

The mediating effect of trust on financial development and stock market comovement in BRICS economies

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Abstract

This study examines the effects of financial development on the stock market comovement of Brazil, Russia, India, China and South Africa (BRICS) on the one hand and the US Dow Jones on the other. Its main goal is to find out if trust has a mediating effect on financial development using data from the World Bank and the World Value Survey (WVS). Panel data analysis along with ARDL methods helped the authors obtain robust results. It was found that financial development plays a significant role in determining stock market comovement among the countries in question and that trust also has a moderating impact. The analysis was extended to the institutional and market factors of financial development. The paper introduces trust as a mediating variable that positively affects financial development, which in turn promotes stock market integration and comovement. Its results imply that investors should consider financial development and trust levels of a country when considering portfolio allocation for global diversification purposes, especially in emerging markets. Countries with insufficient trust levels, like Brazil, could benefit from improving their trust score through enhancing financial development and stability.

Keywords

Comovement, financial development, trust, market integration, BRICS, Dow Jones, mediating factor.

Аннотация

В этом исследовании рассматривается влияние финансового развития на движение фондовых рынков Бразилии, России, Индии, Китая и Южной Африки (БРИКС), с одной стороны, и индекса Доу-Джонс США, с другой. Его главная цель — выяснить, усиливает ли доверие посреднические связи при финансовое развитие, для чего используются данные Всемирного банка и World Value Survey (WVS). Анализ панельных данных вместе с методами ARDL помог авторам получить надежные результаты. Было обнаружено, что финансовое развитие играет важную роль в определении движения фондового рынка между рассматриваемыми странами и что доверие усиливает взаимодействие. Анализ был распространен на институциональные и рыночные факторы финансового развития. В данной работе доверие представлено как опосредующая переменная, которая положительно влияет на финансовое развитие, что, в свою очередь, способствует интеграции и развитию фондового рынка. Его результаты подразумевают, что инвесторы должны учитывать финансовое развитие и уровень доверия в стране при оценке распределения портфеля в целях глобальной диверсификации, особенно на развивающихся рынках. Страны с недостаточным уровнем доверия, такие как Бразилия, могли бы извлечь выгоду из улучшения своего рейтинга доверия за счет улучшения финансового развития и стабильности.

Ключевые слова

Движение, финансовое развитие, доверие, рыночная интеграция, БРИКС, индекс Доу-Джонса, опосредующий фактор.

JEL: F36, G10, G15.

Introduction

Stock markets' comovement has been an important focus of research into financial issues because of its crucial relevance to portfolio management and diversification and to the overall stability of the financial system (Ando, 2019; Bekaert et al., 2014; Younis et al., 2020), which is seen as a top priority by governments throughout the world.

Any shock or contagion that spreads from one market to another may disrupt the financial system and put the entire economy at risk. It is our responsibility as academics, researchers, and specialists in finance to extend our understanding of the ways in which financial markets are becoming increasingly intertwined and how contagion spreads. By doing so, we are laying a firm foundation from which future scholars will continue the work and carry the torch forward in an effort to make financial markets safer and more trustworthy.

Although several studies have examined the variables that could be linked to stock market co-movement, the subject is far from being fully explored. At the same time, its practical significance for portfolio management and the stability of financial markets is a powerful incentive to continue research in this area (Anagnostopoulos et al. 2021; Gohar et al. 2018).

Financial development has dramatically accelerated with globalisation and telecommunication growth. As a result, collecting data, enforcing contracts,

and doing business in general have become less expensive than before; financial regulation and financial access have been growing in importance. As access and regulation become more aligned it is likely that stock market dynamics and trends will also be more coordinated making the markets closer to each other. These and other factors contribute to comovement. Access to capital is being revolutionized by technological advancements and the rapid acceptance of digital solutions in the wake of the Covid-19 epidemic. According to the Global Findex database, 71% of individuals in emerging nations now have some kind of formal bank account, up from just 42% a decade earlier (Demirguc-Kunt et al. 2022). In emerging nations, the gender gap in access to financial resources has shrunk from 9% to 6% signalling a substantial improvement in financial development.

This is a crucial change: having a bank account makes it more convenient, secure, and affordable to be paid by companies, transfer money home to loved ones, and make purchases. Even the most impoverished may save money and prepare for emergencies with the help of mobile money accounts. Moreover, having a separate bank account allows women to have a bigger voice in family financial matters, which uplifts their status in family and society.

This study aims to look at how financial development drives comovement between the BRICS markets and the US Dow Jones. For this purpose we introduce the concept of trust as a mediating factor for the stock market comovement, seeking to investigate the role of financial development in stock market comovement and find out if trust is a potential moderating factor which enhances this phenomenon. So far, there has been no systematic study on the interaction effect of financial development and trust on stock market comovement even though it may be crucial for investors who plan to diversify their portfolios and allocate assets worldwide to prevent asset concentration in their home countries and reduce the home equity bias problem (Ghironi & Wolfe, 2018).

The objectives of this study are to find out, first, if financial development plays a significant role in promoting stock market comovement between BRICS nations and the global factor which in our case is the US Dow Jones and, second, if trust has any mediating effect on the processes involved.

Literature review

Since it is essential to understand how stock market comovement, financial development and trust all come together and influence each other we will look at how each of these terms are interpreted in literature and what has been accomplished in this field by researchers.

Stock market comovement

In research literature, the terms “interdependencies” and “comovement” are used interchangeably. The word “comovement” is a financial industry jargon that is not

included in ordinary dictionaries. D.Baur (2003) suggests that the word “moving with” or “sharing movement” be used instead of “comovement.” Barberis et al. (2005) describe comovement as a “pattern of positive association.” Interdependencies is the word used by K. J. Forbes & Rigobon (2002) to describe the phenomenon wherein markets show a great deal of comovement. The words “interdependencies” and “comovement” identify the link between two variables under both normal and crisis conditions but they imply no causal relationship between the variables themselves. There is a nuanced difference between a more general terminology like “contagion” and “spillovers.” The word “contagion” is frequently used to describe a highly negative event that spreads throughout a financial market (K. Forbes, 2012).

Another important term is “spillovers”. Spillovers relate to the direction of shock transmission through markets, which implies the presence of dominant markets (net providers of shocks) and dominated markets (net receivers of shocks). There are several theories seeking to explain the root causes of stock market interdependence. According to the first theory, stock market interdependence mimics international commerce and financial relationships. This paper is based on Williams (1938) book on the intrinsic worth of enterprises. While it was widely assumed in the 1930s that financial markets functioned like casinos, Williams believed that the value of a stock should be equivalent to the present value of its future cash flows. With the development of the efficient market theory in the 1960s, Williams’ views gained new significance. According to this theory, stock prices represent rational investors’ anticipation of the underlying worth of businesses.

R. Johnson & Soenen (2003) use data on daily prices of Latin American countries (Argentina, Brazil, Canada, Chile, Mexico, Colombia, Peru, and Venezuela) between 1988 and 1999 to investigate the level of integration between their markets and the US stocks market. The researchers concluded that the US equity market is statistically and substantially related to all eight economies analyzed in that research, with trade between them accounting for a big portion of the relationship.

Cross-border equity flows have expanded as a result of the liberalization of stock markets, providing businesses with access to previously unavailable funding and investors with new opportunities to diversify their portfolios globally. The proportion of GDP invested abroad by foreign shareholders increased from 16% to 87% in developed markets while in developing markets, this proportion increased fourfold, from 4% to 16%, during the same period (Lane & Milesi-Ferretti, 2018). Concurrently, international economic, and financial relations have expanded rapidly in recent years and so it is possible that markets will become more cointegrated and more correlations and comovement will be observed.

Another research on capital flows, published by Ekinci et al 2007 and Lane & Milesi-Ferretti (2018), shows that foreign investors now possess a larger share of the world’s foreign financial assets than they did a decade ago. Previous studies have demonstrated that the ongoing development has led to financial globalization, especially among developed economies. The greatest financial catastrophe since the Great Depression in 1929, the Global Financial Crisis (GFC) of 2008, caused

serious doubts about the advantages of liberalizing the financial sector. In its wake, several studies examined the possibility of a widespread contagion (Pyun & An, 2016). Even before that, some have argued that the key transmission mechanism for cross-country shocks during the financial crisis of the 1990s was the presence of financial ties across countries (Baig & Goldfajn, 1999; Caramazza et al., 2004; G. L. Kaminsky & Reinhart, 2000; Van Rijckeghem & Weder, 2003). At the same time, during the GFC, Lane (2013) offered market-specific viewpoints as primary causes of financial integration. The interconnectedness of economies through real-sector and financial linkages acts as a crisis carrier when trouble begins in one national economy and spreads to others (Glick & Rose, 1999; G. Kaminsky et al., 1998; Van Rijckeghem & Weder, 2003).

Global phenomena or common shocks like major economic shifts in industrial countries, significant changes in oil prices, changes in US interest rates, and changes in exchange rates may also have a negative impact on the economic fundamentals of several economies simultaneously, potentially resulting in a crisis (Eichengreen et al., 1996). These effects might be seen as “spillovers” (Masson, 1999), “interdependence” (Forbes and Rigobon, 2002), and “fundamentals-based contagion” (all of which refer to the same phenomenon) (Kaminsky and Reinhart, 1998).

There’s also a theory holding that market flaws or the actions of foreign investors contribute to the international spread of financial crises from one country to another (Diamond & Dybvig, 1983; Dornbusch et al., 2000; King & Wadhvani, 1990; Kodres & Pritsker, 2002; Masson, 1999). When there are gaps in the available information, investors are more likely to be wary of a country’s economic fundamentals and insights. For example, uninformed and less-informed investors may have difficulty extracting information from the signal of falling prices and may instead choose to follow the strategies of better-informed investors, resulting in excess co-movements across markets. This often occurs when a crisis in one country serves as a “wake-up call” to international investors as it forces them to reconsider risks in other countries (Goldstein, 1998; Pasquariello, 2007; Yuan, 2005). The degree of (non)anticipation of a crisis by investors is crucial for the occurrence of contagion because of the allocation of investors’ attention (Mondria & Quintana-Domeque, 2013).

Evidence suggests that market confidence and expectations play a significant role in the propagation of contagion (Masson, 1999; Mondria & Quintana-Domeque, 2013). With the intention of creating an early warning system, the earliest empirical study on financial crises and contagion focused on fundamentals-based processes (Eichengreen et al., 1996; Van Rijckeghem & Weder, 2003). Later empirical research has zeroed emphasis on investor behavior-based mechanisms. There are still significant knowledge gaps in this area, particularly concerning the potential amplifying effect of investor behavior on market contagion and excessive market comovement. This paper seeks to fill one of such lacunae by investigating the potential effects of trust and financial development on market comovement during times of financial crisis and by testing them for homogeneity.

Impact factors of financial development on stock market comovement

The contagion effect is often thought to be caused by and linked to a sharp increase in the degree to which stock markets move in tandem or in correlation (Duda et al., 2022). When thinking about how to best diversify one's portfolio it is crucial to consider whether or not the stock markets have an abnormally high or low returns correlation.

Research has shown that financial development leads to more interconnected stock markets. For example, Nikkinen et al. (2011) in their study showed that they witnessed an increased interdependence between the Croatian and Slovenian markets before and during the global financial crisis. This was a result of financial development which led to more interconnected markets. Other research also shows that financial development may lead to increased international investment flows especially in emerging markets. These flows have an overall effect of making markets more integrated (Giofré, 2021; Goyal, 2014; Kant, 2018; Raj & Dhal, 2008). Other factors of financial development which promote stock market integration include but are not limited to, increased liquidity, investor protection and enhanced corporate governance. Gallimberti et al. (2021) explain in their study that stock market liquidity increases following banking deregulation as a form of financial development. This liquidity has the increased effect of making markets more correlated with similarly liquid markets (Ghossoub & Reed, 2012). The International Monetary Fund in their working paper specifically emphasized that the development of local markets in emerging markets had greatly improved the financial landscape over the past 20 years (International Monetary Fund. Monetary and Capital Markets Department., 2016). The IMF states that certain factors related to institutional development like improved corporate governance and investor protection are key elements that promote financial stability and international stock market integration.

Chevallier et al. (2018) also point out that financial development and globalization have led to a higher extent of market interdependence as firms now have access to international capital markets while at the same time providing finance at a lower cost. Financial liberalization has also been shown to reduce the cost of capital by as much as 42% (Errunza & Miller, 1998). This reduction in the cost of capital has the effect of making stock markets more integrated as the pricing of assets will not be much different. It has also been noticed that the international mobility of capital, especially cross-border private funds for investors seeking to diversify their portfolios, has also emerged as another source for financial market integration (Raj & Dhal, 2008). In the same paper, Raj & Dhal explain that financial development is effective in price discovery. This discovery has several benefits including the development of financial markets and institutions which might ultimately make way for stock market integration and comovement. Global computer and telecommunications technology, which forms the backbone of financial infrastructure has improved in recent years. This has contributed to the deepening and widening of financial services and hence to a more integrated financial sector as dissemination of information is fast and transaction costs are greatly reduced (Bhargava et al., 2004).

Most studies agree that financial development has both a direct and indirect role in making stock markets more integrated. Vithessonthi & Kumarasinghe (2016) give a full analysis of how financial development leads to more market integration. In their study, they show that financial development has a positive effect on stock market integration with the global factor or global stock market. This conclusion has been supported by other authors (Ben Rejeb & Boughrara, 2013; Kaneta, 2000).

Effect of Trust on Financial Development

“Trust is one of the most important synthetic forces within society” (Simmel 1950:326)

Simmel’s (1950) comparison undoubtedly gives us a glimpse of why trust is the cornerstone on which society is formed. Delhey & Newton (2003) also explain that there is a general consensus among contemporary social scientists that indeed social trust, or just trust for short, has gained a lot of attention not only in sociology but in many other academic fields including political science, economics, psychology, anthropology, history, political theory, business management and administration. Most importantly, it is agreed that trust boosts economic growth while also improving the efficiency of market economies. It refers to equitable resource allocation in a society, increases societal integration and peaceful cooperation, enhances personal happiness, political stability and simple things like good health and peace of mind. Finally, trust is the glue that connects social notions like optimism, well-being, health, education welfare, community engagement, and progress.

The concept of trust has its roots in theology, philosophy, socio-political theory, and ethics (Allahyarahmadi, 2013; Misztal, 2013). When there is a high level of danger, uncertainty or ignorance, trust is especially important as it is the willingness of an individual to engage in risky behavior in a social setting. Trust is defined by Fukuyama (1995) as the expectation that arises in members of a social group based on similar norms and beliefs that other members would act according to these norms. Fukuyama goes on to say that trust characterizes a situation in which neither party to a transaction exploits or takes advantage of the other’s flaws; it is an unwritten contract involving social interactions between people, organizations, and civic systems. It also encompasses confidence, expectations, motivation, civic collaboration, meeting obligations, and working together to achieve a unified objective.

Trust affects financial development both directly and indirectly. It promotes larger investments by individuals if they trust that legislation enforcement is adequate. (McCannon et al., 2014). The trusting nations usually have lower corruption and hence better overall financial development as participants are more likely to invest and contribute to the growth of the financial sector (Ben Rejeb & Boughrara, 2013; Kaneta, 2000). Trust in financial institutions along with financial literacy leads to an increase in stock market participation which has a lasting effect of promoting financial development. In their study, Balloch et al (2015) infer that stock market literacy and other behavioural traits, such as trust among them, may explain the level of equity

investments. Lachance & Tang, (2012) also show that stock market participation increases with the level of trust in an economy. In countries with substantial social capital and high levels of trust, households often invest more in equity than other assets prompting an increase in financial development (Sapienza & Zingales, 2011; van Raaij, 2016).

In higher-trust nations, trade credit facilitation is often expedited between businesses (Severin et al., 2006). Previous studies have shown that in highly trusting countries businesses that depend on liquidity often receive trade credit and are least affected by declining profits and bank crisis as compared to similarly sized firms in less trusting countries (Levine et al., 2018). Research has also shown that this trade credit ultimately facilitates access to bank debt and this also improves financial development. Therefore, companies that enjoy high levels of trust are able to access bank debt and hence are less likely to suffer from credit constraints (Moro & Kodwani, 2010).

It is also suggested that in highly trusting countries, the influence of trust leads to lower transaction costs in financial operations for firms and investors (Moro & Kodwani, 2010; van Raaij, 2016). To contextualize this, Kwon et al. (2013) in their study found out that companies' transaction costs can be reduced if partnerships formed on the foundation of trust lead to a collaborative supply chain effort. Trust provides the glue which holds contracts together. This is because it contributes to transparency and contractual safeguards for all parties involved, offering a different form of corporate governance (Thomson, 2011). On the other hand, Schmidt et al. (2003) show that trust has a direct influence on reducing transaction costs associated with handling uncertainty and promoting interpersonal interactions. The author explains that trust fosters growth and economic development by supporting the accumulation and, more importantly, the efficiency of physical and human capital accumulation.

Trust also exerts influence on financial efficiency, social capital, financial infrastructure, and specific demographic clusters (Bossone, 1999; Sangnier, 2011; Yin et al., 2020). In a study conducted by Özen (2019) the author states that there is a positive impact of trust on the growth and development of financial markets. Trust also has the effect of reducing perceived risk and credit risk in financial transactions and credit availability (Moro & Kodwani, 2010) because it is expected that trust can reduce agency cost and the need for collateral (Moro et al., 2012). As long as trust is on the rise or already high there is an increase in household participation in the stock market investment. (Lachance & Tang, 2012). As a result, trust impacts investment and contracting decisions while at the same time reducing the costs associated with investing (Bottazzi et al., 2016).

Calderon et. al. (2002) in their study show that trust is correlated with financial depth and financial efficiency both being characteristics of financial development. Since our task is to determine if trust has a mediating effect on financial development for stock market comovement we have suggested several hypotheses to empirically test our theory. These are the proposed hypotheses:

H1: Financial development does not affect the comovement of a BRICS country's returns with the global factor proxied with the Dow Jones index.

A1: Financial development influences the comovement of a BRICS country's returns with the global factor proxied with the Dow Jones index.

The concept of financial development includes two components: institutional development and market development; it is therefore necessary to test if they also influence comovement. So we can expand the first hypothesis to test each of these, leading to the following sub-hypotheses:

H1a: Institutional development does not affect the comovement of a BRICS country's returns with the global factor proxied with the Dow Jones index.

A1a: Institutional development influences the comovement of a BRICS country's returns with the global factor proxied with the Dow Jones index.

Then after answering these questions, we can further develop our final hypothesis which aims to determine if trust has any mediating effect on financial development. For this purpose, we develop the following hypotheses:

H2: Trust does not have a mediating effect on financial development for stock market comovement between BRICS and the US Dow Jones.

A2: Trust has a mediating effect on financial development for stock market comovement.

Methodology and data

As outlined in the objectives, the paper investigates the link between financial development and the correlation of the BRICS stock markets with the Dow Jones index in the United States. It focuses on the BRICS countries because, as previously said, trust has more beneficial implications in a developing country's stock market compared to a developed one (Guiso et al., 2004). The goal is to see if trust has any mediating effect on financial development towards stock returns comovement.

In the sections below we describe the datasets and the econometric methods used in this study and the methodology of how they were constructed.

Trust data and analysis

The study aims to investigate the relationship between trust and the comovement of the BRICS stock markets with the US Dow Jones as a global factor.

The primary metric of interest is each nation's trust index, which can be found primarily on the World Values Survey (WVS) website (Worldvaluessurvey.org, 2019). By answering the poll questions the respondents indicate if they generally see themselves as trusting people. Several studies (Drobetz et al., 2023; Wei & Zhang, 2020) support this approach.

Since its beginning in 1981, the survey has worked to employ the most rigorous and high-quality research designs available in each country to provide a single, composite score representing the level of trust in its culture, in relation to both individuals (Almond & Verba, 1963) and organizations (e.g., Gallup Polls and WVS). Between 1981

and 2020 there have been seven waves of surveys; not all countries participated in each wave, so we will use the average method to fill in the gaps. The index ranges from 0 to 100, with 0 indicating the lowest level of trust and 100 the highest level of trust.

The OECD methodology is utilized by the WVS in order to provide recommendations on how to quantify trust (Murtin et al., 2018). The World Values Survey employs a wide-ranging definition of trust, one that is both easy to understand and useful for parsing out its component parts. For their purposes “trust” is defined as “the idea that another person or institution will act in accordance with one’s expectations of positive behavior.”

Morrone et al (2009) differentiate between conventional trust questions and attempts to gauge trust based on respondents’ anticipations of others’ actions, such as answers to a survey question on whether a lost wallet is likely to be returned. There is plenty of research linking trust survey items to participants’ actual trusting behavior in lab settings (Algan & Cahuc, 2010, 2013; Falk et al., 2023; Fehr & Fischbacher, 2003; Gächter et al., 2010; Glaeser et al., 2000; N. D. Johnson & Mislin, 2012; Lazzarini et al., 2005; Naef & Schupp, 2021). These WVS measures provide a vital insight into the validity of more traditional survey-based results and they have been used to produce better survey questions even though experimental methods of assessing trust are outside the purview of official statistics.

Because the WVS survey is not conducted annually and different nations have different survey periods, we will be using the most up-to-date scores available (from 2015) and will be calculating the average scores for each country using the Microsoft Excel package (Liu, 2019). It should be stressed that generalized trust is stable through generations since it is passed from parents to children, as evidenced by research (Uslaner, 2008). Average trust levels across countries in our study are shown in the table below.

Table 1. Average trust in BRICS

Country	Average Trust Index	Partnership Block
Brazil	7.375507	BRICS
China	55.22041	BRICS
India	31.77355	BRICS
Russia	27.73641	BRICS
South Africa	21.98931	BRICS

Source: Author calculations

Our analysis also uses DataStream’s comprehensive collection of daily stock prices for the BRICS and US country indexes between 2003 and 2017 to estimate the stock market returns for those specific countries. The period was chosen because the data set had to coincide chronologically and the recent results of the WVS survey were officially released in 2018.

Stocks, stock market indexes, currencies, business fundamentals, fixed-income securities, and important economic indicators are all part of DataStream, a worldwide

financial and macroeconomic database that covers more than 175 countries and 110 markets. More than 3.5 million different financial instruments from all over the world, with a combined 60 years of historical time series data, are available for analysis.

Table 2 below shows a summary of the daily stock returns for the US and BRICS nations for the total period under review. We can see that, as a result of the global financial crisis in 2008, the average returns, including those previously on an upward trajectory, were extremely low owing to the recession that wiped them out.

Table 2. BRICS and US returns

Country	Mean	Median	Maximum	Minimum	Std.Dev.	Skewness	Kurtosis
Brazil	0.0002	0.0008	0.0803	-0.1210	0.0165	-0.7259	7.5422
China	-0.0001	0.0003	0.0889	-0.0926	0.0159	-0.4360	7.9690
India	0.0002	0.0009	0.0793	-0.1181	0.0137	-1.0258	11.9605
Russia	0.0000	0.0004	0.1296	-0.1549	0.0181	-1.3138	14.6075
South Africa	0.0004	0.0009	0.0650	-0.0724	0.0117	-0.3514	6.5563
US(Dow Jones)	0.0000	0.0004	0.0457	-0.0820	0.0104	-1.0924	10.6358

Source: Author calculations

Financial development data

To address the limitations of single indicators as proxies for financial development, the IMF developed a series of indices that summarize the depth, accessibility, and efficiency of developed financial institutions and financial markets, culminating in the final index of financial development shown in Figure 1.

The Financial Development Index is shown below: First, the variables are normalized, then the normalized variables are aggregated into sub-indices that reflect a certain functional dimension; and, third, the sub-indices are aggregated into the final index. The indices range from 0 to 1 with 0 being the least developed while 1 is fully developed.

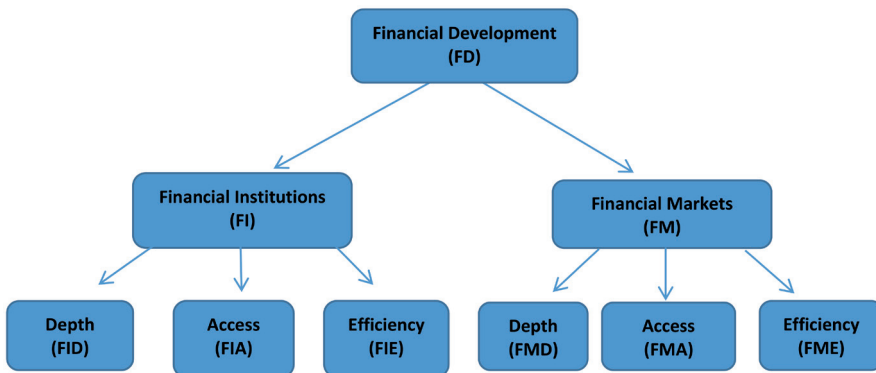


Figure 1. Components of Financial Development. Source: International Monetary Fund

In order to assess the breadth, depth, and efficiency of financial institutions and markets, a series of factors are employed to generate six subsidiary indices, which are depicted at the base of Figure 1. Sub-indices include those denoted by the letters FID, FIA, FIE, FMD, FMA, and FME, where I and M stand for “institutions” and “markets,” respectively, while D, A, and E stand for “depth,” “access,” and “efficiency,” respectively. The growth of financial institutions and markets is measured by combining these indexes into the FI and FM composite indices.

The FD index, a composite of the FI and FM components, provides a comprehensive measure of financial development. Many facets of the economic system may be summarized by monitoring a select group of these important indicators. The statistical variables are selected only if they provide data for a sufficient number of countries over a sufficient time span. Also the database draws on a set of fundamental proxy variables that are both well-established and available over a wide country-time sample.

Finally, these indexes were developed with ease thanks to the collection’s 33 years of yearly data for 183 developed, emerging, and low-income developing nations from 1980 to 2013. The summary indices for the BRICS nations are given below in Table 3.

Table 3. The table shows the average value of the indices for the BRICS countries

Country	Brazil	China	India	Russia	South Africa
Development_index	0.587292	0.5307725	0.435612	0.500283	0.57249332
Inst_Access	0.701032	0.2339075	0.172997	0.719374	0.32312797
Inst_Depth	0.491407	0.400877	0.291863	0.147179	0.84928939
Inst_Efficiency	0.537444	0.7762165	0.610475	0.432515	0.73128344
Institutions_Index	0.640527	0.4653099	0.351503	0.477515	0.67928965
Mkts_Access	0.415549	0.2330839	0.213697	0.536107	0.26137182
Mkts_Depth	0.386172	0.511158	0.509052	0.38996	0.68035195
Mkts_Efficiency	0.757444	0.9955463	0.784065	0.604598	0.34699407
Markets_Index	0.516165	0.5800654	0.50645	0.507811	0.44825623
Correlation	0.554541	0.0781413	0.20125	0.323287	0.36903125

Source: Author’s own calculations

Panel ARDL and FMOLS

The Panel Autoregressive distributed lag (ARDL) and its counterpart Panel Autoregressive distributed lag (ARDL) were used in the subsequent parts of the analysis on financial development and stock market participation. The fully modified ordinary least squares (FMOLS) method was also utilized. Pesaran and Shin pioneered the autoregressive distributed lag (ARDL) method, sometimes known as the Bounds test (Pesaran & Shin, 2012). It is widely regarded as one of the most adaptable econometric approaches. Furthermore, the ARDL method’s ability to accept varied lags in multiple variables makes it particularly appealing, versatile, and flexible.

Econometric Issues: The verification of the presence of the long-run equilibrium relationship between variables is a significant econometric problem. The (Engle & Granger, 1987; Johansen, 1991) methods can be used to keep this from happening. Comparatively, the Engle-Granger (EG) process relies on assessing the stationarity of the regression residuals, whereas the Johansen method makes use of Vector Autoregressive (VAR) models. On the other hand, the Johansen method includes a test of the hypothesis of the long-run equilibrium relationships, whereas the EG process did not include testing of the hypothesis on the co-integrating relationships themselves. The sequence of integration for each series I(d) of variables is also an essential question. The Augmented Dickey-Fuller (ADF) test is a useful tool for doing this (unit root test).

Stationarity Test (Unit Root Test) To determine whether or not to apply OLS, the time series' stationarity property must be evaluated because most macroeconomic variables are nonstationary; it results in a very high R² when parameters are estimated using OLS, and the emergence of false regression problems may be caused by a non-stationary process. The ADF test (Augmented Dickey-Fuller) is employed. The ADF test is written in the following format:

$$\Delta y_t = \alpha_0 + \delta y_{t-1} + \sum_{j=1}^m \beta_j \Delta y_{t-1} + \varepsilon_t$$

The significance of the coefficient of (Y_{t-1}) is tested in the unit root test, and the hypothesis of a unit root cannot be rejected if the ADF test-statistic (t-statistic) is smaller (in absolute value) than the Mackinnon critical values. There is a family of closely comparable statistical tests that includes the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test, the Phillips-Perron (PP) test, the Ng-Perron test, and the cross-sectional augmented IPS-CIPS test. This evaluation will make use of the ADF as well as one other test.

Co-integration Test: If the ADF results demonstrate that the variables are integrated of order one I(1), then it is important to identify at least one stable and non-spurious linear combination I(0) of these variables. Johansen co-integration was used to determine the total number of co-integrated vectors for a set of "n" nonstationary variables of the same order. Because the Johansen test is hypersensitive to the lag length employed in the VECM, the Akaike Information Criterion (AIC) and the Schwartz Bayesian Criterion (SBC) are employed to determine the optimal lag length.

This study used the FMOLS method to analyze the correlation between the BRICS countries' stock market returns and the US market, considering both the countries' levels of financial development and their level of involvement in the OECD. For the purpose of estimating a single co-integrating relationship involving *i* and *j* variables the FMOLS is used. (Phillips & Hansen, 1990) first proposed and then refined the FMOLS method.

To get around the inference problem inherent in OLS approaches, the t-test for long-run estimates can be applied when using the FMOLS method instead (Himansu, 2007). Using "Kernal estimators of the Nuisance parameters that alter the asymptotic

distribution of the OLS estimator," FMOLS "fully modifies" the conventional ordinary least squares (OLS) method. This method uses an adjustment to the least squares method to consider the impacts of serial correlation and to test for endogeneity in the regressors that result from the presence of Co-integrating relationships, allowing for asymptotic efficiency to be achieved.

For this analysis the models which will be used for financial development and stock market comovement, the following apply;

Model 1: $f(\text{correlation, institutions_index, market_index})$

Model 2: $f(\text{correlation, institution_access, institution_depth, institution efficiency})$

Model 3: $f(\text{correlation, market_access, market_depth, market efficiency})$

It follows that we can interact the factors of financial development with trust to achieve H2 using the following equations.

Model 4: $f(\text{correlation, trust, inst_access, inst_access*trust, inst_depth, inst_depth*trust, inst_efficiency, inst_efficiency*trust, mkts_access, mkts_access*trust, mkts_depth, mkts_depth*trust, mkts_efficiency, mkts_efficiency*trust})$

In the above models 1 to 4 the natural logarithms are used to transform the data to remove any impediments.

Results and discussion

The analysis is carried out to investigate how financial development affects stock market comovement and if trust can be regarded as a mediating factor. It uses data on the BRICS countries to explore how their markets comove together with the international portfolio of the US Dow Jones. The Dow Jones is chosen as a proxy to the global factor as it is the leading authority benchmark for international stock markets; the two variables most important for financial development are the financial institution's index and the financial market index. Further, the study focuses on the aspects, which institutions and markets have in common and examines in detail the financial attributes of the factors that drive stock market return comovement. Finally, it determines the interaction effect of trust on these attributes and answers the question if trust has a mediating effect on financial development.

Institutional and market development effect on stock market comovement

For this analysis, the study aims to determine the long-term effects of institutional and market development on the stock market comovement for the BRICS markets with the Dow Jones. With only three variables used in this investigation, the methods employed should help overcome some of the difficulties usually experienced in OLS. The suitable models are therefore either the Panel FMOLS or the Panel ARDL depending on the results of the unit root test which will employ both the ADF and PP tests with three trend specifications shown in Table 4 below.

Table 4. Unit root tests for financial development

Variables		Unit Root Methods				Int. order
		PP		ADF		
		level	1st Difference	level	1st Difference	
Correlation	With cons	0.1092	0.0007***	0.1092	0.0009***	I(1)
	With cons & trend	0.3590	0.0001***	0.3590	0.0045**	I(1)
	Without cons & trend	0.2049	0.0002***	0.1647	0.0000***	I(1)
Institutions_index	With cons	0.3029	0.0094***	0.4213	0.0094***	I(1)
	With cons & trend	0.6536	0.0183***	0.6011	0.0094***	I(1)
	Without cons & trend	0.9821	0.0037***	0.9821	0.0094***	I(1)
Markets_index	With cons	0.6214	0.0150***	0.6499	0.0263***	I(1)
	With cons & trend	0.4662	0.0732***	0.2530	0.1057***	I(1)
	Without cons & trend	0.4279	0.0038***	0.4540	0.0021***	I(1)

Source: Author's own calculations. Note: The *** are variables that are significant at the 1% level and ** are significant at the 5% level while * is significant at the 10% level. The selection method used for this unit root table is the Akaike criterion.

From Table 4 above, it can be inferred that the data is stationary at the first difference and not at levels. This is true for both the PP and the ADF tests which are most significant at the 1% significance level with integration order I(1). This is the main key to determining whether the FMOLS model can be used, as it should only be used when the order of integration is I(1) for all the data. Also, cointegration analysis is performed on the data to verify the appropriate use of the modelling method. In Table 5 below the three main Pedroni cointegration tests are analyzed.

Table 5. Pedroni Cointegration tests for financial development

	No Deterministic trend		Deterministic intercept and trend		No Deterministic intercept and trend	
	Statistic	Prob.	Statistic	Prob.	Statistic	Prob.
Panel v-Statistic	0.2517	0.4006	-0.5175	0.6976	0.7113	0.2384
Panel rho-Statistic	-0.5035	0.3073	-0.2445	0.4034	-0.8664	0.1931
Panel PP-Statistic	-1.7069**	0.0439	-3.5735***	0.0002	-1.5846*	0.0565
Panel ADF-Statistic	-1.6209**	0.0498	-3.5153***	0.0002	-1.3856*	0.0829
Group rho-Statistic	0.0001	0.5000	0.6773	0.7509	-0.2162	0.4144
Group PP-Statistic	-5.6365***	0.0000	-6.6341***	0.0000	-2.5018***	0.0062
Group ADF-Statistic	-3.9008***	0.0000	-4.6451***	0.0000	-2.2429**	0.0125

Source: Author's own calculations. Note: The *** are variables that are significant at the 1% level and ** are significant at the 5% level while * is significant at the 10% level.

To determine if the FMOLS method is appropriate in this analysis the Pedroni cointegration tests are necessary. Table 5 above shows the results for these tests with the first one being non-deterministic trend statistics. Its result is that there is cointegration: 4 out of 7 tests are significant at both the 1% and 5% levels. The second test is deterministic intercept; its trend model of which 4 out of 7 statistics also show that the data is cointegrated. The last one is the non-deterministic trend and intercept test which has 4 significant statistics, though most are weakly significant at the 10% level. All three tests indicate the existence of a long-term relationship and cointegration. The FMOLS results are presented in Table 6 below.

Table 6. Panel Fully modified OLS for Institution and Market development indices against return correlations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Institutions_index	2.2177***	0.784939	2.825295	0.0061
Markets_index	0.32061	0.285071	1.124654	0.2644
Adjusted R-squared	-18.41			
Panel Observations	80			
Cross sections	5			
Years	16			

Source: Author's own calculations. Note: The *** are variables that are significant at the 1% level and ** are significant at the 5% level while * is significant at the 10% level.

The FMOLS results in Table 6 above show that it is only financial institution development that is positively associated with the return correlations. This means that, as financial institutions in emerging markets are developing, one can expect that their stock market returns will be integrated with the global factor and comove with the US Dow Jones.

Financial institutions composition

Further analysis of the individual make-up of the financial institution's development index aims to find out how its basic composition affects the stock markets' comovement. A similar approach is undertaken with the unit root tests to determine the degree to which the data is integrated. The unit root results are shown in Table 7 below.

Table 7 above shows that the data are mixed, some of the variables being of order I (1) while others integrated to order I (0). This rules out the use of the FMOLS method as the panel ARDL model is suitable for the analysis. The next step is to determine the optimal lag length of the model, which is heterogeneous because the number of variables is less than the number of years, as is shown in Table 8 below.

Table 7. Unit root test for Financial institutions development

Variables		Unit Root Methods				
		PP		ADF		Int. order
		level	1st Difference	level	1st Difference	
Correlation	With cons	0.1092	0.0007***	0.1092	0.0009***	I(1)
	With cons & trend	0.3590	0.0001***	0.3590	0.0045**	I(1)
	Without cons & trend	0.2049	0.0002***	0.1647	0.0002***	I(1)
Inst_access	With cons	0.9399	0.4913	0.2206**	0.5311	I(0)
	With cons & trend	0.5955	0.9076**	0.2266	0.8987**	I(1)
	Without cons & trend	0.9957	0.2310*	0.7561	0.2330**	I(1)
Inst_depth	With cons	0.1265	0.0424***	0.0025	0.0424**	I(1)
	With cons & trend	0.4930***	0.1173**	0.4926**	0.1173*	I(0)
	Without cons & trend	0.8724	0.0042***	0.8863	0.0042***	I(1)
Inst_efficiency	With cons	0.7901	0.0013***	0.8227	0.2417***	I(1)
	With cons & trend	0.7888	0.0018***	0.9091	0.0018***	I(1)
	Without cons & trend	0.1713	0.0001***	0.2014	0.0311***	I(1)

Source: Author's own calculations. Note: The *** are variables that are significant at the 1% level and ** are significant at the 5% level while * is significant at the 10% level.

Table 8. Optimal lag length criterion for Financial institutions development

Lag	LogL	LR	FPE	AIC	SC	HQ
0	88.67003	NA	8.68e-07	-2.605232	-2.471423	-2.552436
1	421.5608	614.5675	5.07e-11	-12.35572	-11.68667*	-12.09174
2	451.1866	51.04757*	3.35e-11*	-12.77497*	-11.57070	-12.29981*
3	458.0969	11.05642	4.50e-11	-12.49529	-10.75578	-11.80894
4	465.9204	11.55469	5.95e-11	-12.24370	-9.968959	-11.34617

Source: Author's own calculations.

Table 8, showing the lag length criterion, indicates that the optimal lag length is two. That is why in our model we will only go up to lag 2 as depicted by the criterion. Next, we show the long-run model in Table 9 below.

Table 9. Long run model for institutions and stock market comovement

Long Run Equation				
Variable	Coefficient	Std. Error	t-Statistic	P-value
Inst_access	0.362666***	0.040204	9.020713	0.000
Inst_depth	0.370325***	0.080722	4.587668	0.000
Inst_efficiency	-0.16003*	0.084018	-1.90467	0.063

Source: Author's own calculations: Note: The *** are variables that are significant at the 1% level and ** are significant at the 5% level while * is significant at the 10% level.

The chosen model is of type ARDL(1,2,2,2), selected by the software. The optimal long-run estimates for the model in Table 9 above show that institutional access and institutional depth are positively and significantly associated with stock market return correlation in the long run. This means that developing financial institutional access and institutional depth will have a positive effect on the comovement of the stock markets in the long run for the BRICS economies.

This makes sense as greater financial access and improved depth of financial institutions will promote savings and hence increase credit lines for businesses. High-performing stock markets will tend to have their financial returns synchronized with the global factor. Institutional efficiency, on the other hand, is only weakly associated with the stock market correlation. Next, one can find out if there are any short-run relationships for the same system of variables. These are shown below in Table 10.

Table 10. Short-run model for institutions and stock market comovement

Variable	Short Run Equation			
	Coefficient	Std. Error	t-Statistic	P-value
COINTEQ01	-0.6802***	0.1569	-4.3361	0.0001
D(Inst_access)	-1.4736	1.2988	-1.1346	0.2623
D(Inst_access(-1))	4.5093	4.0557	1.1118	0.2719
D(Inst_depth)	-0.4889*	0.2858	-1.7106	0.0937
D(Inst_depth(-1))	0.5339	0.3317	1.6094	0.1142
D(Inst_efficiency)	0.5356	2.5402	0.2108	0.8339
D(Inst_efficiency(-1))	1.3527*	0.6847	1.9756	0.0541

Source: Author's own calculations: Note: The *** are variables that are significant at the 1% level and ** are significant at the 5% level while * is significant at the 10% level.

Table 10 above shows that the model displays error correction as the cointegrating factor is negatively significant at the 1% level. This implies that if there are shocks in the system the model will error correct within 68% of one year. Institutional depth also has a negative short-run effect on the stock market correlations but this is weakly significant at the 10% significance level. Institutional efficiency has a positive short-run effect also at a weak 10% significance level.

These H1a-related results show that financial institutions' development is a significant parameter in explaining how emerging markets are correlated with the global factor, and, more importantly, institutional depth and access play a vital role in determining the comovement of stock markets.

Financial markets composition

For financial institutions' development, a similar analysis using the composition of financial markets development is done. The unit root test is used to determine stationarity (Table 11)

Table 11. Unit root test table for markets development

Variables	Unit Root Methods					
		PP		ADF		Int, order
		level	1st Difference	level	1st Difference	
Correlation	With constant	0.1092	0.0007***	0.1092	0.0009***	I(1)
	With cons & trend	0.359	0.0001***	0.359	0.0045**	I(1)
	without cons & trend	0.2049	0.0002***	0.1647	0.000***	I(1)
Mkts_access	With constant	0.0484	0.0042**	0.0355	0.0045**	I(1)
	With cons & trend	0.3651	0.0073***	0.3078	0.0144	I(1)
	without cons & trend	0.2218	0.0002***	0.2822	0.0002***	I(1)
Mkts_depth	With constant	0.0004	0.0003*	0.0209	0.0013*	I(1)
	With cons & trend	0.0225	0.0001	0.124**	0.0045	I(0)
	without cons & trend	0.8016	0.000***	0.6958	0.0011***	I(1)
Mkts_efficiency	With constant	0.5892	0.0028***	0.5443	0.0034***	I(1)
	With cons & trend	0.5069*	0.0086***	0.5069	0.0153***	I(1)
	without cons & trend	0.1077*	0.0002***	0.2356	0.0002***	I(1)

Source: Author's own calculations: Note: The *** are variables that are significant at the 1% level and ** are significant at the 5% level while * is significant at the 10% level.

Table 11 above shows that there might be a presence of mixed integration of I(0) and I(1) implying that even though the data is stationary it might not be beneficial to continue along the panel FMOLS and therefore it might be beneficial to use the panel ARDL method. The next step is to determine the lag order structure of the data shown in Table 12 below.

Table 12. Optimal lag length criteria for financial markets development

Lag	LogL	LR	FPE	AIC	SC	HQ
0	96.04881	NA	6.92e-07	-2.832271	-2.698463	-2.779475
1	255.5420	294.4490*	8.38e-09*	-7.247446*	-6.578404*	-6.983466*
2	270.1118	25.10479	8.81e-09	-7.203439	-5.999163	-6.728275
3	283.1573	20.87286	9.79e-09	-7.112532	-5.373022	-6.426184
4	295.6358	18.42973	1.12e-08	-7.004177	-4.729433	-6.106645

Source: Author's own calculations

In the above Table 12 the optimal lag length structure is shown to be 1. The long-run results are given below in Table 13.

Table 13. Long run ARDL Model for Markets against correlation

Variable	Long Run Equation			
	Coefficient	Std. Error	t-Statistic	Prob.
Mkts_access	0.581279**	0.273618	2.124416	0.0376
Mkts_depth	0.512129***	0.126545	4.047012	0.0001
Mkts_efficiency	-0.31581***	0.059779	-5.28302	0.0000

Source: Author's own calculations: Note: The *** are variables that are significant at the 1% level and ** are significant at the 5% level while * is significant at the 10% level.

The optimal model selected by the software was the ARDL (1,1,1,1). From the long-run model in Table 13 above, one can observe that market access is positively related to the stock market correlation at the 5% significance level. This implies that in the long run when financial market access improves, it will tend to lead to the stock returns of emerging markets moving together with the global factor being the US Dow Jones. This is the same for market depth, which is positively and significantly related to the comovement in the long run.

Financial markets make funds available for businesses; this improves the business environment in which companies are operating causing stock markets to have high returns. Financial market efficiency seems to have a negative effect on stock market comovement in the long run. The study analyzes the short-run effects of the market factors on the correlation shown in Table 14.

Table 14. Short run ARDL Model for Markets against correlation

Variable	Short Run Equation			
	Coefficient	Std. Error	t-Statistic	Prob.*
COINTEQ01	-0.51441***	0.17653	-2.91403	0.005
D(Mkts_access)	-0.44757	0.31751	-1.40961	0.1637
D(Mkts_depth)	-0.12466	0.305504	-0.40805	0.6846
D(Mkts_efficiency)	0.253055*	0.149319	1.694726	0.0951

Source: Author's own calculations: Note: The *** are variables that are significant at the 1% level and ** are significant at the 5% level while * is significant at the 10% level.

The short-run model in Table 14 shows that there is a presence of error correction in the system as the cointegrating factor is negatively and statistically significant at 1% level. This means that if there is a disturbance in the system it will self-correct 51% of the time. Financial markets efficiency is positively weakly significant at the 10% level implying that in the short term, any sudden positive changes in market efficiency will also lead to more correlated stock returns. It has been observed that financial market development, in the long run, is positively associated with the integration of stock markets into the global financial system. Therefore, as markets deepen and get more accessible, they might be at risk of financial contagion as they move in together with other financial markets, especially the US market. This is consistent with the H1b hypothesis.

Trust as a mediating factor of financial development and market comovement

The trust index used for each country is an average of the country-specific scores. The score for each country still ranges from 0 to 100, with 0 being the least trusting and 100 as the most trusting. Also, the focus shall be on the interacting terms.

Table 15. OLS results for the interaction of Trust and Financial development factors

Variables	model 1	model 2	model 3	model 4	model 5	model 6
Trust	-0.0073*** (0.0016)	-0.02743*** (0.0078)	-0.0242*** (0.0053)	-0.006139** (0.0030)	-0.0122*** (0.0026)	-0.0282*** (0.0045)
Inst_access	0.2626** (0.1051)					
Inst_access*trust	-0.001172 (0.0033)					
Inst_depth		-0.9556** (0.4402)				
Inst_depth*trust		0.040687** (0.0179)				
Inst_efficiency			-0.6359** (0.2413)			
Inst_efficiency*trust			0.02125*** (0.0077)			
Mkts_access				0.419084 (0.2851)		
Mkts_access*trust				-0.010965 (0.0096)		
Mkts_depth					-0.208418 (0.1703)	
Mkts_depth*trust					0.00505 (0.0053)	
Mkts_efficiency						-0.5483*** (0.1265)
Mkts_efficiency*trust						0.0205*** (0.0049)
(intercept)	0.4149*** (0.0657)	1.0424*** (0.2128)	0.9962*** (0.1525)	0.4392*** (0.1014)	0.6858*** (0.0822)	1.0508*** (0.1083)
Adjusted R-squared	0.71465	0.669273		0.648028	0.649822	0.793948
Panel observations	85	85	85	85	85	85
Years	5	5	5	5	5	5
Effect method	Random	Random	Random	Random	Random	Fixed

Source: Authors own calculations. Note: The *** are variables that are significant at the 1% level and ** are significant at the 5% level while * is significant at the 10% level. The figures in the brackets are the standard errors. The effect models were chosen according to the Hausmann test for either random or fixed methods.

In Table 15 above the first interaction term is with trust and institutional access; however, the term is not significant. The second term is the interaction between institutional depth and trust which is positively significant at 5% level. This indicates that, since trust is a stationary variable, any positive change in the depth of financial institutions will be associated with a positive increase in the comovement of emerging stock markets with the global factor proxied as the Dow Jones.

Institutional efficiency is also positively moderated by trust. One can see in the table that the interaction term is positively and significantly associated with the correlation variable at 1% level. Therefore, any positive change in the institutional efficiency along with high trust will lead to an increased comovement of the emerging markets with the US market.

If investors' trust levels are high they are willing to deal and cooperate with financial institutions: transactions are cheap and there is no need for expenses like litigation costs. Financial institutions that have sufficient depth and function smoothly and efficiently can also drive capital to viable businesses facilitating their expansion. This contributes to building a business environment where financial markets thrive and wealth is created. In such an economy trust plays a crucial role, becoming another "invisible hand". This can be achieved through financial development.

Overall, this wealth creation process is what makes stock markets thrive. When two countries enjoy high trust levels the wealth creation process in both of them tends to cause their stock markets to move together. This is also true for financial market efficiency.

It is thus possible to posit the existence of evidence suggesting that financial development is positively associated with stock market comovement answering our H1. Our hypothesis sought to test whether trust is a mediating factor for financial development in market comovement and we have found out that, indeed, it plays a role in promoting comovement answering to our H2 hypothesis.

Conclusion and policy recommendations

The importance of financial markets to the expansion of enterprises and the economy as a whole cannot be overemphasized. They provide money and liquidity to corporations and occasionally even to governments, hence portfolio managers and policymakers need to know what moves these markets. The present study aimed to explore the interaction of financial development with trust as an impacting factor in stock market comovement of BRICS and the US Dow Jones. Using the World Values survey data for trust and the World Bank data on financial development it was determined that financial development positively influences the comovement of the BRICS nations' financial markets with the US Dow Jones in the short and long run. The study has also established the significance of institutional and market development as comovement driving factors and proved that trust has a mediating effect on financial development and market comovement.

As markets develop, they become more integrated and start moving together; these processes are mediated by trust. This implies that the countries that are more trusting and better developed financially may be exposed to financial contagion during periods of market instability. To mitigate the risk of contagion, investors and practitioners need to factor in financial development and trust when considering their portfolio allocation strategies for diversification purposes. They might consider diversifying into economies with levels of financial development and trust different from their own. Policymakers and central banks also need to consider these factors when they design policies for maintaining financial stability. Countries with low trust levels certainly need to improve their score. To achieve this the government needs to be more open so that the citizens could be more trusting. This will boost the overall trust score making the market more integrated, predictable, and stable. India, Russia and South Africa with trust scores ranging from 21.99 to 31.77 can also benefit from improving their trust scores as it will render their markets more stable. These scores can also be improved through a more open political space with less corruption and geopolitical peace, as in the case of Russia. The ultimate outcome should be better financial development which will lead to greater financial stability and overall economic predictability.

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