

A Study on the ICT Climate, Money and Financial Development

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Abstract: Reason - The motivation behind this paper is to test the speculation that, given the monetary improvement of an economy (regardless of whether created), e-finance advancements upgrade financial development since they lower handling costs for providers and data costs for purchasers and consequently increment accessibility of money for even low-pay borrowers of far off regions. Design/methodology/approach: The generalized method of moments (GMM) is used to analyze the indirect relationship between the level of connectivity and economic growth through its impact on financial development using cross-sectional data from 61 countries averaged over 13 years (1990-2002). Results: All regression results indicate that improved connectivity, particularly through an increase in the number of internet users and mobile phone subscribers, significantly improves financial depth, which is essential to any nation's growth. Practical implications: The current study's empirical findings permit the conclusion that Claessens et al. may be right in expressing that for non-industrial nations to take advantage of chances for jumping even with frail monetary framework, putting resources into the area of data and correspondence technology is significant. Originality and value: This study is the first of its kind and provides global empirical evidence that better telecommunication infrastructure is positively associated with long-term economic growth and gross capital formation in the financial sector.

Keywords: Internet, finance, economic growth, communication technologies, method of moments

I. INTRODUCTION

The availability of finance for businesses is a very difficult phenomenon, particularly in the developing world. It is additionally critical that what channels are to be utilized for further developing admittance to finance. An extension of traditional finance, which is defined as "the provision of financial services and markets using electronic communication and computation," is electronic finance, or the e-channel for the delivery of financial services (Allen et al., 2001). This means that e-finance includes financial services like internet banking, brokerage, payment, mortgage and other lending, insurance, and related services that are offered over the internet or through other public networks.

Unique Features of E-Finance

E-finance expands in tandem with the expansion of the internet. Although it is a component of e-commerce, it has its own distinct advantages, including lower prices, greater information accessibility, and ease of use. As long as they have a computer and a modem, users can make financial transactions at any time. According to Cronin (1997), an internet banking system allows banks to maintain a direct relationship with customers via the web and to give the interface a personal touch by providing additional customized services. Nsouli and Schaechter (2002) claim that electronic banking makes it simpler for customers to compare the offerings of various banks. The ability of all market participants to determine the range of prices and product characteristics for financial services that are available is another aspect of e-finance that is characterized by price transparency. By investing in technology, an institution can become more efficient in price discovery than others, resulting in narrower spreads that attract more customers and higher profits.

E-Finance Developments

Companies are increasingly utilizing internet-based systems to meet all of their financial requirements, from managing bank accounts and bill payments to asset management, thanks to the open architecture of the internet and sharp cost reductions. As a result, it is more likely that e-financial services will expand more quickly than other e-commerce sectors. Allen et al. claim that (By the end of the 1990s, e-finance technologies had affected all aspects of the banking and financial intermediation industry, according to 2001. Since the 1980s, electronic information technologies have been used by depository institutions, for instance, to offer customers credit. In fact, there is a lot of evidence to suggest that e-banking is accepted by financial institutions in developed and emerging markets. The following are some facts. By 2002, the internet had been incorporated into the service delivery channels of all major North American, Nordic, and Japanese banks. According to a prediction made by Claessens in 2002, the share of online banking could reach 20% in emerging economies and 50% in developed nations by 2005. Online exchanges could represent 80% of business exchanges in modern nations by 2005 and for 15 to 40 percent in developing business sectors with the arrangement of better business and administrative climate. According to business surveys conducted in some of the OECD economies with the most advanced internet infrastructure (Christiansen, 2001), the number of customers conducting online retail financial transactions has nearly doubled annually since the middle of the 1990s. He goes on to say that online purchases of financial services account for as much as half of SMEs in OECD economies. Given that the majority of SMEs are micro-companies with fewer than two employees, this uptake is remarkable.

Web and other new innovation advancements lessen the expense of conveying financial administrations and the handling time for miniature advances. SMEloan, for instance, is the most prominent Hong Kong provider of online financing for small and medium-sized enterprises (SMEs) thanks to its internet-based reengineering of the commercial lending process. With a new

office of US\$75 million, organization can grow its ongoing client base of 200 SMEs to well more than 1,000 by mid-2002 (Claessens et al., 2002). SMEloan leads the greater part of its loaning on the web and oversees credit risk utilizing an electronic gamble the board model. This is how the system works. Customers fill out an online loan application and provide the necessary information to the system, which then uses a scoring system. The amount of money customers can borrow is determined by the overall score, and the loan is typically distributed within two or three days. This would not be possible without the internet, according to the company's CEO. It permits all clients to collaborate with the organization through the web. In addition, the system has developed a valuable database of information regarding the requirements and issues faced by SMEs. As customers provide information regarding their businesses to the system, issues can be identified before it is too late.

II. LITERATURE REVIEW

The current study is the first of its kind and provides empirical and global evidence that improved telecommunication infrastructure is positively associated with capital formation and long-term economic growth in the financial sector. Since Schumpeter's work in 1934, a lot of research has been done on the role of the financial sector in economic growth, and researchers have shown that the correlation between financial growth and economic growth is very strong. However, the literature on e-finance has primarily focused on conceptual reasoning rather than providing any substantial empirical support. The following summarizes a few of those studies. According to Clemons and Hitt (2000), the trends of transparency, differential pricing, and disintermediation are more strategic for financial institutions. the use of the internet in new and creative ways that have the potential to transform conventional financial intermediaries like e-cash services and e-banking. is brought to light by Herbst (2001) in conjunction with a discussion of issues that have impeded the expansion of e-finance, such as laws and regulations that limit the use of encryption in communications and guarantee privacy. Claessens and others (2002) demonstrate that the growth of the internet and wireless communication technologies, deregulation, economic integration within and across nations, as well as advancements in telecommunications and telecommunications, are significantly altering the structure and nature of financial services. They examine exhaustively the capability of e-finance, jumping potential open doors for agricultural nations and models of financial area advancement in the time of data innovation.

III. EXTENT OF THE REVIEW

The reasoning of current review depends on the way that from the beginning of time, advancement in installments - from the first coin to the first electronic exchange - has animated development. People who did not previously have a banking relationship can now begin to access financial services and transition into the mainstream banking industry thanks to the development of e-finance. Subsequently, a more extensive scope of ventures can approach dependable and compelling installment arrangements, which prompts monetary turn of events. To put it another way, the direct effect of e-finance is more related to the availability of financial services to a larger population. Additionally, the internet can certainly assist in incorporating individuals who previously did not find it convenient to open a bank account into the system, thereby increasing financial depth. We empirically examine the impact of e-finance technologies on economic expansion.

Data on e-finance variables are difficult to collect and even more difficult to compare across services and countries, as is the case with any new phenomenon. As a result, the current research focuses on the factors that influence e-finance service penetration. Claessens and others 2002)

argue that the telecommunications and internet infrastructure is essential for the promotion of e-finance, and that e-finance may be one opportunity for some poor countries to advance in their financial system. They further express that in nations where e-finance infiltration has arrived at a level that ought to prompt quicker and stable development, the degree of availability seems to assume a significant part. So, in this paper, we use the GMM model to solve the simultaneity problem and connectivity variables as instruments to see if connectivity boosts economic growth by taking into account its positive impact on financial depth. The question of whether connectivity variables are instrumentable arises. Our analysis's tests of the overidentifying restrictions show that the data do not disprove the hypothesis that instrumental variables are uncorrelated with the error term, bolstering one's faith in the instruments. In addition, studies demonstrate that connectivity indicators such as mobile phone subscribers and internet users can be used as exogenous variables in a growth model. This is due to the fact that increasing connectivity is becoming increasingly important in less developed nations as well as advanced and emerging markets.

The data used in this study are average cross-sectional data from 61 countries collected between 1990 and 2001. The broad cross-country approach has the advantage of making it possible to treat the degree of connectivity and the structure of the financial system in different countries in a consistent manner, making international comparisons easier. The developed, emerging, and developing economies are all equally represented in the database According to Claessens et al., emerging economies are categorized based on their GDP growth, business environment ranking, percentage of foreign ownership, and level of information technology implementation in various economic activities. 2002). The International Telecommunication Union (ITU), World Development Indicators, and the International Financial Statistics Yearbook (IFS) are just a few of the many organizations that provide country-specific data on various variables.

As made sense of before, because of absence of accessibility of information for e-finance markers, current review focuses on factors, which decide the infiltration of e-finance benefits and chooses the telecom framework of a country as an element on the premise of past examinations and observational investigation. One of such investigations is directed by Christiansen (2001) who presumes that high take-up of e-finance is viewed as in the vast majority of the English-speaking nations and the Nordic locale. He asserts that national differences in internet access availability are largely to blame for these disparities in penetration rates. His findings demonstrate a strong positive correlation between e-banking and internet usage. He adds support to Claessens' findings that e-banking services are likely to "take off" in countries with internet penetration between 30 and 50 percent. According to Sachs (2000) and Raihan (2000), the emergence and expansion of e-finance in a country is heavily dependent on the existing business pattern, culture, and legal and regulatory framework, as well as the expansion and availability of telecommunication networks and their penetration into the financial sector.

IV. MODEL SPECIFICATION

In this paper, an estimate of the correlation between connectivity indicators and financial development variables is made. Although regression analysis focuses on the dependence of one variable on the other, it does not always imply causation. The Granger procedure has therefore gained a lot of popularity for determining the direction of causality

between any two variables, in part due to its simplicity. The Granger causality test is used in this study to determine the relationship between connectivity variables and indicators of financial development. The instruments list incorporates cell phone supporters per 100 occupants (PHSUBS), web clients per 100 occupants (INTUSER) and all regressors aside from

V. EMPIRICAL ANALYSIS

This section begins with a correlation analysis, then looks at the results of the Granger causality test and the regression equation. Results from the causality test. It is important to note that degree of freedom is not sufficient to make reliable judgments about the causal relationships between the variables because connectivity variables did not have data before 1990. For some nations, such as Bangladesh, Congo, the Kyrgyz Republic, Madagascar, Sudan, and Tanzania, etc., data on some connectivity variables (such as internet users) are available for less than five years. Due to a lack of sufficient data points to calculate the F-test, the Granger causality test was unable to produce any results. As a result, the findings in this section should be interpreted with caution because they are only suggestive. As our principal concern isn't to dissect causal relationship for every country, we will introduce results in more broad terms, just to see the general image of causality between the factors so that we can involve this data for additional examination.

Certain economies exhibit significant bidirectional causality; Austria, China, France, Italy, Korea, Malaysia, The Netherlands, Nigeria, Spain, Switzerland, Thailand, and the United States are examples of these. The majority of examples come from countries like Australia and Spain, where connectivity and financial development are both involved. However, the majority of nations only provide significant results in support of the hypothesis that connectivity increases financial depth.

VI. RESULTS OF THE REGRESSION

In this section, cross-country regressions are used to determine the strength of the relationships between connectivity and financial development based on the evidence from the previous two sections. We first conduct a Connectivity variables "Granger" cause financial development indicators analysis to demonstrate that connectivity variables are genuine instruments for financial development indicators prior to moving on to the GMM regression analysis.

VII. CONCLUSION

Conclusion and policy implications. This study addressed the crucial question of whether or not cross-country differences in the level of connectivity explain cross-country differences in the level of financial system development. In other words, whether or not a country's component of financial depth, as defined by its electronic environment, is positively associated with long-term rates of economic growth and gross capital formation. This study uses average cross-sectional data for 61 countries from 1990 to 2002. Significant and causal connection between network factors and financial advancement pointers and financial development, crosscountry relapse investigation is led utilizing the GMM procedure.

It is statistically established in all of the regression results that improved connectivity, particularly through an increase in the number of mobile phone subscribers and internet users, improves financial depth, which is a foundation for any nation's development. The current study's empirical findings permit the conclusion that Claessens et al. (2002) may be correct in stating that investment in the ICT sector is crucial for developing nations to take advantage of opportunities for leapfrogging despite their weak financial systems. Investigation demonstrates that there exist a positive connection between e-finance and network which intends that in nations where e-finance has arrived at a level that ought to prompt quicker development, the degree of availability seem to make sense of the mark of departure.

Additionally, economic expansion is boosted when connectivity variables are utilized as instruments for financial development indicators. As a result, policies aimed at improving a nation's connectivity environment will likely encourage greater financial growth and more opportunities for developing nations to reap the benefits of e-finance. All the more critically, among all online financial administrations, web based banking and online financier will lead through the cell phones and web. Since this examination is only a first move toward restore the significance of e-finance in financial turn of events. The impact of e-finance technologies on real-world productivity and financial institution profit margins are just two examples of the many facets of e-finance technologies that will be studied in the future.

Also, future examination ought to look for the suitable advancement technique for all nations overall and for creating economies specifically. Furthermore, there is a significant knowledge gap regarding internet-based financial service industry activities due to the relatively recent nature of the internet financial services industry and the relative difficulty of obtaining systematic information. Future investigates ought to target serving to fill this hole and then, at that point, examination can be stretched out to the application side this industry.

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