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The Impact of Financial Liberalization on Financial Development: A Study of Selected High- and Middle-Income Countries

A. M. Tehranchian^{1,*}, S. Hosseinnia Chafjiri², S. M. Khabbaz³¹ Professor, Department of Economics, University of Mazandaran, Babolsar, Iran² M.A. Student in Economics, University of Mazandaran, Babolsar, Iran³ M.A. Student in Economics, University of Mazandaran, Babolsar, Iran

| ARTICLE INFO | ABSTRACT |
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| <p>Article History: Received 20 August 2024 Received in revised form 3 October 2024 Accepted 12 December 2024 Available online 18 December 2024</p> <p>Keywords: Financial Liberalization, Financial Development, Financial System, Panel Data</p> | <p>The present study examines the relationship between financial liberalization and financial development by analyzing a balanced panel of 20 selected countries, consisting of 10 high-income and 10 middle-income economies. Financial liberalization, which refers to the removal or relaxation of restrictions on financial markets and capital flows, has been widely recognized as a key driver of economic efficiency, resource allocation, and investment growth. However, its impact on financial development may vary depending on a country's institutional capacity, economic structure, and income level. Using annual data from 2013 to 2022, the study applies advanced panel data econometric techniques, including fixed-effects and random-effects estimations, to assess the magnitude and direction of this relationship. The empirical findings reveal that financial liberalization exerts a positive and statistically significant influence on financial development in both income groups, supporting the hypothesis that greater openness in financial markets fosters deeper, more efficient financial systems. Notably, the effect is more substantial in high-income countries, likely due to stronger institutional frameworks, better regulatory oversight, and higher absorptive capacity. These results underscore the importance of complementary reforms, particularly in middle-income economies, to maximize the benefits of financial liberalization while mitigating potential risks.</p> |

1. INTRODUCTION

The financial system, as one of the fundamental pillars of the economy, plays a vital role in economic activities. It provides a wide range of services without which the proper functioning of a modern economy would not be feasible. Among its key functions are credit provision, facilitation of payment processes, and support for savings. The financial system supplies credit to enable the purchase of consumer goods and services and also provides financing for investments such as buildings, bridges, highways, and other infrastructure and industrial equipment. Moreover, it facilitates various payment mechanisms, including cash, checking accounts, and electronic banking

* Corresponding Author: m.tehranchian@umz.ac.ir
Professor, Department of Economics, University of Mazandaran, Babolsar, Iran



tools. Acting as the brain of the modern economy, a well-developed financial system eases the exchange of goods and services [1-3].

Its short-term and long-term effects are mutually reinforcing. Therefore, the development of the financial system through financial liberalization strategies can lead to sustained economic growth over time [4].

In recent decades, financial development has gained increasing importance in the economic landscape of nations. Achieving desirable economic growth and development requires efficient financial institutions, proper resource mobilization, investment supervision, corporate governance, facilitation of goods and services exchange, and risk management through access to information and reduced transaction costs. These factors collectively accelerate economic growth, reduce capital costs, and increase portfolio diversification [5].

Significant indicators of financial development include the foundational, structural, functional, and instrumental indices, all of which influence economic growth. The long-term and short-term impacts of these indices are complementary and aligned. Consequently, strengthening the financial system through financial liberalization strategies contributes to economic growth and its sustainability over time [6].

Financial liberalization has emerged as a global process in recent decades, coinciding with the globalization of financial markets. This process entails the removal of financial restrictions, which requires significant time to fully implement. Given rapid advancements in information technology and the expansion of international relations, the financial sector must respond competitively through the adoption of modern financial instruments. Financial liberalization encompasses a variety of elements, including interest rate deregulation, the elimination of capital controls, the entry of foreign investors, and diversification into equity portfolios. Each of these components can exert different effects on the economic growth of countries.

Recent studies have shown that in order to benefit from the positive effects of financial liberalization on financial development, it is essential to establish institutional and legal infrastructures along with transparency in financial markets. These studies suggest that financial liberalization can produce both positive and negative outcomes for financial development. Therefore, to maximize the benefits of this process, it is crucial to develop robust institutional frameworks and ensure transparency in financial information dissemination.

2. LITERATURE REVIEW

2.1. Theoretical Foundations

Before addressing the concept of development, it is necessary to define the financial market. A financial market refers to a set of arrangements in which financial assets are exchanged. It is generally divided into two major segments: the money market, which deals with short-term financial assets, and the capital market, which deals with long-term financial assets. The capital market is further subdivided into the primary market, where new securities are issued by organizations for the first time, and the secondary market, where previously issued securities are traded after their initial offering. Moreover, capital markets consist of organized exchanges (stock exchanges) and over-the-counter (OTC) markets.

Financial markets are composed of two main types: the money market and the capital market. The money market is known as a venue for short-term fund exchanges between lenders and borrowers. It determines the equilibrium interest rate (the price of money) based on the supply and demand for money. In contrast, the capital market is a financial market where stocks and long-term bonds those with maturities exceeding one year are traded. In this market, the intersection of supply and demand determines both the volume of transactions and the average equilibrium price of securities, which also serves as a market indicator. Due to the shorter maturities, money market instruments exhibit lower price volatility, whereas capital market instruments carry greater price fluctuations and are thus considered higher-risk investments. Therefore, the capital market is more suitable for long-term investments, while the money market caters to short-term investors [7-9].

One of the primary objectives of macroeconomics is economic development, which remains a focal point of government policies and global economic planning. Across all economic growth theories, capital is regarded as the key driver of development [10]. Financial development refers to the mobilization of domestic resources and their

productive utilization to enhance economic growth. Ultimately, this process contributes to poverty alleviation and enables countries to achieve their development goals [11].

In simple terms, financial development is defined as economic growth accompanied by qualitative changes in material and spiritual aspects of life. This definition must also consider the spiritual elements of human progress and transcendence. Development should be viewed as a complex, multidimensional process involving profound changes in social structure, public attitudes, and national institutions. It is typically accompanied by accelerated economic growth, reduced inequality, and the eradication of absolute poverty. Generally, the term "development" refers to improvements in the standard and quality of individual life and community welfare. Sustainable development implies the continuity of this process over time and across generations. Thus, sustainable development encompasses all dimensions of human life and stresses the need for its ongoing realization [12].

Financial development is recognized as a complex and multidimensional process involving various factors, policies, and institutions that facilitate broader and deeper access to capital and financial services. This process enhances the efficiency of a country's financial system. In contrast, financial repression is seen as a barrier to financial development. It arises from government interventions in financial markets, such as the imposition of interest rate ceilings on bank deposits, high reserve requirements, directed credit programs, and other measures that restrict the activities of financial intermediaries.

Capital is considered a fundamental component in achieving development goals. Many economists believe that capital scarcity is one of the most critical obstacles to development in many countries. This shortage leads to chronic poverty, inadequate educational infrastructure, suboptimal resource allocation, and a lack of new capital goods, which together hinder productivity and eliminate investment and savings opportunities [13][14].

Since the early debates on financial development, economists have sought to establish reliable indicators to measure it. Early indicators included interest rates and the degree of monetization in the economy. However, research has shown that these measures are insufficient to capture the true extent of financial development. More recently, improved and more comprehensive indicators have been proposed, which will be discussed in the following sections.

2.1.1. Instrumental Financial Development Index

One of the commonly used indicators in the study of financial development is the extent to which alternative payment instruments are used instead of cash in economic transactions. Assuming that individuals primarily use money for transaction and precautionary purposes, the ratio of such instruments to the total money supply can serve as a proxy for financial development. In other words, the degree to which payment instruments such as credit cards and current deposits are utilized may reflect the instrumental role of the banking system in facilitating economic transactions.

2.1.2. Financial Depth Index

The ratio of broad money to gross domestic product (GDP) is used to capture the financial depth of an economy. Broad money (M3) includes currency in circulation outside the banking system, demand deposits, and other interest-bearing liabilities held by banks and non-bank financial institutions. As financial development deepens, this ratio tends to rise. It is worth noting that in some economies such as Iran M3 is not formally calculated; instead, M2 is used, which comprises currency in circulation along with both demand and time deposits [15].

2.1.3. Foundational Financial Development Index

Generally, credit operations are carried out primarily by commercial banks. Therefore, the relative importance of commercial banks compared to other banks and investment institutions can indicate the foundational strength of the banking sector within the broader financial system. This index is typically calculated as the ratio of commercial bank assets to total assets held by the banking sector, including the central bank.

2.1.4. Structural Financial Development Index

This index emphasizes the distribution of credit and banking facilities to public and private non-financial institutions and is therefore referred to as the structural index. A higher share of private sector claims in total bank

credits indicates a more advanced structural financial development in the banking system. This index has been used in the present study.

2.1.5. Efficiency Financial Development Index

This index evaluates the efficiency of the banking system by measuring the ratio of private sector credit to GDP. A higher and increasing ratio suggests greater banking system efficiency in mobilizing private resources and reflects an active role of the private sector in the economy through the financial system.

2.1.6. Financial Liberalization and Its Role in Development

In its broadest sense, the term "liberalization" encompasses concepts that are often not clearly defined. Dictionaries typically define "freedom" as the absence of necessity, coercion, or constraint in choice or action, and as the ability or condition to act without compulsion. In its most fundamental interpretation, liberalization means the ability to act and choose freely without external coercion. However, this does not imply that individuals in every free society are entirely unrestrained in their decision-making. Rather, the absence of coercion implies that no individual or institution is ethically justified in compelling others to obey.

One of the strategies adopted by countries to attract foreign investment has been economic liberalization. Economic liberalization refers to a series of policy measures aimed at removing government-imposed restrictions on the money, goods, and foreign exchange markets, thereby allowing these sectors to function through market mechanisms. Such measures include allowing prices to be determined by supply and demand, reducing or eliminating subsidies, and liberalizing trade by removing non-tariff barriers or converting them into tariffs, followed by their adjustment and reduction.

Through economic liberalization, countries can not only mobilize domestic savings and resources but also attract foreign investments. Financial liberalization, in particular, enhances competition in capital markets and fosters financial freedom, thereby having significant macroeconomic implications. For instance, one notable aspect often addressed in policy discussions is the reduction of government intervention in interest rate policies, a typical consequence of financial liberalization. Another frequently debated issue is the movement of foreign capital and its effect on a country's exchange rate. The impact of capital flows and financial liberalization on exchange rates has become a crucial topic of inquiry [16].

In recent decades, many countries have undertaken financial liberalization reforms. The objectives of such reforms include stimulating domestic savings, attracting foreign investment, and improving the efficiency of financial resource allocation. Nevertheless, some economists argue that due to the greater volatility and unpredictability of international financial markets compared to domestic ones, financial liberalization can be costly. Consequently, it is recommended that countries approach the liberalization of financial markets cautiously and, if necessary, implement regulatory controls on foreign capital movements [17].

Financial liberalization and related policy reforms can reduce inefficiencies and stimulate economic growth. Empirical evidence suggests that countries with higher degrees of economic openness and more developed financial markets tend to experience faster economic growth. A simplistic view of financial markets may reduce them to mere instruments of speculative gain or loss driven by asset price fluctuations. However, the structural influence of financial systems on economic performance is so profound that contemporary consensus holds that economic growth cannot be achieved without an efficient financial sector. Economists such as Hicks and Schumpeter have emphasized the central role of financial structures, considering them an indispensable engine of economic development. Thus, the presence of an efficient financial system and the existence of financial rights and freedoms are essential conditions for optimal economic performance. Furthermore, such a structure enhances resource allocation efficiency and fosters long-term economic growth.

In addition to boosting growth, financial development can also contribute to reducing income inequality and poverty. Deficiencies in capital markets and limitations in personal investment capacities may exacerbate income disparities. Conversely, a well-functioning financial system can facilitate access to capital, enhance investment opportunities, and ultimately narrow the income gap. When capital markets and human or physical capital investments are underdeveloped, income divergence between rich and poor may increase. Financial development,

by easing credit constraints for low-income individuals, can mitigate such disparities and contribute to poverty alleviation [18].

Claessens et al. (2001) argue that financial market liberalization can help reduce financial repression and activate the investment sector. Financial liberalization may also improve the efficiency of the financial system and prompt necessary restructuring efforts. However, it is crucial that such liberalization be implemented alongside robust legal and institutional frameworks to ensure improved financial performance. Scholars such as Stiglitz (2000) have also emphasized that the potential benefits of financial liberalization depend heavily on the presence of well-defined legal and institutional structures. These include property rights protections, transparency in financial reporting and auditing, and the alignment of financial liberalization with trade openness and capital mobility. Without these complementary reforms, financial institutions may resist financial development due to the political power they accumulate in less liberalized systems.

2.2. 2.2. Empirical Evidence

2.2.1. International Studies

Keltus and Sintus (2024) analyzed the relationship between political stability and financial development in 123 countries over the period 1980–2017 using a two-stage least squares (2SLS) approach. The findings indicated that higher levels of political stability significantly contribute to financial development [20].

Nam et al. (2024) examined the nonlinear effects of financial liberalization on financial development in Indonesia, Malaysia, the Philippines, Singapore, and Thailand during 2002–2020 using the Fully Modified Ordinary Least Squares (FMOLS) method. The results showed that low (high) levels of financial liberalization and foreign direct investment assets and liabilities increased (decreased) stock market capitalization and institutional and market development indicators [21].

Islama and Islama (2023) investigated the relationship between financial development and trade openness in 161 countries from 1995 to 2018 using the two-step Generalized Method of Moments (GMM) system approach. The results revealed a substitutive relationship between financial development and trade openness in directing domestic investment [22].

Li et al. (2023) explored the short- and long-term effects of financial liberalization on green growth in South Asia from 1990 to 2017 using the Autoregressive Distributed Lag (ARDL) technique. Their results indicated a positive long-term impact of financial liberalization on green growth [23].

Arifa et al. (2022) analyzed the relationship between financial development and trade openness in South Asian countries during 1980–2018 using an ARDL approach. The findings suggested that trade openness positively affects economic growth [24].

Ali (2022) examined the impact of financial liberalization and institutional quality on economic growth in Africa over the period 1996–2021 using the ARDL method. The findings indicated that financial liberalization had a marginal effect on the economic growth of African countries [25].

Azuza (2021) assessed the impact of financial liberalization on economic growth in Malaysia from 1990 to 2019 using the FMOLS technique. The results demonstrated a positive effect of financial liberalization on Malaysia's economic growth [26].

Mukherjee et al. (2021) investigated the impact of financial liberalization on financial development in nine selected countries over 22 years using panel regression techniques. The results showed that capital market liberalization positively affected financial depth and competition, while liberalization in banking and other financial institutions improved financial sector stability [27].

Ilogbozi et al. (2020) studied the impact of financial liberalization on economic growth in Nigeria from 1986 to 2018 using the ARDL approach. Their findings indicated both short- and long-term positive relationships between financial liberalization and economic growth [28].

Santana (2020) analyzed the impact of financial liberalization on financial development in 16 Latin American countries during 1973–2005 using a dynamic panel approach. The findings showed that due to recurring banking

crises, financial liberalization did not establish a positive link between financial development and economic growth [29].

2.2.2. Domestic Studies (Iran)

Beheshti et al. (2022) examined the effects of financial development and trade liberalization on economic growth in upper-middle-income developing countries from 2000 to 2017 using the two-step System GMM method. The results indicated a positive and significant impact of financial development on economic growth [30].

Beheshti et al. (2022) also studied the impact of financial development and trade liberalization on economic growth in a group of selected countries between 2000 and 2017 using the Difference GMM technique. The results confirmed a positive and significant effect of trade liberalization on economic growth [31].

Pournaqi et al. (2021) analyzed the effects of privatization, trade liberalization, and financial liberalization policies on economic growth in Iran during 1982–2019 using the Vector Autoregressive (VAR) model. The results showed that among these variables, financial liberalization had the smallest, and trade liberalization the largest, impact on economic growth volatility [32].

Salahmanesh et al. (2021) examined the effect of economic freedom on financial development in 152 selected countries from 1995 to 2015. Their findings indicated that although economic freedom had a positive effect on financial development, the magnitude of the effect was sensitive to the type of financial development indicator used making indicator selection a critical factor [33].

Hazeri Niri et al. (2019) investigated the impact of capital account liberalization on financial deepening in a group of developed countries during 1990–2017 using the dynamic GMM approach. The findings suggested that the positive effect of capital account liberalization on financial deepening was smaller in developing countries compared to developed ones [34].

Faghih Majidi et al. (2017) studied the impact of liberalization and financial development on economic growth in OPEC countries between 1980 and 2014 using the GMM technique. The results revealed that both financial openness and financial development had positive and significant effects in these countries [35].

Hazeri and Seyfollahi (2016) assessed the effect of financial liberalization on capital market development in the MENA region during 2000–2014 using the Arellano-Bond System GMM technique. Their findings indicated that in the absence of trade liberalization, the positive effect of financial liberalization on capital market development was relatively weak [36].

3. RESEARCH METHODOLOGY

The required data and information were collected through library research and retrieved from the World Bank database. The study covers the period from 2013 to 2022.

The geographical scope includes 20 selected countries, categorized by income levels as follows:

- **High-income countries (10):** Australia, Bahrain, Chile, Hong Kong, Japan, Kuwait, Oman, Qatar, Singapore, Switzerland.
- **Middle- and low-income countries (10):** Brazil, China, Egypt, India, Indonesia, Iran, Iraq, Malaysia, Mexico, Peru.

To examine the effect of financial liberalization on financial development across these 20 selected countries including 10 high-income and 10 middle- and low-income economies the following model is introduced:

$$FD_{it} = \alpha_i + \beta_0 FL_{it} + \beta_1 RIR_{it} + \beta_2 REX_{it} + \beta_3 INF_{it} + \beta_4 OPEN_{it} + \varepsilon_{it} \quad (1)$$

In the proposed model, FD_{it} represents the ratio of private sector credit to the Gross Domestic Product (GDP) of country i at time t , serving as a proxy for financial development. The explanatory variables include FL (financial liberalization), RIR (real interest rate), REX (real exchange rate), INF (inflation rate), and OPEN (degree of trade

openness, defined as the ratio of total exports and imports to GDP). Additionally, ε_{it} denotes the error term, while i and t represent the cross-sectional units (countries) and time period, respectively.

In this study, the financial liberalization index is measured by the ratio of foreign direct investment (FDI) to GDP. Financial liberalization facilitates increased integration with the global economy by enhancing the flow of international capital and financial resources. It also leads to the removal of restrictions on capital flows for both domestic and foreign investors, thereby improving the efficiency of the financial system through the elimination of inefficient financial institutions and by increasing pressure for financial restructuring. Moreover, financial liberalization can help mitigate information asymmetries, moral hazard, and adverse selection.

The analysis covers 20 selected countries over the period 2013 to 2022. All data related to the variables used in this study were obtained from the World Bank database.

Table 1 presents the descriptive statistics for the variables included in the model.

Table 1. Descriptive Statistics for the Selected Countries (2013–2022)

| Variable Name | Mean | Median | Maximum | Minimum | Standard Deviation | Observations |
|---------------|----------|---------|----------|----------|--------------------|--------------|
| FD | 68.82948 | 80.2574 | 99.51937 | 7.699498 | 30.29152 | 180 |
| FL | 5.50 | 3.65 | 44.55 | -3.62 | 5.95 | 200 |
| OPEN | 92.58 | 82.05 | 442.62 | 7.916 | 66.61 | 200 |
| RIR | 6.23316 | 5.59 | 60.87671 | -18.8452 | 10.79045 | 200 |
| REX | 100.9175 | 6.77 | 334.3972 | 53.79077 | 30.8644 | 200 |
| INF | 4.50 | 3.52 | 56.31965 | -30.1997 | 10.41784 | 200 |

Source: Authors' calculations using EViews 10.

4. 4. MODEL ESTIMATION AND ANALYSIS

4.1. Panel Unit Root Test

To examine the stationarity of the variables, the Levin, Lin & Chu (LLC) test was employed. The results are presented in Table 2. As the p-values for all variables are below the 0.05 significance level, the null hypothesis of a unit root is rejected. Therefore, all variables are stationary at level.

Table 2. Stationarity Test Results (Levin, Lin & Chu)

| Variable Name | Test Statistic | P-Value | Stationarity Result |
|---------------|----------------|---------|---------------------|
| FD | -15.90 | 0.0000 | Stationary |
| FL | -9.47 | 0.0000 | Stationary |
| OPEN | -28.11 | 0.0000 | Stationary |
| RIR | -15.79 | 0.0000 | Stationary |
| REX | -12.34 | 0.0000 | Stationary |
| INF | -9.18 | 0.0000 | Stationary |

Source: Authors' calculations using EViews 10.

4.2. Model Estimation

Given the interrelationships and correlations among the variables, and in line with the study's central hypothesis, the effect of financial liberalization on financial development is estimated separately for high-income countries and for middle- and low-income countries. Finally, a comparative analysis is conducted between the two groups to determine whether the impact of financial liberalization on financial development differs across income levels.

4.2.1. Estimation Results for Middle- and Low-Income Countries: 20 Selected Economies

In this section, the model estimation results concerning the effect of financial liberalization on financial development in middle- and low-income countries are presented. Prior to estimating the model, a series of specification tests were conducted to determine the appropriate estimation method among the Pooled OLS, Fixed

Effects, and Random Effects approaches. These include the F-Limer (Chow) test, the Breusch-Pagan LM test, and the Hausman test. The estimation and diagnostic tests were carried out using EViews 10.

4.2.2. Results of F-Limer, Breusch-Pagan, and Hausman Tests

Table 3 presents the outcomes of the model selection tests. According to the results, the F-Limer test favors the Fixed Effects model, while the Breusch-Pagan LM test supports the Random Effects model. Consequently, the Hausman test was employed to choose between Fixed and Random Effects. Since the calculated Chi-square statistic is lower than the critical value from the Chi-square distribution table, the null hypothesis indicating the appropriateness of the Random Effects model is not rejected. Thus, the Random Effects model is adopted for estimating the impact of financial liberalization on financial development in middle- and low-income countries.

Table 3. Results of Model Selection Tests for Middle- and Low-Income Countries

| Test Type | Test Statistic | P-Value | Conclusion |
|---------------------------|----------------|---------|--|
| F-Limer Test | 116.15 | 0.0000 | Fixed Effects model preferred over Pooled OLS |
| Breusch-Pagan Test | 272.21 | 0.0000 | Random Effects model preferred over Pooled OLS |
| Hausman Test | 1.21 | 0.280 | Random Effects model accepted over Fixed Effects |

Source: Authors' calculations using EViews 10.

As a result, the Random Effects approach is selected for estimating the proposed model to evaluate the effect of financial liberalization on financial development in this group of countries.

4.2.3. Estimation Results and Interpretation of Coefficients

The final results of the model estimation assessing the impact of financial liberalization on financial development using the Random Effects method for middle- and low-income countries during the period 2013–2022 are presented in Table 4.

Table 4. Random Effects Estimation Results
Dependent Variable: Financial Development

| Explanatory Variable | Coefficient | t-Statistic | P-Value |
|-----------------------|----------------|-------------|--------------------|
| FL | 0.34 | 2.45 | 0.0146 |
| OPEN | 0.10 | 2.28 | 0.0232 |
| RIR | -0.01 | -0.19 | 0.8451 |
| REX | 0.00008 | 0.73 | 0.4620 |
| INF | -0.40 | -3.29 | 0.0011 |
| Intercept (α₀) | 55.42 | 7.88 | 0.0000 |
| F-Statistic | P-Value | R² | Adjusted R² |
| 3.44 | 0.0049 | 0.05 | 0.03 |

Source: Authors' calculations using EViews 10.

4.3. Interpretation of Results

As shown in Table 4, the explanatory variables in the model account for approximately 3% of the variations in the dependent variable, financial development. The coefficient of financial liberalization (FL) is positive and statistically significant at the 5% level, indicating that a one-unit increase in financial liberalization leads to a 0.34-unit increase in financial development. Similarly, the degree of economic openness (OPEN) exerts a positive and significant effect, where a one-unit increase results in a 0.10-unit increase in financial development.

In contrast, the real interest rate (RIR) has a negative but statistically insignificant effect on financial development, implying that a one-unit increase in RIR leads to a negligible 0.01-unit decrease, which is not statistically meaningful.

The inflation rate (INF) shows a significant and negative impact: a one-unit rise in inflation leads to a 0.40-unit decrease in financial development, highlighting inflation as a detrimental factor in this context.

Lastly, the real exchange rate (REX) has a positive but statistically insignificant effect on financial development. Although the direction of the relationship is positive, its impact is negligible in both magnitude and statistical relevance.

4.3.1. Estimation Results for High-Income Countries: 10 Countries

This section presents the estimation results evaluating the impact of financial liberalization on financial development in high-income countries. Prior to model estimation, model selection tests were conducted to determine the appropriate estimation approach among pooled Ordinary Least Squares (OLS), Fixed Effects, and Random Effects models. These include the F-Limer (Chow test), Breusch–Pagan test, and Hausman test.

4.3.2. Results of the F-Limer, Breusch–Pagan, and Hausman Tests

As presented in Table 5, the F-Limer test supports the Fixed Effects model, while the Breusch–Pagan test favors the Random Effects model. To resolve the model selection between Fixed and Random Effects, the Hausman test was applied. Since the P-value of the Hausman test exceeds 0.05, the null hypothesis favoring the Random Effects model is not rejected, and thus, the Random Effects method is selected for model estimation.

Table 5. Results of Model Selection Tests for High-Income Countries

| Test Type | Test Statistic | P-Value | Conclusion |
|---------------------------|----------------|---------|---|
| F-Limer Test | 185.61 | 0.0000 | Fixed Effects model preferred over pooled OLS |
| Breusch–Pagan Test | 258.48 | 0.0000 | Random Effects model preferred over pooled OLS |
| Hausman Test | 3.60 | 0.1238 | Random Effects model preferred over Fixed Effects |

Source: Authors' calculations using EViews 10.

Conclusion: Based on the test outcomes, the Random Effects model is selected to estimate the impact of financial liberalization on financial development for the high-income countries in this study.

4.3.3. Estimation Results and Interpretation of Coefficients

The final results from estimating the model examining the effect of financial liberalization on financial development using the Random Effects method for high-income countries during the period 2013–2022 are presented in Table 6.

Table 6. Random Effects Model Estimation Results
Dependent Variable: Financial Development

| Explanatory Variable | Coefficient | t-Statistic | P-Value |
|--------------------------------------|-------------|-------------|---------|
| FL (Financial Liberalization) | 0.78 | 3.14 | 0.0018 |
| OPEN (Economic Openness) | 0.14 | 3.32 | 0.0010 |
| RIR (Real Interest Rate) | 0.17 | 2.07 | 0.0352 |
| REX (Real Exchange Rate) | 0.055 | 0.79 | 0.3993 |
| INF (Inflation Rate) | -0.22 | -0.62 | 0.4999 |
| Constant (α0) | 57.14 | 4.35 | 0.0000 |

F-Statistic = 5.41, P-Value (F-Test) = 0.004907, R² = 0.05, Adjusted R² = 0.04

Source: Authors' calculations using EViews 10.

According to the results in Table 5, the explanatory variables account for approximately 4% of the variation in financial development. The coefficient of financial liberalization is positive and statistically significant, indicating that a one-unit increase in financial liberalization corresponds to an increase of 0.78 units in financial development.

Economic openness also has a positive and significant impact on financial development; an increase of one unit in economic openness leads to an increase of 0.14 units in financial development.

The real interest rate exhibits a positive and statistically significant effect on financial development. Specifically, a one-unit increase in the real interest rate raises financial development by 0.17 units.

Conversely, the inflation rate has a negative but statistically insignificant effect on financial development, with a one-unit increase in inflation associated with a 0.22 unit decrease in financial development.

The real exchange rate shows a small positive but statistically insignificant effect on financial development in this model.

4.3.4. Comparison of Model Results: The Effect of Financial Liberalization on Financial Development in High-Income vs. Middle- and Low-Income Countries

As shown in Tables 4 and 6, the findings of this study indicate that in high-income countries, a one-unit increase in financial liberalization leads to a 0.77-unit increase in financial development, with the coefficient being statistically significant. Similarly, in middle- and low-income countries, a one-unit increase in financial liberalization results in a 0.34-unit increase in financial development, also statistically significant. The coefficient of financial liberalization on financial development is greater in high-income countries compared to middle- and low-income countries.

The coefficient of economic openness has a positive and significant effect on financial development in both country groups. Specifically, a one-unit increase in economic openness corresponds to a 0.14-unit increase in financial development in high-income countries and a 0.10-unit increase in middle- and low-income countries. The coefficient for economic openness is thus higher in high-income countries.

The real interest rate shows a positive and significant effect on financial development in high-income countries, whereas it has a negative and statistically insignificant effect in middle- and low-income countries. The inappropriate use of interest rates, such as failure to provide adequate returns to savers and improper loan pricing, can lead to inefficient allocation of scarce economic resources, resulting in waste and suboptimal returns from economic activities.

Inflation has a negative but statistically insignificant effect on financial development in high-income countries, which typically experience stable inflation rates. Conversely, the inflation coefficient is negative and statistically significant in middle- and low-income countries.

In both groups, the real exchange rate has a small positive and statistically insignificant effect on financial development.

From a financial market perspective, the financial liberalization index (measured by foreign direct investment inflows) and other explanatory variables have lower coefficients in middle- and low-income countries compared to high-income countries. However, the significance of this impact depends on the sufficient development level of financial markets.

5. CONCLUSION AND POLICY RECOMMENDATIONS

Strengthening the financial system through financial liberalization strategies can be regarded as a key driver of sustainable economic growth. The process of financial liberalization enhances the efficiency of the financial system by eliminating inefficient institutions, creating pressure to reform financial infrastructure, and reducing information asymmetry issues such as adverse selection and moral hazard.

Moreover, financial liberalization, by removing controls on capital inflows, increases the incentives for both foreign and domestic investors to invest in diversified portfolios, which consequently lowers the cost of capital and raises the capital stock.

The effect of financial liberalization on financial development is positive, with a stronger impact observed in high-income countries compared to middle- and low-income countries. These results underscore the higher efficiency of financial systems in these two country groups.

The findings suggest that financial liberalization policies should be viewed as effective tools for promoting financial development. Therefore, enhancing financial liberalization is a crucial responsibility for policymakers aiming to achieve economic growth and development.

Given the critical role of financial development in economic growth, policy-making plays a vital role in generating tangible and undeniable benefits. These benefits must be designed so that policymakers cannot overlook them.

Several factors can facilitate this process, including economic stability, stability of foreign investment, and rates of return on investment. These factors reduce investment risk and attract investors.

Research has demonstrated that an open economy can contribute to financial development and deepening through trade balance and capital account channels. Hence, policymakers should pay special attention to the impact of balance of payments variables on financial development in their development plans and incorporate these effects into their policies.

Declaration

We acknowledge that we used ChatGPT to enhance the academic writing of our manuscript while ensuring the originality and integrity of our work.

Transparency Statement

The data supporting this study are available upon reasonable request to the corresponding author, subject to ethical and confidentiality considerations.

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Declaration of Interest

The authors declare that they have no competing interests.

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