

Financial Openness and Economic Growth A Review

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Abstract

In the age of globalization, changes in how economies grow have made people think about how open financial systems and their development affect a country's economy. Economic growth means a country can make more things over time because of new technology and changes in how things are done. The connection between economic growth and financial openness has sparked significant debate in the literature on openness and growth. Empirical research frequently indicates a clear link between proxies of financial openness and growth, yet there is ongoing debate regarding the interpretation of these findings. This study addresses four primary areas of contention: the definition of financial openness, the choice and assessment of indicators for financial openness, the correlation between financial openness and economic growth, and the potential threshold effect of financial openness on its contribution to economic growth.

Keywords: Financial Openness, Economic Growth

Introduction

In the age of globalization, changes in how economies grow have made people think about how open financial systems and their development affect a country's economy. Economic growth means a country can make more things over time because of new technology and changes in how things are done (Kuznets, 1992). The World Bank says making the financial sector better means dealing with costs like information and making sure contracts are followed. This helps create new ways to handle money and make deals, making it easier to deal with things like information and the cost of doing business.

Financial openness is about how much a country's financial system connects to the rest of the world. As financial systems get better, they often start to include money from other countries and become part of global finance. This can be good, like when foreign investors help less developed financial markets. But it can also be bad, like when money flows in and out quickly, causing problems. At first, being open to the world seems to help a country's economy grow. For example, when foreign companies invest, they can bring new technology and ideas and make the local market more competitive. But if a country's financial system isn't strong

enough, all that foreign money could cause big problems, even financial crises, which hurt economic growth (Estrada et al., 2015a).

Therefore, we can see that as the important role of financial development in economic growth is increasingly recognized by scholars (Goldsmith Raymond, 1969; McKinnon & Shaw, 1973; Edward S. Shaw, 1974), the role of financial openness closely associated with financial development has also sparked widespread debate among scholars (McKinnon & Pill, 1996; Abdul Karim et al., 2021; Tao & Xie, 2017).

The Literature of Financial Openness

In the 1970s, scholars like McKinnon and Shaw (1973) started studying financial openness, which led to global financial integration and liberalization. There's no agreement among scholars on what financial openness exactly means. Many scholars Mathieson & Rojas-Suárez (1992); Allen & Santomero (1998); Edison et al (2002); Ito (2011); Islamaj (2012); Nasreen et al (2020) link it to concepts like financial integration, liberalization, and globalization, or study it as part of economic openness. According to Prasad et al (2003), Financial integration means how connected a country is to international markets, while financial globalization refers to overall increased connections through financial flows. We can see these concepts are closely related. Financial liberalization, according to Jia Lizhen (2005), involves easing rules to encourage financial growth. Capital account liberalization allows money to move freely in and out of a country (Henry, 2007). International capital flows involve transferring financial assets across borders (Ott, 2008). Chinn & Ito (2006) believe that liberalization can help economies by reducing financial repression and improving efficiency.

Various scholars have different perspectives on financial openness, Kaminsky et al (2002) focused on capital accounts, stock markets, and sovereign fund issuance. Hali et al (2002) believed financial integration includes FDI and portfolio flows. Traditional financial liberalization theory, as explained by Galindo et al (2002), includes open capital accounts and easing foreign investor access. While many see financial openness as part of financial liberalization, some say the key difference is whether it deals with international or both domestic and international financial openness (Jia, 2005; Xie & Pan, 2018).

Financial Development

The financial development literature looks at how financial progress relates to economic growth. It includes the theory of financial structure, which is one of the earliest and most influential theories studying financial development, and the theory of financial intermediation. These theories examine how the financial system, encompassing both financial intermediaries and markets, in optimizing their roles to bolster economic growth.. It also looks at how financial resources are allocated wisely to support sustainable development.

Financial sector growth involves improving both banking and stock markets. A developed financial sector means both money and capital markets work well, helping gather and allocate resources effectively. This boosts capital accumulation, productivity, and economic growth (Ross & Sara, 1998).

Financial development involves improving financial services' quality, quantity, and efficiency. It involves different financial institutions and activities. A good financial system not only gathers savings and distributes risks but also offers various financial products for different people's needs. Scholars like Goldsmith (1969); McKinnon (1973); Shaw (1973); Gurley & Benston (1976) have done a lot of research on financial development, leading to important

theories in economics. Books like "Money and Capital in Economic Development" by McKinnon(1973) and "Financial Deepening in Economic Development" by Shaw(1974) were crucial in shaping these theories.

Financial liberalization

In the 1970s, McKinnon and Shaw (1973) introduced the idea of financial liberalization to tackle issues in developing countries like incomplete financial markets and government intervention.

They found that deeper financial systems lead to more savings, jobs, and economic growth, warning against "financial repression" holding back economies. Their theory suggests reforming financial systems by reducing government control, easing restrictions, and letting markets set interest and exchange rates. This should boost savings, control inflation, and spur growth by making funds and foreign exchange more available.

Financial liberalization has gone through two key phases: one in the post-World War II era, the representative economists are McKinnon(1973), Shaw & Gurley (Gurley et al., 1960); Goldsmith (1969), another in the early 1990s, the representative economists are McKinnon (1993) and Fry, Lilien & Wadhwa(Fry et al., 1988) focusing on reform sequencing for economic stability. The theory's evolution has important implications for managing economies, financial systems, and markets in developing countries.

Financial Deepening

Shaw(1974) introduced the concept of financial deepening, which highlights the interdependent relationship between the financial system and economic development. Essentially, a robust financial system efficiently mobilizes savings and directs them into productive investments, fostering economic growth. Simultaneously, a thriving economy stimulates the expansion of the financial sector by increasing national income and demand for financial services, thus creating a positive feedback loop between finance and economic development.

Financial deepening operates across three dynamic levels: continuous expansion of the financial sector, optimization of financial instruments and institutions, and gradual improvement of financial market mechanisms. These levels interact and mutually influence each other.

Ronald McKinnon and E.S. Shaw's research suggests that well-designed financial reforms can effectively spur economic growth by establishing a virtuous cycle of financial deepening and economic development. Therefore, implementing such reforms and reducing financial repression are crucial for fostering this positive cycle.

Popiel (1990) further explored financial deepening, identifying qualitative indicators such as diverse financial instruments catering to different investor needs, integration with international markets, and the presence of market makers and intermediaries. Popiel's(1973) findings echo Shaw's perspective that appropriate policies and market expansion drive financial deepening (Nzotta & Okereke, 2009).

The Indicators of Financial Openness

Financial openness consists of two main components: capital account opening and financial market opening. Capital account opening aims to reduce barriers restricting the movement of capital, while financial market opening aims to attract capital by relaxing restrictions on financial services and intermediation. This includes facilitating market access, treating foreign

and domestic entities equally, and allowing domestic entities to engage in global financial activities. Both nominal commitments and actual openness levels are considered in assessing financial market opening.

To create an overall measure of financial openness, HUA et al (2012) proposed using principal component analysis to combine indices of capital account and financial market opening.

Various metrics have been developed to gauge financial openness and integration, typically categorized as de facto or de jure indices. Quinn and Toyoda (2008; 2011) and Chinn and Ito (2008) outline three methods for constructing these indices: de jure openness index (official), de facto openness index (unofficial), and hybrid indicators. The International Monetary Fund's (IMF) Annual Report on Exchange Rate Arrangements and Exchange Restrictions (AREAER) is a key source for de jure indices, providing information on the regulations governing external account transactions for many countries.

The IMF's AREAER indicator

The IMF's AREAER initially used a binary system of 0 and 1 to assess capital controls. Epstein and Schor (1992) were among the first to develop indicators using 16 OECD nations. This was expanded upon by Grilli and Milesi-Ferretti (1995); Garrett (1995), who introduced 13 categorical indicators. Johnston and Tamirisa (1998) further refined the framework, organizing indicators into 13 categories across 40 countries. Since then, researchers have expanded upon this framework, covering 187 countries from 1970 to 2004. Currently, the IMF categorizes restrictions into six distinct categories within the AREAER.

These figures serve as a foundation for binary capital controls and financial openness policies (Estrada et al., 2015b). For instance, a standard indicator takes a value of '0' if there's full restriction, indicating a closed capital account, and '1' if fully liberalized:

- Overall Openness Index (All asset categories)
- Openness of Capital Inflows Index
- Openness of Capital Outflows Index
- Financial Market Openness Index (equity, bond, money market, collective investment, derivatives)
- Resident Openness Index
- Nonresident Openness Index (1=fully liberalized)

Because of its coarseness, this index has been largely discredited in the literatures (Wang, 2022).

De Jure openness index

The de jure index relies on a nation's economic legal structure, encompassing tariffs and other legal limitations. Typically, these indices adjust data from references like the IMF's AREAER or its subdivision called the "Summary Features of Exchange and Trade System in Member Countries," as discussed by Chinn & Ito (2008).

De Jure indicators Based on Text of AREAER

In studies focusing on the De jure openness index, the KAOPEN index stands out as widely used by scholars. Chinn & Ito (2006) devised the Capital Account Openness Index (KAOPEN) to evaluate financial openness in capital account transactions. They employed principal component analysis to establish this index in 2008, subsequently updating it in 2016. The "extensive" indicator integrates vital elements from four categories of current account restrictions, namely:

- An indicator showing the existence of multiple exchange rates (kao1)
- An indicator denoting limitations on current account transactions (kao2)
- An indicator signifying constraints on capital account transactions (kao3)
- An indicator highlighting the necessities regarding the surrendering of proceeds from exports (kao4)

In 1996, the third category was subdivided into 13 subcategories, following adjustments by Johnston and Tamirisa in 1998. To focus specifically on the effects of financial openness, Chinn and Ito modified binary variables, setting them to one when capital account restrictions were absent. They introduced SHAREkao_t to monitor capital transaction control, representing the portion of a five-year period without enforced capital controls.

The KAOPEN index, initially comprising kao1, kao2, SHAREkao_{3,t}, and kao4, was established as a standardized principal component. This index aims to measure financial openness, emphasizing regulatory aspects of cross-border capital transactions. It ranges from zero to one, with higher values indicating greater financial openness characterized by unrestricted cross-border capital transactions.

Non-AREAER DE Jure Indicators

The Wang-Juhan Capital Account Openness Index (KANEW) is a de jure index constructed using data from the IMF's AREAER. Covering 168 countries, including 60 low-income developing nations, from 1996 to 2013, it assesses the level of capital account openness through 12 distinct asset categories. Beyond providing an overall view, it breaks down openness into subcategories like flow direction, residency status, and asset types (Wang, 2022).

Bekaert, Harvey, and Lundblad (BHL) (2005) investigated equity liberalization with their EQUITY index, spanning 95 countries from 1980 to 2006. This index identifies equity liberalization episodes, assigning a value of "0" before liberalization and "1" afterward, based on key events in emerging markets.

However, De jure openness indices have limitations. They may not fully capture a country's capital or financial account openness, as assigning values to variables remains subjective. Additionally, these indices may struggle to accurately reflect actual openness in capital and financial markets.

De Facto Openness Index

To address the limitations of the De jure openness index, the De facto openness index emerges, focusing on economic outcomes like Foreign Direct Investment (FDI), Total Export/Import, and Foreign Financial Assets/Liabilities. This index is categorized into quantitative, price, and mixed methods.

Among quantity-based measures, the Lane and Milesi-Ferretti index (LMF) is widely utilized to gauge a country's involvement in global financial markets (Quinn et al., 2011). LMF evaluates a nation's combined assets and liabilities relative to its Gross Domestic Product (GDP), covering sectors like portfolio equity, Foreign Direct Investment (FDI), debt, financial derivatives, and specific assets and liabilities within each. Additionally, ten other de facto indicators use observable aspects, such as gross capital flow scale, to illustrate increased capital mobility (Lane & Milesi-Ferretti, 2007).

Price-based indicators, proposed by Levy Yeyati et al.(2009), Dooley et al. (1997), and Quinn and Jacobson(1989), focus on price variations between domestic and foreign markets,

anticipating diminished price gaps over time due to arbitrage in financially interconnected economies.

Some scholars Bekaert et al (2005); Chinn & Ito (2006, 2008); Estrada et al (2015b); Liang, (2020); Nasreen et al (2020) utilize both De jure and De facto openness indices to measure financial openness. Estrada et al (2015b) employ three financial openness indicators, including de facto and de jure measures. However, De facto indicators face challenges due to inconsistent reporting and handling of FDI among countries and over different time frames. They may not fully reflect a government's policy stance, and certain investments might occur due to capital account restrictions(Estrada et al., 2015b; Quinn et al., 2011).

Several scholars Liang (2020); Ozkok (2015); Stock & Watson (2002); Wang (2022); Zhang Xiaobo (2012) have refined these measurement methods, including Principal Component Analysis (PCA) applied by (Stock & Watson, 2002; Ozkok, 2015; Wang, 2022). PCA aims to reduce dataset dimensions effectively, condensing data using a limited set of variables (Kim et al., 2008).

Review on Financial Openness and Economic Growth Nexus

The Positive Effect of Financial Openness on Economic Growth

In the realm of studying the impact of financial openness on economic growth, scholars increasingly argue that financial openness contributes positively to economic expansion, driven by the deepening integration of global finance. Edison et al (2002) propose three primary channels through which global financial integration fosters economic growth. First, by enhancing competition and transparency within the financial system, financial openness reduces domestic capital costs, such as loan interest rates and equity expenses, thereby encouraging investment and boosting economic output. Second, it facilitates international capital flows, allowing developing countries to attract investment while also meeting the capital needs of inflow nations. Third, financial openness stimulates the entry of more efficient foreign banks, fostering the adoption of advanced risk management technologies and financial services, thereby enhancing domestic financial efficiency and indirectly elevating investment returns and economic growth rates (Yang et al., 2020).

Research by Xionghua et al (2017) explores the spatial correlation and economic growth effects of financial openness across 31 provinces in China from 2004 to 2014. Their findings reveal that while China's provincial financial openness levels are relatively low overall, national policies play a crucial role in promoting financial openness. Moreover, they observe strong spatial connections between provincial financial openness levels, with significant economic growth effects and inter-provincial spillover effects, indicating that economic growth is influenced not only by a province's financial openness but also by that of neighboring provinces (ZHANG & LUO, 2017).

Similarly, Xinyi (2020) conducts a study on China's financial openness using principal component analysis to develop a comprehensive indicator. Employing a threshold regression model, Liang (2020) confirms the significant positive impact of China's financial openness on economic growth under various conditions, including benchmark regression and regressions with national governance or financial development indicators as threshold variables. This research underscores the substantial role of financial openness in driving China's economic development (Liang, 2020).

The Negative Effect of Financial Openness on Economic Growth

Mckinnon and Pill(1996) scrutinized the prevalence of financial crises in developing nations during the 1980s, attributing these crises to the adoption of financial openness policies. They argued that such policies destabilized economies, resulting in adverse effects on economic growth. Contrarily, Obstfeld (2009) observed that financial openness, when combined with strong reserve positions and complemented by domestic policies and reforms, can bolster stability and growth.

Research by Hwang et al (2013) revealed a significant impact of capital market liberalization on output volatility in developing countries. Similarly, Xie Shouqiong (2017) contended that China's provincial financial openness levels are gradually increasing due to growing economic ties between provinces. However, Xie noted uneven regional distribution and apparent regional clustering of financial openness levels.

Abdul Karim et al (2021) employed dynamic panel threshold analysis and identified a threshold effect in the relationship between financial inclusiveness and growth. Their findings suggest that there's a critical level of financial inclusiveness beyond which its positive impact on growth becomes significant.

Table 1

Summary of Recent Studies on FO and EG Nexus

Studies of	Sample and period	Type of data	Methods	Variables	Main Findings
Levine,Ross;Loayza, Norman;Beck,Thorsten(2000)	74 countries(1960-1995) 71 countries(1960-1995)	panel data	GMM, cross-sectional estimator	GDP, liquid liabilities, interest-bearing liabilities, commercial-central bank assets ratio, private credit,	the exogenous components of financial intermediary development is positively associated with economic growth
Liang,Q.;Jian-Zhou,T.(2006)	China(1952–2001)	time series	VAR	per capita GDP, domestic credit, deposit liabilities of banking institutions	there exists a unidirectional causality from economic growth to

					financial development
Demetriades, Panicos Law, Siong Hook(2006)	72 countries(1978–2000)	Panel data	OLS cross-country estimator	GDP per capita, liquid liabilities, private sector credit, and domestic credit	Financial development has larger effects on GDP per capita when the financial system is embedded within a sound institutional framework, in low-income countries, more finance without sound institutions may not succeed in delivering long-run economic benefit
Rousseau, Peter L.; Wachtel, Paul(2011)	84 countries(1960-2004)	cross-sectional	GMM dynamic panel	per capita GDP, FO(liquid liabilities	The incidence of financial

		and panel data	estimation	M3, liquid liabilities less narrow money (M3 less M1), and private credit), imports plus exports, government final consumption	crises is related to the dampening of the effect of financial deepening on growth. Excessive financial deepening or too rapid a growth of credit may have led to both inflation and weakened banking systems which in turn gave rise to growth-inhibiting financial crises.
Law,Siong Hook;Singh,Nirvikar(2014)	87 developed and developing countries(1980–2010)	panel data	dynamic panel threshold method developed	GDP Per Capita, FO(Private Sector Credit, Liquid Liabilities, Domestic Credit)Hu	level of financial development is beneficial to growth only up to a

				man Capital, Population Growth, Investment , Trade Openness, institutions , Governme nt Expenditur e Inflation, Inflation	certain threshol d; beyond the threshol d level, further develop ment of finance tends to adversel y affect growth.
Arcand,Jean Louis;Berkes,Enrico;Panizza,Ug o(2015)	1960- 2010	Panel Data	GMM	GDP per capita, credit to the private sector, turnover ratio in the stock market, trade openness, inflation, and the ratio of governme nt expenditur es to GDP	Finance starts hurting output growth when credit to the private sector reaches 100% of GDP.
Xie Shouqiong (2017)	31 provinces in China (2004- 2015)	panel data	three kinds of a spatial weight matrix	GDP;FO;FD I	there exists a strong spatial and tempora l relation ship betwee n China's provinci al level

					of financial openness
Swamy,Vighneswara;Dharani, M.(2018)	24 advanced economies (1983-2013)	balanced panel data	The panel Granger causality tests	GDP per capita, FO, FDI inflows, gross national expenditure, inflation, money supply, national income growth, population growth, and unemployment	when imposing a linear relationship, financial development and economic growth are negatively associated in the long run. there is a need to rein in inflation and real interest rates and enhance trade openness to optimize the benefits of growing financial development on economic growth.

Zhao Yueqiang, Wei Lizhu, Shen Yingchun, Lei Jian(2021)	30 provinces in China (2004-2019)	panel data	panel regression ;panel threshold model;Bootstrap	GDP;FO; human capital;population growth; innovation intensity	Financial opening and industrial structure upgrading have significant positive effects on regional economic growth
SHEN Tao, WEI Ya-Qian (2021)	31 provinces in China (2007-2019)	panel data	state-space model	GDP; FO; FD	the effect of financial openness on financial risk is based on regional economic and financial development
Zulkefly Abdul Karim, Rosmah Nizam , Siong Hook Law, M. Kabir Hassan (2021)	60 countries 2010-2017	dynamic panel data	dynamic panel threshold	GDP; Financial inclusion index: FO	a threshold effect in the financial inclusiveness-growth nexus
Wang Xueling (2021)	30 provinces in China (2000-2018)	panel data	entropy method ; Intermediary effect model	FO, Net FDI inflow, MO, TR, HC, and growth	there is a nonlinear relation

					ship between financial openness and economic growth in China
Wang Siyu (2020)	China(1995-2018)	Time series data	ARDL ; VECM	economic growth; FO	There is a long-term stable positive relationship between financial opening and high-quality economic development, and it also promotes it in the short term, with an obvious lag effect

The Role of Financial Openness in Economic Growth Exhibits a Threshold Effect

Conclusions

While theoretical frameworks generally propose a positive relationship between financial openness and long-term economic growth, empirical evidence often presents conflicting conclusions. This discrepancy highlights the complex and non-uniform nature of the relationship across different countries. Scholars such as Kose et al (2009); Deng & Lan(2013); Guo & Peng (2016) are investigating whether specific initial conditions are necessary for financial openness to impact economic growth. They explore the possibility of a non-linear

relationship or threshold effect between financial openness and economic growth, suggesting that there might be turning points (such as F_o' and F_o'' in Figure 1) beyond which the effect of financial openness on economic growth could change.

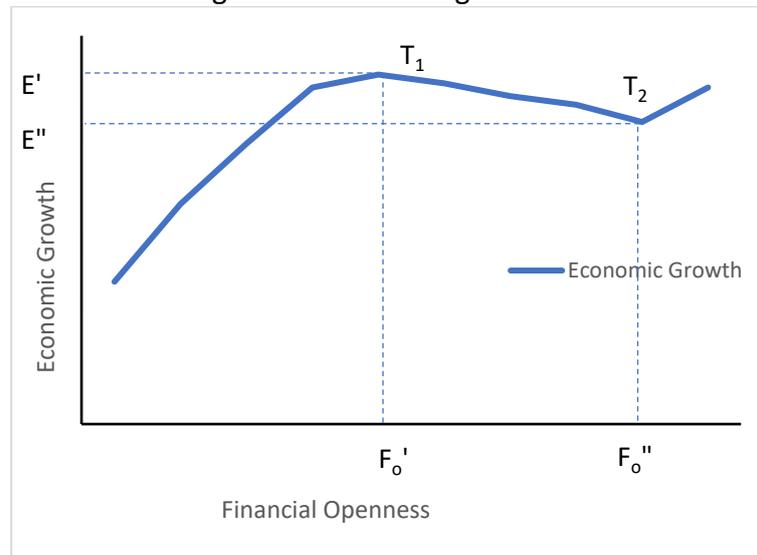


Figure 1 The role of financial Openness in economic growth exhibits a Threshold Effect Research synthesized by Kose et al (2009) analyzes "threshold variables" influencing the impact of financial integration on economic growth. These factors include financial development, institutional quality, management level, trade openness, macroeconomic policies, overall development level, and other macroeconomic factors. Understanding the threshold effect of financial openness on economic growth is crucial for determining when it fosters growth and when it might have adverse effects.

Studies by Kose et al (2009); Chen & Quang (2014) indicate that economies need to reach a certain level of development to reap indirect benefits from financial openness, such as aiding economic growth and reducing financial risks. These benefits are more pronounced in economies with advanced financial development and strong institutional quality. Additionally, research by Yang and Chen (2015) suggests that the influence of capital account openness on cross-border investments is closely linked to a country's financial development level.

Lastly, Guo and Peng (2016) identified a significant threshold effect of financial openness on economic growth, both at the national and provincial levels in China. This highlights the importance of understanding the specific conditions under which financial openness can effectively contribute to economic growth.

Conclusions

Summarizing scholars' perspectives, the concept of "financial openness" is complex and lacks a unified definition, encompassing various aspects and research focuses. While Hua et al (2012) note the absence of a unified definition, they acknowledge a consensus that financial openness comprises capital account opening and financial market opening.

In terms of measuring financial openness, many scholars Cao (2008); Hao et al (2020); Huang (2006); Lane & Milesi-Ferretti (2007); Liang (2020); Pan & Mishra (2018); Quinn et al (2011); Tao & Wei Yaqian (2021); Xie Shouqiong (2017); Yang et al (2020); Yang, 2019; Xiaobo (2012) have adopted the De facto openness index, with some using formulas introduced by Zhang Xiaobo(2012) to assess financial openness levels in China. Additionally, some scholars Liang (2020); Ozkok (2015); Stock & Watson (2002); Wang (2022); Xiaobo (2012) propose using

principal component analysis to derive an overall financial openness index based on capital account opening and financial market opening indices.

Regarding the relationship between financial development, financial openness, and economic growth, studies Boyd & Jalal (2012); Chant (1992); Chinn & Ito (2008); Dutta et al (2000); Edison et al (2002); Goldsmith Raymond (1969); Herrero & Wooldridge (2007); Islamaj (2012); Mckinnon & Shaw (1973); Nasreen et al (2020); Obstfeld (2009) have explored either the Financial Development and Economic Growth Nexus or the Financial Openness and Economic Growth Nexus. Various econometric analysis methods have been employed, including spatial econometric models Shen Tao & Wei Yaqian (2021), Granger causality tests Cao (2008); Estrada et al (2015b); Gao (2020), dynamic GMM Bekaert et al (2005); Nasreen et al (2020); Rousseau & Wachtel (2011); Zhang et al (2012), and threshold models (Chinn & Ito, 2006; Guo & Peng, 2016; Liang, 2020; Okunade, 2022; Yang et al., 2020). The threshold model is particularly advantageous in handling nonlinear and structural mutation problems, enabling researchers to accurately identify points where the relationship between variables changes. Therefore, in future studies, the threshold regression method will be adopted to investigate the relationship between Financial Development, Financial Openness, and Economic Growth.

Contributions

The contributions of this study are as follows: Firstly, it clarifies the conceptual scope of financial openness, thereby identifying the methods that can more accurately and comprehensively measure the level of financial openness. Secondly, by reviewing previous scholars' research, it reveals the scarcity of literature that empirically studies the relationship among financial development, financial openness, and economic development simultaneously, and highlights the unique advantages of threshold regression analysis in this area of research. These findings provide guidance and significant reference for future scholars in this field.

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