCs:

The rise and resilience of GFCs have increasingly been linked to institutional and governance quality. These factors, alongside robust economic fundamentals, are well documented in academic literature (Church, 2017; Nguyen, Nguyen, & Vo, 2020; Vo & Nguyen, 2021; Phung, Truong, & Trinh, 2023). As competition intensifies among cities to attract financial flows and talent, the governance framework underpinning a GFC becomes a critical determinant of its long-term competitiveness. The role of governance in shaping the competitiveness and credibility of GFCs has been well-documented. Strong institutions, characterized by secure property rights, effective governance, and a robust rule of law, attract investment, reduce risk premiums and significantly influences financial market development (Glaeser et al., 2004; Kaufmann et al., 2011; Church, 2017; Vo & Nguyen, 2021). For instance, Kaufmann et al. (2011) provide a foundational governance framework and suggest key governance indicators, such as regulatory quality, government effectiveness, and rule of law. These elements are frequently used to assess institutional readiness in financial centers across both developed and emerging economies. Similarly, Church (2017) offers a historical and comparative analysis of leading financial centers such as London, New York, and Hong Kong. He demonstrated that long-term competitiveness stems from institutional stability and regulatory coherence. In the context of both advanced and emerging markets in Asia, Vo & Nguyen (2021) explores governance quality as a determinant of financial center status. They examine the determinants of financial center status and emphasize the need for high-quality governance structures in cities like Ho Chi Minh City (HCMC) to emerge as global financial players. Moreover, Phung, Truong, and Trinh (2023) highlight how the evolution of both Western and Asian financial centers has been driven by institutional reform, the rule of law, and regulatory innovation. In addition, recent studies demonstrate that successful GFCs often employ governance models that combine legal autonomy, regulatory clarity, and administrative efficiency. According to Yılmaz and Gönenç (2020), leading GFCs such as Dubai and Hong Kong are characterized by key governance features. These include independent regulatory authorities with rule-making and enforcement autonomy. They also utilize common law or hybrid legal systems to enhance investor protection. The presence of specialized financial courts or robust dispute resolution mechanisms is vital, as is institutional clarity with clearly defined roles between central and sub-national agencies. For example, The Dubai GFC serves as a prime example. It utilizes a separate legal system based on English common law, its own Financial Services Authority, and a dedicated commercial court. These elements collectively enhance legal certainty and reduce institutional friction. So the evolution of the Dubai GFC highlights the importance of establishing an independent legal framework. This framework includes its own courts and preferential tax policies to attract international capital. Likewise, Singapore's Monetary Authority of Singapore (MAS) adopts a centralized yet flexible regulatory framework (Nguyen et al., 2020). It consolidates banking, insurance, and capital market oversight under a single authority. These studies demonstrate that civil law jurisdictions can integrate hybrid institutional structures, such as special economic zones or arbitration centers, without undermining their legal

heritage. Consequently, for emerging markets, the establishment of a GFC is not merely a financial ambition. It also serves as a vehicle for institutional reform and capacity-building. As such, creating a transparent, coherent, and internationally adaptable legal-institutional framework becomes a strategic imperative. Nevertheless, this transition is not without challenges. As Doh, Rodrigues, Saka-Helmhout, & Makhija (2017) argue, multinational firms often navigate institutional voids in emerging markets by leveraging local partnerships and adjusting their business models to mitigate legal or regulatory uncertainty. Accordingly, the development of GFCs in such contexts demands tailored governance strategies, rooted in local legal traditions but informed by global standards. So that can attract investment, build trust, and position cities like HCMC as credible players in the global financial landscape.

2.2 Macroeconomics factors and Financial Centre Competitiveness:

The competitiveness of GFCs is a complex issue that goes beyond just their economic size. It encompasses a thriving business environment, top-notch infrastructure, skilled human capital, and solid institutional frameworks (Eichengreen & Shah, 2020; Vo & Nguyen, 2021). Foundational research has consistently pointed out the importance of viewing GFCs as dynamic ecosystems influenced by the interplay of economic, regulatory, and socio-political factors (Church, 2017; Eichengreen & Shah, 2020). Yet, there's a notable gap in the existing literature. Only a handful of studies have thoroughly quantified the intricate relationships among these factors using extensive, longitudinal, cross-country datasets (Athey et al., 2023; Belotti, Hughes, & Mortari, 2017). This study aims to explore the impact of various macroeconomic elements, along with institutional and infrastructural influences. It specifically builds on insights from the Bank for International Settlements (2022), which underscores the growing significance of cross-border capital flows and the institutional framework needed to support them. Gross Domestic Product (GDP) per capita serves as a key indicator of economic development. In theory, a higher GDP per capita can lead to more sophisticated financial systems and a greater demand for advanced financial services (McCann & Van Oort, 2019). Such conditions are favorable for the development of financial centers and the deepening of capital markets. This idea, often referred to as agglomeration economies, suggests that concentrating economic activities and skilled workers can create strong, self-reinforcing cycles of growth. However, the real-world evidence paints a more intricate picture. GDP per capita by itself doesn't always predict the success of a financial center in a straightforward way. Scholars point out that cities like Dubai and Shanghai frequently outshine wealthier counterparts in the Global Financial Centres Index (GFCI) rankings, even though their income levels are more modest (Eichengreen & Shah, 2020). This discrepancy underscores the importance of additional factors, such as strategic policy initiatives, regulatory innovation, and high-quality institutions (Vo & Nguyen, 2021; Dörry, 2025). In the end, it seems that the quality and sustainability of economic growth matter more than just the sheer amount when it comes to establishing a leading financial hub. Foreign Direct Investment (FDI) inflow is a critical macroeconomic indicator that tells us a lot about how open a country is to global capital and how appealing it is as a business hub (Pham, Gan, & Hu, 2022). But FDI is about more than just bringing in money. It also helps with technology transfer, brings in advanced management skills, and encourages integration into global value chains—all of which are crucial for a modern financial center. Additionally, Pham et al. (2022) highlight a two-way relationship between FDI and financial development in many developing countries. This creates a positive feedback loop where stronger financial systems attract high-quality FDI, which then leads to even more sophistication and growth in the market. It's also important to note that government policies play a significant role in making a country more attractive for FDI. For instance, investing in education and human capital can really help drive long-term economic growth. Additionally, several other macroeconomic indicators offer valuable insights into the broader ecosystem underpinning financial center competitiveness. Among these, the Domestic Financial Intermediation Ratio serves as a strong measure of financial intermediation. A high ratio typically reflects the efficient allocation of capital toward productive investments, business expansion, and innovation—all of which enhance economic dynamism (Van, Vo, Nguyen, & Vo, 2021). Similarly, Trade (as a % of GDP) acts as a proxy for economic openness. Countries with higher trade volumes often see a greater demand for cross-border financial services like trade finance, foreign exchange, and investment banking—essential services for global financial hubs (Phung et al., 2023). However, we can't overlook the importance of macroeconomic stability; it's crucial for maintaining these advantages. High or fluctuating inflation can shake investor confidence, diminish real returns, and create uncertainty, which can scare off both domestic and foreign investments. Specifically, when inflation stays high, it drives up business costs and lowers the quality of life, which can hurt the "business environment" and "human capital" aspects of GFCI evaluations (Yıldırım & Mullineux, 2015; Eichengreen & Shah, 2020). So, effective monetary policy and inflation control are absolutely essential for long-term success.

When looking at demographics, it's clear that population growth has a big impact on how financial centers develop (Kapaya, 2023). On one side, a rising population boosts both the workforce and the number of financial consumers, which helps diversify financial services. On the flip side, it also requires significant investments in urban infrastructure, education, and digital platforms. This is especially true in

emerging markets, where demographic trends play a crucial role in financial development. A young, tech-savvy population can speed up the adoption of FinTech, enhance financial inclusion, and spark innovation in financial services—this is what economists call a "demographic dividend" (Van et al., 2021; Kapaya, 2023). To thoroughly assess the impact of these macroeconomic factors, we need to pay close attention to how we design our methods. Observational data can often suffer from selection bias, confounding, and endogeneity. Luckily, recent advancements in semi-parametric estimation offer more reliable tools. These techniques enable us to estimate treatment effects without being tied down by overly strict parametric assumptions (Athey et al., 2023). Furthermore, when combined with propensity score matching and stratified sampling techniques, researchers can better infer causality even in complex panel data contexts.

2.3. Infrastructure and Global Financial Centres' Atrraction:

Infrastructure plays a crucial role in the competitiveness of Global Financial Centres (GFCs). For cities looking to maintain or improve their global financial status, developing and continuously enhancing infrastructure across various dimensions is essential. This includes transport, digital, financial, legal-regulatory, and social infrastructure. Each component supports the operations of financial institutions. They also enhance a city's ability to attract and retain talent, investment, and firms (Valdez & Molyneux, 2016; Martin & Pollard, 2017). Efficient transport infrastructure is often viewed as the backbone of a financial centre's connectivity. Leading GFCs serve as global transport hubs as they facilitate the smooth movement of professionals and capital. For instance, London benefits from one of the busiest air networks. Heathrow Airport and developments like the Elizabeth Line significantly enhance links between financial districts and international gateways (TheCityUK, 2023). In addition, Singapore's Changi Airport connects to over 160 cities and leverages its strategic location (ASEAN Briefing, 2025). Moreover, Dubai has invested in transport, particularly through Dubai International Airport, which serves over 265 destinations globally. This positions Dubai as a key nexus between Europe, Asia, and Africa (Investment Monitor, 2022). Similarly, Hong Kong International Airport, along with the city's efficient port and transit system, reinforces its role as East Asia's financial hub (Victor, 2025). Studies show that air transport correlates strongly with GDP growth and foreign direct investment (Zhang & Graham, 2020). Thus, Hall (1966) and Sassen (1994) describe financial centres as nodes in global networks that heavily rely on air accessibility. In the digital age, technological infrastructure is just as vital as physical connectivity. High-speed telecommunications, reliable broadband, and robust data centres support operations ranging from high-frequency trading to international teleconferencing. For example, Singapore stands out with some of the fastest internet speeds and a well-developed ICT ecosystem that fosters fintech growth (ASEAN Briefing, 2025). Similarly, London and New York feature advanced digital infrastructures. They are characterized by low-latency fiber networks that facilitate financial transactions and communication across time zones. Additionally, cities like Dubai and Abu Dhabi are proactive in establishing fintech zones and regulatory sandboxes. The Dubai International Financial Centre offers an "Innovation Hub" and "Innovation Testing Licence" to support cutting-edge financial technologies (DFSA, 2025). These initiatives align with the perspectives of Chenet, Ryan-Collins, and van Lerven (2021), who highlight the significance of institutional adaptability and digital transformation in fostering sustainable finance. Moreover, financial infrastructure, which includes a dense concentration of banks, capital markets, and payment systems, is foundational to any GFC. Key indicators include a strong banking sector, active equity and debt markets, and efficient settlement systems. London and New York exemplify this, hosting global banks and the world's most liquid stock exchanges. Additionally, Singapore, with banking assets over US$1.64 trillion and a market capitalization of US$644 billion, showcases similar strengths (ASEAN Briefing, 2025). Likewise, Hong Kong features a vast network of international banks and the Hong Kong Stock Exchange. Furthermore, payment infrastructure, such as national real-time gross settlement systems and integration with global platforms like SWIFT, ensures secure and swift financial transactions. Cetorelli (2013) highlights the need for flexibility in financial systems to adapt to trends like cross-border mergers and acquisitions. In addition, Van, Vo, Nguyen, & Vo (2021) emphasize the importance of commercial banking outreach. A dense network of bank branches promotes SME financing and supports capital market development. Finally, social infrastructure and quality of life greatly influence a city's appeal to global talent. Factors such as housing affordability, access to healthcare and education, safety, and overall livability play an increasingly important role in the decision-making of high-skilled professionals. Consequently, financial centres invest heavily in amenities to enhance living standards. For instance, Singapore is known for its clean, safe environment and excellent public services. Meanwhile, London boasts a vibrant cultural scene. Furthermore, Dubai has gained recognition as the most livable city in the Middle East, offering premium healthcare, international schools, and modern amenities (Investment Monitor, 2022). In addition, Abu Dhabi's ADGM markets itself as family-friendly, while the DIFC targets younger professionals (TheCityUK, 2023). Thus socio-cultural openness and livability are becoming key differentiators for the next generation of GFCs.

3. METHODOLOGY

3.1. Model Specification:

This research aims to investigate the structural drivers that differentiate high-performing global financial centres (GFCs) from others in Asia by estimating the causal effect of governance quality, macroeconomic development, and connectivity infrastructure on the likelihood of attaining top-tier financial hub status. Therefore, the study applies propensity score matching (PSM) to create a statistically comparable control group of financial centres that share similar baseline characteristics but differ in key governance and economic attributes. This quasi-experimental design allows for a more credible estimation of the marginal effects of these factors on GFC performance by mitigating selection bias and confounding due to observed covariates. Further, the research adopts a robust panel-data econometric framework, integrating PSM with fixed-effects modeling, to capture both the cross-sectional heterogeneity and temporal dynamics shaping GFC competitiveness. Drawing on institutional theory (North, 1990) and agglomeration economics (McCann & Van Oort, 2019), it examines how national governance frameworks, measured through the World Bank's Worldwide Governance Indicators interact with macroeconomic factors and connectivity infrastructure to influence GFCI ratings over time. This analytical approach aligns with contemporary research on the institutional and economic foundations of financial sector competitiveness (Glaeser et al., 2004; Saka-Helmhout & Makhija, 2017). By combining PSM's covariate balancing capacity with panel fixed-effects regression's control for unobserved time-invariant heterogeneity, the study provides more reliable evidence on the causal impact of governance, macroeconomic, and infrastructure factors. It offers actionable policy insights for Vietnam, particularly for Ho Chi Minh City's strategic aspiration to become a globally competitive financial centre. The benchmarking against regional peers provides evidence-based guidance for designing urban financial governance reforms tailored to emerging market contexts. $GFC\text{-}Superior\text{-}Rating_{jt} = \beta_0 + \beta_1 Governance_{it} + \beta_2 Macro_{it} + \beta_3 Infrastructure_{it} + \mu_i + V_j + \lambda_t + \epsilon_{jt}$ The dependent variable in this study is a binary indicator, Global Financial Centre Superior Rating ($GFC\text{-}Superior\text{-}Rating_{jt}$), which takes a value of one if a centre's GFCI rating in a given period is above the mean GFCI rating for all centres in that period, and zero otherwise. It is a credible and comprehensive measure of financial center competitiveness. $Governance_{it}$ is a composite set of indicators reflecting the comprehensive quality of national governance for country i (where city j is located) in year t. Specifically, these critical indicators are meticulously sourced from the World Bank's Worldwide Governance Indicators (WGI) and collectively include Regulatory Quality, Government Effectiveness, Rule of Law, Political Stability and Absence of Violence/Terrorism, Voice and Accountability, and Control of Corruption (Kaufmann, Kraay, and Mastruzzi, 2011). It is important to note that the established quality of governance and the prevailing institutional environment are widely recognized as critical determinants of financial sector development, investor confidence, and the provision of a stable and predictable operating environment essential for financial institutions (Glaeser et al., 2004). Moreover, $Macro_{it}$ denotes a comprehensive set of macroeconomic indicators for country i in year t, reflecting the overall economic health, stability, and dynamism. These variables, primarily drawn from the World Bank's World Development Indicators (WDI), include GDP per capita, Consumer Price Index, Population Growth, Foreign Direct Investment, Domestic Credit to Private Sector (% of GDP), and Trade (% of GDP). Evidently, a stable and growing macroeconomic environment, characterized by sound fiscal and monetary policies, robust financial depth, and openness to international trade and investment, is universally acknowledged as indispensable for fostering a vibrant financial sector and attracting capital (Rodrik, 2007). $Infrastructure_{it}$ includes key infrastructure and connectivity variables for country i in year t, reflecting the foundational physical and digital assets supporting sophisticated financial activity. These include Air Connectivity, Air Cargo, and number of commercial bank branches per 100,000 adults. Indeed, robust physical and digital infrastructure is undeniably crucial for reducing transaction costs, facilitating rapid communication, supporting complex business operations, and enhancing the overall efficiency and global attractiveness of a financial center (Gatti, 2023). The fixed-effects model is instrumental in controlling for unobserved, time-invariant characteristics specific to each country and city, thereby mitigating potential omitted variable bias that might arise from unmeasurable factors (Belotti, Hughes, and Mortari, 2017). For instance, μ_i represents country fixed effects, designed to control for all unobserved time-invariant characteristics specific to each country that might influence GFC Index ratings. V_j represents city fixed effects, specifically capturing all unobserved time-invariant characteristics unique to each individual financial center such as inherent geographical advantages, initial endowment of specialized financial talent, or specific local policies. λ_t represents year fixed effects, accounting for common shocks or broader economic and technological trends affecting all financial centers in the sample over time including global financial crises, major technological waves, or shifts in global trade patterns. Finally, ϵ_{jt} is the error term, capturing all other unobserved variations.

3.2. Data Collection:

This study employs a comprehensive dataset to investigate the multifaceted determinants of a city's standing as a global financial center. The dataset contains a 17-year period, from 2007 to 2023. It includes 29 globally recognized financial cities strategically located across 13 strategically significant Asian economies. They are China, Hong Kong, India, Indonesia, Japan, Kazakhstan, Malaysia, the Philippines, Russia, Singapore, South Korea, Thailand, and Vietnam. It

would provide a rich, diverse, and representative sample for cross-country and longitudinal analysis. The dataset is collected from the World Bank's Development Indicators (WDI) and World Governance Indicators (WGI). The central metric utilized is the Global Financial Centers Index (GFCI), published biannually by Z/Yen Partners (UK) and the China Development Institute. The strength of the GFCI lies in its thorough methodology. This approach uniquely integrates a broad spectrum of instrumental factors. These factors are derived from extensive quantitative data covering the business environment, human capital, infrastructure, financial sector development, and international reputation. Additionally, it includes qualitative assessments obtained through an expansive online survey that engages thousands of financial professionals worldwide. Table 1 presents the descriptive statistics of the dataset and offers important insights into the competitiveness of financial centers. The average Global Financial Centres Index (GFCI) score is approximately 636.91, with a standard deviation of 72.26. It highlights considerable variation across the sampled cities. This variation reflects differing levels of financial development and competitiveness. The binary variable GFC Superior Rating has a mean of 0.527. It indicates that slightly more than half of the cities are categorized as top-tier financial centers. This relatively even split between leading and emerging centers provides a useful foundation for analyzing the determinants of financial center performance. Governance indicators are particularly significant in shaping the institutional conditions that support financial hubs. For example, Government Effectiveness has a mean of 0.614. It reflects relatively positive perceptions of public service quality and policy implementation. However, a standard deviation of 0.704 reveals notable variation and suggests that institutional efficiency remains uneven. Regulatory Quality shows a mean of 0.208. So it indicates that many countries possess formal regulatory frameworks, though improvements are needed in efficiency, transparency, and adaptability. The low average of Control of Corruption (0.067) and its relatively high standard deviation imply that corruption continues to be a major obstacle in many locations. In turn it undermines institutional trust and legal reliability. Further, The Rule of Law indicator, with a mean of 0.171, points to a moderate level of legal institutional strength across the sample. Thus, the wide spread in values signals that several cities continue to face challenges related to judicial independence and enforcement. Similarly, Political Stability and Absence of Violence has a negative mean of -0.215. It suggests that many cities experience political uncertainties or risks such as unrest or abrupt policy shifts. Finally, Voice and Accountability, averaging -0.495, reveals limited participatory governance in many of the sampled economies. It may potentially affect investor confidence and policy credibility. Moreover, economic indicators add further context. GDP per capita shows a relatively high mean of 9.251, suggesting a generally affluent sample. Foreign Direct Investment (FDI) has a consistent mean of 24.411. It indicates steady foreign capital flows across the cities. However, Domestic Credit to the Private Sector (mean = 124.176; SD = 53.931) and Trade as a percentage of GDP (mean = 73.65; SD = 43.14) highlight disparities in financial system development and trade openness. Price stability, reflected by the Consumer Price Index (mean = 125.466), shows moderate inflation levels across cities. Meanwhile, Population Growth (mean = 0.550) indicates growing labor forces and expanding markets, both of which are conducive to financial development. Infrastructure metrics such as air connectivity, average passenger traffic (13.67) and air cargo (8.657), demonstrate the importance of physical linkages in supporting global finance. Commercial Bank Density, with a mean of 15.626 branches per 100,000 adults, suggests variation in financial inclusion. Overall, the data confirm that governance quality remains a key differentiator for financial center performance.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
GFC_Superior_Rating	372	0.527	0.5	0	1
GFC Rating	372	636.914	72.264	414	772
Regulatory Quality	299	0.208	0.759	-1.142	2.309
Government Effective	299	0.614	0.704	-.712	2.47
Rule of Law	299	0.171	0.793	-1.197	1.838
Political Stability	299	-0.215	0.743	-1.729	1.599
Voice and Accountability	299	-0.495	0.98	-1.721	1.11
Control of Corruption	299	0.067	0.851	-1.141	2.232
GDP per capita	299	9.251	0.995	6.9	11.39
Foreign Direct Investment (FDI)	293	24.411	1.425	18.558	26.564
Domestic Credit to Private Sector (% of GDP)	285	124.176	53.931	27.253	196.832
Trade (% of GDP)	299	73.65	74.971	24.39	437.327

Consumer Price Index	318	125.466	27.344	74.325	227.603
Population Growth	299	0.55	.804	-4.17	5.322
Air Connectivity	245	13.67	1.125	10.942	15.418
Air Cargo	245	8.657	1.206	5.427	10.142
Commercial Bank Density	284	15.626	9.69	3.012	38.476

Source: Authors' calculations

4. RESULT ANALYSIS

4.1. Propensity Score Matching:

To thoroughly assess how national characteristics influence a city's status as a Global Financial Center (measured by GFCI), this study employs Propensity Score Matching (PSM). This approach is a quasi-experimental method (Rosenbaum & Rubin, 1985) that mitigates potential endogeneity and approximates randomization. PSM creates comparable "treated" (cities with GFCI above the mean) and "control" groups based on observable covariates. Building on an initial regression analysis that includes GFC and country fixed effects to control for time-invariant characteristics and unobserved heterogeneity, PSM further addresses omitted-variable bias by matching each treated unit with similar control units across 11 national characteristics. These include six World Governance Indicators (Regulatory Quality, Government Effectiveness, Rule of Law, Political Stability and Absence of Violence/Terrorism, Voice and Accountability, and Control of Corruption). Additionally, the research considers six macroeconomic factors (GDP per capita, Foreign Direct Investment, Consumer Price Index, Population Growth, Domestic Credit to the Private Sector, and Trade Openness) and three infrastructure variables (Air Connectivity, Air Cargo, and Commercial Bank Density). Table 3 presents the results of the propensity score matching (PSM) analysis. Columns (1) and (2) apply nearest neighbor matching without replacement, where each treated unit is paired with its single closest control unit, ensuring that each control is utilized only once. This method directly creates a matched sample of comparable units. Conversely, Column (3) employs kernel matching, a non-parametric approach that matches each treated unit to all control units, assigning weights based on the proximity of their propensity scores. This technique enhances match quality by aggregating information from numerous controls, thereby achieving a more robust balance of covariates (Caliendo & Kopeinig, 2008). Both matching approaches collectively demonstrate significant improvements in the balance between pre- and post-matched samples, a crucial indicator of PSM's effectiveness in reducing confounding bias. This is empirically evidenced by the substantial increase in the adjusted R-squared values, which rise from 0.306 in the pre-matched model to 0.609 (for nearest neighbor) and 0.555 (for kernel matching) in the post-matched models. This substantial improvement confirms the effectiveness of PSM in creating balanced groups, ensuring that the identified relationships are less confounded by initial discrepancies in institutional, economic, or infrastructure characteristics (Caliendo & Kopeinig, 2008). The inclusion of year fixed effects and country fixed effects in some specifications further enhances robustness by accounting for unobserved heterogeneity over time and across nations.

Table 2: Propensity Score Matching

Variables	**(1)**	**(2)**	**(3)**
	Propensity Score Matching (Pre-match)	**Propensity Score Matching (Post- match)**	**Propensity Score Matching (Post- match)**
Regulatory Quality	-116.3	-111.0***	-117.3***
	(5,490)	(26.97)	(32.02)
Government Effectiveness	307.6	297.5***	266.6***
	(5,280)	(15.81)	(15.39)
Rule of Law	-16.64	-18.55	-9.350
	(7,651)	(25.99)	(12.47)
Political Stability	17.26	18.69***	21.44***
	(1,994)	(3.162)	(4.283)

Accountability	45.68	41.31**	47.41***
	(5,119)	(19.12)	(12.26)
Corruption	-402.4	-386.2***	-350.9***
	(7,096)	(22.04)	(19.08)
GDP per capita	-154.4	-150.0***	-161.2***
	(5,448)	(16.70)	(13.20)
FDI	33.22	32.72***	27.78***
	(790.8)	(1.961)	(2.189)
Domestic Finance	-5.378	-5.066***	-4.623***
	(160.3)	(0.543)	(0.590)
Trade Openness	1.935	1.608	1.397
	(311.5)	(1.415)	(1.267)
Inflation rate	-2.440	-2.278**	-1.745**
	(193.2)	(0.891)	(0.789)
Population Growth Rate	158.9	160.3***	123.1***
	(10,128)	(34.06)	(23.32)
Air_Connect	25.83	23.19	24.16**
	(4,742)	(14.75)	(9.444)
Air_Cargo	145.7	139.3***	130.9***
	(2,206)	(4.780)	(5.710)
Commercial bank density	10.49	10.42***	11.70***
	(604.1)	(1.434)	(2.086)
Constant	-154.7	-125.0	-167.8
	(0)	(0)	(158.5)
Country fixed effects	No	No	No
GFC fixed effects	No	Yes	Yes
Year fixed effects	No	Yes	Yes
Observations	86	86	87
Adjusted R-squared	0.306	0.609	0.555

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.
Source: Authors' calculations

Post-matching, observed differences in GFCI ratings are significantly less confounded by initial institutional, economic, or infrastructure discrepancies, thereby strengthening the validity of the subsequent analysis of

treatment effects. Post-matching analysis reveals that variables such as Government Effectiveness, Political Stability, Accountability, Foreign Direct Investment, Population Growth, Air Cargo capacity, and Commercial Bank Density consistently show a statistically significant positive correlation with higher GFCI ratings. Conversely, Regulatory Quality, Control of Corruption, Consumer Price Index, and Domestic Credit are associated with statistically significant negative correlations. These findings align with contemporary research on financial center development (Phung, Truong, and Trinh, 2023). The authors examine the determinants influencing the development of financial centers globally, focusing on the evolving landscape shaped by fintech innovations and the impacts of the pandemic. They analyze various factors contributing to the growth and resilience of financial hubs, emphasizing the necessity for adaptive regulatory frameworks, robust infrastructure, and effective governance. Government Effectiveness, Political Stability, Voice and Accountability, Foreign Direct Investment (FDI), Population Growth, Air Cargo capacity, and Commercial Bank Density all exhibit statistically significant positive associations, reinforcing the established understanding that robust governance, stable political environments, economic openness, and advanced infrastructure are foundational to global financial center status. This sophisticated evidence suggests that a city's GFCI reflects not only financial market variables but also a broader integration of developmental metrics, institutional quality, and specific infrastructure elements (Porteous, 2005), highlighting the complex interplay of factors that contribute to global financial center status. However, the analysis reveals some complex and even counterintuitive findings. A statistically significant negative correlation is seen with Regulatory Quality, suggesting that higher regulatory standards might paradoxically lead to lower GFCI ratings. This could indicate that complex regulatory environments hinder financial dynamism. Similarly, Control of Corruption shows a significant negative association, implying that stronger corruption controls may correlate with lower GFCI ratings—challenging conventional views on institutional quality. Additionally, GDP per capita and the Consumer Price Index (CPI) also display significant negative relationships, suggesting that greater economic wealth or inflation does not necessarily lead to higher GFCI ratings. This may reflect different stages of financial center maturity or specific market dynamics (Church, 2017). Church (2017) analyzes the factors contributing to the success and decline of major financial hubs. The study examines historical trends and identifies key elements such as regulatory environments, economic stability, and technological advancements that influence the status of financial centers. Church highlights the dynamic nature of these hubs, emphasizing that shifts in global economics and politics can significantly alter their competitive standing. Overall, the evidence highlights that GFCI ratings are shaped by a complex mix of developmental and institutional factors beyond just the size of financial markets, indicating the need for a nuanced approach in policy formulation to enhance a city's global financial status.

4.2. Robustness Test:

The robustness of the estimated treatment effect to potential unobserved confounding is further rigorously assessed using Rosenbaum bounds sensitivity analysis (Rosenbaum, 2018). This method evaluates how large a hidden bias would need to be to alter the inference regarding the treatment effect. In this case, the impact of governance, economic, and connectivity factors on a city's likelihood of having a high GFCI rating. The analysis was conducted on 372 matched pairs, generated through the propensity score matching procedure. The Rosenbaum bounds framework provides several key metrics for assessing sensitivity at various gamma (γ) levels, where γ represents the log odds of differential assignment to the treatment group due to unobserved factors. A γ value of 1 implies no differential assignment, while higher values indicate increasing potential for hidden bias. The analysis reports p-values for the upper (sig+) and lower (sig-) bounds, which indicate the likelihood that the observed effect could be attributed to unobserved confounders. Additionally, Hodges-Lehmann point estimates (t-hat+ / t-hat-) and their corresponding 95% confidence intervals (CI+ / CI-) are provided, offering estimates of the treatment effect after accounting for potential hidden bias. The results of the sensitivity analysis indicate that the estimated effect of governance and economic factors on the likelihood of being a high-tier global financial center remains remarkably robust even under substantial levels of potential hidden bias (gamma ≥ 3). Specifically, for γ values from 1 to 2, both sig+ and sig- remain at 0, implying no significant differential assignment and confirming the high initial balance of covariates post-matching. Even as γ increases to 3 and beyond, the p-values for the upper bound (sig+) remain extremely small while the lower bound p-value consistently remains at 0. This strong statistical significance, even with considerable hypothesized unobserved confounding, confirms that the findings are unlikely to be driven by such factors (Athey et al. 2023). The stability of the Hodges-Lehmann point is estimated around 0.5 for the upper bound, coupled with the lower confidence interval not dropping below zero. This further reinforces the robustness of the positive treatment effect. This robust inference is maintained even at extreme levels of hypothesized unobserved bias. Therefore, it provides strong confidence in the study's conclusions regarding the importance of the identified factors for GFCI ratings.

Table 3: Rosenbaum bounds test

Gamma	sig+	sig-	t-hat+	t-hat-	CI+	CI-
1	0	0	0.5	0.5	0.5	0.5
2	0	0	0.5	0.5	0.5	1
3	3.3e-16	0	0.5	1	-2.5e-07	1
4	1.3e-12	0	-2.5e-07	1	-2.5e-07	1
5	1.9e-10	0	-2.5e-07	1	-2.5e-07	1

Note: G* gamma - log odds of differential assignment due to unobserved factors
sig+ - upper bound significance level
sig- - lower bound significance level
t-hat+ - upper bound Hodges-Lehmann point estimate
t-hat- - lower bound Hodges-Lehmann point estimate
CI+ - upper bound confidence interval (a= .95)
CI- - lower bound confidence interval (a= .95)
Source: Authors' calculations

5. CONCLUSION

As many emerging economies strategically strengthens theirs path toward becoming the leading global financial centers, it is essential to adopt robust, evidence-based policies. This study employs a comprehensive analysis, particularly through the lens of Propensity Score Matching (PSM). This method illuminates the intricate relationship between national characteristics and a city's GFCI rating. The findings provide critical insights for emerging economies. The analysis confirms that factors such as Government Effectiveness, Political Stability, Voice and Accountability, Foreign Direct Investment (FDI), Population Growth, Air Cargo capacity, and Commercial Bank Density positively correlate with higher GFCI ratings. Strong governance and political stability are foundational. They could provide the essential predictability, rule of law, and investor confidence necessary for financial institutions to operate and capital to flow freely without undue political risk or arbitrary intervention. Financial centers thrive where property rights are protected, contracts are enforced, and policy environments are consistent. Similarly, robust physical and digital infrastructure, including air connectivity and a dense commercial banking network, is indispensable for facilitating efficient transactions, communication, and the movement of both capital and human resources. Modern financial centers rely on advanced settlement systems, strong digital connectivity, and seamless logistical integration. Foreign Direct Investment (FDI) is often seen as a critical catalyst. It brings not only capital but also technology, expertise, and deeper integration into global value chains, which in turn stimulates financial market development. The positive correlation with Population Growth can reflect a growing pool of human capital and a dynamic domestic market, both attractive to financial service providers. Thus, the study's empirical confirmation of these positive relationships provides robust, evidence-based support for these widely accepted theoretical tenets of financial hub formation. Furthermore, the study reveals a more sophisticated picture. Notably, the negative correlations observed for Regulatory Quality and Control of Corruption suggest that a strictly stringent approach, lacking efficiency or proportionality, may inadvertently hinder financial dynamism. Similarly, the negative associations with GDP per capita and the Consumer Price Index (CPI) indicate that the drivers of GFCI are multifaceted. They extend beyond mere economic scale, reflecting a complex interplay of governance, infrastructure, and market conditions. This complexity necessitates careful consideration of policy frameworks to enhance of emerging economies in the global financial landscape. Therefore, the study provides a balanced approach that promotes effective governance while ensuring regulatory efficiency is vital is vital for the aspirations of emerging economies. Policymakers must focus on creating an environment conducive to investment and innovation, thereby fostering a competitive financial ecosystem. First, prioritizing governance reform is crucial. Such economies should draw lessons from successful models like Singapore and Dubai while adapting them to their unique context. This includes enhancing legal enforceability, promoting regulatory coherence, and ensuring judicial independence to build investor confidence. Additionally, cultivating political stability through inclusive policies and robust conflict resolution mechanisms is vital for long-term predictability. Streamlining regulations is also necessary. Comprehensive reviews should be conducted to eliminate undue burdens. Developing adaptive regulatory frameworks, such as regulatory sandboxes for FinTech, will foster innovation while maintaining essential oversight. Moreover, strategic

investments in critical infrastructure are indispensable. This includes expanding air cargo logistics and modernizing banking and digital finance solutions. To attract and leverage foreign investment, emerging economies must actively promote itself as a safe and reliable environment. Robust trade liberalization policies will enhance financial market development and improve overall business competitiveness. Finally, encouraging economic diversification beyond traditional finance sectors will build resilience. Supporting high-tech industries and knowledge-intensive services is essential for a balanced and sustainable economy. By implementing these recommendations, emerging economies can strengthen its position in the global financial landscape. While the Propensity Score Matching (PSM) analysis and subsequent Rosenbaum bounds sensitivity analysis confirm the validity of these estimates, certain limitations must be acknowledged. The PSM analysis demonstrates resilience even under significant levels of potential hidden bias ($\gamma \geq 3$). However, the reliance on national-level data may mask important intra-country differences. Future research should strive to supplement national data with city-specific information, such as local governance indices and infrastructure spending. This will help capture the unique nuances of each financial center's performance. Subsequent studies should focus on identifying and measuring additional potential unobserved confounders and strengthen causal inferences.

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