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## **THE EFFECT OF FINANCIAL DEVELOPMENT ON THE GENDER UNEMPLOYMENT DIFFERENTIAL IN ASEAN4 ECONOMIES**

### **Abstract:**

The study aims to analyse the short and long-run effect of financial development on the gender unemployment differential within the ASEAN4 (Thailand, Malaysia, the Philippines, and Indonesia) economies. The panel regression analysis includes a short-run period from 2009 to 2019 and a long-run period from 1980 to 2019. The results depicted a negative effect on financial development in the long run. In addition, inflation affects the unemployment differential negatively in the short and long run, while HCI depicts a positive effect.

### **Keywords:**

Financial Development, Gender unemployment differential, Human Capital Index

**JEL Classification:** E44

## **1 Introduction**

### **1.1 Background of the study**

The unemployment rate is one of the essential indicators in the labour market that demonstrates the ongoing condition of the working-age population and the country's economic well-being. During the 1960s and 1970s, some views about unemployment in developing economies emerged, widely accepted ever since (Turnham & Eröcal, 1990). Firstly, the poor cannot afford to be unemployed; Secondly, the labour market within these emerging economies is flexible and adequately open; hence any worker will be able to find a job; Thirdly, unemployment in this sense only depicts the willingness of workers to find higher paying jobs. However, such a view highlighting luxury unemployment has been deemed highly flawed when data from these countries depict the inability of individuals to secure regular work combined with rising levels of unemployment since the 1970s. While the unemployment issue within the developing economies is grave, the condition of women is even worse. According to the report by ILO (2018), the women's participation rate at the global level is 48.5%, which is still 26.5% lower than their male counterparts. Furthermore, the unemployment rate of women at the global level stood at 6% in 2018, which is 0.8 percentage points higher than men. While differences in male and female unemployment rates in developed countries are relatively small, women's unemployment rates are twice as high as their male counterparts in regions such as Arab states and Northern America.

While the worse condition of females across the developing regions is a grave issue, the regions have also witnessed a rise in financial development over the years. The World Bank (2013) defines the development of the financial sector as the procedure undertaken to overcome the realized costs in the financial system. The financial sector comprises a set of associations, instruments, markets, and legal and administrative structure that permits the process by providing credits. The progress of the financial sector plays a critical role in the development trajectory of any economy since it promotes growth through capital accumulation and technological progress. This, in turn, is facilitated by a higher savings rate, pooling, and flow and allocation of capital into efficient activities. The countries characterised by better development of financial systems depict higher growth rates over a long period. In addition, a better-developed financial system reduces poverty and inequity as it increases access of the vulnerable population to finance hence stimulating lower vulnerability to economic and other shocks. While the general positive effect of financial development is widely known and accepted, how effective the same has been or will be in the case of reducing gender-based disparity across developing economies is an interesting question. The impact of financial development on mitigating gender bias and promoting equal opportunities for females must be assessed. The underlying research aims to analyse the impact of financial development on the level of gender unemployment difference across the ASEAN 4 countries, including Malaysia, Thailand, the Philippines, and Indonesia. The association was established to encourage growth, social progress,

stability, and development within the region. The study will focus on how such a region with listed developmental goals has fared in financial development and how it has structured the welfare aspects of women within the region.

## **1.2 Research Aims and Objectives**

The study intends to examine the effect of financial progress on gender unemployment differential within ASEAN 4 economies. The two listed objectives are as follows;

- The impact of financial development on gender unemployment differential in the long run
- The impact of financial development on gender unemployment differential in the short run

## **1.3 The structure of the paper**

The first section provides a brief introduction to the concepts and the core aim of the paper. The second chapter critically summarises the significant studies on similar research topics and the research gap within the past research. The third chapter discusses the methodology and the critical theory on which the paper is based. Chapter 4 provides descriptions of the data and variables used within the study. Chapter 5 provides the findings of the analysis and the relevant inferences, followed by a brief conclusion, chapter 6.

## **2 Literature Review**

### **2.1 Introduction**

The underlying segment aims to critically summarise the findings of primary past research around the underlying topic where the causal relation between financial progress and gender unemployment differential is analysed. The initial section discusses the key terms used within the paper, and a critical review of the studies will follow, focused broadly on the topic, i.e., the impact of financial progress on gender unemployment differential over the short and long term.

### **2.2 Definition of Key Terms**

#### **2.2.1 Unemployment rate and Gender Unemployment differential**

According to OECD (2023), unemployment refers to the individuals within the working-age population who are willing to work and have taken practical steps to look for jobs but are without any work. The unemployment rate is then measured as the total number of people who are unemployed and is depicted as the percentage of the labour force. The labour force refers to the sum of the unemployed and the employed population from the working-age population. For the underlying study, instead of the unemployment rate, the focus is on the gender unemployment differential. This, in turn, is calculated by subtracting the unemployment of male rate from the unemployment rate of female for a particular year and country.

#### **2.2.2 Financial development**

According to Menegaki (2021), Financial development is calculated to the magnitude of the flow of capital within the financial establishments, capital markets, and foreign direct investment (FDI). The author further elaborates on the beneficiary effect of financial development, where it affects the macroeconomic stability of the economies that are financially open, and any shocks leading to the changes in the capital flow's direction stimulates the boom-bust cycles within the emerging economies. Shahzad et al. (2017) have measured the extent of financial development domestic credit, depicted as the percentage of GDP. The underlying study has used a similar measure to indicate the level of financial evolution where the domestic credit to the private sector by banks depicted as the percentage of GDP is the proxy for financial progress. The World Bank (2023) defines the variable as the financial resources the depository associations furnish to the private sector.

### **2.3 The causal nexus between financial development and unemployment**

Financial evolution depicts the transparent advancement in the quality, quantity, and effectiveness of the financial intermediaries within any economy (Çiftçioğlu & Bein, 2017). Such a widely known phenomenon is associated with higher economic well-being and vice-versa. The usual channel of the positive effect on economic growth occurs from the higher savings, investment, and improvement in the resource allocation process. Moreover, improving the financial sector leads to improving the risk management ability while promoting the facilitation of transactions and better flow of information within the economy. Such a view depicts the "supply-leading hypothesis". The "demand-leading hypothesis" predicts a higher demand for financial services as the financial division develops, stimulating further improvement. While significant researches depict the

beneficiary aspects of financial progress on economic development, some studies depict a negative effect. Çiftçioğlu and Bein (2017) assessed the relationship between financial evolution and the unemployment rate within some specific EU economies. In addition to the derived negative effect of financial evolution on the unemployment rate within the sample, the result depicted a high level of causality between the variables for countries such as Spain, Finland, Greece, and Italy. In contrast, the result was robust for other economies. Epstein and Shapiro (2019) analyse the similar correspondence between the level of domestic financial development and the volatility of unemployment in the case of developing and emerging economies. The study highlights explicitly the lower mean bank credit to GDP ratio persisting within the DEMEs relative to their advanced counterparts. It depicts that while a dismissive relationship persists between financial progress and unemployment volatility within the DEMEs, the exact relationship does not occur within the AEs. The authors have analysed the case of DEMEs through a business cycle model where it was found that firms within these economies largely depend upon the inter-firm input credit. As a result, reducing such a phenomenon leads to improved capital accumulation and higher bank credit to GDP ratio.

Ibrahiem and Sameh (2020) highlight the grave issue of unemployment within North Africa and Egypt, where the North African labour productivity stands at 2.5% relative to the global average of 3.1%. The long run and causal analysis for the case of Egypt was undertaken while imposing a time series analysis. In contrast to other findings depicting an adverse effect of financial evolution on unemployment, it stated a positive effect of population and financial progress on the unemployment rate. In contrast, developing clean energy hurts the unemployment rate instead. Moreover, the formed model depicted a unidirectional relationship running from unemployment rate to financial evolution, population to financial evolution, and hence the clean energy sources. This implies the importance of directing domestic credit into the renewable energy sector within the country as a practical policy measure. Ogbeide et al. (2016) examine Nigeria's unemployment determinants using a time series analysis. The study depicts the case of a resource curse within the country where a higher resource dependence and private credit to GDP ratio further worsen the unemployment condition within the economy. Furthermore, it indicates the need for the economy to undertake radical changes, including better resource management and further deepening the financial sector. In addition, the economy must improve financial discipline while facilitating a favourable investment environment that attracts investments into the real sector and enhances competitiveness within the labour market. While a large pool of studies has specifically analysed developing economies, the results are highly distinct. While some depict an adverse impact of financial evolution on unemployment, others stress the likely positive effect of financial development on unemployment. This further highlights the underlying study's significance in confirming the relationship between the variables while also analysing the critical factors affecting unemployment.

#### **2.4 The gender aspect of financial development in the short and long run**

The higher unemployment rate within an economy is seen in a negative light; the lower participation of women in the labour market further makes them vulnerable to economic shocks (Shabbir & Ze, 2018). A large pool of studies has deemed Women in developing economies vulnerable relative to their advanced counterparts. Walby (2009) stated that the financial and economic crises are all gendered. In other words, the author binds the gender inequality within the economy to the financial crisis and not just it being a part of its impact or consequence. This stems from the exclusivity of

women from the financial architecture, further exacerbating financial inefficiencies and creating a vicious cycle. The gendered control of resources further implies women's gradually worse condition after the financial crisis. Kim et al. (2018) have analysed the context of unemployment through the financial crisis within developed and developing economies. The study depicts a substantial effect of financial evolution on unemployment rates within developed and developing economies over the long run. The route of the causal impact of financial progress and unemployment largely depends on whether capital and labour are complements or substitutes (Greenwald & Stiglitz, 1987). If labour and capital are substitutes, financial development increases unemployment as easing financial constraints provides liberty to the firms to substitute labour for capital. On the other hand, if both function as complements, improving the financial sector promotes investments and hence reduces unemployment. The study by Kim et al. (2018) also highlights the gender aspects of unemployment while assessing the effect of financial evolution on unemployment. While financial development is found to have a positive impact on unemployment in the long run, the magnitude is smaller for female workers. On the other hand, the variable depicting the financial construction has a negative yet more minor effect on female workers. Furthermore, a more-market grounded financial development is found to reduce unemployment which again is weaker for the female workforce.

Floro (2000) imposes a micro foundational model to analyse the unequal gender power and its relationship with financial-market liberalisation within the context of the financial crisis. It highlights that financial liberalisation can promote higher employment opportunities for women. This stems from the fact that higher household borrowing opportunities stimulate higher development of household enterprises, reducing women's time induced within household reproduction by adding to the household assets. Further deepening the financial relation may provide women independence while decreasing their risk-aversion. However, further dependence of the household on credit to finance the expenditure will further reduce the welfare of women as their support network erodes. In such a condition, any financial crisis will make women vulnerable as their assets, income, and voices reduce due to their disproportionate ownership. The micro foundational analysis further depicts the vulnerability of women in the long run, even after the crisis. Such a case has been highlighted in the Asian financial crisis, where the social cost of the same has been detrimental, especially for women. As a result, it can be seen that the gender aspect of financial development is not a new concept. However, a distinct analysis regarding gender bias within the labour market is rarely the main focus of studies.

## **2.5 Conclusion and Research Gap**

The review of past studies highlighted an effective link between financial evolution and unemployment within developing and emerging economies. However, studies highlight distinct impacts where. Some studies depict a positive effect of financial development on unemployment levels, while others indicate an adverse effect. This induces scope for further analysis of the relationship between the factors for the case of countries from a well-known and established association such as the ASEAN. On the other hand, the gender aspects of the financial crisis and the financial sector are also characterised by a rich pool of studies where it has been indicated that gender bias is one of the stimuli and consequences of the financial crisis. Although the topic is not alien, a similar study highlighting the relationship between unemployment differential between males and females and its relationship with the level of financial progress is yet to have a solid

research basis. The underlying study will aim to fill the research gap while building on past research and studies.

### **3 Methodology**

#### **3.1 Introduction**

The study aims to assess the effect of financial development on gender unemployment differential within the ASEAN4 economies in the short and long run. The chapter outlines the methodology used for fulfilling the aims and objectives of the studies. The initial section depicts the underlying problem statement and the specific hypothesis that will be tested. This will be followed by a detailed overview of the methodology and tests that will be undertaken to address the problem statements.

#### **3.2 Research problem and Hypothesis**

The financial development within developing economies has been rising in the past decades (Bekaert & Harvey, 2003). However, these economies have also suffered from a rising pool of unemployed individuals. An even worse-off condition exists for the women in these economies who lack the financial and social power to take practical steps to promote their welfare. The underlying study aims to analyse such a gender bias within the labour market and its relationship with the level of financial development within the ASEAN 4 economies. As a result, the following are the two research problems addressed within the study;

- To assess the effect of financial development on gender unemployment differential in the ASEAN 4 economies in the short run.
- To assess the effect of financial development on gender unemployment differential in the ASEAN 4 economies in the long run.

To answer the outlined research questions, the study will induce tests to either reject or not reject the underlying research hypothesis;

*Hypothesis 1: - Financial development negatively and significantly affects the gender unemployment differential in the ASEAN 4 in the short run.*

*Hypothesis 2: - Financial development negatively and significantly affects the gender unemployment differential in the ASEAN 4 in the long run.*

#### **3.3 Applied Methodology: The panel data analysis**

The underlying study induces a panel data analysis to assess the effect of financial evolution on the gender unemployment differential in the ASEAN 4 economies.

##### **3.3.1 Pooled OLS, Fixed effect (FE), and Random Effect (RE) Model**

Initially, the analysis will begin with a descriptive statistic and a correlation analysis of the dataset, followed by running three distinct models; Pooled OLS, FE, and RE model. The dependent variable, i.e., the gender unemployment differential, will be created by subtracting the male unemployment rate from the female unemployment rate. The independent variable will then include financial development, where the proxy variable for the same will be given by the domestic credit by banks represented as a percentage of GDP, GDP growth rate, Human Capital Index (HCI), and inflation (generated from CPI).



### 3.3.2 The Durbin-Wu-Hausman test

After running the three models mentioned above, the Hausman test will be run to determine the best-fit model out of the FE and RE models. The null hypothesis of the test will be that the FE model must be chosen relative to the random effect model. The decision will be taken upon the p-value of the test, where the null hypothesis will be rejected if the p-value is higher than 0.05. On the contrary, if the p-value is lower than 0.05, the null hypothesis is accepted, and the FE model is selected.

### 3.3.3 The Breusch-Pagan Lagrange Multiplier Test

Suppose the null hypothesis for the Hausman test is rejected, and the RE model is found to be the better fit. A comparison between the pooled OLS and the Random effect model must be undertaken in that case. The null hypothesis for the test will state OLS as better than the random effect indicating that there does not exist radical random differences across the panel. The null hypothesis will be rejected if the p-value is less than 0.05 and accepted if it is higher than 0.05.

### 3.3.4 The diagnostic tests and Conclusion

The final section of the analysis will include a couple of diagnostic tests. This includes testing for time-fixed effects and serial correlation within the selected sample. As a result, the underlying analysis will induce a panel data analysis, including developing three distinct panel models. The best-fit model will then be based on the Hausman and BPLM tests. This will be followed by diagnostic tests, rendering the so-derived model robust and efficient for further inferences.

## 4 Data and Variables

### 4.1 Introduction

The section aims to describe the associated data and variables that will be used to analyse the underlying research problems. The initial section provides the source and process of data collection. The second section provides a brief explanation regarding the choices of variables. The final section summarises the characteristics of the dataset.

### 4.2 Data collection and sources

The analysis aims to study the impact of financial evolution on the gender unemployment differential for the case of ASEAN4 economies: Thailand, Malaysia, the Philippines, and Indonesia. The data is collected from the World Bank and the Penn World table over the period ranging from 1980 to 2019. The collected data includes the male unemployment rate, the female unemployment rate, GDP growth rate, HCI, and Consumer Price Index (CPI). The collected data will then be altered to derive the gender unemployment differential by subtracting male unemployment from the female unemployment rate and log of CPI to generate a value for inflation in the respective economies.

### 4.3 Measurement of financial development

While other variables are apparent, domestic credit by banks to the private sector has been taken as the proxy of financial development. The underlying study follows the procedure followed by Shahzad et al. (2017), where they measured the level of financial progress as the level of domestic credit as a percentage of GDP. According to the study, financial development leads to greater access to financial capital for firms and households. The current study hence induces domestic credit by banks to the private sector as the proxy measuring the level of financial development in respective economies.

### 4.4 Key features of the data

After data collection and generating the desired variables to address the research problem, the descriptive statistics and correlation analysis are depicted in Tables 1 and 2 below.

**Table 1 Descriptive Statistics for the regressors and the regressand**

Variable	Observations	Mean	Standard deviation	Min	Max
Unemployment differential	142	0.8488	1.1788	-0.7000	5.0500
Financial Development	160	65.6337	41.1489	9.5281	166.5037
GDP growth rate	160	5.0118	3.5347	-13.1267	13.2881
HCI	160	2.3116	0.3521	1.5182	3.0786
Inflation	160	3.9978	0.7902	1.7146	5.0184

The unemployment differentials have a mean of 0.8488 and a standard deviation of 1.1788. The minimum value of the variable is -0.7, while the maximum value stands at 5.05. The other significant variable is financial development, with a mean of 65.6337 and a standard deviation of 41.1489,

depicting an extensive dispersion of the variables. The minimum value of the variable is 9.5281, while the maximum value is 166.5037.

**Table 2 Correlation analysis amongst the independent variables**

	Financial development	GDP growth rate	HCI	Inflation
Financial Development	1			
GDP growth rate	0.0051	1		
HCI	0.4352	-0.0883	1	
Inflation	0.4446	0.0173	0.7769	1

The correlation analysis is an important step that must be undertaken before the regression analysis. A high correlation amongst the regressors variable leads to the problem of multicollinearity, rendering the derived coefficient biased. The analysis indicates that the correlation coefficient amongst all the variables is less than 0.7 indicating a low level of correlation. The only two variables with a moderate level of correlation include HCI and inflation, with a correlation coefficient of 0.7769.

## 5 Findings and Discussion

### 5.1 Introduction

The chapter aims to provide an empirical analysis based on the fixed-derived panel data regression discussed in the previous chapter. It begins with selecting the best-fit model from the FE and RE models for both the short and long run. The short-run induces a period from 2009 to 2019, while the long run includes a period from 1980 to 2019. This will be followed by the diagnostic tests, which will be analysed in the next section. The final section provides the inferences and discussions for policy analysis based on the derived models.

### 5.2 The Hausman Test

The Hausman test for the short-run model resulted in a p-value of 0.0033, lower than 0.05. This means the null hypothesis of the FE is better than the RE model and cannot be rejected. Similarly, the Hausman test for the long-run model resulted in a p-value of 0.0155, lower than 0.05. This again implies that the null hypothesis of the FE model is a better-fit than the RE model and cannot be rejected. This leads to the fixed effect model being the best-fit model out of the tree models generated. Since the FE model is deemed better than the random effect model, further tests will not be undertaken to choose between the random and pooled OLS model.

### 5.3 The short-run analysis

The fixed effect model for analysing the short-run effect of financial evolution on the gender unemployment differential is selected through the Hausman test. The regression analysis is depicted in Table 3 below.

**Table 3 The fixed effect model for the short-run**

Unemployment differential	Coefficient	Std.Error	t	P>t	[95% Conf. Interval]
Financial Development	0.0009	0.0097	0.0928	0.930	-0.0189 0.0206
GDP growth rate	0.0135	0.0186	0.7258	0.472	-0.0241 0.0511
HCI	2.7678	0.7614	3.6351	0.010	1.2236 4.3120
Inflation	-2.5460	0.4966	-5.1269	0.000	-3.5532 -1.5389
_cons	4.7730	3.0343	1.5730	0.124	-1.3808 10.9268

Table 3 depicts the regression analysis for the panel data in the short run, where the collected data includes the period from 2009 to 2019. According to the regression and the derived coefficients, a 1 unit rise in financial development leads to a 0.0009 unit increase in the unemployment differential between males and females, indicating the worse condition of females relative to their male counterparts in the short run. However, the coefficient is insignificant. On the other hand, the GDP growth rate and HCI positively affect the differential. However, only HCI has a significant effect. Finally, inflation in the economy negatively affects the unemployment differential, which is significant at a 1% significance level.

### 5.3.1 Diagnostic tests

The diagnostic tests, followed by panel regression, include testing for time-fixed effect and serial correlation within the data. The test for the time-fixed effect depicts the p-value as 0.94, resulting in not rejecting the null hypothesis that the coefficients of all years are cooperatively equal to zero, implying the need for a time-fixed effect. Therefore, the time-fixed effect may not be practical while analysing the short-run impact of financial progress on the unemployment differential. The test for serial correlation indicates a p-value of 0.059 hence not rejecting the null hypothesis depicting no existence serial correlation.

## 5.4 The long-run analysis

The fixed effect model for analysing the long-run impact of financial progress on the gender unemployment differential is selected through the Hausman test. The regression analysis is depicted in Table 4 below.

**Table 4 The fixed effect model for the long run**

Unemployment differential	Coefficient	Std.Error	t	P>t	[95% Conf. Interval]
Financial Development	-0.0120	0.0045	-2.6667	0.008	-0.0209 -0.0032
GDP growth rate	-0.0346	0.0224	-1.5446	0.126	-0.0790 0.0098
HCI	-0.8061	0.1931	-4.1745	0.000	-1.1881 -0.4242
Inflation	0.5746	0.5371	1.0698	0.287	-0.4877 1.6370
_cons	3.7309	0.7275	5.1284	0.000	2.2921 5.1697

Table 4 depicts the regression analysis for the panel data in the long run, where the collected data includes the period from 1980 to 2019. According to the regression and the derived coefficients, a 1 unit rise in financial development leads to a 0.012 unit decrease in the unemployment differential between males and females, indicating the better condition of females in the long run as the economy records higher financial development, which is significant at 1% significance level. On the other hand, the GDP growth rate and inflation hurt the unemployment differential, where only inflation is significant. Furthermore, HCI positively and significantly affects the gender unemployment differential.

### 5.4.1 Diagnostic tests

The diagnostic tests, followed by panel regression, include testing for time-fixed effect and serial correlation within the data. The test for the time-fixed effect depicts the p-value as zero resulting in rejecting the null hypothesis that the coefficients of all years are collectively equal to zero, indicating the need for a time-fixed effect. The test for serial correlation indicates a p-value of 0.48 hence not rejecting the null hypothesis depicting no existence serial correlation.

## 5.5 Inference and Discussion

The analysis depicted that financial progress has a positive yet insignificant effect on the gender unemployment differential in the short run. On the other hand, the long-run analysis depicted a significant adverse effect on the gender unemployment differential amongst the ASEAN4 economies. This highlights the critical effect of financial development within emerging economies

to promote gender equity. A higher proportion of domestic credit to the financial sector promotes higher opportunities for females with better access to funds to participate in the labour market hence reducing the gender disparity. This provides a compelling reason for developing economies further to promote their financial sector's growth and development, making it practical and efficient to direct funds to the private sector. The government aims to promote the growth of the female population while reducing the vulnerability of the weak section; financial development proves to be effective in the long run. In addition, inflation is found to have a significant and negative effect on the gender unemployment differential both in the long and short run. This finding aligns with the conclusion derived by Niemi and Lloyd (1981), who indicate that inflation expectations effectively sustain the growth rate of the female labour force in the long run. On the contrary, the positive effect of the human capital index within the economies indicates the bias of the human capital development towards the male population rather than being equally distributed. The findings again align with the study by Son (2010) highlight the persisting gender disparity persisting in countries such as Afghanistan, where, on average, female record only a quarter of schooling age relative to their male counterparts. The condition remains the same for major South Asian economies such as Afghanistan, India, Nepal, and Pakistan. However, the analysis may not be sufficient to prove that human capital's complete negligence will promote gender equality in the economies. Instead of neglecting these factors, the economies must instead focus on promoting the equal transmission of the benefits from human capital development amongst the male and female counterparts, promoting economic growth and equity. Finally, the GDP growth rate proves to affect the gender unemployment differential in the short run positively; analysis also detects an adverse effect on economic growth in the long run. However, the analysis deems the effect of the variable insignificant in the short and long run.

## **6 Conclusion**

### **6.1 Key Findings and Policy Implications**

The findings suggest that financial progress has a negative effect on the gender unemployment differential in the long run for the case of ASEAN4 economies. On the other hand, inflation hurts the unemployment differential in the short and long term. However, HCI positively affects the unemployment differential in the long run. This means that the policymakers in emerging economies must specifically focus on promoting the development of the financial sector. While high inflation may hurt the nation's economic well-being, a moderate level of inflation will promote gender equality. However, the positive effect of HCI will be insufficient to completely deny its positive effect on the economy and distinct genders. However, special attention of the government towards the equal distribution of human capital development activities across the genders must be facilitated to promote equity within the nation.

### **6.2 Limitations of the Study and Possibilities for Future Research**

While the study's significant findings align with past research, the negative effect of HCI and the insignificant effect on the GDP growth rate must be further analysed. A robust analysis directed at studying the trend and structure of the HCI growth across emerging nations must be undertaken while the underlying issue of the effect of GDP growth being insignificant can be further elaborated. In addition, the study may not be equally applicable to advanced economies implying that a similar study directed towards analysing the effect of financial development within the AEs will help form the respective policy implications for these economies. Finally, the panel analysis may not be able to consider shocks at the national level; hence a study aimed at analysing the time series data for each emerging economy may depict distinct results and policy implications.

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