HOW DOES FINANCIAL DEVELOPMENT AFFECT THE EMPLOYMENT? EVIDENCE FROM ASEAN COUNTRIES

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ABSTRACT

This article focuses on analyzing the impact of financial development on employment in Asean countries. This is a topic that is very rare in the previous studies. Therefore, this research result is important not only for Asean countries, but also for other countries in the world. The research data was collected from 6 ASEAN countries during 2004-2017. Using the generalized method of moment (GMM) to estimate the research model, the author has found the first empirical evidence on the impact of financial development on employment in Asean countries. In particular, the domestic credit to private sector has a positive impact on employment. And also, the stock market capitalization has a negative impact on employment, this is a new finding of this research compared to the previous studies. Based on this base, ASEAN countries will have the basis to propose the policies to promote the financial development associated with increased employment more effectively.

Keywords: Domestic Credit, Employment, Stock Market Capitalization, GMM, Unemployment.

INTRODUCTION

At the end of 2007, the global financial crisis appeared and led to a dramatic increase in job loss in many countries. Since then, these countries have been paying more attention to the relationship between financial development and employment (Schäfer & Steiner, 2014; Fernandes et al., 2016). Indeed, the financial development is the growth of the scale of the financial industry (Bui, 2019). When the financial development is improved, the resources in the economy will be allocated more effectively (Cherif & Dreger, 2016), thereby stimulating the production and business activities, and employment has also increased significantly. The financial development is mainly measured through the development of the banking system and the stock market (Bencivenga & Smith, 1991; Bui, 2019). However, most empirical studies on the impact of financial development on employment have only considered the financial development from the perspective of the banking system. There are very few studies on the financial development from a stock market perspective. Although the stock market plays a very important role in providing the mid-term and long-term capital to the companies, it can significantly affect the production and business activities as well as employment in these companies. Moreover, the previous studies have looked at the role of financial development on employment within each company, and there is also a lack of research considering the employment from the perspective of many countries. Therefore, the impact of financial development on employment is the research subject to be explored. In other words, this is a very interesting and necessary research topic.

With this article, the author focuses on analysing the impact of financial development on employment in Asean countries. In other words, the author will answer the question "*How does*

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financial development affect the employment?" To answer this question, the author will collect the tabular data from Asean countries, which have high volatile employment and much improved financial growth during the recent period. In addition to answering the research question set out above, the author expects to create the first empirical evidence on the impact of financial development on employment in Asean countries. Based on the results of this research, ASEAN countries will have a basis to promote the financial development associated with improved employment more effectively.

LITERATURE REVIEW

The financial development can be understood as the development of the scale of the financial industry (Bui, 2019); which mainly focuses on the development of the banking system and the stock market (Bencivenga & Smith, 1991; Bui, 2019; Nguyen & Bui, 2019). The finance and employment has been the subject of many empirical studies, especially in recent years. In particular, some studies consider the finance from the perspective of financial constraints, this is the opposite understanding of financial development. For example, Campello et al. (2010) argue that the companies in the United States, Europe and Asia are difficult in accessing the finance due to financial instability. And also, this research also suggests that the companies with the financial constraints are more likely to plan to reduce their labor forces than the companies with easy access to the finance. In another research, Benmelech et al. (2011) argue that the employment is very sensitive to the financial constraints, therefore, the bank credit has a significant impact on unemployment. Greenstone et al. (2014) have found the negative impact of financial constraints on employment in the companies in the United States in the period following the onset of the financial crisis. A number of other studies have looked at the finance from a financial development perspective. For example, Chodorow-Reich (2014), Greenstone et al. (2014); Giroud & Mueller (2015) suggest that the companies that borrow heavily from the banks and use capital inefficiently will experience a period of employment cuts when a financial crisis emerges. In another research, Bentolila et al. (2017) when analyzing the data in Spain for 2006-2010, suggested that the companies that borrowed the loans from banks, if using the capital inefficiently, would lead to the employment cuts. From a different perspective, Holmes and Maghrebi (2016) think that the stock market is an indicator of future economic activity, the rise of the stock market may reduce the unemployment rate.

In fact, there are very few empirical studies analysing the impact of financial development on employment. In general, most previous studies have suggested that the financial development is important for the employment. As the financial development is improved, the financial industry will increase its ability to provide the capital for the economy. If the capital is used effectively, it will stimulate the production and business activities, and the employment is also significantly increased. On the contrary, if the capital is not used effectively, it will make it difficult for the companies to access the capital in the future (especially when there is a financial crisis), the production and business activities are reduced, therefore, the employment will be reduced, which is inevitable. For the measurement of financial development, most of the previous studies have measured through the development of the banking system, very few studies have considered the financial development from the perspective of the stock market, this is considered as a major limitation in the previous studies.

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DATA AND METHODOLOGY

Data

The author collected the tabular data of ASEAN countries for 2004-2017. To ensure the data consistency, the author collected data from 6 ASEAN countries with high level of financial development, including: Indonesia, Malaysia, Thailand, Singapore, Philippines and Vietnam. The research data was collected from World Bank sources.

Methodology

This article focuses on the impact of financial development on employment in ASEAN countries. For this purpose, the author will use the Generalized Method of Moment (GMM) to analyse the research model to ensure the most reliable estimation results. Because the GMM is very suitable for the financial data (Driffill et al., 1998), it is also possible to control the potential endogenous phenomena and overcome the hypotheses violations (Doytch & Uctum, 2011).

Based on the results of previous studies, the author measures the employment through unemployment rate, the high unemployment rate will reflect the employment losses and vice versa. For the financial development, the author will look through the development of the banking system and stock market. The development of the banking system will be measured through the domestic credit to private sector. Meanwhile, the development of the stock market will be measured through the stock market capitalization index. These two indicators also reflect the financial depth in the World Bank's financial development index. Inheriting studies of Schäfer & Steiner (2014); Gómez (2019); economic growth and inflation are utilized as control variables.

Thus, the proposed research model is set up with the following equation:

$$UNE_{it} = \beta_0 + \beta_1 DCP_{it} + \beta_2 SMC_{it} + \beta_3 GDP_{it} + \beta_4 INF_{it} + \varepsilon_{it} \quad (1)$$

EMPIRICAL RESULTS

Table 1
RESULTS OF TESTS ON MULTICOLLINEARITY, HETEROSCEDASTICITY AND AUTOCORRELATION

Multicollinearity Test	Heteroscedasticity Test	Autocorrelation Test
Mean VIF = 1.37	chi2(6) = 827.74 Prob>chi2 = 0.000***	F(1, 5) = 145.770 Prob>F = 0.000***

Note: *** indicates significance at the 1% level.

Table 1 shows that the research model has multicollinearity, which is considered as not serious (Mean VIF<10). However, heteroscedasticity and autocorrelation has significance at the 1% level.

Table 2 shows that the Fixed effects model (FEM) regression method is more suitable because the F test is statistically significant at the 1% significance level (Prob>F=0.000), and the Hausman test is statistically significant at the 1% significance level (Prob>chi2=0.000). However, heteroscedasticity and autocorrelation really exists in this model. Therefore, the author will estimate the research model according to the Generalized Method of Moment (GMM) to

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overcome the variance of the variation error and autocorrelation between variances. In addition, the GMM also helps the author control the potential endogenous phenomena in the research model.

Table 2
REGRESSION RESULTS

UNE	Pooled OLS	FEM	REM	GMM
Constant	5.080***	5.440***	5.285***	3.108***
DCP	-0.038***	-0.008	-0.016**	-0.035***
SMC	0.015***	-0.019***	-0.009*	0.019***
GDP	-0.056	0.025	-0.002	0.138
INF	0.059	0.021	0.017	0.120*
R^2	60.26%	29.75%	26.61%	
Significance level	Prob>F=0.000***	Prob>F=0.000***	Prob>chi2=0.000***	Prob>chi2=0.000***
F test	Prob>F = 0.000***			
Hausman test	Prob>chi2 = 0.000***			
Arellano-Bond test for AR(2) in first differences	Pr>z = 0.218			
Sargan test	Prob>chi2 =0.683			

Note: *, ** and *** indicate significance at the 10%, 5% and 1% level, respectively.

The estimated results are statistically significant at 1% (Prob>chi2 = 0.000). And also, the Sargan test shows that the instruments used in the research model are appropriate (Table 2). Therefore, the results of estimating the research model by GMM method are appropriate and usable.

Table 2 shows that the domestic credit to private sector (DCP) negatively impacts (-0.035) on unemployment (UNE) with a 1% significance level. Meanwhile, the stock market capitalization (SMC) has a positive impact (0.019) on unemployment (UNE) with a 1% significance level. Thus, the unemployment is more affected by the financial development from a banking perspective than by financial development from the stock market perspective. In addition, the research has also found a positive impact (0.120) of inflation (INF) on unemployment (UNE) with a 10% significance level. With the data collected, the author has not found a statistically significant impact of economic growth (GDP) on unemployment (UNE).
Therefore, the research model results have the following equation:

$$UNE_{it} = 3.108 - 0.035\ DCP_{it} + 0.019\ SMC_{it} + 0.120\ INF_{it} + \varepsilon_{it} \quad (2)$$

Impact of domestic credit to private sector on unemployment: Domestic credit to private sector (DCP) negatively impacts (-0.035) on unemployment (UNE) with 10% significance level. In other words, the domestic credit to private sector has a positive impact on employment. This shows that the credit sources to the economy will increase the employment in Asean countries. This research result is consistent with most previous studies. Because, the credit source to the economy is improved, which will stimulate the production and business activities, therefore, the employment is also significantly increased. This is consistent with the reality in Asean countries, where the financial development has increased significantly in recent years, which is an important factor contributing to the promotion of employment in these countries.

Impact of stock market capitalization on unemployment: Stock market capitalization (SMC) affects positively (0.019) on unemployment (UNE) with significance level of 1%.

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Therefore, the stock market capitalization has a negative impact on employment. This result shows that the developed stock market will reduce the employment in ASEAN countries, this is a new finding of this research compared to the previous studies. Accordingly, as the stock market develops, the companies in Asean region have favorable conditions to access the capital and technology from foreign investors (especially in developed countries). The increase of capital and technological innovation will boost the production and business activities. However, the modern technology will reduce the employment; the human resources will need less but require high level of expertise to ensure adapting to the trend of global integration.

CONCLUSIONS

This article has achieved its objective as set up when it has found the impact of financial development on employment in Asean countries. This is a topic that is very rare in the previous studies. Therefore, the results are important not only for Asean countries, but also for other countries in the world. The author has found a positive impact of domestic credit to private sector on employment. The stock market capitalization, on the other hand, has a negative impact on employment, this is a new finding of this research compared to the previous studies. Based on this basis, ASEAN countries will have the basis to propose the policies to promote financial development associated with increased employment more effectively. For example: (1) It is necessary for banking system to improve their capital supply to the economy; (2) Stock market also needs restructuring to develop more stably and sustainably.

REFERENCES

Bencivenga, V.R., & Smith, B.D. (1991). Financial intermediation and endogenous growth. *Review of Economic Studies, 58*(2), 195-209.

Benmelech, E., Bergman, N.K., & Seru, A. (2011). *Financing labour*. NBER Working Papers No. 17144, National Bureau of Economic Research, 1-33.

Bentolila, S., Jansen, M., & Jiménez, G. (2017). When credit dries up: Job losses in the great recession. *Journal of the European Economic Association, 16*(3), 650-695.

Bui, T.N. (2019). The role of financial development in the Vietnam Economy. *WSEAS Transactions on Business and Economics, 16*, 471-476.

Campello, M., Graham, J.R., & Harvey, C.R. (2010). The real effects of financial constraints: Evidence from a financial crisis. *Journal of Financial Economics, 97*(3), 470-487.

Cherif, M., & Dreger, C. (2016). Institutional determinants of financial development in MENA countries. *Review of Development Economics, 20*(3), 670-680.

Chodorow-Reich, G. (2014). The employment effects of credit market disruptions: Firm-level Evidence from the 2008-09 Financial Crisis. *Quarterly Journal of Economics, 129*(1), 1-59.

Doytch, N., & Uctum, M. (2011). Does the worldwide shift of FDI from manufacturing to services accelerate economic growth? A GMM estimation study. *Journal of International Money and Finance, 30*(3), 410-427.

Driffill, J., Psaradakis, Z., & Sola, M. (1998). Testing the expectations hypothesis of the term structure using instrumental variables. *International Journal of Finance and Economics, 3*(4), 321-325.

Fernandes, A.P., & Ferreira, P. (2016). Financing constraints and fixed-term employment: Evidence from the 2008-9 financial crisis. *European Economic Review, 92*, 215-238.

Giroud, X., & Mueller, H. (2015). *Firm leverage and unemployment during the Great Recession*, NBER Working Paper No. 21076, National Bureau of Economic Research, 1-28.

Gómez, M.G.P. (2019). Credit constraints, firm investment and employment: Evidence from survey data. *Journal of Banking and Finance, 99*, 121-141.

Citation Information: Ngoc Bui, T. (2020). How does financial development affect the employment? Evidence from Asean countries. Journal of Management Information and Decision Sciences, 23(1), 1-6.

Greenstone, M., Mas, A., & Nguyen, H. (2014). Do credit market shocks a ect the real economy? In Quasi-Experimental evidence from the Great Recession and 'normal' economic times. NBER Working Paper No. 21076, National Bureau of Economic Research, 1-45.

Holmes, M.J., & Maghrebi, N. (2016). Financial market impact on the real economy: An assessment of asymmetries and volatility linkages between the stock market and unemployment rate. *The Journal of Economic Asymmetries, 13*, 1-7.

Nguyen, M.L.T., & Bui, T.N. (2019). Stock market, real estate market, and economic growth: An ARDL approach. *Investment Management and Financial Innovations, 16*(4), 290-302.

Schäfer, D., & Steiner, S. (2014). *Financial Development and Employment–Evidence from Transition Countries*. DIW Berlin Discussion Paper No. 1390, 1-39.

Citation Information: Ngoc Bui, T. (2020). How does financial development affect the employment? Evidence from Asean countries. Journal of Management Information and Decision Sciences, 23(1), 1-6.